

NOTICE OF INTENT APPLICATION RESERVATION TERRACE SHORT-TERM SHORELINE PROTECTION Reservation Terrace, Plum Island Newburyport, Massachusetts



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April 2021
File No. 18.0171917.06

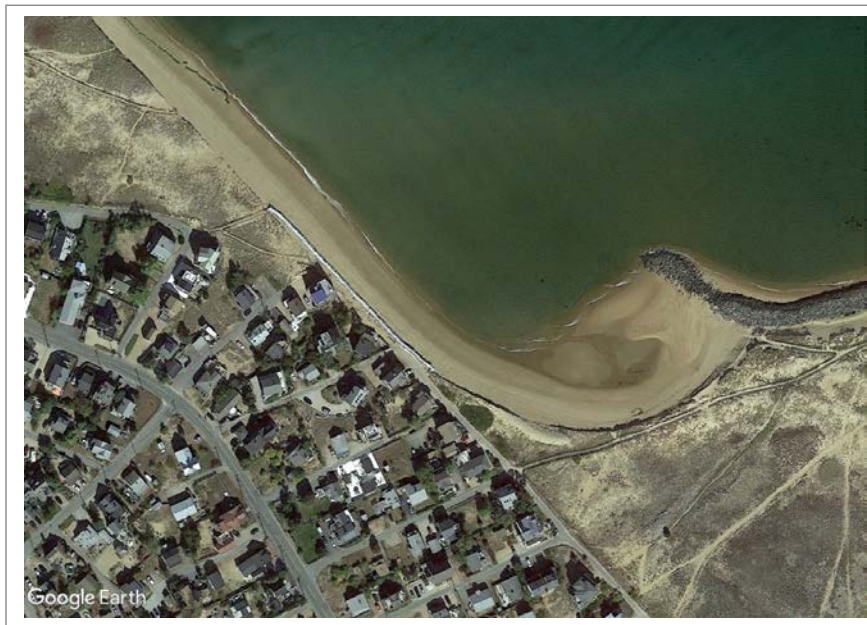


Photo Credit: Google Maps

PREPARED FOR:
City of Newburyport
60 Pleasant Street
Newburyport, MA 01950

GZA GeoEnvironmental, Inc.
144 Elm Street | Amesbury, MA 01913
781-278-5700

31 Offices Nationwide

www.gza.com



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April 15, 2021
File No. 18.0171917.06

Newburyport Conservation Commission
Newburyport City Hall
60 Pleasant Street
Newburyport, MA 01950

**Re: Notice of Intent Application
Reservation Terrace Short-Term Shoreline Protection Project
Reservation Terrace, Newburyport, Massachusetts**

Dear Commission Members:

On behalf of our client, the City of Newburyport, GZA GeoEnvironmental Inc. (GZA) is submitting this Notice of Intent (NOI) application for the proposed short-term shoreline protection project along Reservation Terrace between approximately 69th Street and north of 77th Street on Plum Island, Newburyport, Massachusetts (Project Site). GZA has prepared this NOI application per the requirements of the Massachusetts Wetlands Protection Act (WPA; M.G.L. Chapter 131, Section 40) and its associated Regulations (310 CMR 10.00) and the City of Newburyport Wetlands Protection Ordinance and Wetlands Protection Regulations (Chapter 6.5 Article II).

The Project Site is located along Reservation Terrace between approximately 69th Street and north of 77th Street between the roadway and the Merrimack River. The area consists of an eroded dune system that has seen upwards of 400 feet of erosion over the past eight years. In the current state, the dune system does not provide adequate protection for the existing roadways, residential structures and municipal infrastructure that is located just landward of the existing dune.

The City is proposing to install sand-filled coir envelopes anchored with wooden stakes over a length of approximately 830 linear feet. Additional information on the proposed project, including resource area impacts, is presented in the Project Narrative.

As required by the City of Newburyport Wetlands Protection Regulations, two copies of this Notice of Intent Application are being submitted to the Newburyport Conservation Commission, one copy is being submitted to the Massachusetts Department of Environmental Protection Northeast Regional Office and one copy is being submitted to the Massachusetts Natural Heritage & Endangered Species Program.

Please contact Anders B. Bjarngard, P.E. at GZA at (781) 278-4802 if you have any questions or require additional information regarding this application. We look forward to working with the Conservation Commission during the permitting process.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Joshua J. Zall
Project Manager

Anders B. Bjarngard, P.E.
Principal

CC: City of Newburyport
MassDEP – Northeast Regional Office
Mass. Natural Heritage & Endangered Species Program



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Enter your transmittal number

X287570

Transmittal Number

Your unique Transmittal Number can be accessed online:

http://www.mass.gov/eea/agencies/massdep/service/approvals/transmittal-form-for-payment.html

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: MassDEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP
P.O. Box 4062
Boston, MA
02211

* Note: For BWSC Permits, enter the LSP.

A. Permit Information

WPA Form 3

Notice of Intent

1. Permit Code: 4 to 7 character code from permit instructions

2. Name of Permit Category

Reservation Terrance Shoreline Protection Project

3. Type of Project or Activity

B. Applicant Information - Firm or Individual

City of Newburyport

1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. Last Name of Individual

3. First Name of Individual

4. MI

60 Pleasant Street

5. Street Address

Newburyport

MA

01950

978-465-4413

6. City/Town

7. State

8. Zip Code

9. Telephone #

10. Ext. #

Mayor Donna D. Holaday

DHoladay@CityofNewburyport.com

11. Contact Person

12. e-mail address

C. Facility, Site or Individual Requiring Approval

1. Name of Facility, Site Or Individual

Reservation Terrace between 69th and north of 77th Streets

2. Street Address

Newburyport

MA

01950

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

D. Application Prepared by (if different from Section B)*

GZA GeoEnvironmental, Inc.

1. Name of Firm Or Individual

144 Elm Street

2. Address

Amesbury

MA

01913

(781) 278-4802

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

Anders B. Bjarngard, P.E.

8. Contact Person

9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination

1. Is this project subject to MEPA review? [X] yes [] no

If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

TBD

EOEA File Number

F. Amount Due

Special Provisions:

1. [X] Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).

There are no fee exemptions for BWSC permits, regardless of applicant status.

2. [] Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).

3. [] Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).

4. [] Homeowner (according to 310 CMR 4.02).

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

N/A

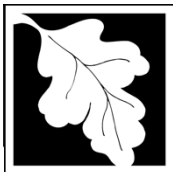
N/A

N/A

Check Number

Dollar Amount

Date



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Newburyport

City/Town

City of Newburyport - Wetlands Protection Ordinance

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Adjacent to Reservation Terrace Between 69th and north of 77th Street
 Latitude and Longitude:
 77
 f. Assessors Map/Plat Number

Newburyport
 b. City/Town
 42.8146°N
 d. Latitude
 125
 g. Parcel /Lot Number

01950
 c. Zip Code
 70.8136°W
 e. Longitude

2. Applicant:

Mayor Donna
 a. First Name
 City of Newburyport
 c. Organization
 60 Pleasant Street
 d. Street Address
 Newburyport
 e. City/Town
 978-465-4413
 h. Phone Number

Holaday
 b. Last Name
 MA
 f. State
 01950
 g. Zip Code
 DHoladay@CityofNewburyport.com
 j. Email Address

3. Property owner (required if different from applicant): Check if more than one owner

Priscilla
 a. First Name
 Massachusetts Department of Conservation and Recreation
 c. Organization
 251 Causeway Street, Suite 900
 d. Street Address
 Boston
 e. City/Town
 617-626-1250
 h. Phone Number

Geigis, Deputy Commissioner
 b. Last Name
 MA
 f. State
 02114
 g. Zip Code
 priscilla.geigis@mass.gov
 j. Email address

4. Representative (if any):

Anders
 a. First Name
 GZA GeoEnvironmental, Inc.
 c. Company
 144 Elm Street
 d. Street Address
 Amesbury
 e. City/Town
 781-278-4802
 h. Phone Number

Bjarngard
 b. Last Name
 MA
 f. State
 01913
 g. Zip Code
 anders.bjarngard@gza.com
 j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

Fee Exempt
 a. Total Fee Paid

Fee Exempt
 b. State Fee Paid

Fee Exempt
 c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
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WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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A. General Information (continued)

6. General Project Description:

The proposed project includes the installation of approximately 830 linear feet of sand-filled coir envelopes along the existing dune to provide shoreline protection for public and private infrastructure.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- 1. Single Family Home
- 2. Residential Subdivision
- 3. Commercial/Industrial
- 4. Dock/Pier
- 5. Utilities
- 6. Coastal engineering Structure
- 7. Agriculture (e.g., cranberries, forestry)
- 8. Transportation
- 9. Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

- 1. Yes No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

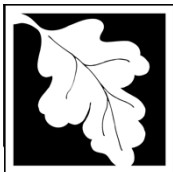
8. Property recorded at the Registry of Deeds for:

Essex	
a. County	b. Certificate # (if registered land)
6770	683
c. Book	d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1. Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- 2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input checked="" type="checkbox"/> Riverfront Area	Merrimack River (coastal)	

2. Width of Riverfront Area (check one):

- 25 ft. - Designated Densely Developed Areas only
- 100 ft. - New agricultural projects only
- 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 408,290 square feet

4. Proposed alteration of the Riverfront Area:

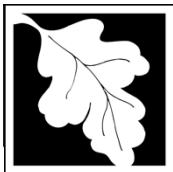
<u>10,790</u>	<u>10,790</u>	<u>0</u>
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI? Yes No

6. Was the lot where the activity is proposed created prior to August 1, 1996? Yes No

3. Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
 Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	_____	
	1. square feet	

	2. cubic yards dredged	
c. <input checked="" type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	10,790 (perm)	N/A
	8,300 (temp)	2. cubic yards beach nourishment
e. <input checked="" type="checkbox"/> Coastal Dunes	520 (temp)	N/A
	1. square feet	2. cubic yards dune nourishment

	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	_____	
	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	_____	
	1. square feet	
h. <input type="checkbox"/> Salt Marshes	_____	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____	
	1. square feet	

	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	_____	
	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	

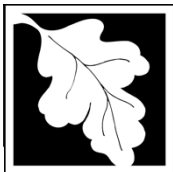
	1. cubic yards dredged	
l. <input checked="" type="checkbox"/> Land Subject to Coastal Storm Flowage	10,790 (perm)	
	1. square feet	

4. Restoration/Enhancement
 If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

_____ a. square feet of BVW _____ b. square feet of Salt Marsh

5. Project Involves Stream Crossings

_____ a. number of new stream crossings _____ b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

- a. Yes No **If yes, include proof of mailing or hand delivery of NOI to:**

**Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581**

- August 2017
b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

1. Percentage/acreage of property to be altered:

(a) within wetland Resource Area	<u>0.47% / 0.25 Acres</u> percentage/acreage
(b) outside Resource Area	<u>0</u> percentage/acreage

2. Assessor's Map or right-of-way plan of site

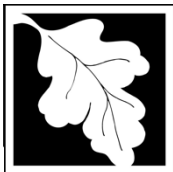
2. Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

- (a) Project description (including description of impacts outside of wetland resource area & buffer zone)
- (b) Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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City/Town

C. Other Applicable Standards and Requirements (cont'd)

- (c) MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

- (d) Vegetation cover type map of site

- (e) Project plans showing Priority & Estimated Habitat boundaries

- (f) OR Check One of the Following

1. Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- a. Not applicable – project is in inland resource area only b. Yes No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and
the Cape & Islands:

North Shore - Hull to New Hampshire border:

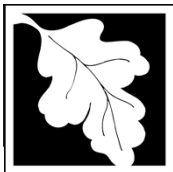
Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

- c. Is this an aquaculture project? d. Yes No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



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City/Town

C. Other Applicable Standards and Requirements (cont'd)

Online Users:

Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
a. Yes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
a. Yes No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
a. Yes No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
a. Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
2. A portion of the site constitutes redevelopment
3. Proprietary BMPs are included in the Stormwater Management System.
b. No. Check why the project is exempt:
1. Single-family house
2. Emergency road repair
3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

- This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



Massachusetts Department of Environmental Protection
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D. Additional Information (cont'd)

3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. List the titles and dates for all plans and other materials submitted with this NOI.

Proposed Conditions Plan

a. Plan Title

GZA GeoEnvironmental, Inc.

Anders B. Bjarngard, P.E.

b. Prepared By

c. Signed and Stamped by

April 2021

As Shown

d. Final Revision Date

e. Scale

April 2021

f. Additional Plan or Document Title

g. Date

5. If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. Attach NOI Wetland Fee Transmittal Form

9. Attach Stormwater Report, if needed.

E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

City/Town

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

<p><u>Donna D Holaday</u> 1. Signature of Applicant</p>	<p><u>4/9/2021</u> 2. Date</p>
<p>3. Signature of Property Owner (if different)</p> <p><u>Andrew B. [Signature]</u></p>	<p>4. Date <u>4/9/2021</u></p>
<p>5. Signature of Representative (if any)</p>	<p>6. Date</p>

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

Reservation Terrace between 69th and north of 77th Streets
 Fee Exempt
 c. Check number
 Newburyport
 b. City/Town
 N/A
 d. Fee amount

2. Applicant Mailing Address:

Mayor Donna
 a. First Name
 City of Newburyport
 c. Organization
 60 Pleasant Street
 d. Mailing Address
 Newburyport
 e. City/Town
 978-465-4413
 h. Phone Number
 MA
 f. State
 01950
 g. Zip Code
 DHoladay@CityofNewburyport.com
 j. Email Address
 i. Fax Number

3. Property Owner (if different):

Priscilla
 a. First Name
 Massachusetts Department of Conservation and Recreation
 c. Organization
 251 Causeway Street, Suite 900
 d. Mailing Address
 Boston
 e. City/Town
 617-626-1250
 h. Phone Number
 Geigis, Deputy Commissioner
 b. Last Name
 MA
 f. State
 02114
 g. Zip Code
 priscilla.geigis@mass.gov
 j. Email Address
 i. Fax Number

To calculate filling fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Fee Exempt			Fee Exempt
Step 5/Total Project Fee:			Fee Exempt
Step 6/Fee Payments:			
Total Project Fee:			Fee Exempt a. Total Fee from Step 5
State share of filing Fee:			Fee Exempt b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:			Fee Exempt c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
 Box 4062
 Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)



1.0 INTRODUCTION

On behalf of the City of Newburyport (the City), GZA GeoEnvironmental, Inc. (GZA) has prepared this Notice of Intent (NOI) application to describe the proposed installation of sand-filled coir envelopes along Reservation Terrace to serve as short-term shoreline protection to the existing public and private infrastructure landward of the existing dune on Plum Island in the City of Newburyport, Massachusetts (Project Site) (**Figures 1 and 2**).

This application is submitted in accordance with the requirements of the Massachusetts Wetlands Protection Act (WPA; M.G.L. Chapter 131, Section 40) and its associated Regulations (310 CMR 10.00) and the City of Newburyport Wetlands Protection Ordinance and Wetlands Protection Regulations (Chapter 6.5 Article II). The following provides a detailed description of the current conditions of the site and the proposed project, as well as a description of the resource areas and potential impacts to those resource areas that may result from this project.

1.1 BACKGROUND

The Project Site is located at the northern end of Plum Island along the southern shore of the Merrimack River inside of the existing jetties at the mouth of the river. Through the years, the shoreline has fluctuated seaward and landward but there has been significant erosion at this location with loss of dune on the order of 400 linear feet over the past 8 years. This highly dynamic area is repeatedly battered by storm surge and waves during Nor'easter events. There is now no dune left seaward of Reservation Terrace where there used to be hundreds of feet leaving public and private infrastructure completely unprotected.

Future beach nourishment work is anticipated to be performed along a large portion of the beach at the northern end of the Plum Island Reservation by the Massachusetts Department of Conservation and Recreation (DCR) and the U.S. Army Corps of Engineers (USACE). It is our understanding that this future project is intended to utilize dredge spoils as beach nourishment from a maintenance dredging of the Merrimack River and is anticipated to occur during the 2021-2022 dredging window. The purpose of the proposed installation of sand-filled coir envelopes along Reservation Terrace is to serve as short-term shoreline protection to the existing public and private infrastructure landward of the Project Site until the USACE/DCR Project is completed. In the event that the USACE/DCR project begins in the fall of 2021, the City may elect to not move forward with the short-term shoreline protection project described herein.

The proposed project is generally located on City-owned property, but the eastern and western limits of the proposed sand-filled coir envelopes extend on to property owned by the Massachusetts Department of Conservation and Recreation (MassDCR). As such, this proposed work requires a Construction and Access Permit from the MassDCR. Additionally, the MassDCR will be signing this Notice of Intent Application as Property Owner but not the project applicant.

The Project Site is shown on the Permit Drawings (**Appendix A**) and includes the areas of temporary and permanent impact from construction activities associated with the installation of the sand-filled coir envelopes and staging of materials around the immediate work area. The Project Site encompasses an area of approximately 10,790 square feet for the coir envelopes and approximately 14,000 square feet for the staging area in the adjacent parking lot and temporary construction access.

2.0 EXISTING CONDITIONS

The Project Site is located in the Plum Island Reservation adjacent to Reservation Terrace along the Merrimack River. Photos of the Project Site are included in **Appendix B**.



2.1 JURISDICTIONAL RESOURCE AREAS

GZA has identified several resource areas that are subject to protection and/or jurisdiction under the federal Clean Water Act and / or the Massachusetts Wetlands Protection Act, on or within 100 feet of the Project Site. These resource areas include Land Under the Ocean, Coastal Bank, Land Subject to Coastal Storm Flowage, and Buffer Zone associated with the Atlantic Ocean. The Applicant is requesting an Order of Conditions for the proposed work within each of the resources on site, as described below. Impacts to each resource area will be described below in **Section 4**.

2.1.1 Coastal Beach

The proposed sand-filled coir envelopes are proposed to be within the Coastal Beach resource area. Additionally, temporary construction access will be necessary seaward of the proposed coir envelope location.

2.1.2 Coastal Dune

The proposed Project Site is located within the Coastal Beach resource area, however the Contractor will need to cross through a small portion of the coastal dune to access the work area. The end of 75th Street is the anticipated access location with approximately 40 linear feet between the end of the existing pavement and the coastal beach. This area is considered Coastal Dune.

2.1.3 Barrier Beach

The entirety of Plum Island is a barrier beach. As such, the project site is entirely within the barrier beach resource area.

2.1.4 Land Subject to Coastal Storm Flowage (LSCSF)

The Project Site includes the Coastal Dune adjacent to Reservation Terrace. This area is subject to flooding caused by coastal storms. The Project Site is located within FEMA Flood Zone VE (EL 22 Feet) (**Figure 3**).

2.1.5 Riverfront Area

The Mouth of the River (See **Figure 4**) is located to the east of the proposed project site and extends from the western end of the south jetty on Plum Island to the western end of the north jetty in Salisbury. Therefore, the proposed work is within the Riverfront Area of the Merrimack River.

2.1.6 100-Foot Buffer Zone

The Buffer Zone, which extends 100 feet perpendicularly from Resource Area boundaries, is present within the Project Site. Due to the nature of this work being located along the ocean, the limit of work is located entirely within Resource Areas or the Buffer Zone. The majority of the work, both permanent and temporary, will be located within actual resource areas. Temporary work within the 100-Foot Buffer Zone will include limited staging areas within the paved parking lot at the Plum Island Reservation. Erosion and sedimentation controls will be installed around the construction site access locations.

2.1.7 25-Foot No-Disturbance Zone

The 25-Foot No-Disturbance Zone extends 25 feet perpendicularly from the Resource Area boundaries and is present within the Project Site. Due to the nature of this work being located along the ocean, the limit of work is located entirely within Resource Areas or the Buffer Zone. As noted above, the majority of the work, both permanent and temporary, will be located within actual resource areas. Temporary work within the 25-Foot No-Disturbance Zone will include limited staging areas within the paved parking lot at the Plum Island Reservation. Erosion and sedimentation controls will be installed around the construction site access locations.



3.0 PROPOSED PROJECT

The City proposes to install a series of sand-filled coir envelopes along an approximately 830-foot length of shoreline as shown on the Permit Drawings in **Appendix A**. The coir envelopes will consist of 4-foot-wide by 4-foot-high by 40-foot-long envelopes stacked with two along the base and one centered along the top and 6-inch by 6-inch wooden posts installed on the seaward and landward sides of the exposed coir envelopes. The posts will be 10-feet long driven at least 6 feet below grade and spaced 4-feet on center on the seaward side and 3-feet on center on the landward side. The posts will be non-pressure treated and the corners will be sanded smooth and wrapped in coir where they intersect the coir envelopes. The coir envelopes consist of four outer layers of 1000 grain coir and an inner layer of 20-ounce jute surrounding beach compatible sand fill. The proposed top elevation of the coir envelopes will be elevation 14.0 NAVD88. The lower two coir envelopes will be partially buried/exposed depending on the location along the proposed alignment, and the top elevation will be at approximate elevation 11.0 NAVD88. An additional row of coir envelopes will be installed below grade along the seaward toe for additional erosion and scour protection. The existing concrete blocks where present along the alignment will be repositioned to support the seaward side of the barrier for additional erosion protection. In areas of the alignment where existing blocks are not present, an additional coir envelope may be placed to support the seaward side of the barrier. During the work the existing “supersack” sand bags that are present at the Project Site will be removed and salvaged or disposed of. No sand will be removed from the Project Site. Imported compatible sand may be used to fill the coir envelopes if insufficient stock-piled sand is not available at the Project Site.

The work area will be cleared daily and will be left clear of construction material and equipment as the tide rises.

3.1 CONSTRUCTION APPROACH AND SEQUENCING

The City of Newburyport is prepared to start on this proposed project as soon as possible. Having additional protection along this stretch of shoreline is critical to the public and private property directly landward of the project site. The work is anticipated to be performed using small land-based equipment with access to the beach from the seaward end of 73rd Street and 75th Street. Erosion controls such as straw wattles or hay bales and silt fencing will be installed around the construction access locations to limit migration of sand from the beach and dune to the roadway. It should be noted that the project site is within Priority and Estimated Habitat as listed under the Natural Heritage and Endangered Species Program and it is anticipated that Time of Year restrictions will be imposed on the project due to the nesting of Piping Plovers. As such, the proposed project would not take place until the Fall of 2021.

The anticipated construction sequence is as follows:

- Establishment of soil erosion and sediment control BMPs around construction site access locations, it is not anticipated that erosion controls will be placed on the beach as the area is highly dynamic with wave action during periods of high tide. Erosion controls will be limited to site access and staging areas;
- Limited excavation for the removal of existing “supersacks” and resetting of the existing concrete blocks within the footprint of the proposed work;
- In areas outside of existing concrete blocks, limited excavation for the setting of an additional lower sand-filled coir envelope (as shown on the Permit Drawings);
- Limited excavation for installation of the lower (beach-grade) two sand-filled coir envelopes and setting of wooden posts;
- Limited excavation for the installation of the seaward coir envelope;
- Installation of top course of sand-filled coir envelope; and
- Removal of temporary sediment and erosion control BMPs and restoration of the temporary access routes and remainder of the project site.



4.0 REGULATORY COMPLIANCE AND IMPACTS

The proposed work for the shoreline protection project is within resource areas and buffer zones prescribed by the City of Newburyport Wetlands Protection Ordinance and Wetland Regulations and the Wetlands Protection Act and Regulations. The project has been designed to limit both temporary and permanent impacts at the site. However, the proposed shoreline protection project will result in unavoidable impacts to the Barrier Beach, Coastal Beach, Coastal Dune, Land Subject to Coastal Storm Flowage, Riverfront Area and associated Buffer Zones. Impacts to these resource areas are unavoidable due to the nature of the proposed work, but the impacts to resource areas for this project are anticipated to be limited and mostly temporary due primarily to the location of the staging area, erosion controls, and temporary limit of work. The permanent impacts are associated with the installation of the approximately 830 linear feet of coir envelopes, which are natural and biodegradable products.

4.1 JURISDICTIONAL RESOURCE AREAS

Potential impacts are discussed and quantified in the following subsections. The total impacts proposed within each resource area are summarized in the table below.

Table No. 1 – Summary of Resource Area Impacts

Resource Area	Temporary Impact	Permanent Impact
Coastal Beach	8,300 sq. ft.	10,790 sq. ft.
Coastal Dune	520 sq. ft.	N/A.
Barrier Beach	8,820 sq. ft.	10,790 sq. ft.
LSCSF	13,820 sq. ft.	10,790 sq. ft.
Riverfront Area	13,820 sq. ft.	10,790 sq. ft.
100-ft Buffer Zone	5,000 sq. ft.	N/A
*Temporary impacts to LSCSF and Buffer Zones is assumed.		

4.1.1 Coastal Beach

Massachusetts WPA Regulations define Coastal Beach as, *“unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats.”*

The proposed work that will impact the Coastal Beach resource area includes the installation of the proposed sand-filled coir envelopes and temporary construction access along the seaward face of the envelopes. The coir envelopes are natural, biodegradable materials and are proposed to be installed along approximately 830 linear feet. At the completion of the project, the area will be restored to pre-construction conditions. The project will also include removing the supersacks from their current location.



As stated in 310 CMR 10.27, the proposed project will address the following performance standards:

Table No. 2 – Performance Standards for Work in Coastal Beach

WPA Regulation	Performance Standard	Proposed Project
310 CMR 10.27(3)	<i>Any project on a coastal beach, except any project permitted under 310 CMR 10.30(3)(a), shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.</i>	The proposed project involves the installation of sand-filled coir envelopes to enhance the ability of the degraded coastal dune and to provide needed shoreline protection to the existing infrastructure just landward of the project site. The work anticipated within the Coastal Beach resource area includes the installation of the sand-filled coir envelopes and temporary construction access along the seaward face of the envelopes. The work is intended to provide protection and improve the degraded resource area and is not anticipated that this will have an adverse effect by increasing erosion, decreasing volume or changing the form of the coastal beach or adjacent or downdrift coastal beaches.
310 CMR 10.27(4)	<i>Any groin, jetty, solid pier, or other such solid fill structure which will interfere with littoral drift, in addition to complying with 310 CMR 10.27(3), shall be constructed as follows: (a) It shall be the minimum length and height demonstrated to be necessary to maintain beach form and volume. In evaluating necessity, coastal engineering, physical oceanographic and/or coastal geologic information shall be considered. (b) Immediately after construction any groin shall be filled to entrapment capacity in height and length with sediment of grain size compatible with that of the adjacent beach. (c) Jetties trapping littoral drift material shall contain a sand by-pass system to transfer sediments to the downdrift side of the inlet or shall be periodically redredged to provide beach nourishment to ensure that downdrift or adjacent beaches are not starved of sediments</i>	The proposed project involves the installation of sand-filled coir envelopes to enhance the ability of the degraded coastal dune and to provide needed shoreline protection to the existing infrastructure just landward of the project site. The work anticipated within the Coastal Beach resource area includes the installation of the sand-filled coir envelopes and temporary construction access along the seaward face of the envelopes. The work is intended to provide protection and improve the degraded resource area and is not anticipated that this will have an adverse impact on the littoral drift.
310 CMR 10.27(5)	<i>Notwithstanding 310 CMR 10.27(3), beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted.</i>	The proposed project does not include beach nourishment; however it is anticipated that imported sand may be necessary to fill a portion of the coir envelopes. Sand brought in to the site will be clean with a compatible grain size.
310 CMR 10.27(6)	<i>In addition to complying with the requirements of 310 CMR 10.27(3) and (4), a project on a tidal flat shall if water-dependent be designed and constructed, using best available measures, so as to minimize adverse effects, and if non-water-dependent, have no adverse effects, on marine fisheries and wildlife habitat caused by: (a)</i>	The project is not occurring within a tidal flat.



WPA Regulation	Performance Standard	Proposed Project
	<i>alterations in water circulation; (b) alterations in the distribution of sediment grain size; and (c) changes in water quality, including, but not limited to, other than natural fluctuations in the levels of dissolved oxygen, temperature or turbidity, or the addition of pollutants.</i>	
310 CMR 10.27(7)	<i>Notwithstanding the provisions of 310 CMR 10.27(3) through (6), no project may be permitted which will have any adverse effect on specified habitat sites or rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.37</i>	This project is subject to MESA review. A streamlined review is being filed with MESA as part of this Notice of Intent Application.

4.1.2 Coastal Dune

Massachusetts WPA Regulations define Coastal Dune as, “any natural hill, mound or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.”

The installation of the sand-filled coir envelope system is intended to be entirely within the Coastal Beach resource area, however, temporary access through the existing Coastal Dune will be necessary to perform the work.

As stated in 310 CMR 10.28, the proposed project will address the following performance standards:

Table No. 3 – Performance Standards for Work in Coastal Dune

WPA Regulation	Performance Standard	Proposed Project
310 CMR 10.28(3)	<i>Any alteration of, or structure on, a coastal dune or within 100 feet of a coastal dune shall not have an adverse effect on the coastal dune by: (a) affecting the ability of waves to remove sand from the dune; (b) disturbing the vegetative cover so as to destabilize the dune; (c) causing any modification of the dune form that would increase the potential for storm or flood damage; (d) interfering with the landward or lateral movement of the dune; (e) causing removal of sand from the dune artificially; or (f) interfering with mapped or otherwise identified bird nesting habitat.</i>	The proposed project involves the installation of sand-filled coir envelopes to enhance the ability of the degraded coastal dune and to provide needed shoreline protection to the existing infrastructure just landward of the project site. The proposed project will improve the storm damage prevention and flood control of the existing degraded dune system. The proposed coir envelopes will be installed entirely within the Coastal Beach resource area, with impacts to the Coastal Dune limited to temporary construction access. The nesting habitat will be protected as dictated by the NHESP during the MESA review process.
310 CMR 10.28(4)	<i>Notwithstanding the provisions of 310 CMR 10.28(3), when a building already exists upon a coastal dune, a project accessory to the existing building may be permitted, provided that such work, using the best commercially available measures, minimizes the adverse effect on the coastal dune caused by the</i>	The project does not propose construction of a building or accessory structure.



WPA Regulation	Performance Standard	Proposed Project
	<i>impacts listed in 310 CMR 10.28(3)(b) through (e). Such an accessory project may include, but is not limited to, a small shed or a small parking area for residences. It shall not include coastal engineering structures.</i>	
310 CMR 10.28(5)	<i>The following projects may be permitted, provided that they adhere to the provisions of 310 CMR 10.28(3): (a) pedestrian walkways, designed to minimize the disturbance to the vegetative cover and traditional bird nesting habitat; (b) fencing and other devices designed to increase dune development; and (c) plantings compatible with the natural vegetative cover.</i>	The project is not proposing planting of the coir envelopes. The City may install biodegradable rope fencing to minimize pedestrian access through the project area.
310 CMR 10.28(6)	<i>Notwithstanding the provisions of 310 CMR 10.28(3) through (5), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.37.</i>	This project is subject to MESA review. A streamlined review is being filed with MESA as part of this Notice of Intent Application.

4.1.3 Barrier Beach

Massachusetts WPA Regulations define Barrier Beach as, “a narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.”

The installation of the sand-filled coir envelope system would result in permanent impacts to the Coastal Beach, however, the coir envelopes are made with natural and biodegradable materials. The proposed project involves the installation of approximately 830 linear feet of coir envelopes through the existing degraded Coastal Beach.

As stated in 310 CMR 10.29, the proposed project will address the following performance standards:

Table No. 4 – Performance Standards for Work in Barrier Beach

WPA Regulation	Performance Standard	Proposed Project
310 CMR 10.29(3)	<i>When a Barrier Beach Is Determined to Be Significant to Storm Damage Prevention, Flood Control, Marine Fisheries or Protection of Wildlife Habitat. 310 CMR 10.27(3) through (6) (coastal beaches) and 10.28(3) through (5) (coastal dunes) shall apply to the coastal beaches and to all coastal dunes which make up a barrier beach.</i>	See the above descriptions in Tables 2 and 3 above.
310 CMR 10.30(3)(a)	<i>Notwithstanding the provisions of 310 CMR 10.29(3), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.37.</i>	This project is subject to MESA review. A streamlined review is being filed with MESA as part of this Notice of Intent Application.



4.1.4 Land Subject to Coastal Storm Flowage (LSCSF)

Massachusetts WPA Regulations define LSCSF as, *“land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.”*

The installation of the sand-filled coir envelopes would result in permanent impacts due to the installation of proposed coir envelopes and temporary impacts due to the construction access and limited contractor staging areas.

4.1.5 Riverfront Area

Massachusetts WPA Regulations define the Riverfront Area as *‘the area of land between a river’s mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away.’*

The installation of the sand-filled coir envelopes would result in permanent impacts due to the installation of proposed coir envelopes and temporary impacts due to the construction access and limited contractor staging areas.

Table No. 5 – Performance Standards for Work in Riverfront Area

WPA Regulation	Performance Standard	Proposed Project
310 CMR 10.58(4)(a)	Protection of Other Resource Areas. The work shall meet the performance standards for all other resource areas within the riverfront area, as identified in 310 CMR 10.30 (Coastal Bank), 10.32 (Salt Marsh), 10.55 (Bordering Vegetated Wetland), and 10.57 (Land Subject to Flooding). When work in the riverfront area is also within the buffer zone to another resource area, the performance standards for the riverfront area shall contribute to Effective 10/24/2014 310 CMR: DEPARTMENT OF ENVIRONMENTAL PROTECTION the protection of the interests of M.G.L. c. 131, § 40 in lieu of any additional requirements that might otherwise be imposed on work in the buffer zone within the riverfront area	See the above descriptions.
310 CMR 10.58(4)(b)	Protection of Rare Species. No project may be permitted within the riverfront area which will have any adverse effect on specified habitat sites of rare wetland or upland, vertebrate or invertebrate species, as identified by the procedures established under 310 CMR 10.59 or 10.37, or which will have any adverse effect on vernal pool habitat certified prior to the filing of the Notice of Intent	This project is subject to MESA review. A streamlined review is being filed with MESA as part of this Notice of Intent Application.
310 CMR 10.58(4)(c)	Practicable and Substantially Equivalent Economic Alternatives. There must be no practicable and substantially equivalent economic alternative to the prop	See the Alternatives Analysis in Section 5.0 below.



4.1.6 100-Foot Buffer Zone

Massachusetts WPA Regulations define Buffer Zone as, “100-ft area horizontally (on a true lateral) landward of approved delineation of applicable wetland resource areas.” The WPA further states that any activities undertaken within 100 feet of an area specified in 310 CMR 10.02(1)(a) (e.g., Bank, Bordering Vegetated Wetland) will be conducted per (310 CMR 10.02(2)(b)), “in a manner so as to reduce the potential for any adverse impacts to the resource area during construction, and with post-construction measures implemented to stabilize any disturbed areas.”

In addition, the City of Newburyport Regulations define the 100-Foot Buffer Zone as, “The resource area which extends 100 feet from the edge of those wetland resource areas identified in § 565-3A(1) through (5). The 100-Foot Buffer Zone may overlap with other resources (e.g., Riverfront Area and Land Subject to Flooding). The following are within the 100-Foot Buffer Zone:

- A. *25-Foot No-Disturbance Zone – That portion of the buffer zone which extends 25 feet from the edge of the following wetland resource areas: Any Freshwater or Coastal Wetlands, Marshes, Wet Meadows, Bods, Swamps, Rivers, Streams, Springs, Banks, Flats, Reservoirs, Lakes, Ponds of Any Size, Beaches, Dunes, Estuaries, and the Ocean, Intermittent Streams, Brooks, and Creeks. Disturbance of any kind is prohibited within this 25-Foot No-Disturbance Zone including but not limited to grading, landscaping, vegetation removal, pruning, cutting, filling, excavation, roadway construction and/or driveway construction.*

The installation of the sand-filled coir envelopes would result in temporary impacts due to the construction access and limited staging areas for the work. However, there are no permanent impacts to the buffer zone at the Project Site as the entirety of the proposed Project is to occur within the Coastal Dune resource area.

4.2 OTHER REGULATED RESOURCE AREAS

GZA has also considered whether the Project Site falls within other environmental regulatory boundaries that would require additional permits. There are no Outstanding Resource Waters, Areas of Critical Environmental Concern, Certified or Potential Vernal Pools, or IWPA, Zone I, or Zone II water supply areas associated with the Project Site. There are also no Designated Port Areas, Salt Marshes, or Shellfish Suitability Areas associated with the Project Site. However, it is our understanding that the project requires MEPA review due to the necessity of a State permit. As the project will be partially on Massachusetts Department of Conservation and Recreation (MassDCR) property and temporary construction access will be through MassDCR property, a Construction and Access Permit is required. This permit qualifies as a State permit and therefore a MEPA ENF is necessary. Given the urgent need of the project GZA is coordinating and filing with MEPA as required concurrently with this NOI.

4.3 COMPLIANCE WITH STORMWATER PERMITTING

As a shoreline protection project using biodegradable materials, the majority of the WPA Stormwater Standards do not apply. The project is considered a construction project and therefore must comply with WPA Regulations, 310 CMR 10.05(6)(k) for Stormwater Management Standards. There are no existing stormwater structures and none proposed as part of the project. The project includes the use of best management practices for stormwater and erosion controls during the construction period. The proposed project will not change ocean flow rates, water surface elevations and will not affect water quality. The project will not generate additional runoff. The Stormwater Report and Checklist are included in **Appendix D**.



4.4 AVOIDANCE AND MINIMIZATION

In addition to the avoidance and minimization efforts discussed elsewhere in this Notice of Intent, the proposed project has been designed to avoid and limit impacts to resource areas to the extent possible and in the following ways:

- Temporary barriers, fencing and signage will be placed at the work site during construction.
- Contractor will have a spill kit/absorbent pads on each piece of equipment.
- Each vehicle and piece of equipment shall be inspected daily for leaks; leaking equipment shall be removed from the site immediately and shall not return to service until repaired.
- The work area will be left in a condition such that rising water and/or adverse weather will not cause damage to the work area or adjacent areas.
- The contractor will perform the work during favorable tides for the various aspects of the work. The contractor will work the tides to minimize impacts to resource areas.
- Erosion and sediment control measures will be in place during construction activities. These will be limited to the areas around the site access and will likely consist of straw wattles or hay bales and silt fencing to minimize migration of sand from the beach and dune into the roadways.
- Proposed work shall comply with all Federal, State and Local Codes and Regulations.
- Proposed work shall comply with the Local Conservation Commission's Order of Conditions, and other State and Federal Permits or Authorizations.

5.0 **ALTERNATIVES ANALYSIS**

5.1 ALTERNATIVE FOR SHORELINE PROTECTION AT RESERVATION TERRACE

An analysis of potential actions to address the condition of the existing dune located at the Project Site has been completed as follows.

5.1.1 Alternative 1 – No Action (Not Selected)

The existing dune has been degraded on an accelerated basis for the past eight years of erosion caused by storm surge, wave action and tidal currents. The existing public infrastructure, roadways and private homes are in jeopardy of sustaining irreparable damage. The no action alternative assumes no actions will be taken to help protect the existing infrastructure landward of the degraded dune. Significant flooding and additional erosion is likely to occur and will not be hindered without some form of shoreline protection. As such, this is not a feasible alternative for the project.

5.1.2 Alternative 2 – Concrete Block Wall

The use of a concrete block wall was considered as a solution to the flooding and erosion issues at the Project Site. However, as concrete was viewed as a non-natural or hard structure solution, it was realized that this would not be a permissible structure within the existing Coastal Dune or Beach. As such, this is not a feasible alternative for the project.



5.1.3 Alternative 3 – Steel Sheetpile Flood Wall

The installation of a steel sheetpile wall was considered as a solution to the flooding and erosion issues at the Project Site. A steel sheetpile wall could be installed adjacent to the paved surface of Reservation Terrace creating a vertical buffer for waves and storm surge. Similar to Alternative 2, it was realized that this would not be a permissible structure within the existing Coastal Dune and is not a feasible alternative for the project. Installation of a temporary steel sheetpile wall that could be later removed or buried by dune nourishment was also considered. Although this could provide a much more certain and higher degree of protection, GZA understands that this is not considered a permissible structure.

5.1.4 Alternative 4 – Sand-Filled Coir Envelopes (Selected)

This alternative includes the installation of a soft solution to reduce the erosion and flooding issues in the short-term until a long-term solution is implemented. The sand-filled coir envelopes are biodegradable and natural products. While this alternative results in some temporary and permanent impacts to resource areas, it accomplishes the project need of providing some protection for the infrastructure landward of the project area while minimizing impacts to resource areas. It should be noted that the use of this proposed soft approach at the Project Site will not stop future flooding and erosion. Its purpose is to reduce flooding and erosion to the extent possible under various constraints. It will be overtopped during significant storms and the extent to which it can survive large storms is uncertain. This soft solution will likely require maintenance after storm events including replacement of posts and coir envelopes. Additionally, as this is intended to be limited to a short-term solution, planting of dune grass or other native species is not included in this project as it is not likely for them to have a high survivability rate during the winter storm season.

6.0 FUTURE MAINTENANCE

Future maintenance of the selected alternative is expected to consist of possible repositioning or replacement of posts that may have moved or broken as well as mending or replacement of coir envelopes. Additional scour protection consisting of either compatible beach sand or similar coir envelopes may be required if wave action erodes the beach level below the scour protection envelope that extends 4 feet below the beach level at the time of construction. Although biodegradable, damaged or dislodged components should be collected/removed and reused or legally disposed of. Future maintenance and long-term solutions at the project site may include the above-mentioned work as well as covering the coir envelope with compatible sand and planting of dune grass or other native species if future work provides adequate protection to allow species enough time to establish root systems with substantial growth.

7.0 CONCLUSION

The proposed Project is necessary to provide some protection for the existing public utilities and infrastructure and private homes landward of the degraded coastal dune along Reservation Terrace. The Project has been designed to limit impacts to regulated resource areas. Although temporary disturbance is unavoidable to complete the project activities, the resource areas will be restored upon project completion.

Pursuant to the City of Newburyport Regulations, the City is requesting a waiver for work within resource areas and buffer zone. The proposed work will not have adverse effects upon the interests protected by the City of Newburyport Wetlands Protection Ordinance, rather the proposed work will have an overriding public benefit due to the increase in safety of the residents in the vicinity of the project site and protection to the existing public infrastructure.



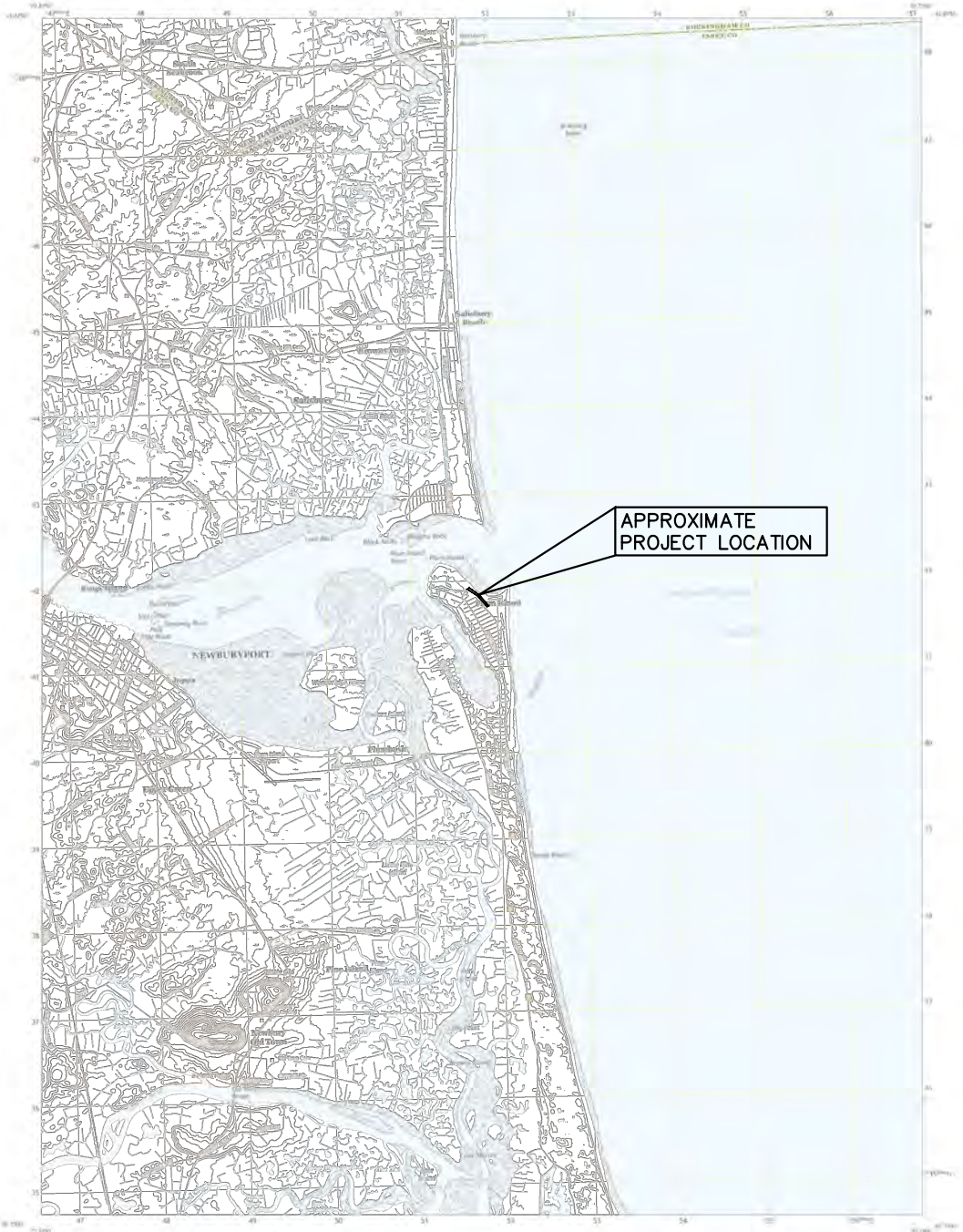
Figures



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



NEWBURYPORT EAST QUADRANGLE
MASSACHUSETTS - NEW HAMPSHIRE
7.5-MINUTE SERIES



APPROXIMATE
PROJECT LOCATION



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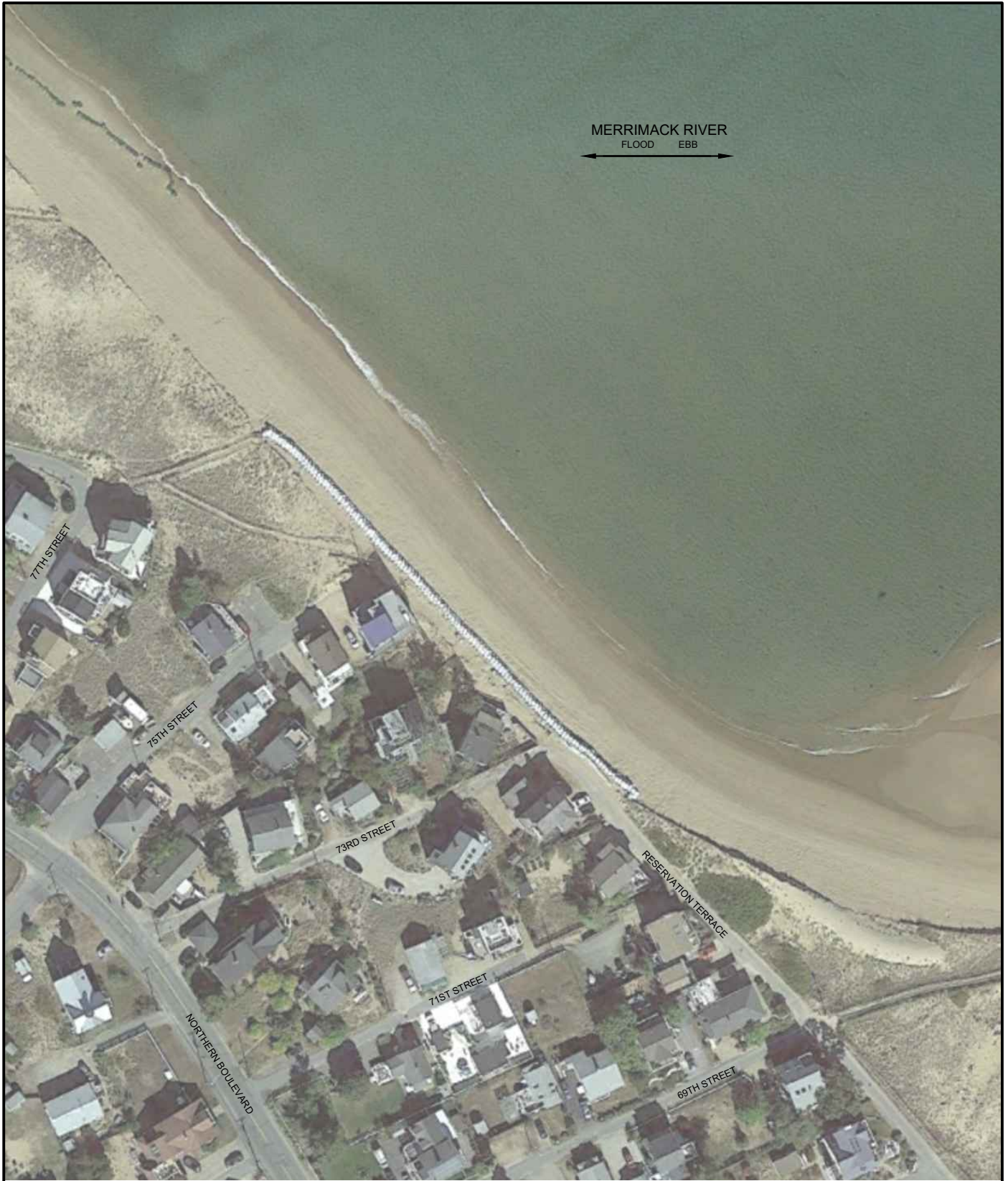
RESERVATION TERRACE SHORELINE PROTECTION NEWBURYPORT, MASSACHUSETTS

SITE LOCUS MAP

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: CITY OF NEWBURYPORT 60 PLEASANT STREET NEWBURYPORT, MA 01950
PROJ MGR: JJZ DESIGNED BY: ABB DATE: MARCH 2021	REVIEWED BY: ABB DRAWN BY: JJZ PROJECT NO.: 18.0171917.06
CHECKED BY: ABB SCALE: AS SHOWN REVISION NO.: -	FIGURE SHEET NO. 1 OF 4

© 2021 - GZA GeoEnvironmental, Inc.
GZA-J:\171900\18.0171917.06 NBPT Reservation Terrace Shoreline Protection\Figures\CAD\DWGs\Locus_Aerial_FEIMA-MOR.dwg [FIG 1 - LOCUS] March 18, 2021 - 3:51pm oshua.zall



MERRIMACK RIVER
FLOOD EBB

77TH STREET

75TH STREET

73RD STREET

71ST STREET

RESERVATION TERRACE

NORTHERN BOULEVARD

69TH STREET

NOTE:
IMAGERY FROM GOOGLE EARTH, DATED OCTOBER 2020.

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NO.	ISSUE/DESCRIPTION	BY	DATE

**RESERVATION TERRACE
SHORELINE PROTECTION
NEWBURYPORT, MASSACHUSETTS**

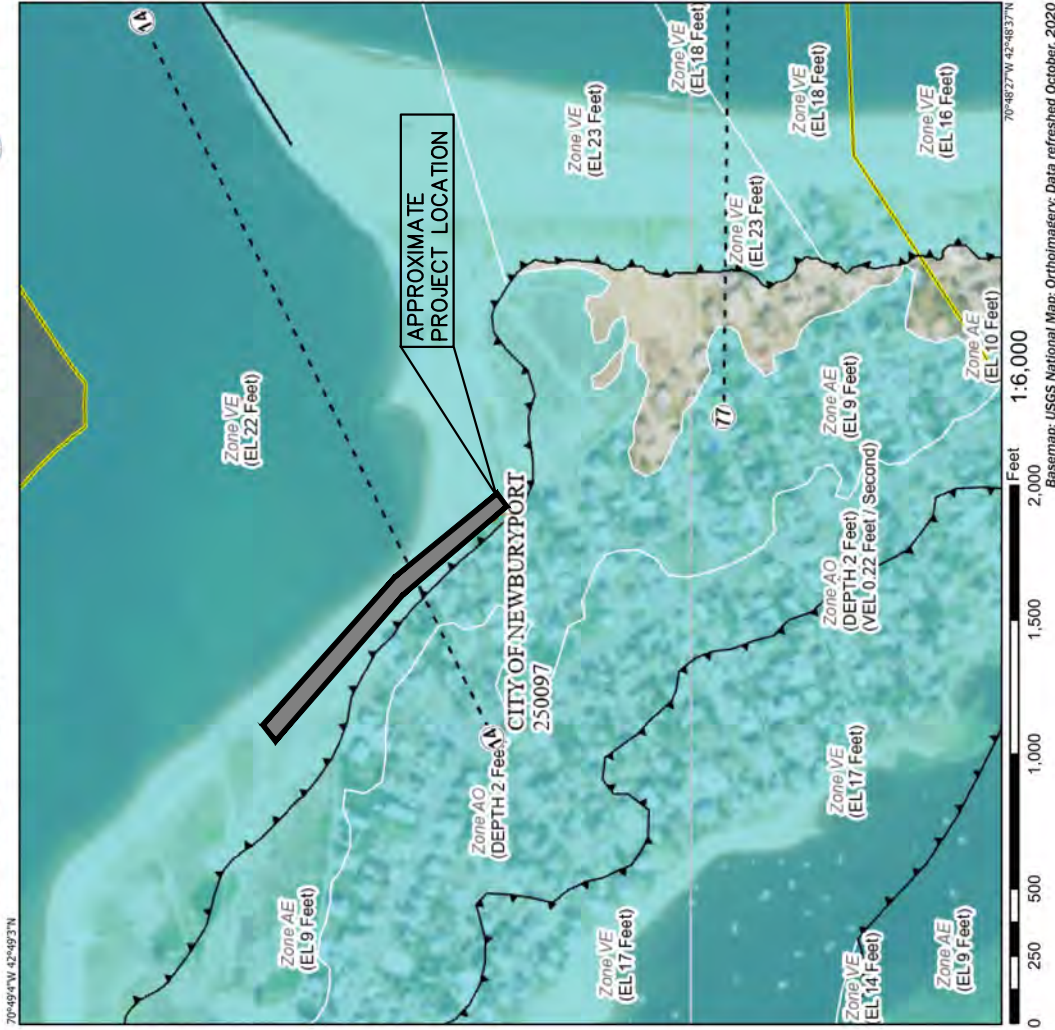
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
**CITY OF NEWBURYPORT
60 PLEASANT STREET
NEWBURYPORT, MA 01950**

AERIAL PHOTO

PROJ MGR: JJZ	REVIEWED BY: ABB	CHECKED BY: ABB	FIGURE 2
DESIGNED BY: ABB	DRAWN BY: JJZ	SCALE: N.T.S.	
DATE: MARCH 2021	PROJECT NO. 18.0171917.06	REVISION NO. -	SHEET NO. 2 OF 4

National Flood Hazard Layer FIRMette



Legend

SEE THIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
- With BFE or Depth Zone AE, AO, AV, VE, AP
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee, See Notes, Zone A
- Area with Flood Risk due to Levee Zone D

OTHER AREAS

- NO SCREEN
- Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

CROSS SECTIONS WITH 1% ANNUAL CHANCE WATER SURFACE ELEVATION

- Coastal Transient
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transient Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

- Digital Data Available
- No Digital Data Available
- Unmapped

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps. If it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was prepared on 3/18/2021 at 3:56 PM and is subject to change over time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and undetermined areas cannot be used for regulatory purposes.

<p>RESERVATION TERRACE SHORELINE PROTECTION NEWBURYPORT, MASSACHUSETTS</p>		<p>PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com</p>		<p>PREPARED FOR: CITY OF NEWBURYPORT 60 PLEASANT STREET NEWBURYPORT, MA</p>	
<p>FEMA FIRMETTE</p>		<p>PROJECT NO. 18.0171917.06</p>		<p>CHECKED BY: ABB SCALE: AS SHOWN</p>	
<p>ISSUE/DESCRIPTION</p>		<p>DATE</p>		<p>REVISION NO. -</p>	
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<p>NO.</p>		<p>BY</p>		<p>SHEET NO. 3 OF 4</p>	

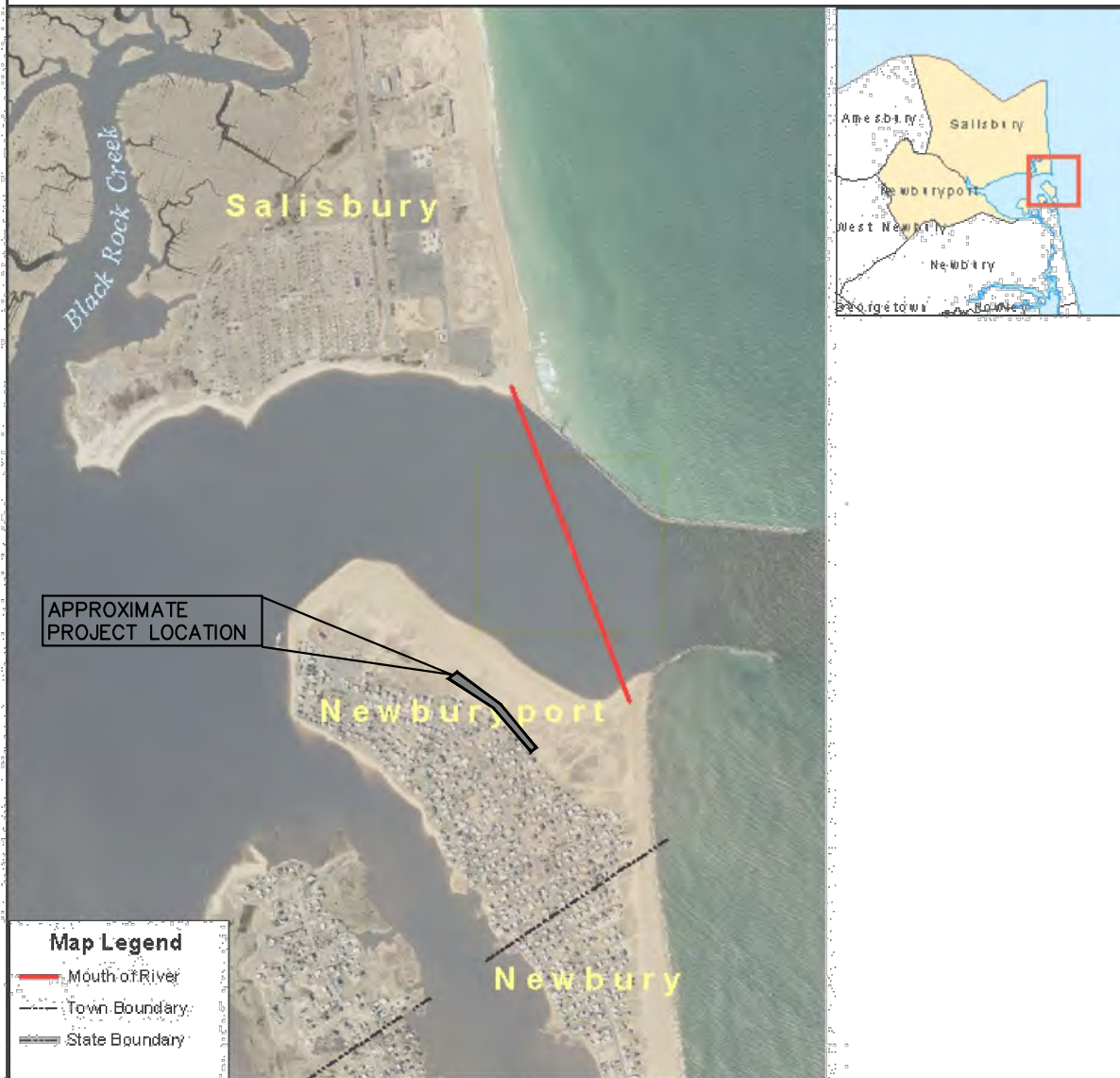
**Massachusetts
Mouth of Coastal River Maps**
M.G.L. c.131, s.40
310 CMR 10.58

Town: NEWBURYPORT / SALISBURY

River: MERRIMACK RIVER

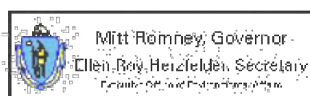
March 1, 2005

ID: NEWBURYPORT-SALISBURY MOR-1



APPROXIMATE
PROJECT LOCATION

- Map Legend**
- Mouth of River
 - Town Boundary
 - State Boundary



Mouth of River lines delineated by DEP Wetlands Program.
Color OrthoPhoto base map from MassGIS, 2001-2003.
Mass DEP GIS Program

© 2021 - GZA GeoEnvironmental, Inc. GZA-J1171900/s/18.0171917/06 MBPT Reservation Terrace Shoreline Protection/Figures/CAD/DWG/Locus_Aerial_FEIMA-MOR.dwg [FIG 4 - MOR] April 10, 2021 - 1:01pm oshua.zall

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**RESERVATION TERRACE
SHORELINE PROTECTION
NEWBURYPORT, MASSACHUSETTS**

MOUTH OF COASTAL RIVER MAP

NO.	ISSUE/DESCRIPTION	BY	DATE

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PROJ MGR: JJZ DESIGNED BY: ABB DATE: MARCH 2021	REVIEWED BY: ABB DRAWN BY: JJZ PROJECT NO. 18.0171917.06
CHECKED BY: ABB SCALE: AS SHOWN REVISION NO. -	FIGURE SHEET NO. 4 OF 4



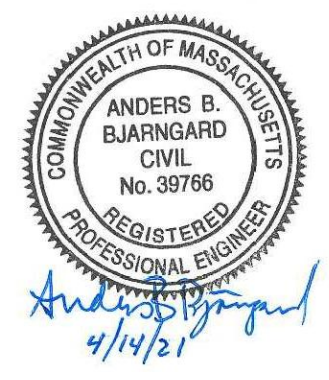
Appendix A – Permit Drawings

© 2021 - GZA GeoEnvironmental, Inc. GZA-171900\S\18.0171917.06 NBPT RESERVATION TERRACE SHORELINE PROTECTION\FIGURES\CAD\DWGS\PLUM ISLAND_SHEET 1-EXISTING CONDITIONS FEBRUARY 2021.DWG PROP COIR APRIL 2021-EXTEND APRIL 14, 2021 4:10PM LUCAS TAYLOR

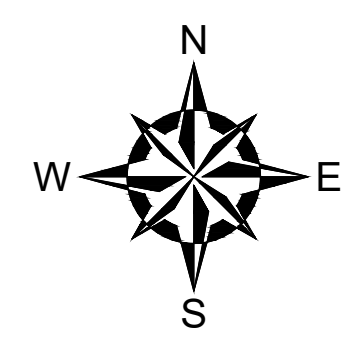


- NOTES:**
- DATUM: CONTOURS AND ELEVATION REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). MLW=-4.18, NAVD88=0.0, MHW=3.28, MHHW=4.23, FEMA 100-YR FLOOD=22.0.
 - CONTOURS SHOWN WERE GENERATED BY GZA GEOENVIRONMENTAL, INC. (GZA) USING THE X-Y-Z POINT CLOUD DATA PROVIDED BY THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MDOT). THE POINT CLOUD DATA WAS COLLECTED BY MDOT USING A DRONE SURVEY PERFORMED ON FEBRUARY 8, 2021 AND REPRESENTS THE CONDITIONS AT THE TIME OF THE SURVEY. ALTHOUGH CONTOURS MAY BE INACCURATE OVER WATER AND STRUCTURES, THEY ARE CONSIDERED SUITABLE FOR THE DESIGN PRESENTED.
 - AERIAL IMAGE FROM GOOGLE EARTH AERIAL IMAGERY DATED OCTOBER 10, 2020.
 - EXISTING UTILITY LOCATIONS WERE TAKEN FROM ELECTRONIC FILES PROVIDED BY THE CITY OF NEWBURYPORT, ENTITLED "PLUM ISLAND W.S".
 - PROPERTY LINES ARE APPROXIMATE AND WERE SCALED FROM ELECTRONIC FILES PROVIDED BY THE CITY OF NEWBURYPORT, ENTITLED "PLUM ISLAND W.S".
 - TEMPORARY CONSTRUCTION ACCESS TO BEACH FROM 73RD AND 75TH STREETS. TEMPORARY CONSTRUCTION STAGING AREA (±50'X100') AT THE EXISTING PAVED PARKING AREA (FINAL LAYOUT TO BE COORDINATED WITH THE CITY).
 - CONTRACTOR SHALL RESTORE THE SITE INCLUDING TEMPORARY CONSTRUCTION ACCESS AND STAGING LOCATIONS TO THEIR PRE-CONSTRUCTION CONDITIONS.

- LEGEND:**
- - - - - HIGH TIDE LIDE (HTL) = 6.51
 - - - - - MEAN HIGHER-HIGH WATER (MHHW) = 4.23
 - - - - - MEAN HIGH WATER (MHW) = 3.28
 - - - - - MEAN LOW WATER LEVEL (MLW) = -4.18
 - - - - - SAND FENCE
 - - - - - ROPE FENCE
 - - - - - BEACH ACCESS PATH
 - - - - - EDGE OF STONE JETTY
 - - - - - EXISTING CONCRETE BLOCKS
 - - - - - PROPERTY LINE
 - - - - - WATER LINES
 - - - - - SEWER LINES
 - - - - - SEWER VALVE CONNECTORS
 - - - - - VACUUM PIT CONNECTORS
 - - - - - LIMIT OF COASTAL DUNE / COASTAL BEACH
 - - - - - LIMIT OF RIVERFRONT AREA
 - PROPOSED COIR ENVELOPE
 - - - - - PROPOSED TEMPORARY EROSION CONTROL
 - - - - - PROPERTY LINE (SEE NOTE 5)



**PERMITTING ONLY
NOT FOR CONSTRUCTION**



NO.	ISSUE/DESCRIPTION	BY	DATE

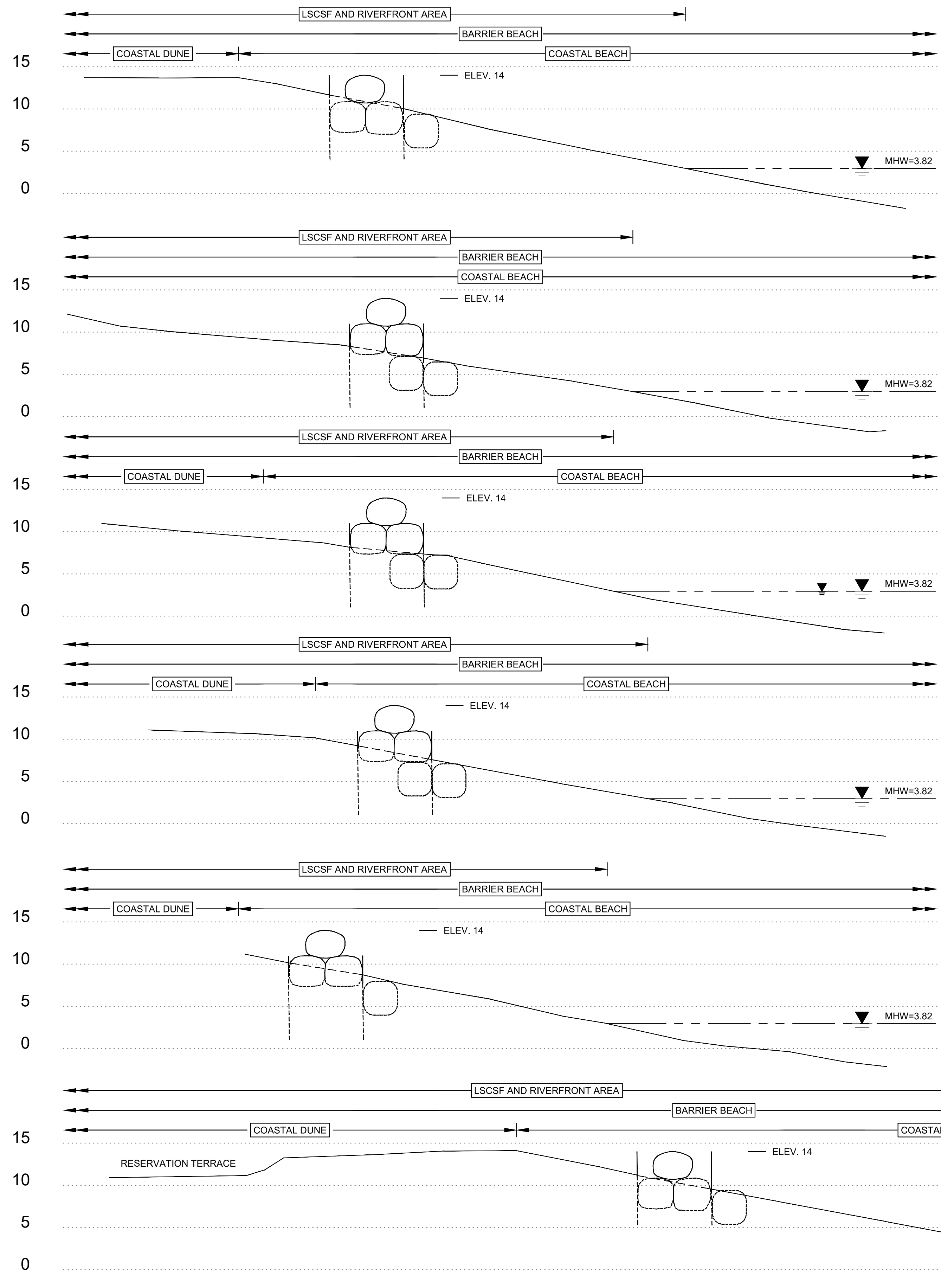
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**RESERVATION TERRACE SHORELINE PROTECTION
NEWBURYPORT, MASSACHUSETTS**

**PROPOSED CONDITIONS PLAN
COIR ENVELOPE EROSION PROTECTION**

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: CITY OF NEWBURYPORT 60 PLEASANT STREET NEWBURYPORT, MA 01950	
PROJ MGR: JJZ DESIGNED BY: LFT DATE: APRIL 2021	REVIEWED BY: ABB DRAWN BY: LFT PROJECT NO. 18.0171917.06	CHECKED BY: ABB SCALE: AS SHOWN REVISION NO.	DRAWING <p style="text-align: center; font-size: 24pt;">1</p> SHEET NO. 1 OF 2

PROPOSED CONDITIONS PLAN
SCALE: 1"=40'



COIR ENVELOPE SECTIONS
NOT TO SCALE

SECTION A - A'

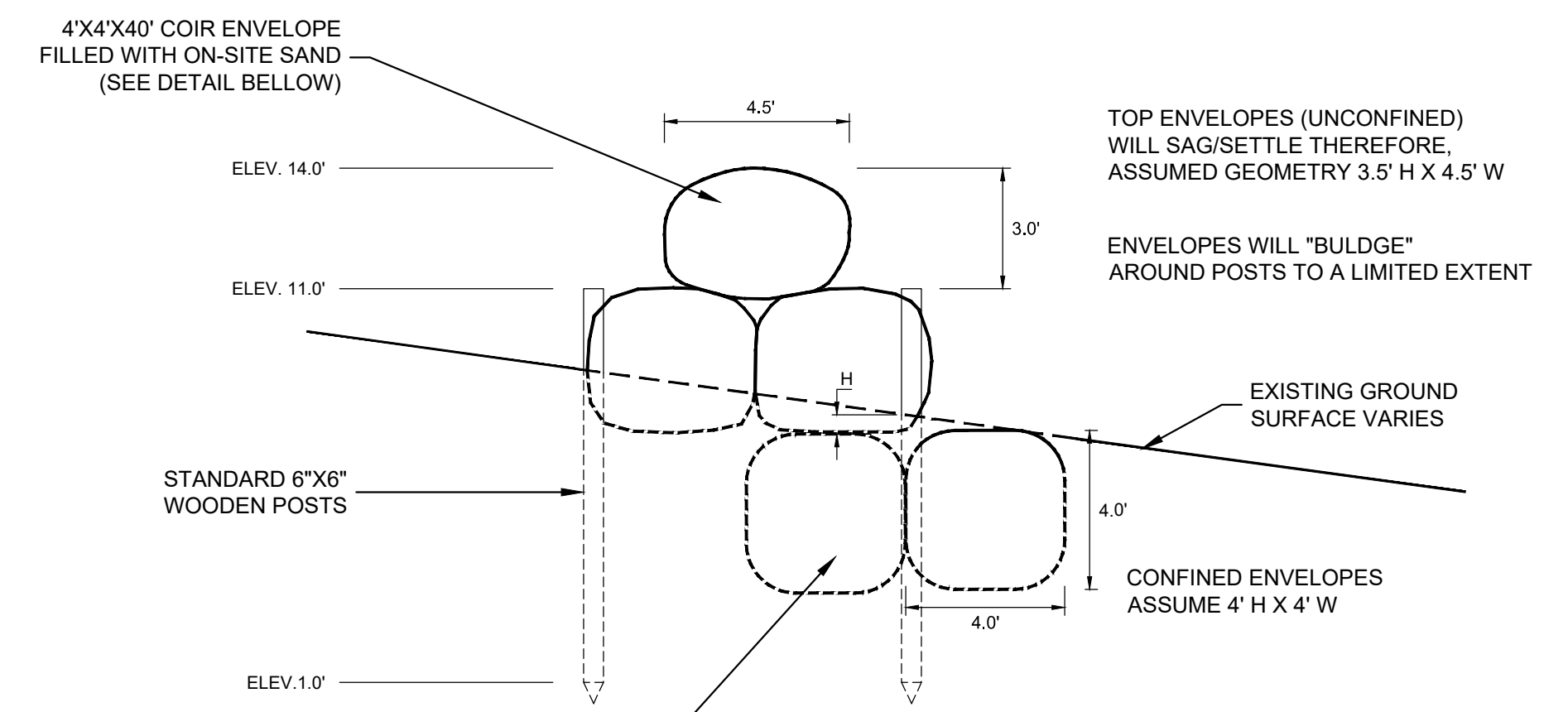
SECTION B - B'

SECTION C - C'

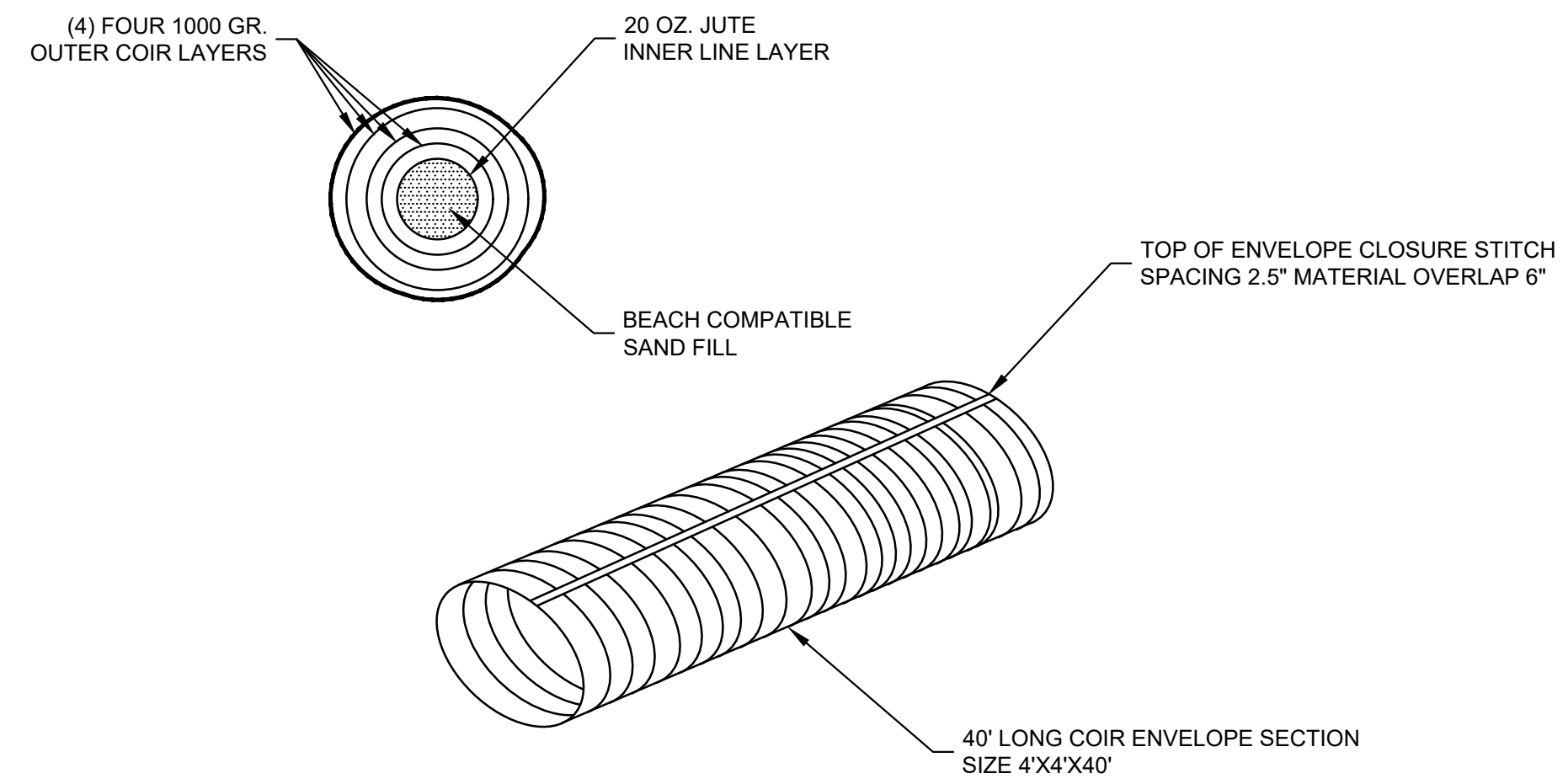
SECTION D - D'

SECTION E - E'

SECTION F - F'



- WOODEN POST NOTES:**
1. WOODEN POSTS TO BE 10-FEET LONG, DRIVEN AT LEAST 6-FEET BELOW GRADE.
 2. POSTS TO BE SPACED AT APPROXIMATELY 4-FEET ON CENTER ON SEAWARD SIDE OF COIR ENVELOPES AND 3-FEET ON CENTER ON LANDWARD WIDE OF COIR ENVELOPES.
 3. POSTS TO BE NON-PRESSURE TREATED TIMBER.
 4. CORNERS OF POSTS TO BE SANDED SMOOTH AND WRAPPED IN COIR FABRIC WHERE THEY WILL COME INTO CONTACT WITH THE COIR ENVELOPES.



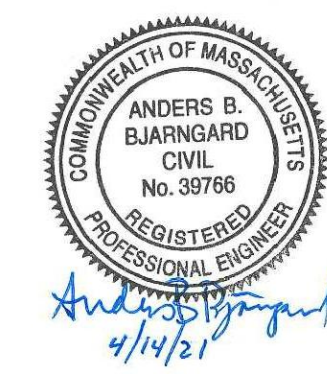
COIR ENVELOPE DETAILS
NOT TO SCALE

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**RESERVATION TERRACE SHORELINE PROTECTION
NEWBURYPORT, MASSACHUSETTS**

PROPOSED SECTIONS AND DETAILS COIR ENVELOPE EROSION PROTECTION	
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	PREPARED FOR: CITY OF NEWBURYPORT 60 PLEASANT STREET NEWBURYPORT, MA 01950
PROJ MGR: JIJ DESIGNED BY: AJP	REVIEWED BY: ABB DRAWN BY: AJP/LFT
DATE: APRIL, 2021	PROJECT NO. 18.0171917.06
CHECKED BY: ABB SCALE: AS SHOWN	DRAWING REVISION NO. 2
SHEET NO. 2 OF 2	



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Appendix B – Photographic Log



Photographic Log


Client Name: City of Newburyport		Site Location: Reservation Terrace, Newburyport, MA	Project No. 18.0171917.06
Photo No. 1	Date: 1-7-21		
Direction Photo Taken: Northwest			
Description: Degraded dune with water directly adjacent to houses.			

Photo No. 2	Date: 12-3-20		
Direction Photo Taken: Aerial			
Description: Reservation Terrace at 73 rd Street. Note supersacks in place from emergency installation.			



Photographic Log

Client Name: City of Newburyport		Site Location: Reservation Terrace, Newburyport, MA	Project No. 18.0171917.06
Photo No. 3	Date: 12-30-20		
Direction Photo Taken: Southeast			
Description: Degraded and eroded dune landward of emergency supersacks. Looking from the end of 75 th Street.			

Photo No. 4	Date: 12-30-20		
Direction Photo Taken:			
Description: Degraded and eroded dune landward of emergency supersacks. Looking toward Reservation Terrace from near the end of 73 rd Street.			



Photographic Log

Client Name: City of Newburyport		Site Location: Reservation Terrace, Newburyport, MA	Project No. 18.0171917.06
Photo No. 5	Date: 12-30-20		
Direction Photo Taken: East			
Description: Degraded and eroded dune looking toward jetty spur.			

Photo No. 6	Date: 12-30-20		
Direction Photo Taken: West			
Description: Degraded and eroded dune landward of emergency supersacks. Looking toward Reservation Terrace from the jetty spur.			



Appendix C – Abutter Information

**Notification to Abutters Under the
Massachusetts Wetlands Protection Act and the
Newburyport Wetlands Ordinance**

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40 and the City of Newburyport's Wetlands Ordinance, you are hereby notified of the following.

- A. The name of the applicant is the City of Newburyport
- B. The applicant has filed a Notice of Intent with the Conservation Commission for the City of Newburyport seeking permission to remove, fill, dredge, or alter an Area subject to Protection under the Wetlands Protection Act (General Laws Chapter 131, Section 40) and the City of Newburyport's Wetlands Ordinance.
- C. The address of the lot where the activity is proposed is:
dune adjacent to Reservation Terrace between 69th Street and north of 77th Street
- D. The Public Hearing will be held on May 4, 2021 at 7 pm. Said hearing shall be located either in the Senior/Community Center or online via remote participation with confirmation and access information to be posted on the City Website meetings calendar at www.cityofnewburyport.com/calendar. All interested parties should look to the meetings calendar on the City website as the hearing date approaches.
- E. Copies of the Notice of Intent may be examined by visiting www.cityofnewburyport.com/conservation-commission and selecting the meeting agenda.
- F. Copies of the Notice of Intent may be obtained from either (check one) the applicant _____ or the applicant's representative , by calling this telephone number (781) 278 - 4802 between the hours of 9 and 5, on the following days of the week: Monday through Friday.

NOTE: Notice of the public hearing, including its date, time, and place, will be published at least five (5) days in advance in the Newburyport Daily News.

NOTE: Notice of the public hearing, including its date, time, and place, will be posted in Newburyport City Hall not less than forty-eight (48) hours in advance.

NOTE: You also may contact the Newburyport Conservation Commission or the Department of Environmental Protection Northeast Regional Office for more information about this application or the Wetlands Protection Act. To contact the Newburyport Conservation Commission, please email igodtfredsen@cityofnewburyport.com.

AFFIDAVIT OF SERVICE

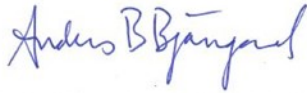
Under the Massachusetts Wetlands Protection Act

(to be submitted to the Massachusetts Department of Environmental Protection and the Conservation Commission when filing a Notice of Intent)

I, Anders B. Bjarngard, hereby certify under the pains and penalties of perjury that on April 15, 2021 I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the **DEP Guide to Abutter Notification** dated April 8, 1994, in connection with the following matter: Reservation Terrace Shoreline Protection Project

A Notice of Intent filed under the Massachusetts Wetlands Protection Act and the Newburyport Wetlands Ordinance by the City of Newburyport with the City of Newburyport on April 15, 2021 for property located at the dune adjacent to Reservation Terrace between 69th Street and north of 77th Street.

The form of the notification, and a list of the abutters to whom it was given and their addresses are attached to this Affidavit of Service.


Signature

4/15/21
Date



CITY OF NEWBURYPORT

OFFICE OF THE
ASSESSOR

MARCH 19, 2021

JILL BRENNAN
CITY ASSESSOR

.....

NEWBURYPORT CITY HALL

TO: CONSERVATION COMMISSION

60 PLEASANT STREET

FROM: BOARD OF ASSESSORS

NEWBURYPORT, MA 01950

RE: **NORTH RESERVATION TERRACE (PARCEL ID 77-125)**

TEL: 978-465-4403

FAX: 978-462-8495

THE ATTACHED ARE THE ABUTTERS OF THE ABOVE MENTIONED PROPERTY:

WWW.CITYOFNEWBURYPORT.COM

THE ASSESSORS OFFICE IS CERTIFYING THAT THE PERSONS LISTED IN THE FOREGOING LIST OF ABUTTERS ARE THE OWNERS OF RECORD OF THE FOREGOING PROPERTIES AS OF JANUARY 1ST, 2021.

76/ 171/D / /
KUCINSKI JOHN M
IRENE V T/E
13 PAT DRIVE
DANVERS, MA 01923

76/ 172/D / /
KINGMAN RAYMOND R JR
ANDREA S T/E
10 75TH ST
NEWBURYPORT, MA 01950

76/ 181/ / /
MULLER MICHAEL
STANLEY MULLER J/T
11 73RD ST
NEWBURYPORT, MA 01950

76/ 182/ / /
SACKS STANTON & JUDITH T/E
7 LILS WAY
LYNNFIELD, MA 01940

76/ 183/ / /
WRIGHT MARK R
LELA C T/E
55 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 184/ / /
BOSSI GEORGE E TRS
GEORGE E BOSSI 2013 REVOC. TRUST
8 73RD ST
NEWBURYPORT, MA 01950

76/ 192/ / /
EDWARDS MICHELE TRS
NRNH REALTY TRUST
99 LAKE ST
SALEM, NH 03079

76/ 194/ / /
HRC LLC
51A RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 195/ / /
HANNASEA LLC
51 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 205/ / /
GEMBA ELIZABETH
11 69TH ST
NEWBURYPORT, MA 01950

76/ 206/ / /
CLARKE RICHARD
15 69TH ST
NEWBURYPORT, MA 01950

76/ 207/ / /
TRUESDALE BRUCE J JR
JENNIFER D T/E
18 69TH ST
NEWBURYPORT, MA 01950

76/ 208/ / /
MAGAURAN ANNE O
16 69TH ST
NEWBURYPORT, MA 01950

76/ 219/ / /
FREEDMAN MARCY LYNNE TRS
MARCY LYNNE FREEDMAN REVOC.
TRUS
13 67TH ST
NEWBURYPORT, MA 01950

76/ 221/ / /
DOYLE MICHAEL F
KELLI A T/E
39 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 222/ / /
GARIBALDI DOMINICK TRS
14 67TH STREET REALTY TRUST
14 67TH ST
NEWBURYPORT, MA 01950

76/ 235/ / /
MIKITKA MARK F & KIMBERLY
12 AVERY LANE
ANDOVER, MA 01810

76/ 236/ / /
HIGGINBOTHAM GREGGORY S
12 65TH ST
NEWBURYPORT, MA 01950

76/ 247/ / /
SPRAGUE JEFFREY D
DONNA M T/E
7 CHESTNUT AVE
AUBURN, MA 01501

76/ 248/ / /
SPRAGUE DONNA M
JEFFERY D J/T
7 CHESTNUT AVE
AUBURN, MA 01501

76/ 249/ / /
LOWE BENJAMIN & MEMORY T/E
20 63RD ST
NEWBURYPORT, MA 01950

76/ 263/ / /
HALLISEY JOHN J & CATHERINE TRS
C/O MARY HALLISEY
46 CLIPPER WAY
NEWBURYPORT, MA 01950

76/ 264/ / /
POTTER KORIN J H
C/O KORIN HEISER CARUSO
77 ROCKVIEW-JAMAICA PLAIN
BOSTON, MA 02130

76/ 265/ / /
HEARTQUIST ALLISON
RICHARD T/E
23 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 266/ / /
BEAUBIEN WILLIAM A TRUSTEE
BEAUBIEN FAMILY TRUST
20 61ST ST
NEWBURYPORT, MA 01950

76/ 280/ / /
LYONS MARY-CORINNE TRS
JOHN & CHRISTOPHER & SHANE RYAN
3 LONG VIEW LANE
NEWBURY, MA 01951

76/ 280/A / /
NALLY DONALD D
MARY BETH T/E
21 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 280/B / /
NEWMAN ROBERT P
ALLISON A SCHILLING J/T
19 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 281/ / /
ZIOLKOWSKI EDWARD S
MARILYN D
28 THURSTON RD
MELROSE, MA 02176

76/ 282/ / /
ZIOLKOWSKI EDWARD S
MARYLYN D P I RLTY TRS
28 THURSTON RD
MELROSE, MA 02176

76/ 283/ / /
LANCIANI STEPHEN A JR & ERIN E T
21 OLDE COACH RD
NORTH READING, MA 01864

76/ 284/ / /
CHERRY KATHLEEN L
FULLER ROBERT G-MINNIE I
324 AVOCADO ST
BRADENTON, FL 34207

76/ 285/ / /
CMAR JOSEPH J & LINDA J TRS
CMAR FAMILY REVOCABLE TRUST
16 RESERVATION TERRACE
NEWBURYPORT, MA 01950

76/ 286/ / /
MALONEY BRETT
KENNETH POUBLON J/T
63 LAKE ST
MIDDLETON, MA 01949

76/ 304/ / /
SLOANE MICHAEL M
COLEEN A T/E
10 RESERVATION TERR
NEWBURYPORT, MA 01950

76/ 305/ / /
GUNNARD RUSSELL J TRS
GUNNARD FAMILY NOMINEE TRST
17 SHIPMASTER CT
LAKE WYLIE, SC 29710

76/ 306/ / /
SIMMONS WILLIAM A
SIMMONS MARGARET H
19 HILLTOP CIRCLE
WEST NEWBURY, MA 01985

76/ 309/ / /
MASLANKA MARK A & PAMELA A TRS
24 57TH STREET REALTY TRUST
24 57TH ST
NEWBURYPORT, MA 01950

76/ 333/ / /
MCCARTHY CORNELIUS J
ALICE M T/E
185 IPSWICH RD
BOXFORD, MA 01921

76/ 334/ / /
MCCARTHY CORNELIUS J
ALICE M J/T
185 IPSWICH RD
BOXFORD, MA 01921

76/ 335/ / /
HEMANI SADRUDDIN B TRUSTEE
S B HEMANI REVOCABLE TRUST 2009
73 HIGH ST
NEWBURYPORT, MA 01950

76/ 336/ / /
HEMANI SADRUDDIN B TRUSTEE
S B HEMANI REVOCABLE TRUST 2009
73 HIGH ST
NEWBURYPORT, MA 01950

76/ 356/ / /
MIRICK CHRISTOPHER R
CATHERINE C T/E
65 KINGSBURY ST
WELLESLEY, MA 02481

76/ 357/ / /
DUNPHY CLARE TRUSTEE
53RD STREET REALTY TRUST
73 HIGH STREET
NEWBURYPORT, MA 01950

76/ 358/ / /
TRACY TIMOTHY R
FREEMAN KAREN A J/T
28 53RD ST PI
NEWBURYPORT, MA 01950

77/ 102/ / /
WIK ROBERT C TRS
ROBERT C WIK REVOCABLE TRUST
1517 SW 54TH TERRACE
CAPE CORAL, FL 33914

77/ 103/ / /
PEASE EDWIN C & KATHLEEN
79 JOHNSON ST
NORTH ANDOVER, MA 01845

77/ 104/ / /
PEASE EDWIN C & KATHLEEN
79 JOHNSON ST
NORTH ANDOVER, MA 01845

77/ 105/ / /
LANGE EIVIND G III
MARY G PUMA T/E
15 CURTIS RD
HAMPTON FALLS, NH 03844

77/ 106/ / /
ATKINS JOHN & ELIZABETH T/E
87 NORTH RESERVATION TERRACE
NEWBURYPORT, MA 01950

77/ 107/ / /
SWARTZ MARK G
89 NORTH RESERVATION TERR
NEWBURYPORT, MA 01950

77/ 108/ / /
LEGGIERO MAURA
ANTHONY RICARDO T/E
9 SHERMAN ST
LEXINGTON, MA 02173

77/ 110/ / /
WILLIAMS RALPH R
CLARE M J/T
PO BOX 36
NEWBURYPORT, MA 01950

77/ 113/ / /
PINCHME LLC
101 NORTH RESERVATION TERR
NEWBURYPORT, MA 01950

77/ 115/ / /
BLATT LOUIS A
10 77TH ST
NEWBURYPORT, MA 01950

77/ 116/ / /
BLANCHARD KATE
CRAIG CARPENTER T/E
8 77TH ST
NEWBURYPORT, MA 01950

77/ 121/ / /
DELOACH ROLAN M JR
SHERIDAN GEORGE J
509 HERB RIVER DRIVE
SAVANNAH, GA 31406

77/ 122/ / /
OBRIEN HELEN F L/I
MCLAUGHLIN LEE A.
9 75TH ST
NEWBURYPORT, MA 01950

77/ 123/ / /
KINGMAN RAYMOND R JR
ANDREA S T/E
10 75TH STREET
NEWBURYPORT, MA 01950

77/ 125/ / /
COMMONWEALTH OF
MASSACHUSETTS
DEPARTMENT ENVIRONMENTAL MGMT
100 CAMBRIDGE ST
BOSTON, MA 02202

77/ 82/ / /
CHAROS GEORGE J
82ND STREET P.I.
NEWBURYPORT, MA 01950

77/ 83/ / /
CHAROS GEORGE
10 82ND STREET P.I.
NEWBURYPORT, MA 01950

77/ 84/ / /
COMMONWEALTH OF
MASSACHUSETTS
DIV OF MARINE FISHERIES
100 CAMBRIDGE STREET
BOSTON, MA 02109

77/ 85/ / /
WISE KATHLEEN & OLIVER L/I
DANA P JORDAN
39 JAK-LEN DR
SALISBURY, MA 01952

77/ 86/ / /
WALLACE ROBIN F
4 79TH ST
NEWBURYPORT, MA 01950

77/ 86/A / /
PAPANICKOLAS GEORGIA
16 CHESTNUT ST
PEABODY, MA 01960

77/ 87/ / /
PAPANICKOLAS EMMANUEL N
16 CHESTNUT ST
PEABODY, MA 01960-2302

77/ 88/ / /
LANE LEEWOOD L JR
JOANN M LANE T/E
36 ALBRIGHT RD
STERLING, MA 01564

77/ 89/ / /
BAKHTIARI MAHMOUD M
BRENDA S T/E
268 NORTHERN BLVD
NEWBURYPORT, MA 01950

77/ 90/ / /
HARVEY RICHARD
266 NORTHERN BLVD
NEWBURYPORT, MA 01950

77/ 91/ / /
WATKINS JOHN A
LOUISA M TANNER T/E
260 NORTHERN BLVD
NEWBURYPORT, MA 01950

77/ 92/ / /
HOLLERAN ELEANOR TR
HOLLERAN FAMILY TRUST
PO BOX 255
WINCHESTER, MA 01890

77/ 93/A / /
TODD JEFFREY & ERIN T/E
HAROLD J BURNS J/T
33 WILD PASTURE RD
KENSINGTON, NH 03833

77/ 93/B / /
KWAN KIM M
16 PRIMROSE LANE
WESTBOROUGH, MA 01581

77/ 94/ / /
BEAN DAVID F & JOHN W TRS
BEAN FAMILY IRREVOCABLE TRUST
4 RODGERS CIRCLE
NORTH READING, MA 01864

77/ 95/ / /
NAGEL J EVA
LEE F. T/E
56 NIELSON ROAD
STILLWATER, NY 12170

77/ 96/ / /
PHELAN SUSAN E
25 FEDERAL ST
NEWBURYPORT, MA 01950

77/ 97/ / /
FRIEL PATRICK J III & KAREN M TR
2011 PATRICK J FRIEL III TRUST
76 PINE BROOK RD
CARLISLE, MA 01741

77/ 98/ / /
BARRETT BRIAN T
MARIE B T/E
135 GRIERSON AVE
FORT HUACHUCA, AZ 85613

77/ 99/ / /
ATKINS JOHN & ELIZABETH T/E
87 NORTH RESERVATION TERRACE
NEWBURYPORT, MA 01950

77/ 125/A / /
CITY OF NEWBURYPORT
PLAYGROUND/PARKING LOT
60 PLEASANT ST
NEWBURYPORT, MA 01950

77/ 125/B / /
CITY OF NEWBURYPORT
PLUM ISLAND BOAT HOUSE
60 PLEASANT ST
NEWBURYPORT, MA 01950



Appendix D – Stormwater Report and Checklist



1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION AND INFORMATION

This document presents the Stormwater Report for the proposed installation of approximately 830 linear feet of sand-filled coir envelopes seaward of Reservation Terrace on Plum Island in Newburyport, Massachusetts. The project will be designed to meet the appropriate Stormwater Standards to the maximum extent practicable. There are no known illicit discharges to the existing stormwater system at the site. A discussion of how the project complies with these standards is included in the herein and a copy of the Checklist for Stormwater Report is attached to this document. A complete set of permit plans is included with the Notice of Intent Application.

1.1.1 Project Information

Project Name: Reservation Terrace Shoreline Protection Project

Project Location:

Reservation Terrace between 69th Street
and north of 77th Street
Newburyport, Massachusetts

Owner's Name(s) and Address:

City of Newburyport
60 Pleasant Street
Newburyport, Massachusetts

Report Preparer(s) Name and Address:

Joshua Zall
GZA GeoEnvironmental, Inc.
144 Elm Street
Amesbury, MA 01913

1.1.1 Project Description

The proposed project is intended to provide protection to existing public and private infrastructure using biodegradable products. The project will be limited to site preparation and installation of the sand-filled coir envelopes. There is no development or building construction proposed as part of the project. As such, many of the Stormwater Management Standards which are designed to protect natural resources from the potential impacts of site development do not apply to this project. This project has been designed to use soft solutions to mitigate and protect the area against future erosion and damage to the existing infrastructure landward of the project site.

The project does not include the construction of stormwater treatment structures, systems, or Best Management Practices (BMPs) other than those temporary measures that will be utilized during the construction phase of the project.

1.2 EXISTING LAND USES AND STORMWATER MANAGEMENT

The project site consists of a Coastal Dune and Barrier Beach. There is no impervious land or stormwater structures within the dune in the vicinity of the proposed project site.



2.0 STORMWATER STANDARDS

2.1 STANDARD 1 - NO NEW UNTREATED DISCHARGES

The Massachusetts Department of Environmental Protection's Stormwater Management Standards (SMS) state that "No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth."

The proposed project is limited to the installation of the sand-filled coir envelopes. No new stormwater conveyances are proposed under this project.

2.2 STANDARD 2 - PEAK RATE ATTENUATION

The Massachusetts Department of Environmental Protection's SMS states that "stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for land subject to coastal storm flowage."

A waiver from Standard 2 is requested because the project is located within the Land Subject to Coastal Storm Flowage resource area.

2.3 STANDARD 3 - RECHARGE

The Massachusetts Department of Environmental Protection's SMS states that "Loss of annual recharge to ground water shall be eliminated or minimized through the use of infiltration measures, including environmentally sensitive site design, low impact development techniques, best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from the pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook."

The proposed project does not propose stormwater recharge. The project will not result in an increase to impervious areas as compared to the existing site and therefore loss of annual recharge to ground water will not be caused. In addition, since the project is located along a tidal water body, the groundwater elevations are predominantly controlled by the tides.

2.4 STANDARD 4 - WATER QUALITY

The Massachusetts Department of Environmental Protection's SMS states that "Stormwater management systems must be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan and thereafter are implemented and maintained;*
- b. Stormwater BMPs are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook."*

Impervious areas will not be increased. There are no new stormwater conveyances proposed under this work. As the proposed project involves the disturbance of less than one acre of land, the project does not require a NPDES Construction



General Permit and no BMP improvements are proposed. Construction Period Pollution Prevention and Erosion and Sedimentation Controls are discussed below in Standard 8.

2.5 STANDARD 5 - LAND USES WITH HIGHER POTENTIAL POLLUTANT LOADS

The Massachusetts Department of Environmental Protection's SMS states that "For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention, all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt and stormwater runoff, the proponent shall use the specific stormwater BMPs determined by the Department to be suitable for such use as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00."

The project is not classified as a use with a higher potential pollutant load. Thus, this Standard does not apply.

2.6 STANDARD 6 - CRITICAL AREAS

The Massachusetts Department of Environmental Protection's SMS states that "Stormwater discharges to a Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or any other critical area require the use of the specific source control and pollution prevention measures and the specific stormwater best management practices determined by the Department to be suitable for managing discharges to such area, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters or Special Resource Waters shall be set back from the receiving water and receive the highest and best practical method of treatment. A "stormwater discharge," as defined in 314 CMR 3.04(2)(a)1. or (b), to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of the public water supply."

There are no discharges proposed as part of this project. The project is limited to the installation of sand-filled coir envelopes to provide protection to public and private infrastructure. Thus, this Standard does not apply.

2.7 STANDARD 7 - REDEVELOPMENTS AND OTHER PROJECTS SUBJECT TO THE STANDARDS ONLY TO THE MAXIMUM EXTENT PRACTICABLE

The Massachusetts Department of Environmental Protection's SMS states that "the Massachusetts Department of Environmental Protection's SMS states that "A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pre-treatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions."

This Stormwater Management Report outlines how the project complies with the relevant Standards. This project involves the installation of biodegradable sand-filled coir envelopes to provide protection to public and private infrastructure, and results in no net increase in impervious area. The proposed work is for the public benefit.



2.8 STANDARD 8 - CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENT CONTROL

The Massachusetts Department of Environmental Protection's SMS states that "A plan to control construction-related impacts, including erosion sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan), must be developed and implemented."

The project will disturb less than one acre and as such, the project is not subject to the EPA's Construction General Permit and does not require a Stormwater Pollution Prevention Plan or registration with EPA. A generalized set of procedures relative to erosion and sedimentation controls is included herein and erosion and sedimentation controls are included on the project plans.

Measures will be taken to avoid erosion and sedimentation during the proposed activities. Erosion and sediment controls will be inspected regularly and maintained in proper working condition.

The project's construction specifications and plans will require the implementation of pollution prevention, erosion, and sediment control measures by the contractor to prevent and minimize potential impacts to adjacent wetland resource areas. These measures will include at a minimum the items listed below. Additional measures will be implemented should unusual site or weather conditions require them.

- Work will be scheduled to avoid extreme storm events
- The contractor shall not leave equipment, materials, debris, or any other items within the work area that will be affected by rising water. Work areas shall be left in a condition so that the rising water shall not cause any damage to ongoing work or adjacent areas.
- Excavated or excess materials shall be removed and properly disposed of by the contractor. Upon finishing work, contractor shall restore the areas to pre-construction conditions.
- Erosion control measures will be implemented around any stockpiles of loose erodible material.

Dust Control: Dust control will be utilized as required throughout the construction process of the site. It is not anticipated that dust control will be required for this project due to the nature of the work.

Non-Stormwater Discharges: If dewatering is required, geotextile dewatering bags will be employed at the discharge point, however, dewatering is not anticipated.

Equipment Storage: Machinery, tools, and building materials will be stored in an upland area or suitably protected from rising water.

Solid Waste Disposal: The disposal of excess building materials and other construction site wastes will be managed carefully. Waste construction materials will be collected and stored in securely covered receptacles. Construction wastes that may be encountered on site include the following:

- Wood, stone asphalt pavement and concrete rubble from demolition.
- Packaging materials (including wood, paper, plastic, etc.).
- Scrap or surplus building materials (scrap metals, rubber, plastic, and timber).



Temporary Sanitary Waste Disposal: There will be sanitary waste from workers during construction activities that will be confined to temporary facilities. Domestic waste haulers licensed by the Commonwealth of Massachusetts will be contracted to regularly remove the sanitary waste and to maintain the facilities in good working order.

Maintenance and Inspection Procedures: The following inspection and maintenance practices will be used to maintain the erosion/ sediment and pollution controls measures:

- Control measures will be inspected at least once every seven-day period.
- Control measures will be maintained in good working order. If an inspection indicates that repair or maintenance work is required, then it will be initiated within 24 hours.

Spill Prevention: The typical construction materials expected to be present onsite during construction will include the following: concrete, rebar, petroleum products, wood, geotextile, crushed stone, and/or building materials.

Materials Management Practices: The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

1. The following good housekeeping practices will be followed onsite during the construction project:

- An effort will be made to store only sufficient amounts of products necessary to complete the work.
- All materials will be stored onsite in a neat, orderly manner in their original containers and, if possible, under a roof or other enclosure.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials.
- Substances will not be mixed with one another, unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.

2. The following practices will be used to reduce the risks associated with hazardous materials:

- Products will be kept in their original containers unless they are not re-sealable.
- Original labels and material safety data will be retained for important product information.
- Surplus products that must be disposed will be discarded according to the manufacturers' or agency's recommended methods of disposal.

3. The following product specific practices will be followed onsite:

- Petroleum Products: Onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce leakage. Petroleum products will be stored in tightly sealed containers, which are clearly labeled. Any asphalt-based substances used onsite will be applied according to manufacturers' recommendation.



- Coatings/Sealants: Containers will be tightly sealed and stored when not required for use. Excess coating materials will not be discharged to the stormwater system but will be disposed of properly according to manufacturers' instructions or state and local regulations.

Spill Control Practices: In addition to good housekeeping and material management practices discussed in the previous section, the following practices as required by the construction activities will be followed for spill prevention and cleanup:

- Site personnel will be made aware of Manufacturers' recommended methods for spill cleanup procedures and the location of cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include, but not limited to, brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic or metal trash containers specifically for this purpose.
- Minor spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state or local government agency, regardless of the size.
- The site superintendent responsible for day-to-day site operations will be the spill prevention and cleanup coordinator.

2.9 STANDARD 9 - OPERATIONS AND MAINTENANCE PLAN

The Massachusetts Department of Environmental Protection's SMS states that "A long-term operation and maintenance plan must be developed and implemented to ensure that stormwater management systems function as designed."

There are no stormwater structures on the project site and no new structures are proposed as part of this project.

2.10 STANDARD 10 - PROHIBITION OF ILLICIT DISCHARGES

The Massachusetts Department of Environmental Protection's SMS states that "All illicit discharges to the stormwater management system are prohibited."

There are no known illicit discharges in the project area and no illicit discharges will be created as part of this project. The potential for construction phase discharges and BMPs to prevent such discharges are discussed under Standard 8. An Illicit Discharge Compliance Statement is provided herein.

Illicit Discharge Compliance Statement

Project: Reservation Terrace Shoreline Protection Project

Location: Reservation Terrace between 69th Street and north of 77th Street, Plum Island, Newburyport, MA

Owner/Responsible Party: City of Newburyport



Illicit Discharge Statement:

No illicit discharges will be created as part of this project, which is for a Loading Pier replacement project. There are no known illicit discharges to stormwater management systems in the project area. The potential for construction phase discharges and BMPs to prevent such discharges are discussed under Standard 8.

Signed: _____ Date: _____

For The City of Newburyport

Attachment: Attachment D - Massachusetts Department of Environmental Protection Checklist for Stormwater Report

\\GZA\Amesbury\Jobs\171900's\18.0171917.06 NBPT Reservation Terrace Shoreline Protection\Work\Permitting\NOI\04_Appendices\Appendix D - Stormwater Report and Checklist\Reservation Terrace Shoreline Protection Project_Stormwater Report DRAFT.docx



Attachment F - Massachusetts Department of Environmental Protection Checklist for Stormwater Report



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

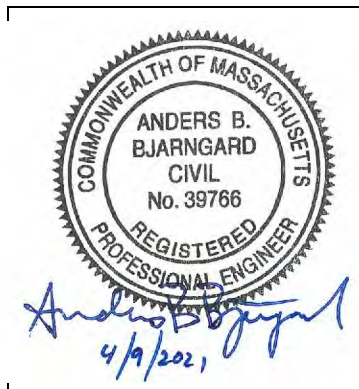
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



April 9, 2021

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of “country drainage” versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): _____

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
 - The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
- Redevelopment Project
 - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.