



Tighe&Bond

Engineers | Environmental Specialists



RESPONDING TO WINTER STORM RILEY: THE CITY OF QUINCY'S EMERGENCY RECONSTRUCTION EFFORTS

**NEWEA CSO Wet Weather Issues
Conference
October 30, 2018**

Paul Costello, PE – City Engineer
Marina Fernandes, PE – Project Manager
David Murphy – Principal In Charge

PRESENTATION OVERVIEW

- 2018 Storm Riley
- Post Storm Emergency Assessment
- FEMA Reporting Development
- Environmental Notifications/Certifications
- Construction Phase Services



CITY OF QUINCY

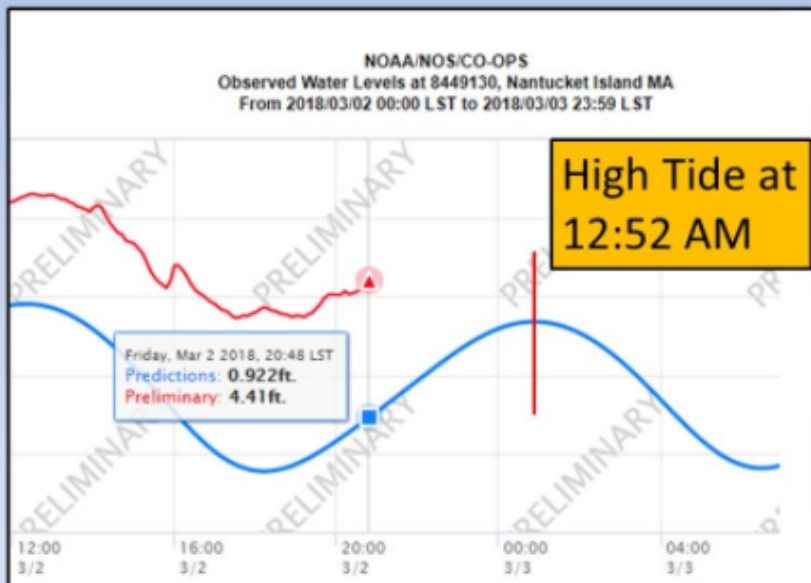


- Boston's immediate southern suburb.
- 8th largest city in the state.
- Known as the "City of Presidents," :
 - birthplace of 2 U.S. presidents: John Adams and John Quincy Adams;
 - birthplace of John Hancock, a President of the Continental Congress and the first signer of the Declaration of Independence.

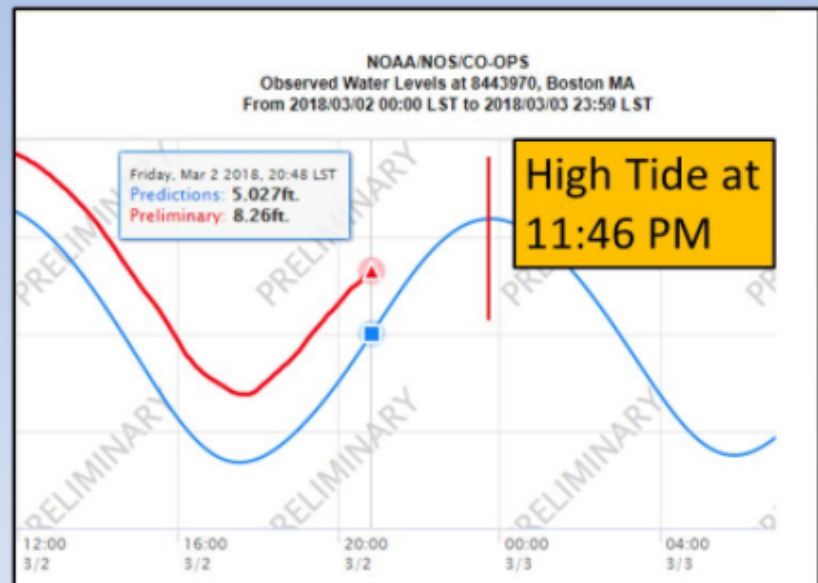
2018 STORM RILEY

Another Round of Moderate to Major Coastal Flooding Tonight

Nantucket:
Forecast **7.7 feet*** (Major)



Boston:
Forecast **14.9 feet*** (Moderate – Major)



Latest surge just over 3 feet at Nantucket and Boston

* MLLW



Published: Friday, March 02, 2018 9:12 PM Website: www.weather.gov/boston

Twitter: @NWSBoston Facebook: <http://www.facebook.com/NWSBoston>



2018 STORM RILEY

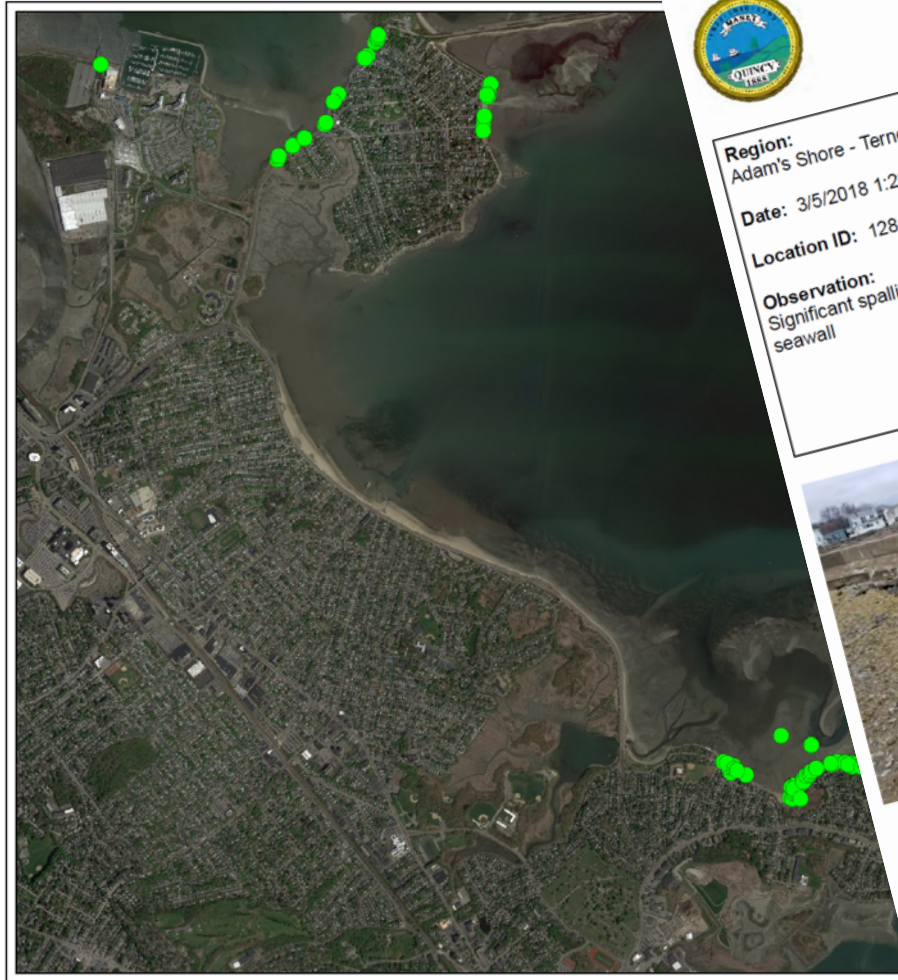


Firefighters rescue a mother and child by boat after their residence was flooded along Post Island Road in the Houghs Neck section of Quincy, Mass., Friday, March 2, 2018. (John Thumack/The



POST STORM EMERGENCY ASSESSMENT – MOBILIZATION

- **March 3rd – 5th**



STORM DAMAGE SITE INSPECTIONS

Region:
Adam's Shore - Terne Road/Shelton

Date: 3/5/2018 1:20:42 PM

Location ID: 128

Observation:
Significant spalling on 7 units along landside of seawall



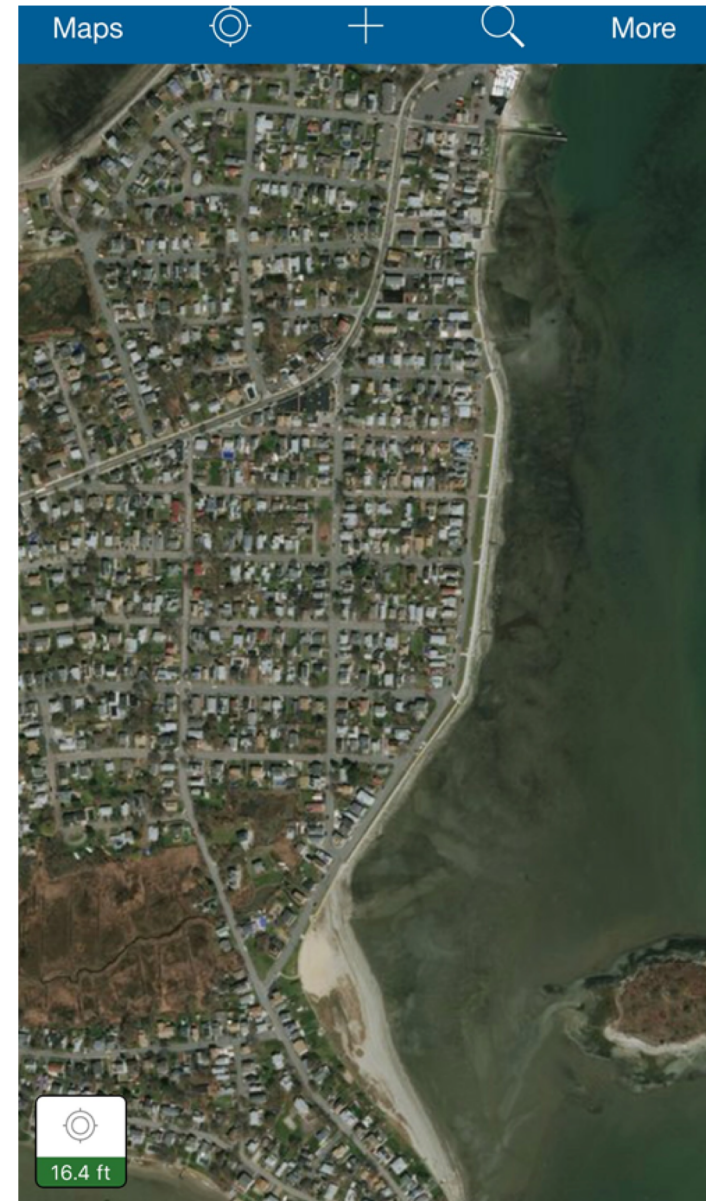
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Quincy, Massachusetts
March 2018

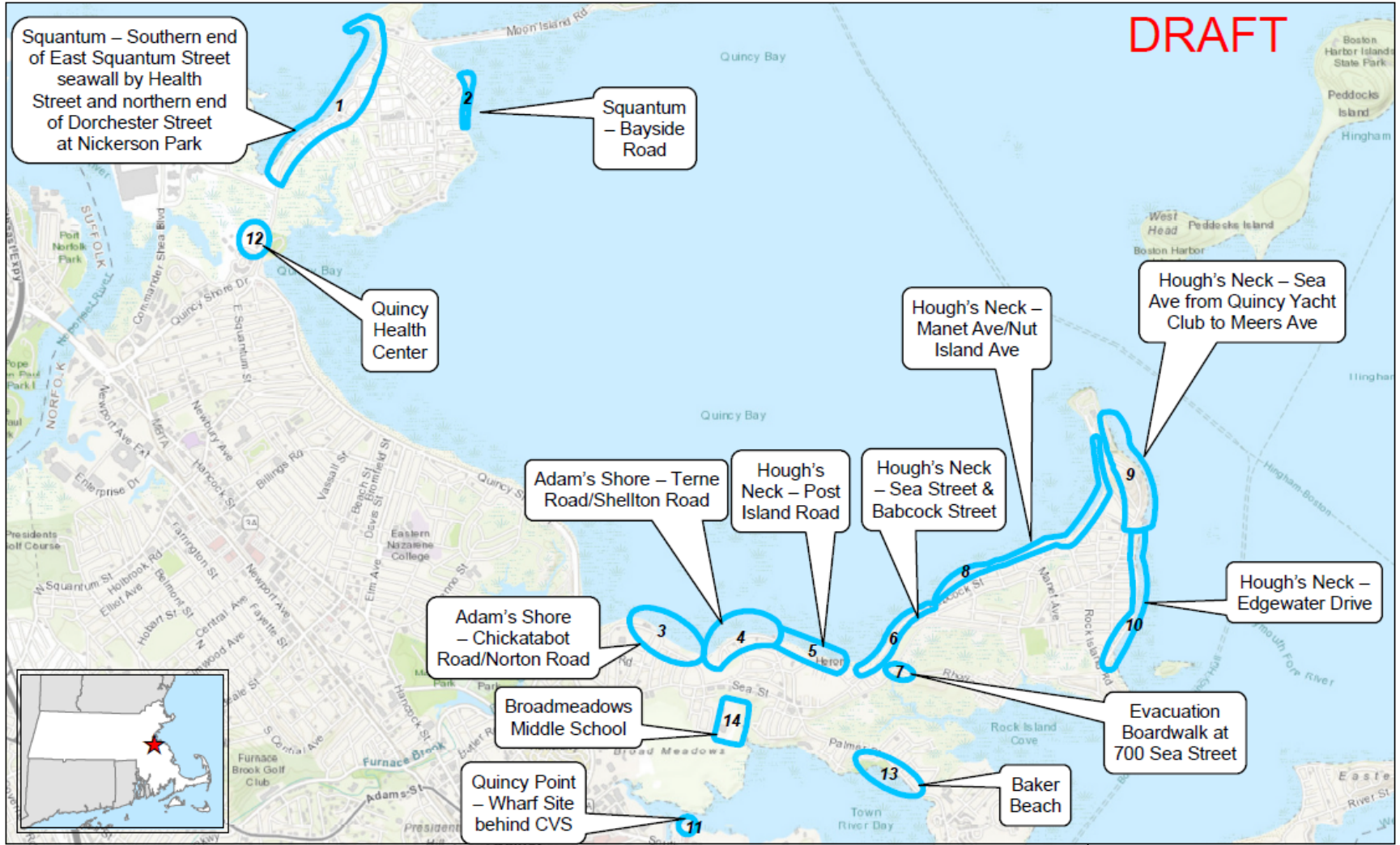
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POST STORM EMERGENCY ASSESSMENT – GIS TOOL APPLICATION

- **GIS Application for Efficient Field Data Collection**
 - Application created for the City using ESRI Collector for ArcGIS
 - Photographs
 - GIS Points
 - Measurements
 - Notes



EMERGENCY REPAIR AREAS



PROJECT COSTS PHASE 1

- **Total Engineering Fee: \$200,000**
- **Total Construction Costs: \$1.2M**
 - Voted on 03/12
 - Total vote included additional \$1.7M for roadways and tide gates.

ORIGINAL PROJECT SCOPE						
						TOTAL ENGINEERING FEE - ORIGINAL SCOPE \$ 200,000
						TOTAL CONSTRUCTION BUDGET - ORIGINAL SCOPE \$ 1,200,000
Location	Location Name	Work Item	Work Classifications	Status	Contractor	Budgeted Const. Cost - COMPLETED
Location 1	E. Squantum near Nickerson Park	1.1	Erosion Repair	Completed	MAS	\$ 30,000
		1.2	Revetment restoration			
		1.3	Outfall repair			
		1.4	Repair to public access			
Location 2	Squantum- Bayside Road	2.1	Erosion Repair	Completed Original Scope + Added Scope before April 2	MAS	\$ 120,000
		2.2	Exposed sewer pipe			
		2.3	Revetment Repair			
		2.4	Debris clearing			
Location 3	Adam's Shore – Shore Ave/ Chickatabot Road/ Norton Road	3.1	Revetment Repair (Grout Injection)	Completed	AA Will	\$ 13,000
		3.2	Repair to public access			
Location 4	Adam's Shore – Terne Road/Shellton Road	4.1	Seawall block repair	Completed	AA Will	\$ 150,000
		4.2	Revetment Reconstruction			
		4.3	Revetment Repair (Grout Injection)			
		4.4	Levelling Course			
		4.5	Slope Protection Above Seawalls / Slope Repair			
		4.6	Seawall Replacement			
Location 5	Hough's Neck – Post Island Road	5.1	Seawall block repair	Completed	AA Will	\$ 150,000
		5.2	Revetment Repair (Grout Injection)			
		5.3	Levelling Course			
		5.4	Slope Protection Above Seawalls / Slope Repair			
		5.5	Repair to public access			
		5.6	Seawall Replacement			
Location 6	Hough's Neck – Sea Street & Babcock Street	6.1	Seawall block repair	Completed	Cashman	\$ 135,000
		6.2	Revetment Repair (Grout Injection)			
		6.3	Levelling Course			
		6.4	Slope Protection Above Seawalls			
Location 7	Evacuation Boardwalk	7.1	Boardwalk Repairs near 700 Sea Street	Completed	Cashman	\$ 40,000
Location 8	Hough's Neck – Manet Ave/Nut Island Ave	8.1	Seawall Repair	Completed	Cashman	\$ 309,200
		8.2	Levelling Course			
		8.3	Erosion Repair			
Location 10	Hough's Neck – Edgewater Drive	10.1	Seawall repair-Grout	Completed	MAS	\$ 100,000
		10.2	Erosion Repair			
		10.3	Revetment Repair/Reconstruction			
		10.4	Revetment repair- Grout injection			
		10.5	Repair to public access			
Location 11	Quincy Point – Wharf Site behind CVS	11.1	Debris clearing	Mayors office requested no action	-	
		11.2	Cutting of piles 3 (three) feet below mudline.			
Location 12	Quincy Health Center/Bus Barn Rd**	12.1	Pavement restoration	Completed	AA Will	\$ 101,773
Location 15	Squantum Seawall**	15.1	Revetment Repair within MHWL	Completed	AA Will	\$ 35,906
New Location	Bayswater Outfall	New Work	Cashman's purchased materials and spent time attempting to repair outfall before end of April 2 deadline	Not completed	Cashman	\$ 15,800

MAS CONSTRUCTION TOTAL \$ 250,000
 AA WILL CONSTRUCTION TOTAL \$ 450,679
 CASHMAN CONSTRUCTION TOTAL \$ 500,000
 ORIGINAL SCOPE CONSTRUCTION TOTAL** \$ 1,200,679

LOCATION 1 – EAST SQUANTUM



Roadside view of grouted joints along Dorchester Ave.



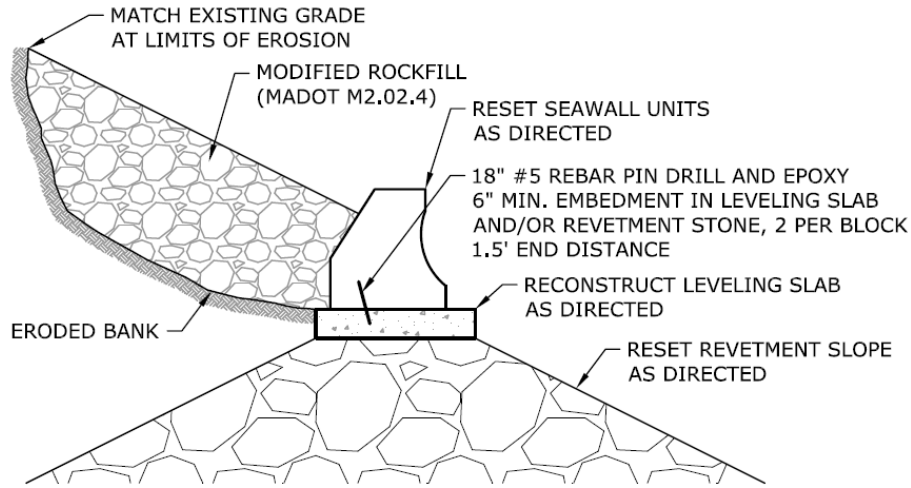
Revetment repair and curb reset at Nickerson Beach.

LOCATION 2 – BAYSIDE ROAD

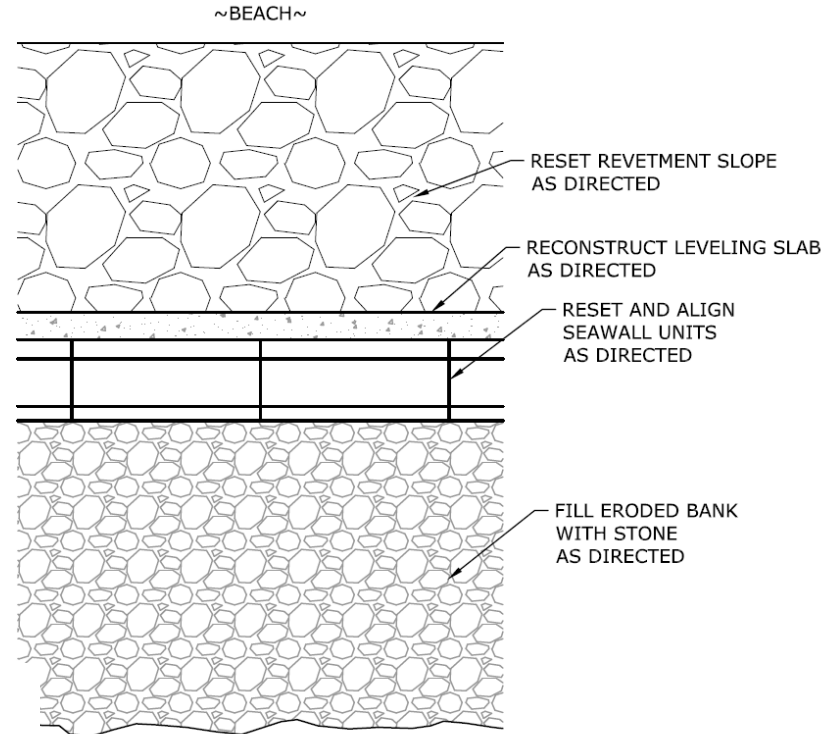


Revetment repair along Bayside Road.

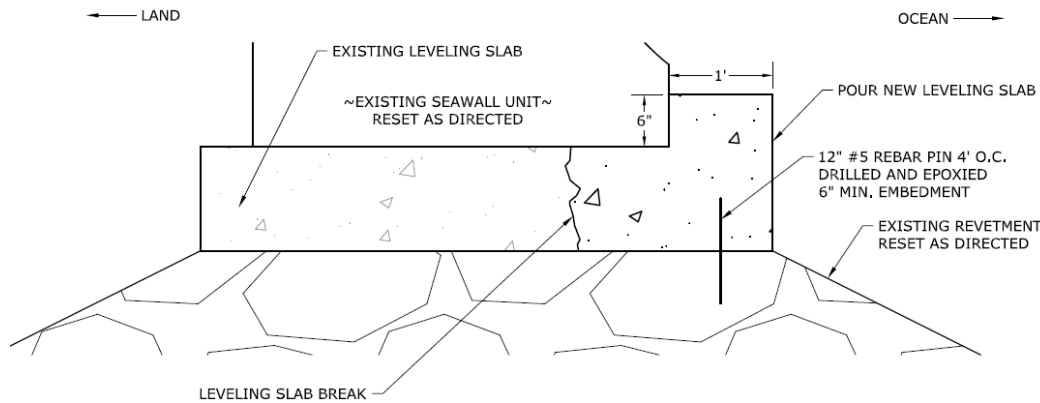
DESIGN DETAILS



TYPICAL SEAWALL REPAIR SECTION



TYPICAL SEAWALL REPAIR PLAN



TYPICAL SEAWALL REPAIR SECTION

LOCATION 4 – TERNE RD. / SHELTON RD.



Leveling slab repaired at seawall along Shelton Rd.

LOCATION 8 – MANET AVENUE





Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

To: Coastal Conservation Commissions

Date: March 30, 2018

Subject: Emergency Declaration Extension until May 2, 2018

EMERGENCY DECLARATION EXTENDED UNTIL MAY 2ND

Extension issued on Friday March 30th

PROJECT COSTS PHASE 2

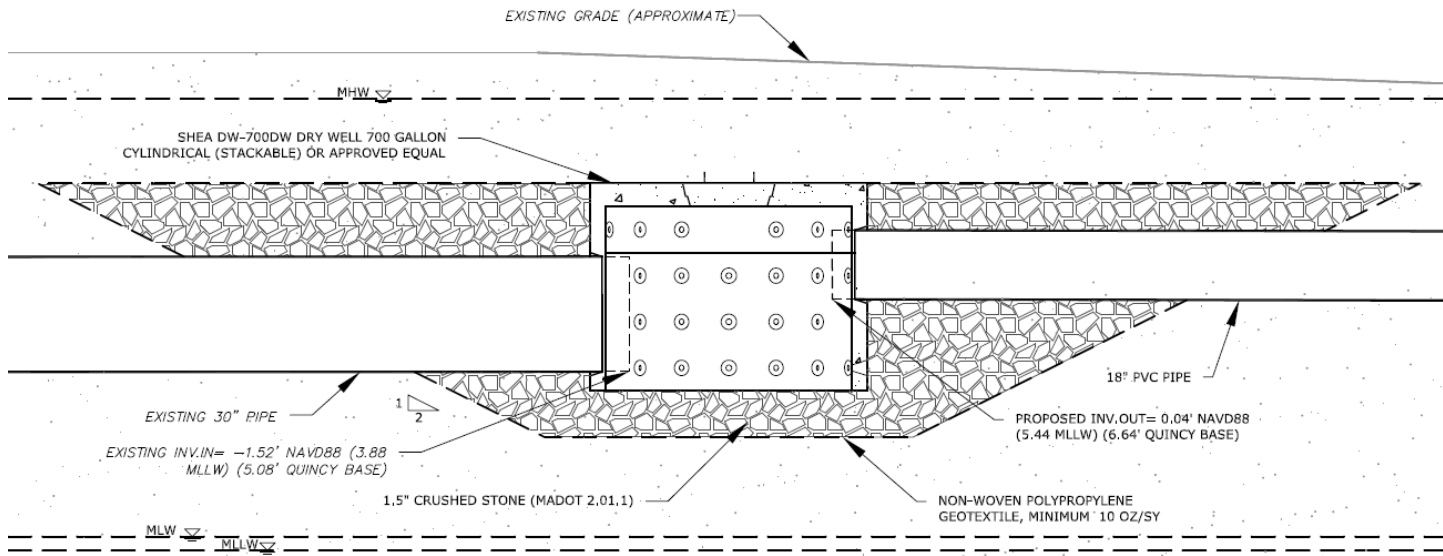
- **Additional Total Engineering Fee: \$55,000**
- **Total Construction Costs: \$500k**

- Voted on 04/23

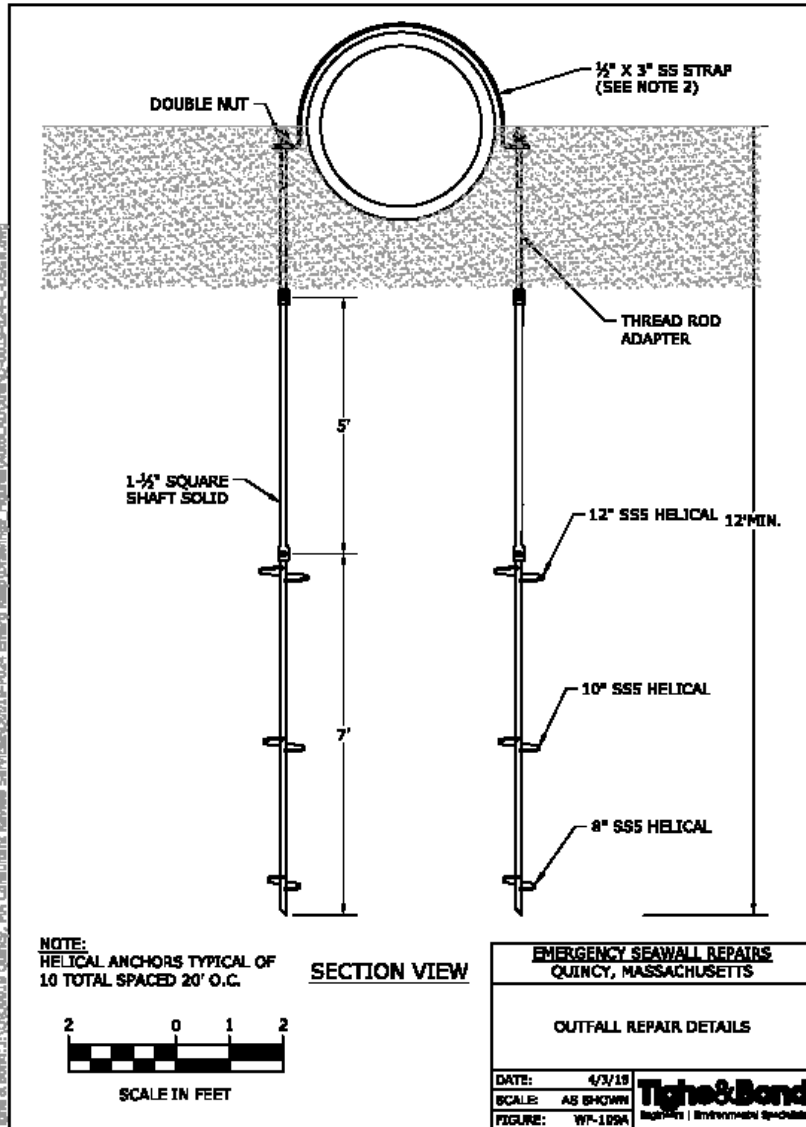
RECOMMENDED ADDITIONAL PROJECTS					
Location	Location Name	Recommended by	Notes	Status	Budgeted Const. Cost
Location 1	East Squantum	T&B	Complete remaining grouting on East Squantum	Not Completed. Assigned	\$ 20,000
Location 8	Manet Road @ Oswego Street	T&B	Manet seawall cap repair	Assigned. Site Visit 4/11	\$ 50,000
Location 10	Hough's Neck – Edgewater Drive	T&B	Extended Scope of Grouting	Not completed. Not Assigned	\$ 20,000
Location 2	Squantum- Bayside Road	T&B	Repair includes protecting sewer pipe and remaining slope stabilization	Assigned. Site Visit 4/11	\$ 150,000
Location 14	Broadmeadows Middle School	City	Broadmeadows pipe repair and inline one way valves	Not Completed	\$ 15,000
New Location	Norton Beach Outfall	City	Install seeping structure and 18" pipe in place	Not Completed. Assigned	\$ 45,000
New Location	Bayswater Outfall	T&B	Total cost does not include pipe, staples and Cashman's time: grand total \$15.8k	Not completed. Assigned	\$ 80,000
New Location	Rockland Street	T&B	Rockland Street outfall repair.	Not Completed	\$ 25,000
New Location	Chickataabout Road	W&C	Chickataabout Tide Gate (TG#15) system replacement, budget \$10,000 via OnCall WSE Contract	Not Completed	\$ 10,000
New Location	Edgewater Drive	W&C	Edgewater Tide Gate (TG#18) replacement of slide gate and guides via OnCall WSE Contract	Not Completed	\$ 35,000
New Location	Rockland Street	W&C	Rockland St Gate (TG#26) replacement of broken flapper gate with a tide flex valve via OnCall WSE Contract	Not Completed	\$ 5,000
New Location	Various Locations	T&B	Outfall repairs stemming from the outfall emergency assessment. Assessment ongoing.	Not Completed	\$ 25,000
All Locations	Police Details	City	Located as necessary	Not Completed	\$ 20,000

RECOMMENDED ADDITIONAL FUNDING \$ 500,000

NORTON BEACH OUTFALL



BAYSWATER OUTFALL



Linc: 5/2/2016
 Project Number: 03_2019-5-21 pm By: jh@tandb.com
 Tighe & Bond: 151000019 Quincy, MA Consultants Review Services: 02018-0204 Estuary Baseline/Drawings Preparation/ AutoCAD/Word/Excel/Photoshop/2016-C-25611.dwg

ROCKLAND STREET OUTFALL



PLANNING FOR THE FUTURE

- **Finishing the Design of Adam Shore Seawall Project – 8,000 linear feet of new seawall;**
- **Ongoing Design of Manet Seawall Project;**
- **Completing the Hazard Mitigation Plan for the City;**
- **Pro-active maintenance of outfall structures and tide gates prior to every storm;**
- **Communication with residents about evacuation routes and safety procedures.**

QUESTIONS

