

The background of the slide is a faded photograph of a construction site. In the upper center, a yellow excavator is visible, its arm extended. To its right, a white building with a dark roof is partially obscured. The foreground is filled with a large pile of dark, irregular rocks or rubble. The overall scene is hazy, suggesting a misty or overcast day.

# Duxbury Seawall Project

**Presentation on Budget, Critical Parcels,  
Assessment Scenarios, and Potential Grant Sources**

**December 5, 2022**

# REVIEW - Foundation and Status of Project

- **Seawall**

- 2018 Climate Vulnerability Assessment and Action Plan
- Duxbury Seawall Assessment (June 2020)

- **Beach Nourishment**

- MA CZM Coastal Resilience Grant Program (3 received)
- Based on augmenting current management approach of seawall repair
- CZM has recommended permitting BN before implementing seawall project

- **Project Status**

- Beach nourishment is in 3<sup>rd</sup> of 3 grants intended to finalize permitting
- Seawall design and costing needs some additional work ( $\pm$  30 days)

# Objectives of Presentation and Discussion

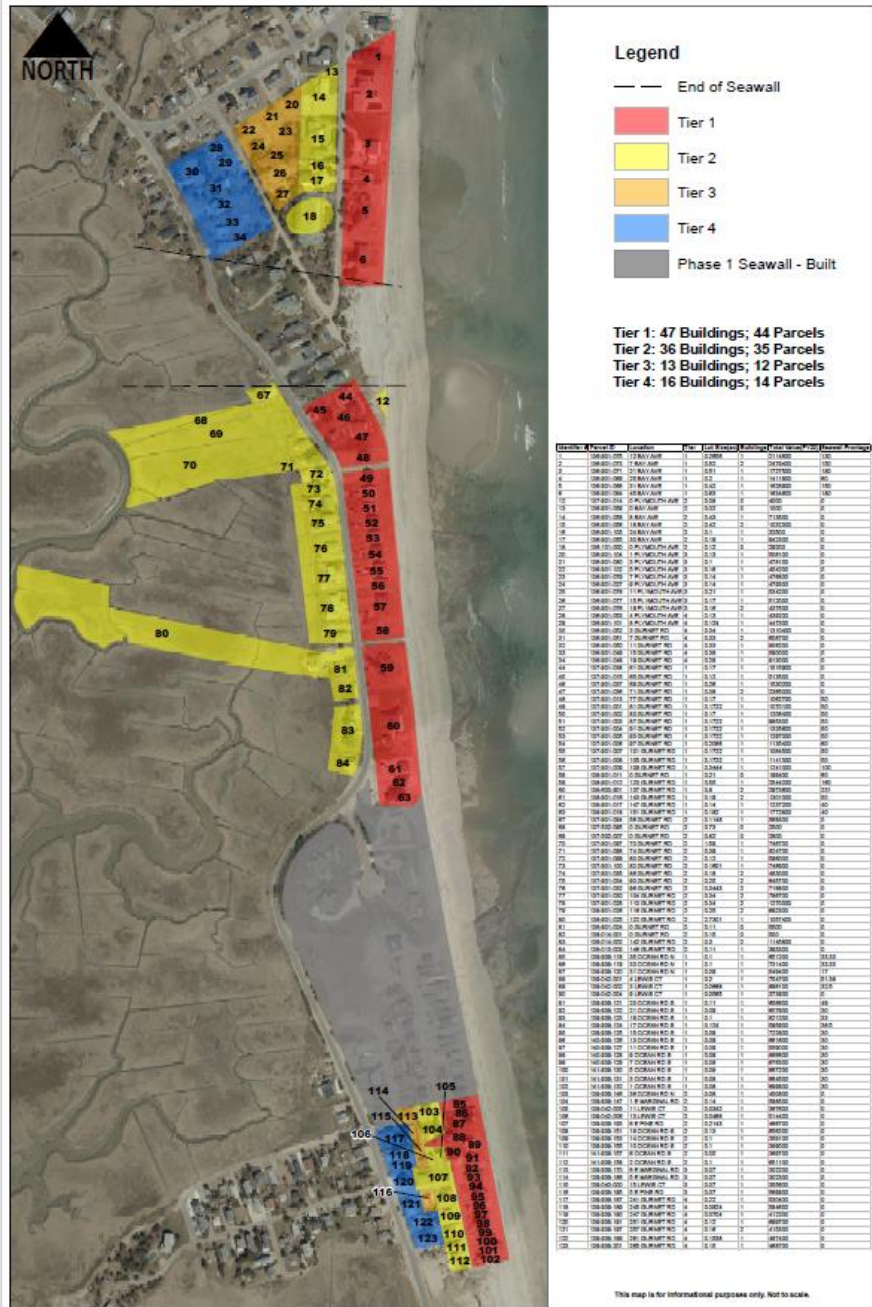
1. To reiterate the anticipated project cost;
2. To exhibit the key parcels in the greater project area;
3. To provide a range of betterment/special assessment scenarios for discussion;
4. To provide further information on potential grant opportunities.

# Funding Parameters

- Anticipated cost of seawall construction project = **\$24 million** (Amory Engineering)
- Based on a single-phase project
- Funding sources:
  - Borrowing through Debt Exclusion (requires an article on the Town Meeting warrant, followed by an associated ballot question)
  - Betterment assessments for those benefiting from new seawall (assessed post-construction)
  - Potential grants
- Beach Nourishment anticipated to cost approximately **\$4 million** and is a separate project. CZM grants are a possibility here up to \$2 million.

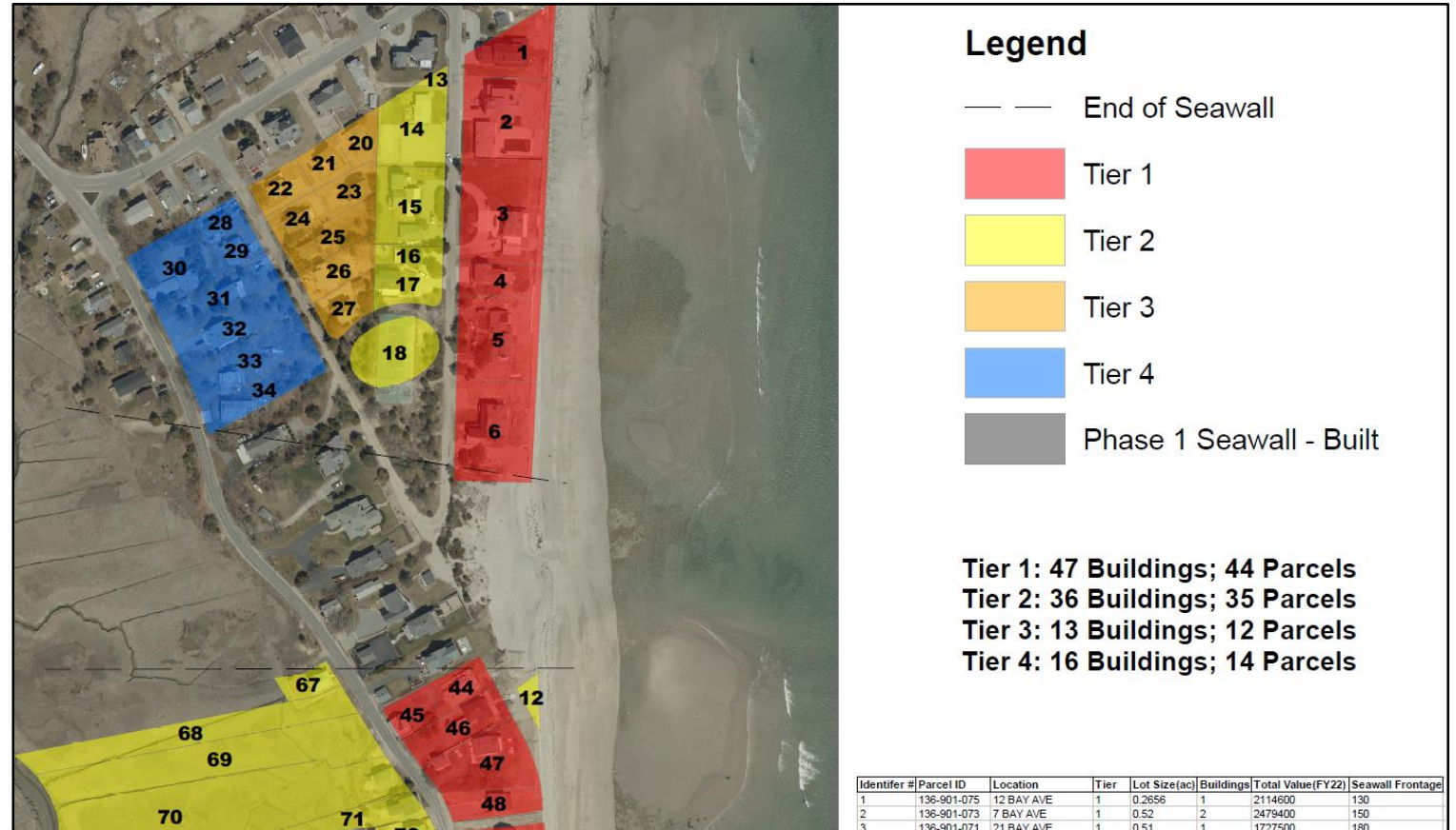
# Betterment Methodology

- Four (4) tiers based on proximity to the sea wall:
  - **First Tier** - Total is based on 70% of betterment. Each unit is allocated based on frontage to the sea wall.
  - **Second Tier** – Total is based on 17% of betterment. Each unit is allocated evenly.
  - **Third Tier** - Total is based on 8% of betterment. Each unit is allocated evenly.
  - **Fourth Tier** - Total is based on 5% of betterment. Each unit is allocated evenly.
- The methodology is based on the precedent established at the conclusion of the previously constructed portion of the seawall which totaled \$4.8 million dollars.
- Different geography may require some modifications for certain parcels once the funding mechanism is decided upon. This is not meant to be a FINAL product but it is a good a starting point in order to show funding options and their estimated cost impacts to all stakeholders.

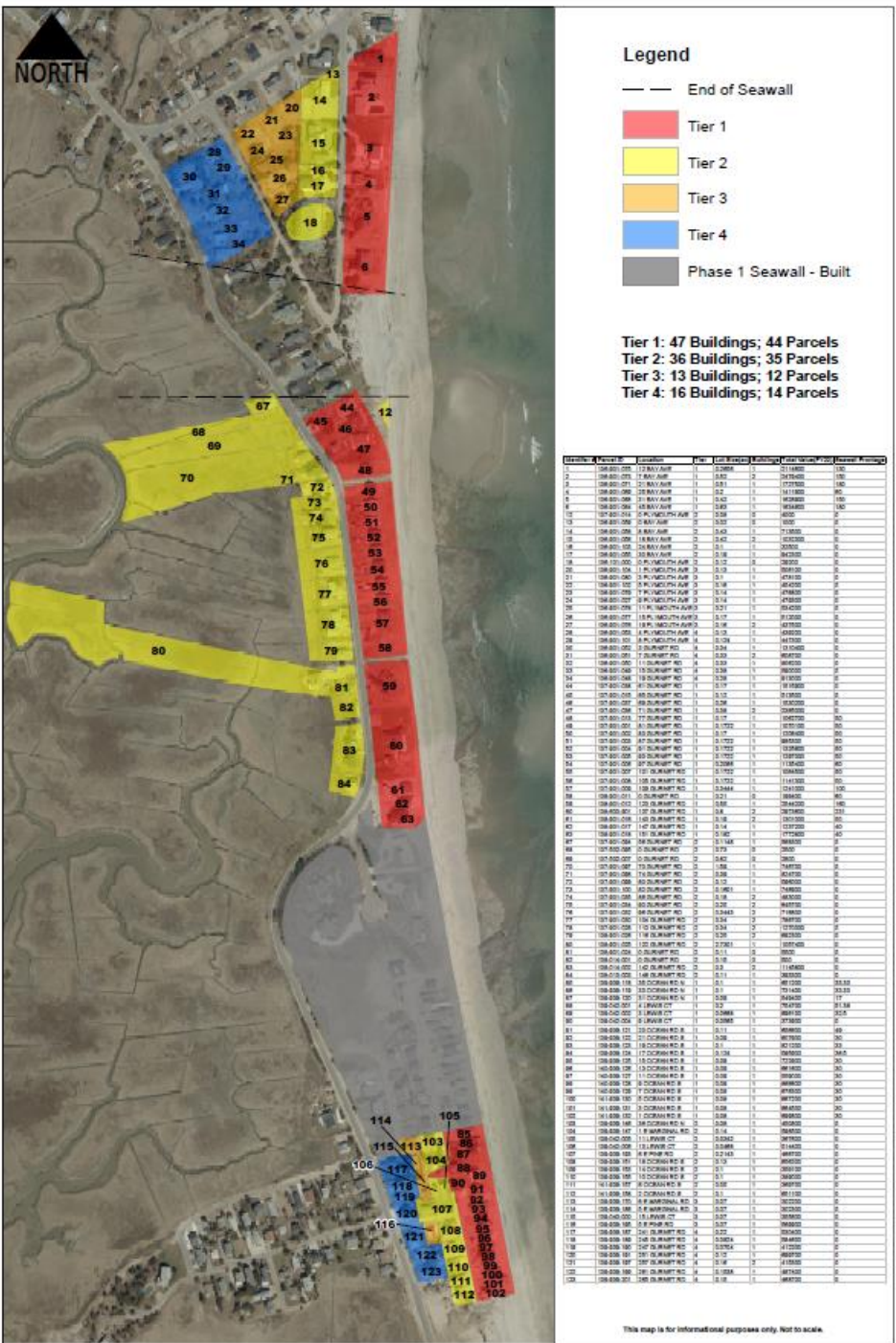


# Seawall Property Classification Maps

GIS maps were developed indicating seawall relevant properties classified into four (4) tiers depending on distance from seawall. Tier 1 are properties directly adjacent to the seawall.







# Hybrid funding scenarios between Debt Exclusion and Betterments

Principal	24,000,000			<b>Town % Pays</b>	<b>40.00%</b>	<b>50.00%</b>	<b>60.00%</b>
Interest Rate	5.00%			Level Debt per year	1,561,234	1,561,234	1,561,234
Term in Years	30			Town	624,494	780,617	936,740
				Impact on Single Avg. Taxp	107.16	133.95	160.74
Level Debt per year	1,561,234			NBHD 12	936,740	780,617	624,494
Total P & I	46,837,020	<b>% of NBHD</b>	<b># Units</b>	<b>Total Principal Apportioned</b>			
		100%	1	<b>Town</b>	9,600,000	12,000,000	14,400,000
				<b>NBHD 12</b>			
		70%	44	Front Row	10,080,000	8,400,000	6,720,000
		17%	35	Second Row	2,448,000	2,040,000	1,632,000
		8%	12	Third Row	1,152,000	960,000	768,000
		5%	14	Fourth Row	720,000	600,000	480,000
					24,000,000	24,000,000	24,000,000
				<b>Annual Betterment Cost per Unit</b>			
		70%	44	Front Row	14,903	12,419	9,935
		17%	35	Second Row	4,550	3,792	3,033
		8%	12	Third Row	6,245	5,204	4,163
		5%	14	Fourth Row	3,346	2,788	2,230
				<b>Total Betterment Cost per unit</b>			
		70%	44	Front Row	447,081	372,567	298,054
		17%	35	Second Row	136,496	113,747	90,998
		8%	12	Third Row	187,348	156,123	124,899
		5%	14	Fourth Row	100,365	83,638	66,910
				<b>Total Betterment Cost per row</b>			
		70%	44	Front Row	19,671,548	16,392,957	13,114,366
		17%	35	Second Row	4,777,376	3,981,147	3,184,917
		8%	12	Third Row	2,248,177	1,873,481	1,498,785
		5%	14	Fourth Row	1,405,111	1,170,926	936,740
				Total NBHD 12	28,102,212	23,418,510	18,734,808
		100%	1	<b>Town Debt Payments</b>	18,734,808	23,418,510	28,102,212
				Total Debt Service Payment	46,837,020	46,837,020	46,837,020



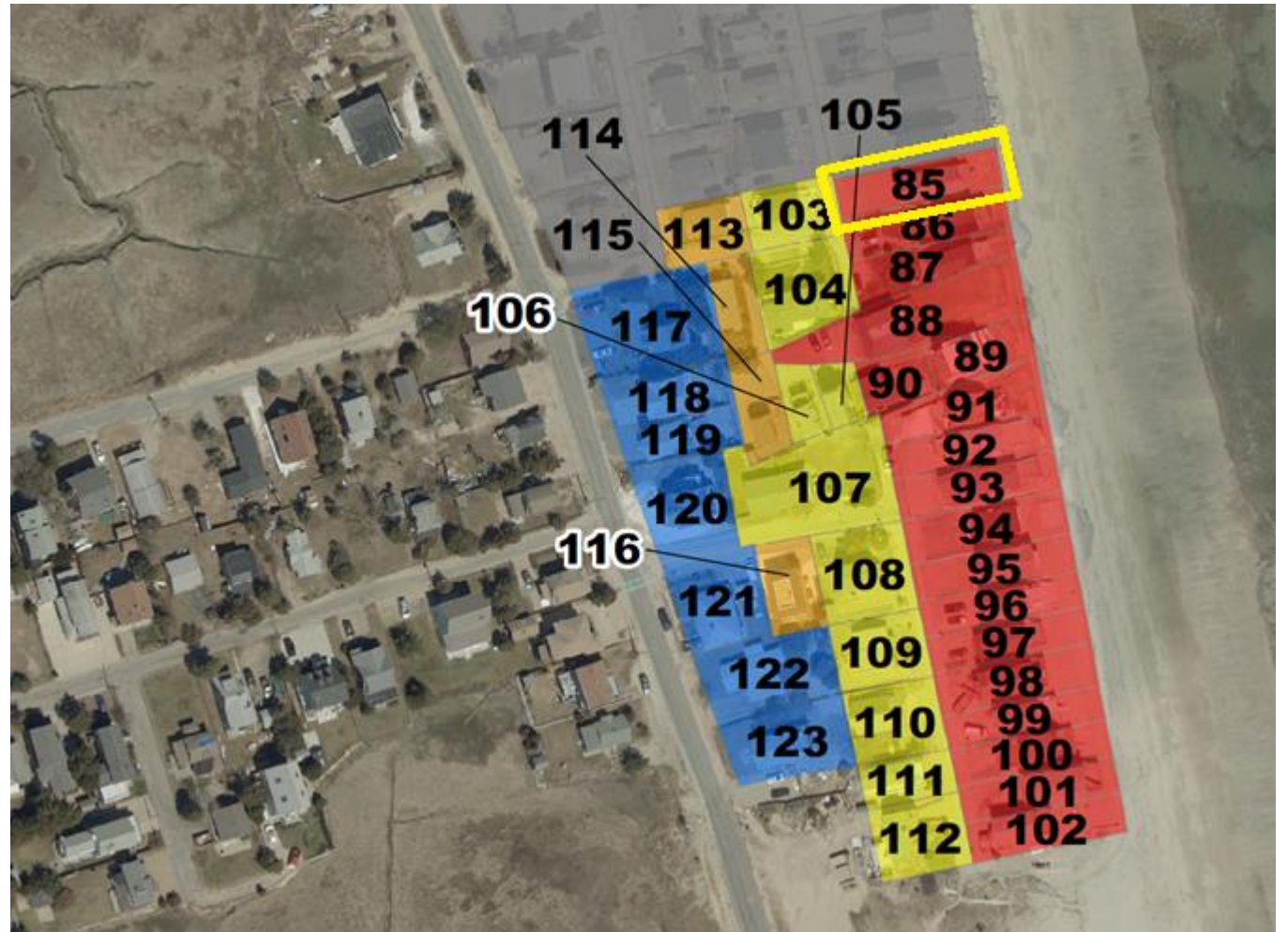


# “I live along the seawall. How much will this cost me?”

## *Example 1*

First, locate your property on the map which will have an associated ID# assigned to the property.

In this case, we are using the property identified as **#85**, the physical location for which is **35 Ocean Road North**.



# “I live along the seawall. How much will this cost me?”

## *Example 1 (cont.)*

Next, refer to the spreadsheet entitled “**TIER 1 - Properties Adjacent to Seawall**” and using the assigned ID#, you will find the physical address of the property. In this case, 70% Percent of Liability Assessed is being used for the formula in the calculation.

TIER 1 - Properties Adjacent to Seawall:					
70.00% Percent of Liability Assessed					
\$8,400,000 Value of Liability Assessed					
Town vs. Betterment Split = 50/50					
ID #	Address	Wall Length (frontage)	% of Wall	Total Assessment Principal Only	Yearly Assessment
63	151 GURNET RD	40	1.57%	\$ 131,917.83	\$ 6,595.89
85	35 OCEAN RD N	33.33	1.31%	\$109,920.54	\$5,496.03
86	33 OCEAN RD N	33.33	1.31%	\$ 109,920.54	\$ 5,496.03

**“I live along the seawall. How much will this cost me?”**

***Example 1 (cont.)***

Along that row, you will find the following information:

- Frontage of seawall for that property: **33.33’ feet**
- The percentage of the amount of seawall that frontage represents for the proposed seawall: **1.31%**
- The total estimated assessment (over 30 years) for the principal payment only: **\$109,920.54**
- The estimated yearly assessment: **\$5,496.03**

**Thus, the estimated annual betterment payment for the property located at 35 Ocean Road North would be \$5,496.03.**

Grant or Loan Name	Building Resilient Infrastructure & Communities (BRIC)	Dam and Seawall Repair or Removal Loan Program	CZM Coastal Resiliency Grants for Beach Nourishment	Infrastructure Investment & Jobs Act (Pending)	National Coastal Resilience Fund	Seaport Economic Council Grant
Sponsoring Agency	Federal FEMA (MEMA)	EEA - Commonwealth	CZM - Commonwealth	Apply through the BRIC program	Federal NOAA and NFWF	SEC - Commonwealth
Type	Grant	Loan	Grant		Grant	Grant
LINK	<a href="#">HERE</a>	Program: <a href="#">HERE</a> Commbuys: <a href="#">HERE</a>	Program: <a href="#">HERE</a> Commbuys: <a href="#">HERE</a>		<a href="#">HERE</a>	<a href="#">HERE</a>
Amount	\$2 Million	\$250,000 to \$2 Million	\$2 Million		\$2 Million	\$1 Million
Eligibility/Category	Mitigation Projects – Must apply as a MEMA <del>subapplicant</del>	CATEGORY 2 (RFR ENV 23 DS 03) 1. Construction Loan (Ready for Const. by 7/2023) 2. EEA Loan	CAT 5 – Shoreline Restoration for BN CAT 4 – Redesigns and Retrofits for S		CAT 4 – Restoration Implementation Focus on Nature Based Solutions	CAT 4 - Supportive Coastal Infrastructure Project Grants
Applied To	Seawall	Seawall	Beach Nourishment and Seawall			Seawall
Statement of Interest and Deadline	YES 10/14/22					
Next Grant Window	9/30/22 to 1/27/23 <del>but</del> 12/5/22 for MEMA	Fall 2022 – April 28, 2023	Summer 2023 -		Summer 2023 -	By May 1, 2023
Project Start By		July 1, 2023				
Period of Performance	36 Months					
Phased Projects	YES					
Pre-Award Costs	Provisional					
Cost Share	75/25		75/25 Recommended			80/20
Prerequisites	Current HMP, Statement of Interest					
Program Contact	Dave Woodbury david.woodbury@mass.gov 508-820-2034	William Hinkley <a href="mailto:william.hinkley@mass.gov">william.hinkley@mass.gov</a>	Christopher Garby <del>christopher.garby@massmail.state.ma.us</del> Phone: (617)626-1148		Jessica Grannis jessica.grannis@nfwf.org 202-595-2464	Ellen Cebula, Director <del>atellen.cebula@mass.gov</del> (508) 999-3030

## Possible Grants and Loans



# Next Steps

1. Continue Beach Nourishment Permitting Process
2. Continue Grants Seeking Tasks
3. Finalize Project Design, Budget, Scope, and Timeline
4. Select an Approach to Funding and Seek Requisite Approvals
5. Apply for Permits
6. Procurement/Bidding for Seawall Construction
7. Award Construction Contracts
8. Begin Construction

**Questions?**