



## MEETING POSTING

### TOWN OF NANTUCKET

Pursuant to MGL Chapter 30A, § 18-25

All meeting **notices and agenda** must be filed and time stamped with the Town Clerk's Office and posted at least 48 hours prior to the meeting (excluding Saturdays, Sundays and Holidays)

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|                                         |                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Committee/Board/s                       | Coastal Resilience Advisory Committee                                                                                                                                                                                                                                                                                            |
| Day, Date, and Time                     | Tuesday, February 13, 2024, at 10 am                                                                                                                                                                                                                                                                                             |
| Location / Address                      | <input type="checkbox"/> REMOTE PARTICIPATION VIA ZOOM The meeting recording will be available at a later time on the Nantucket Government TV YouTube Channel at <a href="https://www.youtube.com/playlist?list=PL49sKqpy7VAiUk-g5h2jluAn_2jqoc12L">https://www.youtube.com/playlist?list=PL49sKqpy7VAiUk-g5h2jluAn_2jqoc12L</a> |
| Signature of Chair or Authorized Person | Peter Brace, Chair<br>Leah Hill, Coastal Resilience Coordinator                                                                                                                                                                                                                                                                  |

**WARNING:** IF THERE IS NO QUORUM OF MEMBERS PRESENT, OR IF MEETING POSTING IS NOT IN COMPLIANCE WITH THE OML STATUTE, NO MEETING MAY BE HELD!

### *Coastal Resilience Advisory Committee*

Agenda for Tuesday, February 13, 2024, at 10 am

#### A. Convene in Open Session via Zoom

Join Zoom Meeting

<https://us06web.zoom.us/j/86863383148?pwd=YkE0YUVNMIU1NnpwYTJ6clg4U241QT09>

Meeting ID: 868 6338 3148

Passcode: 917271

#### 1. Call to Order

#### 2. Meeting announcements

- Script for remotely conducting Open Meetings, read by the Chair
- The meeting is being audio / visually recorded

3. Public Comment

4. Update and presentation on the Downtown Neighborhood Flood Barrier- Initial Phase by Trevor Johnson, Arcadis Senior Resilience Planner, Bill Casey, Arcadis Project Manager, and Julie Conroy, Arcadis Senior Resilience Specialist- see packet.
5. Update and discussion on bylaw and home rule petition for Island's Coastal Resilience Districts by Vincent Murphy, Town of Nantucket Sustainability Programs Manager- see packet.
6. Discussion on developing an informational sheet regarding coastal risks and coastal resilience issues on Nantucket to hand out to homebuyers- see packet.
  - Develop text for homebuyers
7. Review of letter to Select Board on Nantucket Wetland's Bylaw amendments concerning expansion of buffer zones- see packet.
8. Update on 2023-2030 CRP recommendations that have not been started and discuss a prioritization list- see packet.
9. Initial discussion on coastal resiliency recommendations to be included in the Nantucket Harbors Action Plan- see packet.
10. Public outreach ideas/strategies from committee members
  - Updated media scorecard summary by Doug Rose
11. Approval of Minutes from December 12, 2023 and January 23, 2024
12. New business, Committee & Natural Resources Dept. reports from Planning Board, Conservation Commission, Harbor and Shellfish Advisory Board, Select Board, Advisory Committee of Non-Voting Taxpayers, and other committee members.
13. Discussion of upcoming meeting dates and topics: Next Meeting is March 12, 2024, on Zoom.
14. Motion to adjourn





Town of Nantucket

# Feasibility Study and Design for Flood Barrier in Nantucket's Historic Downtown Gateway

February 13, 2024

Coastal Resilience Advisory  
Committee Meeting

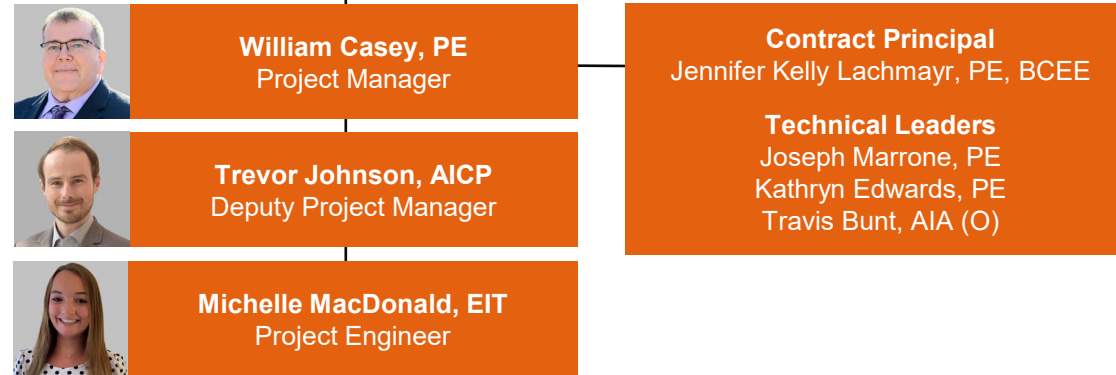
**DRAFT**

# Agenda

- |   |                          |   |                                |
|---|--------------------------|---|--------------------------------|
| 1 | Team Introductions       | 5 | Schedule Overview & Milestones |
| 2 | Project Site             | 6 | Engagement                     |
| 3 | Goals & Success Criteria | 7 | Next Steps & Action Items      |
| 4 | Tasks & Deliverables     | 8 | Questions/Answers              |



# Project Team



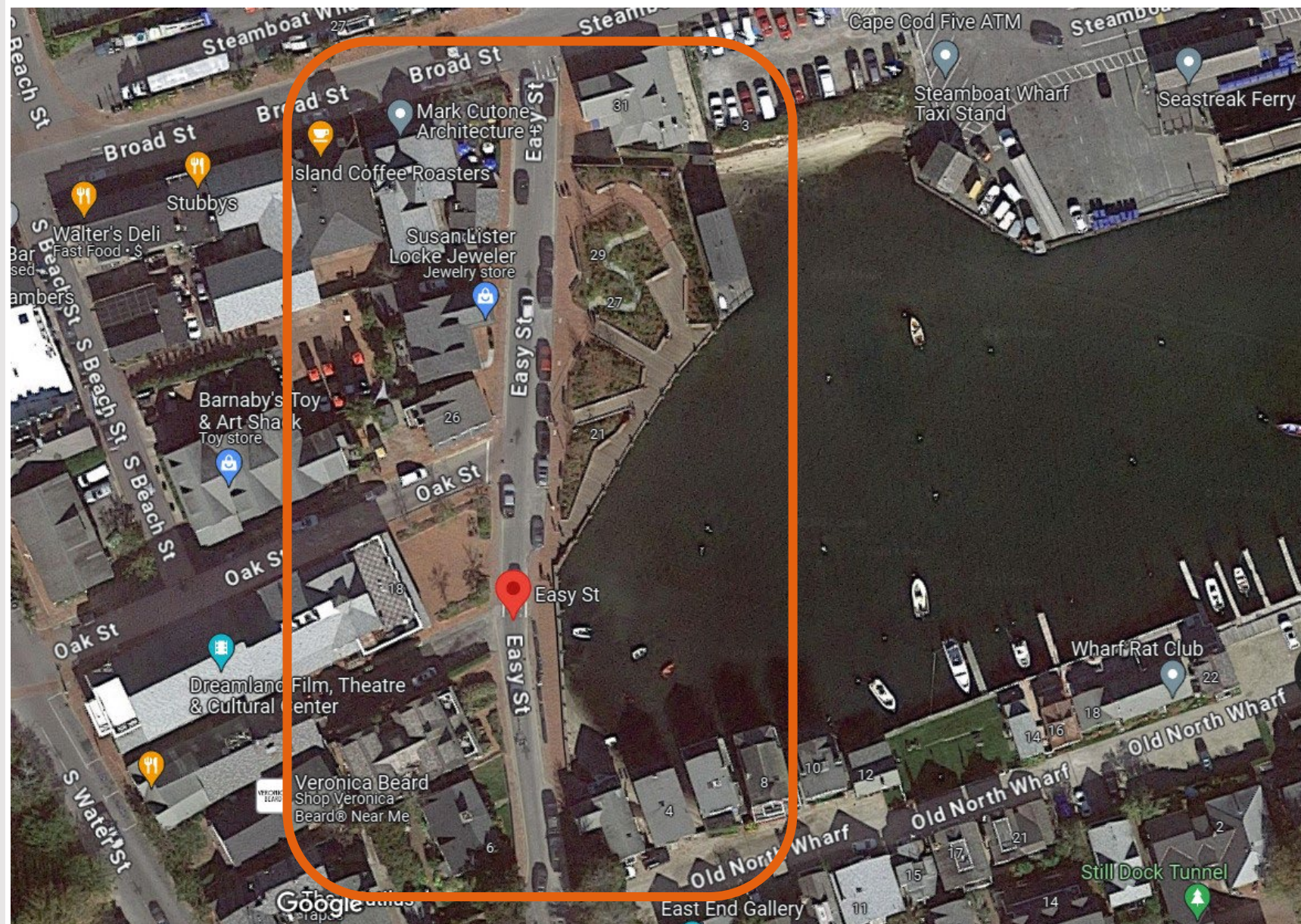
|                                                                                            |                                                                                                                            |                                                                                                        |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Stakeholder Engagement</b><br>Devon McKaye, CFM                                         | <b>Permitting</b><br>Julie Conroy, AICP, MVP Certified                                                                     | <b>Environmental Review</b><br>Janet Connolly, LSP                                                     |
| <b>Engagement Facilitators</b><br>Tanya McCoy-Caretti<br>Julie Conroy, AICP, MVP Certified | <b>Nature-Based Design</b><br>Doug Partridge, PWS                                                                          | <b>Risk Assessment</b><br>Heather Sprague, PE                                                          |
| <b>Stormwater</b><br>Michelle MacDonald, EIT<br>Kathryn Edwards, PE                        | <b>Green Infrastructure</b><br>Emily Carlson, PE                                                                           | <b>Historic Preservation</b><br>Trevor Johnson, AICP, MVP Certified<br>Errol Dawkins, RA, LEED AP BD+C |
|                                                                                            | <b>Coastal Flood Resilience Design</b><br>David Escudé, PE                                                                 | <b>Engineering Support</b><br>Kelly Ernst, EIT                                                         |
| <b>Support Services</b>                                                                    |                                                                                                                            |                                                                                                        |
| <b>Waterfront Structural</b><br>Charlie Roberts, PE (C)<br>Andrew Nilson, PE (C)           | <b>Public Realm and Infrastructure Design</b><br>Tom Heltzel, AIA, LEED AP (O)<br>Tim Tsang, AIA (O)<br>Lai Ching Tsui (O) | <b>Coastal Modeling</b><br>Kirk Bosma, PE (W)<br>Joseph Famely, WEDG, MVP Certified (W)                |



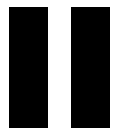


# Project Site: Easy Street, Nantucket, MA

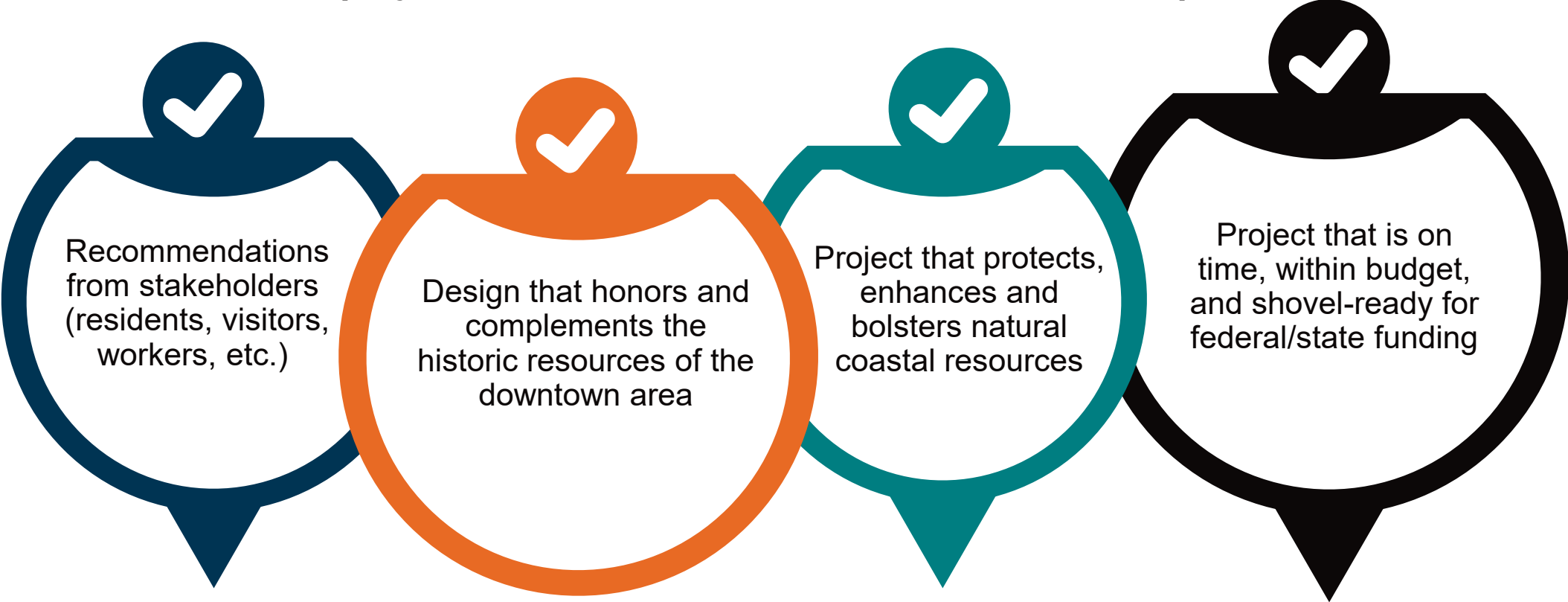
The project site includes shoreline areas, including the Easy Street Right-of-Way, from Old North Wharf to Steamboat Wharf



# Project Goals & Success Criteria



*How should we define project success? Let's discuss some of the examples included below.*





# Tasks & Deliverables

| TASK                                                                        | ACTIONS & DELIVERABLES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Existing Conditions and Flood Assessment</b>                          | <ul style="list-style-type: none"> <li>• Project schedule/workplan</li> <li>• Data collection and data gap analysis (<i>what do we need?</i>)</li> <li>• Waterfront structures conditions assessment (<i>how are they holding up?</i>)</li> <li>• Flood assessment (<i>what's happening today, what do we expect to happen?</i>)</li> <li>• Existing conditions and flood assessment (<i>draft &amp; final reports</i>)</li> </ul>                                                                                                                                                                                         |
| <b>2. Design Alternatives and Regulatory Feasibility</b>                    | <ul style="list-style-type: none"> <li>• Feasibility assessment for 4 project alternatives (<i>technical assessments, regulatory feasibility, cost estimates, funding availability, concept designs</i>)</li> <li>• Visuals to illustrate the proposed concept designs for stakeholder engagement</li> </ul>                                                                                                                                                                                                                                                                                                               |
| <b>3. Community and Stakeholder Engagement<br/>(Throughout the Project)</b> | <ul style="list-style-type: none"> <li>• Meetings with Regulatory Agencies and Town Departments</li> <li>• Web-based Community Survey (<i>to collect initial feedback</i>)</li> <li>• 2 Public Open Houses (<i>including presentation materials</i>)</li> <li>• Education/Outreach content (<i>for social media and news outlet postings, and Nantucket website</i>)</li> <li>• “Road Show” package (<i>presentation slides, talking points, discussion prompts, and tools for collecting input</i>)</li> <li>• Translation of outreach and engagement materials (<i>Spanish and other requested languages</i>)</li> </ul> |
| <b>4. Preferred Project &amp; Basis of Design Report</b>                    | <ul style="list-style-type: none"> <li>• Preliminary (30%) design package (<i>including adaptation pathways, refined cost estimates, permitting requirements, and design and construction timeline</i>)</li> <li>• Project funding strategy (<i>Benefit Cost Analysis suitable for federal funding applications</i>)</li> <li>• Basis of Design Report (<i>draft and final</i>)</li> </ul>                                                                                                                                                                                                                                 |



# Schedule Overview

| Task                                                                                       | FY2024 Months   FY2025 Months                                                                 |     |     |     |                                                                              |     |                                                                         |     |     |     |     |     |     |                                                |     |     |     |     |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----|-----|-----|------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|------------------------------------------------|-----|-----|-----|-----|
|                                                                                            | Jan                                                                                           | Feb | Mar | Apr | May                                                                          | Jun | Jul                                                                     | Aug | Sep | Oct | Nov | Dec | Jan | Feb                                            | Mar | Apr | May | Jun |
| Task 1 - Existing Conditions and Flood Risk Assessment                                     | ◆                                                                                             | ●   | □   | ★   | Existing Conditions and Flood Risk Report, including all Task 1 Deliverables |     |                                                                         |     |     |     |     |     |     |                                                |     |     |     |     |
| Task 2 - Alternatives Development and Pre-Permitting Feasibility Assessment                |                                                                                               |     |     |     |                                                                              | ★   | Concept Design and Feasibility Report including all Task 2 Deliverables |     |     |     |     |     |     |                                                |     |     |     |     |
| Task 3 - Community and Stakeholder Engagement                                              | Consultant team will provide support for Year 1 stakeholder engagement activities led by Town |     |     |     |                                                                              |     |                                                                         | ●   | ▲   | □   |     | ●   | ▲   |                                                |     |     |     |     |
| Task 4 - Preliminary Design Development for Preferred Alternative & Basis of Design Report |                                                                                               |     |     |     |                                                                              |     |                                                                         |     |     |     |     |     |     | Final Report including all Task 4 Deliverables |     |     | ●   | ★   |

We assume close and ongoing coordination will be necessary between the Town of Nantucket Project Manager, other Town Staff and Leadership, and the consultant team, including biweekly coordination meetings. We also assume multiple meetings with key project stakeholders, including regulatory and funding agencies, throughout Task 3.

◆ Project Kickoff

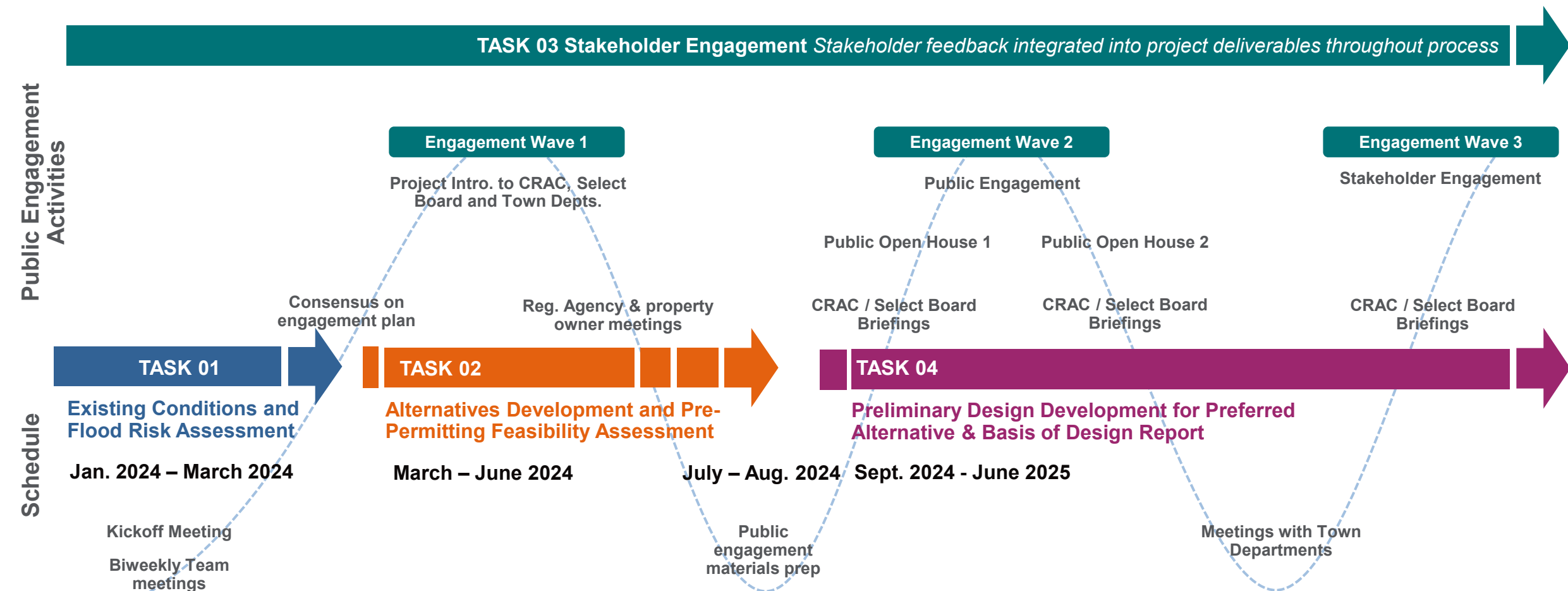
● CRAC/Select Board Briefing

□ Site Visit

★ Major Deliverable

▲ Public Meeting

# Engagement Process – Throughout the Project



# Immediate Next Steps and Action Items





# Q/A

## ARTICLE 67

### **(Home Rule Petition: Establishment of Coastal Resilience District)**

To see if the Town will vote to authorize the Select Board to petition the General Court to enact special legislation as set forth below; provided, however, that the General Court may with the approval of the Select Board, make constructive changes in language that may be necessary or advisable towards perfecting the intent of this legislation in order to secure passage:

#### AN ACT AUTHORIZING THE TOWN OF NANTUCKET TO ESTABLISH COASTAL RESILIENCE DISTRICTS

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

SECTION 1. It is in the best interests of the people of the Town of Nantucket to establish Coastal Resilience Districts to allow for the Town to be prepared and plan for the necessary public improvements to mitigate the effects of coastal erosion and shoreline change to the Town's coastline, sea level rise, flooding or other coastal hazards with resilience related infrastructure to reduce the threats to life, injury and property damage, utilities and infrastructure, prevent the occurrence of public emergencies, avoid the loss of roadways and utility services, reduce damage to public and private property, provide for the planning and preparation of coastal resilience measures, and to provide funding for such planning and preparation measures. The Town of Nantucket is hereby authorized to establish Coastal Resilience Districts that will enable the Town to undertake public improvement projects that will address these environmental effects and to provide funding by those property owners who will benefit from these public improvement projects. The Islands Coastal Resilience District (the "ICRD") shall be described as the geographical boundaries of the entirety of the islands of Nantucket. The establishment of the ICRD shall enable the town to undertake coastal resilience projects to mitigate against the island-wide effects of coastal erosion and shoreline change of the town's coastline, sea level rise, flooding or other coastal hazards.

SECTION 2. It being in the public interest of the residents of the town that the Select Board, by a majority vote, is hereby authorized to designate coastal resiliency subdistricts which will be defined by geographical boundaries as conditions and circumstances warrant, to enable the town to address the effects of coastal erosion and shoreline change to the Town's coastline, sea level rise, flooding or other coastal hazards in specific Coastal Resilience Sub-Districts with the necessary development of planning and prevention contingencies, including but not limited to the relocation of roadways, utilities and infrastructure as well as the construction of structural improvements or coastal resilience related improvements to respond to erosion, flooding or damage to public and private property for specific Sub-Districts; and further to enable the Town to prepare for public and private funding of coastal resilience projects by identifying the properties within the Coastal Resilience Sub-Districts, which will benefit from the planning and development of these projects or from island-wide projects that will benefit the ICRD.

SECTION 3. Notwithstanding the provisions of chapters 40, 80 and 83 of the General Laws to the contrary, the town of Nantucket may make betterment assessments upon owners of land within the ICRD or a Sub-District for costs of public improvements which may include the costs of coastal resiliency projects, including but not limited to the construction and maintenance of coastal engineering structures, bluff armor projects, hard or soft erosion control devices, bulkheads and the like, in the ICR or Sub-District from which they benefit, and which may include but not be limited to the relocation of roadways, utilities, including both water and sewer, and infrastructure.

SECTION 4. This act shall take effect upon its passage.

Or to take any other action related thereto.

(Select Board)

## **ARTICLE 69**

### **(Bylaw: Coastal Resilience District)**

To see if the Town will vote to add a new Chapter to the Code of the Town of Nantucket, Chapter 66A "Coastal Resilience District" as follows:

§1. Definition. The Coastal Resilience Districts are defined by geographical boundaries to describe the areas in Nantucket which will benefit from coastal resilience projects undertaken for the mitigation of the risk areas within the Coastal Resilience Districts. The land constituting the Islands Coastal Resilience District (the "ICRD") is the entirety of the Island of Nantucket and Tuckernuck and Muskeget as shown on a map on file in the Office of the Town Clerk. The Coastal Resilience Sub-Districts (the "SubDistricts") will be defined by geographical boundaries of a specific area of Nantucket to be determined by the Select Board as described in Section 3 below. The ICRD and the Sub-Districts are collectively referred to in this Chapter as the "Coastal Resilience Districts."

§2. Statement of Purpose. The purpose of the establishment of Coastal Resilience Districts is to provide for shared funding among the property owners in the respective Coastal Resilience Districts who benefit from the coastal resilience projects and improvements. This funding will provide a key contribution to the funding sources for the planning, construction, monitoring and maintenance of coastal resilience projects in the respective Coastal Resilience Districts. The establishment of the ICRD and the SubDistricts will enable the Town to undertake coastal resilience projects to mitigate against the effects of coastal erosion and shoreline change to the Town's coastline, sea level rise, flooding or other coastal hazards with resilience related infrastructure to reduce the threats to life, personal injury and property damage, utilities and infrastructure which service the various Coastal Resilience Districts, prevent the occurrence of public emergencies, avoid the loss of roadways and utility services, reduce damage to public and private property, and provide for the planning and preparation of coastal resiliency measures to protect and preserve the Sub-Districts as well as the entire ICRD if the benefits are island-wide.

§3. Coastal Resilience Sub-Districts. The Select Board shall have the authority by a majority vote to designate coastal resilience sub-districts which are defined by clear geographical boundaries, which they deem to be in the best interests of the Town as conditions and circumstances warrant in order to further protect and preserve public and private property, roadways, utilities and infrastructure from the effects

of coastal erosion and shoreline change to the Town's coastline, sea level rise, flooding or other coastal hazards, and to undertake applicable coastal resilience projects.

#### §4. Strategies and Activities within the Districts.

A. It is in the public interest to delineate the boundaries of the Coastal Resilience Districts in order to enable the Town to address the purposes of this section. The creation of the Coastal Resilience Districts will provide the Town the ability to mitigate the effects of coastal erosion and shoreline change to the Town's coastline, sea level rise, flooding or other coastal hazards which occur in specific Sub-Districts, with the development of specific planning and prevention contingencies, including but not limited to the relocation of roadways, utilities and infrastructure as well as the construction of structural improvements or coastal resilience related improvements for particular Sub-Districts, and those plans to address island-wide effects.

B. The Coastal Resilience Districts will enable the Town to prepare for public and private funding of coastal resilience projects to address the effects of coastal erosion and shoreline change to the Town's coastline, sea level rise, flooding or other coastal hazards by identifying the properties within the Coastal Resilience Districts which will benefit from the planning and development of these projects.

Or to take any other action related thereto.

(Select Board)



## Topics To Include in Homebuyers Guide

### Gary Beller

For home buyers brochure, I would give them the url for the CRP (especially indicating the existence of the executive summary of the plan) so they can go into the Town's data base and read the portions of the CRP in which they might have an interest. I pulled out a couple of sentences from the CRP executive summary, which might be included in a buyers brochure without being so negative as to engage the wrath of the real estate industry. Here they are.

"Climate change impacts are detectable on the Island and are becoming more frequent. "

"Island-wide resilience strategies include governance, planning, and policy-based recommendations that will help Nantucket reduce its risk in the near-term and build capacity to implement and plan for resilience over the long-term. "

### Matt Fee

Don't have a lot of input other than advise buyers to check risk on property. Include your preferred link that enables them to do so easily. I check floodfactor.com which is now risk factor.com

Here's my house on high ground. Though not sure riskfactor much help for erosion, so you might have better easy to use site. Check Sheep Pond Road homes on risk factor and they have 1 in 10 flood risk....



[52 CLIFF RD, NANTUCKET, MA 02554 | Climate Risk Report](#)

[riskfactor.com](http://riskfactor.com)

### Peter Brace

-inform buyers of the realities of sea level rise impacts for Nantucket – this would be a brief succinct statement that leaves no doubt in buyers’ minds who are considering purchases within vulnerable parts of the island,

-list the low-lying, high-risk vulnerable areas on the island and brief reasons why they are,

-Explain what the CRP is and then provide links to the plan, it’s executive summary and the homeowner guide in the plan,

-a brief statement on or mention of the Federal Flood Insurance Program through FEMA that has certain requirements of homeowners living within flood plains before they’ll issue flood insurance,

-Provide a link to wherever our CRP/sea level rise video is going live and urge homebuyers to watch it,

# CRP Recommendations for 2023-2026 That Are Not Underway

| Strategy ID | Strategy or Project Title                         | Near-Term Strategy Project Description                                                                                                                                                                                                                                                                                                                                                      | Type           | Estimated Cost                         | Estimated Benefits                                                                                                    | Target Implementation Date | Champion /Co-Lead |
|-------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|
| ★ 1-2       | Updates to Zoning By-Law                          | Updates to the zoning by-law to encourage resilient design and limit investment in areas of high coastal risk.                                                                                                                                                                                                                                                                              | Non-structural | \$100,000                              | N/A                                                                                                                   | 2025                       | PLUS/NRD          |
| ★ 1-4       | Strategic Retreat and Relocation Program          | Develop and administer island-wide approach for pursuing strategic retreat and relocation in areas of priority coastal risks with an ongoing focus on risk communication and property owner outreach and education.                                                                                                                                                                         | Non-structural | \$250,000                              | N/A                                                                                                                   | 2024, Ongoing              | NRD/PLUS          |
| ★ 1-10      | Stormwater Management Plan                        | Planning step to evaluate stormwater management issues across the island and identify recommendations for reducing stormwater flooding and improving water quality.                                                                                                                                                                                                                         | Non-structural | High: \$650K<br>Low: \$400K<br>O&M: NA | N/A                                                                                                                   | 2025                       | Sewer/NRD         |
| 1-11        | Sediment Budget                                   | Planning step to develop an operational sand budget for recommended shoreline projects.                                                                                                                                                                                                                                                                                                     | Non-structural | High: \$250K<br>Low: \$100K<br>O&M: NA | N/A                                                                                                                   | 2024                       | NRD/CRAC          |
| ★ 1-12      | Stormwater By-Laws Assessment                     | Planning step to conduct an assessment of existing by-laws for opportunities to encourage stormwater management best management practices (BMPs).                                                                                                                                                                                                                                           | Non-structural | High: \$50K<br>Low: \$20K<br>O&M: NA   | N/A                                                                                                                   | 2025                       | Sewer/NRD         |
| 1-13        | Stormwater By-Law and Regulations Update          | Updates to stormwater management by-law and regulations to encourage best management practices (BMPs) that address water quality and quantity issues.                                                                                                                                                                                                                                       | Non-structural | Staff and Volunteer Time               | N/A                                                                                                                   | 2025                       | Sewer/NRD         |
| ★ 2-5       | Building Scale Resilience at 37 Washington Street | Pilot project to showcase building-scale resilience best practices on a Town-owned facility, including potentially elevation of critical systems, protection of sensitive equipment and documents, and deployable flood risk reduction measures. The first step in this recommendation is a site-specific study to determine the appropriate risk mitigation approaches for this structure. | Structuvral    | High: \$150K<br>Low: \$50K<br>O&M: NA  | Not quantified; benefits are dependent on risk mitigation strategy developed through recommended site-specific study. | 2024                       | DPW/Admin         |
| 3-2         | Ames Avenue Bridge Resilience                     | Maintain bridge for access to Smith's Point while protecting it from coastal erosion and flooding through dune restoration (see project 3-4). Continue maintenance and monitoring of existing Ames Avenue Bridge, with future elevation or relocation if necessary based on service population.                                                                                             | Nature-Based   | See strategy 3-4                       | See strategy 3-4                                                                                                      | 2025                       | DPW/NRD           |

- \$1 million allocated at FY24 Town Meeting for #3-2 & 3-4
- Can't do sediment budget until sediment transport study complete

Project Priority

01

02

03

| 2023-2026 Recommendations |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                                          |                                                                                                                                                             |                            |                         |
|---------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------|
| Strategy ID               | Strategy or Project Title                                          | Near-Term Strategy Project Description                                                                                                                                                                                                                                                                                                                                                                                      | Type           | Estimated Cost                           | Estimated Benefits                                                                                                                                          | Target Implementation Date | Champion /Co-Lead       |
| <div>3-4</div>            | Madaket Erosion Management Pilot and Ames Avenue Bridge Protection | Dune restoration along shoreline from Madaket Road / Ames Avenue intersection to Esther's Island. Project involves natural dune construction techniques of sand and vegetation with fencing as needed. Project includes need for ongoing nourishment and maintenance of the dune at an interval determined through the design process.                                                                                      | Nature-Based   | High: \$96M<br>Low: \$86M<br>O&M: \$1.1M | \$51,000,000                                                                                                                                                | 2025                       | NRD/<br>Property Owners |
| <div>★3-5</div>           | Department of Public Works Facility and Landfill Resilience        | Building scale resilience and operational resilience planning to reduce risk of damage and limit disruption to core operations at the facilities. The first step in this recommendation is a site-specific study to determine the appropriate risk mitigation approaches for the facility.                                                                                                                                  | Structural     | High: \$300K<br>Low: \$150K<br>O&M: NA   | Not quantified; benefits are dependent on risk mitigation strategy developed through recommended site-specific study.                                       | 2024                       |                         |
| <div>4-4</div>            | Numerical Modeling Study of Coatue Breaching                       | Numerical modeling study to evaluate the likelihood and consequences of Coatue breaching for the Harbor and surrounding communities, including impacts to habitat and navigation, in order to inform decisions about future adaption measures on Coatue.                                                                                                                                                                    | Non-structural | High:\$800K<br>Low \$350K                | NA                                                                                                                                                          | 2026                       | NRD/<br>Property Owners |
| <div>5-4</div>            | Sconset Bluff Nearshore Breakwaters Feasibility Study              | Conduct detailed feasibility study to assess technical constraints, potential impacts, and benefits and costs of nearshore breakwaters along the Sconset Bluff .                                                                                                                                                                                                                                                            | Non-Structural | High: \$800K<br>Low: \$600K<br>O&M: NA   | N/A                                                                                                                                                         | 2030 and re-evaluate       | NRD/Admin               |
| <div>★6-2</div>           | Surfside Wastewater Treatment Plant Dune Restoration               | Dune restoration and construction to reduce risk of erosion to critical infrastructure. Hard core dunes are appropriate in this location given risk to critical facilities. Project includes need for ongoing nourishment or installation of near-shore underwater sand berm. Strategic relocation alternatives for settling tanks closest to the coast at the wastewater treatment facility should be pursued in parallel. | Nature-Based   | High: \$38M<br>Low: \$33M<br>O&M: \$420K | Not quantified; qualitative benefits include long-term mitigation of risk to infrastructure and assets, which could result in loss of service for the WWTF. | 2025                       | Sewer/NRD               |
| <div>★6-4</div>           | Surfside Emergency Access Planning                                 | Develop emergency access and service plan for Surfside Neighborhood to ensure access to coastal areas in event of loss of service along Nonantum and Nobadeer Avenues, particularly near Lovers Lane.                                                                                                                                                                                                                       | Non-structural | \$50,000                                 | N/A                                                                                                                                                         | 2025                       | PLUS/NRD                |

Project Priority

01

02

03

# 2026-2030 Recommendations

| 2026-2030 Recommendations |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                                            |                                                                                                                                                    |                            | Champion /Co-Lead    |
|---------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------|
| Strategy ID               | Strategy or Project Title                  | Near-Term Strategy Project Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Type           | Estimated Cost                             | Estimated Benefits                                                                                                                                 | Target Implementation Date |                      |
| 2-1                       | Steamboat Wharf Resilience                 | Work with the Steamship Authority to develop adaptation plan for Steamboat Wharf with the preferred option of elevating the pier above future mean monthly high water. Building scale measures can be implemented on the wharf over time to reduce risk from coastal storms. The strategy should be integrated with the design of the Downtown Coastal Flood Barrier System (Strategy 2-2) to maintain access from Broad Street onto the Wharf. Final approach will need to be planned and design by the Steamship Authority but close coordination with Town resilience planning will be critical to a successful resilience strategy. | Structural     | High: \$120M<br>Low: \$110M<br>O&M: \$1.3M | \$19,000,000                                                                                                                                       | 2030                       | Town Admin /DPW      |
| 3-1                       | Madaket Road Raising and Bridge Conversion | Road raising project with conversion of existing culverts with bridges, with goal of prolonging service life of Madaket Road to provide access to and from Madaket, while advancing ecological restoration objectives for Long Pond.                                                                                                                                                                                                                                                                                                                                                                                                    | Structural     | High: \$40M<br>Low: \$36M<br>O&M: \$440K   | \$6,200,000 – \$17,600,000                                                                                                                         | 2030                       | DPW/ NRD             |
| 5-1                       | Sconset Bluff Dune Restoration             | Dune restoration and construction to mitigate bluff eroslon and increase resiliency. Natural dunes with vegetation are appropriate. Project includes need for ongoing nourishment and maintenance of the dune at an interval determined through the design process.                                                                                                                                                                                                                                                                                                                                                                     | Nature-Based   | High: \$16M<br>Low: \$14M<br>O&M: \$180K   | Not quantified; qualitative benefits include reduced long-term risk of erosion impacts to private residences and public infrastructure in Sconset. | 2030                       | NRD/ DPW             |
| 5-2                       | Codfish Park Dune Restoration              | Dune restoration and construction to manage and slow bluff eroslon. Natural dunes with vegetation are appropriate. Project includes need for ongoing nourishment and maintenance of the dune at an interval determined through the design process.                                                                                                                                                                                                                                                                                                                                                                                      | Nature-Based   | High: \$21M<br>Low: \$19M<br>O&M: \$240K   | \$7,000,000                                                                                                                                        | 2030                       | NRD/ DPW             |
| 7-2                       | Sand Pumping Feasibility Study             | Study the feasibility and impacts of a sand pumping and bypass systems to connect sand sources from Inlet to the North Shore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Non-structural | High: \$250K<br>Low: \$100K<br>O&M: NA     | N/A                                                                                                                                                | 2027                       | NRD/ Property Owners |
| Project Priority          |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                                            |                                                                                                                                                    |                            |                      |
| 010203                    |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                                            |                                                                                                                                                    |                            |                      |



## **Compiled CRAC Priorities 2024-2030**

### **Matt Fee**

- #1. Not listed. Betterment - CRD payment modeling and regulations.
- #2. 1-2 Zoning
- #3. 6-2 Sewer
- #4. 1-4 Retreat
- #5. 1-11 Sediment budget
- #6. 2-1 SSA
- #7. 3-5 Landfill Resilience
- #8. 3-2 Ames Ave
- #9. 3-4 Madaket Erosion pilot
- #10. 6-4 Surfside Emergency Access

### **Gary Beller**

- 1-2
- 7-2
- 1-11
- 1-10
- 1-4
- 2-1
- 1-12
- 1-13
- 3-5
- 3-1

### **Jen Karberg**

- Strategic Retreat and Relocation Program
- Zoning updates
- Steamboat Wharf Resilience
- Madaket rd raising and bridge conversion
- Surfside Treatment plant
- DPW and landfill resilience
- Codfish park dune restoration
- Storm water updates and management plan

## **Rachael Freeman**

- 1) Surfside Wastewater Treatment Plant Dune Restoration & Nearshore Breakwater Study (consider this here and not Sconset but information may be slightly transferable efforts in Sconset)
- 2) Updates to Zoning by Law
- 3) Strategic Retreat & Relocation Program (include Surfside Emergency Access Planning & Ames Avenue Bridge)
- 4) Stormwater Management Plan, By-Laws Assessment & Regulations Update
- 5) Numerical Modelling Study of Coatue Breaching
- 6) Sediment Budget
- 7) DPW Resilience – How much of an issue is this right now? I have seen the flood predictions but what are they seeing on the ground today?

## **Peter Brace**

1. Surfside Wastewater Treatment Plant Dune Restoration
2. Steamboat Wharf Resilience
3. Updates to Zoning Bylaw
4. Strategic Retreat & Relocation Program
5. Madaket Road Raising & Bridge Conversion
6. Stormwater Management Plan
8. Numerical Modeling Study of Coatue Breaching
9. Department of Public Works Facility & Landfill Resilience
10. Siasconset Bluff Dune Restoration

## **Leah Hill (Staff)**

1. Strategic retreat and relocation
2. Surfside wastewater treatment facility dune restoration
3. Steamboat Wharf resilience
4. Stormwater management plan, stormwater by-laws assessment, stormwater by-law and regulations update
5. Updates to zoning by-laws
6. Building scale resilience at 37 Washington St.
7. Madaket road raising and bridge conversion
8. Numerical modeling study of Coatue breaching
9. Surfside emergency access

10. Ames Ave Bridge resilience, Madaket Erosion management plan and Ames Ave Bridge protections

**Compiled Recommendations with Tallies**

Not listed. Betterment - CRD payment modeling and regulations. = **1**

#1-2 Zoning = **6**

#1-4 Retreat and relocation program = **6**

#6-2 Surfside wastewater treatment plant dune restoration = **5**

- Include Ames Ave bridge and Surfside emergency access

#2-1 Steamboat Wharf Resilience = **5**

#3-5 DPW and Landfill Resilience = **5**

#1-10 Stormwater Management Plan = **5**

#1-12 Stormwater by-laws assessment = **4**

#1-13 Stormwater by-law and regulations update = **4**

#3-1 Madaket road raising and bridge conversion = **4**

#1-11 Sediment budget = **3**

#4-4 Numerical model of Coatue breaching = **3**

#3-2 Ames Ave bridge resilience = **3**

#6-4 Surfside Emergency Access Planning = **3**

#3-4 Madaket Erosion pilot = **2**

#7-2 Sandpumping feasibility = **1**

#5-2 Codfish Park dune resilience = **1**

#5-4 Sconset Nearshore breakwater study but do in front of Sewer plant = **1**

#5-1 Sconset Bluff dune restoration = **1**

#2-5 Building scale resilience at 37 Washington St. = **1**

# Nantucket and Madaket Harbor Plan Update Coastal Resilience/Climate Change

Prepared for: Nantucket Coastal Resiliency Advisory Committee (CRAC)  
UHI (Kim Starbuck, Kristin Uiterwyk, Alan Bartels) and WHG (Dack Stuart)



# Discussion and Questions

- How to best engage CRAC as we develop plan?
- How to use the harbor plan to move coastal resiliency projects forward/reinforce certain aspects of projects?
- How to best use public engagement feedback to reinforce CRP goals and projects?
- Suggestions to DEP regarding climate change and public access?



Feb. 8, 2024

Ian Golding  
Seth Englebourg  
Linda Williams  
Michael Misurelli  
Joseph W. Plandowski  
Mark Beale  
Tim Braine

Mr. Golding,

With this letter, the Coastal Resilience Advisory Committee (CRAC) is informing the Conservation Commission of its unanimous support for the Commission's proposed amendment to the Nantucket Wetlands Bylaw (NWB) with regards to expanding the no-build buffer zones around wetlands from 25 to 50 feet.

The CRAC is well aware of how salt marshes lining the shores Nantucket's harbors, tidal creeks and salt ponds as well as freshwater wetlands along the edges of coastal or, outwash ponds that we've identified as storm pathways on the island's south shore are being and will continue to be inundated by sea level rise. These areas governed locally by the NWB as vegetated wetlands are expected to eventually be under water. Because Nantucket is at a critical point in the era of climate change-driven sea level, we believe that doubling the current no-build wetlands buffer zone is a prudent and necessary amendment to the NWB.

Further, the CRAC recommends that the Conservation Commission be aware that these buffer zones are likely to require shifting inland much sooner than the Conservation Commission may be anticipating as the ocean continues to rise. In light of this, we recommend that the Conservation Commission work in a mechanism for these buffer zones to quickly adapt, as needed, to rising water levels along the shores of our island coastline and great ponds where applicable.

Our committee thanks the Conservation Commission for allowing the CRAC to the time needed to get our comments to you before your final continuation meeting of this public hearing.

Sincerely,

Peter B. Brace,  
Chairman