GZA Kickoff Meeting Notes

January 18th, 2024

In attendance: Michael Gardener (GZA), Cheryl C. (GZA)., Nancy Alexander, Liv Lenfestey, Shri Verrill, Lauren Bruce, Peter Rothchild, Shey Conover

On Zoom: Sue Stafford, Jennifer West, Peter Wilcox, Donna Leone.

Shri kicked off the meeting by outlining what our time together will look like

Cheryl and Michael introduced themselves and stated their interest in using their time today to listen to community needs, understand what we are seeking in our design, and use today to establish a starting point for their engineering plans.

The committee then went around the room and spoke about their concerns and views on the Narrows. Mentions included:

- Interest in a bridge or other hard structure solution
- Designing something that is innovative, long lasting, and resilient.
- Maintaining access to the road is the most important, especially during emergency scenarios.
- Maintaining access to community resources, such as the health center, fire station, etc, for all islanders at all times.
- Being able to weather extreme winds, wave action, increasing water levels, and storm surge.
- Will a Nature Based Solution be able to sustain our community's needs?
- Considerations for maintaining Marsh health and allowing marsh migration to occur
- Considerations for the existing revetment/sea wall at the Narrows
- Considerations on cost and funding opportunities.
- Considerations on planning for a changing climate.

Lauren outlined how the Municipal Building Project was funded and outlined the community process and fundraising success.

Shey outlined the community response to past planning initiatives, such a broadband project, and how there is a desire to have a breadth of options/solutions/designs to ensure that the town is not only making the most cost effective choice, but also the most well informed and community supported. She expressed her interest in learning from the engineers expertise on expected life span for the proposed infrastructure.

Shri asked if the committee is open to considering one lane options. Is two lanes an imperative?

- Day to day traffic and ferry schedule stress may be hard to manage with a one lane solution
- One lane during emergency situations would be tolerable, the road could be closed to passenger vehicles.

Concerns from past storms:

- When the pavement at the narrows washed out on the January 10th storm, a repair was made quickly and was easier to manage because of the low elevation of the road. There is concern that if we raise the road the repair may take longer because there is more vulnerable area and material needed to repair.
- The January 2024 storm events showed the highest water level by one foot compared to past extreme storm events. The level of water and frequency of storms that we are seeing is increasing.

Nature Based Solutions:

- Concerns were expressed that when implementing a nature based solution, the Marsh and chosen design may need 3-4 years to establish itself. During this time, the marsh is vulnerable to big storms and risks being torn up. At this point, the solution would have to be rethought.
- There is a high need for maintenance with some NBS that is not likely to easily occur on the island, due to remoteness and ferry schedule.
- Thin layer deposition does not have much data and there are many cases where it has not been successful.
- Nancy made her case for having water pass through the Narrows and into the marsh.This could take the shape of a large culvert or bridge. This solution takes advantage of what mother nature is going to do in the long run. This solution is dependent on the bedrock that exists under the current road way.
    - GZA noted that they do have experience on projects that implement bridges and bridge way passages, such as large culverts. They gave one example of a project in Connecticut where a tidal passage was developed through a salt marsh– this project was completed in 2019/2020.

Cheryl noted that the type of solution they are interested in developing will likely be on the spectrum of Nature Based Solution, but may look more like nature based features and hard structure.

Lauren noted the complexities of explaining the wide array of options and their respective features (low vs. high cost, life expectancy, etc) to community members. It is likely that there will be a lot of information and not an easy choice.

Shri transitioned us into a conversation on cost. It is likely that the up front cost will not be reflective of what the town is able to pay.

- There are also considerations to be made on the cost of doing nothing.

Michael and Cheryl then transitioned into us going through the Risk Tolerance Rubric, and discussing both the initial factors and secondary factors:

- For NBS, the community is interested in low maintenance, self maintained features.
- Phased approach is tolerable.
- There is not a hard number on structure lifespan, but this number is looked at within the context of maintenance, available grants/funding opportunities, and if we will need to start from scratch / rebuild when the design is no longer viable.

Secondary factors:

- We did not put hard numbers and rank these factors, but we did discuss how they work together and noted what we would specifically like to see prioritized.
- We discussed how during the construction the plans will accommodate for road closure and time of year restrictions.
- We discussed how FEMA Flood Maps change often and how these new maps will be incorporated in our design. FEMA submits a preliminary schedule for these changes that GZA will be aware of and responsive to.
- We discussed stone size, stone shape, and bedding that is appropriate for the site. We want to maximize interlocking of the stones, interlocking at 3 points per stone, to create the strongest wall. This will depend on if this kind of structure is incorporated in the design.

Project Team Meeting with GZA

GZA gave use information on the preliminary tasks they have done, including:

- Review of 2017 Ransom Report
- Preliminary Metocean Analysis
- Review of State Guidance

We reviewed a Full Site Topography Map and identified low lying areas.

We reviewed tide data from Bar Harbor, looking at 100 year sea level rise scenarios and 100 year storm events, and water levels when those situations overlap.

- NACCS point is right off the Narrows, available from an Army Corp Study

We looked at wind data for the site, including a wind rose.

We looked at preliminary wave height and wave period data that showed the farthest stretch that waves have to build before hitting the Narrows

We reviewed Sea Level rise projections from NOAA, NASA, and Army Corp of Engineers.