GZA Alternatives Analysis Meeting Notes

June 12th, 2024

Notes taken by Liv Lenfestey and formatted by Chatgpt

In Person:

- Shey Conover, Peter Wilcox, Jennifer West, Lauren Bruce, Peter Rothchild, Nancy Alexander Janet Anderson, and Liv Lenfestey
- Six other community members joined us in the room

Online:

- Judy and Joe Kaminski, Shri Verill, Chloe Joule, Anne Bertulli, Pete, Patrick and Kim Nettles, John, Tim and Barb Frame, Patrick O'Bannon, Fred Porter, Tom Groening, Christine Robb, Pam Filoramo, Christine Robb, Joshua Leach, Maggie Wilcox, Carrie Reed, Steve Anderson, Alsina, Harriet Bering, Ginnie Hess, Donna Leone, Impy Hayd, and more
- GZA: Cheryl Coviello, Liam Hanley, Michael Gardener

Notes:

- Shey introduced the project, noting this was the first committee meeting to review the Alternatives Analysis.
- Cheryl, Michael, and Liam introduced themselves and their roles.

Tonight's Presentation:

- Draft Islesboro Narrows Alternatives Analysis and 15% Preliminary Design
- Project began with the committee in January.
- Cheryl covered the project timeline.
- Established that 2 feet of still water is permissible for emergency vehicles to pass.
- Site split into three sections due to unique vulnerabilities: North, Middle, and South.

North Section:

- Existing roadway is only 1 foot higher than FEMA 100-year flood elevation.
- Proposal to raise the roadway from 10.5 feet to 12.5 feet.
- Preliminary design cost estimate to raise the road (North - South Section): $1 million - $1.5 million (with transitions).
- Cost estimate based on CES report, adjusted for inflation and trends; construction costs have risen 32% since 2020/2022.
- Estimate will be refined as design progresses.
- Alternative option includes adding a guardrail to the west side of the North section to handle debris.

Middle and South Section:

- Low roadway elevation is susceptible to inundation, wave overtopping, and debris.
- East side: ~12ft fetch, direct exposure.
- West side: limited fetch, low exposure.

Four Options for Middle and South:

1. **Reconstruct the existing stone revetment:**
    - Crest elevation: 18'-20' NAVD88.
    - Two layers of 4.5-6 ton stone size.
    - Existing base would need preparation.
    - Bury Toe or secure with Toe pin into bedrock.
    - Cost estimate: South: $1.2-1.5M, Middle Narrows: $700-$900K.

2. **Wire Mesh TECCO Cell System:**
    - Eases repairs and transport of stones.
    - Additional considerations: rock anchors for shallow bedrock, potential need to anchor the Toe, potential mesh lifespan considerations.
    - Currently, no cost estimate.
    - Paired with a return wall seawall.

3. **Revetment with Return Wall:**
    - Aesthetics considered.
    - Can reduce to one layer of armor stone.
    - Cost: ~$2.6M.

4. **Revetment and Offshore Breakwater:**
    - Reduce Revetment Crest.
    - One layer of Armor Stone.
    - ~30 ft offshore of revetment toe, crest elevation of 10 feet.
    - Reduces wave environment and creates potential habitat for marine life.
    - Cost estimate: $4.5-3 Million.

5. **Revetment with Berm and Reef Balls:**
    - Reduces revetment crest to 15' EL NAVD88.
    - 20ft wide berm at toe of revetment.
    - Cost estimate: South: $1.5-1.8M, Middle: $850-1.1M.
    - Allows for NBS option and creates habitat for bird life, plant/algae growth, marsh and maritime plantings.

One Option for South Only:

1. **Road Realignment with S. Narrows Bridge:**
    - 300 ft long bridge at S. Narrows, entire road realignment through Pine forest.
    - Further consideration for property access.

    - Road elevation raised with transition approaches at the bridge.
    - 18ft crest elevation.
    - Cost estimate: $20 Million.
    - Geotechnical borings needed to inform bridge foundation type.
    - Reclaim existing Main Road as recreation zone and provide flood buffer area for future SLR.

Q&A:

- **PW:** Questions on Reef Balls; functionality at specified elevation.
- **Michael:** Reef ball foundation mixture for colder climates (tested in Alaska).
- Clarification on current revetment height (+14ft existing elevation, 4ft above the road, road to go up to 12ft).
- Service life of alternatives (North section, South/Middle: bridge 75-100 years, revetment 25 years, TECCO Cell lifespan less tested).
- Design, permitting, and contingency included in cost estimate.
- $20 million bridge estimate doesn't include revetment and reef balls ($23-25 million total).

Community Discussion:

- Concerns about storm surge and wind action, not sea level rise.
- Conditions for proposed revetment crest for traffic safety.
- Benefits of raising the road now despite future bridge plans.
- Consideration of phased approach for designs.

Community Meeting:

- **Lauren:** Acknowledged the quality of follow-up questions and discussed broader area vulnerabilities.
- **Peter R:** Desired better understanding of project phases, durability, and grant funding.
- **Shey:** Emphasized choosing revetment style essential for storm surge management; 2ft road raise timing unclear.
- **Peter W:** Highlighted urgent need for revetment stones, road raising/moving is long-term.
- Discussion on packaging the project for grant competitiveness.
- Next grant application for engineering design on July 1st, up to $75,000 for engineering.
- Additional funding opportunities in Fall and through FEMA.

Homework:

- Assign weight to each category.