

M E M O R A N D U M

To: Tom Harmer, Town Manager
From: Isaac Brownman, Public Works Director
Report date: November 9, 2021
Meeting date: November 15, 2021
Subject: Sea Level Rise Phase 2 Update and Overview of Phase 3 and 4

Recommended Action

None, informational only.

Background

The Town initially engaged APTIM Environmental and Infrastructure (“APTIM”) in 2018 to provide a practical, high-level review of impacts from sea level rise and recurrent flooding. The APTIM team developed a four-step approach to accomplish this effort:

1. Initial Assessment
2. Define Impacts
3. Adaptation Strategies
4. Implementation Plan

The first step, the Initial Assessment to establish a practical baseline and projection period, was completed in the Fall of 2018.

In 2019, the Town authorized APTIM to begin work on the data collection and analysis Phase, known as Phase 2. Below summarizes the status of the overall project and next steps necessary to complete the four step approach.

1. Introduction and overview of work performed in 2018 included the various components of sea level rise (current, and future scenarios). Phase 1 identified further study was recommended and data collection of Town infrastructure should be undertaken.
2. Data Collection efforts were summarized to support a future adaptation plan. This data collection focused on the most vulnerable sections of Longboat and included Key:
 - A. Identification of stormwater inlets and outlets to assess street flooding
 - B. Bulkhead elevations to assess the potential for private property flooding
 - C. Dune elevation data was collected to assist in assessment of any dune vulnerabilities
 - D. Lift Station electrical panels.
 - E. Evacuation route elevations to assist in policy making and funding strategies regarding the roads

- F. Elevations of key Town-owned properties relative to their Base Flood Elevation
 - G. Elevations of commercial properties identified in the Town's hurricane plan relative to their Base Flood Elevation.
3. Dune Vulnerability Assessment. The majority of the Town's dunes are higher than 7 to 7.5 feet NAVD which is sufficient to prevent overtopping from high frequency tropical storms. We identified 10 properties with dunes or dune breaches that were below 6 feet NAVD. The 10 properties were surveyed to confirm the elevations. The conditions range from uniformly low dunes to just low pedestrian paths through the dunes. APTIM recommends that planning commence for dune raising during future beach nourishment project. Future dune raising may be required over the long term.
 4. Preliminary Flood Evaluations. Flooding in Town can be from long-term sea-level rise, episodic king tides, episodic tropical storms or combinations of the above. Each flooding may be nuisance, disruptive, or impactful. Examples of these types of flooding on key Town properties, Town roads, and evacuation routes are presented.
 5. Preliminary flood metrics will be presented. These metrics include both the probability of concurrence and the severity of the impact and can be used to rank future resiliency project areas.
 6. A review of Town ordinances that identified policies affected by sea level change and adaptation of coastal infrastructure. Recommendations for ordinance modifications will be presented.
 7. Lastly, APTIM will outline the next steps in Phases 3 and 4 to take to complete adaptation planning. Phase 3 and 4 of the Project focuses on implementation of the recommendations.

The Phase 2 work is fully funded by the Town. The Town has requested funding through the FDEP Resiliency Grant Program for the Phase 3 and Phase 4 Work. If the grant is not received, we will work to identify alternative funds with a goal to complete the work this fiscal year.

Staff Recommendation

None, informational only.

Attachments

PowerPoint Presentation (Available from Town Clerk's Office).

End of Agenda Item