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Climate Change/Sea Level Rise Commission
Special Meeting & Work Session:
West Harbor Road/East Chew Avenue Flood Mitigation Study
Thursday, August 24, 2023, at 4pm

Call to Order –Meeting opened at 4:00 pm. Pledge of Allegiance.

Present: Roy Myers, Dennis Glackin, John Marrah, Dr. Andrew Thaler, Doug Rollow, Jon Clarke, Town Administrator Rob Straebel, Town Planner Steve Ball and Town Staff Kris Kakabar. Guest Attendees: Sasha Land, Brent Jett (George, Miles, & Buhr, LLC Architects/Engineers), and Jim Tapp (Waterways Management Advisory Board). Public attendees: three via zoom, one in person.

Public Comment:
Mark Allen, Water Street: What is the estimated timeframe for completion of this project? Climate Change/Sea Level Rise Commission (CC/SLRC) is designated to perform studies and pursue grants regarding the Climate Change/Sea Level Rise for our area. We estimate this process may take about 5-15 years until we get through the concept planning process.

Overview
Mr. Myers opened the special working session of the West Harbor Road/East Chew Avenue Study and Stormwater Analysis, with a brief introduction of the GMB study. Stormwater is the most difficult component of this analysis, with 7 culvert areas or "weak spots" from East Chew to West Harbor Road, where water can back up.

Mr. Jett discussed the project. The two solution options are to build an underground storage area with mechanical manipulation to pump the 50 acres of water coming through this area or to raise the whole area. This intervention will only work in specific circumstances when the tide is low.

He further noted, the Town has 3 problematic drain areas at the West Harbor Road/East Chew Avenue area at the present time. An alternative solution to a large cistern and elevating the road previously proposed would be to add another catch basin around each of these three problematic areas and insert 1-2 sump pumps (around $1000/per pump) to facilitate with drawing the water down. This proposal would allow us to obtain 25-30 years out of the bulkheads, aligning a street redo (redone in the past 2-3 years) at the same time as the bulkheads in the next 30years.

There are limited options for holdings areas. If we upsize the pump, you could tolerate the 50-year rain event. The plan is to eventually increase the catch basin size for all 7 individual drain areas, which are non-connected runs, with the addition of the Waypro backflow preventers. This will allow extra overflow water holding space

and space for employees to exchange or work on the pumps (hence lowering the long-term maintenance upkeep costs of a larger pumping unit). GMB has used a similar system model in Delaware. If water is coming over the bulkhead no pump of any size will solve the problem, in these instances turn the pumps off temporarily.

Permeable pavers and drainage were discussed. Permeable pavers are effective for the other 359 days of the year when the water is not coming over the bulkhead.

It was also discussed that a part of the plan is to also raise the large boat ramp to the 5-foot level and close off the small boat ramp which will aid in managing the amount of tidal flooding. Along with elevating the bulkhead to 5 feet, therefore the pumps will only be pumping out the rainwater and not the backflow of the harbor water which is occurring at the present time.

A citizen responded: "I am fine with it (flooding 6 times a year from what you explained), as you are being honest."

Sasha Land, DNR, commented: Living in a water community we will learn to live with the extreme events. But what about the hightide + rain + flooding, how much of this is going to be flooding and closing the road. Mr. Jett responded that there will still be road closures in this area at times affecting the 4 houses along this roadway, but less frequent, and when we are able to turn the pumps back on it will pump the water out much quicker to reopen the road access. Overall "there will be less frequent temporary road closures with a shorter impact."

The take-away is that the proposed solution will be able to handle the 10-year storm events. If you build the stormwater vault boxes large enough to hold 2 pump sizes in each they can then handle the bigger storm event like 25-year and possibly the 50-year. The 100-year storm we cannot comment on at this time. Mr. Jett posed an example from July 2023 where the Town had 9inches of rain in 2.5 hours which is not considered a 100-year event but there is no way any solution can handle this amount of rain in this timeframe.

Mr. Jett recommends phasing the implementation in three stages, beginning in the area where the bulkhead is the oldest near East Chew which will require replacement in approximately 3-5 years working your way toward the large boat ramp in phase 3, unless you can apply and obtain monies to complete the project in its entirety. He also addressed being able to meet the critical area requirements of decreasing the impervious surface to 10% through use of green spaces/raingardens and pervious pavers. Our current trajectory is toward 2050-2060 if the predictions for sea level rise remain the same. Sasha Land, DNR, explained to Brent that this information needs to be included in his final report along with the projections and trajectory and include the timeframe and range of the data for which this data is based on in 2023.

Summary:

Further discussion concurred by board members with the following summarizations: We are building for the storm over 5-foot. Options for the pumping ability and drain sites need to be resolved. We will utilize pump box structures which will allow for increasing pump sizes over time. Except for short-term flooding, this will keep the area relatively dryer than it is today in 2050. Mr. Myers added that we need to include the long-range perspective for the Town for the years 2050-2075 to see this project through. Sasha Land recommends we look

at current site conditions and build in action points of situations we have and what deterioration may be of concern.

Several board members concurred that phasing in the implementation of this project by sections will allow for evaluation of the changes made and aid in determining appropriateness as we keep moving forward. We hope to be able to evaluate the frequency of the pump use, volumes, and other statistics to evaluate stormwater management. Sasha Land recommended moving phase 1 to include the area to the small boat ramp, allowing for closing this off, hence eliminating one of the main causes for tidal flooding. Mr. Straebel asked Mr. Jett if he looked at the current catch basin infrastructure versus consolidating them. Mr. Jett has: they would require changes in the grades of the roads and additional needs.

Mr. Myers requested Mr. Jett to draft a design summary of this meeting to present to the community and for the team to review at the September meeting, with a checkpoint meeting with Mr. Jett on September 6th or 8th.

Review of the East Chew Avenue & West Harbor Design Preferences for Review and Consideration (see Attachment under the CC/SLRC Meeting Packet)

1. Bulkhead design: Berm would have more issues. Recommendation to proceed with 5-foot bulkhead: a concern is to ensure access on and off the piers/boats incrementally now through 2050.
2. Piers/Slips: Addressed with Jon Clarke to consider any concerns with harbor line which may require re-evaluation in the future. Address handicap access.
3. Walkway: Consensus to use wooden walkway of the entirety. Recommendation to consult watermen for their input along their boat slip areas.
4. Landscaping: Change name from Landscaping to Additional Green Space Areas. Additional green space areas are being explored for stormwater management and to meet the aesthetics of the town and 10% critical area mitigation.
5. Parking: Ground rules for parking will remain the same. Parking spaces will decrease with the addition of green space areas. Pervious materials.
6. Lighting: No changes.
7. Stormwater Management: Our initial analysis was looking at a cistern but after further analysis has been redesigned. Green space will be applied to 10-20% critical area requirements.
8. Other Pertinent Design Issues/Items: Electrical utility service would need additional studies. Concerns about method to bill for use of electrical use at these. Style design and layout are required for Brent to develop ADA compliance for the boardwalk. Plan for pedestal design.

Mr. Jett's schedule for the remainder of this project:

- Consolidate today's information into the final plan and write the report.
- Contact MDE and inquire with them about pumps and sizing and if permit viable.
- Plan for 60% design with grading and more cross sections.
- The Town will still need MDE permit drawings and the remainder of the 40% of details to complete before going for construction bids.
- Sasha Land advised that once the Town speaks with the WIF staff, as a check point, they need to convey their advisements to Mr. Jett to incorporate into his final planning of the design to 60%.

Public Comment Announcements
None.

Adjournment
Mr. Marrah made a motion to adjourn the meeting. Seconded by Dr. Thaler and carried through on a vote of 4-0.
The meeting adjourned at 5:59pm.

Minutes approved as submitted by 6-0 vote in favor on the 9th day of November 2023.

Roy Myers, Chairman