



CAMBRIDGE SHORELINE RESILIENCE PLAN STAKEHOLDER MEETING NOTES

June 18, 2021

1:30- 3:00 PM

Virtual Meeting- Stakeholders in attendance included:

Name	Organization/Department
Larry White	Project Manager, Strategic Programs Development, LLC
Kayhla Cornell	MEMA-Mitigation Planner
Daryl Butcher	Cambridge Waterfront Development Inc (CWDI)
Patricia Escher	Cambridge Planning & Zoning Manager
Debbie Herr Cornwell	Maryland Department of Planning
George Hyde	Cambridge City Engineer
Aaron Lampman	Associate Professor, Anthropology
Herve Hamon	Dorchester Director of Planning & Zoning
Deborah Cooper	Cambridge Finance Director
Jaleesa Tate	MEMA-State Hazard Mitigation Officer
Steve Rideout	Consultant and Former City Council Member for Ward 1

Welcome & Overview

City of Cambridge, Project Manager, Larry White opened the meeting with a brief overview of the work that has been completed. He provided a brief explanation of the meeting purpose and outcomes. Following his briefing, steering committee members introduced themselves and the meeting agenda was presented by meeting facilitator, Mark James, Michael Baker International.

Risk Assessment Modeling & Analysis

Arslaan Khalid, Michael Baker International provided a summary of the bathtub flood model that was developed for the Choptank River using two scenarios: NOAA nuisance flooding 2.7ft and NOAA nuisance flooding + 2ft SLR, which totals 4.7ft by 2050. Low lying areas and existing flood risk reduction structures that are susceptible to breaching were identified and the resulting flooding associated with the breach was presented for both flood scenarios. Using this GIS based flood modeling, shoreline elevations were adjusted to reflect the total elevation needed to mitigate breaching in both flood scenarios.

Mitigation Concept Ideas

As part of the follow-up exercise to the May field visit committee members were asked to consider types of mitigation measures, they would like included in the site specific mitigation and shoreline resilience strategies. It is important to note, that mitigation measures discussed by meeting participants will necessitate coordination of efforts to tie mitigation measures across private/public property. In addition, permitting and innovative land use policies/zoning regulations could be considered, and the consideration of offshore, nearshore and onshore flood risk reduction measures for each study site. Information gathered during the meeting has been included in the “Workshop Questions” table for each site. Due to time limitations, the information was not fully collected. **The “Workshop Questions” tables are now fillable PDF tables, which will allow stakeholders unable to attend the meeting to easily add information. Please review what has already been collected, and add your thoughts using the fillable spaces provided.**

(1) Great Marsh- Gerry Boyle Park

- Project will consist of multi-use plan that includes residential, park amenities, flood risk reduction measures and tie into County property west of site/private property east of site
- Existing stormwater flooding issues upland is planned to be conveyed to station and pumped
- Project will require buy-in from private properties on all sides of park
- Evidence of erosion to West side of park property and service road undercutting. City has placed rip-wrap in this area that continually wash away.

Workshop Questions for June 8 Meeting

What existing problems do you see?	Consistency between park amenities and flood protection. Asset to the City, however flooding and erosion resulting maintenance issues prove problematic. Assess issues to flooding at park entrance is an issue, as well.
What are the main physical features that should be considered?	Use of park for major events and amenities that meet park user needs. Public access to the river at the park is important. And public access in this case is more than just the boat ramp, but also includes the 2-3 'soft' shoreline areas where community members enter the water to swim, recreate on the sand, launch kayaks and paddle boards, etc.
Are there any barriers that need to be addressed?	Funding and existing site design. What are the flood damages/impacts that are trying to be prevented? Any of these projects are likely to be costly and a cost/benefit analysis should be done to show if they are cost effective. If some buildings are already elevated, this will reduce the benefits of the project. Positive BCR will be needed for most federal funding sources. The stormwater problem creates a barrier. In addition to conveying and pumping the stormwater the site design should include green infrastructure to provide water quality treatment during the conveyance. GI will also provide a co-benefit of water quality treatment during smaller rain and flooding events.
What level of flood protection should be considered?	At a minimum, BFE- 5ft. 4.6/5 feet should be absolute minimum. Phase 1 elevation (SLR of 2.1 by 2050) of 2 feet is too low and does not incorporate 2.6 foot of daily high tide. Recommend project is as high as feasibly possible (8-9 feet). Entire study area (park to yacht club) should probably have same level of protection unless they are hydraulically independent of each other. If one area's level of protection is lower than an adjacent area, water may be able to get around (via surface or stormwater system) behind the higher level of protection areas and flood structures. The level that is determined by the CRAB.
What type of mitigation measures should be considered?	Consistent and comprehensive flood risk reduction strategy. Stormwater redesign including possible water retention. Biggest concern is stormwater and pumping access water out of areas behind walls – not just Great Marsh. Redesign of park to reduce flooding impacts to amenities and mitigate flooding to properties located behind the park. Possible French drain system along park property.

	<p>Drain Somerset by pumping water out behind what will be built. Create sidewalks over stormwater system that will also create walking path to and from park.</p> <p>Bay Street low point collection and pumping – Bow Creek</p> <p>Typically flood risk management structures are built behind parks/open space and they are allowed to flood (while protecting/flood proofing the amenities). However, with SLR, you will want to ensure the park is accessible with higher seas and high tides. A lower living shoreline/levee could provide some protection to the park from erosion and SLR. Raising the perimeter road could also be considered. However, any line of protection around the park perimeter will cost more than a shorter line of protection on higher ground closer to the buildings it is protecting. A lower structure could be constructed to reduce flooding from SLR (and would be less visible and more acceptable to the homeowners) and then temporary barriers/panels installed when large storm surge is expected since there is adequate warning time. However, for large areas, installation could take quite a bit of time/manpower/resources. Restoration of Rooster Island may help reduce erosion to the park but will not reduce flooding from SLR or major storm surge.</p> <p>What happens to the stormwater when the pumps fail due to the electrical or mechanical failures during extreme weather events? A contingency plan for the stormwater should be built into the design.</p>
<p>Is there any hinging permitting procedural requirements?</p>	<p>MDE permitting USACE permitting if measures are in the water Consider FEMA floodplain regs</p>
<p>What are the main drawbacks to this mitigation measure?</p>	<p>Limitation in design - Do we want to limit park amenities and redesign road entrance? Consider uses that are in park today that will have to be thought out before design starts. Coordinate with neighbors. Also, potential to bring into design radio station property as part of Master Plan for park. Purchase of radio station may have political implications. Operation and maintenance of certain measures Any elimination of public access.</p>
<p>Are there any funding sources that could support mitigation measures?</p>	<p>Yes, a comprehensive design for the park and the Great Marsh Area will ideally include park amenity enhancements, flood mitigation, shoreline resilience, stormwater improvements, retention, and pumping. Many funding sources are available, proper project management and sequencing will be necessary.</p>
<p>How would this mitigation measure tie into the others?</p>	<p>A variety of measures are needed for this area and will require robust coordination. USACE/FEMA have funding programs requiring a positive BCR will be required. FRM projects for adjacent areas will need to tie together unless they are hydraulically independent.</p>
<p>General Comments: Address nuisance flooding in neighborhood behind park...just going to get worse Public outreach component is critical to success. Concern that 3 – 4 ft wall may be difficult to get buy-in from the community. VA Beach pumps to discharge stormwater inland flooding – convey water to large pumps and discharge, while effective, very expensive.</p>	

Option – movable flood barriers- NYC example. Use of a tier flood wall that can be deployed
 Important to use system that can be adjusted.

- (2) **West End** where private property exists along the shoreline- Oakland Street at Seawall
- Flood walls in the location are in poor condition – high tide waters were evident in street at the time of the visit. Funds have been received for repair/reconstruction of walls
 - Area has flooding associated with failing stormwater systems as well as tidal water intrusion. Stormwater solutions should include conveyance improvements with pump station.
 - Condos that were constructed in 2006 have revetment to 7 feet and floodwall at end of street will be replaced to BFE 5' which is one foot higher than existing – need to be conveyed to a station and pumped.
 - City owns the marina, and a portion of the slips are YC. Floating dock around marina but all slips are stationary.

Workshop Questions for June 8 Meeting

What existing problems do you see?	Private property buy-in. Existing floodwall/revetment/bulkhead of different levels of protection. Increasing floodwall placement and heights may not be popular with the community members.
What are the main physical features that should be considered?	Private property, docks, and viewshed
Are there any barriers that need to be addressed?	Yes, coordination with property owners is needed to inform mitigation options.
What level of flood protection should be considered?	Minimum BFE, which accounts for NOAA Nuisance Flooding and 2ft of SLR Believe we should be looking as high as feasible - 8/9 feet to provide reduce storm surge risk in addition to SLR
What type of mitigation measures should be considered?	Shoreline resilience measures in conjunction with flood mitigations.
Is there any hinging permitting procedural requirements?	
What are the main drawbacks to this mitigation measure?	Tying into private owner FRM measures
Are there any funding sources that could support mitigation measures?	I see this all as an FRM system. Think Park, West End and Marina should be studied/funded together (unless they are hydraulically independent).
How would this mitigation measure tie into the others?	Existing flood protection structure however these are not consistent throughout the project area,
General Comments: How can we a consistent flood wall along area and adjust dock structures. Build up wall in existing location or nearshore – perception is not intrusive if it is further...ACOE permit and navigable water concerns.	

(3) **Yacht Club** entrance at bulkhead

- Existing bulkhead on city property was installed in 2006
- Storm drain issues along Water Street that will need to be mitigated by collection and pumping

Workshop Questions for June 8 Meeting	
What existing problems do you see?	What exactly are we trying to reduce flood risk to? Houses behind Water Street? Yacht Club? Parking area? Erosion related to wave energy from over-topping waves was evident along the bulkhead. A no-mow buffer along the bulkhead could help hold together the shoreline to some degree.
What are the main physical features that should be considered?	
Are there any barriers that need to be addressed?	This area is often a public access point for people to fish from the shoreline. Any design should incorporate fishing access.
What level of flood protection should be considered?	Believe we should be looking as high as feasible - 8/9 feet to provide reduce storm surge risk in addition to SLR
What type of mitigation measures should be considered?	Build mound adjacent to the Higher bulkhead/floodwall around parking to accommodate SLR. Floodproof /raise Yacht Club if needed. Floodwall/levee near Water Street, could do something creative with levee along City open space area.
Is there any hinging permitting procedural requirements?	MDE, USACE permits
What are the main drawbacks to this mitigation measure?	
Are there any funding sources that could support mitigation measures?	
How would this mitigation measure tie into the others?	
General Comments:	

(5) **Sailwinds**, which is a 24-acre track under development by the Cambridge Waterfront Development Inc.

- City owned and managed properties. Development setbacks are in place 120 – 200 feet
- Existing hospital is planned to be demoed and relocated. Existing plan allows for large setbacks from shoreline
- Recommendations of the plan should incorporate planned land uses for Sailwinds
- Bacteria issues are found in stagnant water therefore the City cannot label it a swimming beach. This is due to lack of flushing water in corners of claw.

Workshop Questions for June 8 Meeting	
What existing problems do you see?	
What are the main physical features that should be considered?	Public access at the beach and the waterfront walk-way.
Are there any barriers that need to be addressed?	

What level of flood protection should be considered?	
What type of mitigation measures should be considered?	
Is there any hinging permitting procedural requirements?	
What are the main drawbacks to this mitigation measure?	
Are there any funding sources that could support mitigation measures?	
How would this mitigation measure tie into the others?	
General Comments:	

Next Steps

- **Stakeholder Meeting #5- August 10, 2021, from 1:30 – 3:00 PM**
- **Open House(s)- TBD**
- **Visual Preference Public Survey- July 2021**