



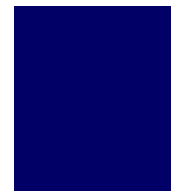
PRESENTATION TO
SENATOR MICHAEL A. JACKSON

Flooding in the
Town of
North Beach

March 8, 2021



The Jewel of the Chesapeake Bay
North Beach, Maryland



Introduction

For many years, The Town of North Beach ("the Town") has had to cope with coastal hazards, extreme weather events, stormwater flooding, sea level rise and high tides on the Chesapeake Bay. While combatting these longstanding problems, the Town has continued to address these detrimental impacts to our shoreline, wetland areas, roadways, and residential and commercial structures.

Location

The Town of North Beach is nestled on the Chesapeake Bay's western shore at the northern tip of Calvert County. The town has a population of approximately 2,000 residents and is a popular spot for visitors during the spring and summer seasons. The greatest asset, and also the greatest weakness of the Town, is the proximity to the Chesapeake Bay. The Town is situated between the Chesapeake Bay to the east and wetland areas to the west. Another negative impact on the Town of North Beach is that it is located downhill from approximately 34 acres of land. The stormwater runoff from these areas overwhelms the town's storm drains and pump systems.



closures, daily activity disruption and property damage. Flooding washes debris into ditches and roadways and overwhelms storm drains. These events deteriorate infrastructure such as roads, sidewalks, driveways, bike paths and the boardwalk.

Flooding in the Town of North Beach results in an increasing amount of polluted runoff to the Chesapeake Bay and adjacent wetlands. Sea level rise and increasing precipitation associated with climate change will only exacerbate current flooding problems in the Town and may necessitate more drastic flood mitigation measures over the long term.

Due to the rise in sea level, it is imperative that the Town of North Beach immediately addresses tidal flooding and stormwater flooding, and develops a plan that identifies

solutions to minimize damage associated with coastal hazards and protect ecological features and wetland mitigation areas.

The Town of North Beach has a strong desire to take all necessary steps to mitigate flood-related impacts over the long term and to protect the Town, its infrastructure, its natural resources, residences, businesses, and infrastructure.

Urgent Flooding Concerns

Repetitive flooding inundates low-lying areas, especially streets, during rain events and high tide events. The flooding leads to public inconveniences such as road

Proactive Measures

The Town of North Beach continues to be proactive when it comes to protecting our area from tidal events and stormwater flooding.

- In 2015, work began to construct a living shoreline along the water's edge at the Town's Walton Beach Nature Preserve. The property is located on the east side of Bay Avenue, south of the Anne Arundel County line. The living shoreline not only protects 700 feet of rapidly eroding shoreline, it created over an acre of new tidal wetlands and vastly improved the surrounding tidal marsh between the living shoreline and Bay Avenue (Maryland Route 261).
- In 2017, the flood protection earthen dike/berm was constructed adjacent to and in coordination with the living shoreline, just north of 9th Street between Bay and Atlantic Avenues.
- In the summer of 2020, work began to clean the large storm drain pipe from the beach outfall to the intersection of 5th Street and Chesapeake Avenue. There was approximately 24 inches of silt and debris laying in the bottom third of the pipe. The contractor has removed 185 tons of debris from pipe. The project was completed in September 2020.
- Earlier in 2020, the Maryland Department of Transportation State Highway Administration began work to raise Maryland Route 261 in the northern part of town that connects to Anne Arundel County. This purpose of this project is to raise the road surface above tidal flooding and provide a high point in the roadway to connect the flood dike. Work is continuing on this project and is expected to be complete the summer of 2021.
- In 2019, the Stormwater and Flood Mitigation Advisory Committee was established. This committee is comprised of Town staff and residents that work together to address flooding and to help sustain mitigation efforts over time. You can find agendas and minutes for the Stormwater and Flood Mitigation Advisory Committee meetings at this link (<https://www.northbeachmd.org/stormwater-and-flood-mitigation-advisory-committee>)

Stormwater and Flood Mitigation Advisory Committee (SFMAC) Mission Statement

The mission of the North Beach SFMAC is to provide advice and counsel regarding stormwater and flood issues and to assist with any implementation plans to improve the Town of North Beach's resistance to flooding by identifying actions that reduce stormwater and flooding impacts to residential and commercial structures and infrastructure; and by identifying projected impacts of sea level rise scenarios at 2050 and 2100.

This mission will be attained by working with the Town Government and residents to:

- Identify stormwater and flood issues specific to The Town of North Beach and recommend mitigation measures, both short- and long-term, to address flooding in the Town of North Beach;
- Identify the implications of sea level rise/land subsidence to The Town of North Beach and recommend mitigation measures, both short and long-term, to address potential sea level rise/land subsidence impacts to The Town of North Beach;
- Develop a Town of North Beach Stormwater and Flood Mitigation Plan that will serve as a planning tool to address flood issues in the Town of North Beach; and
- Develop a SFMAC Communications Plan to serve as a roadmap for keeping residents informed of Committee matters.

Tidal Flooding

It no longer takes a strong storm or a hurricane to cause flooding in the Town of North Beach. Over the years, tidal flooding occurrence has gradually increased and this continues to cause the frequent road closures, overwhelmed pumps and storm drains, property damage and compromised infrastructure.

The effects of rising sea levels along most of the coastline are expected to become more noticeable and much more severe in the coming decades.

The 9th Street pump station is located at the intersection of Atlantic Avenue and 9th Street within the Town of North Beach. The 20 year old existing

system pumps stormwater from a 10 acre developed drainage area servicing approximately 100 homes within the incorporated town limits.

The pump station has been upgraded and modified over the years to try and keep up with rising sea levels and more frequent significant storm events, but the station cannot keep up with these events.

Frequent localized flooding of improved properties and public roads require this pump station to be improved. The station will need new outfall piping, an addition of a new pump and a pump structure. Preliminary design has this project budgeted at \$95,000.

Vulnerable Areas

There are multiple locations in the Town of North Beach that are vulnerable to tidal flooding. The roadways, storm drains and residential and commercial properties are effected in the following areas:



- Intersection of 5th St. and Bay Ave. (combination of tidal and stormwater flooding)
- Intersection of 7th St. and Bay Ave.
- Annapolis Ave. between 7th St. and 9th St.
- Intersection of 9th St. and Bay Ave.
- Annapolis Ave. between 7th St. and 9th St.
- 9th St. between Bay and Atlantic Ave.
- Atlantic Ave. from 9th St. north

See photo documentation of these vulnerable areas on the following four pages.

Areas of Tidal Flooding



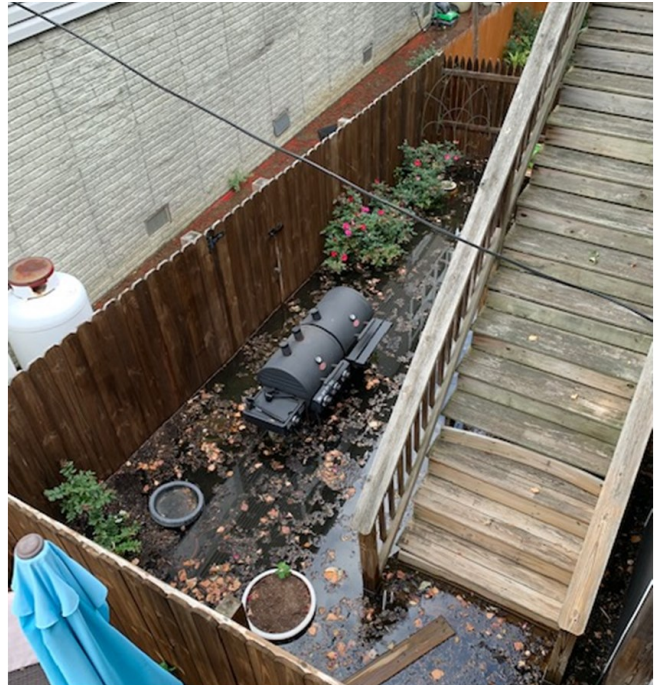
Areas of Tidal Flooding



Areas of Tidal Flooding



Atlantic Avenue



Residential Property



Berm

Areas of Tidal Flooding



Stormwater Flooding

It is no secret that the Town of North Beach takes a beating during heavy rain events and major storms. Not only does the town take on damaging winds and rainfall, it inherits stormwater runoff from areas to the west of town. Currently, stormwater from the areas outside of the incorporated town limits drain into the town's stormwater system. This causes an overload on the town's pumps and storm drains which leads to frequent road closures, property damage and compromised infrastructure. The 5th Street stormwater pumping station is located directly adjacent to the Chesapeake Bay beach frontage and discharges frequent stormwater from the central commercial district within the Town of North Beach. The system discharges stormwater from a drainage area of approximately 2,100 acres. The commercial district floods frequently along Bay Avenue and 5th Street which makes vehicular access to existing buildings, including emergency vehicles nearly impossible. Frequent flooding occurs five to seven times per year within the streets and parking areas along the bay, which shuts down the public beach and commercial district.

The system serves approximately 3,000 homes within both Calvert County and the Town of North Beach. Upgrades proposed include the addition of a new pump and replacing piping. Preliminary design and cost estimate of this improvement is \$150,000.

Vulnerable Areas

There are multiple locations in the Town of North Beach that are vulnerable to stormwater flooding. The roadways, storm drains and residential and commercial properties are effected in the following areas:



- Chesapeake Ave. between 3rd St. and 5th St.
- Bay Ave. between 3rd St. and 7th St.
- 5th St. between Chesapeake and Bay Ave.
- Intersection of 7th St. and Bay Ave.
- Intersection of 4th St. and Dayton Ave.
- Intersection of Greenwood Ave. and 3rd St.

Areas of Stormwater Flooding



Areas of Stormwater Flooding



Areas of Stormwater Flooding



Areas of Stormwater Flooding



Immediate Funding Needs

The Town of North Beach is in desperate need of funding for flood mitigation. As presented in this document, flooding is a major concern and flood mitigation is a priority for the Mayor and Town Council.

Sea level rise and increasing precipitation associated with climate change will only exacerbate current flooding problems in the Town and may necessitate more drastic flood mitigation measures over the long term.

Immediate funding will be used for:

✓ **9th Street Pump Upgrade:** new outfall piping, an addition of a new pump and a pump structure. Preliminary design has this project budgeted at \$95,000.

✓ **5th Street Stormwater Pump Station:** Along with the Stormwater and Flood Mitigation Committee, the Town of North Beach has developed a 'shovel ready' plan to upgrade the current 5th Street stormwater pump station. The Town is ready to release an RFP for this project and anticipates receiving bids for the proposed work by May 1, 2021. The project consists of adding two new larger pumps, new piping and a new control panel. The project is estimated to cost \$150,000. The Town is seeking available funding to complete this project in full.

✓ **EFC-Recommended Mitigation:** The Town of North Beach is currently working with the University of Maryland's EFC on a Stormwater Master Comprehensive Plan. We are currently working on Phase 1, which is a frame work, describing elements of the

plan. Once this phase is complete, voted on and accepted by the Town Council (expected April 8, 2021), we will proceed with a grant from the Department of Natural Resources for \$75,000 with Phase 2. Phase 2 will focus on a comprehensive plan to address stormwater and sea level rise problems the Town faces now and will face in future years. Once the plan is complete, the Town will need funding to move forward with any EFC recommendation on how to mitigate tidal and non tidal flooding issues.

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