Town of Wiscasset
Waste Water Treatment Plant Coastal Hazard Resilience

The completion of the Wiscasset Waste Water Treatment Facility Resiliency Project has been and will continue to be a key component to planning efforts for the Town in the coming years. The information attained from this study will help ensure that the Town has taken steps to plan for climate related occurrences at a critical municipal facility."

Ben Averill, Town Planner

PARTNERS

Lincoln County Regional Planning Commission worked in conjunction with the Town of Wiscasset and the Maine Geological Survey to complete the study on the waste water treatment plant.

ISSUE AREA

The Wiscasset waste water treatment plant sits surrounded by the Sheepscot River and is highly susceptible to major precipitation events as well as tidal extremes. The purpose of the grant was to identify which of the municipal wastewater facilities could be impacted by coastal flooding from major precipitation events and sea level rise. Additionally the goal was to develop possible adaptation approaches to mitigate impacts to their infrastructure from predicted environmental climate change factors including coastal flooding, sea level rise, storm surge, and rainfall precipitation.

PROJECT DESCRIPTION (completed December 2016)

The Wiscasset Waste Water Treatment Plant Resiliency project was part of a greater effort of the Lincoln County Regional Planning Commission and the Maine Geological Survey to study the implications of storm surge and the impact of sea level rise on coastal communities in Lincoln County. The Town of Wiscasset secured a grant from the Maine Coastal Program and contracted with Wright- Pierce to lead the study. The Steering Committee is considering adaptation strategies for improvements to Wiscasset's wastewater treatment facilities that could mitigate impacts to their infrastructure from predicted environmental climate change factors including coastal flooding, sea level rise, storm surge, and rainfall precipitation. The Wastewater location the sewer treatment plant is highly susceptible to higher than normal tides and large precipitation events.

The Wiscasset Treatment Plant (WWTP) and Water Street Pump Station along the Sheepscot River and within the Town's Historic Village District have been identified by the Steering Committee as having the potential to be impacted by these climate change factors. The WWTP was constructed in 1960 and is situated on a narrow peninsula bounded on three sides by the tidal Sheepscot River. Due to its location the sewer treatment plant is highly susceptible to higher than normal tides and large precipitation events.

THE CHALLENGE & APPROACH TAKEN

An assessment of LiDAR data, FEMA flood maps, historic data from the National Weather Service, and historic data on sea level rise was compiled and completed in order to gain a base understanding of the potential for large precipitation events. Three planning events were applied to the existing wastewater treatment facilities including the impacts on the facility in the event of a storm with Base Flood Elevation (BFE) of BFE 3, BFE, 4 and BFE 6.

NEXT STEPS AND OPPORTUNITIES

The Town of Wiscasset, with input from the Steering Committee, will combine the recommendations of the study with the capital improvement plans for the wastewater treatment plant. The Town will work to implement upgrades when possible and will continue to meet with members of the public in order to determine the feasibility of implementing the recommendations. Town officials have not ruled out any of the recommendations from the Steering Committee.

NEEDS

The information included in this report will be incorporated into the Town's long range capital improvement plan for upgrades to the Wastewater Treatment Plant. Additionally the information will be utilized in the next comprehensive plan and master planning effort of the village area of Wiscasset. The information collected will be very helpful in the immediate future as the Town works with MDOT to expand parking and decrease congested traffic in town**.**

THE RESULTS

The Steering Committee reviewed several adaptations strategies that were recommended from Wright-Pierce. One recommendation from the study was to incorporate adaptation measures for BFE +3 or BFE +4 into capital improvement plans for the wastewater treatment plant. This approach could include elevating controls and structures as upgrades occur or on an as needed basis. Additionally adaptation measures could be implemented on the structure itself including flood gates and flood barriers for doors and windows. A 4-6 foot sea wall was also offered as a solution to mitigate the problem.

LESSONS LEARNED

There has been significant support among the community for the project with town officials receptive to all options including potential relocation. The wastewater treatment plant currently operates at approximately 30%; however it is regarded as a much needed resource in town. The results of the report should prove to be very useful in conversations around capital improvement needs for the wastewater treatment facility.

APPLICABILITY TO OTHER MUNICIPALITIES

The results from this study will hopefully be useful to other coastal communities in Maine as they work to implement resiliency measures for municipally owned infrastructure.

CONTACT

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Jamel Torres, Town Planner Wiscasset (2014-2015) and Ben Averill, Town Planner Wiscasset (2016-2017) also worked on this project.

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