



Town of Provincetown Capital Project Request

Department: Community Development/ Conservation & Environmental Planning Date: 11/14/2022

Project Title: Long Point Dike Modification Project

Project Category: Infrastructure

Project Type: Major Repair-Renovation

Basis for Estimate: U.S. Army Corps of Engineers

Department Priority: 4

Priority Area: a.Imminent threat to safety of citizen/property

Estimated Project Costs

FY 2024	<u>\$120,000.00</u>
FY 2025	<u>\$500,000.00</u>
FY 2026	<u>\$500,000.00</u>
FY 2027	<u> </u>
FY 2028	<u> </u>
Total	<u>\$1,120,000.00</u>

Project Description:

Since the mid-2000s, vegetation loss and erosion in the West End Marsh (a/k/a The Moors) has been noticeably increasing, but in the last 6 years, the loss of the marsh has accelerated drastically. This is the result of intense grazing pressure by herbivorous purple marsh crabs, which have become extremely abundant there, beginning around 2014-2016. These native, nocturnal crabs have proliferated and caused major damage to many marshes across Cape Cod, and in various locations along the entire Atlantic coast. Two factors that have the potential to lessen crab damage are predator access and marine sediment supply. The current breakwater does not permit any fish predators to consume the purple marsh crabs at high tide. In addition, it is a barrier to sediment transport from the harbor into the marsh (particularly during storm events), which helps it build elevation - an important input given rapid sea level rise.

In 2015, the U.S. Army Corps of Engineers completed an initial feasibility study which recommended constructing an opening in the breakwater with a concrete bridge over it for pedestrian access. DPW submitted a CIP request of \$40,000 for FY18 to cover initial engineering and design, but it was indefinitely postponed at the Spring 2017 Annual Town Meeting.

**Estimated Annual
Budget Impact Amount:**
\$20,000.00

Start Date:
07/01/2023

Estimated Duration:
3 years

Estimated Annual Budget Impact:

The estimated CIP Project Cost for FY2024 is for the Town's 50% share of the costs for the additional studies and work necessary to generate a final feasibility report on proposed modifications to the dike. The other 50% is paid for by the Federal government.

After the feasibility is completed, if the Town and the USACE agree to proceed with the proposed modifications, the Federal government will pay 75% of design and construction costs, and the Town will pay 25%. In 2015, the USACE estimated the design and construction cost for one opening would be \$1,000,000. Since then, CCNS and other proponents have opined that a second opening and pedestrian bridge may be necessary. Cost estimates for design and construction would be developed in the feasibility study phase (FY24), but with inflation, projecting an estimated design and construction cost of \$4,000,000 for FY2025 and FY2026 would bring the Town's 25% share to a total of \$1,000,000 for those two years.

Following completion of construction, the Town will be responsible for 100% of the cost of operation and maintenance of the pedestrian bridges and openings.

Project Benefits:

The West End Marsh provides an important function for storm damage prevention to the Town during storms out of the west. If the marsh continues to erode, Province Lands Road, an important emergency access route between Commercial Street and Bradford Street Extension and Route 6, would be subject to greater wave energy during such coastal storms. The continued collapse of the marsh would greatly disrupt the ecosystem and potentially threaten recreational shellfish beds. Openings and pedestrian bridges could improve public safety if they are placed at segments of the dike known to be particularly hazardous to pedestrians.

Please include any additional information such as legal obligations, public service impact, department priority, negative repercussions if not approved, possible external funding sources such as grants, etc:

Town staff will seek non-federal grant opportunities to offset the Town's 50% share of estimated FY24 project costs, and in-kind services by the Town can be used to credit the Town's 25% share of design and construction.

The Moors are an iconic landscape for residents and visitors, and as a common motif of photographers and painters, they have been a significant part of the Town's historic role as an art haven. Their rapid decline and loss would be devastating to the social and cultural fabric of the Town.

Submitted by: Timothy Famulare

Dept. Head: _____