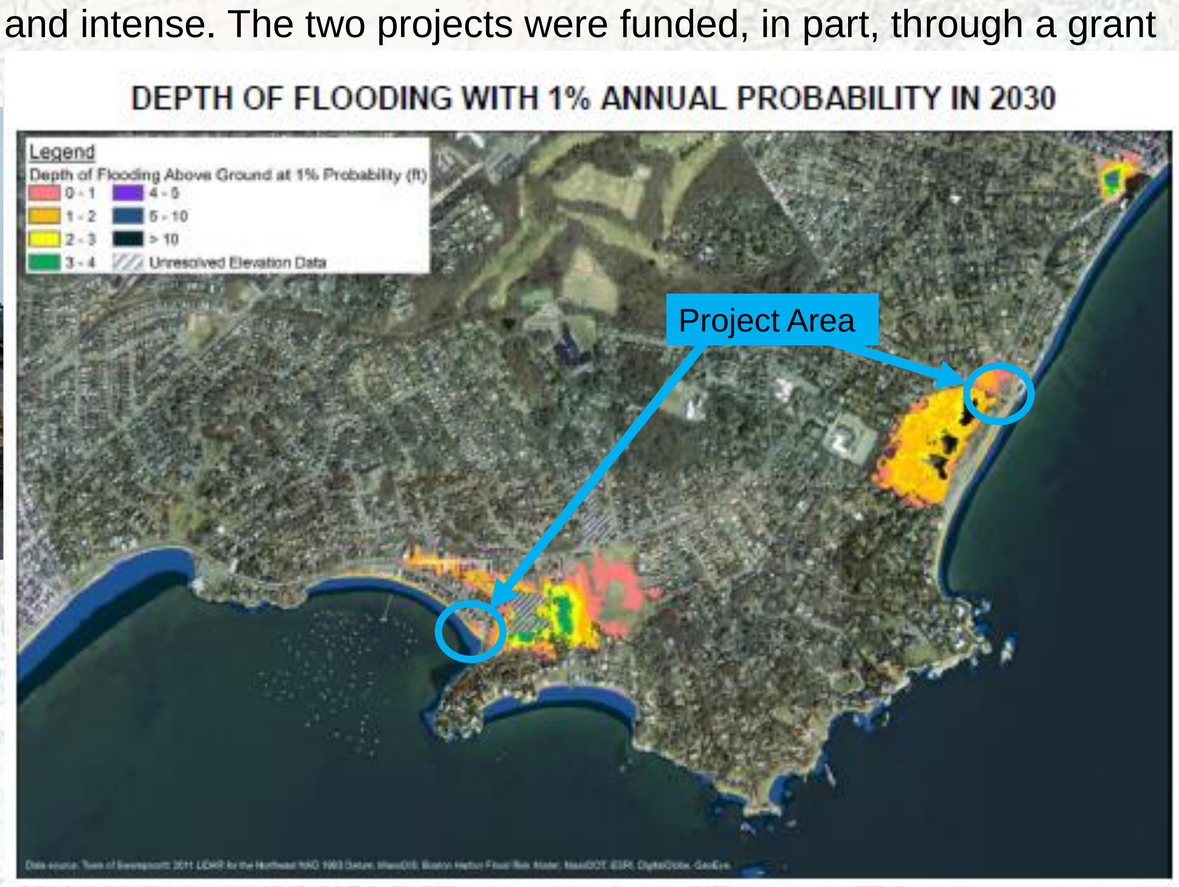
Cassidy Park Beach and Phillips Beach Coastal Resilience Projects

General Project Description and Climate Impact

The Town of Swampscott has completed two coastal resilience projects at Phillips Beach and Cassidy Park Beach aimed at reducing near-term flooding along the coast as the Town continues to plan for longer term climate change adaptation strategies. The Town anticipates future flooding will worsen as sea level rise and storms become more frequent and intense. The two projects were funded, in part, through a grant from the Massachusetts Vulnerability Preparedness (MVP) program.

How will climate change affect Swampscott?

Climate change is predicted to raise the sea level along the coast of Massachusetts several feet by 2070 (MEPHT[1]). Severe storms with increased intensity are expected to increase Swampscott's susceptibility to coastal flooding. Impacts are already being felt, as the Town frequently has a lot of clean up following storm surge events similar to the one pictured above from 2018.



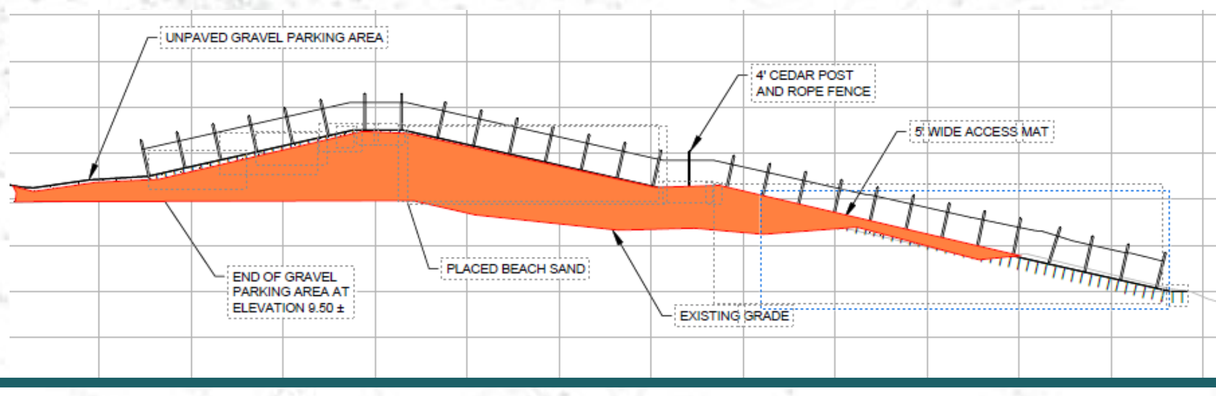
Predicted flooding event under 2030 conditions highlights the need to reinforce Cassidy Park and Phillips beaches in order to protect the inland portions of Swampscott

Cassidy Park Beach Accessway and project area before (top) and after (bottom) the completion of the project.

Cassidy Park Beach Enhancement Project

The Cassidy Park Beach project has nourished the existing vegetated dune by placing additional compatible sand and beach grass to increase the dune's capacity to repel and mitigate flooding from storm surge and wave action. The plantings not only anchor the sand, but also will attenuate the effects of wind erosion. Cedar and rope fencing has been implemented to discourage pedestrians from walking over planted areas. Furthermore, the accessway is no longer accessible to heavy equipment which will further protect the dune from deterioration. The image below is a schematic of how the existing sand dune elevation profile was adjusted during this project.

The dune nourishment project at Cassidy Park Beach (below). Highlighted is additional sediment and increased grading of the dune, along with handrails



Phillips Beach Enhancement Project

The Phillips Beach location begins at Ocean Ave and Shepard Ave and extends 300 feet to Phillips beach. The project includes the nourishment of the existing vegetated dune by placing additional compatible dune sand to increase the dune's capacity to repel and mitigate wave action flooding. The sediment of the dune will then be bound by the planting of additional beach grass and shrubs which will attenuate the effects of wind and wave action erosion. The accessway has been made ADA-friendly by the installation of seasonal access mats which also reduce dune compaction from foot traffic. These improvements will protect the dune from deterioration, make the beach aesthetically beautiful while also increasing access to the beach area for community members.

In addition, a new concrete plaza at end of Ocean Avenue has been constructed to add beach amenities for public use, including park benches, a granite beach marker, a drinking water fountain, a beach shower, and bike racks. These enhancement will improve the beach goer's experience and make Phillips Beach more accessible to all of Swampscott's community members.

Phillips Beach Accessway before and after enhancement project (above) and installation of new amenities (below).

Sources and Further Information

[1]MEPHT | Massachusetts Environmental Public Health Tracking.

Go to www.Swampscottma.gov for more information.

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MVP
Municipal Vulnerability Preparedness