

# **PLUM ISLAND DUNE STABILIZATION**

## **PROJECT SUMMARY**

- **Project Summary:**
  - Design work is performed by Vine Associates, Inc., of Newburyport, MA, David Vine, Principal.
  - Construction work is performed by NETCO Construction Project Managers, Inc. ([www.netcomanage.com](http://www.netcomanage.com)), David Lager, President. Richard Bishop, Project Manager.
  - Original project construction cost is \$130,000. Additional costs will eventually include design, other costs associated with construction, and costs to the town during construction.
  - Project funding is via a grant from the Massachusetts Department of Conservation and Recreation.
- **Project Objective:**
  - Protect municipal infrastructure including the water and sewer system and the road network on Plum Island.
  - The intent of the project is to protect the dune from additional erosion during the current winter storm season. Protecting the face of the dune protects the area behind the dune where the town water and sewer system and town road network is located.
  - Project is not a long term solution to Plum Island beach erosion.
- **Project Description:**
  - The work presently underway is to stabilize the existing eroded primary dune.
  - The work consists of furnishing and installing approximately 500 linear feet of sand filled biodegradable sand bags and adjacent sand filling. The bags are generally stacked with four rows placed adjacent to the existing dune.
  - The bags are 3 by 3 by 27 feet long and are stitched together. There is approximately 2000 tons of offsite sand that will be placed in the bags and for adjacent filling.
  - The project places 3 ton to 10 ton sand envelopes in four terrace levels to provide 13 vertical feet of dune protection.
  - Helical tie down anchors help hold envelopes in place during severe storms.
- **Sand Bag Material:**
  - Coir (coconut fiber) mats fabricated by NETCO into 3 to 10 ton sand envelopes and filled with sand.
  - Massachusetts Department of Environmental Protection requires the envelope material to be biodegradable.
  - Envelopes are comprised of three layers: two coir layers and an inner jute liner layer. Coir/jute works well with salt water.