



Florham Park engineering firm touts new technology in Barnegat Bay marsh restoration

By Joshua Burd
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Using the Bay-Saver Bags allows the plants to grow about five times faster than they would normally. - (Matrix New World Engineering, Inc.)

A Florham Park-based engineering firm is spearheading a project to restore a stretch of marshland along the Barnegat Bay, part a program that environmentalists hope will create a long-term, lower-cost solution for reversing coastal erosion.

The firm, Matrix New World Engineering, is part of a group seeking to restore the vegetation around Cattus Island County Park in Toms River by using special soil-filled bags that allow plants to grow while protecting them from disturbances such as wind. The bags, which resemble sandbags used during flooding events, are made from an organic burlap material that decomposes over time as plants begin to appear.

“It’s really a simple approach,” said Robert Fiorile, a senior scientist with Matrix who is working on the project. “It’s innovative, but it’s one of those things where some of the best ideas are simple ideas that you’re surprised haven’t been done already.”

Matrix is helping coordinate the project using the so-called Bay-Saver Bags developed by the Restore the Earth Foun-

dation, a nonprofit focused on restoring forest ecosystems. Their other partners include the Ocean County Department of Parks and Recreation and Montclair State University.

The group will install the bags on April 28, following a similar planting the day before in Maryland within the Chesapeake Bay watershed, Fiorile said. In Toms River, the planting area will comprise about one-tenth of an acre of marsh that has been eroded by “wave action” caused by boats and wind, he said.

A similar project conducted in Louisiana resulted in about 90 percent of the planting area being filled in within about 18 months, Fiorile said, though conditions there were different than in the mid-Atlantic.

Restoration projects for coastal marshes are not uncommon, but such efforts normally use exposed “planting units” placed directly into the soil, he said. They are often susceptible to waves and don’t provide the same structure for the plants as they grow.

“This is a method that provides for better success and faster growth,” Fiorile said. “The bags provide protection so you do minimize loss. That protection that’s added increases the number of plants surviving and the nutrient-rich material helps the plants grow faster.”

Using the Bay-Saver Bags allows the plants to grow about five times faster than they would normally, he said. It’s also a simple, cost-effective process that doesn’t require complex machinery.

The salt marsh that is being restored “serves as an important part of the food chain,” Fiorile said. It serves as habitat for both aquatic and land-based species, and having robust vegetation creates stable soil that serves as a home for organisms such as fiddler crabs and bugs, which serve as food for birds and other animals.