

Former MGP Site Required a Sediment Treatment & Erosion Protection Solution

The project is situated on a former manufactured gas plant (MGP) site located along the Collins Cove coast of Beverly, MA.



PROJECT DETAILS

Collins Cove Shoreline Revetment & Sediment Cap

Design Engineer: Arcadis, Inc.

Coastal Engineering Consultants: Arcadis, Inc.

General Contractor: Maxymillian Technologies, Inc.

LOCATION

Beverly, Massachusetts, U.S.A

PRODUCTS USED

Organoclay® Reactive Core Mat®

Triton® Marine Mattresses

The Triton® Marine Mattresses by Tensar® protect the underlying Reactive Core Mat®. This Massachusetts shoreline is now protected against severe erosion caused by weather and waves.

CHALLENGE:

Trying to maintain a system that will prevent loss of soils in a dynamic coastal environment is always challenging. As in most erosion control applications, the revetment is intended to protect the underlying geotextile. In this particular application, the underlying geotextile was Reactive Core Mat®, which is designed to sequester and treat contaminants within the soil.

Installation during winter months presented certain challenges, including weather conditions and icing. The design wave height from modeling was approximately five feet. Within a month of construction, the east coast experienced a later season storm that included waves at the design height.

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SOLUTION:

Triton® Marine Mattresses, manufactured by Tensar® Corporation, were selected for their proven performance in coastal protection, superior handling characteristics (for providing future access to the underlying Reactive Core Mats® for replacement, if needed) and superior aesthetics (compared to articulated concrete blocks). The owners and consulting engineer Arcadis, Inc., selected Triton® Marine Mattresses because the armor units could be locally constructed on shore prior to installation and because they incorporated Tensar® Uniaxial (UX) Geogrids by Tensar®, which have the strength and flexibility to armor the Reactive Core Mat® without damaging it.

RESULT:

The 600 Triton® Marine Mattresses performed as expected, and the revetment and underlying 25,000 square feet of Reactive Core Mat® sediment treatment layer remained intact, with no damage.

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