SMARTFEED™

Project Location:
» Weymouth, MA

Project Client / Engineer:
» Confidential

Contractor:
» Maxymillian Technologies

The Challenge:
» Remove contaminated, dredged sediments from harbor in a short time frame

The Solution:
» SmartFeed™ system conditioned dredged slurry at 3,500 gpm, 12-14 hours per day
» Geotube® containers eliminate need for additional effluent treatment

The SmartFeed™ chemical conditioning system for slurry dewatering was an instrumental part of an innovative approach for the successful remediation of a harbor along the coast of Massachusetts.

This project required a combination of mechanical and hydraulic dredging to remove sediments contaminated with metals. The SmartFeed™ system was used to inject polymers into dredged slurry containing contaminated sediments from the harbor; the conditioned slurry was then pumped into Geotube® containers.

The project was completed within a limited timeframe by dredging 12-14 hours per day, 7 days a week.

Prior to dredging, contractors installed a sediment curtain for turbidity control and removed the existing docks and piers as needed. Mechanical raking of the work area occurred prior to the use of a hydraulic dredge in order to remove material such as rocks and debris.

About 26,000 cubic yards of sediment were hydraulically dredged from the bottom of the harbor. Approximately 2,000 linear feet of pipeline conveyed dredged effluent from the work area to the SmartFeed™ system.

A temporary building was erected to enclose the SmartFeed™ system. The SmartFeed™ system filtered and treated the hydraulically dredged sediments at a rate of 3,500 gpm.

A liquid polymer was injected into the effluent, binding to the metal contaminants and causing

SmartFeed™ is a patent-pending technology of

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them to settle out of the water. This separation technology cleaned the water and removed the need for further treatment.

The decanted water from the Geotube® containers was pumped it into a detention basin, tested, and discharged into the harbor.

Impacted sediments from the Geotube® containers were blended with on-site soils and imported fill. More than 100,000 cubic yards of soils and sediments were mixed on-site and spread as backfill to achieve pre-construction grade.

Upon the completion of dredging operations, the contractor used barge-mounted equipment to install a stone cap revetment with a engineered textile underlayment.

The marina was returned to operational status by reinstalling docks and driving new piers. Restoration was completed by constructing a 12-acre naturalization zone covered with wetland seed mix and plantings.

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