

# Werowocomoco Living Shoreline Project Summary

Location  
37°24'39.00"N,  
76°39'29.83"W

Werowocomoco is located on Purtan Bay on the York River in Gloucester County, Virginia. The 264 acre property has about two miles of open water, tidal shoreline. The living shoreline project addressed erosion of the upland bank in order to protect valuable archaeology at the site and reduce sediment input to the Chesapeake Bay. It created a diverse coastal habitat capable of supporting aquatic, terrestrial, and avian fauna and affords shore and archaeological resource protection from storms and sea-level rise. This reach of coast has fetches to the west-northwest of 3.5 miles, west of 2.4 miles, and to the southwest of 2.8 miles which is a medium energy exposure.

This Living Shoreline project consists of two sills (152 feet and 170 feet long) with one window (25 feet wide). The southern sill was attached to an existing higher, continuous sill. Sand fill was placed behind the structures and planted with marsh grasses on a two foot grid. The upper elevation of sand fill was set at +5.0 ft MLW to interface with the eroding bank, and extends on a 12:1 slope to about mean tide level at the back of the proposed stone sills. Once established the project will provide an erosion-control marsh fringe and protect the base of bank from erosion.

This living shoreline project was designed, permitted, and bid for construction by the Shoreline Studies Program at the Virginia Institute of Marine Science. It was funded by a grant through the National Fish and Wildlife Foundation (#45177) with additional funding by Virginia's Department of Conservation and Recreation's Water Quality Improvement Fund (WQIF-2016-03). Construction of the project began in March 2016 and was completed in May 2016 by Coastline Design and Construction, Inc. of Gloucester. Grasses were planted by volunteers in May/June 2016. Approximately 15,000 ft<sup>2</sup> of marsh was created. The construction of the Living Shoreline project resulted in the reduction of 3060 lbs/ft/year of sediment, 0.7 lbs/ft/year of total phosphorus, and 0.9 lbs/ft/year of total nitrogen entering the Bay through upland and marsh erosion. Logging mats and filter cloth were placed along the 1,100 foot access route to mitigate the effect of the weight of the trucks bringing supplies on potential archaeology at the site. Goose fencing was installed to protect the marsh grass plugs from geese.

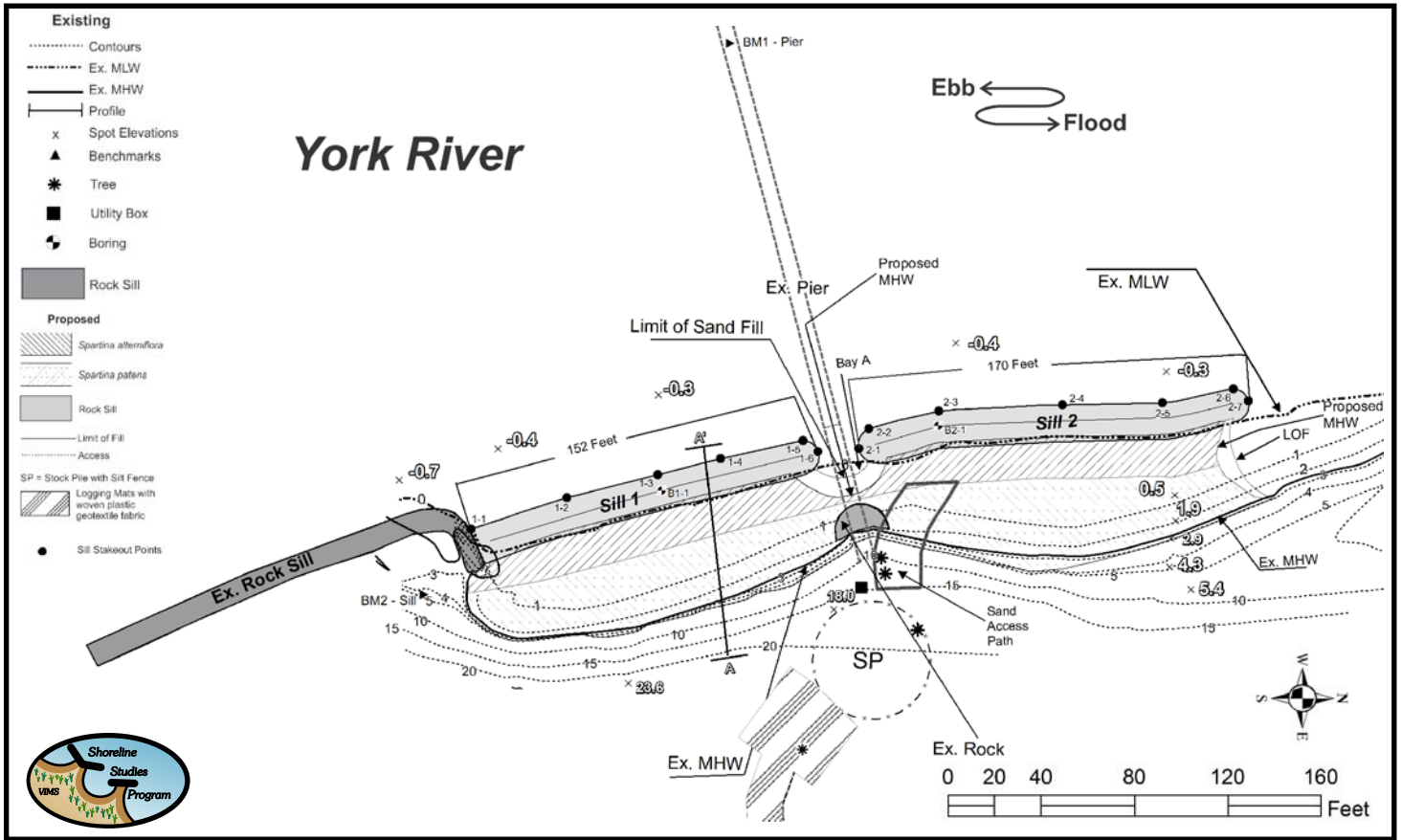
## Pre-Construction Shoreline



## Post-Construction Shoreline



# Design Planview



# Design Cross-Section

