LIVING SHORELINE CASE STUDY

Shoreline at 30 Hubbard Park showing failing wooden bulkhead and severe erosion. © Bill Shadel/TNC

Red Bank Private Residence

The primary goal of this project is to restore the shoreline using natural and nature-based features rather than hardening the shoreline.

The residential property at 30 Hubbard Park is situated on the Navesink River in Red Bank, NJ. In the 1970s, a wooden bulkhead was installed well above the high tide behind a sloping beach and wetland. Since then, the shoreline has been eroded significantly by storm-driven waves and the bulkhead is now failing. A typical high tide now reaches much further inland—far past the old bulkhead toward the driveway—and the sandy beach has eroded away completely.

The primary goal of this project is to restore the shoreline using natural and nature-based features rather than hardening the shoreline. The family was interested in restoring habitat for fish and shellfish. They also expect that a living shoreline will be more naturally resilient in the face of rising sea levels and more frequent, more severe storms.

This project started when Dr. Mary Lee contacted NJDEP about her failing bulkhead. When NJDEP suggested a living shoreline, she contacted firms specializing in their design and construction and the hired a firm to perform a site assessment, prepare a project design, and submit permit applications. The Lee family could have easily replaced their bulkhead, but they wanted to something longer lasting, natural and resilient and hope that other property owners in the region will learn from their example.

Overview

Living Shoreline Type
Marsh sill

Project Location
Red Bank, NJ

Project Lead
Dr. Mary Lee

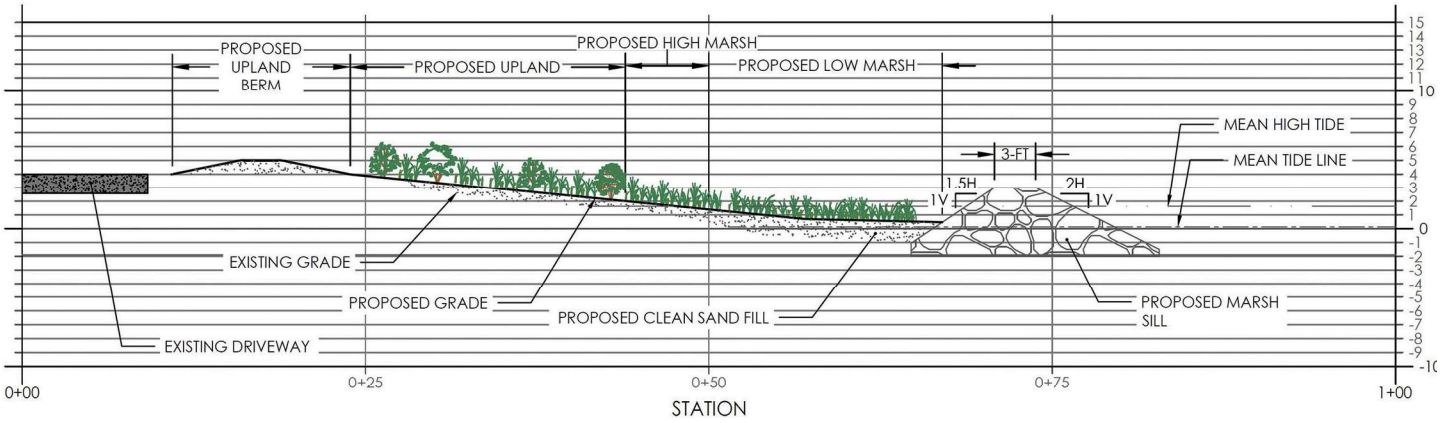
Point of Contact
Kelly Klein, Senior Project Manager for Princeton Hydro
kklein@princetonhydro.com

Land Owner
The Lee Family

Project Funders
The Lee Family, The Nature Conservancy

Project Partners and Contractors
Lee Family, Princeton Hydro, USFWS Partners for Fish and Wildlife Program, Enviroscapes Inc.

Red Bank: Private Residence Living Shoreline



Cross section view of the living shoreline: marsh sill, regraded sloping shoreline including low and high marsh. © Princeton Hydro

Living Shoreline Features

Marsh Sill: Constructed from rock to abate energy from wind-driven waves

Regraded Shoreline: Restore and stabilize a vegetated sloping shoreline, planted with species appropriate for low-marsh, high-marsh, and maritime upland.

Naturalized swale: Wide, shallow planted ditch that allows excess rainwater or tidal water to flow from upland to the river.

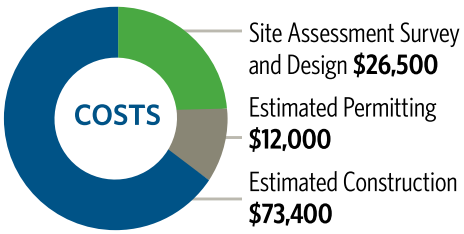
Upland berm: Constructed of soil in the upland and planted with lawn grass, the berm provides further protection of the upland from high river water. It also helps direct through the swale the water draining from upland to the river.

Project Status

The Lee family secured $10,000 from The Nature Conservancy's Living Shorelines Small Grant Program to help pay for site assessment and design, and the family continues to seek grants to defray the cost of moving forward with this project. The application for state and federal permits is delayed by a lack of information about the ownership of an adjacent property: a narrow parcel with a stormwater pipe. It is likely owned by either the Borough or the County, but historical records appear unavailable. Because the pipe's outfall area needs armoring to protect the side of the Lee's property and shoreline, and because NJDEP requires notification to nearby landowners, the project team is working to resolve ownership in order to move forward with the project.

Total Estimated Project Cost $111,900

(as of July 2019)



Project Champion

Dr. Mary Lee

Dr. Lee co-owns the property at 30 Hubbard Park with her siblings, Greg and Nancy. It was their childhood home. Their father, an engineer, designed and built the existing bulkhead in 1970. At the time it was constructed, the bulkhead was well above high tide in the upland area of the property. (More than 30 years later, the failing bulkhead now sits below mid-tide.) Having grown up on the Navesink River skiing, fishing, and swimming, the three children formed an early connection to the river and its wildlife, and this has continued through adulthood. Mary understood that, to avoid further loss of their property and increased flood risk, they needed to act.

The Nature Conservancy New Jersey

The Nature Conservancy in New Jersey
200 Pottersville Road
Chester, NJ 07930
nature.org/newjersey

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