Planting was completed in May 2017. Native plants take up excess nutrients in the water as it slowly soaks into the ground.

Stockley Center Stormwater Dry Pond Retrofit

Reducing pollution from stormwater runoff

Project Completed 2017

To protect water quality in Cow Bridge Branch, a stormwater pond was upgraded to a bioretention facility to keep sediment and nutrient-laden runoff from entering the tributary.

Background

During storm events, stormwater runoff washes sediment and pollutants into nearby waterways, which has negative effects on local water quality.

A stormwater pond was constructed on the site in 2000 but became ineffective, resulting in large quantities of stormwater being channeled to the tributary.

Project Objective

Now a bioretention facility, stormwater soaks into the ground where native plants, soil, and mulch can filter pollutants and capture sediment. Biochar, a type of activated carbon, was added to the top layer of soil to retain more nitrogen.

Additional improvements included stabilizing a failing hillslope, reconstructing the riprap inflow channel and forebay, and installing concrete curbing in place of a dilapidated wooden fence.

Timeline

Construction broke ground in December 2016, and completed in May 2017, with the planting of the bioretention area.

Project Contact
Dr. Emily Seldomridge
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Partner
Delaware Department of Health and Social Services' Stockley Center

Contractor
RK&K, Sussex Conservation District, Jim Passwaters

Budget and Funding Partners
The total cost of the project was $56,032. This included design, permitting, construction (materials and labor), concrete curbing for safety, and plants. Funding was provided by DNREC's Community Water Quality Improvement Grant (CWQIG 16-01), Delaware Health and Social Service's Stockley Center, and a U.S. Environmental Protection Agency grant.

INTERESTING FACTS

The Stockley campus is a residential facility for those with developmental disabilities that sits on 750 acres of state-owned land a few miles south of Georgetown. It is home to the headwaters of the Cow Bridge Branch, one of Delaware Inland Bays' least disturbed tributaries that flows into Millsboro Pond and then to the Indian River.

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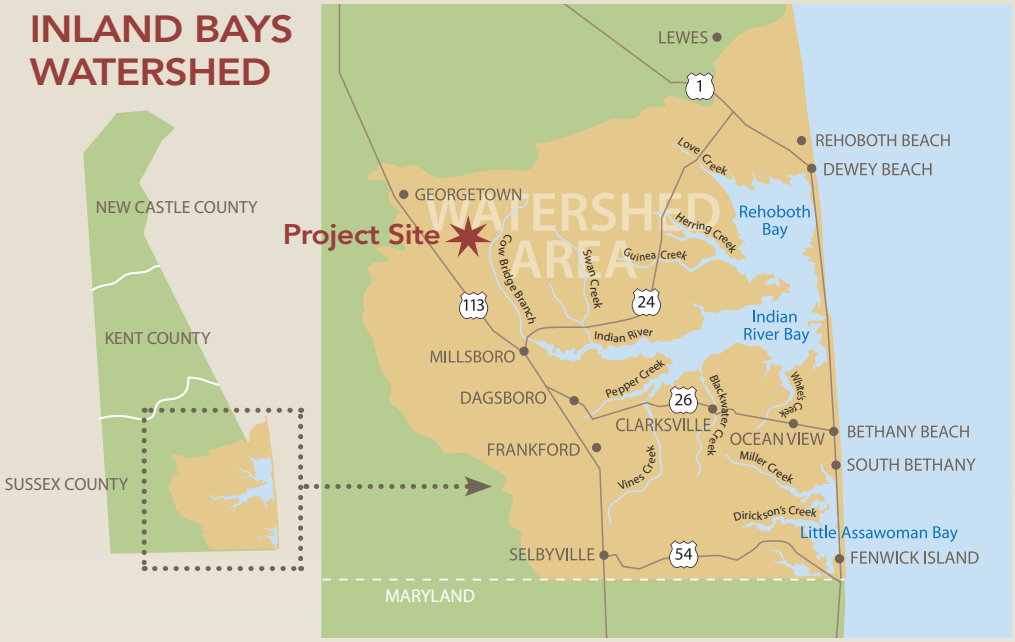

Outputs and Outcomes including Standard Metrics

- Reduction of 2.3 pounds/year of phosphorus, 17.1 pounds/year of nitrogen, and 514.8 pounds/year of sediment to the stream and Inland Bays
- Demonstration of the potential of bioretention ponds to decrease nutrient loads from stormwater runoff on State-owned properties, while improving the aesthetics of the stormwater facility
- Improved habitat for birds and wildlife

This project fulfills objectives outlined in the Comprehensive Conservation Management Plan (CCMP) for the Delaware Inland Bays-Stormwater Management:

Reduce nutrient contributions from stormwater to help achieve TMDLs (Total Maximum Daily Loads).

Construction was completed on the new bioretention area in December 2016

The reconstructed riprap inflow channel allows water to run into the area without eroding the hillslope

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The Delaware Center for the Inland Bays is a non-profit organization established in 1994 to promote the wise use and enhancement of the Inland Bays and its watershed. With its many partners, the CIB conducts public outreach and education, develops and implements restoration projects, encourages scientific inquiry and sponsors research. To learn how you can get on board with the bays go to **inlandbays.org**.