



GREEN STREETS | GREEN JOBS | GREEN TOWNS INITIATIVE

The Green Streets, Green Jobs, Green Towns Partnership (G3) aims to stimulate the green jobs market and enable families to work where they live and play. Small to mid-sized communities can boost their local economies and protect water resources through the use of watershed planning, design and construction of stormwater best management practices.



Center for Watershed Protection, Inc.

For a bioretention design for Civic Works' Center for Sustainable Careers new campus in Baltimore, MD.

Project Metrics



1 concept plan for green infrastructure improvements



1 parking lot to be treated with impervious surface removal



1 bioretention area to be installed



The Center for Watershed Protection (CWP) designed a bioretention cell at Civic Works' Center for Sustainable Careers (SCS) Campus located on Brehms Lane in Baltimore, Maryland. The bioretention area, located in the southeastern corner of the parking lot, will capture and treat over 630 sq. ft of stormwater from 0.24 acres of impervious area comprised primarily of the building and parking lot. The bioretention has been designed to be slightly "oversized", treating greater than the stormwater water quality volume (140%) improving resiliency by being able to capture larger storm events before reaching capacity. Additionally, the bioretention design utilizes an "upturned elbow", this slight modification to the underdrain has been shown to increase denitrification performance.

Sustainable Careers. The CWC program provides entry level training for individuals interested in the stormwater industry and is targeted to underserved communities. The design is being used numerous times in the training courses as part of the topography, laser level, and the introduction to reading a permitted plan. The design includes all of the common and bioretention parts and components and the bioretention practice itself will also be used as part of the maintenance and inspection lab activities.

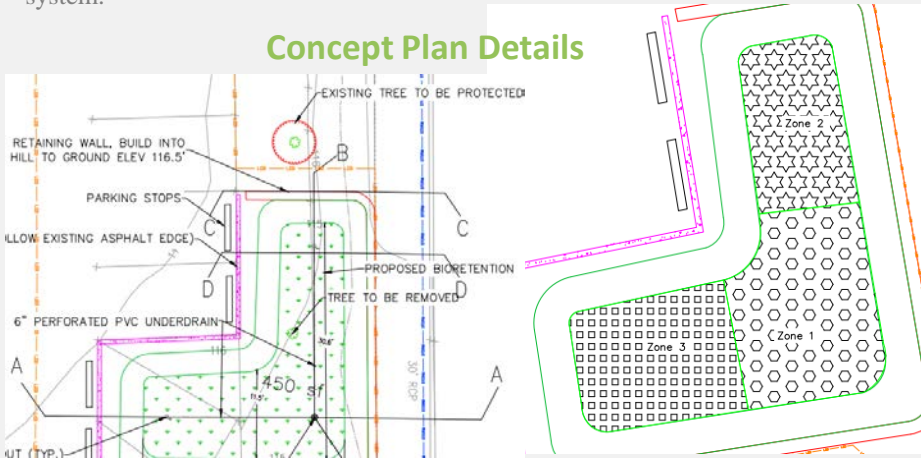
CWP Staff met with the landowner to review the designs and received full approval to move forward with the project as designed.

The bioretention design for the site was fully integrated into the delivery of the March 2020 Clean Water Certificate (CWC) training program at the Center for

PROJECT ELEMENTS

- **Concept plan** – The CWP developed a concept plan for the Civic Works Center for Sustainable Careers. This concept plan includes recommendations for impervious pavement removal and bio-retention areas.
- **Impervious pavement removal** – Rain hits impervious surfaces such as parking lots and roads, and because it cannot soak through, it instead runs off into storm drains or directly local waterways. The Civic Works' Center will replace impervious blacktop on the southeastern corner of the parking lot with a bioretention area.
- **Bio-Retention Areas**– These features filter, store, and reduce stormwater runoff, allowing it to infiltrate into the ground before it enters into the storm drain system.

Concept Plan Details



Year Awarded: 2019
Amount Awarded: \$16,209
Matching Funds: \$6,090

Before



Figure 1: Storm sewer manhole & overflow outlet location



Figure 2. Bioretention area from the south

SUSTAINABILITY & GROWTH: ADDITIONAL GREEN ACTIVITIES

The results of this project will continue to be used as part of Civic Works' delivery of the CWC program. This will enable numerous future participants to learn from and use the designs and once constructed, the practice will be part of their educational experience. Additionally, CWP works to deliver the CWC program nationally and the Civic Works project will be used as an excellent case study example of how a local organization can develop a robust entry level stormwater workforce development program.

The project is fully integrated into the Civic Works CWC program and will be inspected and maintained twice annually for the foreseeable future. The CWC program is ANSI accredited and has a strategy in place to continue to deliver the program in Baltimore City as well as other urban communities nationally. Once constructed, Baltimore City will be able to report the impervious area treatment metrics as part of its MS4 permit requirements.

Project Partners: Chesapeake Bay Trust, Civic Works Center for Sustainable Careers, Center for Watershed Protection, U.S. Environmental Protection Agency