Schenks Branch Tributary
Stream Restoration

Project Summary

The project involved the restoration of 840 linear feet of Schenks Branch Tributary, a stream in McIntire Park that runs through the Botanical Garden of the Piedmont (BGP). The restored section extends from the railroad right-of-way to the John Warner Parkway bridge overpass.

With a grant from the Stormwater Local Assistance Fund (SLAF) and supplemental funds from the City's Stormwater Utility Capital Improvement Program (CIP), the City partnered with the environmental engineering firm Hazen and Sawyer, the Virginia Department of Environmental Quality (DEQ), and the BGP to design and implement innovative techniques to restore the stream.

The project addressed severe erosion that was causing significant deterioration of the stream, sending excessive amounts of sediment and nutrient pollution downstream. Additionally, the deteriorated stream provided poor habitat for aquatic and riparian plant and animal species, and was largely inaccessible to the public.

Before

Why Schenks Branch Tributary?

As part of Charlottesville's natural stormwater conveyance infrastructure, Schenks Branch Tributary has an important role in stormwater runoff management and water resources protection. Prior to restoration, some of the unstable and eroding stream banks were as high as 12 feet tall and data collected indicated that 436,000 pounds of sediment was eroding from the stream every year. This severe erosion was causing significant downstream pollution, negatively impacting ecological function, and harming the surrounding habitat of plant and animal species. The project was designed to help reduce pollution, increase ecological function, improve habitat, promote educational opportunities, and provide better public access to the area.

Restoration

Restoration took six months to complete, from the fall of 2023 to the spring of 2024. The Schenks Branch Tributary design aimed to emulate natural, stable river systems. The design included features such as riffles, pools, cross vanes, j-hook vanes, toe wood, soil lifts, and a rock cascade. These features serve to reduce stream energy by slowing down and redirecting stream flow, and minimizing erosion and sedimentation while also providing habitat for insects and fish. Construction involved grading the steep banks of the stream, raising the stream bed and connecting it to a new floodplain, and realigning the stream into a more stable pattern. The work necessitated the removal of the existing vegetation and trees along the stream, but many of the trees were being undermined by the eroding stream banks and invasive plant species were prevalent. The City and BGP developed a revegetation plan that resulted in the planting of over 1,400 new native trees, shrubs, and herbaceous plants.

The restoration has helped the City meet regulatory requirements, improved the health of our local waterways, and enabled the public to access and enjoy a thriving natural area that has been seamlessly integrated into the Botanical Garden of the Piedmont.

Utilities
City of Charlottesville

CHARLOTTESVILLE
WATER RESOURCES PROTECTION PROGRAM