

Cedar Creek Streambank Stabilization

Date of Installation:

Phase 1: 2017, **Phase 2A:** 2022, **Phase 2B:** 2025

Location: Great Allegheny Passage at Cedar Creek Park, Rostraver Township

Design Features:

Phase 1: Emergency repairs to Great Allegheny Passage Bridge over Cedar Creek, poured concrete, water wheel foundation removal.

Phase 2A: Single log vane deflectors, stone-framed deflectors, root wads, rock cross vanes, modified mudsills, rip-rap, gravel bar removal, bank terracing/regrading, and riparian buffer plantings.

Phase 2B: Log framed stone deflectors, modified mudsills, single-log vane deflectors, root wads, log framed cross vane with rock throat, rock cross vanes, log and debris removal, riparian buffer planting, and trail resurfacing.

Client: Westmoreland Conservation District, Pennsylvania Department of Transportation (PennDOT)

Cost:

Phase 1: \$42,000; **Phase 2A:** \$97,673; **Phase 2B:** \$104,605

Project Partners: Westmoreland County Bureau of Parks and Recreation, Westmoreland Conservation District, Regional Trail Corporation, PennDOT, Pennsylvania Fish and Boat Commission, Phil Hay & Sons, Earth Shapes LLC., Ramsy Garage and Excavating LLC.

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Phase 1 Before:

Crews stabilizing the eroded foundation of the bridge.

Phase 1 After:

Concrete added stability to bridge foundation to minimize future erosion.

Project Specifications

This project consisted of 3 restoration phases.

In late summer of 2017, the 30-foot-high cut-stone bridge abutment that supported the Great Allegheny Passage trail over Cedar Creek showed severe erosion. Water from an old water-wheel upstream undercut 7 feet of the foundation of the bridge resulting in an unstable support structure.

The Westmoreland Conservation District acted swiftly to obtain permits, design, issue construction bids, and identify a construction firm to repair the bridge using over 120 yards of concrete to build up the foundation and provide streambank stabilization. Funds were acquired through the Regional Trail Corporation.

Phase 2A, in 2022, and phase 2B, in 2025, focused improving in-stream habitat and minimizing erosion by stabilizing several sections of eroding streambanks. In-stream fish habitat structures such as single log-vane deflectors were placed to improve water quality and encourage streambank restoration. Rip-rap was added to stabilize the deflectors and root wads.

A riparian buffer was included alongside the stream to decrease sediment flow into Cedar Creek. Trail resurfacing and regrading aided improvement of public access to the Cedar Creek Gorge Trail and the Great Allegheny Passage.

The final stage of phase 2B finished in May of 2025.

Benefits/Performance Measures

Phase 1 stabilized the stone pedestrian bridge abutment over Cedar Creek in an emergency effort. The bridge foundation was restored and re-opened to the public.

Phase 2A stabilized over 900 feet of eroding streambank from the confluence of the Youghiogheny River upstream to a pedestrian bridge that crosses over to other trails in Cedar Creek Park.

Phase 2B completed approximately 1800 feet of stream mitigation. This restored public access to the park's internal trail parallel to Cedar Creek. Additionally, approximately 2100 linear feet of trail was restored.



Phase 2A fish habitat structure: log-framed cross vane with rock throat centralizes stream current and stabilizes streambanks.

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Phase 2A Before:



Streambank erosion threatening the existing walking trail.

Phase 2A After:



Streambank is stabilized with the riparian buffer and mud-sills.

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Phase 2B Before:



Walking trail alongside the creek showed erosion.

Phase 2B After:



Streambank finished with riparian buffer and grass seed.