

Tinkers Creek Steam Restoration and Slope Stabilization Valley View, Ohio

Tinkers Creek and a severely eroding slope threatened critical dual FirstEnergy power transmission lines. URS provided multidisciplinary services including survey, geotechnical, geomorphology, landscape architectural, hydrological, permitting, and construction administration for the restoration of 1,000 lineal feet of a 100' wide stream and stabilization of a 100' height slope on Tinkers Creek in Valley View, Ohio.

The \$2 million construction project relocated the stream more than 300 ft to the north, to its historical location, to allow for the stabilization of the unstable slope. Stream restoration included an extensive analysis of a nearby reference reach to determine the stream width, radius, and profile. Stabilization of the stream bank was accomplished with native rock with joint plantings of willow and dogwood stakes. Stream design included the following design elements: rock vanes, rock cross vanes, stream riffles, log diggers to control high velocities as well as enhance habitat.

Stabilization of the 100' height slope is being accomplished by reconstruction from the toe up, needing more than 40,000 CY of fill. The completed slope at a 2.5:1 includes a drainage blanket for ground water and a naturally stabilized slope with compost and plantings.



Relocated to its location in the 1970's, the stream moved more than 300' from its position at the beginning of the project (see below construction photo). Native floodplain vegetation including trees and whip plantings are beginning to establish.



In stream log structures were imbedded into the shoreline to increase fish habitat, provide roughens in the stream, and armors channel.



The relocated stream and constructed rock vanes channel water towards the center of the stream, reducing erosion.