

## EXECUTIVE SUMMARY

### S.R. 2001, Section A01, Potter Co. – Rausch Rd over Kettle Creek Bridge Replacement Category J: Small Projects

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The S.R. 2001, Section A01(Rausch Road) bridge replacement project over Kettle Creek exemplifies the Pennsylvania Department of Transportation's core function of maintaining the Commonwealth's highway network by right-sizing the project scope in concert with FHWA's "Every Day Counts" initiatives and ensuring environmental stewardship. The existing bridge in Abbott Township, Potter County, about 90 miles northeast of Clearfield, provides necessary access to seasonal and permanent residents at this remote project location. Kettle Creek, an Exceptional Value stream, is listed as a Class A wild trout stream and is part of the wild brook trout enhancement program. These designations limited in-stream activities to between June 15 and October 1. The WBCM team designed Geosynthetic Reinforced Soil – Integrated Bridge System (GRS-IBS) abutments, the first of its kind construction for a PennDOT-owned bridge, to support an adjacent prestressed box beam superstructure. The new GRS-IBS abutments were constructed behind the existing abutments which served as scour protection and the stream diversion during construction. The reinforced mass behind the abutment face ensures minimal settlement and allowed the placement of driving surface aggregate instead of bituminous pavement. Innovative thinking ensured the successful execution of the project's construction in a short timeframe, in a pristine environment, with difficult access and limited availability of plant-mix materials due to the remote location. The GRS-IBS abutments and adjacent box beam superstructure allowed the bridge to be constructed in a 2-month window between July 4<sup>th</sup> and Labor Day at a 35% to 40% reduction in cost over a conventional bridge design.