

Executive Summary

JMT was tasked by PennDOT District 11-0 to use innovative accelerated bridge construction techniques to design a replacement structure for a severely deteriorated concrete arch structure over Wampum Run in Wampum Borough, Lawrence County, PA. The purpose of the project was to provide the community with a new bridge while minimizing the inconvenience to the traveling public caused by the lengthy 22-mile detour.

JMT proposed multiple alternatives considering cost, time to construct and ease of construction. PennDOT's preferred option was a modular 78 foot steel rolled beam structure built entirely with precast concrete components. The District's inaugural use of Ultra High Performance Concrete to seal the deck and approach slab joints without post-tensioning is an example of the innovation recognized throughout the design process. This material achieved superior strength and durability to bond the precast segments together for the expedited construction schedule and allowed the bridge to be safely opened to traffic the following day!

PennDOT's innovative bidding toolkit was utilized to ensure contractors bidding on the project would accelerate the project schedule. The winning contractor, Joseph B. Fay, bid nine days to construct the bridge and finished in seven, thus achieving an incentive for early completion. The residents of Wampum Borough were satisfied with the short construction period and very pleased with the aesthetics of the new bridge!
