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Client:
Cattaraugus County DPW

Client Contact:
Mark Burr, PE
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Completion Date:
Design – 2011
Construction – 2013

Construction Cost:
\$1,375,660 – Estimate
\$1,022,924.50 – Final

Key Personnel:
Gregory Hewitt, PE
James Frick, PE
Jeffrey Blank, PE

Categories:
HB01



DiDonato provided comprehensive engineering services for the replacement of the Ashford Bridge No. 24 on Thomas Corners Road over Buttermilk Creek. This project involved the removal of the existing structure and realignment and replacement with a new, longer structure and improvements to the creek to provide enhanced hydraulic characteristics through the new structure.

As a result of the preliminary studies, it was recommended that the existing a 60' single span, two lane structure on driven sheet pile abutments be replaced with an with a 112' center-to-center of bearing, single span, precast, pre-stressed concrete box beam on integral abutments and wing walls. In addition to the new structure, the stream channel was re-graded to repair the existing scour pockets and lined with heavy stone fill.

The structure is located at the bottom of a steep hill and at the beginning of a 90 degree turn which required significant roadway reconstruction at both ends of the project including a varying thickness integral deck for the vertical and horizontal curves required to meet current AASHTO Highway Design Standards. In addition to the on-site challenges, the structure is located downstream of West Valley Demonstration Project and required close coordination with the New York State Energy Research and Development Authority.

Services include reviewing borings, conducting surveys, preparing Project Initiation Report, development design and construction documents, administration during construction, and field inspection.

DiDonato provided final design and construction documents.

Main work elements included:

- Replacement of a 60', 2-lane span, on Thomas Corners Road over Buttermilk Creek
- Challenges included a 14% slope on the west approach, a 90° turn on the east approach and the confluence of Buttermilk Creek and Cattaraugus Creek Less than a ¼ mile downstream of the structure
- New structure is a 112', center-to-center of bearing, single span, precast, pre-stressed concrete box beam on integral abutments and wing walls
- Reconstruction of 590 feet of road to improved horizontal and vertical alignment and meet AASHTO standards for a design speed of 30 mph (Existing road was posted at 15 mph)
- Improvements to the creek for enhanced hydraulic characteristics through new structure and remove scour pockets