

Focus of this Issue: Box Culverts and Three-Sided Units

I-88 Emergency Bridge Replacement

In June, severe storms completely collapsed part of Interstate-88, a major traffic artery in Sidney, New York. The devastating storms left a 100-yard chasm caused by the rampaging Carrs Creek and destroyed four lanes of the highway.



Installation of first ConSpan section.

Originally, a temporary bridge was considered as the solution to avoid the typical three-year process required for design, contracts, and construction of a permanent bridge. With further investigations, however, officials concluded that a permanent precast concrete bridge installed on an emergency basis could be completed just as quickly and lead to a more effective long-term solution. In a push to find a quick culvert solution, the New York State Department of Transportation hired general contractor C.P. Ward, Inc., Rochester, NY under a Statewide Emergency contract to fast track construction of a concrete replacement structure.

NYS DOT officials originally gave a target date of early fall, but construction crews were confident the westbound side of the interstate would be opened by Labor Day weekend. To expedite the process, site preparation and construction began before completion of the design work. Crew members worked in two shifts, seven days a week in order to get “three years of work” completed in a single summer. Steve Phillips, General Superintendent for C.P. Ward, said it is incredible how much work you can accomplish working two twelve-hour shifts non-stop – the equipment never stops running. He credits the state for agree-

ing to work on a fast tracked T & M basis for their amazing completion of this project in 60 days. (The bridge collapsed around Memorial Day and the first lanes opened Labor Day – very fitting!) He further said that it wasn't only the DOT personnel who were extremely cooperative, but all the vendors involved in the work were very accommodating.

The site and weather were continuing problems. Well over 300 H piles had to be driven before the footings and stem walls could proceed. Streams continued to rise with every rain, making containment a problem. Weather was on occasion so hot the forms had to be iced to cool down the concrete pours. Another big issue was how to set the large, heavy precast units. C.P. Ward originally planned to use a track crane working down the middle of the stream bed, but none were immediately available. So they located a 500-ton hydraulic from Clark Rigging to set the pieces from outside.



Installation of precast units was part of 24/7 emergency construction cycle.

The replacement bridge consisted of 60 CON/SPAN® precast arch units, each with a 42-foot span, a 12-foot rise and five feet long. The CON/SPAN® Bridge System, a modular system of precast headwalls, wingwalls and arch units, could be prefabricated off site and shipped to the site for a fast installation. Sections were then lifted by crane and placed on pedestal walls, and nine feet of geofirm was used above the units to reduce the earth dead load, and therefore not requiring excessively thick

(cont. on page 2)

I-88 Emergency Bridge Replacement *(cont. from page 1)*

and heavy top concrete sections. The completed structure is 300 feet long, with 21 feet of fill between the top of the precast units and the roadway. The black stripes are 9" wide strips of butyl wrap that is applied as a joint sealer.

The project owner is the New York State Department of Transportation, contractor was C.P.Ward, Inc., and precast designer and supplier CONTECH Bridge Solutions. Kevin Giambrone, P.E., Area Engineering Manager for CONTECH supplied this story and the photographs.



Installation over surging water.



I-88 over Carrs Creek completed.

Box Culvert Installed Under Both NYS Route 7 and Historic Railroad Bridge

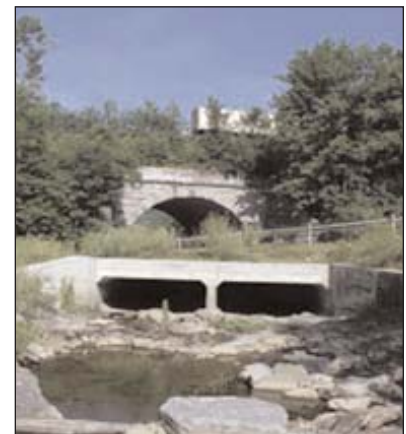


ment. The contractor used a short-boomed crawler crane to carry units into position. Stream water was diverted through a temporary pipe to allow the installation to proceed in the dry.

This twin cell box culvert, designed by the NYSDOT, Region 9, was installed to accommodate a tributary to Osborne Creek under existing NYS Rt. 7 in Collesville, NY. The culvert was installed in a serpentine alignment under this historic stone arch without disturbing it or compromising its structural capacity to carry modern day train traffic. The design included a pool at the outlet end, visible above, to provide an emergency source of water for fire trucks in this remote area. The arch, built in 1889, is a well known and treasured landmark in the Broome County, NY area.

Six of the 41 twin "V" bottom 10' x 4' box culvert units were "pie shaped" to conform to the double angled align-

Project credits:
Owner and Engineer, New York State Department of Transportation, Region 9; Contractor, Gorick Construction Co., Inc; Precast manufacturer and supplier of photos and story, The Fort Miller Co., Inc., Schuylerville, NY.



GRIA Turns to Precast Concrete for Solution



Pilot's view of project site



Installation of tunnel arch members

All photos by Clough Harbor

By the end of December, the tunnels were complete,



the utility buildings complete, but some of the light pole bases were still to be set. Nice project!



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PRECAST CONCRETE ASSOCIATION OF NEW YORK

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Congratulations to PCANY Professional Members Earth Tech (Thomas Cascino, PE) and Dewberry (Ronald Centola, PE), both recently shown on the Engineering News-Record Top 150 Global Design Firms, which lists the world's largest design firms.

Welcome to our newest Associate Member – Quinn Consulting, Inc. of Bladenburg, MD. We are pleased to have Kurt Damery back with us; he is their Sales Manager, and wants everyone to know they offer turnkey plant design/installation, automation/ electrical panels, microwave moisture control, dust collection equipment, Bayferrox pigment, maintenance contracts, refurbished equipment, and Standley Batch Systems.

Best Wishes to Rick Martel who will be JVI's new sales representative in the Northeast and Canada. (And just as he was slated to move into the PCANY Presidency!) Rick has spent 25 years in the precast industry, starting as a laborer, then welder, foreman, driver, and Project Executive, earning his degree in Construction Management from the University of Massachusetts along the way. We hope he can continue his association with PCANY in his future work.

PCANY Annual Meeting

Plan to attend the winter meeting on January 31, 1:00 p.m. at the AGC Headquarters Conference room in Latham, NY. It is time to elect new officers and board members, review PCANY's activities and finances, plan the year ahead, and hear some associate member presentations on new or changed products. If you are interested in serving, contact the Nominating Committee Chair, Jay Abbey, at Binghamton Precast.

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