RUSSELL STATION ROAD OVER RAND BROOK
Francestown, NH

CLIENT

Town of Francestown
Contact: Gary Paige, Road Agent
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LOCATION

Francestown, NH

PROJECT COMPLETION

November 2011

DESCRIPTION

This project involved the replacement of two corrugated metal pipe arches on Russell Station Road over Rand Brook categorized by NHDOT as a bridge due to its width. The existing structure was undersized and was overtopped and eroded during the estimated 50- to 100-year flood event in the spring of 2007. During this flood, significant portions of pavement and fill were washed out above and between the arches. Temporary repairs had been completed to allow the reopening of the road prior to the design and construction of a permanent replacement structure.

FEMA funding was secured with assistance from CLD and construction began in the fall of 2010. The replacement structure, completed in 2011, consists of a 46 foot waterway width precast pre-stressed box beam superstructure with cast-in-place concrete abutments and wingwalls. The project included a bypass channel with multiple corrugated metal culverts to allow the bridge to be constructed within a sheet pile-protected dry site. Seepage into the protected site was pumped to an upland treatment site, from which the pumpage flowed back to the riverine system downstream of the bridge site. The project implementation took approximately 90 days to complete.

The project struck a note that resonated with both practical construction needs and environmental stewardship. Great lengths were taken to ensure that the surrounding environment was affected as little as possible while still meeting the requirements for the FEMA Grant and handling the water flow in the brook with a native trout population and fish passage. Great care was taken in the diversion of the brook while construction was taking place to meet all the regulations the New Hampshire Department of Environmental Services permit as well as the surrounding community's desire to maintain sustainable ecology.

- **Engineering Study**
- **Hydraulic Analysis**
- **Preliminary Plans**
- **Environmental Permitting**
- **FEMA Grant Coordination**