

## Replacement of Bridge No. 364.15 (Structure 1100084) Carrying Locust Lane over Harry's Brook

Borough of Princeton | Mercer County, NJ



Van Cleef was contracted by the County of Mercer to provide design services for the replacement of Bridge #364.15 carrying Locust Lane over Harry's Brook. The project included the rehabilitation of an existing substandard 27' long multi-voiced slab beam bridge with a new steel multi-girder bridge. The design involved the superstructure replacement and partial substructure rehabilitation, along with widening of the existing bridge from 18' to 38'. Services included field surveys, environmental permits, hydrology and hydraulic design for compliance with NJDEP requirements, geotechnical borings and investigation, roadway widening and profile improvements, drainage design, and detailed coordination and design accommodations for the dead-end cul-de-sac at one side of the bridge, all designed per NJDOT (LRFD) standards. The design was advanced with the use of staged construction, maintaining one lane of traffic.

Design challenges included special stream diversion piping during construction, accommodating adjacent property owners, maintain access to the cul-de-sac during construction, and maintaining the existing stone walls along the stream embankments. Design also provided a cost saving to the County to salvage the substructure of the existing bridge, in lieu of a full bridge replacement.

### CLIENT CONTACT

Mercer County  
Engineering Department  
Trenton, NJ

### PROJECT HIGHLIGHTS

- ◀ Bridge Replacement
- ◀ Structural & Roadway Design
- ◀ Geotechnical Design
- ◀ Traffic Engineering
- ◀ Utility Coordination
- ◀ ROW Engineering
- ◀ NJDEP Permits