



Roberts
ENGINEERING GROUP LLC
Women Business Enterprise Certified

1670 Whitehorse-Hamilton Square Rd.
Hamilton, New Jersey 08690
609-586-1141 fax 609-586-1143
www.RobertsEngineeringGroup.com

Preliminary Design for Intersection Improvements at Headquarters Road Bridge and Sheephole Road

Prepared for

Mark L. Stout Consulting

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Our File No.: P1611

Mark L. Stout Consulting commissioned Roberts Engineering Group, LLC to evaluate alternatives other than the replacement of the Headquarters Road Bridge with a two-lane bridge. The Pennsylvania Department of Transportation has proposed the removal of the existing one-lane bridge and replacement with a larger two-lane bridge in order to accommodate emergency vehicles (PennDOT ID No. MPMS13716). Specifically, PenDOT has called attention to the movement of the largest vehicle in use by the Ottsville Volunteer Fire Company – Ladder 49 – which is currently unable to make the left-hand, westbound turn from Headquarters Bridge Road onto Sheephole Road in one continuous movement. The Delaware Riverkeeper Network (DRN) is seeking to preserve and rehabilitate the existing one-lane bridge rather than the replacement with a larger bridge.

Roberts Engineering Group, LLC has performed a field survey of the existing site conditions and prepared conceptual drawings which show the turning radii of the Ladder 49 Truck as well as larger aerial apparatus, on and off of the existing one-lane bridge. The analysis was conducted by computer aided simulations of vehicular movements from the south side of the bridge and turning west (left) onto Sheephole Road. Similarly, computer simulations were conducted for vehicular movements from the east side of Sheephole Road and turning south (left) onto the Headquarters Road Bridge.

The simulations confirmed that the alignment and layout of the existing bridge and intersection were not sufficient for the turning radii of the emergency vehicles. In order to accommodate the turning radii while maintaining the alignment of the existing one-lane bridge, approximately five feet of widening is required on the north side of the intersection at Sheephole Road. The north side of the intersection is heavily vegetated and has steep slopes that exceed 50%. To accomplish the intersection widening, a four to six foot high retaining wall or similar method must be constructed, and the land behind the new retaining wall regraded for a width of approximately eight feet. The height of the proposal wall will not exceed the height of the top of bank in the area in question. The regraded area at the top of the retaining wall will be restored with vegetation similar to existing vegetation. In addition, the wall is intended to be constructed in a color which will blend with the natural wooded surroundings.