

Bucks County
Brownsville Road over Neshaminy Creek
S.R. 2043, Section BBR
MPMS #78516

Project Purpose:

The purpose of the project is to provide a structure that is capable of efficiently and safely handling the existing and expected traffic while eliminating structural deficiencies.

Project Needs:

The project is needed to improve safety. The existing bridge is in a deteriorated condition and does not meet the current PennDOT design standards, creating a safety concern for vehicular traffic using the bridge.

- Active substructure deterioration is evident especially at the beam seats of the bridge. A large spall had occurred in the bridge seat of the near abutment beneath Beam 8 through Beam 10 which had partially undermined the bottom of two of the beams. A concrete bent/abutment face extension was installed at the near abutment as a temporary measure to repair this substructure deterioration. The existing stem wall and left wingwall appear to be leaning backwards.
- The current bridge is wider than the original structure that was replaced in 1956. At the far abutment, the original stone masonry stem wall was extended to support the wider bridge. There is a full height wide crack at the junction between the masonry wall and the concrete extension, and the crack extends into the bridge seat under one of the beams. The right wingwall of the far abutment has a full height vertical crack with associated severe scaling and delaminated concrete at mid-length.
- Other deficiencies are noted at the piers and include severe scaling of concrete along the waterline and spalled, delaminated or severely scaled concrete areas above the waterline. In addition, several bridge beams have small to large open spalls with exposed strands. The beams are prestressed concrete adjacent box beams and are not composite with the deck.