

PROJECT

Newcomer's Bridge
Frostburg, Maryland

CLIENT

CLS Cintec America
Washington, DC

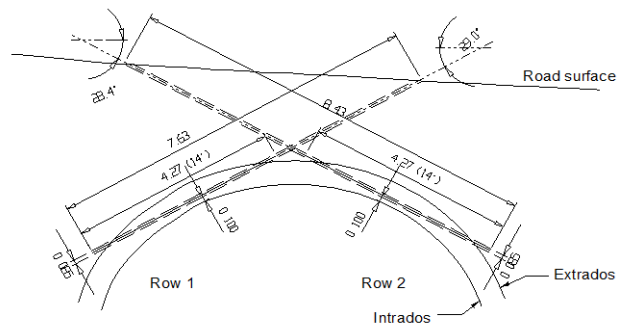


Newcomer's Bridge was built circa 1815

PROJECT DESCRIPTION

The work involved stabilizing and strengthening of the 185 year old bridge.

The major deficiency observed on the bridge in 1999 was the detachment of the spandrel walls, a common problem in masonry arch bridges. The spandrel wall on the south was clearly separated and the north wall was also beginning to separate as evidenced by a visible crack between the wall and main barrel.



The structure was strengthened by installing internal stainless steel anchors which provide tensile reinforcement at the weak 1/4 points of the arch

SERVICES PROVIDED BY ATKINSON-NOLAND

- A local surveying crew was retained to collect information on the geometry of the bridge. More than 600 three-dimensional points on the bridge deck and barrel were collected.
- Voids near the springing of the arch were repaired using low-pressure grouting techniques, and twenty small Cintec anchors were installed to stabilize the south spandrel wall.
- Sixteen Cintec anchors were installed on the south and north spandrel walls to tie the walls together with the arch barrel and make these elements act compositely.
- Four main ARCHTEC anchors were installed from the roadway of the bridge and designed to pass tangentially near the arch intrados at the quarter span. For efficiency, the anchors are required to pass as near the intrados as practical.



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