

Rehabilitation of Bridge 3-128

Rifle Range Road over Nanticoke River

(DeIDOT Contract T202407902)



Setting the Scene:

Bridge 3-128 is owned and maintained by DeIDOT and is located east of Bridgeville, spanning the Nanticoke River. The existing structure consists of two spans of concrete box beam girders supporting an asphalt deck. The structure is supported by a set of piles (technically described as a 'bent') and a bent cap that supports the two spans between the concrete abutments and foundations.

BR 3-128, built in 1969, is 71 feet long and carries both directions of Rifle Range Road. This bridge carries 1,079 vehicles per day, 11% of which are trucks.



Location of Bridge 3-128

Why is the bridge being worked on?

This bridge right now is safe, but is due for repairs. DeIDOT inspects bridges every two years. In the last inspection in 2024, the inspectors noted that the steel-encased concrete piles supporting the midspan of the bridge are showing substantial corrosion. If left untreated, over time, this corrosion will weaken the piles and DeIDOT may need to place weight restrictions on the bridge. Additional items from the inspection noted opportunities for safety improvements to the guardrail supports and for service life extension of the bridge through repairs to concrete spalls and cracks.

The bridge substructure, the part of the bridge that carries the weight of the bridge and everything passing on the bridge, was rated as "Fair" condition. A "Fair" condition rating is defined by Federal standard as "all primary structural elements are sound but may have minor section loss, cracking, spalling, or scour."



View of the South Bent Cap and the West Abutment



View of the North Bent Cap and the East Abutment

See reverse side for additional information



How do we protect from further corrosion?

Fiber-reinforced polymer (plastic) sleeves will be wrapped around the steel encased concrete piles. The piles will be covered from below the mud line to the bridge pile cap. Once the sleeves are in place a cementitious epoxy grout is poured to protect the existing surfaces from water and the air, stopping the corrosion process. This technique is successful for extending the life of several bridges in Delaware, and this is a commonplace bridge preservation treatment worldwide.

The photos below show examples of a recent bridge repair that used fiber-reinforced polymer sleeves for a similar repair of corrosion on steel-encased concrete piles.



View of full bent after repairs and fiber-reinforced polymer jacket placement on a recently repaired bridge



Close up view of fiber-reinforced polymer jackets on a recently repaired bridge

How will this impact my travel along Rifle Range Road and when is this taking place?

This project will be scheduled for the Fall of 2026. Depending on weather conditions, this project likely will be complete within 4-6 weeks after starting.

The bridge will be completely closed to traffic for the duration of the repairs. Eastbound motorists will turn right onto Tatman Farm Rd, then turn left onto SR-404 Seashore Hwy, then turn left onto Oak Rd, and arrive back at Rifle Range Rd. Westbound motorists will use Oak Rd, then turn right onto SR-404 Seashore Hwy, then turn right onto Tatman Farm Rd, and arrive back at Rifle Range Rd.

Who can I contact with more questions, and how?

Any questions, comments or concerns should be directed to DeIDOT Community Relations at 302-760-2080 or you may contact us by e-mail at dotpublic@delaware.gov. Please include the project name or contract number when contacting us to expedite our response to any inquiry.