ELR | PROJECT PROFILE



Harmon Creek Bridge Brooke County, West Virginia

Client: Triton Construction, Inc. Contact: Chris Apperson, (304) 755-1401

Key Personnel:

Faheem Ahmad, PE (PM) Nasser Al-Zoubi, Ph.D., PE Randy Lackey, PE Kunj Doshie, EIT Nick Vass, EIT Matt Papesh, EIT Eric Gwinn Gowtham Yakkaluri

Project Cost:

\$6.8 Million Construction \$750,000 Design

Year Completed:

October 2020 Construction November 2018 Design

E.L. Robinson's Role:

Prime Consultant Roadway Design Bridge Design Hydraulic Design Inspection WWW.ELROBINSONENGINEERING.COM

The Harmon Creek Bridge is located in Brooke County, West Virginia and was a three-phase project including erosion and sediment control, traffic control, demo and new construction. The bridge also consisted of six (6) girders with a cast-inplace concrete deck. ELR provided erection and demolition plans to accommodate the proposed structure under staged construction conditions. Plans were developed for demolition which was performed in multiple stages of the project, erection, overhangs, and temporary shoring. Demolition plans involved removing the existing concrete deck using slab buckets and jackhammers while maintaining clean conditions in Harmon Creek and the Panhandle Rail Trail. Additionally, the demo plans included the plans to remove the existing piers and abutments in a safe and timely manner. Erection plans involved the erection of the steel superstructure and optimizing the space available to assemble and lift the girder sections. The curved girder sections required additional analyses to ensure a proper lifting sequence, and each girder had appropriate pick points established. Shoring plans were created using reinforced soil placed next to the proposed abutments to stabilize the roadway while demolishing the existing structure. Lastly, overhang design plans were created to set the bridge overhangs.

Ultimately, the 365 foot long and 60 feet over the Harmon Creek set on piling was constructed in two stages. The steel superstructure has 8" thick cast-in-place concrete deck acting compositely with the steel girders. The girders are spaced at 7'-2", the deck overhang is 3'- 4" on both sides and the bridge has a maximum super elevation slope of 7.57%.

