



Construction Sequence 5: Girder Erection

Another construction milestone has been achieved on the Nice/Middleton Bridge Project, as girder erection activities are now underway. The MDTA has begun erecting girders on the Maryland side working towards Virginia. The girders are part of the superstructure (girders, roadway surface, trusses) of the bridge that sits on the substructure elements (piles, pile caps and piers). Once the girders are installed, the remainder of the superstructure will be put into place, including the bridge deck (which is the final riding surface) and safety features, such as the concrete barriers, signs, and markings.

There are 59 spans of girders on the project, 56 of which are comprised of concrete girders. There are 365 concrete girders totaling 58,760 linear feet. The girders are impressive at almost 8 feet tall, 175 feet long and weighing over 120 tons or 240,000 pounds each.

The three main channel spans are comprised of steel girders due to the geometry of the bridge. The steel girders stand as tall as 12 feet with a max weight of 55 tons. The main channel span clears the Potomac River by 135 feet and provides a navigational channel 250 feet in width. The three steel spans are 920 feet in total length while the entire bridge is 9,966 feet long.

The concrete elements utilize proven technology such as prestressed steel and self-consolidating high-strength concrete. The combination of prestressed steel and high-strength concrete allowed the girders to achieve the 175-foot lengths needed for the bridge. Utilizing the Potomac River's deep water access, the elements were carefully loaded onto barges over 200 feet in length and quietly transported to the Project site.

Because the new bridge is being built adjacent to the existing bridge, traffic impacts are moderate. Waterway users are required to observe a 6-knot speed limit within half a nautical mile north and south of the old bridge to keep workers and other waterway users safe.

To receive public and mariner alerts, please use this link:
nicemiddletonbridge.com.

The MDTA thanks the public for their patience as the new bridge is built.

MDTA has made all-electronic tolling permanent statewide, making E-ZPass Maryland even better for our customers. To sign up for E-ZPass, go to DriveEZMD.com.

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Placement of the girders requires four large cranes. Extensive planning and engineering was required to develop where and how the cranes will lift the girders into place.

The Maryland Transportation Authority (MDTA) is replacing the existing Nice/Middleton Bridge with a new bridge that will:

- Increase the vehicle capacity with four 12-foot-wide lanes, replacing the old bridge's two 11-foot-wide lanes
- Improve safety by installing a barrier separated median between eastbound and westbound lanes, adding two-foot shoulders and other improvements that meet current safety standards
- Eliminate safety issues at toll booths by replacing them with highway speed toll lanes
- Enable tall ships to pass beneath its 135-foot clearance



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