

Northern Concrete Pipe, Inc.

Bay City 401 Kelton Street Bay City, MI 48706 989 892 3545 989 892 3533 fax Clarkston 4750 White Lake Road Clarkston, MI 48346 248 795 2431 248 795 2463 fax **Grand Rapids** 2701 Chicago Drive SW Wyoming, MI 49519 616 608 6025 616 608 7807 fax

Lansing 5281 Lansing Road Charlotte, MI 48813 517 645 2777 517 645 7774 fax **Toledo** 3756 Centennial Road Sylvania, OH 43560 419 841 3361 419 841 3321 fax

Project Profile: I-75 Modernization Project Segment 3

Construction continues through the fall of 2020 on Segment 3 of the I-75 Modernization Project, which was bid through the Michigan Department of Transportation, (MDOT). This project involves reconstructing 5.5 miles of I-75, including service drives, ramps and interchanges. It also includes the replacement of 28 bridges. This project is located in Oakland County in the cities of Hazel Park, Madison Heights and Royal Oak.

Additionally, the project will include a 14-foot diameter segmental tunnel to provide storage and drainage from 8 Mile Road to 12 Mile Road to separate and meter freeway water from the local storm system to mitigate future flooding concerns.



In an effort to expedite construction, Northern Concrete Pipe, (NCP), was contracted to help design and build several 14-foot diameter manholes using 5000 psi

concrete, to be used for the vertical access shafts and as drop inlets to the segmental tunnel. Along with the precast risers, NCP also precast the shaft base slabs, and landing shelfs located inside of the shaft. For the John R Shaft, the 14-foot risers will total 31 vertical feet. A top slab will be placed on top of this access shaft and then access will be reduced to (2) 48" manhole risers which will be 25.6 vertical feet for a 57-foot deep access manhole.

14-foot diameter is the largest diameter precast pipe or manhole that NCP manufactures. The shelves are placed across from each other in the drop structure and are located to prevent water in the drop structure from free falling

more than 6-feet to prevent scour. Along with the landing shelves, there is a vertical baffle wall that was precast into all riser

sections. The heaviest section weighs over 28 tons. NCP is also supplying the manhole risers for the Gardenia Drop Shaft, which will be installed next year. This access shaft includes 14-foot risers which totals 65 vertical feet, before it transitions to a flat top and then (2) 48" risers which will be over 20 vertical feet for an 85-foot deep manhole. This structure will also have precast landing shelves located throughout the structure, and vertical baffle walls

Along with the precast vertical access shafts, NCP also supplied precast landing shelves and vertical baffle wall panels for a 19-foot diameter and (2) 17-foot diameter access shafts that were CIP.

Innovations is the hallmark of segment 3, including the contract to build this portion of the I-75 modernization project. Dan's Excavating, Jay Dee Contractors,







CA Hull, Bergmann Associates, AECOM and AJAX Paving are all partners in the design-build of this project. Using the design-buildfinance-maintain (DBFM) contracting model, the Oakland Corridor Partners team will be responsible for the cost of designing, constructing and maintaining this 5.5-mile stretch over a 30-year period. Similar to a public-private partnership (P3), this procurement method allows for the flexibility to fund the project with payments spread out over the duration of the contract. The cost of this 30-year agreement is \$1.4 billion, which includes \$630 million in design and construction costs.