



PROJECT DESCRIPTION

The proposed bridge replacement with a buried clear span structure required a maximum end area which also provided maximum hydraulic efficiency. MDOT determined an arch culvert would alter the desired high chord of the structure, which was deemed unacceptable. Further, a conventional reinforced flat-top three sided culvert couldn't bear the *design loading for the span length necessary.

LowSpan, a prestressed flat-top three-sided buried culvert/bridge was selected by AnLaan Corp. as it met the scope of the project. UPCPC provided the design and precast structure under the careful scrutiny of MDOT Bridge Design and MDOT Materials & Testing. LowSpan, a prestressed culvert, was the first of its kind built in Michigan.

Soils dictated channel sheeting and a pile (micro) with cap foundation. A temporary bridge was placed adjacent to the existing/ proposed bridge to maintain traffic. Precast wing walls and cast-in-place barrier walls completed the structure.

Precast installation and transverse post-tensioning of the spans were completed in 4 days. Grouting of precast to the foundation(s), backfilling, and course grading followed immediately. After construction of cast-in-place barrier walls, finished grading, paving, guardrail, and landscaping, the project was deemed completed and on time, within the Owners estimate, and to the satisfaction of Owner and Contractor.

LowSpan will provide the many years of service expected and experienced with precast concrete. With no bridge deck rehabilitation and an expected reduction in bridge icing, maintenance, if any, will be minimal.

LOCATION

Location: U. S. Hwy. 2 over the Ogontz River, Delta Co., MI

Date: Summer-Fall 2015

Owner/Engineer: Michigan Department of Transportation (MDOT 2015 March Letting Item #20)

Precast Producer: Upper Peninsula Concrete Pipe Co., Inc. (UPCPC)

Contractor: AnLaan Corp.

SCOPE

- Replacement of obsolete steel beam bridge with a new buried 3-sided culvert
- Hydraulically mandated maximum end area, 40' span x 10' rise x 48'-6" length
- *MDOT HL 93 MOD (60-kip single axle + 20% f.o.s.) loading