

CASE STUDY



PROJECT DETAILS

Project Name:

US Highway 51
Corridor Reconstruction

Location:

Woodruff, WI

General Contractor:

Musson Brothers

Product Manufacturer:

County Materials
Corporation

Date:

October 2019

Key Products:

Round and elliptical
concrete pipe and precast
concrete structures

Locally Produced Reinforced Concrete Pipe Keeps Vital Corridor Construction on Track

Solutions: Oversized pipe prevents washouts; elliptical pipe accommodates reduced workspace.

In April 2018, crews began construction on a 1.3-mile-stretch of U.S. Highway 51 between 3rd Avenue in Woodruff, WI to Tuckaway Road in Arbor Vitae, WI. Deteriorating road conditions and increasing safety concerns throughout the vital corridor, prompted the Wisconsin Department of Transportation (WisDOT) to contract Musson Brothers of Rhinelander, WI to completely reconstruct the corridor and its surrounding area, including curbs, sidewalks, roadway, lighting, water, sewer, and storm water management system. Musson Brothers relied on County Materials to supply more than 12,000 linear feet of reinforced concrete pipe and 188 precast concrete structures to rebuild the Northern Wisconsin corridor.

The updated roadway was expanded to five lanes with a center turn lane and an additional right-turn lane. A new storm water system was installed to accommodate for the additional runoff produced by the expanded roadway. Six ditch-to-ditch cross pipes were placed under U.S. 51 and several side roads. During the project, pipe was upsized to meet the increased runoff demand of the larger road and to allow larger flows from Arrowhead Creek and Little Muskie Creek to prevent washouts during major rain events.

Continued on page 2.



During the installation process, crews discovered a steel communication duct under a section of the roadway, which was unable to be relocated and directly in the path of the proposed storm water pipe system. Musson Brothers found a solution in the use of elliptical reinforced concrete pipe for this part of the project. Elliptical pipe accommodates flow capacity while running shallower than traditional round pipe, making it an ideal alternative in limited areas. County Materials quickly manufactured and delivered the elliptical pipe to keep the project on schedule.

"We never had to wait for any materials, the pipe and structures were always at least two days ahead of the install date," said Bill Erickson of Musson Brothers. "Even when we had to change our specs, County Materials stepped up to meet our demand."

County Materials' pipe is readily available and manufactured locally to fulfill any contractor's needs. The company's dispatch team assisted in meeting tight construction schedules by coordinating efficient product delivery in a safe, reliable manner.

The completed project necessitated 286 lineal feet of elliptical reinforced concrete pipe ranging from 24" to 58" in diameter and 1,682 lineal feet of round reinforced concrete pipe from 12" to 60" in diameter. Of the project's 188 precast structures, there were 16 end walls, 135 catch basins, 28 manholes, and 9 inlets.



After a year and a half of construction, the project was finished in fall 2019. County Materials' ability to fulfill infrastructure requirements efficiently and timely during the early stages of the project was vital to maintaining the construction schedule.



Even when we had to change our specs, County Materials stepped up to meet our demand.