

CASE STUDY



PROJECT DETAILS

Project Name:
Siggelkow Road Bridge

Location:
Madison, WI

Owner:
WisDOT

General Contractor:
Lunda Construction

Product Manufacturer:
County Materials
Corporation

Key Products:
Prestress Bridge Girders

County Materials Supplies Precast, Prestressed Concrete Components for Accelerated Bridge Construction in Southern Wisconsin

Solutions: Prefabricated concrete components and Accelerated Bridge Construction saves time

The Siggelkow Road Bridge, near Madison, WI, was the first constructed along the I-39 corridor that utilized Accelerated Bridge Construction (ABC) techniques. ABC reduces road closures, improves work zone safety, and minimizes environmental impact by using innovative planning, design, materials, and construction methods. The project was initiated by the Wisconsin Department of Transportation to provide a larger, more reliable bridge structure to meet increasing traffic demands.

County Materials manufactured and delivered 20 prestress girders, measuring 110 to 116-feet-long, 5 pier columns, and two pier caps. Weighing nearly 100,000 pounds each, the pier caps were hauled to the site using a specialized transporter.

Prefabricated components are an essential component in ABC. County Materials' precast, prestressed products saved valuable time by eliminating on-site forming, rebar tying, and concrete curing. A WisDOT representative said, "Prefabricated elements are often of higher quality than conventional field-constructed elements because the concrete is cast and cured in a controlled environment."

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The project required extensive cooperation between County Materials, Lunda Construction, and WisDOT. Lunda Construction did the formwork and fabricated the templates, and County Materials tied the rebar cages and executed the pour. The team used one of County Materials' pouring beds to cast the pier elements.

"[The pouring beds were] a big plus because you're working with a perfectly flat surface," says Roger Berg of Lunda Construction. "Extreme accuracy was critical with the precast units. We only had 5/16" tolerance [for matching the pier columns to the field poured footings], which is not much when you're dealing with big #10 rebar. Everything had to be right on the money."

Setting the piers, caps and girders only took a few days, and the project was completed on schedule. The accelerated construction of the Siggelkow Road bridge saved many hours of commuter time by reducing lane closures and delays. Additional bridges along this stretch will also utilize ABC.



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