



FAST FACTS:

Hybrid Composite Beam

PROJECT LOCATION:

Douglas County, MO

PROJECT NAME:

B0439

BRIDGE MATERIAL DESIGN OPTION:

Hybrid Composite Beam (HCB)

UNIQUE FEATURE:

First use of Hybrid Composite Beams in Missouri

PROJECT DESCRIPTION:

This project replaces a deficient 20' wide bridge over Beaver Creek with a new 28' wide (3@60) Hybrid Composite Beam bridge.

PURPOSE AND NEED:	The existing bridge was listed in serious condition, so a new, wider bridge was constructed.												
CONTRACT AMOUNT:	N/A												
ENGINEER'S ESTIMATE:	N/A												
BID AMOUNT:	N/A												
FINAL CONTRACT VALUE:	N/A												
WHAT WAS UNIQUE ABOUT THIS PROJECT?	This project demonstrates to the contractor the light weight and flexibility of the Hybrid Composite Beam. Only two trucks were needed to deliver 15 beams to a staging area near the project site, where they were filled with self consolidating concrete (SCC). After casting and curing, the beams were transported two per truck from the staging area to the bridge. The beams weighed 3,400 lbs. empty. Filled with SCC, each beam was 13,100 lbs. at erection. Using traditional methods, each girder would typically require its own truck. In addition, the HCB are continuous for live load.												
TRADITIONAL APPROACH:	Use a three-span prestressed concrete girder bridge. Beams for this bridge would each weigh 23,200 lbs.												
NEW APPROACH:	Use Hybrid Composite Beams, which, in this application, reduces the weight of each beam at erection by nearly half.												
BRIDGE DETAILS:	<table border="0"> <tr> <td>Span:</td> <td>(3@ 60)</td> </tr> <tr> <td>Rise:</td> <td>2.75' deep beams</td> </tr> <tr> <td>Width:</td> <td>28' Roadway</td> </tr> <tr> <td>Skew:</td> <td>Square</td> </tr> <tr> <td>Arch:</td> <td>N/A</td> </tr> <tr> <td>Headwall:</td> <td>N/A</td> </tr> </table>	Span:	(3@ 60)	Rise:	2.75' deep beams	Width:	28' Roadway	Skew:	Square	Arch:	N/A	Headwall:	N/A
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BENEFITS REALIZED/EXPECTED:	Unlike traditional members, Hybrid Composite Beams are anticipated to be maintenance free, requiring no paint and not subject to corrosion from chlorides.												
DURATION OF ACTIVITY:	96 days												
OWNER:	Missouri Department of Transportation												
TEAM/AFFILIATIONS:	KTU Constructors (as part of Missouri's Safe & Sound Bridge Improvement Project); Missouri Department of Transportation												
CONTACT:	<p>Stacy McMillan, PE Structural Liaison Engineer Missouri Department of Transportation 573.526.0250 stacy.mcmillan@modot.mo.gov</p>												

