FAST FACTS:

Rigified FRP

**PROJECT LOCATION:** Caribou, ME

**PROJECT NAME:** Farm Access Bridge

**BRIDGE MATERIAL DESIGN OPTION:** Rigified FRP

**UNIQUE FEATURE:** First roadway underpass utilizing FRP arches

**PROJECT DESCRIPTION:** A rigified FRP arch, which at the time of construction was the largest composite arch bridge in the world, was constructed to allow traffic to pass under a busy highway.
**PURPOSE AND NEED:** The new bridge allows farm equipment and local traffic to pass beneath the U.S. Route One Connector, improving safety along the 55 mph highway.

**CONTRACT AMOUNT:** Cost is embedded as part of a larger highway project.

**TRADITIONAL APPROACH:** Use precast concrete voided slabs.

**NEW APPROACH:** Employ 15” diameter FRP tubes to construct a composite arch bridge, expanding the previous boundaries of the technology to accommodate significant additional length.

**BRIDGE DETAILS:**
- Span: 54'-2"
- Rise: 12"
- Width: 55'
- Skew: 30 degrees
- Arch: 22 carbon fiber tubes, 15” in diam., spaced @ 2'-8"
- Headwall: Mechanically stabilized earth retaining wall with inextensible reinforcement straps and precast concrete facing panels

**BENEFITS REALIZED/EXPECTED:** Long lasting structure; reduced maintenance cost

**DURATION OF ACTIVITY:** 2011

**OWNER:** MaineDOT

**TEAM/AFFILIATIONS:** MaineDOT; University of Maine AEWC Advanced Structures and Composites Center; Advanced Infrastructure Technologies; Kleinfelder ● SEA; Stetson & Watson

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