



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 AEWCA Advanced Structures and Composites Center; Advanced Infrastructure Technologies; Kleinfelder • SEA; Stetson & Watson

CONTACTS:

Dale Peabody Research Engineer MaineDOT 207-624-3305 dale.peabody@maine.gov	Brit Svoboda President/CEO, Advanced Infrastructure Technologies 20 Godfrey Drive Orono, ME 04473 207-866-6526 www.aitbridges.com
Nate Benoit Project Manager Urban & Federal Bridge Program MaineDOT 207- 215-1590 nathaniel.benoit@maine.gov	Jonathan Kenerson Structural Bridge Engineer Advanced Infrastructure Technologies 207-866-6526 jon@aitbridges.com