FDOT Transportation Innovation Initiative:

FRP – Design Innovation

Fast Facts:

Concrete Filled Glass Fiber Reinforced Polymer Tubes

Carbon Fiber Composite Cable

LEE COUNTY PORT AUTHORITY
Southwest Florida International Airport

Project Location:	Skyplex Boulevard Southwest Florida International Airport Fort Myers, Florida
Agency:	Lee County Port Authority
URL:	http://www.fdot.gov/structures/innovation/FRP.shtm
Project Name:	Skyplex Boulevard Bridge No. 124142 FPID: N/A
Project Description:	New Bridge Construction
Project Purpose & Need:	Skyplex Boulevard is a half mile of new road connecting Daniels Parkway to Chamberlain Parkway allowing better access to a technological business hub.
Overall Budget/Cost Estimate:	$14 Million (Project Cost) $303,000 (Composite Arch Contract)

What was unique about this project?

This project is the first installation of AIT Bridges' Composite Arch Bridge System in Florida. This project features our widest structure to date with an out to out width of 109 feet. The lower half of superstructure is submerged in final conditions. Fixed Fixed condition acheived with Carbon Fiber Composite Cable end cages installed at both ends of each arch.

Describe Traditional Approach: Traditional approach would include a cast in place or precast arch structure with extensive water proofing techniques.

Describe New Approach: AIT Bridges' Composite Arch Bridge System utilizes advanced composite materials to provide lightweight, high strength, durable bridge solutions. The system consists of Concrete Filled FRP Tubes, FRP Decking and Headwall supported by Precast or Cast in Place Footings.

Top Innovations Employed: Utilization of Concrete Filled FRP tubular elements with an FRP Decking and Carbon Fiber Compsites Cable

Primary Benefits Realized/Expected: Longer Service life of the bridge without major maintenance

Project Start Date/Substantial Completion Date: 7/1/2018 - 12/15/2019

Affiliations:

PE Designer:	Highspans Engineering
PE Consultant:	AIT Bridges
Construction Contractor:	Thomas Marine Construction
Construction Engineering Inspection:	Wright Construction Group

Project Contact:

Engineer of Record:
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