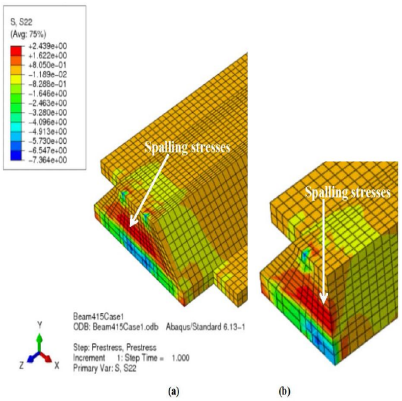

Implementation of a Prestressed Inverted T-Beam System with 0.7-inch Diameter Prestressing Strand on a Virginia Bridge

Description

Meta Fields

Category : Completed Projects
Group : Superstructure
Subject : Inverted Ts
Abstract : A Virginia Tech research team will work with the Virginia Department of Transportation (VDOT) to design a new bridge on U.S. 360 over the Chickahominy River using prestressed inverted T-beams and a reinforced, cast-in-place concrete topping. The team will optimize the design of two similar Minnesota bridges built in 2005. Using precast elements reduces the time needed to construct formwork, tie reinforcing steel and place concrete on site, thus cutting traffic congestion as well. The researchers will investigate the advantages of using 0.7-inch diameter prestressing strands in the prestressed girders to determine their use in the final design of the bridge. The reinforced cast-in-place topping of the inverted T-beam is deeper than typical adjacent member systems. This design will control or eliminate reflective cracking between members, providing more durability than structures with thin, unreinforced overlays. This system also will reduce maintenance costs compared to adjacent box-beams and voided slab systems
Key Words : Bridge construction; Bridge design; Bridge members; Cast in place concrete; Precast concrete; Reinforced concrete bridges; Reinforcing steel; Traffic congestion
Budget : 399678.00
Project Length : 30 months
Primary Sponsor Contact Info : Virginia Center for Transportation Innovation and Research 530 Edgemont Road Charlottesville, VA 22903 USA
Other Documents 0 Other Documents File : 4360
Project Starting Year : 2011
Project Completion Year : 2013

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