Project Title: C-06-37: Tool for Analysis of Early Age Transverse Cracking of Composite Bridge Decks

PIN: New Project
Responsible Unit: Region 7 Structures
Project Manager: Curtis, Robert H.

Project Goal:
Formulate a comprehensive a mechanics-based theory for the analysis of early age cracking of composite bridge decks subjected to hygro-thermal volume changes. Implement theory in a Finite Element (FE) computer program.

Actions Proposed:
1) Thorough review of relevant literature
2) Formulation of the computational framework
3) Implementation of the formulated theory in finite element software
4) Model calibration through comparison with experimental data gathered from the literature
5) Benchmark software through comparisons with NYS bridge deck case histories
6) Formulate possible recommendations to avoid or, at least, mitigate transverse cracking

Anticipated Work Products and Accomplishments:
A report documenting the theory behind the FE software with benchmark comparisons and recommendations.

An executable copy of the FE software.

Proposed Budget: $250,000