3D FE Modeling of a Long Span Bridge

Conceptualization

Drawings

Upper Chord at PP27

Lower Chord at PP27

Floor System

3D FE Model

PP 27 and Floor System

3D CAD Model

PP27

Floor System

Lower Chord at PP 27
Finite Element Model Development

Deck Truss FEM

Main Truss FEM

Important Details

Roller
Pin
Hangers
Pin
Roller

822'
411'
822'
411'
822'

Suspended Span
Details of the Swan Road Bridge FEM

Cross-section View of the FEM

Reinforcement

Elements of the Model

Model Statistics
No of DOF = 108243
No of Solid Elem. = 22940
Nor of Frame Elem. = 7636