Highway 60 Precast Prestressed Concrete Bridge Approach Slab

Project Information
Constructed: August-September 2006
Project Location: Highway 60 near Sheldon, Iowa
Project Size: 4,307 sq. ft. (2 approach slabs, ~77 ft long each)

Fabrication
Contractor: IPC Inc., Iowa Falls, IA
Number of Panels: 12 Typical Panels, 4 Skewed Panels
Panel Dimensions: Typical Panels: 14’ x 20’
Skewed Panels: 14’ x Variable Length (8’-10” to 25’-0”)
Panel Thickness: 12"

Construction
Installation Contractor: Dixon Construction, Correctionville, IA
Post-Tensioning Supplier: Dywidag Systems Int’l
Pavement Structure: Aggregate base trimmed to pavement crown
Longitudinal and Transverse Post-Tensioning:
Monostrand tendons, 0.6” Gr. 270 strand at 2 ft on center

Instrumentation
Completed by: Iowa State Univ./Center for Transportation Research and Education
Number of Instrumented Precast Panels: 8
Vibrating Wire Strain Gages: 16
Post-Tensioning Strand Meters: 7
Joint Movement Crack Meters: 8
Benefits of Precast Prestressed Concrete Pavement

✓ Expedited Construction
  Faster opening to traffic
  Weekend or nighttime construction

✓ Improved Quality and Performance
  Controlled fabrication conditions
  Proven performance of cast-in-place prestressed concrete pavements

✓ Reduced Slab Thickness
✓ Reduced Cracking and Number of Joints
✓ Ability to Span Voids and Non-ideal Base Layers
  Prestress can be adjusted to account for voids and “soft” underlying base materials

Where else has Precast Prestressed Concrete Pavement been used?

• Georgetown, Texas (2002)
  2,300 ft frontage road pavement along Interstate 35

• El Monte/Los Angeles, California (2004)
  248 ft of mainline pavement on Interstate 10

• Sikeston, Missouri (2005)
  Replacement of 1,010 ft of jointed reinforced concrete pavement on Interstate 57

• Red Dog, Alaska (2002)
  Truck apron for 200-ton mining trucks at Red Dog Mine

• LaGuardia Airport (2002)
  100 ft of taxiway pavement

• Lambert-St. Louis International Airport (2002)
  25 ft x 25 ft test panel for taxiway pavement

Contact Information

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