2013 Purdue Road School

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Doug VanSlambrook, Walsh Construction
Design Team

› Burgess & Niple
  › Design Management
  › Truss Pier Modifications
  › Approaches
  › Temporary Ramps/bridges
  › Inspection access

› Buckland & Taylor
  › Truss Design
  › Temporary Piers for Truss

› HC Nutting/Terracon – Geotechnical

› RWDI – Wind Review
Existing Bridge

Milton, KY

Proposed Bridge

Madison, IN

- Strengthen Existing Pier
- New Pier Cap
- New Pier
VIDEO OF CONSTRUCTION SEQUENCE
20' Water
60' Soil
Un-reinforced Caisson
Rock

Reinforced Pier Stem
Pier Strengthening

Encasement:
- Sheet Pile
- Boulders
- Shale

Drilled Shafts:
- Post tensioning to transfer load to shafts
- 3 drilled shafts each side
- Cap
- Boulders
- Shale

Soil Response:
- Contraction
- Scour
- Local Scour
- Boulders
- Shale
- $P_a$
- $P_p$
Pier Strengthening: Scour Mitigation

- Rip Rap with Filter
- Articulated Block Mat
- Jet Grouting
Pier Strengthening

1. Drill holes into existing unreinforced caisson
2. Grout Rebar into Caisson
3. Add Stem Reinforcement
4. 2’ thick encapsulation
5. Pier Cap Reinforcement
6. Form and Cast new Pier cap
Pier Strengthening
Video of Hole Investigation