EMERGENCY RESPONSE TO A BRIDGE COLLAPSE: A CASE STUDY
NINE MILE ROAD over I-75

Presentation Outline

• Project Overview

• Owner’s Perspective

• Design/Builder’s Perspective

• Summary and Lessons Learned

• Questions and Answers
NINE MILE ROAD over I-75

- Thursday - July 15: Explosion
- Friday - July 16: Bridge Removal
- Sunday - July 18: I-75 Temp Repairs
- Monday - July 19: I-75 Reopens
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NINE MILE ROAD over I-75

Pre-Bid Communication

- 1 on 1 Confidential Meetings
- Alternative Technical Concepts
- Addenda
## NINE MILE ROAD over I-75

**Preliminary Engineering**

- Constraints
- Addenda
- Cost Estimate

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<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
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NINE MILE ROAD over I-75

Pre-Bid Focus

2009

JUL

AUG

SEP

OCT

NOV

DEC
NINE MILE ROAD over I-75
Pre-Bid Focus

- Geometric Constraints = Steel
- Cost a Concern
- Historically Long Steel Lead Times
- Fabricator and D/B Worked Hand-in-Hand
- Competitive Cost
- Unbelievable Schedule
NINE MILE ROAD over I-75

Bid Letting

- Bids Opened on September 30, 2009
- Only 5.7% over Engineer’s Estimate

<table>
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<th>Bid Results</th>
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NINE MILE ROAD over I-75

Post Letting Communication

“No, it’s not the Parthenon, Billy. It’s Detroit’s Nine Mile bridge ruins.”

MDOT

U.S. Department of Transportation Federal Highway Administration

100th Annual Purdue Road School

A great Indiana Tradition
2009

JUL

AUG

SEP

OCT

NOV

DEC

NINE MILE ROAD over I-75

Project Start Up

- Award on 10/07/2009
- Structure Study Submitted on 10/12/2009
- Steel Design, Load Rating, Shop Dwgs Submitted on 10/16/2009
- Shop Drawings Appv’d on 10/22/2009 and Fabrication Begins Immediately
NINE MILE ROAD over I-75

Substructure Design

- Steel Rebar Now Critical
- Change in Abutment Concept
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At-Risk Work

- Proposed Pier Construction
- Future Pier Foundation Piling
- Future Pier Sheet Piling
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Setting Beams

- Beam Setting on November 17, 2009
- Night Closures of I-75
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Superstructure

- Deck Cast in Cold Weather 11/29/09
- Heaters and Insulation Used
NINE MILE ROAD over I-75
Bridge Opens to Traffic!

- December 11, 2009
- Ribbon Cutting Ceremony Held Later
NINE MILE ROAD over I-75

Public Opinion

- Project Positively Received
- Use of Social Media by MDOT

MDOT Twitter Followers

- June: 682
- July: 854
- August: 1,031
- September: 1,160
- October: 1,296
- November: 1,454

MDOT Facebook Fans

- June: 70
- July: 121
- August: 195
- September: 269
- October: 342
- November: 414
NINE MILE ROAD over I-75

Lessons Learned

- Media Coverage
- Unanticipated Collapse Results in Successful D/B in Michigan
- Allowed Fast Delivery WITH Time to Plan for the Future
- Communication and Positive Attitudes Key
NINE MILE ROAD over I-75

Acknowledgements

Owner: MDOT

Designers: URS

Builders:

Mansell Associates

Walter Toebbe Construction Company

HIGH Steel Structures Inc.
NINE MILE ROAD over I-75

Questions?