Cass 113 – Lateral Bridge Slide Constructability Meeting Agenda

Wednesday, December 19, 2012

NE Wing 3rd Floor - Road Design Conference Room

10:00 am – 12:00 pm

10:00 – Introductions (Iowa DOT)

10:00 – 10:45 – Utah Lateral Bridge Slide Experience
(Michael Baker Jr., Inc. / Ralph L. Wadsworth Construction Co.)

10:45 – 11:00 – Cass 113 Project Details (Iowa DOT)

11:00 – 12:00 – Project Constructability Round Table Discussion

Cass 113 Constructability Meeting Notes 12/19/12

The meeting started at 10:00 AM

Jim Nelson introduced Michael Arens of Baker and Bryce Jaynes of Ralph L. Wadsworth.

Michael Arens, PE and Bryce Jaynes gave a presentation about the Utah experience with lateral bridge slides.

Jim Nelson gave a presentation of the Cass 113 project overview and preliminary details.

During the presentations there were questions and some discussion summarized below:

- Suggested to have a qualification process for the structural consultant designing the bridge slide plan for the contractor.
- Suggested using Dawn dish soap as a lubricant for PTFE pads rather than grease.
- Push/pull jacks were important for reversing the bridge if necessary.
- The benefits of sliding shoes were discussed. The sliding shoes allow for jacks to be inserted under the bridge diaphragm. The shoe versus jacking pockets was discussed.
- Independent jacks were recommended for each side of the bridge rather than linking the jacks.
- Consider a short test slide prior to bridge demolition.
- The SP requirement for 21 day age on the superstructure concrete could be problematic with the schedule and a strength requirement would be preferable.
- Detailed scheduling of the project was recommended so that the sub-contractors are "on-board" with the schedule at the time of bidding.
- Pile pocket concrete strength time frame was discussed. Contractor may want to be prepared to heat and could consider maturity. Otherwise adequate number of cylinders is important since the pile pocket concrete curing is on the critical path.
- Designer needs to check availability of HPC in the area. At this point was assuming it was not feasible.
- HPC 7 day wet cure was discussed.
- There was a question about paved shoulders and guardrail installation if it had been done before in that short of a timeframe. Keg Creek had 14 days for the critical closure and it was done but it was not known how long that operation took.

The meeting adjourned at 11:50 AM

12/19/12 Cass 113 Constructability Meeting

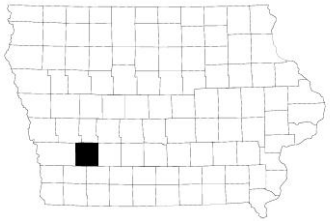
Name	Organization
Jim Nelson	Iowa DOT
Mike LaViolette	Baker
Ron Meyer	Iowa DOT
John Colle	DOT
ED KASPER	DOT
Brian Jacob	Cramer and Associates Inc.
Ron Otto	Iowa/AGC
Chris Cromwell	FHWA
Brent Phares	ISU
Ahmad Abu-Hawash	Iowa DOT
Dan Graves	Graves Const
Mark Freier	Godbersen-Smith Const
Curtis Carter	Iowa DOT
Dean Bierwagen	Iowa DOT
Mike Nop	Iowa DOT
Norm McDonald	Iowa DOT
Scott Nixon	IDOT
George Fearell	Iowa DOT
Duane Murphy	Murphy Heavy Const.
Brandon Murphy	Murphy Heavy Contracting
Robert Murphy	" " "
Loraine Summary	Iowa DOT
Jordan Muller	PCI
Jesse Harlan	A.M. Cohron & Son.
Andy Stone	United Contractors
David Evans	Iowa DOT-Bridge

CASS 113 - ABC

LATERAL BRIDGE SLIDE PROJECT

PROJECT LOCATION

- IA 92 over Small Natural Stream, 1.0 mile west of Jct. IA 148



EXISTING STRUCTURE

- 40’ x 30’ Steel I-beam
- Constructed 1930
- Reconstructed 1949
- Overlay 1968
- Retrofit rail 1992
- Overlay 1998

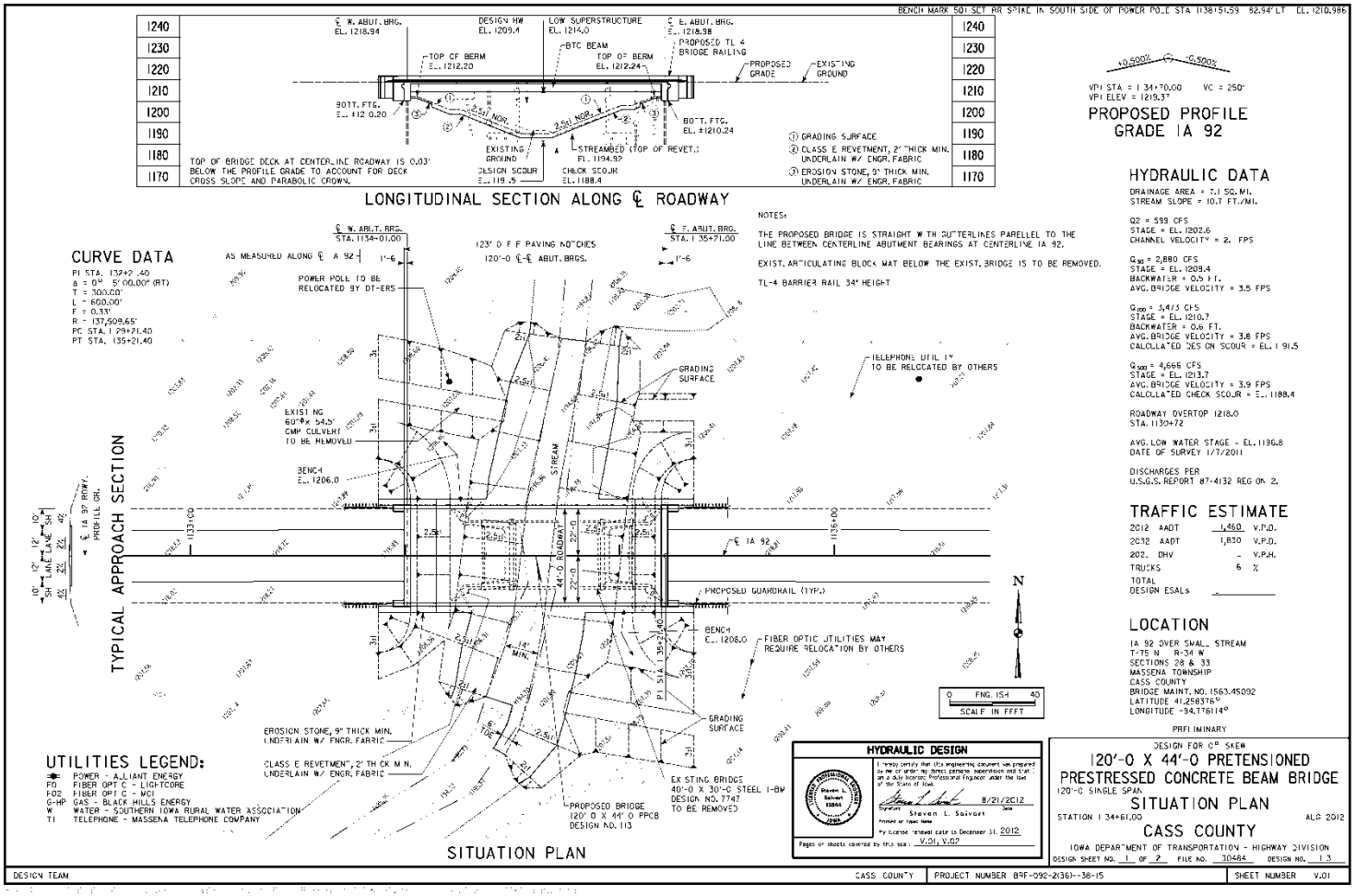
EXISTING STRUCTURE

- Structurally deficient – sufficiency rating is 38.2
- Bridge is not adequate for legal loads – posted "One truck at a time."

EXISTING UTILITIES

- North side
  - Overhead electric
  - Rural water
  - Fiber optic
- South side
  - Fiber optic
- West of bridge
  - Gas line crosses underneath roadway

PROPOSED REPLACEMENT



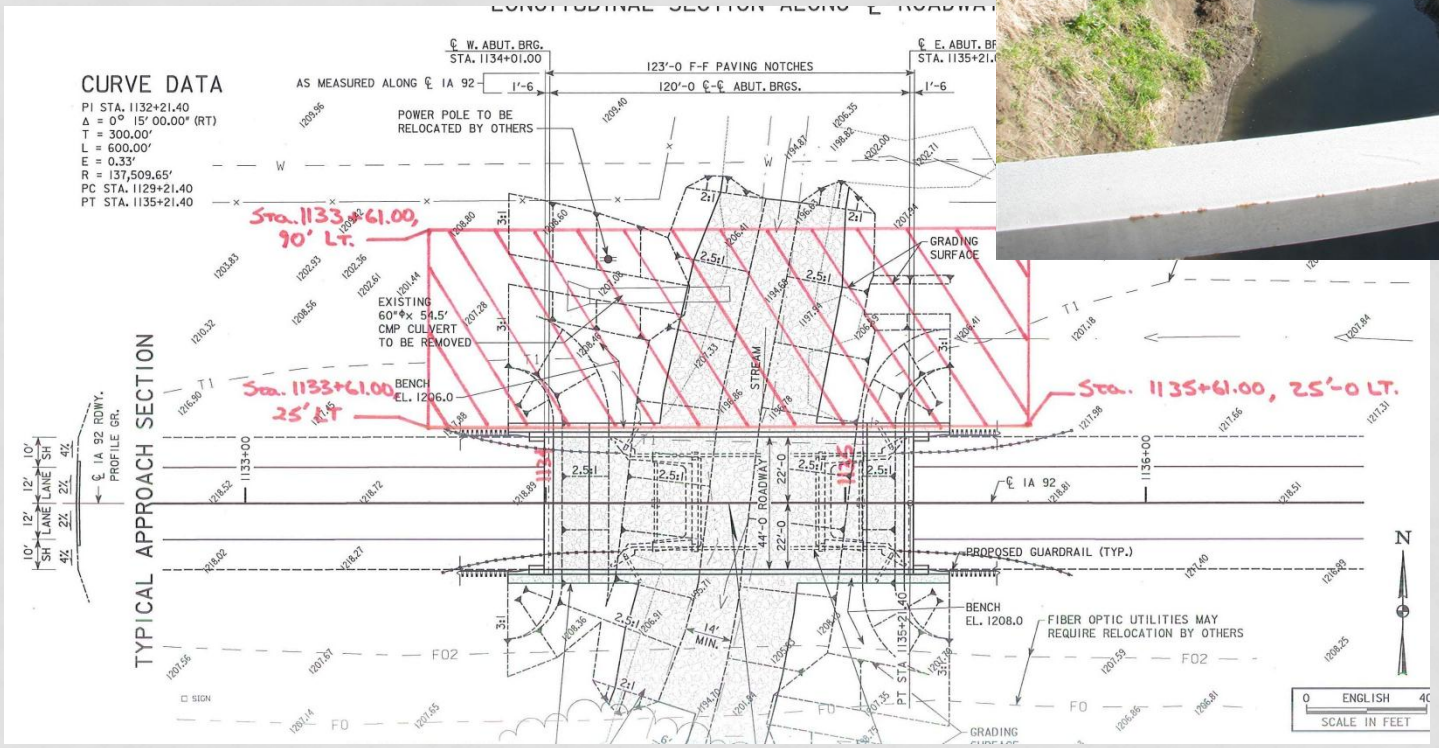
PROPOSED REPLACEMENT

- Concept is to detour traffic for duration of construction of replacement
- 7 miles out of distance travel for detour
- AADT (2012) – 1,460 w/ 16% trucks
- User costs
  - Indirect $437,000
  - Direct $15,000 (Co. Road Maint. & Detour Signing)

PROPOSED REPLACEMENT

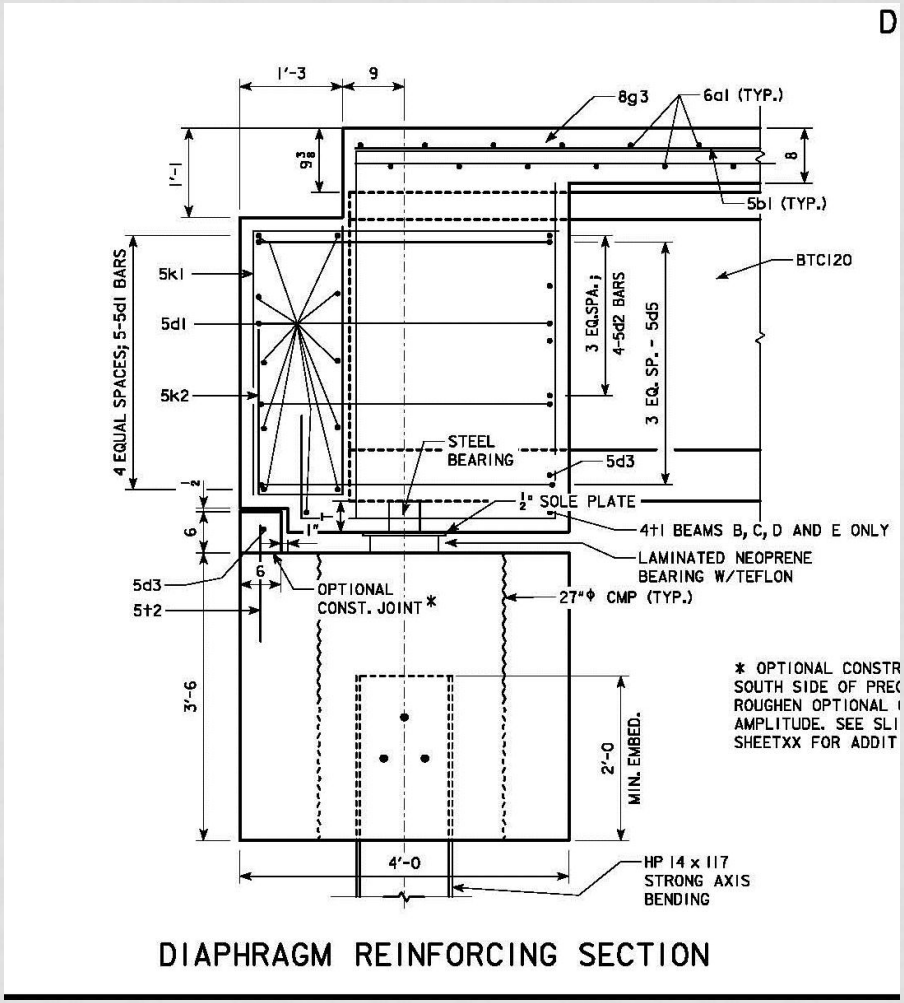
- Two Precast abutment footings on (7) HP14x117 piling each
- Four Precast wings on (2) HP14x117 piling each
- Precast superstructure constructed adjacent to existing bridge and moved into place.

PROJECT STAGING AREA



PROJECT STAGING AREA

SEMI-INTEGRAL ABUTMENT



PRECAST ABUTMENT FOOTING

PRECAST WINGS

SPECIFICATIONS

- Special Provisions for Prefabricated Bridge Move
  - Open to various sliding systems (e.g. rollers and PTFE sliding pads) and SPMT's
  - Some requirements are dependent on the methodology
    - e.g. - Twist is an issue when using SPMT's but may not be an issue when sliding on falsework onto precast footing.
- Developmental Specifications for Structural Concrete (4500 psi (31 Mpa) or greater)
  - Precast abutment footing – f'c = 5,000 psi

PROJECT SCHEDULE

- December – Constructability meeting
- December – January – checking QC/QA
- February 5, 2013 – Plan/specifications turn in
- March – Pre-bid meeting
- April 16, 2013 - Letting

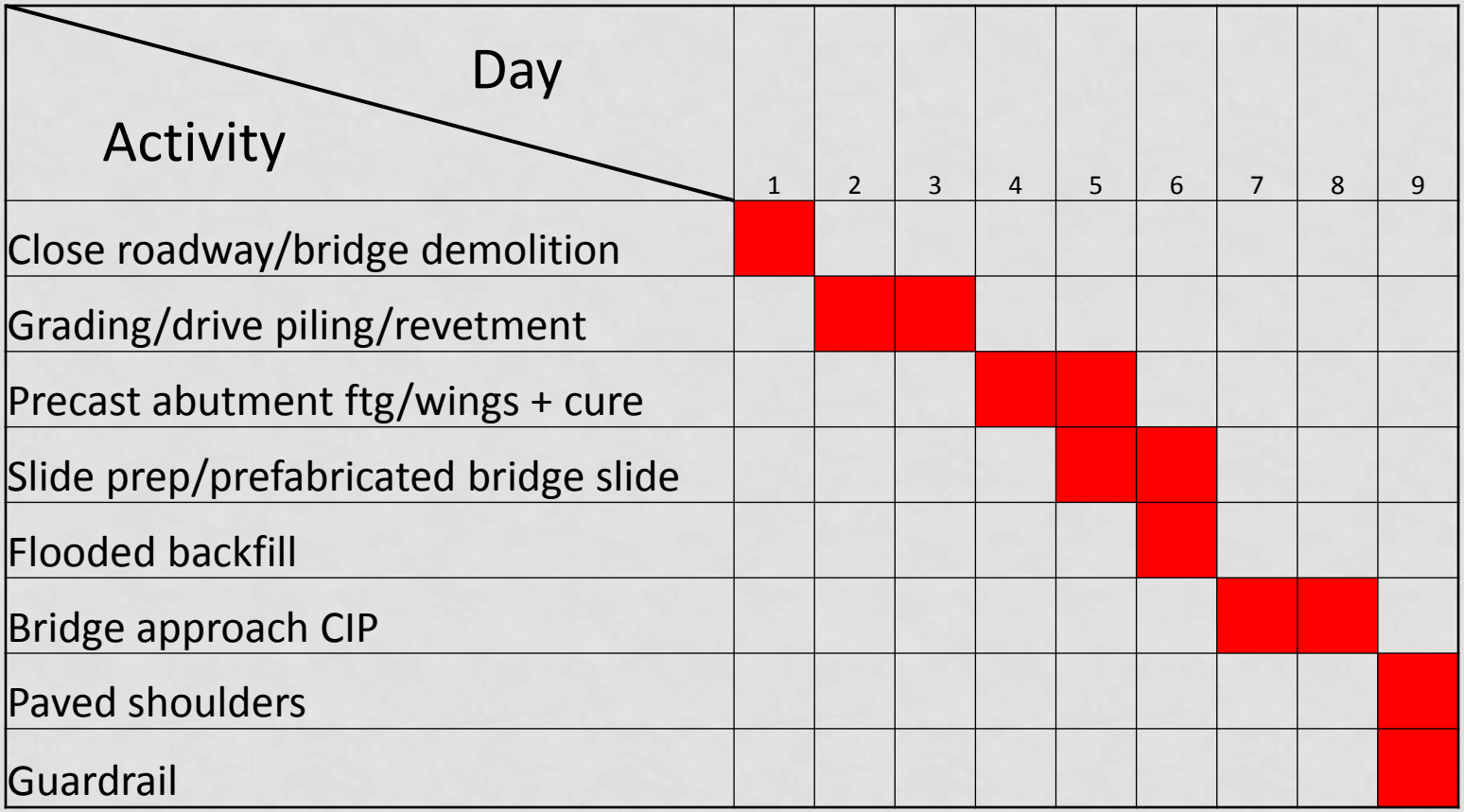
CONSTRUCTION SCHEDULE

- May 2013 – Contract award
- May, June & July – CPM Schedule, Shop/working drawings, PPC Beam production
- August-September – Bridge construction
- October – Critical closure w/ bridge slide

A+B BIDDING

- Traditional I/D = $6,000 per day for critical closure with 9 day maximum.
- Non-traditional I/D $20,000/$6,000 per day for critical closure with 9 day maximum.

CRITICAL CLOSURE – BRIDGE SLIDE



CONCERNS AND ISSUES

- Project construction engineering
  - Temporary bent
  - Sliding system
- Project details
- Weight of slide – 1,750,000 pounds
- Schedule
- A+B bid I/D