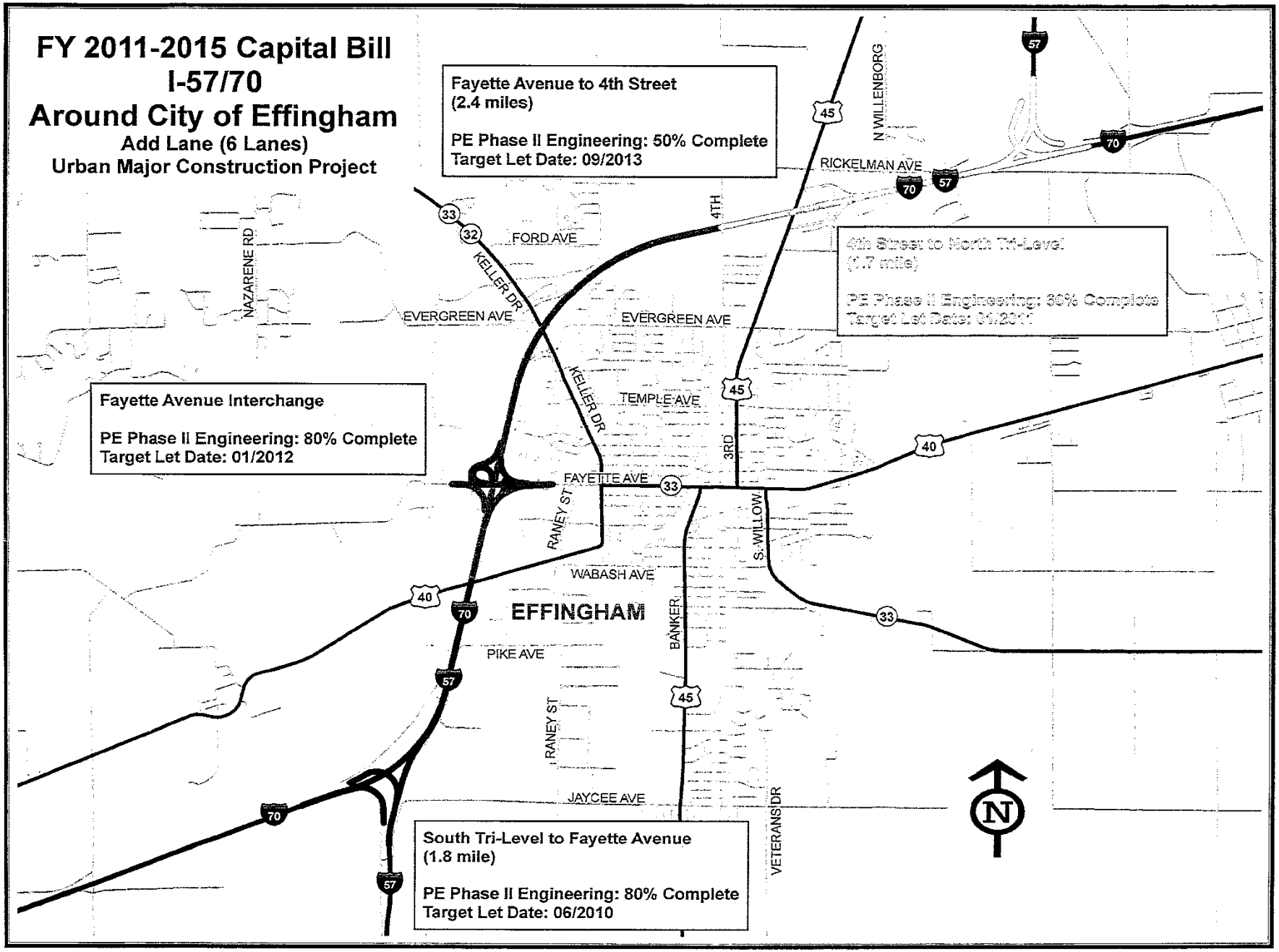
57/70 Reconstruction in Effingham County

Michael Fox – Supervising Field Engineer


FY 2011-2015 Capital Bill
I-57/70
Around City of Effingham
Add Lane (6 Lanes)
Urban Major Construction Project
Fayette Avenue to 4th Street
(2.4 miles)
PE Phase II Engineering: 50% Complete
Target Let Date: 09/2013
4th Street to North Tri-Level
(1.7 mile)
PE Phase II Engineering: 80% Complete
Target Let Date: 01/2011
Fayette Avenue Interchange
PE Phase II Engineering: 80% Complete
Target Let Date: 01/2012
South Tri-Level to Fayette Avenue
(1.8 mile)
PE Phase II Engineering: 80% Complete
Target Let Date: 06/2010
EFFINGHAM
N WILLENBORG
RICKELMAN AVE
4TH
FORD AVE
KELLER DR
NAZARENE RD
EVERGREEN AVE
TEMPLE AVE
3RD
FAYETTE AVE
RANEY ST
S WILLOW
WABASH AVE
BANKER
PIKE AVE
JAYCEE AVE
VETERANS DR
45
40
33
32
70
57
N

Why a project this size?

- Projected ADT of over 45,000 by 2015.
- Original CRC pavement in very poor condition and any additional HMA overlays would be considered cost ineffective.
- Any work done on original section had to be performed at night and was both dangerous and extremely costly.
- On and off ramps at Fayette Avenue and Route 45 interchanges were out dated and very dangerous.

Reconstruction Overview

- Adding 3rd lane from south tri-level to north tri-level and replacement with new CRC pavement.
- Reconstruction of the Little Wabash River Bridges on I-70.
- Reconstruction of the Fayette Avenue Bridge over I – 57/70.
- Reconstruction of the 57/70 structures over Route 45 and the CN railroad.
- Reconstruction of the Fayette Avenue, Keller Drive and Route 45 interchanges.
- Work will be let on 4 separate contracts.
- Plans prepared by Bernardin, Lochmueller & Associates from Maryville, IL.

Contract 74296

- July 30, 2010 letting.
- Awarded to McCarthy Improvement of Davenport, Iowa on August 18, 2010 at a cost of $45,780,262.61.
- Contract was executed on September 7, 2010 and work began on October 18, 2010.
- Work completed on September 17, 2013.
- Steve Miller was the Resident Engineer for the Department.

Project Highlights

- 2.1 miles of 6-lane Interstate pavement.
- Complete removal and replacement of the dual structures carrying I-70 over the Little Wabash River.
- Structural modifications to the south tri-level structures.
- Microsilica concrete overlays and other repairs to the flyover bridges.
- Extension of the subway tunnel structures carrying I-57/70 over TR 1354.
- Installation of highway lighting.

Project Cross Section

- 12” of lime stabilized or slag modified soil depending upon condition and some areas required processing to a depth of 24”.
- 4” of HMA stabilized sub-base. (BAM)
- CRC Pavement, 13”

Extended Life Concrete

- Utilized on all 4 sections of new interstate reconstruction.
- Special provision detailing parameters for concrete, 25 year design life.
- Freeze-thaw rated aggregate.
- Specifies minimum and maximum temperature range (50-90).
- Modifies cure period to 7 days on all pavement and shoulder concrete.
- HMA stabilized sub-base max. temp. of 115.

Traffic Management System

- System of interconnected sensors, message boards and video detection cameras.
- Specific traffic control supervisor for each contract.
- 25 changeable message boards all capable of being remotely controlled.
- 35 portable traffic sensors.
- 20 remote video cameras.
- Utilized in conjunction with warning signs up to 17 miles in advance of construction zone.


NO DELAY
NEXT
12 MILES
TUSCAN HILLS
WINERY
EffinghamWinery.com
10 Minutes - Exit 162


BE PREPARED TO STOP
BE PREPARED TO STOP


CAUTION
MERGING
TRAFFIC

Incentive Highlights

- Determination of thickness incentive payment was $126,930.83 or 104.02% (Maximum)
- Smoothness incentive payment was $21,000 with an average profile index of 20.51 in/mi.
- Many sub-lots had profile indices between 8 and 12 in/mi.


LODGING-EXIT 159


MULTILINE


FRANKLAND


Little Waba
River


SOUTH
57
Memphis
70
WEST
St Louis


NORTH 57 EAST 70
Chicago
Indianapolis
EXIT 92
57 SOUTH
Memphis
RAMP
45
MPH


EXIT 92
NORTH 57 EAST 70
Chicago
Indianapolis
57 SOUTH
Memphis
Little Wabash
River


Memphis
St. Louis


SOUTH
57
Memphis
70
WEST
St Louis


SOUTH
57
Memphis
WEST
70
St Louis


NORTH 57 EAST 70
Chicago
Indianapolis
EXIT 92
57 SOUTH
Memphis
RAMP
45
MPH

Contract 74293

- September 17, 2010 letting.
- Awarded to McCarthy Improvement of Davenport, Iowa on October 12, 2010 at a cost of $13,883,901.19.
- Contract was executed on October 26, 2010.
- Work completed on July 24, 2013.
- Rodney Pearson was the Resident Engineer for the Department.

Project Highlights

- Work includes the complete removal and replacement of the structures carrying Fayette Avenue over I 57/70 in Effingham.
- Relocation and re-alignment of all entrance and exit ramps at the Fayette Avenue interchange.
- Construction of a new drainage system, concrete median, PCC pavement, seeding, and pavement markings on Fayette Avenue.
- Includes two new signalized intersections at Fayette Avenue and Interstate 57/70.
- Construction of a 10’ wide multi-use path that will tie into a structure over Interstate 57/70.

Fayette Avenue Structure

- Complete removal and replacement of the existing structure carrying Fayette Avenue over 57/70.
- Replacing 3 pier design with single pier on spread footing setting on H piles.
- 50” web plate girder composite design, 234’-7” back to back of abutments.
- Utilized stage construction with a majority of the work being performed at night.

Project Cross Section

- 12” of lime stabilized sub-base.
- 4” of HMA stabilized sub-base. (BAM)
- PCC Pavement 10 ½”. (Jointed)
- Combination Concrete Curb & Gutter B 6.24.
- Concrete Median Type SB. (Dowelled)

Incentive Highlights

- Determination of thickness incentive payment was $29,765.81 or 102.0% (Maximum)
- Smoothness incentive payment was $6,000 with an average profile index of 25.08 in/mi.


57
NORTH
70
EAST
Champaign
Terre Haute


SOUTH
57
WEST
70


Hardee's
EconoLodge
CHINA BUFFET
Niemerg's
Family DINING
57
70


Champaign
Terre Haute


CHINA BUFFET
EconoLodge
EconoLodge
ALL ROOMS
$39.99 +TAX


CHINA
BUFFET
EconoLodge
EconoLodge
ALL
ROOMS
$39
99
+TAX


Hardee's
CHINA BUFFET


PETRO
70
57
70


DO NOT
ENTER


DO NOT
ENTER


VENTURE LOGISTICS


PETRO


JCT
INTERSTATE
57
INTERSTATE
70
57 SOUTH 70 WEST
Mt Vernon
East St Louis
57 NORTH 70 EAST
Champaign
Terre Haute


EconoLodge
ALL ROOMS Starting At $39.99 +TAX
LARGE TRUCK PARKING BEHIND HOTEL
Comfort Suites
Niemer's


Comfort Suites
Niemerg's


Frontage


JCT
INTERSTATE
57
INTERSTATE
70
SOUTH 57 70 WEST
Mt Vernon
East St Louis
NORTH 57 70 EAST
Champaign
Terre Haute


57
SOUTH
70
WEST
Mt Vernon
East St Louis


Convention
Center
EXIT 160

Contract 74299

- January 20, 2012 letting.
- Awarded to McCarthy Improvement Co. of Davenport Iowa on February 10, 2012 at a cost of $41,469,368.43.
- Work began on the project on March 5, 2012.
- Work completed on September 5, 2014.
- Steve Miller was the Resident Engineer for the Department.

Project Highlights

- 2.8 miles of 6-lane Interstate pavement.
- Reconstruction of portions of the Keller Drive and Fayette Avenue interchanges.
- Construction of a multi-use trail and 10’ wide 2 span 264”-0” back to back of abutments bridge over Interstate 57/70 east of Fayette Avenue.
- Installation of highway lighting.

Project Cross Section

- 12” of lime stabilized or slag modified soil depending upon condition and some areas required processing to a depth of 24”.
- 4” of HMA stabilized sub-base. (BAM)
- CRC Pavement, 13”

Incentive Payments

- Determination of thickness incentive payment was $184,677.42.
- Smoothness incentive payment was $73,550.00 with an average profile index of 20.88 in/mi.
- Many sub-lots had profile indices between 8 and 12 in/mi.


FAIRFIELD
INN & SUITES
Marriott


FLYING J
TRAVEL PLAZA
160
EXIT
CAT


PETRO
3.83 4.05
Iron Skillet


Omega


FLYING J
TRAVEL PLAZA


MENARDS
GOMACO
PS 2600


GOMACO
GOMACO
M-I FOLEY


CAT


PETRO
3.69
Upon Shifter
RAINTREE INN


POTTLE'S


SPEED LIMIT 45
SPEED LIMIT 45


PETRO


PETRO
Truck Stop


MENARDS


MENARDS

Contract 74295

- Contract was let on September 20, 2013.
- McCarthy Improvement was low bidder at $61,636,289.55, contract awarded on November 4, 2013.
- Contract was executed on November 13, 2013 and work began on March 10, 2014.
- Only contract to use working days, 255.
- Steve Miller is the Resident Engineer for IDOT.

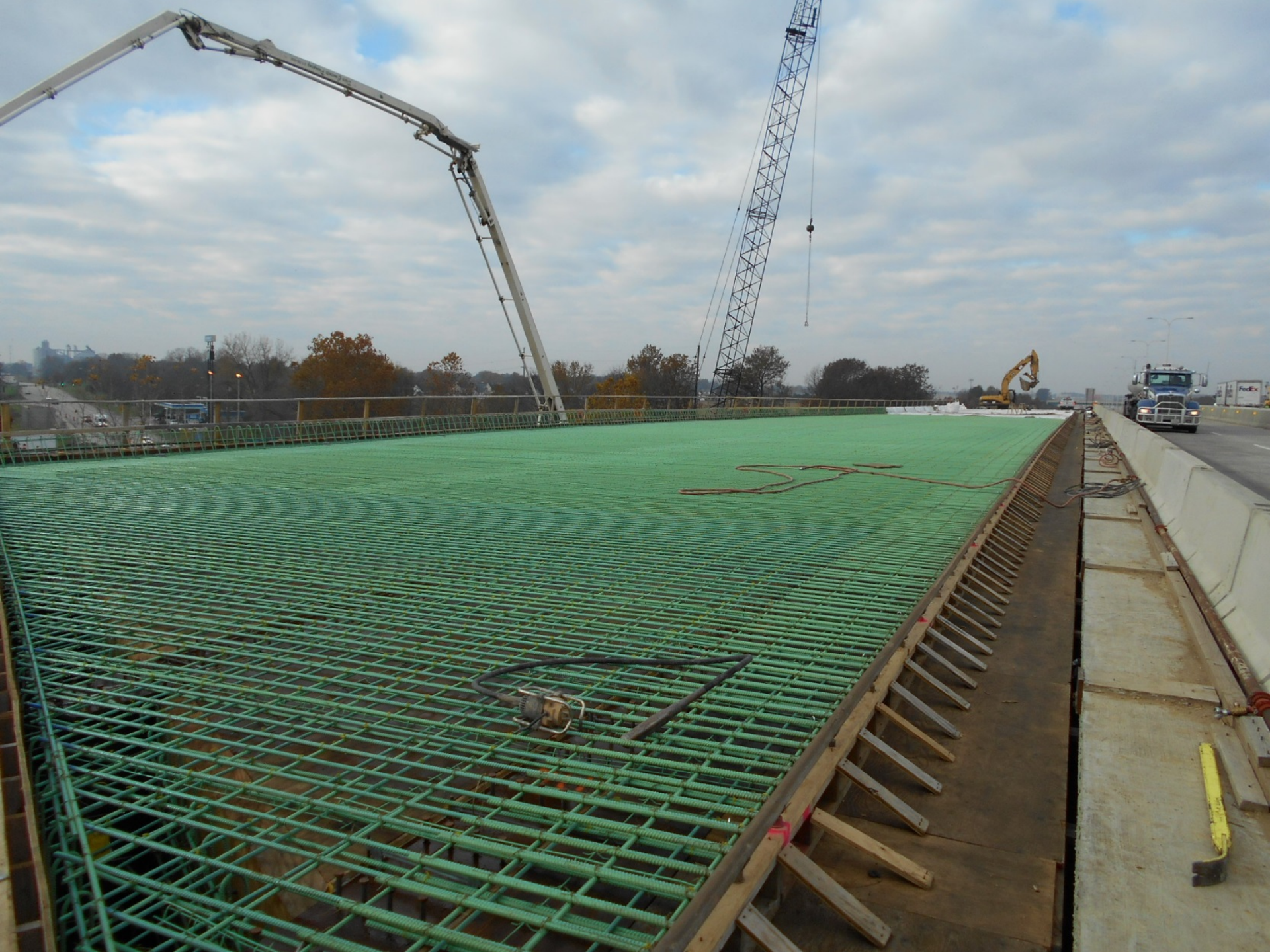
Project Highlights

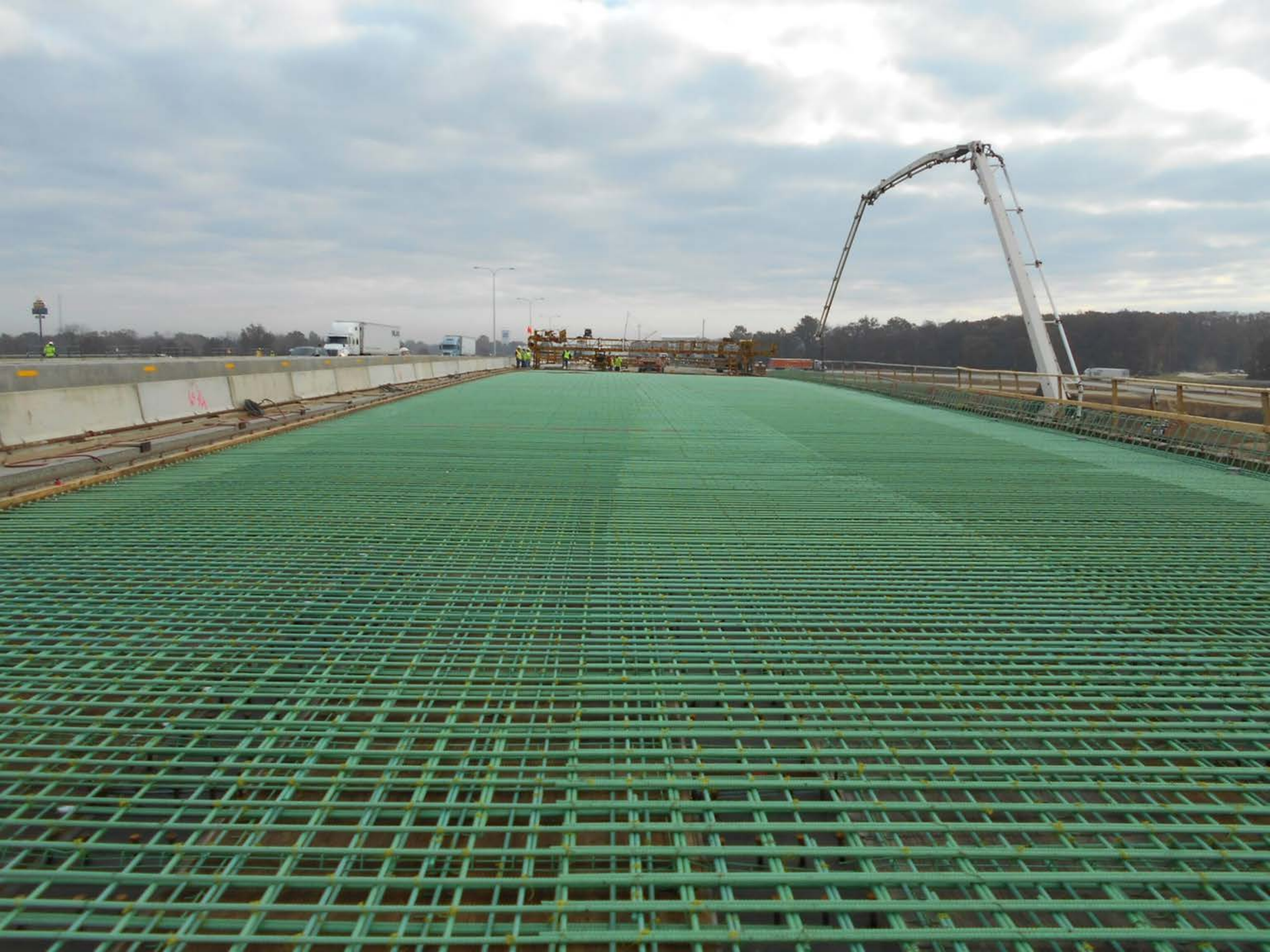
- 2.7 miles of 6-lane Interstate pavement.
- Complete removal and replacement of the dual structures carrying 57/70 over Route 45 and the CN railroad.
- Structural modifications to the north tri-level structures.
- Microsilica concrete overlays and other repairs to the flyover bridges.
- Complete removal and replacement of the ramps at the US Route 45 interchange.
- Installation of highway lighting and traffic signals.

Structure over US Route 45

- Complete removal and replacement of the existing structure carrying Interstate 57/70 over the CN railroad and US Route 45.
- Replacing 4 pier design with single pier on spread footing setting on H piles.
- 72” web plate girder composite design, 380’-2” back to back of abutments. 76 feet out to out to include acceleration and de-acceleration lanes.
- Utilized stage construction with deck beam setting performed at night.


FedEx
Freight
FedEx
FedEx






HIGHWELL


BIDWELL
3500


HOWELL


HALVERSON
Construction Co. Inc.
83-104
POWER CURBER


CIVIL
NIKE


GROVE
WIESER
NPCA
CERTIFIED PLANT


GROVE


WIESER
P/S #6189-02
9/11/15
CIVIL


GROVE


CIVIL CONSTRUCTORS OF IL
IDOT APPROACH SLAB
EFFINGHAM, IL
WIESER
NPCA
CERTIFIED PLANT
P/S #6169-02
9/25/15


R P/S #6189-02
PLANT
CIVIL CONSTRUCTORS OF IL
IDOT APPROACH SLAB
EFFINGHAM, IL
WIESER
NPCA
CERTIFIED PLANT
P/S #6189-02
9/29/15
CIVIL CON
IDOT APP
EFFIN


GOMACO
PS 2600
GOMACO


GOMACO
PS 2600
GOMACO


GOMACO
PS 2600
GOMACO


COMACO
PS 2600
COMACO


Work - EB
Values
Left Front (LF)
-0.001
Steer Front
0.005
Right Front (RF)
-0.000
Left Rear (LR)
-0.009
Steer Rear
0.018
Right Rear (RR)
-0.000
Speed
Design Slope
-0.40
Next Action
Pri 1
180.473
Sec 2
88.465
SP1 3
146.577
SP2 4
Slope
START
SENSORS
OFFSETS
MAIN MENU
TUNING
STOP
Leica


GOMACO


WEI NER


Conway


VOLVO


CAT


CAT
CAT


57
70


EXIT
OPEN
AHEAD


EXIT


CAT


CYCLONE


KNIGHT
REFRIGERATED
NIKE
EXIT 100

Current Project Status

- 77% complete as of February 1, 2016.
- Project on schedule to be completed by August 1, 2016.
- Ramps at US Route 45 interchange, slope walls and incidental paving remain.
- Traffic signals, highway lighting, seeding and permanent striping will complete work on this contract.

Project Costs

- Total value of all work let on the four contracts is $162,769,825.
- Total overrun to date is $3,945,705.
- This equates to a 2.4% increase over awarded amounts.
- 270,000 cubic yards of concrete placed to date since October of 2010.

DBE Figures

- $6,573,623 DBE total for all projects, roughly 4% of the total value of work.
- Economic impact to the region is an estimated 2,100 jobs created since 2010 from the $163 million dollars of construction work.
- Impact on local businesses is undetermined but reports indicate a significant increase over the course of this 6 year project.

Questions?