

| F.A.P. RTE.           | SECTION          | COUNTY     | TOTAL SHEETS       | SHEET NO. |
|-----------------------|------------------|------------|--------------------|-----------|
| 685/310               | (37B)I; (38B-2)I | MCDONOUGH  | 14                 | 1         |
| FED. ROAD DIST. NO. 4 |                  | IL 9/US 67 | CONTRACT NO. 68779 |           |

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

**PROPOSED**  
**HIGHWAY PLANS**

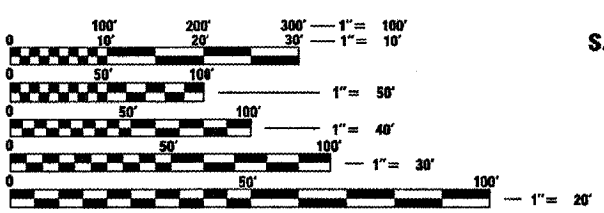
FAP ROUTE 685 (IL 9), FAP 310 (US 67)  
SECTION (37B)I; (38B-2)I  
MCDONOUGH COUNTY  
EMERGENCY BRIDGE REPAIRS  
C-94-018-08

- INDEX OF SHEETS**
- 1 COVER SHEET
  - 2 COMMITMENTS & GENERAL NOTES
  - 3 SUMMARY OF QUANTITIES
  - 4 IL 9 TYPICAL SECTION
  - 5 US 67 TYPICAL SECTIONS
  - 6 SCHEDULE OF QUANTITIES
  - 7 US 67 STAGING PLANS
  - 8-9 IL 9 BRIDGE PLANS
  - 10-14 US 67 BRIDGE PLANS

- LIST OF STANDARDS**
- 701201-02 701901
  - 701301-02 704001-04
  - 701400-02 780001-0A
  - 701423-02 781001-02

**DESIGN DESIGNATION**

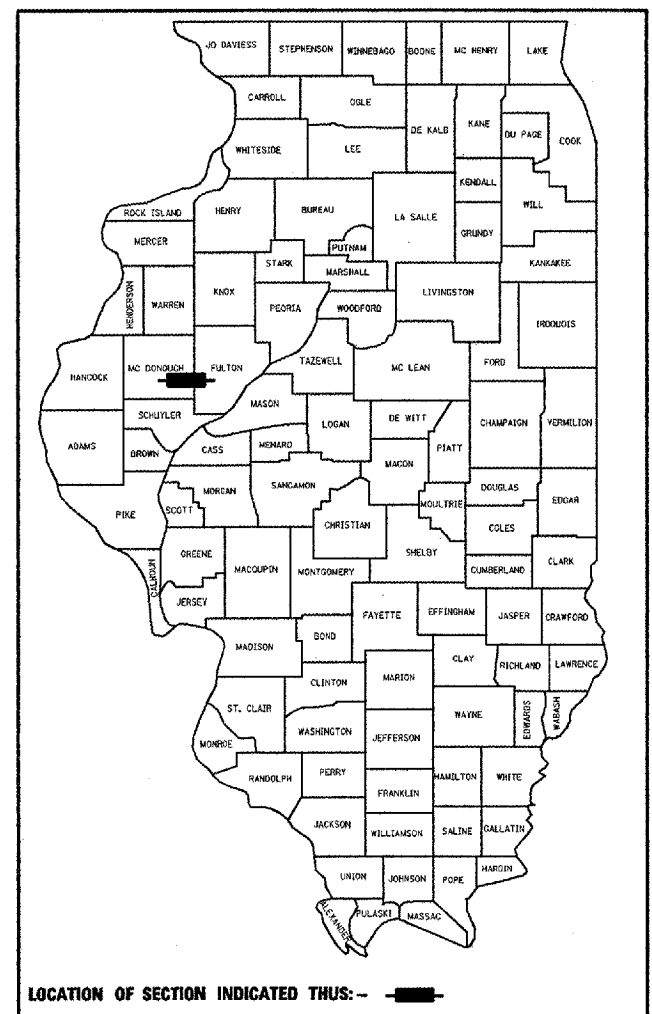
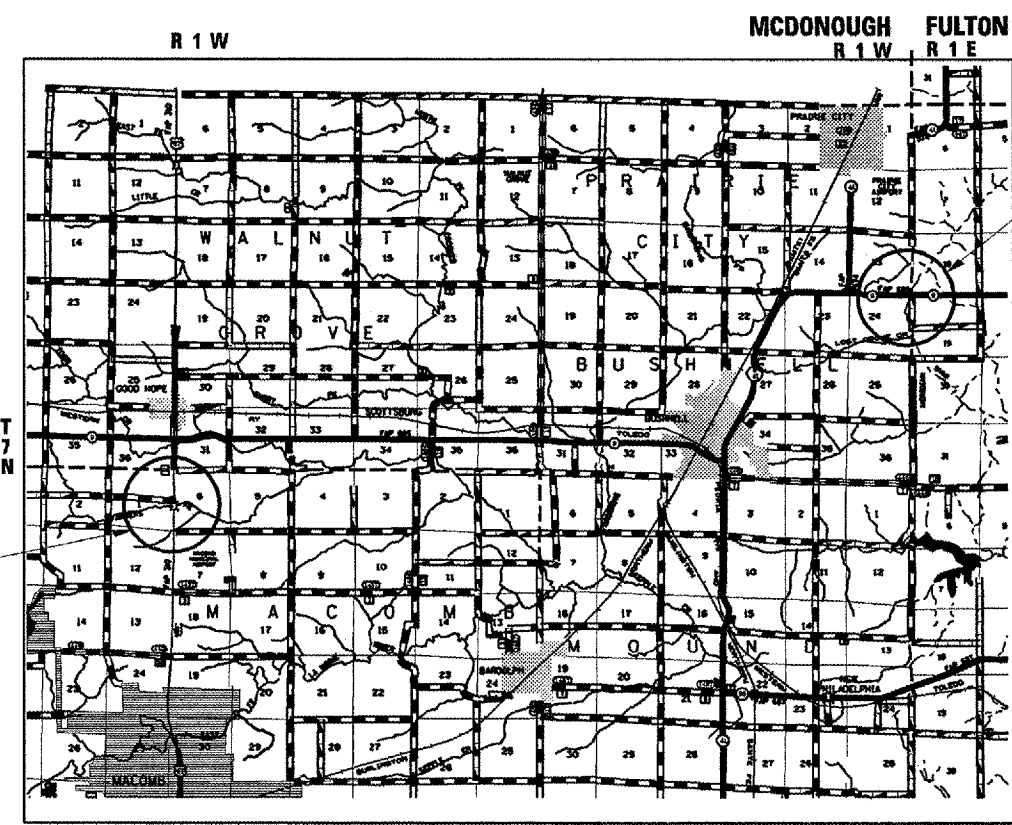
|                    |                  |
|--------------------|------------------|
| <b>US 67</b>       | <b>IL 9</b>      |
| ADT = 8,900 (2007) | ADT = 950 (2007) |
| MU = 550           | MU = 80          |
| SU = 350           | SU = 70          |



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT DESIGNER TERRISA WORSFOLD  
PROJECT ENGINEER RICH DOTSON  
CONTRACT NO. 68779



**DESCRIPTION:**  
EMERGENCY BRIDGE REPAIRS - BRACING 2 BEAMS ON STRUCTURE CARRYING IL 9 OVER LOST GROVE CREEK (055-0019), 0.8 MILES EAST OF IL 41 (N) AND REPLACEMENT OF 2 BEAMS ON NORTHBOUND STRUCTURE CARRYING US 67 OVER FARMER'S CREEK FORK (S.N. 055-0003), 1 MILE SOUTH OF IL 9.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *Feb 6 20 08*

*[Signature]*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*March 21 20 08*  
Eric E. Harn/10  
ENGINEER OF DESIGN AND ENVIRONMENT

*March 21 20 08*  
Christina M. Reed/10  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

GROSS LENGTH OF PROJECT 460 FT (0.09 MILES)  
NET LENGTH OF PROJECT 460 FT (0.09 MILES)

**PRINTED BY THE AUTHORITY**  
**OF THE STATE OF ILLINOIS**

## COMMITMENTS

NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT.

## PROJECT SPECIFIC NOTES

No right of way has been purchased for this project. The Contractor shall make the necessary arrangements for access required for their operations.

## GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

### ENVIRONMENTAL REVIEWS

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run-arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

Prior to any waste materials being removed from the construction site the required environmental resource surveys will need to be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of broken concrete at approved disposal sites.

The required environmental resource documentation shall include the following:

- \* BDE Form 2289 (Environmental Survey Request)
- \* A location map showing the size limits and location of the use area
- \* Signed property owner agreement form-D4 P10100
- \* Color photographs depicting the use area
- \* Borrow Area Entry Agreement form-D4 P10101

Please note that a minimum of two weeks shall be allowed for the District to obtain the required environmental clearances.

### ENGINEERS FIELD OFFICE

Add the following sentence to the end of paragraph 670.02 (i) and 670.04 (e):  
All of the telephone lines provided shall have unpublished numbers.

|   |                         |            |           |
|---|-------------------------|------------|-----------|
| FILE NAME =<br>c:\projects\179bridge_2\plan01.dgn | USER NAME = mcFadden,jk | DESIGNED - | REVISED - |
|   |                         | DRAWN -    | REVISED - |
|   |                         | CHECKED -  | REVISED - |
|   |                         |            |           |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

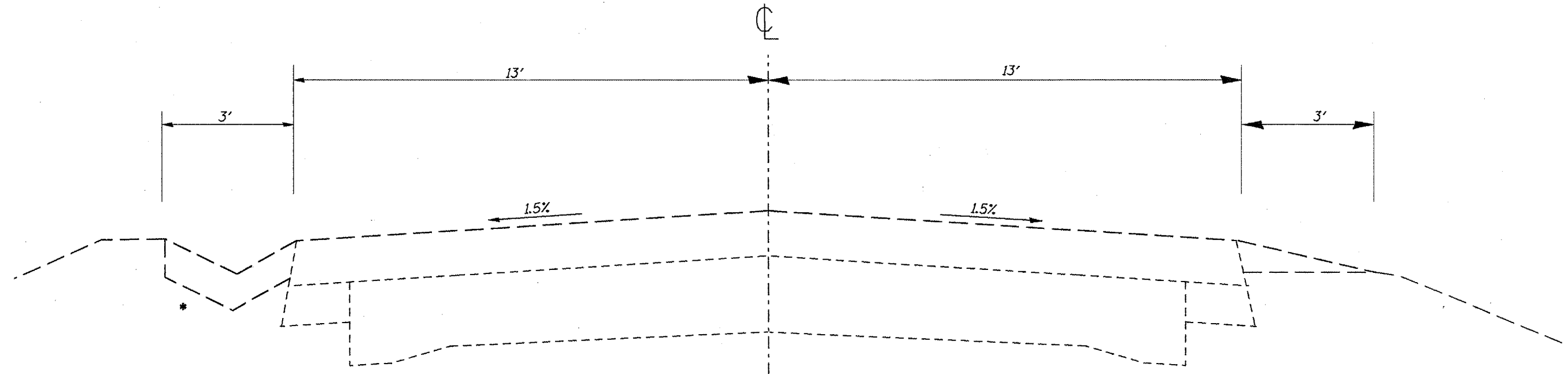
| F.A.P. RTE.        | SECTION        | COUNTY    | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|-----------|--------------|-----------|
| 685/310            | (37B); (38B-2) | MCDONOUGH | 14           | 2         |
| CONTRACT NO. 68779 |                |           |              |           |

# SUMMARY OF QUANTITIES

|          |  | 100% STATE SAFETY-2A<br>McDONOUGH COUNTY |       |                    |                   |
|----------|--|--|-------|--------------------|-------------------|
| CODE NO. | ITEM   | UNIT                                     | TOTAL | US 67<br>#055-0003 | IL 9<br>#055-0019 |
| 50301200 | CONCRETE WEARING SURFACE                             | SQ YD                                    | 44    | 44                 |                   |
| 50400505 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)  | SQ FT                                    | 284   | 284                |                   |
| 50500405 | FURNISHING <sup>AND</sup> ERECTING STRUCTURAL STEEL  | POUND                                    | 7600  |                    | 7600              |
| 50800205 | REINFORCEMENT BARS, EPOXY COATED                     | POUND                                    | 520   | 520                |                   |
| 50900905 | REMOVING <sup>AND</sup> RE-ERECTING EXISTING RAILING | FOOT                                     | 52.5  | 52.5               |                   |
| 67000400 | ENGINEER <sup>'s</sup> FIELD OFFICE, TYPE A          | CAL MO                                   | 3     | 3                  |                   |
| 67100100 | MOBILIZATION   | L SUM                                    | 1     | .5                 | .5                |
| 70100325 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701423      | EACH                                     | 1     | 1                  |                   |
| 70100450 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701201      | L SUM                                    | 1     |                    | 1                 |
| 70301000 | WORK ZONE PAVEMENT MARKING REMOVAL                   | SQ FT                                    | 289   | 289                |                   |

|          |   | 100% STATE SAFETY-2A<br>McDONOUGH COUNTY |       |                    |                   |
|----------|---|--|-------|--------------------|-------------------|
| CODE NO. | ITEM  | UNIT                                     | TOTAL | US 67<br>#055-0003 | IL 9<br>#055-0019 |
| 70400100 | TEMPORARY CONCRETE BARRIER                                    | FOOT                                     | 350   | 350                |                   |
| 70400200 | RELOCATE TEMPORARY CONCRETE BARRIER                           | FOOT                                     | 350   | 350                |                   |
| 78300200 | RASIED <sup>REFLECTIVE</sup> PAVEMENT MARKING REMOVAL         | EACH                                     | 6     | 6                  |                   |
| X0321781 | MECHANICAL SPLICE   | EACH                                     | 78    | 78                 |                   |
| X0320047 | REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS   | SQ FT                                    | 288   | 288                |                   |
| X5030275 | CONCRETE WEARING SURFACE REMOVAL                              | SQ YD                                    | 12    | 12                 |                   |
| X7015005 | CHANGEABLE MESSAGE SIGN                                       | CAL DA                                   | 28    | 14                 | 14                |
| X7030010 | TEMPORARY PAVEMENT MARKING TAPE, 6 INCH (BLACK)               | FOOT                                     | 110   | 110                |                   |
| Z0030250 | IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 | EACH                                     | 1     | 1                  |                   |
| Z0030350 | IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3  | EACH                                     | 1     | 1                  |                   |

# IL 9 TYPICAL SECTION



\* Type A Gutter on Southeast quadrant only

FILE NAME =  
or\projects\19\bridge.2\plan01.dgn

USER NAME = mcfaddenjk

DESIGNED -

DRAWN -

CHECKED -

REVISED -

REVISED -

REVISED -

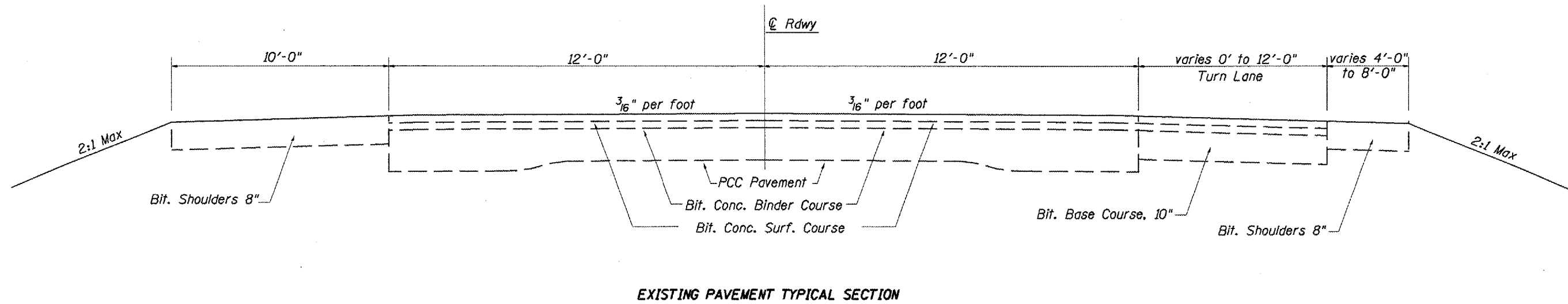
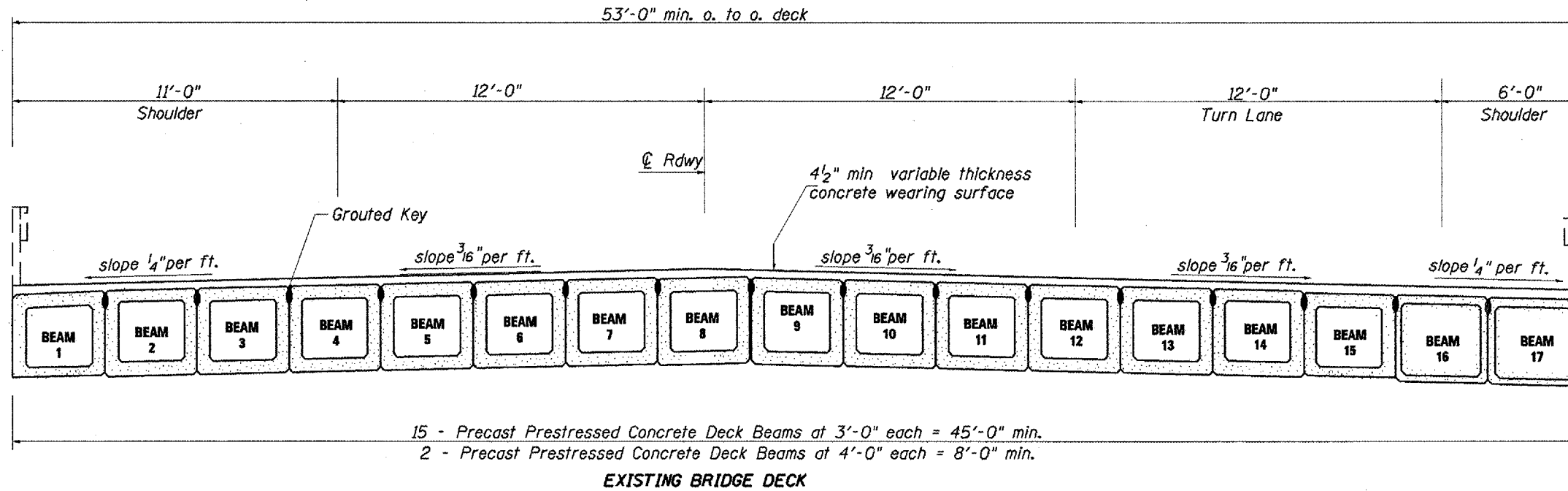
PLOT SCALE = 100.0000' / IN.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

| F.A.P. RTE. | SECTION          | COUNTY    | TOTAL SHEETS | SHEET NO. |
|-------------|------------------|-----------|--------------|-----------|
| 685/310     | (378)I; (388-2)I | MCDONOUGH | 14           | 4         |

# US 67 TYPICAL SECTIONS



FILE NAME =  
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USER NAME = mcfadden.jk

DESIGNED -  
DRAWN -

REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

| F.A.P. RTE. | SECTION         | COUNTY    | TOTAL SHEETS | SHEET NO. |
|-------------|-----------------|-----------|--------------|-----------|
| 685/310     | (37B)I (388-2)I | MCDONOUGH | 14           | 5         |

CONTRACT NO. 68779

# SCHEDULE OF QUANTITIES

| LOCATIONS<br>STA. TO STA. | TC & PRCT<br>STANDARD 701201 | FURNISHING & ERECTING<br>STRUCTURAL STEEL | MOBILIZATION |
|---------------------------|------------------------------|---|--------------|
| IL 9                      | L SUM                        | POUND                                     | L SUM        |
| SN 055-0019               | 1                            | 7600                                      | 0.5          |
| <b>TOTAL</b>              | 1                            | 7600                                      | 0.5          |

| LOCATIONS<br>STA. TO STA. | RAISED REF PAVEMENT<br>MARKING REMOVAL* | TEMP PAVT MARKING TAPE<br>6 INCH (BLACK)** |
|---------------------------|---|--|
| US 67                     | EACH                                    | FOOT                                       |
| ☉ STA 151+75 TO 156+00    | 6                                       | 110  |
| <b>TOTAL</b>              | 6                                       | 110  |

\* REMOVE OR COVER LENSE ONLY  
\*\* COVER EXISTING SKIP DASHS

| LOCATIONS<br>STA. TO STA. | CONCRETE WEARING<br>SURFACE REMOVAL | CONCRETE WEARING<br>SURFACE |
|---------------------------|-------------------------------------|-----------------------------|
| US 67                     | SQ YD                               | SQ YD                       |
| SN 055-0003               | 12                                  | 44                          |
| <b>TOTAL</b>              | 12                                  | 44                          |

| LOCATIONS<br>STA. TO STA.    | TEMPORARY<br>CONCRETE BARRIER |
|------------------------------|-------------------------------|
| US 67                        | FOOT                          |
| TAPER STA 155+25 TO 153+75   | 150                           |
| TANGENT STA 153+75 TO 151+75 | 200                           |
| <b>TOTAL</b>                 | 350                           |

| LOCATIONS<br>STA. TO STA. | P P CONC<br>DECK BEAM<br>(27' DEPTH) | REM OF EXIST<br>P P CONC<br>DECK BEAMS | MECHANICAL<br>SPLICE |
|---------------------------|--------------------------------------|--|----------------------|
| US 67                     | SQ FT                                | SQ FT                                  | EACH                 |
| SN 055-0003               | 284                                  | 288                                    | 78                   |
| <b>TOTAL</b>              | 284                                  | 288                                    | 78                   |

| LOCATIONS<br>STA. TO STA. | IMPACT ATT TEMPORARY<br>(NON-REDIRECTIVE),<br>TEST LEVEL 3 |
|---------------------------|--|
| US 67                     | EACH   |
| STATE 1 STA 155+25        | 1  |
| <b>TOTAL</b>              | 1  |

| LOCATIONS<br>STA. TO STA. | REMOVE & RE-ERECTING<br>EXISTING RAILING | REINFORCEMENT BARS,<br>EPOXY COATED |
|---------------------------|--|-------------------------------------|
| US 67                     | FOOT                                     | POUND                               |
| SN 055-0003               | 52.5                                     | 520                                 |
| <b>TOTAL</b>              | 52.5                                     | 520                                 |

| LOCATIONS<br>STA. TO STA.    | RELOCATE TEMP<br>CONCRETE BARRIER |
|------------------------------|-----------------------------------|
| US 67                        | FOOT                              |
| TAPER STA 156+00 TO 154+50   | 150                               |
| TANGENT STA 154+50 TO 152+50 | 200                               |
| <b>TOTAL</b>                 | 350                               |

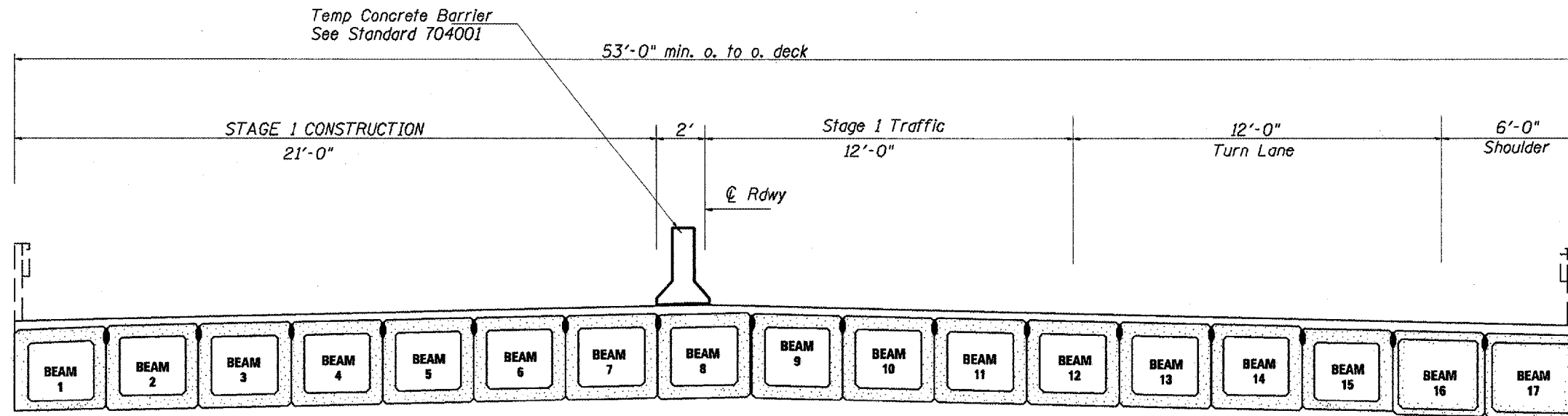
| LOCATIONS<br>STA. TO STA.              | WORK ZONE PAVT<br>MARKING REM |
|--|-------------------------------|
| US 67                                  | SQ FT                         |
| STAGE 1 ☉ STA 151+75 TO 155+25         | 117                           |
| STAGE 2 ☉ STA 152+50 TO 156+00         | 117                           |
| BLACK TAPE COVERING EXISTING SKIP DASH | 55                            |
| <b>TOTAL</b>                           | 289                           |

| LOCATIONS<br>STA. TO STA. | MOBILIZATION | ENGINEER<br>FIELD OFFICE<br>TYPE A | TC & PROT<br>STANDARD 701423 |
|---------------------------|--------------|------------------------------------|------------------------------|
| US 67                     | L SUM        | CAL. MO.                           | EACH                         |
| JOB SITE                  | 0.5          | 3                                  | 1                            |
| <b>TOTAL</b>              | 0.5          | 3                                  | 1                            |

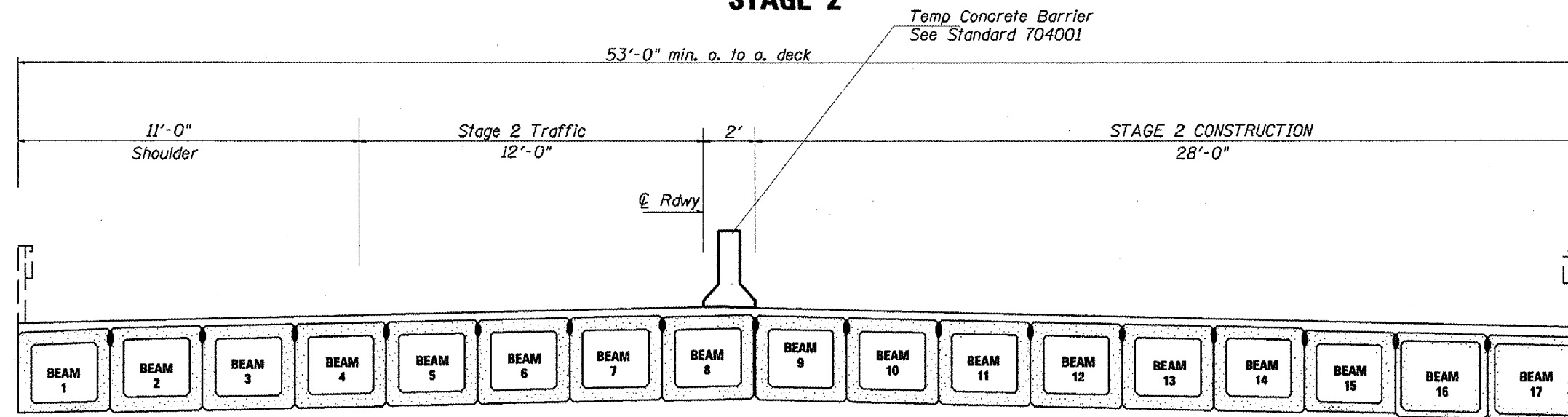
| LOCATIONS<br>STA. TO STA. | IMPACT ATT RELOCATE<br>(NON-REDIRECTIVE),<br>TEST LEVEL 3 |
|---------------------------|---|
| US 67                     | EACH  |
| STAGE 2 STA 156+00        | 1   |
| <b>TOTAL</b>              | 1   |

# US 67 STAGING PLANS

## STAGE 1



## STAGE 2



FILE NAME =  
c:\projects\19bridge\_2\plan01.dgn

USER NAME = eofaddenjk  
PLOT SCALE = 1/8" = 1'-0"

DESIGNED -  
DRAWN -  
CHECKED -

REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGING PLANS

| F.A.P. RTE.        | SECTION          | COUNTY    | TOTAL SHEETS | SHEET NO. |
|--------------------|------------------|-----------|--------------|-----------|
| 685/310            | (378)I, (388-2)I | MCDONOUGH | 14           | 7         |
| CONTRACT NO. 68779 |                  |           |              |           |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |           |       |           |
|-----------------------|----------|------------------|-----------|-------|-----------|
| ROUTE NO.             | SECTION  | COUNTY           | SHEET NO. | SHEET | SHEET NO. |
| SBI 9                 |          | MCDONOUGH        | 14        | 8     | 2 SHEETS  |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |           |       |           |

Contract Number: 68779

**GENERAL NOTES**

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

See Section 584 of the Standard Specifications for Epoxy Grouting of Threaded Rods; Minimum embedment 9".

If the contractor's procedure for placement of beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.

The cost of epoxy grouting threaded rods on the pier cap, abutments and beams shall be included with Furnishing and Erecting Structural Steel.

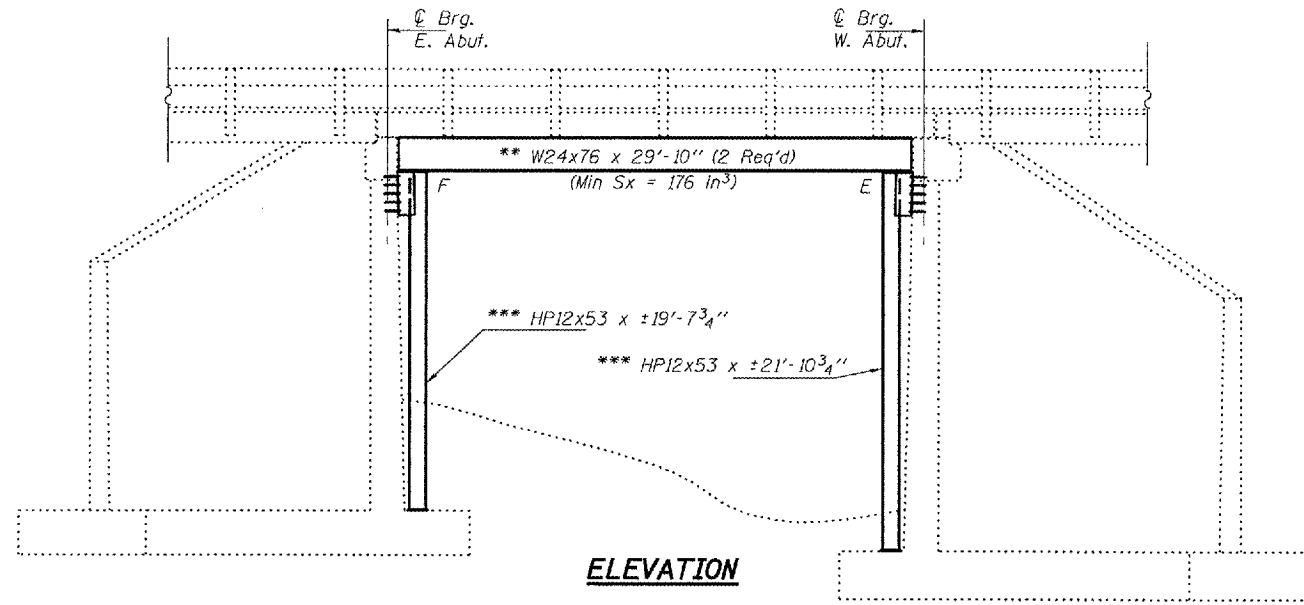
The Contractor has the option of using used steel. See Special Provisions.

The cost of excavation required to set piles on footings shall be included with Furnishing and Erecting Structural Steel.

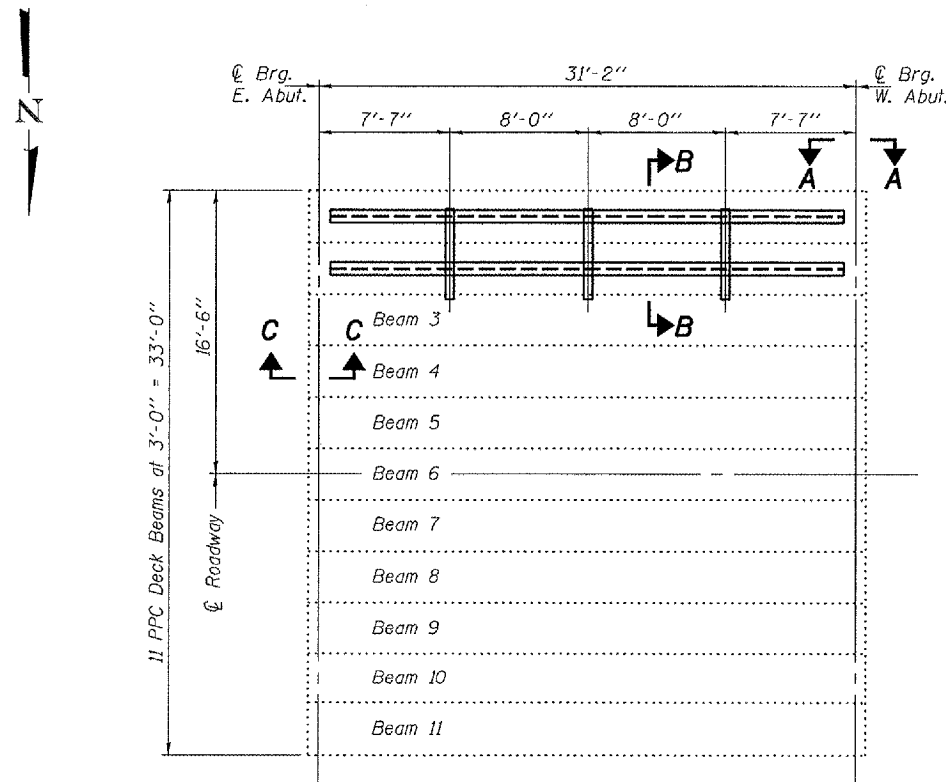
\* @ Transverse tie R's (3 per span). Place additional shims at midpoints between tie R's. Securely weld shims to top flange of support beam. Minimum shim size is 6" x flange width.

\*\* Contractor is to verify beam length prior to ordering material. Other sections meeting the section modulus requirements shown may be allowed subject to approval by the Bureau of Bridges and Structures. Maximum Girder depth = 27". No additional payment will be allowed if the contractor chooses a heavier steel section than the one specified in the plans.

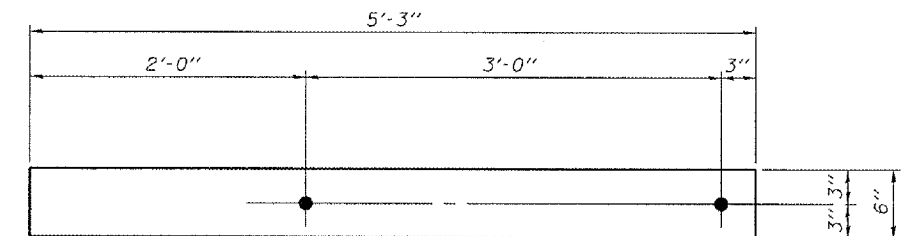
\*\*\* Contractor is to field verify length of HP12x53 needed prior to ordering material.



**ELEVATION**



**PLAN**



**TRANSVERSE TIE R DETAILS**

R 5'-3" x 6" x 1/2" (3 Req'd)



EXPIRES 11-30-2008

|          |                    |
|----------|--------------------|
| DESIGNED | Adrian T. Holloway |
| CHECKED  | Victor H. Volz     |
| DRAWN    | Steffen            |
| CHECKED  | VIFU ASH           |

|          |                   |
|----------|-------------------|
|          | FEBRUARY 26, 2008 |
| EXAMINED | [Signature]       |
| PASSED   | [Signature]       |

**TOTAL BILL OF MATERIAL**

| ITEM                                     | UNIT  | QUANTITY |
|--|-------|----------|
| Furnishing and Erecting Structural Steel | Pound | 7600     |

**PLAN & ELEVATION**

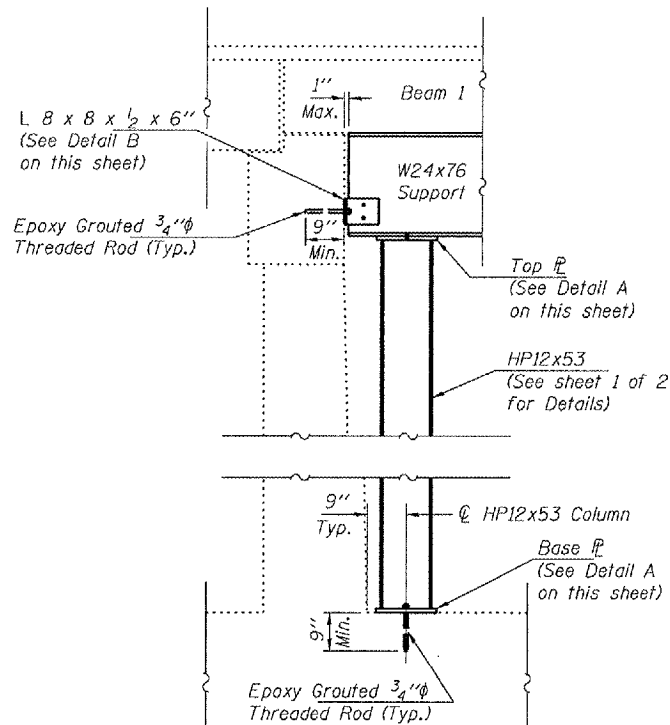
SBI RT. 9  
McDONOUGH COUNTY  
SN 055-0019



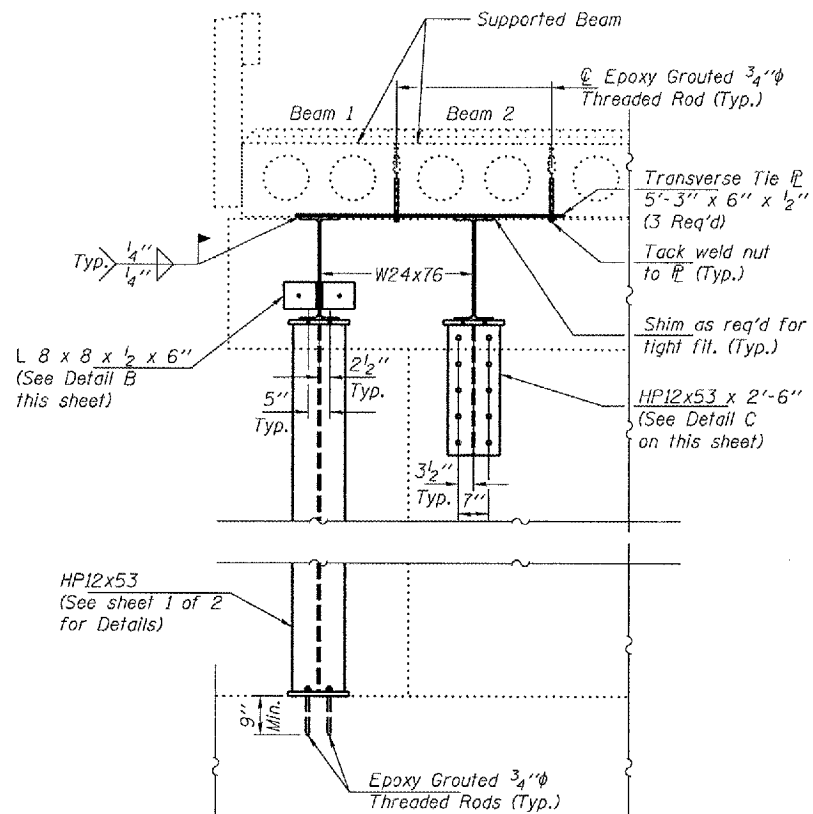
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |         |           |                    |           |                         |
|-----------------------|---------|-----------|--------------------|-----------|-------------------------|
| ROUTE NO.             | SECTION | COUNTY    | TOTAL SHEETS       | SHEET NO. | SHEET NO. 2<br>2 SHEETS |
| SBI 9                 |         | McDONOUGH | 14                 | 9         |                         |
| FED. ROAD DIST. NO. 7 |         | ILLINOIS  | FED. AID PROJECT - |           |                         |

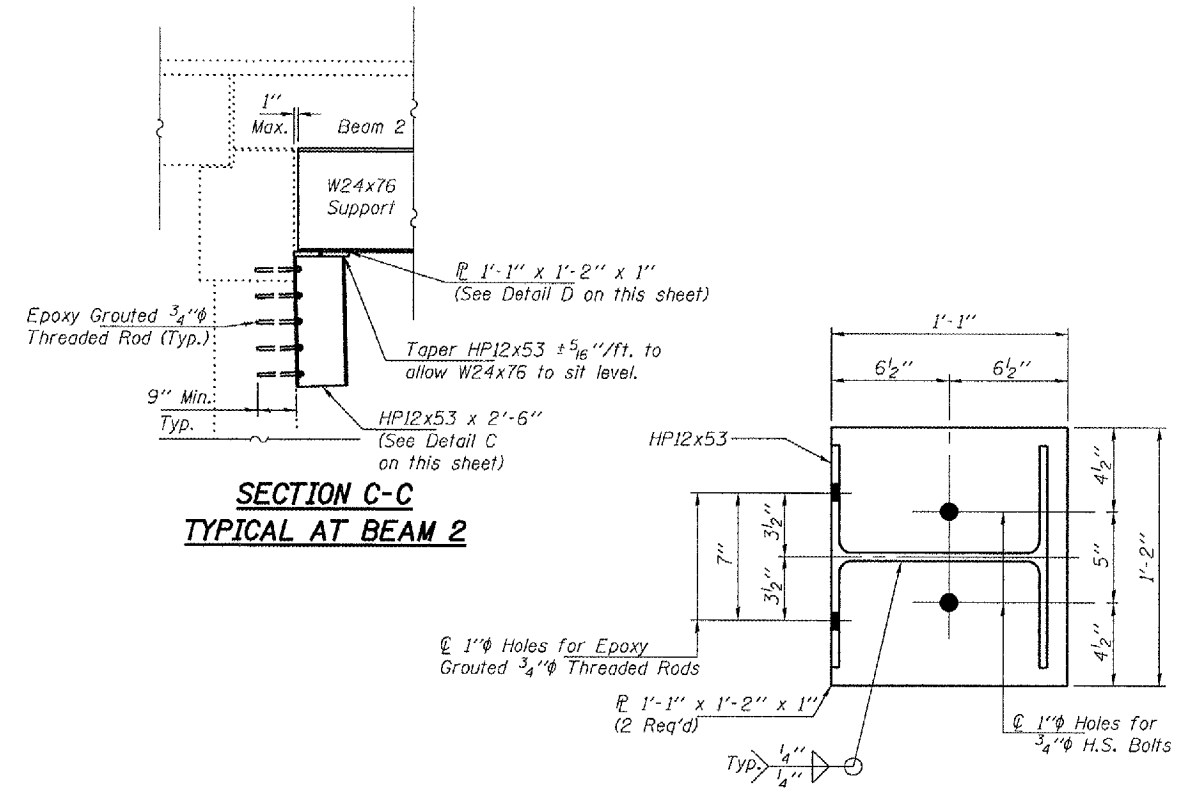
Contract Number: 68779



**SECTION A-A**  
TYPICAL AT BEAM 1



**SECTION B-B**

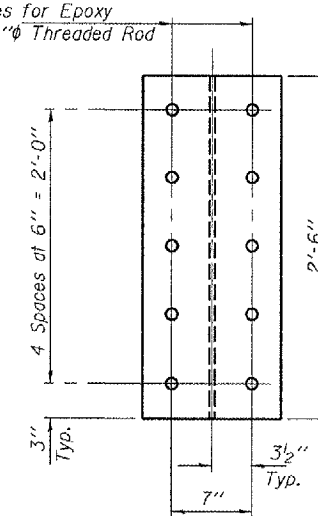


**SECTION C-C**  
TYPICAL AT BEAM 2

**DETAIL D**

PL 1'-1" x 1'-2" x 1"  
(2 Required)

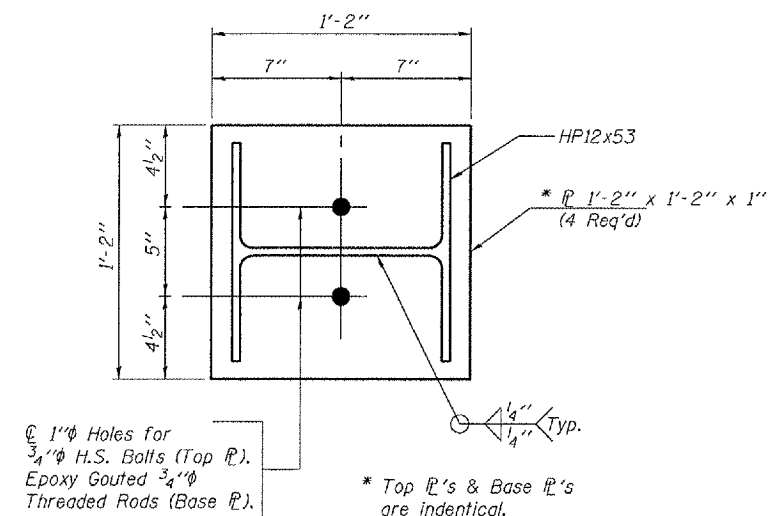
1" Holes for Epoxy  
Grouted 3/4" Threaded Rod



**DETAIL C**

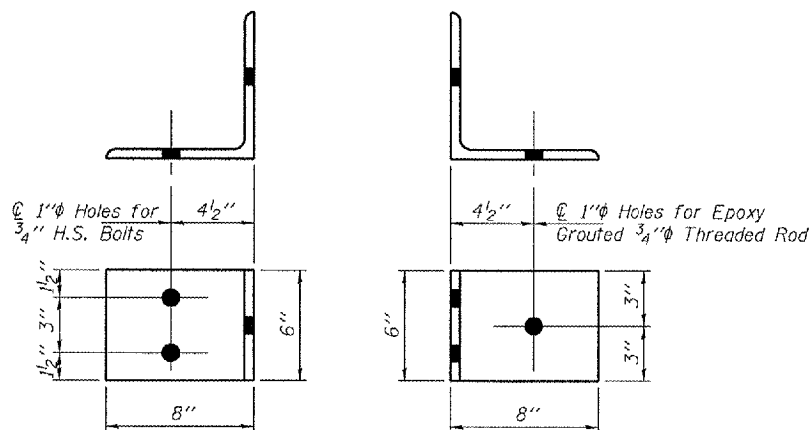
HP12x53 x 2'-6"  
(2 Required)

\*\* Dimension may vary to  
suit existing conditions. Field  
verify prior to fabrication.



**DETAIL A**

PL 1'-2" x 1'-2" x 1"  
(4 Required)



**DETAIL B**

L 8 x 8 x 1/2 x 6"  
(4 Required)

|          |         |
|----------|---------|
| DESIGNED | ATH     |
| CHECKED  | VHV     |
| DRAWN    | Steffen |
| CHECKED  | ATH VHV |

FEBRUARY 26, 2008  
EXAMINED *Carl Boyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**REPAIR DETAILS**  
**SBI RT. 9**  
**McDONOUGH COUNTY**  
**SN 055-0019**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |        |         |             |
|-----------------------|----------|------------------|--------|---------|-------------|
| ROUTE NO.             | SECTION  | COUNTY           | SHEETS | "SHEET" | SHEET NO. 1 |
| FAP 310               |          | McDONOUGH        | 14     | 10      | 5 SHEETS    |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT |        |         |             |

Contract Number: 68779

**GENERAL NOTES**

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Wearing Surface Removal.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.

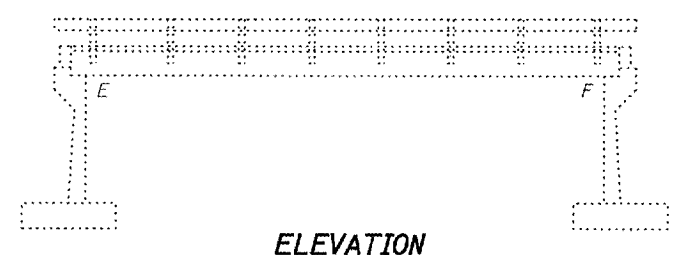
Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

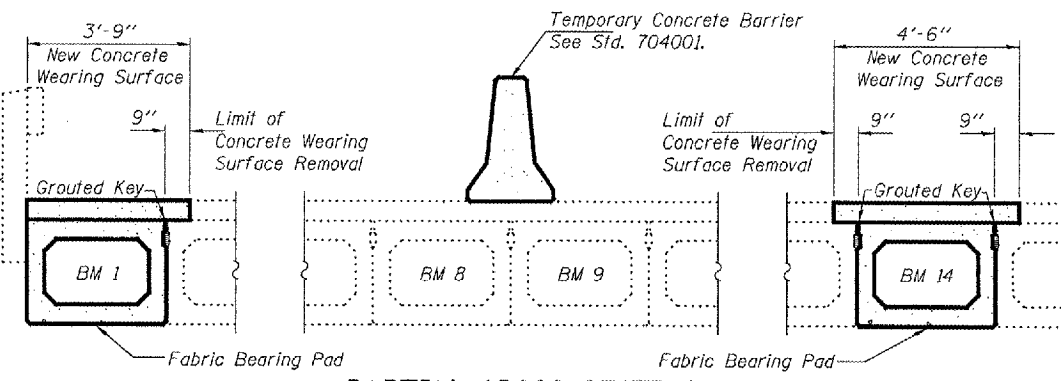
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Precast Prestressed Concrete Deck Beams (27" Depth).

**ELEVATION**



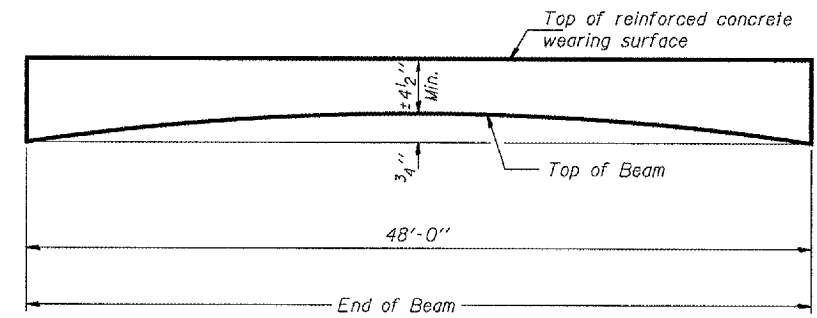
Remove, store, and reinstall existing Type S1 railing.

**PARTIAL CROSS SECTION**

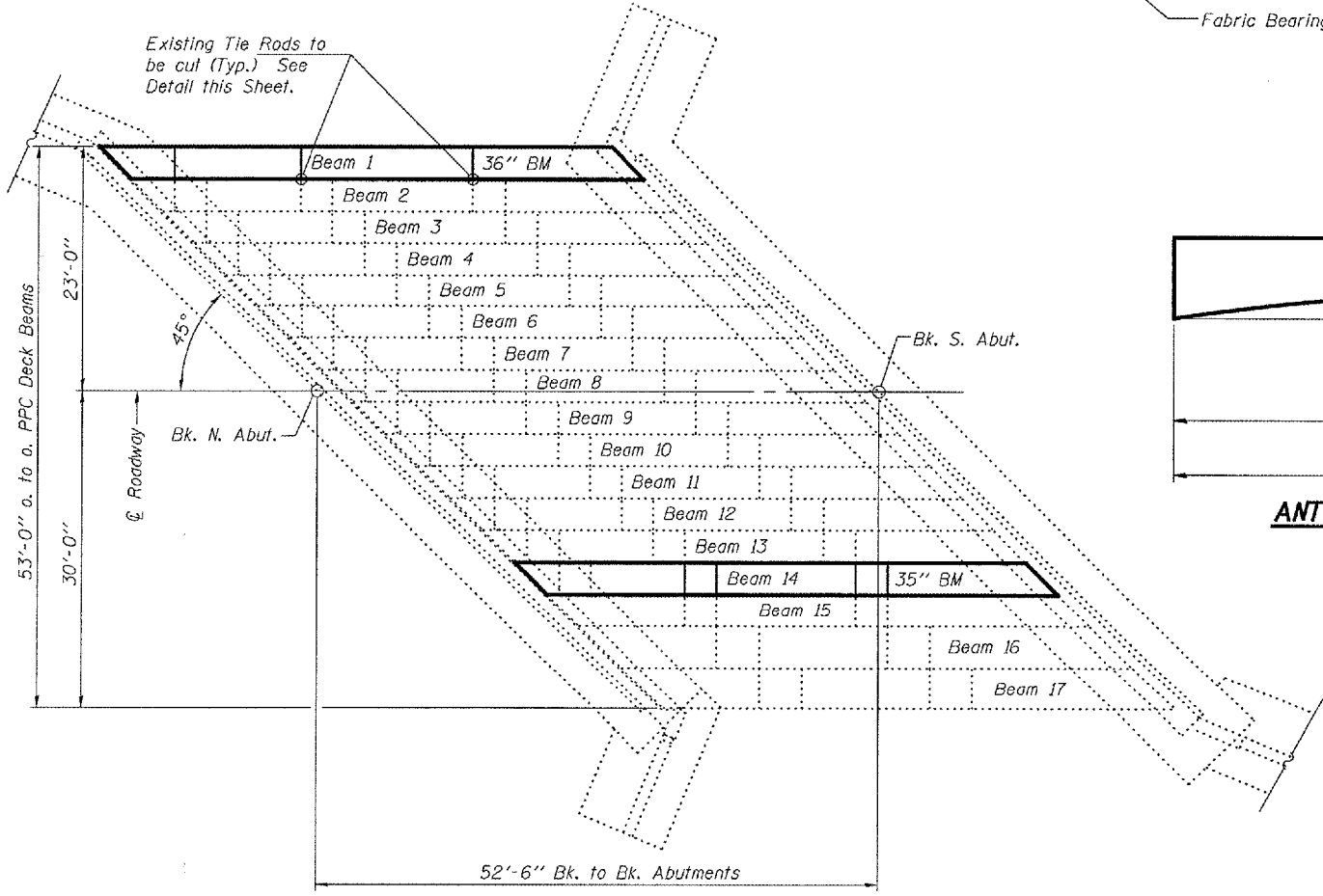


(Looking South)  
See sheet 4 of 5 for reinforced concrete wearing surface details.

**ANTICIPATED INITIAL CAMBER DIAGRAM**



**PLAN**



**DESIGN STRESSES**

**PRECAST UNITS**

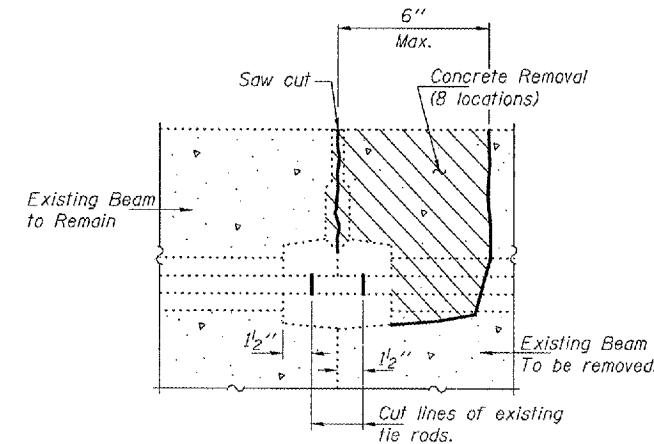
$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi ( $1/2$ "  $\phi$  low lax strands)  
 $f'_{si} = 201,960$  psi ( $1/2$ "  $\phi$  low lax strands)

**TOTAL BILL OF MATERIAL**

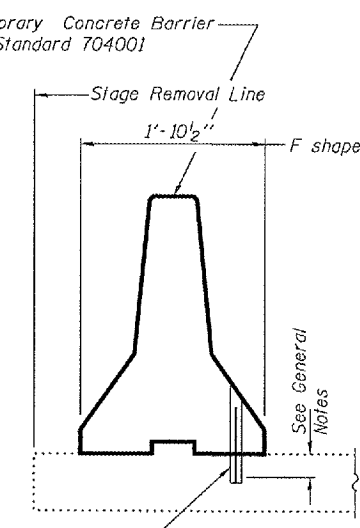
| ITEM  | UNIT    | QUANTITY |
|---|---------|----------|
| Removal of Existing PPC Deck Beams                  | Sq. Ft. | 268      |
| Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 284      |
| Concrete Wearing Surface Removal                    | Sq. Yd. | 12       |
| Concrete Wearing Surface                            | Sq. Yd. | 44       |
| Reinforcement Bars, Epoxy Coated                    | Pounds  | 520      |
| Mechanical Splicer                                  | Each    | 78       |
| Removing & Re-erecting Existing Railing             | Foot    | 52.5     |

**PLAN AND ELEVATION**  
**FAP RT. 310 OVER**  
**FARMERS CREEK**  
**McDONOUGH COUNTY**  
**SN 055-003**

**BEAM REMOVAL DETAIL AT TRANSVERSE TIES**



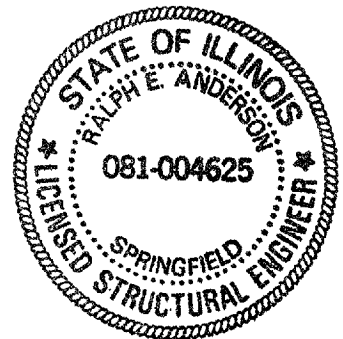
**TEMPORARY CONCRETE BARRIER**



Drill  $1\frac{1}{4}$ "  $\phi$  Holes in existing overlay for  $1$ "  $\phi$  x  $10$ " dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

|          |                   |
|----------|-------------------|
| DESIGNED | Vic B. A. DeG...  |
| CHECKED  | Adriani, Holloway |
| DRAWN    | Steffeh           |
| CHECKED  | ATH UHV           |

FEBRUARY 26, 2008  
 EXAMINED *Carl D...*  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

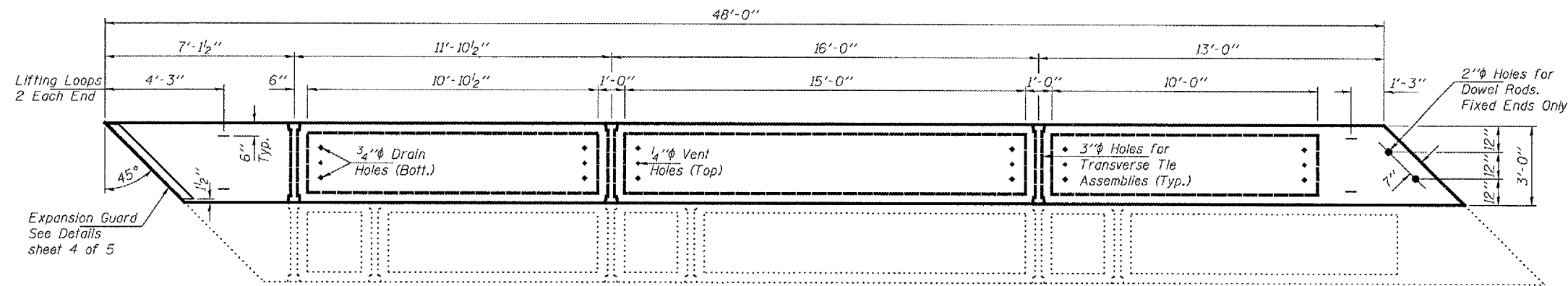


Expires: November 30, 2008

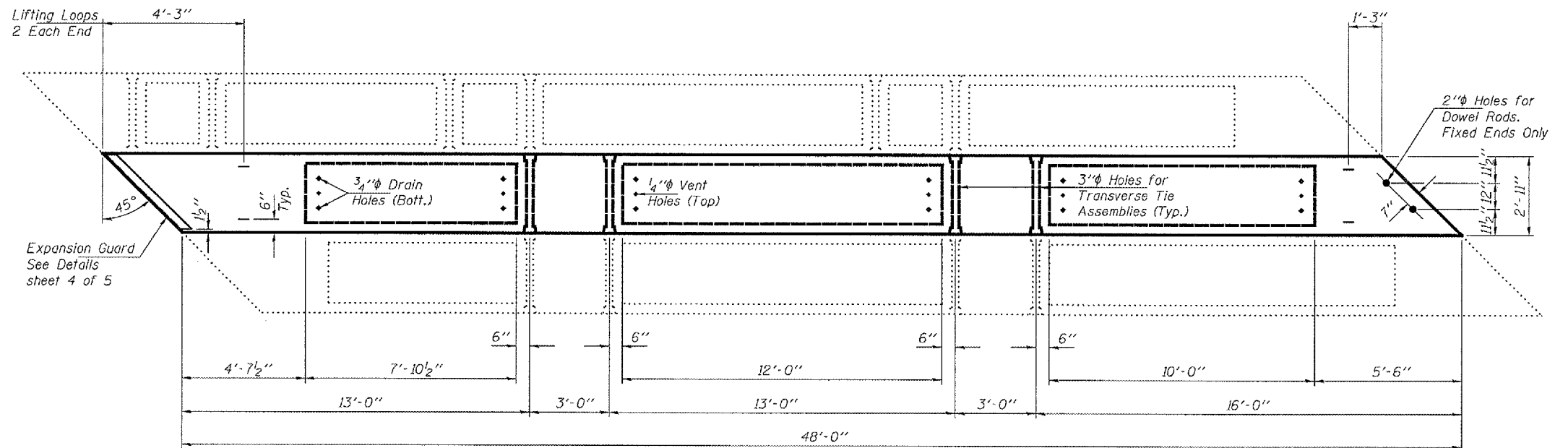
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

| ROUTE NO.             | SECTION  | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. |
|-----------------------|----------|------------------|--------------|-----------|-----------|
| FAP 310               |          | McDONOUGH        | 14           | 11        | 5 SHEETS  |
| FED. ROAD DIST. NO. 7 | ALLIANCE | FED. AID PROJECT |              |           |           |

Contract Number: 68779



**BEAM 1 PLAN**



**BEAM 14 PLAN**

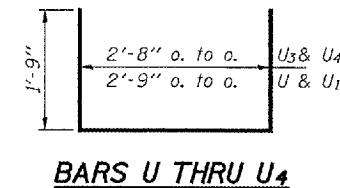
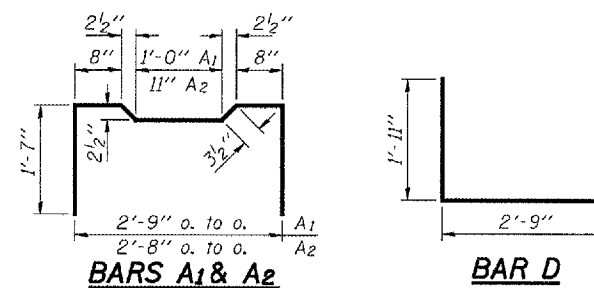
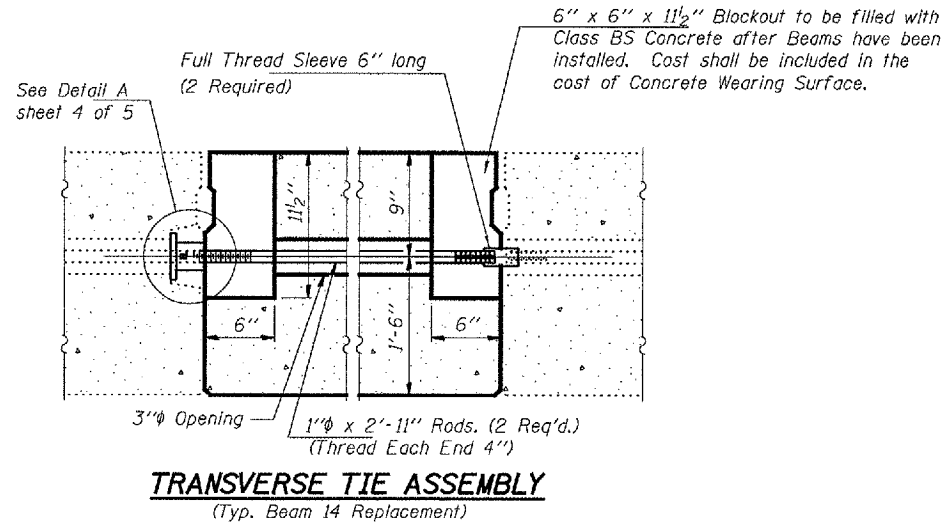
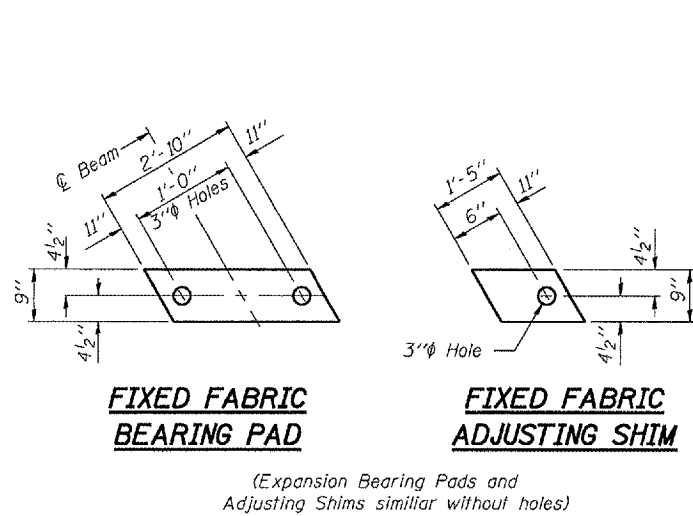
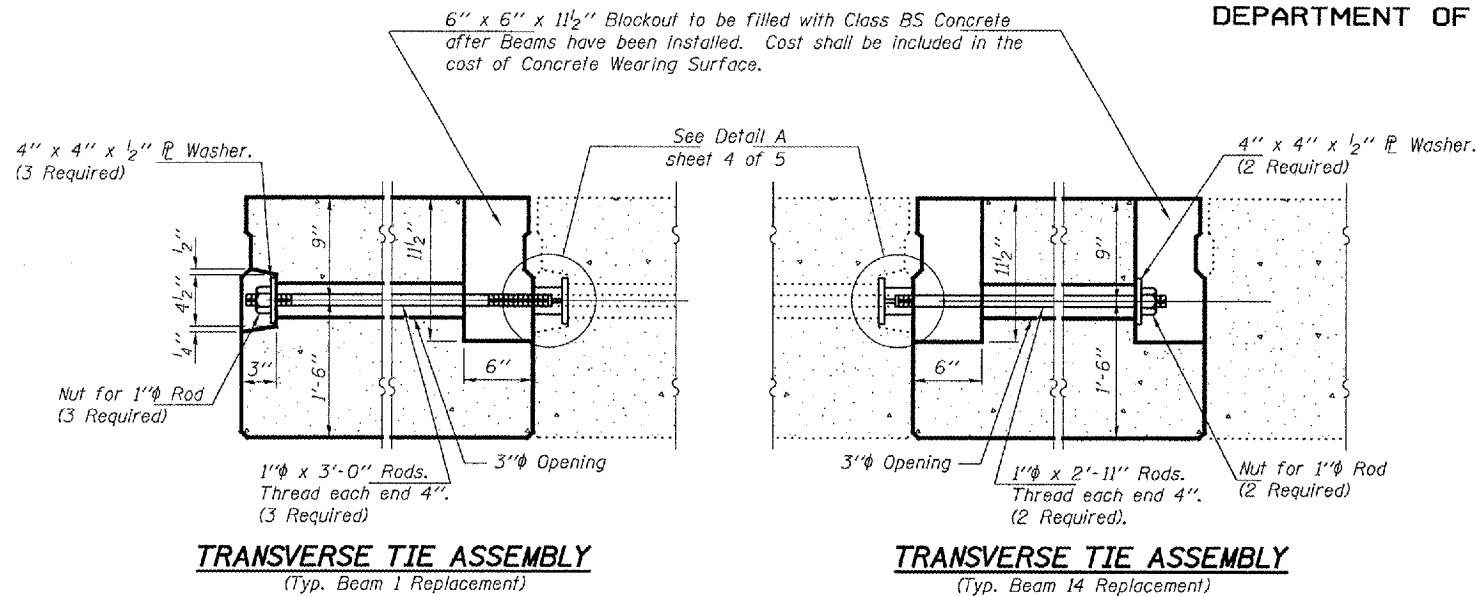
|          |         |
|----------|---------|
| DESIGNED | VHV     |
| CHECKED  | ATH     |
| DRAWN    | Steffen |
| CHECKED  | VHV ATH |

FEBRUARY 26, 2008  
 EXAMINED *A. Carl Hoover*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

**REPAIR DETAILS**  
**FAP RT. 310 OVER**  
**FARMERS CREEK**  
**McDONOUGH COUNTY**  
**SN 055-0003**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                  |                        |       |             |
|-----------------------|----------|------------------|------------------------|-------|-------------|
| ROUTE NO.             | SECTION  | COUNTY           | DATE                   | SHEET | SHEET NO. 3 |
| FAP 310               |          | McDONOUGH        | 14                     | 12    | 5 SHEETS    |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT | Contract Number: 68779 |       |             |



**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" φ-270 ksi strands, as shown.

The 1" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

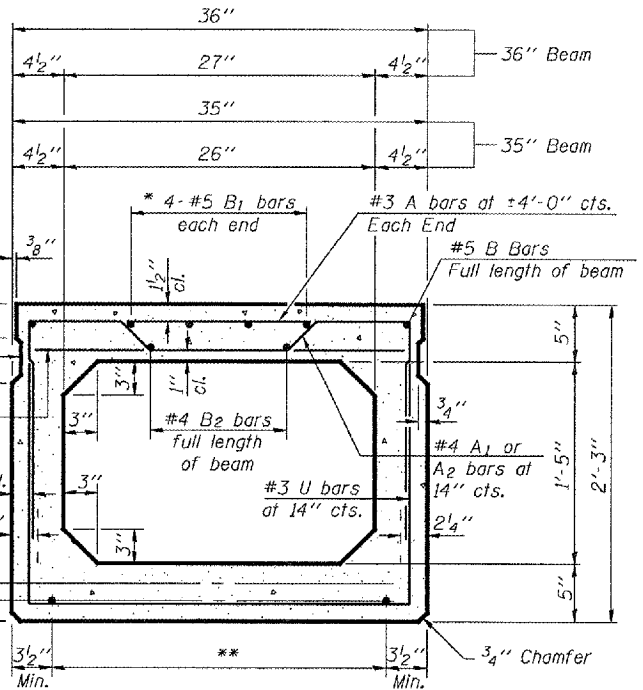
Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions shown shall be provided for each beam.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

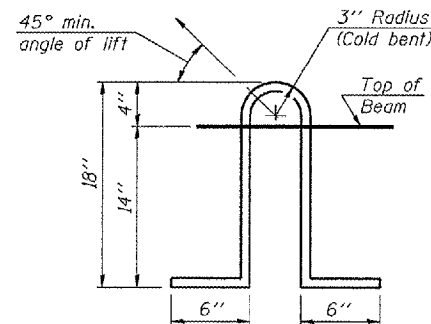
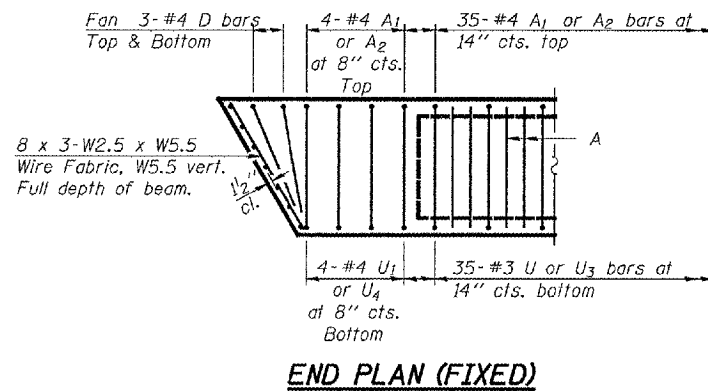
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength, f'ci, shall be 4000 p.s.i.



**\*\* TRANSVERSE PLACEMENT GUIDELINES**

1. Place strands symmetrically about centerline of beam.
  2. The minimum distance from center to center of strands in all directions shall be 2".
  3. The minimum clearance from strand to dowel hole shall be 1/2".
  4. The minimum clearance from strand to void shall be 1/2".
- Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



|          |         |
|----------|---------|
| DESIGNED | VHV     |
| CHECKED  | ATH     |
| DRAWN    | Steffen |
| CHECKED  | VHV ATH |

|                                    |                          |
|------------------------------------|--------------------------|
| FEBRUARY 26, 2008                  |                          |
| EXAMINED                           | <i>Carl Paves</i>        |
| ENGINEER OF STRUCTURAL SERVICES    |                          |
| PASSED                             | <i>Ralph E. Anderson</i> |
| ENGINEER OF BRIDGES AND STRUCTURES |                          |

**BILL OF MATERIAL**

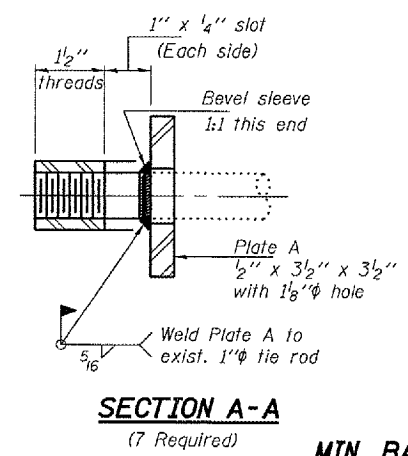
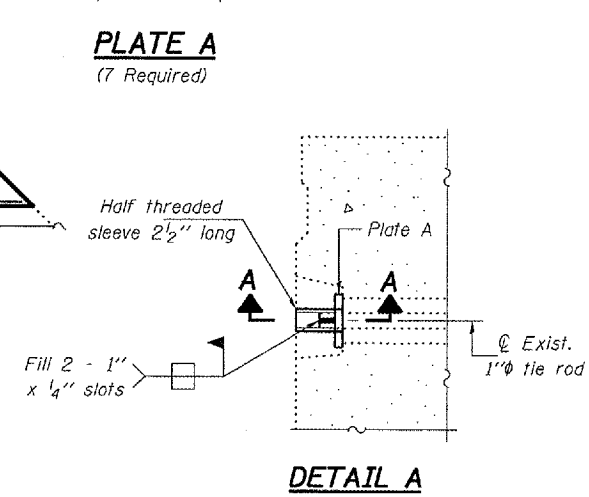
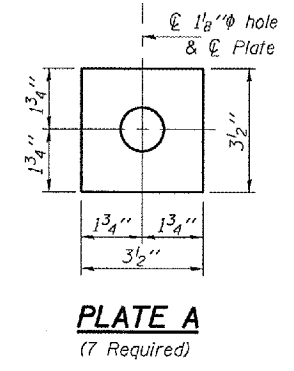
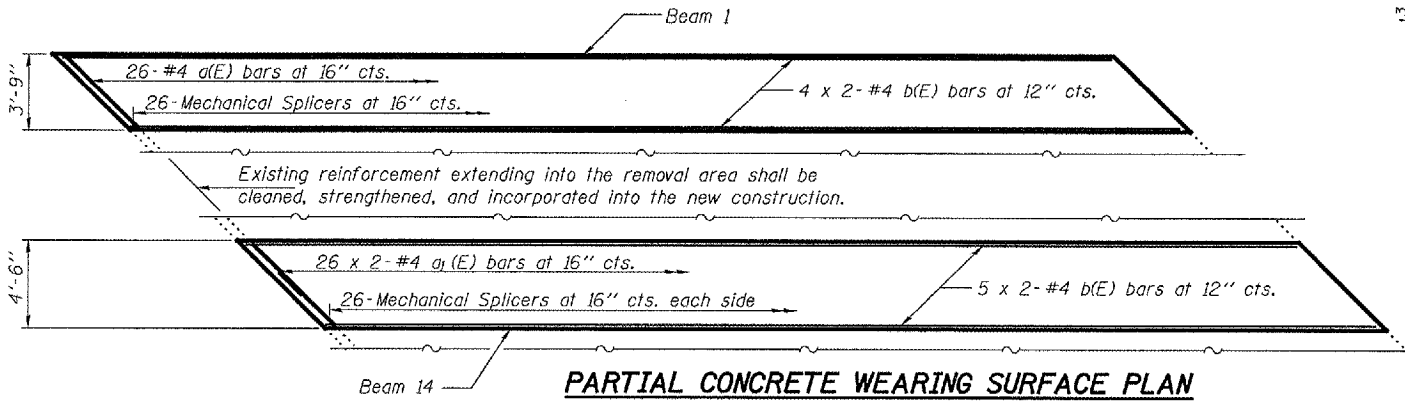
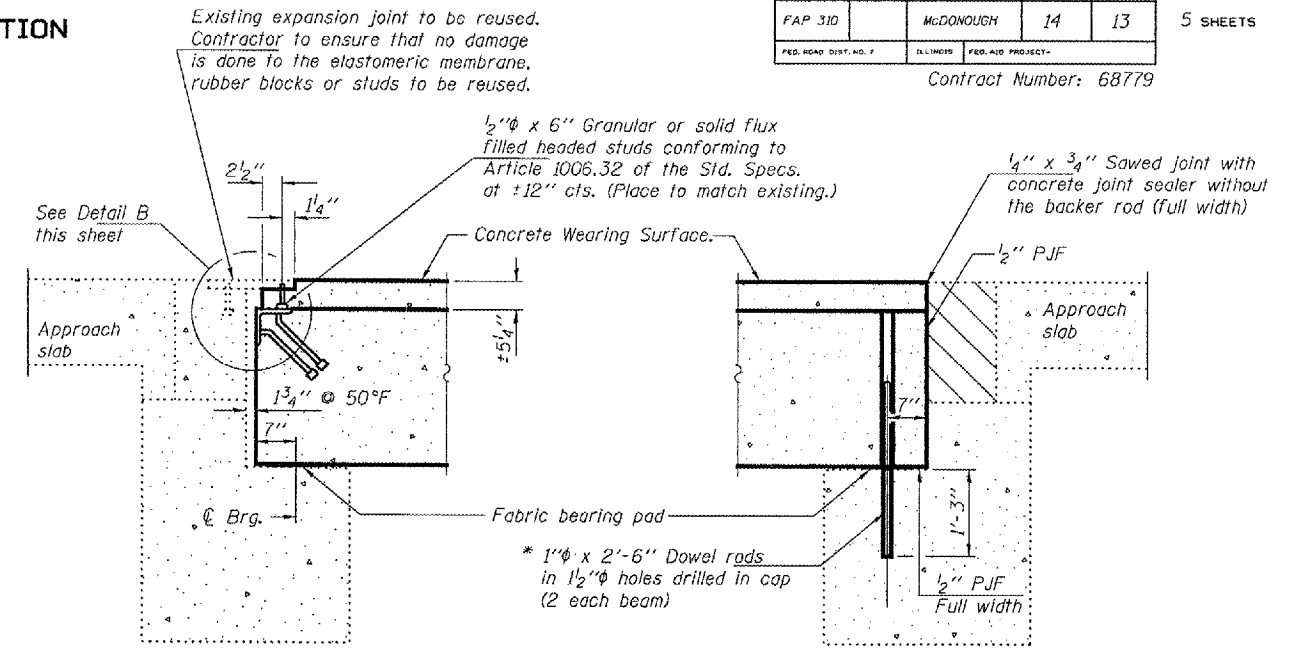
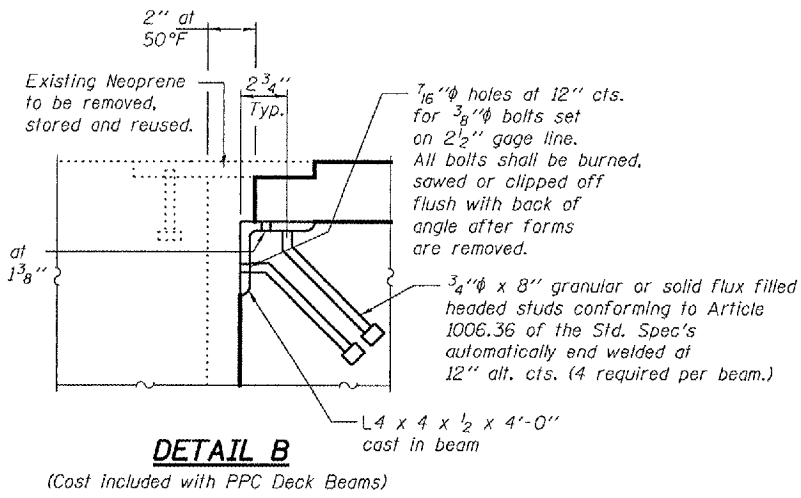
|                                     |         |     |
|-------------------------------------|---------|-----|
| Precast Prestressed Conc. Deck Bms. | Sq. Ft. | 284 |
|-------------------------------------|---------|-----|

**REPAIR DETAILS**  
FAP RT. 310 OVER  
FARMERS CREEK  
McDONOUGH COUNTY  
SN 055-003

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |          |                   |           |       |
|-----------------------|----------|-------------------|-----------|-------|
| ROUTE NO.             | SECTION  | COUNTY            | SHEET NO. | SHEET |
| FAP 310               |          | MCDONOUGH         | 14        | 13    |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT- |           |       |

Contract Number: 68779

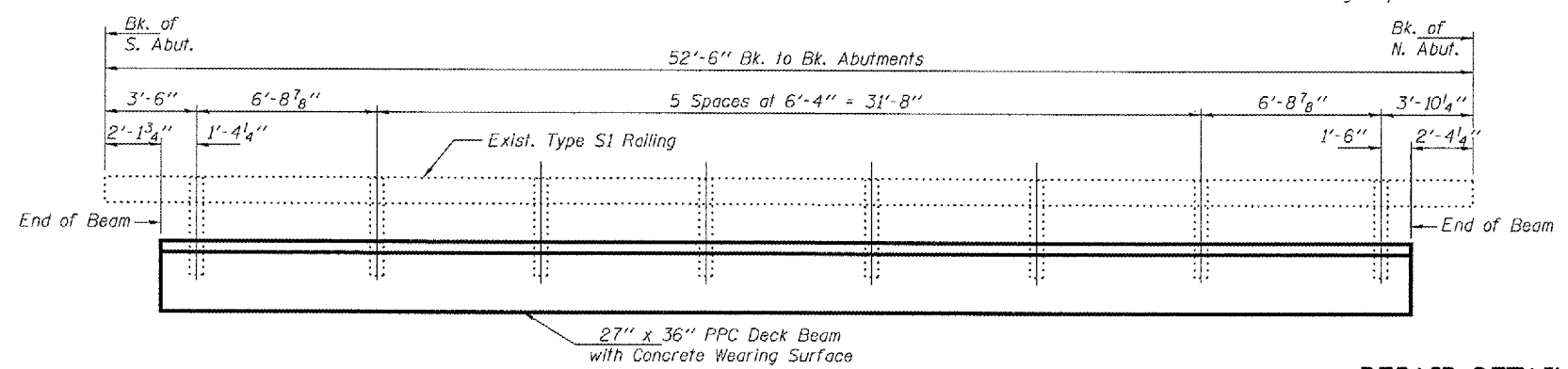
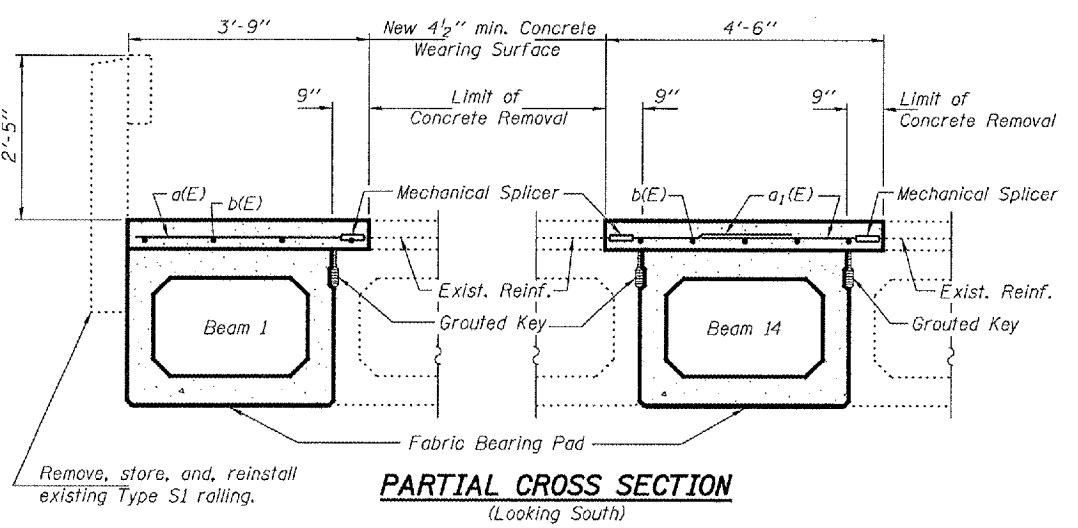


\* Existing dowel rods are to be burned off, ground flush, and sealed with epoxy prior to placement of new beams. Cost included in Removal of Existing PPC Deck Beams. After beams have been erected holes shall be drilled into cap and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.

**BILL OF MATERIAL**

| Bar                              | No. | Size | Length | Shape  |     |
|----------------------------------|-----|------|--------|--------|-----|
| a(E)                             | 26  | #4   | 5'-0"  | —      |     |
| a1(E)                            | 52  | #4   | 3'-11" | —      |     |
| b(E)                             | 18  | #4   | 24'-9" | —      |     |
| Reinforcement Bars, Epoxy Coated |     |      |        | Pounds | 520 |

Bars indicated thus 4 x 2-#4 etc. indicates 4 line of bars with 2 lengths per line.



|          |         |
|----------|---------|
| DESIGNED | VHV     |
| CHECKED  | ATH     |
| DRAWN    | Steffen |
| CHECKED  | VHV ATH |

FEBRUARY 26, 2008  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**REPAIR DETAILS**  
FAP RT. 310 OVER  
FARMERS CREEK  
MCDONOUGH COUNTY  
SN 055-0003

