

DESIGNER: CLARK JONES
PHONE: (309)671-3452

PROJECT ENGINEER: JIM MILLER
PHONE: (309)671-3451

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(38B-2)I	McDONOUGH	16	1
FED. ROAD DIST. NO. 4	ILLINOIS CONTRACT NO. 68850			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

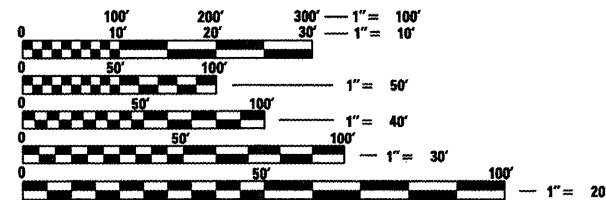
FAP 310 (US 67)
SECTION (38B-2)I
PROJECT: BRIDGE BEAM REPLACEMENT
McDONOUGH COUNTY
JOB NO. C-94-006-09

INDEX OF SHEETS:

- 1. COVER SHEET
- 2. COMMITMENTS & GENERAL NOTES
- 3. SUMMARY OF QUANTITIES
- 4. TYPICAL SECTIONS
- 5. SCHEDULE OF QUANTITIES
- 6. GENERAL LAYOUT
- 7. PROPOSED SHOULDER REM. & REPL.
- 8-9. TRAFFIC CONTROL STAGING
- 10-16. REPAIR DETAILS

STANDARDS:

- 701001-02 701901-01
- 701006-03 704001-05
- 701423-03 780001-02



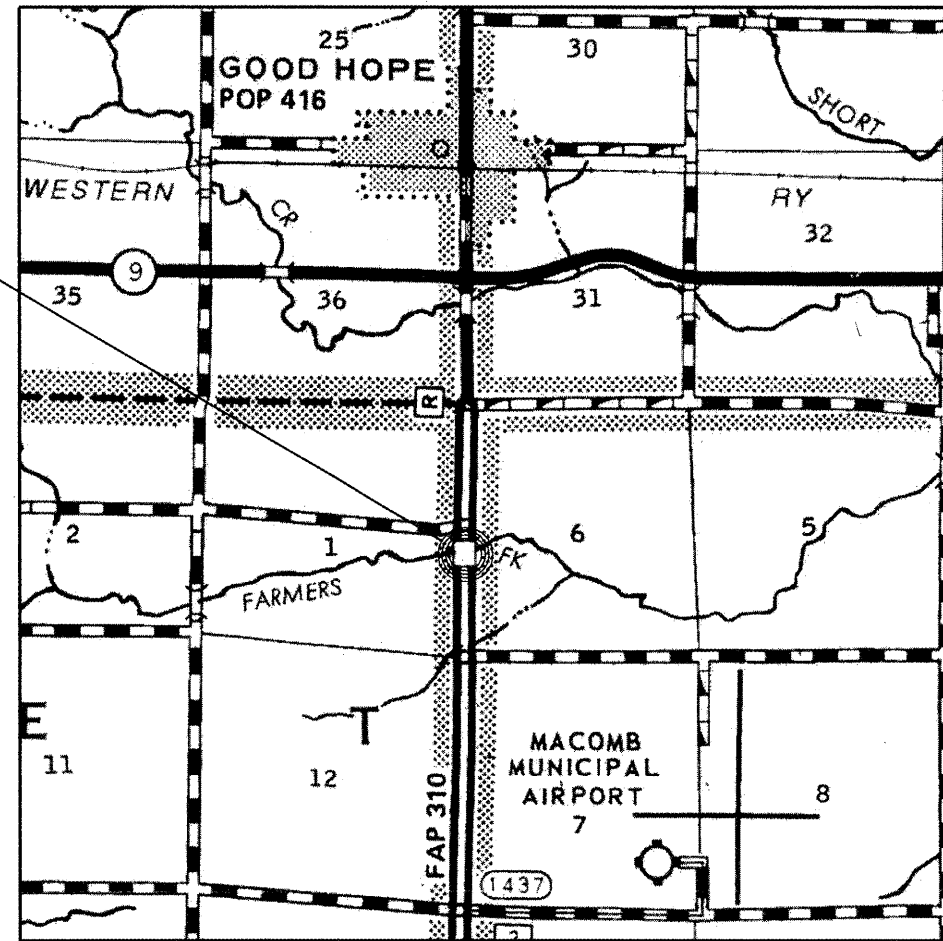
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

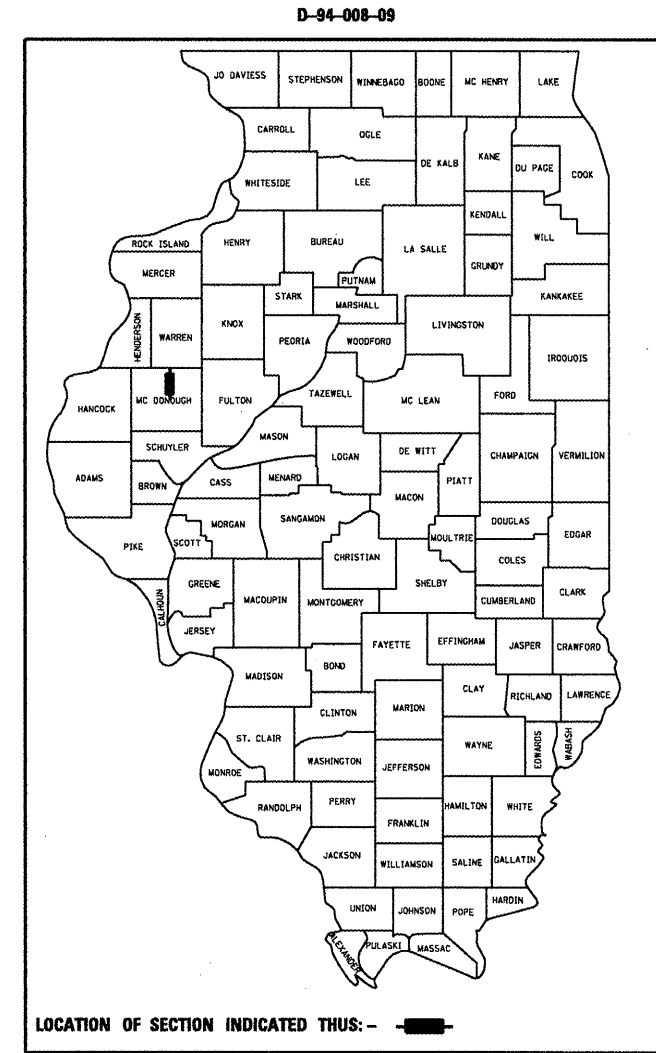
PROJECT ENGINEER: JIM MILLER
PROJECT MANAGER: MAUREEN ADDIS

CONTRACT NO.68850 - CATALOG NO.033880-00D

SN.055-0027



LOCATION MAP



PROJECT CONSISTS OF EMERGENCY BEAM REPLACEMENT OF (9) PPC DECK BEAMS ON STRUCTURE CARRYING US67 SB. OVER FARMERS FORK (SN.055-0027), 1 MILE SOUTH OF IL 9 JCT.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 00710 20 08

DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 5, 2008
Eric E. Horn

ENGINEER OF DESIGN AND ENVIRONMENT
December 5, 2008
Christine M. Reed

DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

COMMITMENTS

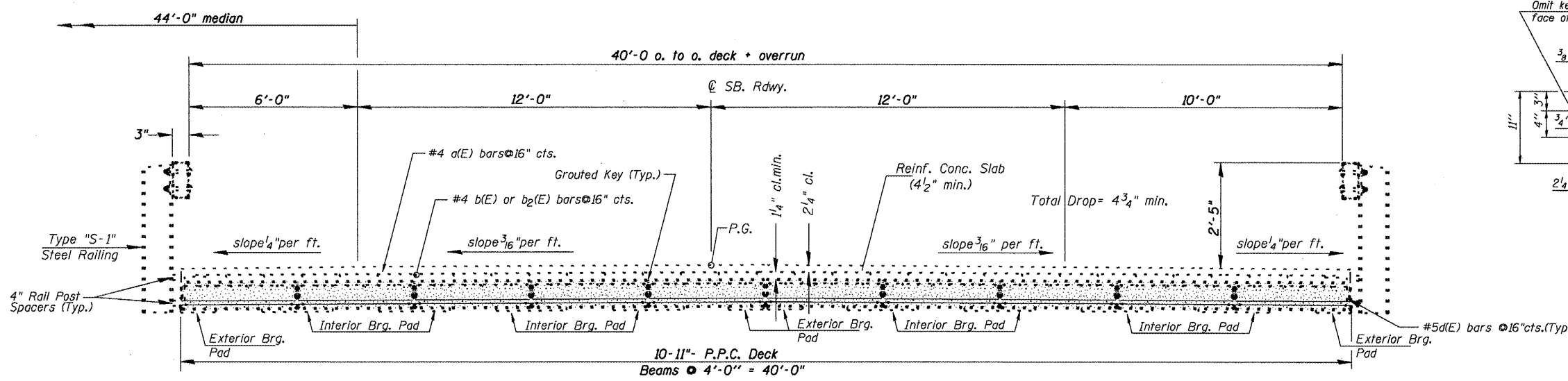
No commitments have been made for this project.

GENERAL NOTES

Plan dimensions and details relative to 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.

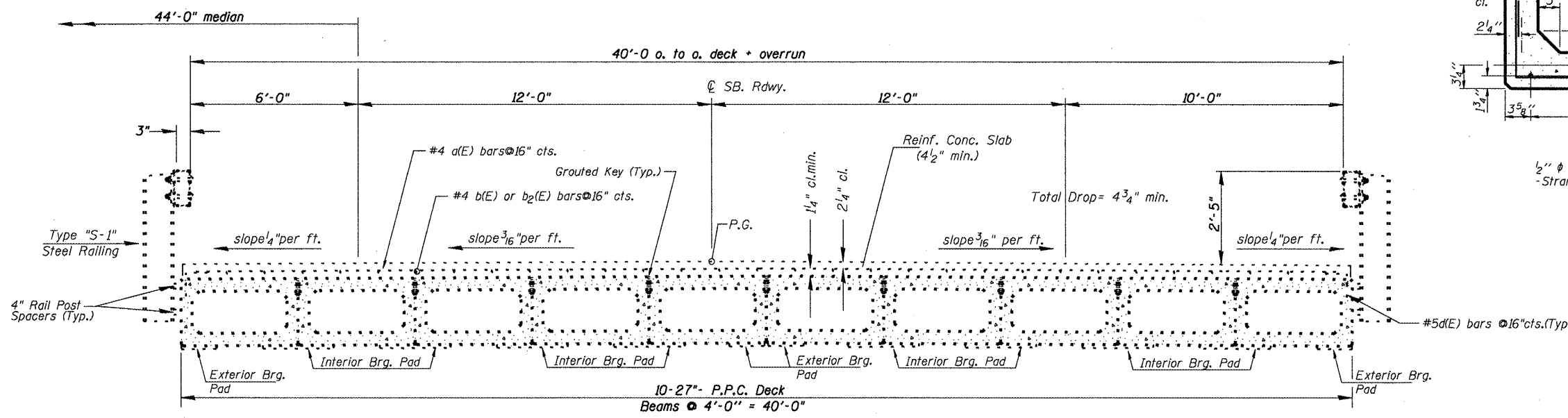
SN.055-0027 US.67SB
over Farmers Fork

FILE NAME = #FILE: S:\GEN\DRFT\STDS\PLNS\BRIDGE CONTRACTS\Emergency PPC Beam Repairs\68850 SN055-0027 Farmers Fork.dgn	USER NAME = #USER*	DESIGNED - CEJ	REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	COMMITMENTS & GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLLOT SCALE = #SCALE*	CHECKED - ---	REVISED - ---			313	(38-B2)I	McDONOUGH	16	2
	PLLOT DATE = #DATE*	DATE - 8-28-2008	REVISED - ---			PPC BEAM REPLACEMENT	CONTRACT NO. 68850		FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT	
SCALE: _____ SHEET NO. ___ OF ___ SHEETS STA. _____ TO STA. _____										

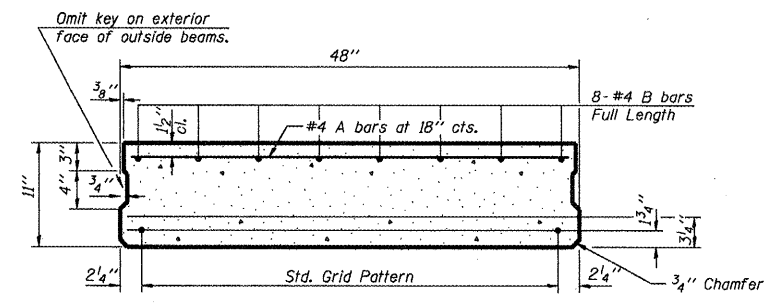


**DECK CROSS SECTION
SPANS 1 & 3**

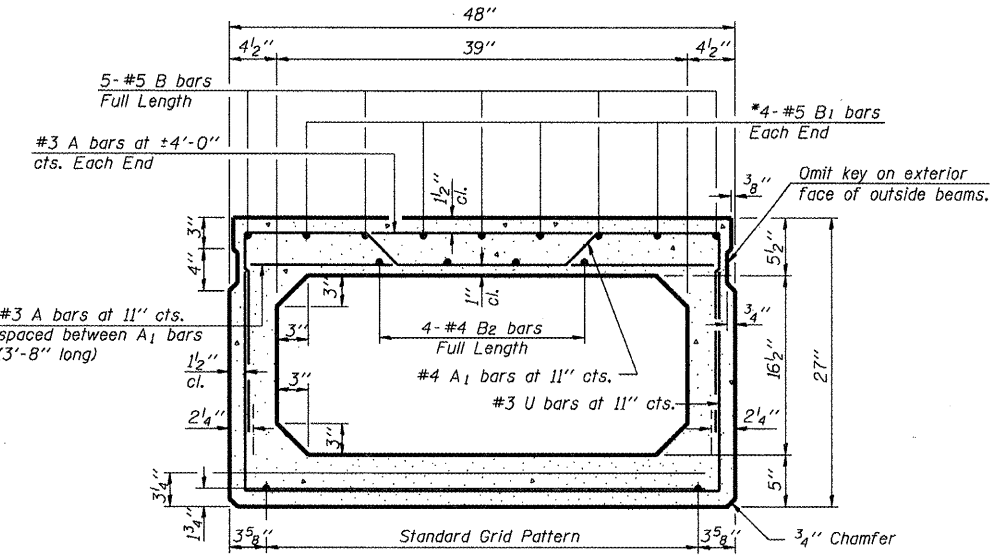
*NOTE
Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal variations.



**DECK CROSS SECTION
SPAN 2**



TYPICAL SECTION
1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
- Strands 1 3/4" up, - Strands 3/4" up.
- 0.2 x Length of beam



TYPICAL SECTION
1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
- Strands 1 3/4" up, - Strands 3/4" up

FILE NAME = Emergency Bridge Beam Repl.	USER NAME = \$USER*	DESIGNED - CEJ	REVISED - ---
S:\GEN\DRAWING\STDS&PLNS\BRIDGE		DRAWN - CEJ	REVISED - ---
CONTRACTS\Emergency PPC Beam	PLOT SCALE = \$SCALE*	CHECKED - ---	REVISED - ---
Repairs\68850 SN055-0027 Farmers Fork.dgn	PLOT DATE = \$DATE*	DATE - 8-28-2008	REVISED - ---

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS	
SCALE: _____	SHEET NO. ___ OF ___ SHEETS
STA. _____	TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
313	(38-B2)I	McDONOUGH	16	4
PPC BEAM REPLACEMENT			CONTRACT NO. 68850	
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

SN.055-0027 US.67SB
over Farmers Fork

SCHEDULE OF QUANTITIES

PAVEMENT MARKING LINE, 4" & PAVEMENT MARKING REMOVAL

LOCATION STA. TO STA.	PVMT. MRKG. LINE, 4"		PVMT. MRKG. REM.	
	WHITE EDGELINE (FOOT)	YELLOW SKIP DASH (FOOT)	WHITE EDGELINE (FOOT)	YELLOW SKIP DASH (FOOT)
STAGE I JOBSITE	315	118.5	315	118.5
STAGE II JOBSITE	293	100	293	100
TOTAL	826		826	

PAVEMENT MARKING TAPE TYPE III, 4" & WORKZONE PAVEMENT MARKING REMOVAL

LOCATION STA. TO STA.	TEMP. PVMT. MRKG. LINE-4" YELLOW (FT.)	TEMP. PVMT. MRKG. LINE-4" WHITE (FT.)	WORK ZONE PVMT. MRKG. REM. (SQFT)
STAGE I JOBSITE	163 (Taper) 964 (C)		54 (Taper) 322 (C)
		293 (Edge)	98 (Edge)
STAGE II JOBSITE	100 (Taper) 1075 (C)		33 (Taper) 358 (C)
		348 (Edge)	116 (Edge)
SUB-TOTAL	2302	641	
TOTAL	2943		982

TRAFFIC CONTROL

LOCATION STA. TO STA.	TEMP. CONC. BARRIER (FT)	RELOCATE TCB (FT)	IMPACT ATTEN. TEMP. (EACH)	T,C.&P. STANDARD 701423 (EACH)	CHANGEABLE MESSAGE BOARD (Cal Mo)	WIDTH RESTRICTION SIGNING (LSUM)
JOBSITE					2	1
Sta. 150+42.7 to Sta. 153+74.1	162.5					
Sta. 153+45.4 to Sta. 154+39.4	169	169	1	1		
Sta. 151+44.2 to Sta. 153+74.7		97.5				
TOTAL	331.5	266.5	1	1	2	1

BITUMINOUS WIDENING MIX SPECIFICATION

The following mixture requirements are applicable to this project:

MIXTURE USE(S):	SURFACE LIFT	LOWER LIFTS
AC/PG:	PG 64-22	PG 64-22
RAP% (MAX): **	15% Max	25% Max
Design Air Voids:	4.0% @ N=50	4.0% @ N=50
Mixture Composition: (Graduation Mixture)	IL 9.5 or 12.5	IL 19.0
Friction Aggregate:	Mixture D (dolomite only)	N/A

** If RAP option is selected, the asphalt cement grade may need to be adjusted by the Materials Engineer.

SHOULDER REMOVAL/REPLACEMENT

BITUMINOUS CONCRETE SHOULDER REMOVAL		HMA BASE COURSE WIDENING, 9"	
RIGHT NORTH APPROACH	SQ.YD.	RIGHT NORTH APPROACH	SQ.YD.
Sta. 151+13 to Sta. 153+74	290	Sta. 151+13 to Sta. 153+74	290
RIGHT SOUTH APPROACH	SQ.YD.	RIGHT SOUTH APPROACH	SQ.YD.
Sta. 154+68 to Sta. 156+68	222.2	Sta. 154+68 to Sta. 156+68	222.2
LEFT NORTH APPROACH	SQ.YD.	LEFT NORTH APPROACH	SQ.YD.
Sta. 151+19 to Sta. 153+17	176	Sta. 151+19 to Sta. 153+17	176
LEFT SOUTH APPROACH	SQ.YD.	LEFT SOUTH APPROACH	SQ.YD.
Sta. 154+11 to Sta. 155+41	115.6	Sta. 154+11 to Sta. 155+41	115.6
TOTAL	804	TOTAL	804

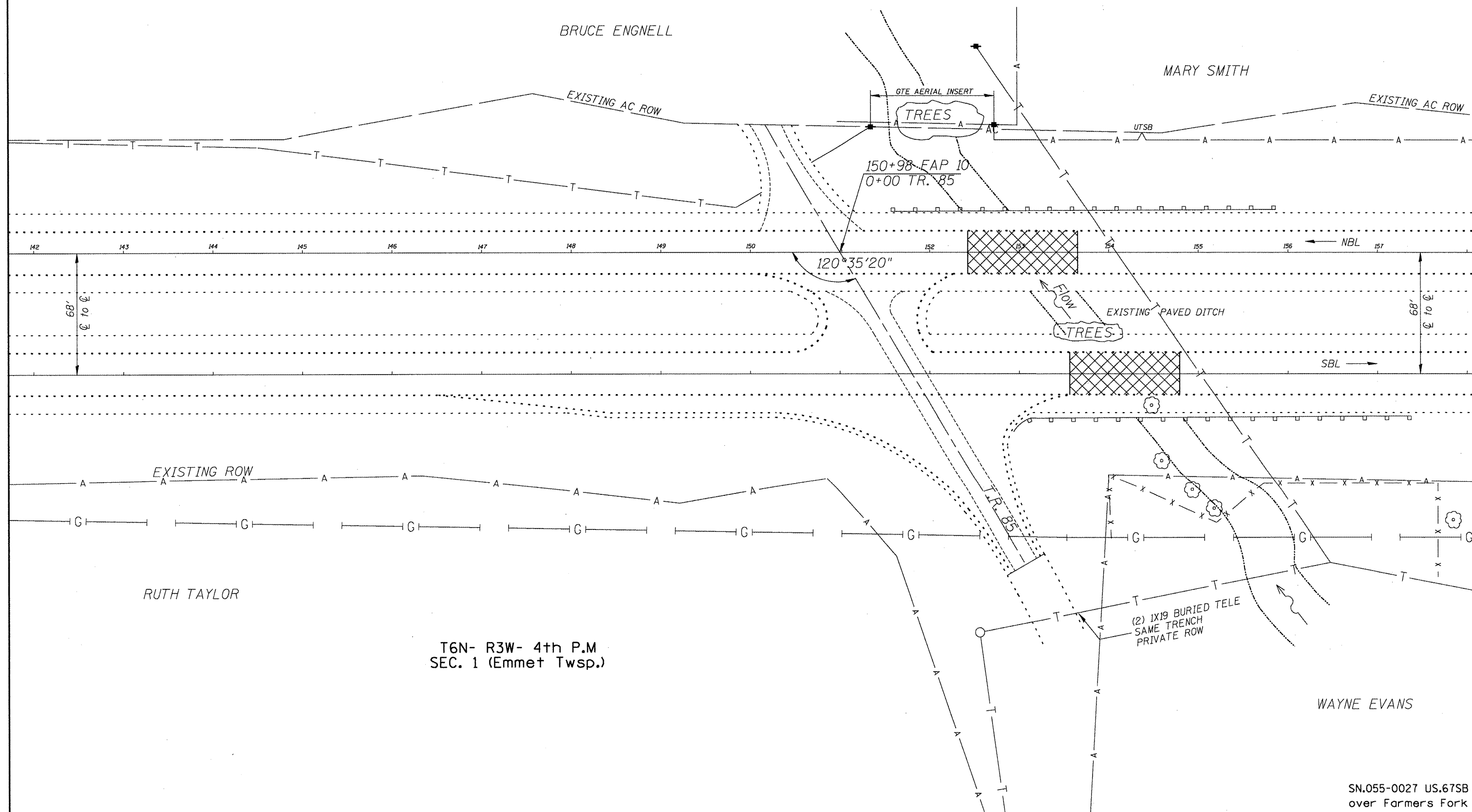
NOTE
Additional pay items that may not be included in the SCHEDULE OF QUANTITIES pertain to the superstructure repair and are designated on the Bridge Office Repair Sheets, (pages 9-15).

SN.055-0027 US.67SB
over Farmers Fork

FILE NAME = Emergency Bridge Beam Rep. S:\GEN\DRFT\STD&PLNS\BRIDGE #FILE# CONTRACTS\Emergency PPC Beam Repairs\68850 SN055-0027 Farmers Fork.dgn	USER NAME = #USER#	DESIGNED - CEJ DRAWN - CEJ CHECKED - --- DATE - 8-28-2008	REVISED - --- REVISED - --- REVISED - --- REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF QUANTITIES SCALE: _____ SHEET NO. ___ OF ___ SHEETS STA. _____ TO STA. _____	F.A.P. RTE. 313 SECTION (28-B21) COUNTY McDONOUGH TOTAL SHEETS 16 SHEET NO. 5 PPC BEAM REPLACEMENT CONTRACT NO. 68850 FED. ROAD DIST. NO. 4 [ILLINOIS] FED. AID PROJECT
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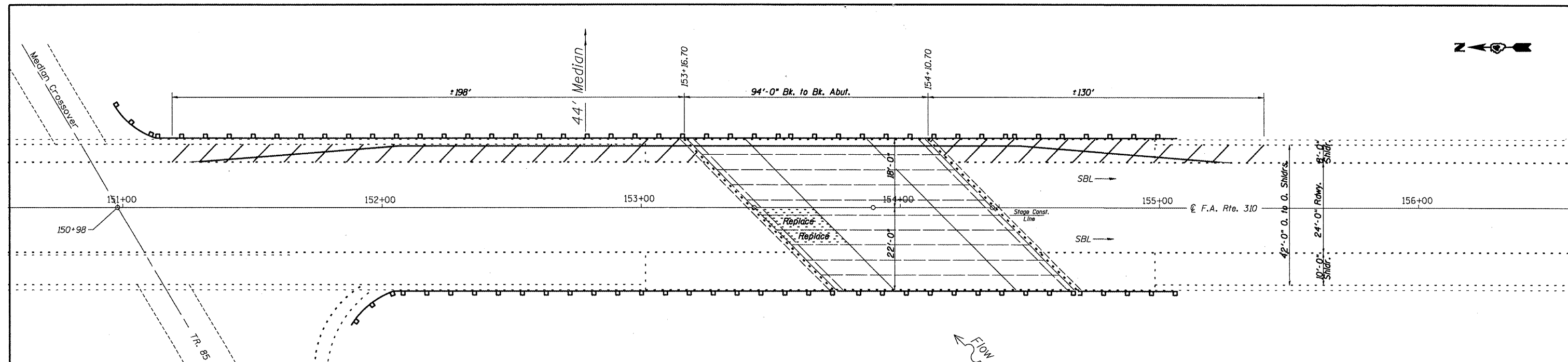
T6N- R2W- 4th P.M
SEC. 6 (MaComb Twsp.)



T6N- R3W- 4th P.M
SEC. 1 (Emmet Twsp.)

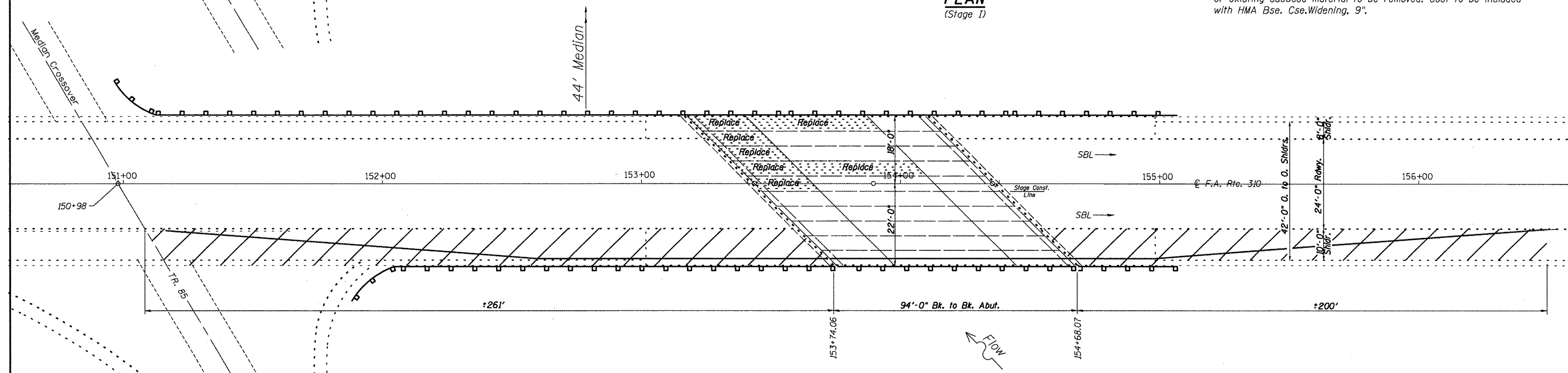
SN.055-0027 US.67SB
over Farmers Fork

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	PLOT SCALE = #SCALE#	CHECKED - ---	DATE - 8-28-2008		REVISED - ---	SCALE: -----	SHEET NO. -- OF -- SHEETS	STA. ----- TO STA. -----	FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT		



PLAN
(Stage I)

NOTES
Proposed shoulder length & width shall require necessary depth of existing subbase material to be removed. Cost to be included with HMA Bse. Cse. Widening, 9".



PLAN
(Stage II)

BILL OF MATERIAL

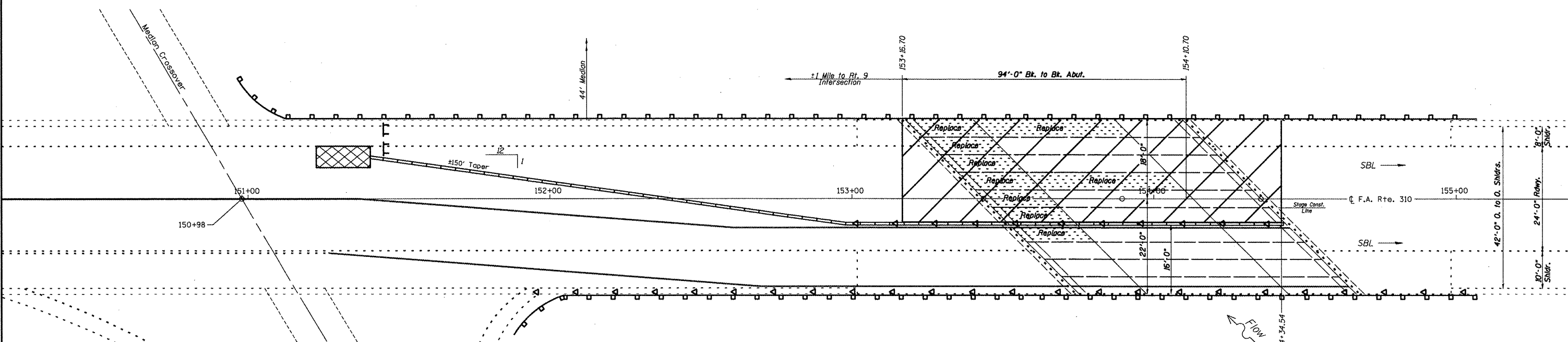
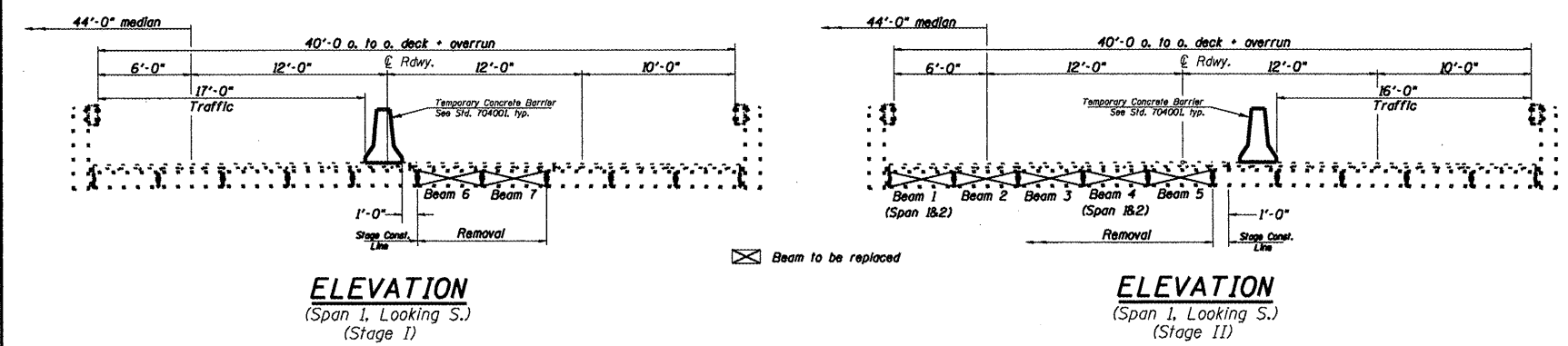
Item	Unit	Total
Bituminous Concrete Shoulder Removal	Sq.Yd.	804
HMA Base Course Widening, 9"	Sq.Yd.	804

SYMBOLS

Shoulder Rework

SN.055-0027 US.67SB
over Farmers Fork

FILE NAME = Emergency Bridge Beam Repl	USER NAME = *USER*	DESIGNED - CEJ	REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED SHOULDER REMOVAL / REPLACEMENT	F.A.P. RTE. 313	SECTION (38B-2H)	COUNTY McDONOUGH	TOTAL SHEETS 16	SHEET NO. 7	
S:\GEN\DRAWING\STDS&PLNS\BRIDGE		DRAWN - CEJ	REVISED - ---			SCALE: _____	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	CONTRACT NO. 68850		
CONTRACTS\Emergency PPC Beam		CHECKED - ---	REVISED - ---			FED. ROAD DIST. NO. 4 (ILLINOIS) FED. AID PROJECT					
Repairs\68850 SN055-0027 Farmers Fork.dgn		DATE - 8-28-2008	REVISED - ---								



PLAN
(Stage II Shown)

SYMBOLS

- Work Area
- Temporary Concrete Barrier
- Monodirectional Barrier Marker
- Temporary Concrete Barrier
- Type III Barricade
- Impact Attenuator NRD TL3

NOTES

Refer to Highway Standard 701423 in conjunction with this sheet for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of this standard.

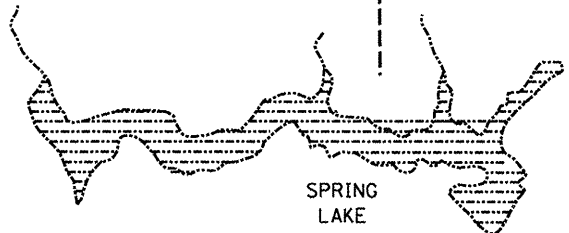
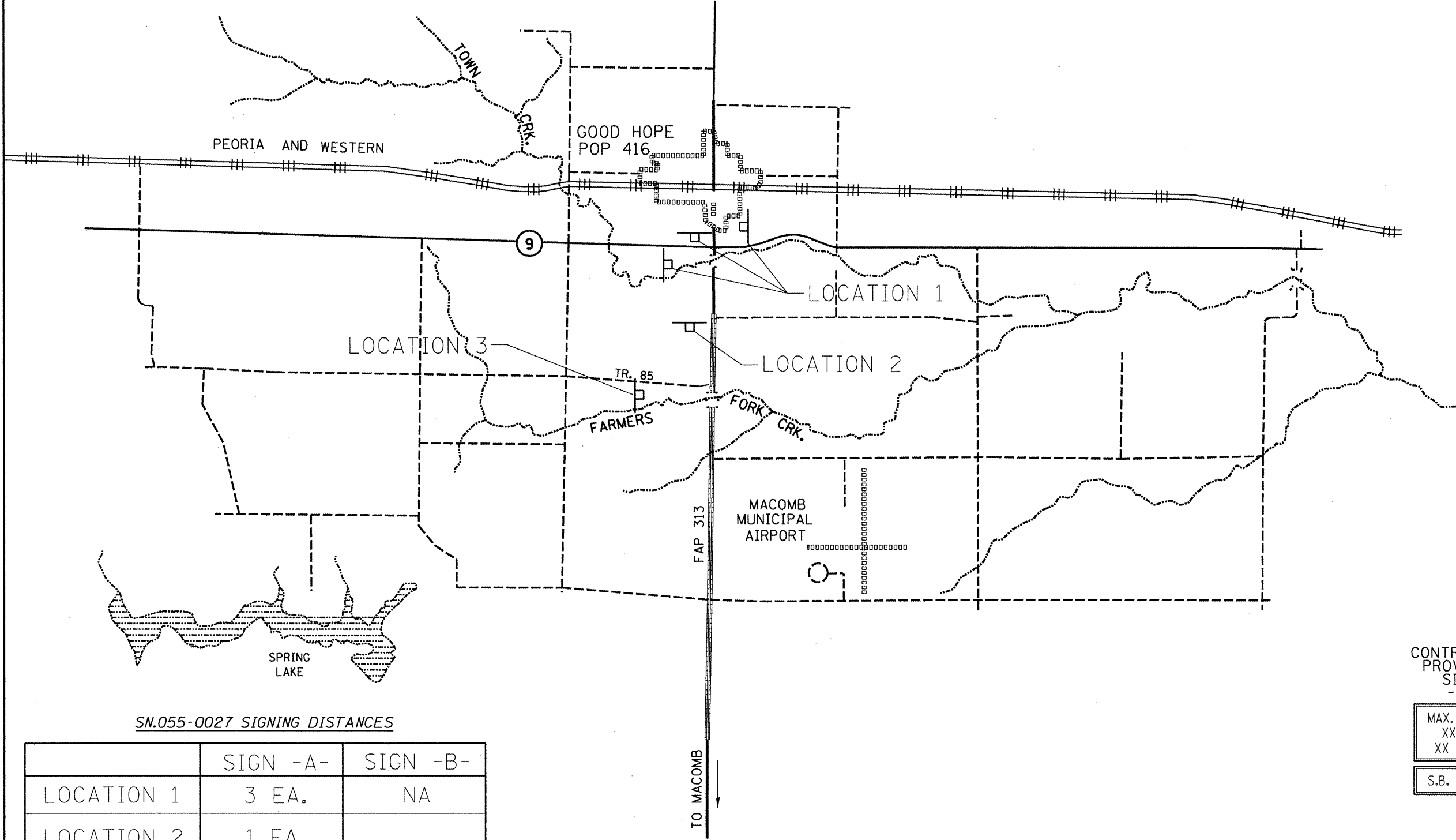
Lane staging order was chosen by Bridge Office Design for construction continuity of reinforcement in the overlay.

TYPE III BARRICADES shall be used behind the Attenuator as shown and recommended by D4 Traffic Control Tech. Cost to be included with T.C. Standard 701423.

FILE NAME = Emergency Bridge Beam Repl	USER NAME = #USER#	DESIGNED - CEJ	REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL STAGING			F.A.P. RTE. 313	SECTION (38B-21)	COUNTY McDONOUGH	TOTAL SHEETS 16	SHEET NO. 8
CONTRACTS\Emergency PPC Beam	PLOT SCALE = #SCALE#	DRAWN - CEJ	REVISED - ---		SCALE: -----	SHEET NO. -- OF -- SHEETS	STA. ----- TO STA. -----	PPC BEAM REPLACEMENT CONTRACT NO. 68850				
Repairs\68850 SN055-0027 Farmers Fork.dgn	PLOT DATE = #DATE#	CHECKED - ---	REVISED - ---		FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT							
		DATE - 8-28-2008	REVISED - ---									

SN.055-0027 US.675B
over Farmers Fork

NOTES
 Notification signs shall be posted where necessary North of structure indicating maximum width ahead of 16'-0" for Stage II. Changeable Message Boards for S.B. traffic shall be placed one week prior to work start date for public safety and awareness.



SN.055-0027 SIGNING DISTANCES

	SIGN -A-	SIGN -B-
LOCATION 1	3 EA.	NA
LOCATION 2	1 EA.	
LOCATION 3	1 EA.	
LOCATION 4		

CONTRACTOR PROVIDED SIGN -A-

MAX. WIDTH
XX-XX
XX MILES

S.B. US. 67

SEE SPECIAL PROVISIONS FOR SIGNING DETAILS

SN.055-0027 US.67SB
 over FARMERS FORK

FILE NAME = Emergency Bridge Beam Rep	USER NAME = #USER#	DESIGNED - CEJ	REVISED - ---	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WIDTH RESTRICTION SIGNING	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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CONTRACTS\Emergency PPC Beam	PLOT DATE = #DATE#	CHECKED - ---	REVISED - ---			PPC BEAM REPLACEMENT		CONTRACT NO. 68850			
Repairs\68850 SN055-0027 Farmers Fork.dgn	DATE - 08-28-2008	REVISED - ---	REVISED - ---			FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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 nominal construction 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 at 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.

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.

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.

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

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

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with PPC Deck Beams.

The minimum thickness of the Concrete overlay shall be 4 1/2" and varies as required to adjust for the new profile grade and beam camber.

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Wearing Surface (5').

DESIGN STRESSES

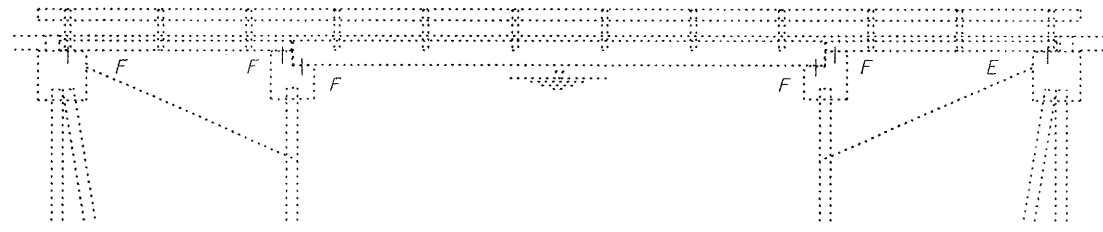
PRECAST PRESTRESSED UNITS

$f'_c = 6,000 \text{ psi}$
 $f'_{ci} = 5,000 \text{ psi}$
 $f'_s = 270,000 \text{ psi}$ (1/2" ϕ low lax strands)
 $f'_{si} = 201,960 \text{ psi}$ (1/2" ϕ low lax strands)

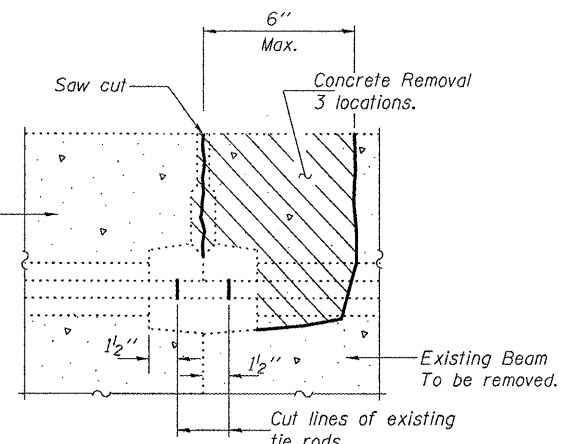
TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	972
Precast Prestressed Concrete Deck Beams (11" Depth)	Sq. Ft.	587
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	379
Concrete Removal	Cu. Yd.	1.3
Concrete Wearing Surface (5')	Sq. Yd.	117
Reinforcement Bars, Epoxy Coated	Pound	1210
Removing & Re-erecting Existing Railing	Foot	69
Mechanical Splicers	Each	102
Protective Coat	Sq. Yd.	117

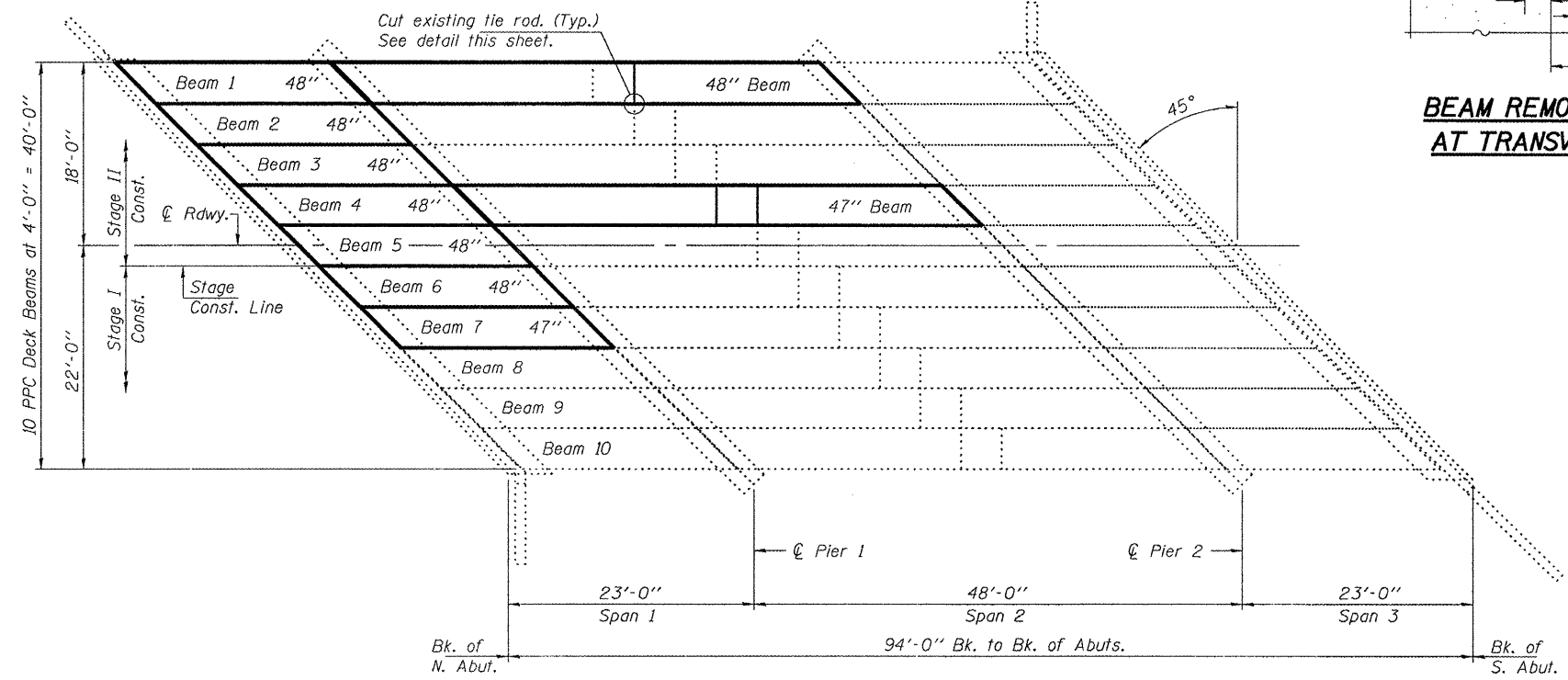
**PLAN & ELEVATION
US ROUTE 67 OVER
FARMER'S FORK
SN 055-0027**



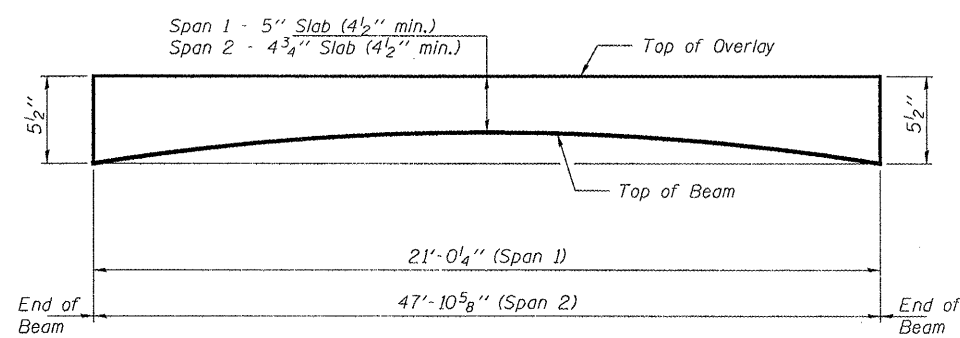
ELEVATION



**BEAM REMOVAL DETAIL
AT TRANSVERSE TIES**



PLAN



ANTICIPATED INITIAL CAMBER DIAGRAM

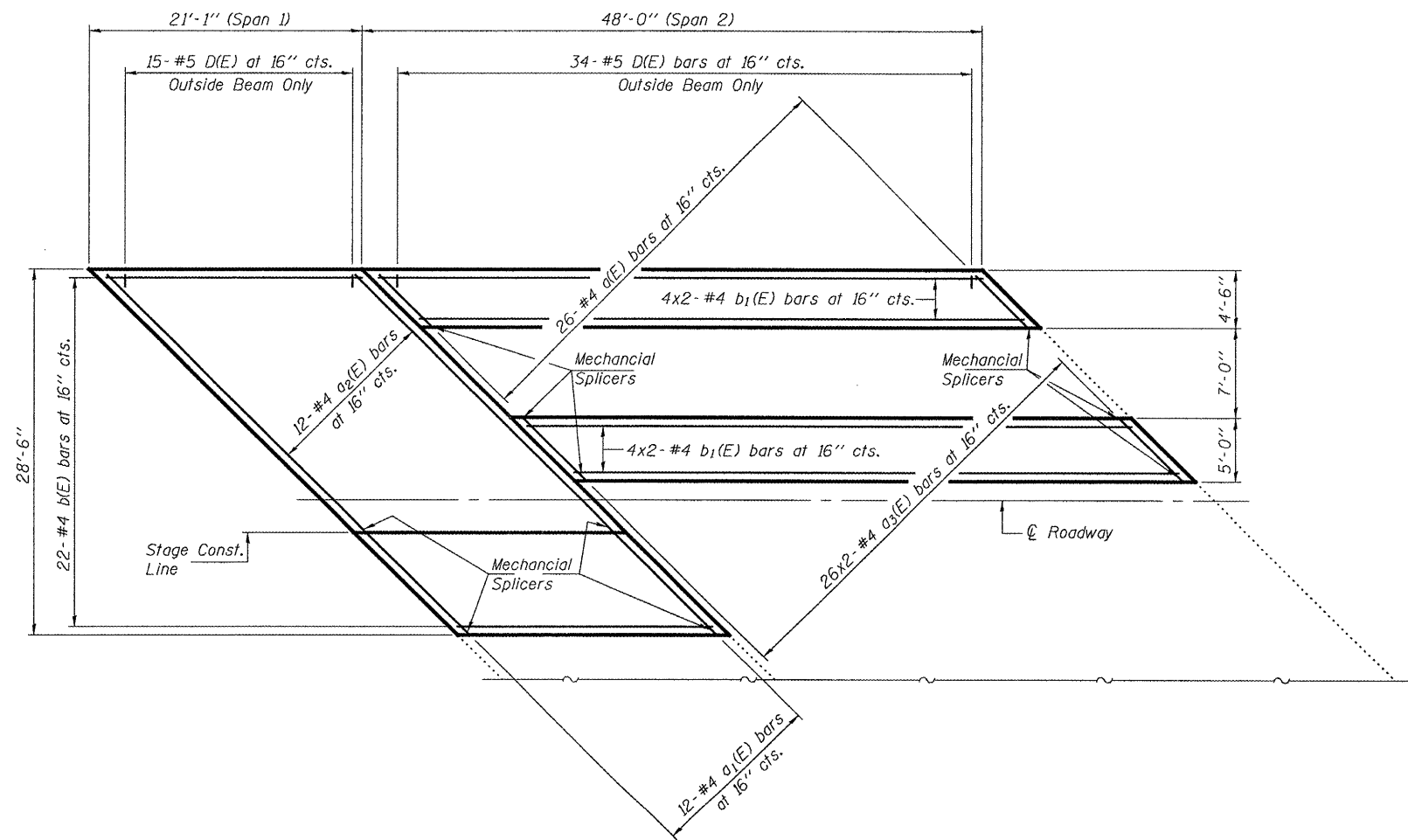
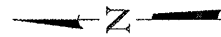


Expires: November 30, 2010

DESIGNED: Alan J. Hallogay
CHECKED: [Signature]
DRAWN: Kyle M. Steffen
CHECKED: ATH MB
NOVEMBER 6, 2008
EXAMINED: [Signature]
PASSED: [Signature]

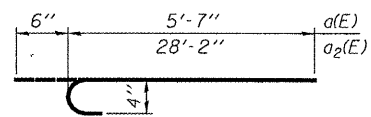
SHEET NO. 1 7 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	310	-	McDONOUGH	16	10
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
CONTRACT NO.					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

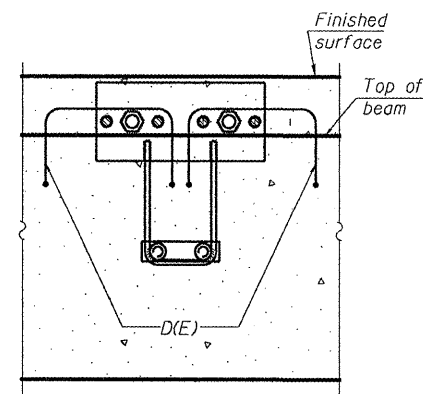


PARTIAL PLAN - CONCRETE SLAB
(Showing Reinforcement)

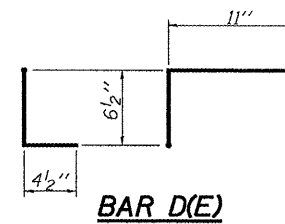
MIN. BAR LAP
#4 Bars = 1'-8"



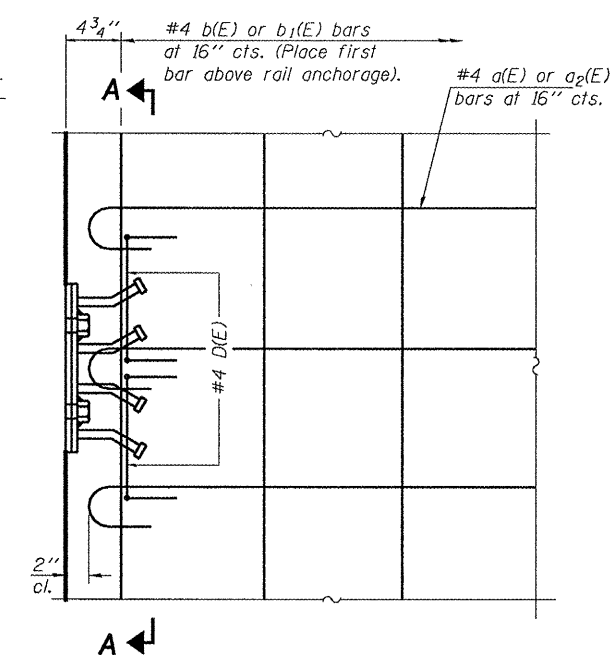
a1(E) & a2(E) BARS



SECTION A-A

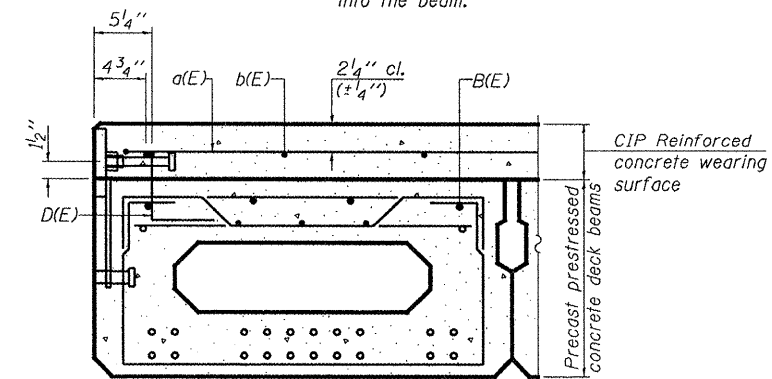


BAR D(E)



PLAN

Notes:
Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam.



CROSS SECTION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	26	#4	6'-1"	┌
a1(E)	12	#4	11'-3"	┌
a2(E)	12	#4	28'-8"	┌
a3(E)	52	#4	6'-0"	┌
b(E)	22	#4	20'-9"	┌
b1(E)	16	#4	25'-0"	┌
Mechanical Splice			Each	102
Reinforcement Bars, Epoxy Coated			Pound	1210

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

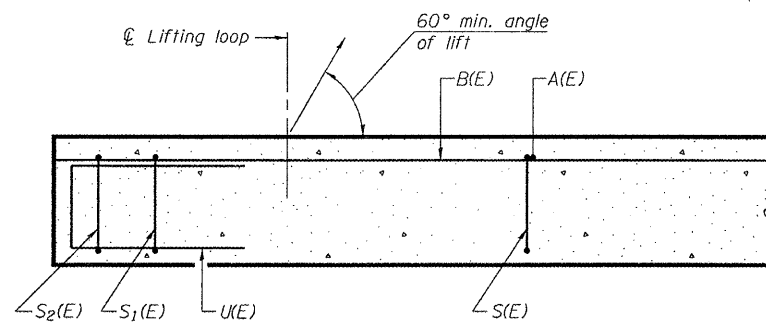
SUPERSTRUCTURE DETAILS
US ROUTE 67 OVER
FARMER'S FORK
SN 055-0027

DESIGNED	ATH
CHECKED	AJB
DRAWN	Kyle M. Steffen
CHECKED	ATH AJB

NOVEMBER 6, 2008
EXAMINED *A. Carl Perry*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 2 7 SHEETS	F.A.P. RTE. 310	SECTION -	COUNTY McDONOUGH	TOTAL SHEETS 10	SHEET NO. 11
	CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

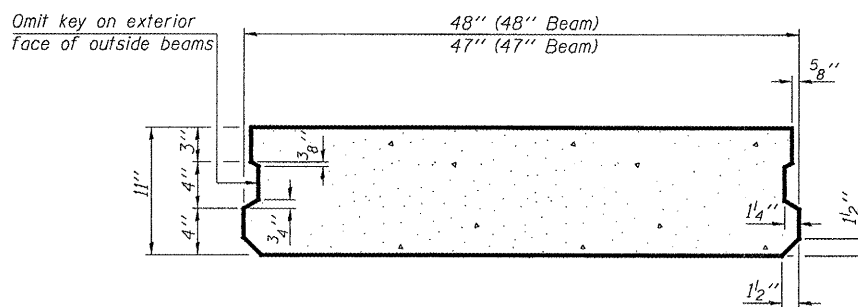
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



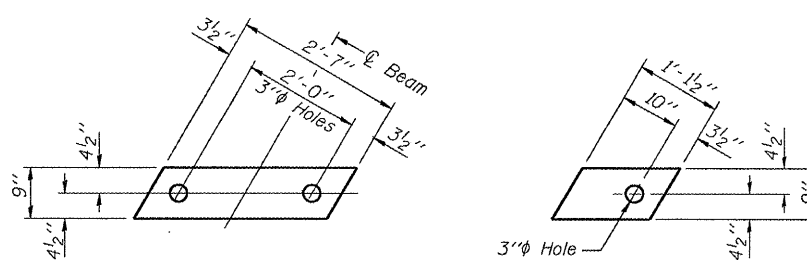
SECTION C-C



RAIL POST SPACING FOR SPAN 1



SECTION A-A
(Showing dimensions)

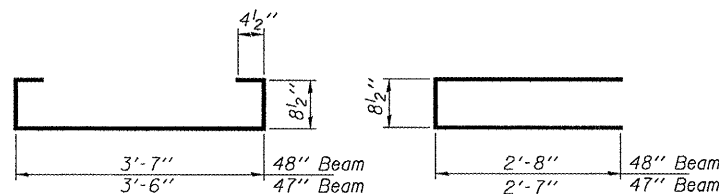


FABRIC BEARING PAD

FABRIC ADJUSTING SHIM

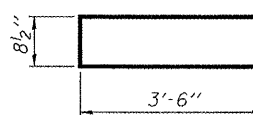
FIXED

Note: Omit holes when using expansion bearings.

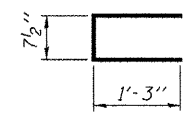


BAR S(E)

BAR S1(E)



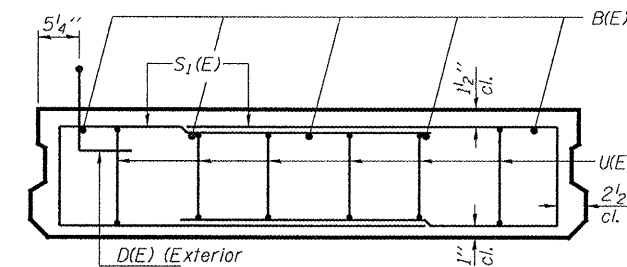
BAR S2(E)



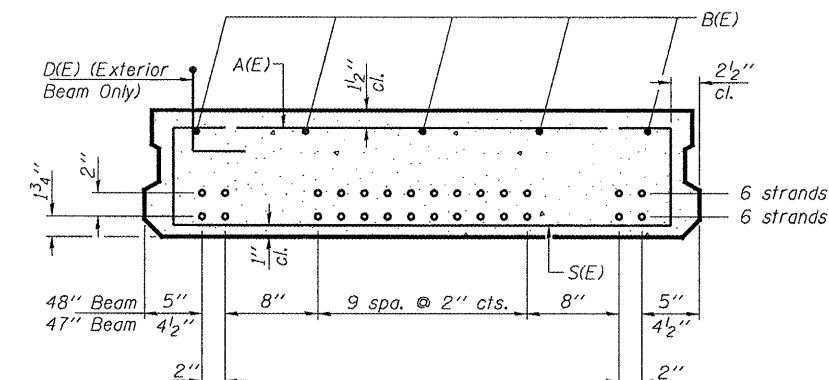
BAR U(E)

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. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/2" fabric adjusting shims of the dimensions shown shall be provided for each bearing pad location. A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



VIEW B-B



SECTION A-A

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST

ONE 47" BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	8	#4	3'-6"	—
B(E)	5	#5	20'-9"	—
S(E)	16	#4	5'-8"	U
S1(E)	16	#4	6'-0"	U
S2(E)	12	#4	7'-9"	U
U(E)	12	#4	3'-2"	U

BAR LIST

ONE 48" BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	8	#4	3'-7"	—
B(E)	5	#5	20'-9"	—
S(E)	16	#4	5'-9"	U
S1(E)	16	#4	6'-1"	U
S2(E)	12	#4	7'-9"	U
U(E)	12	#4	3'-2"	U

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (11" depth)	Sq. Ft.	587
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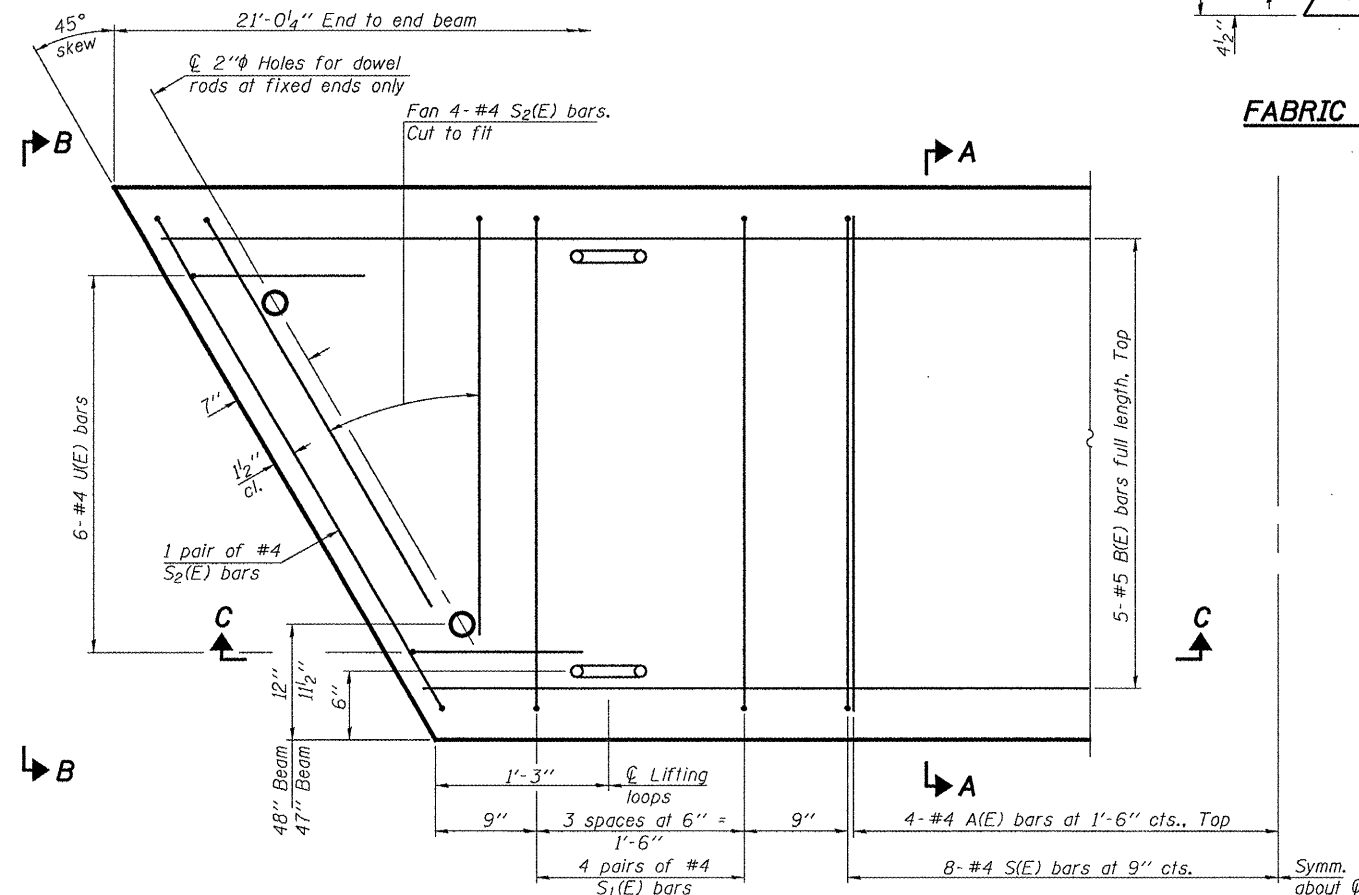
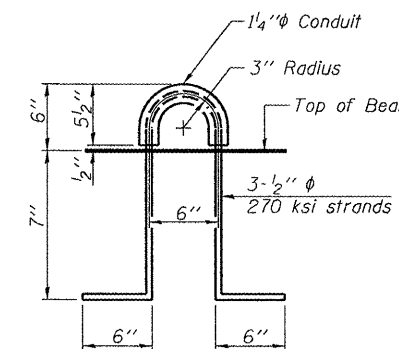
BEAM DETAILS - SPAN 1

US ROUTE 67 OVER

FARMER'S FORK

SN 055-0027

LIFTING LOOP DETAIL



PLAN VIEW

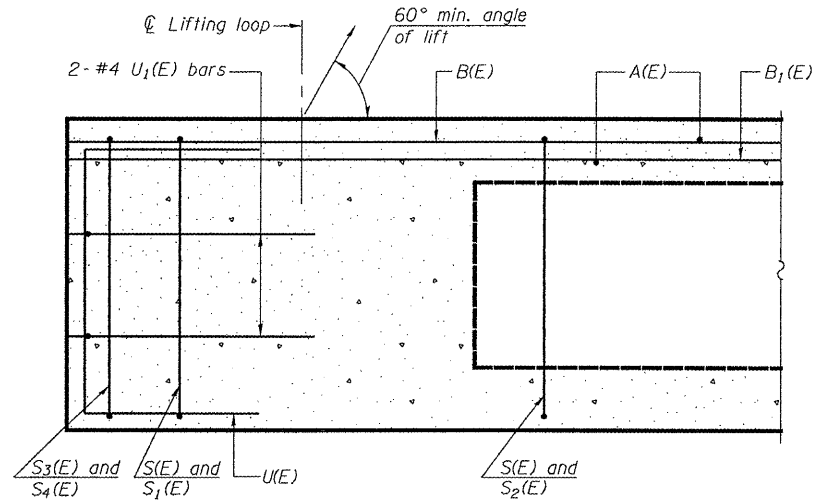
DESIGNED	ATH
CHECKED	AJB
DRAWN	Kyle M. Steffen
CHECKED	ATH AJB

NOVEMBER 6, 2008
EXAMINED *Carl Boyer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

PD-1148-R 5-16-08

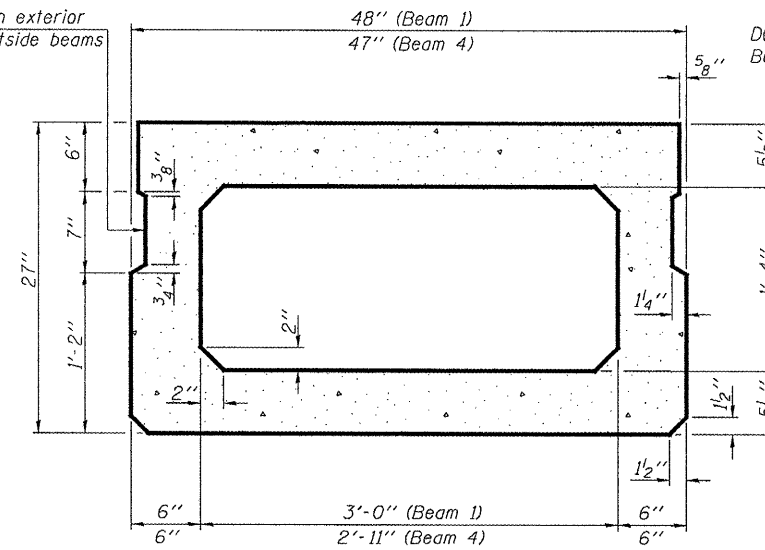
SHEET NO. 3	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	310	-	McDONOUGH	16	12
7 SHEETS	CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

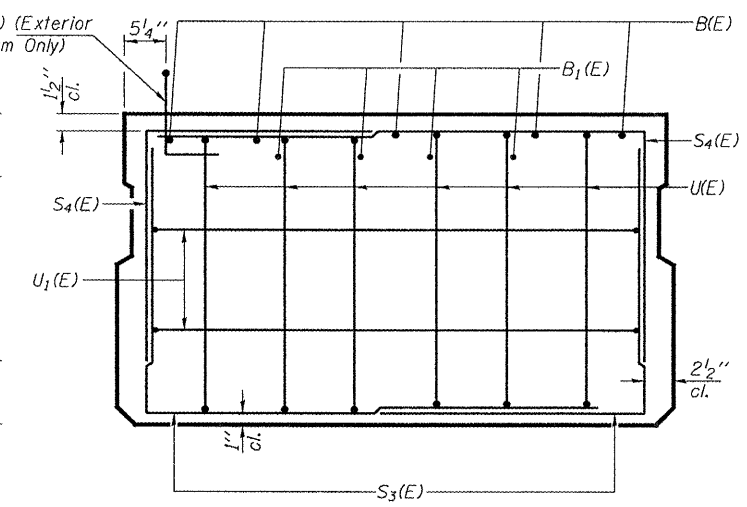


SECTION C-C

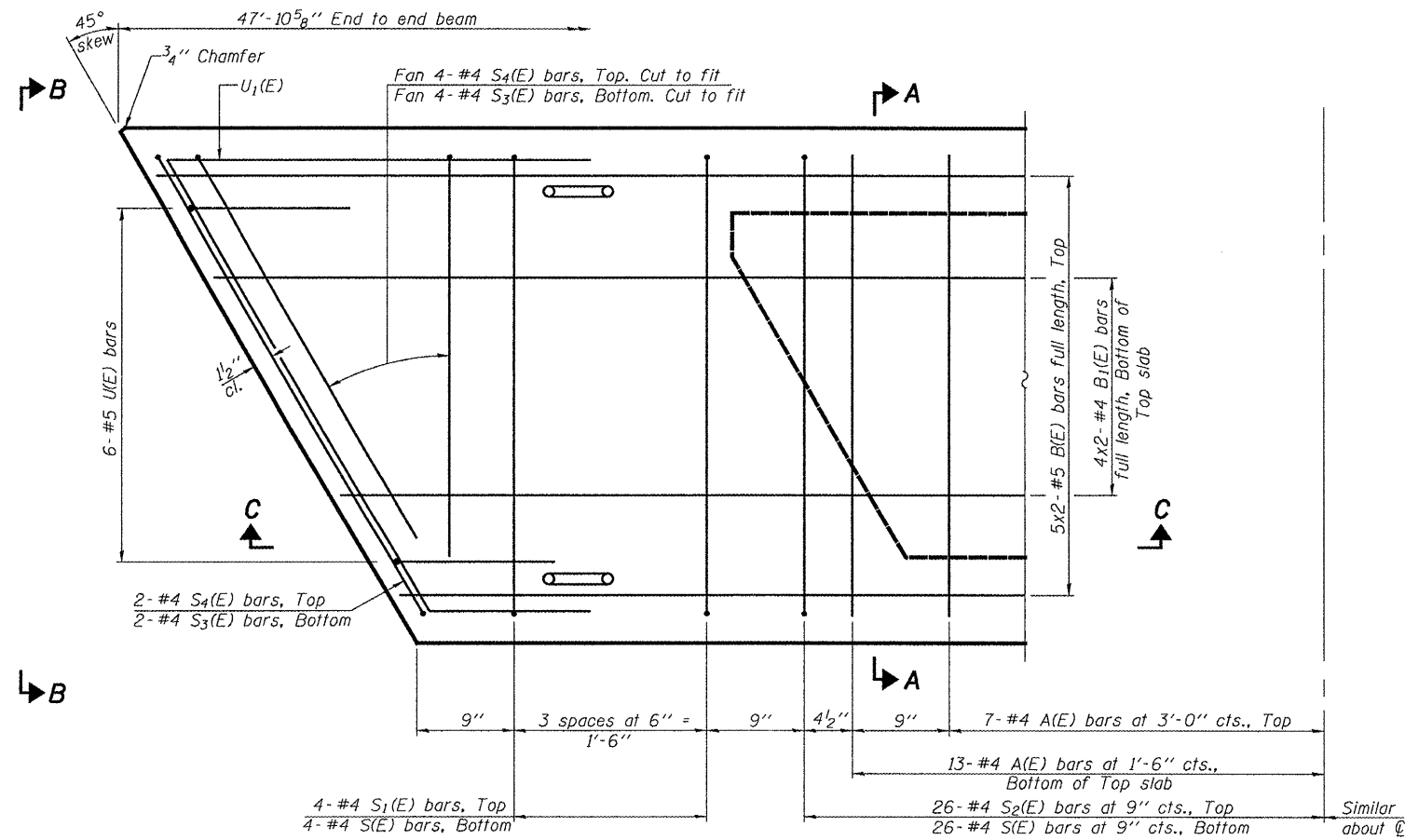
Omit key on exterior
Face of outside beams



SECTION A-A
(Showing dimensions)

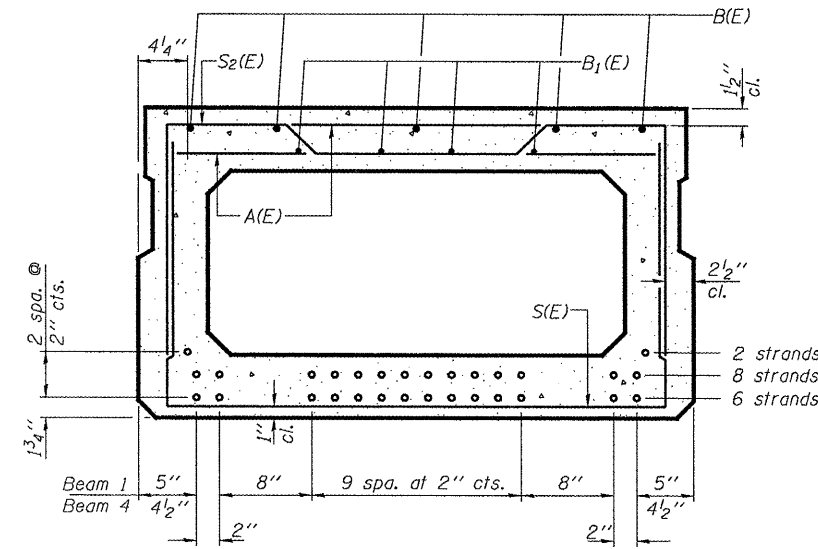


VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION A-A

(Showing reinforcement and permissible strand locations)
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

MIN. BAR LAP

#4 = 1'-8"
#5 = 2'-2"

BAR LIST FOR
ONE 47" BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	40	#4	3'-7"	—
B(E)	10	#5	25'-0"	—
B1(E)	8	#4	24'-9"	—
S(E)	60	#4	7'-4"	U
S1(E)	8	#4	6'-10"	U
S2(E)	52	#4	7'-1"	U
S3(E)	8	#4	5'-5"	U
S4(E)	8	#4	5'-2"	U
U(E)	12	#5	4'-6"	U
U1(E)	4	#4	10'-9"	U

BAR LIST FOR
ONE 48" BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	40	#4	3'-7"	—
B(E)	10	#5	25'-0"	—
B1(E)	8	#4	24'-9"	—
S(E)	60	#4	7'-5"	U
S1(E)	8	#4	6'-11"	U
S2(E)	52	#4	7'-2"	U
S3(E)	8	#4	5'-5"	U
S4(E)	8	#4	5'-2"	U
U(E)	12	#5	4'-6"	U
U1(E)	4	#4	10'-11"	U

Bars indicated thus 5 x 2 #5 etc. indicates 5 lines of bars with 2 lengths per line.
Note: See sheets 2 & 5 of 7 for additional details and Bill of Material.

BEAM DETAILS - SPAN 2
US ROUTE 67 OVER
FARMER'S FORK
SN 055-0027

DESIGNED	ATH
CHECKED	AJB
DRAWN	Kyle M. Steffen
CHECKED	ATH AJB

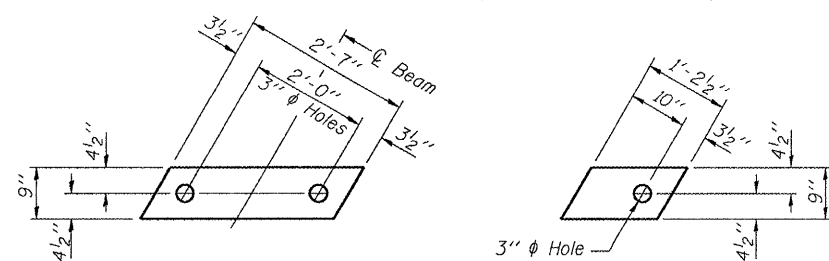
NOVEMBER 6, 2008
EXAMINED *Carl P. ...*
PASSED *Ralph E. Anderson*
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

PD-2748-R 5-16-08

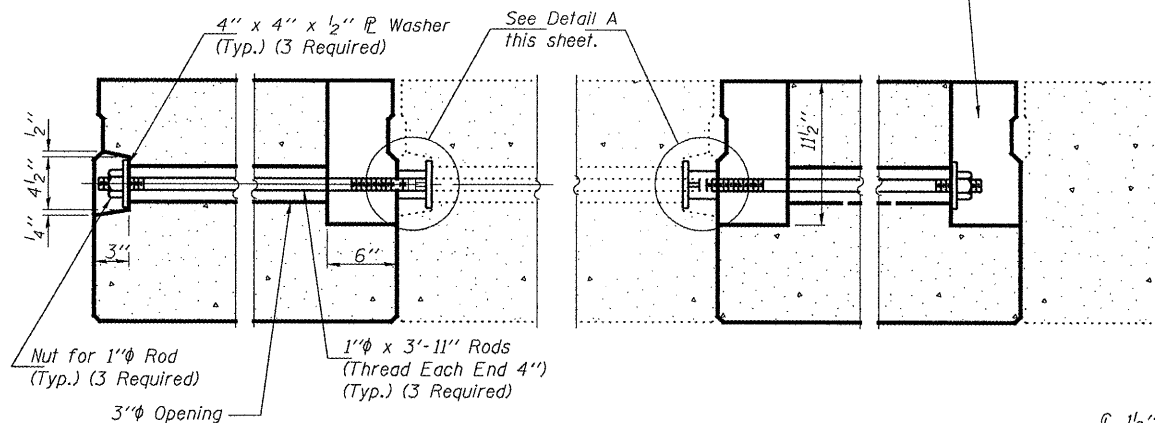
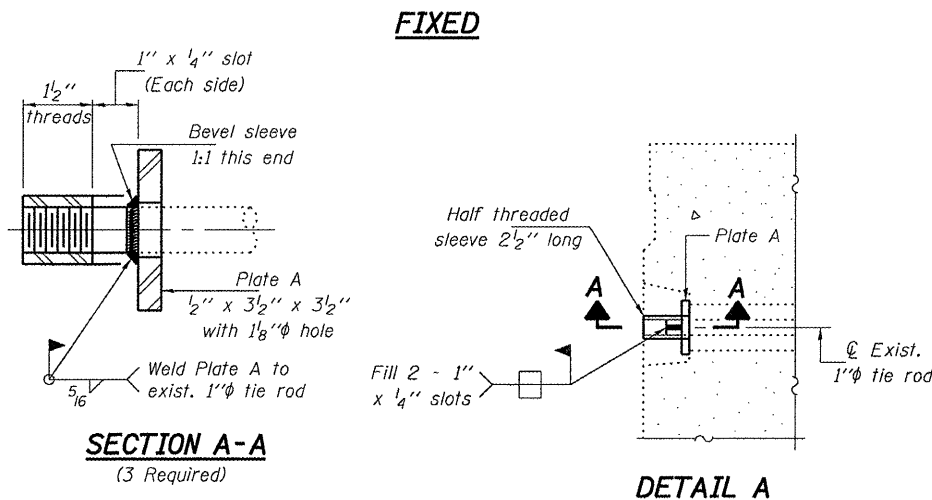
SHEET NO. 4 7 SHEETS	F.A.P. RTE. 310	SECTION -	COUNTY McDONOUGH	TOTAL SHEETS 16	SHEET NO. 13
	CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

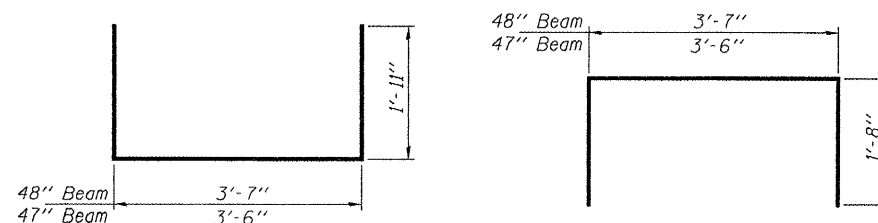
6" x 6" x 1 1/2" Blockout to be filled with non-shrink grout as specified in the special provision Concrete Deck Beams (Min. compressive strength at 7 days = 6000psi) after Beams have been installed. Cost shall be included in the cost of "Concrete Wearing Surface". (Typ.)



FABRIC BEARING PAD FABRIC ADJUSTING SHIM



TYPICAL TRANSVERSE TIE ASSEMBLY



BAR S(E) BAR S₁(E) BAR S₂(E) BAR S₃(E) BAR S₄(E) BAR U(E)

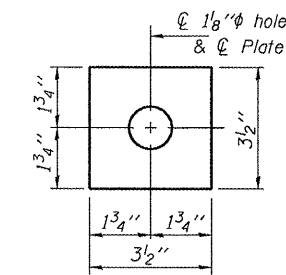
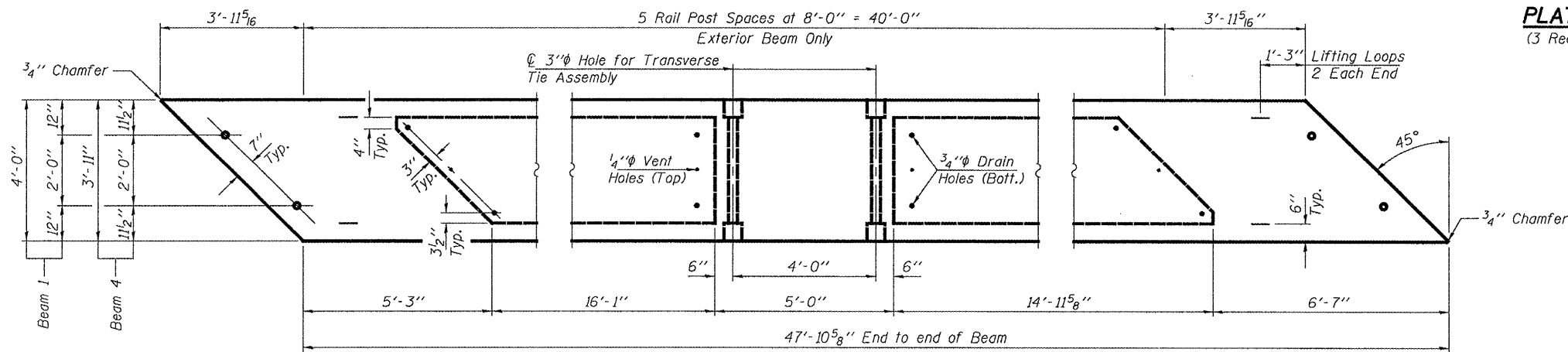


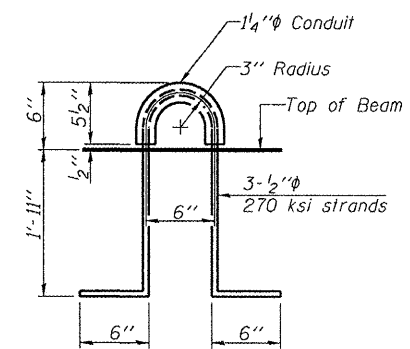
PLATE A (3 Required)



BEAM PLAN - SPAN 2

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. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions shown shall be provided for each bearing pad location. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	379
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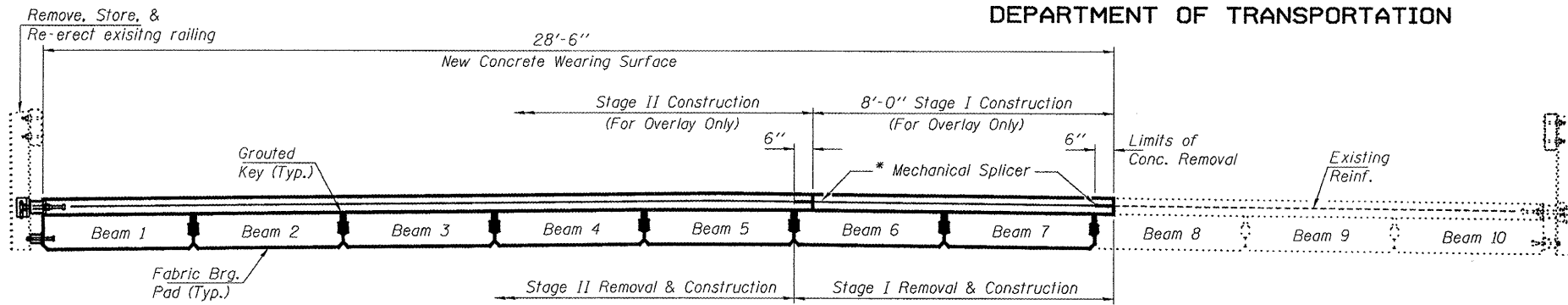
BEAM DETAILS - SPAN 2
US ROUTE 67 OVER
FARMER'S FORK
SN 055-0027

DESIGNED	ATH
CHECKED	AJB
DRAWN	Kyle M. Steffen
CHECKED	ATH AJB

NOVEMBER 6, 2008
EXAMINED *Carl Thayer*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 5	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	310	-	McDONOUGH	16	14
7 SHEETS	FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO.					

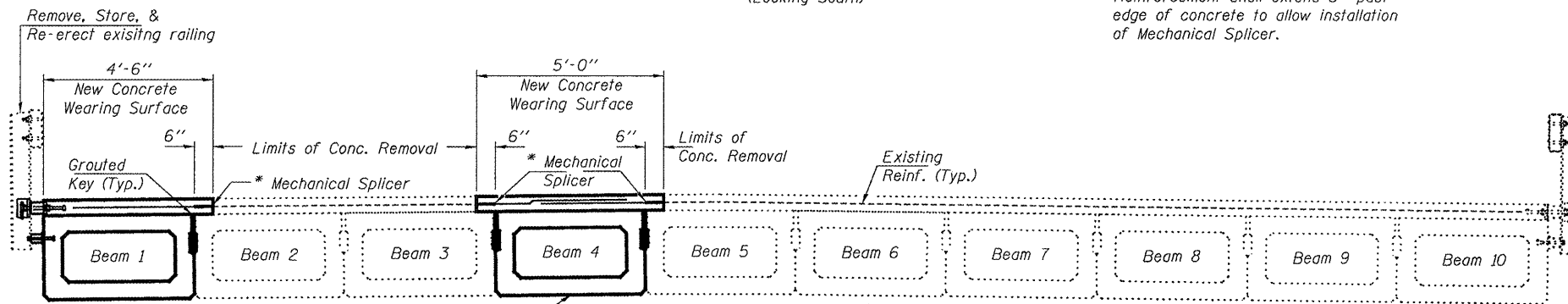
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSS SECTION - SPAN 1

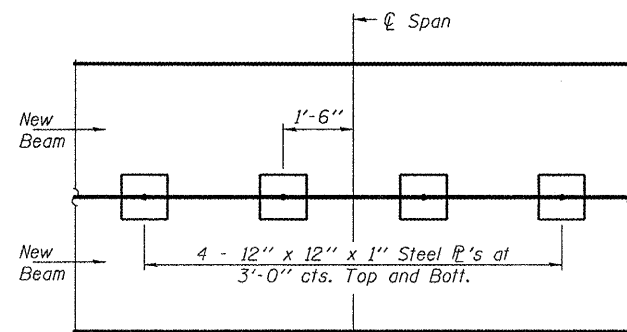
(Looking South)

* Reinforcement shall extend 6" past edge of concrete to allow installation of Mechanical Splicer.

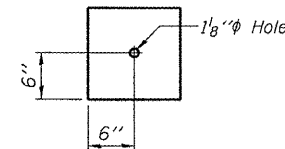


CROSS SECTION - SPAN 2

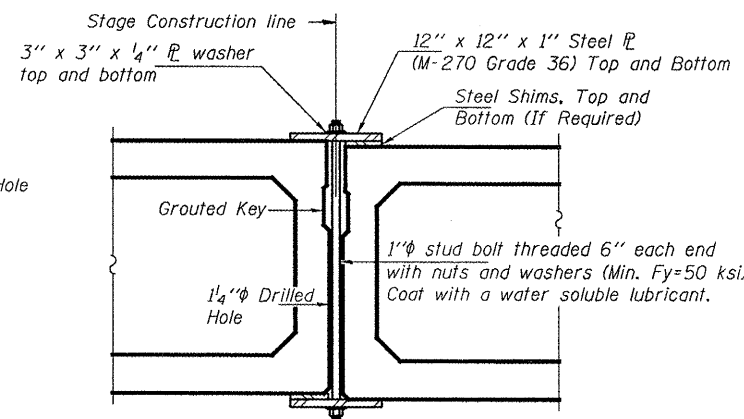
(Looking South)



PLAN

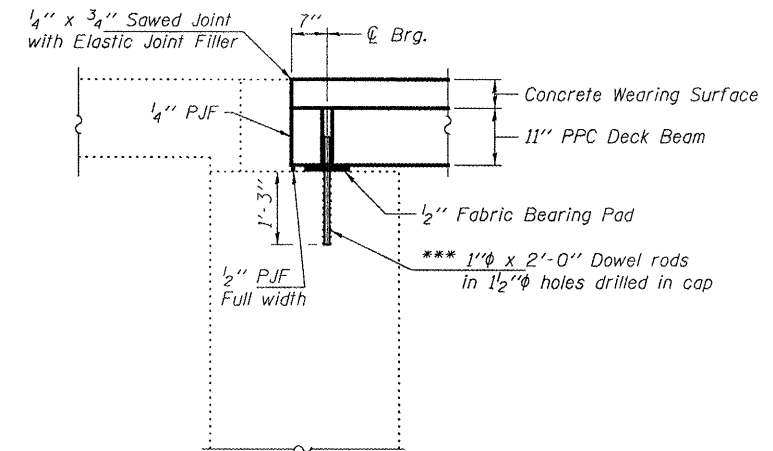


CLAMPING PLATE

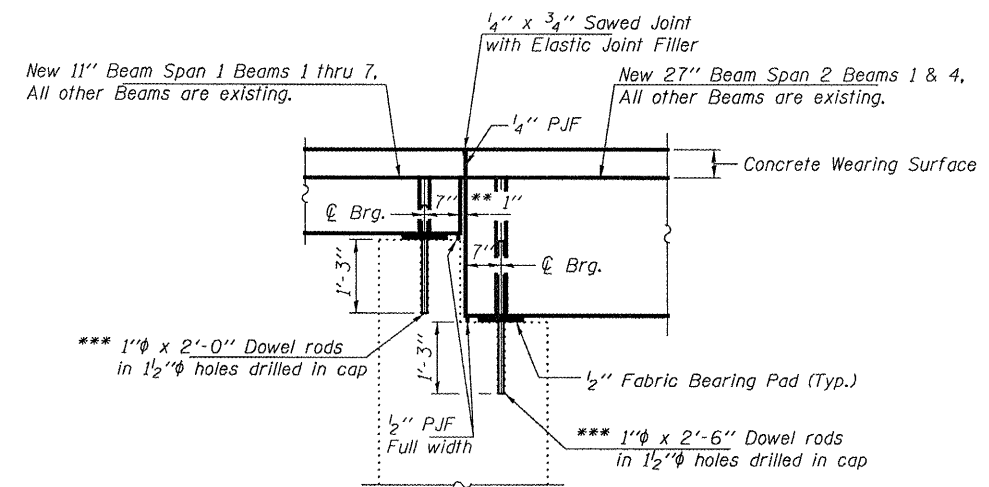


SHEAR KEY CLAMPING DEVICE

Notes:
See Special Provisions for Stage Construction Precast Prestressed Concrete Deck Beams.
See sheet 1 of 7 for Stage traffic lanes.
Cost is included with Precast Prestressed Concrete Deck Beams.



SECTION THRU ABUTMENT



TYPICAL SECTION THRU PIERS

Looking East thru Pier 1
Looking West thru Pier 2

** 1" Joint shall be filled with non-shrink grout. Dimension may vary to accommodate tolerance in beam lengths.

*** 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.

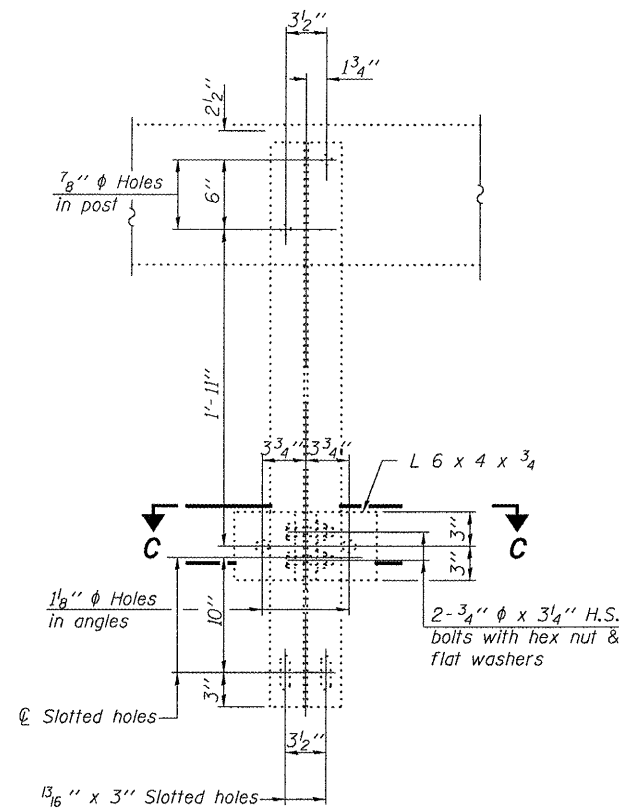
DESIGNED	ATH
CHECKED	AJB
DRAWN	Kyle M. Steffen
CHECKED	ATH AJB

NOVEMBER 6, 2008
EXAMINED *Carl [Signature]*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

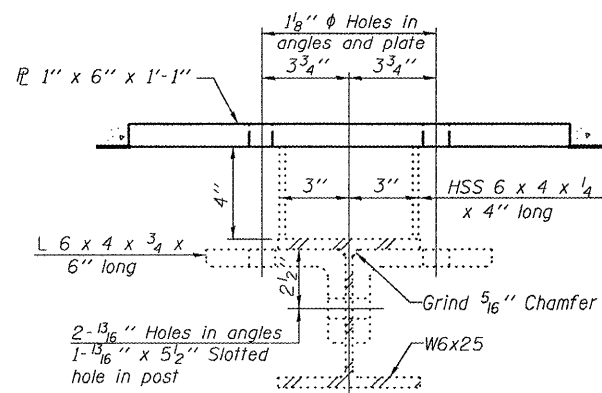
**REPAIR DETAILS
US ROUTE 67 OVER
FARMER'S FORK
SN 055-0027**

SHEET NO. 6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	310	-	McDONOUGH	16	15
7 SHEETS	CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

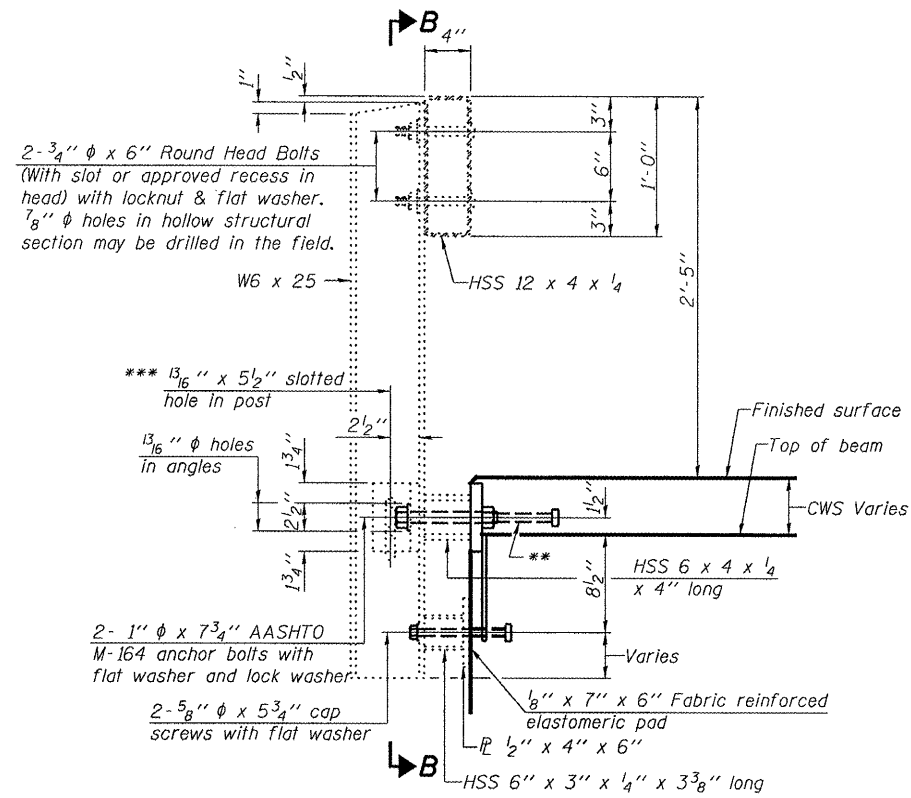
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



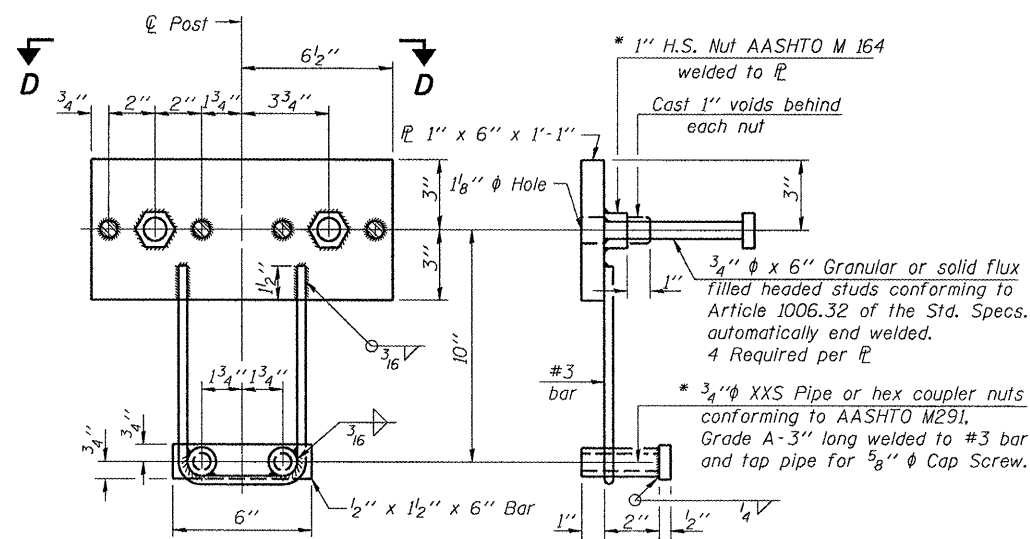
SECTION B-B



SECTION C-C



SECTION AT RAIL POST

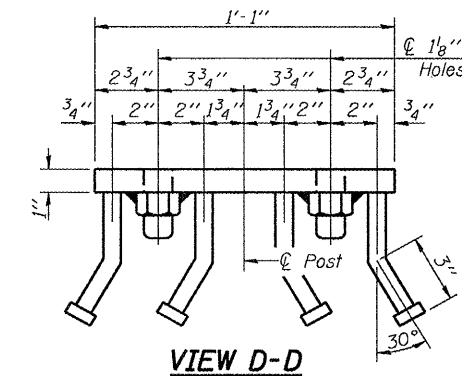


ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

*** Extend slot in field as required. Cost included with Removing & Re-erecting Existing Railing.



VIEW D-D

DESIGNED	ATH
CHECKED	AJB
DRAWN	Kyle M. Steffen
CHECKED	ATH AJB

NOVEMBER 6, 2008
EXAMINED *Carl Koenig*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

RAILING DETAILS
US ROUTE 67 OVER
FARMER'S FORK
SN 055-0027

SHEET NO. 7 7 SHEETS	F.A.P. RTE. 310	SECTION -	COUNTY McDONOUGH	TOTAL SHEETS 16	SHEET NO. 16
	CONTRACT NO.				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			