

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
809	67-1HB-MCHD-1	MONROE	9	1

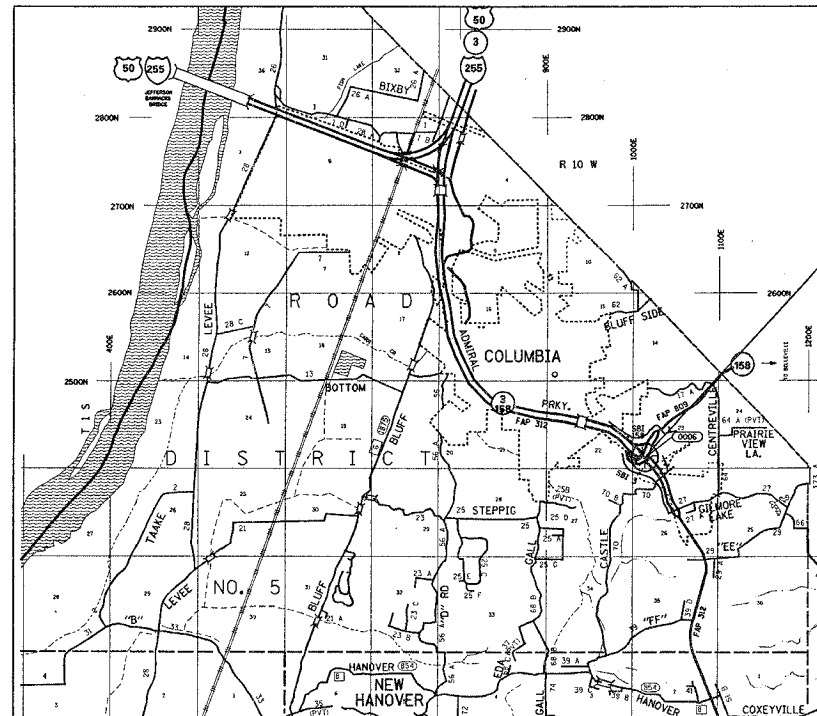
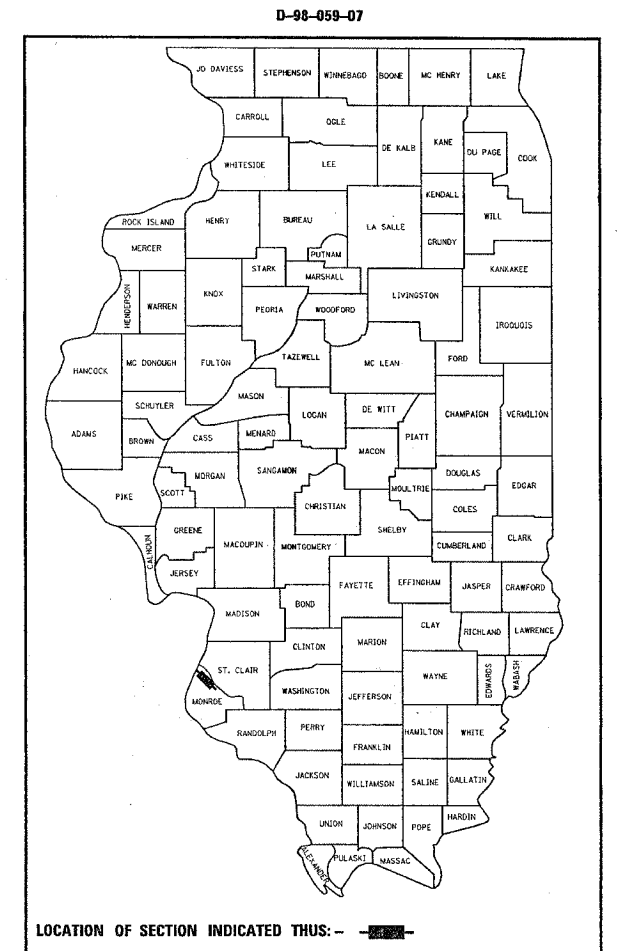
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 809  
SECTION 67-1HB-MCHD-1  
MONROE COUNTY  
BRIDGE REPAIR AT IL 158 OVER IL 3

C-98-064-07

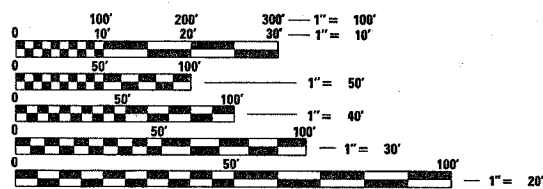
FOR INDEX OF SHEETS, SEE SHEET NO. 2



PROJECT LOCATION  
SN 067-0006

PROJECT ENGINEER: PATTI LEBEAU (618) 346-3179  
SQUAD CONTACT: ARTHUR MUEHLFELD (618) 346-3209

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS

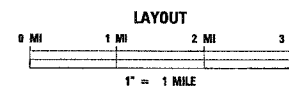


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

DESIGN DESIGNATION  
NA

	IL 158	IL 3
ADT =	9000 (2005)	23,700 (2003)
ADT =	14,200 (2028)	37,350 (2028)
SU =	4.5 %	3.6 %
MU =	3.8 %	4.1 %



LAT = 38.42933  
LONG = 90.17981

CONTRACT NO. 76A87

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 2-7-07 20  
Mary Roman  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FIVE ENGINEER

March 23, 20 07  
Eric E. Harn  
ENGINEER OF DESIGN AND ENVIRONMENT

March 23, 20 07  
Melton R. Sear  
DIRECTOR, DIVISION OF HIGHWAYS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
809	67-1HB-MCHD-1	MONROE	9	2
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION

# SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT	100% MCHD URBAN TOTAL QUANTITIES	SFTY-2A
50102400	CONCRETE REMOVAL	CU YD	1.3	1.3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1.3	1.3
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	6610	6610
50501110	STRUCTURAL STEEL REMOVAL	POUND	6610	6610
67100100	MOBILIZATION	L SUM	1	1
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1	1
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	1	1
70400100	TEMPORARY CONCRETE BARRIER	FOOT	225	225
X7010825	TRAFFIC CONTROL AND PROTECTION, STANDARD 701423 (SPECIAL)	L SUM	1	1
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1
Z0073300	TEMPORARY SHORING AND CRIBBING	L SUM	1	1
Z0073351	TEMPORARY SLAB SUPPORT SYSTEM	L SUM	1	1

## INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, GENERAL NOTES, STANDARDS & SUMMARY OF QUANTITIES
- 3-4 TRAFFIC CONTROL PLAN
- 5 MISCELLANEOUS DETAILS
- 6-9 BRIDGE REPAIR PLANS

## GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS LISTED SHALL APPLY TO THIS PROJECT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
3. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING BY CALLING J.U.L.I.E. AND BY NOTIFYING NON-J.U.L.I.E. MEMBERS INDIVIDUALLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
  - CHARTER COMMUNICATIONS, INC.
  - CITY OF COLUMBIA - WATER & SEWER
  - HARRISONVILLE TELEPHONE CO.
  - ILLINOIS AMERICAN WATER COMPANY
  - AMERENIP
 (MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY \*. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.)
4. NO SURVEY WAS PERFORMED FOR THIS PROJECT. THE STATIONING, TOPOGRAPHY, ETCETERA SHOWN IS APPROXIMATE AND WAS CREATED USING MICROFILM.
5. ONE CHANGEABLE MESSAGE SIGN SHALL BE REQUIRED ON THE PROJECT. THE MESSAGE SIGN SHALL BE PLACED ONE WEEK BEFORE ANY LANE RESTRICTION. THE MESSAGE SIGN SHALL BE PLACED AT NORTHBOUND IL 3, NEAR THE NORTH EDGE OF WATERLOO, OR AS DIRECTED BY THE ENGINEER.
6. NO OVERNIGHT LANE CLOSURES WILL BE PERMITTED ON IL 3.
7. "ROAD CONSTRUCTION AHEAD" SIGNS SHALL BE PLACED AT THE BEGINNING AND END OF THE PROJECT PLUS THE INTERSECTING SIDEROADS, AND WILL BE CONSIDERED INCLUDED IN THE TRAFFIC CONTROL PAY ITEMS. ALL CONSTRUCTION SIGNS SHALL BE FLUORESCENT ORANGE.
8. NEW JERSEY (NJ) SHAPE BARRIER WILL BE ALLOWED ON THIS PROJECT. INSTALLATION SHALL BE AS SHOWN ON THE PLANS.
9. THE CONTRACTOR SHOULD INSURE THAT, IN AND ADJACENT TO WORK AREAS, ALL LOOSE, SPALLED AND DELAMINATED CONCRETE IS REMOVED PRIOR TO REOPENING LANES TO TRAFFIC. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO "CONCRETE REMOVAL".

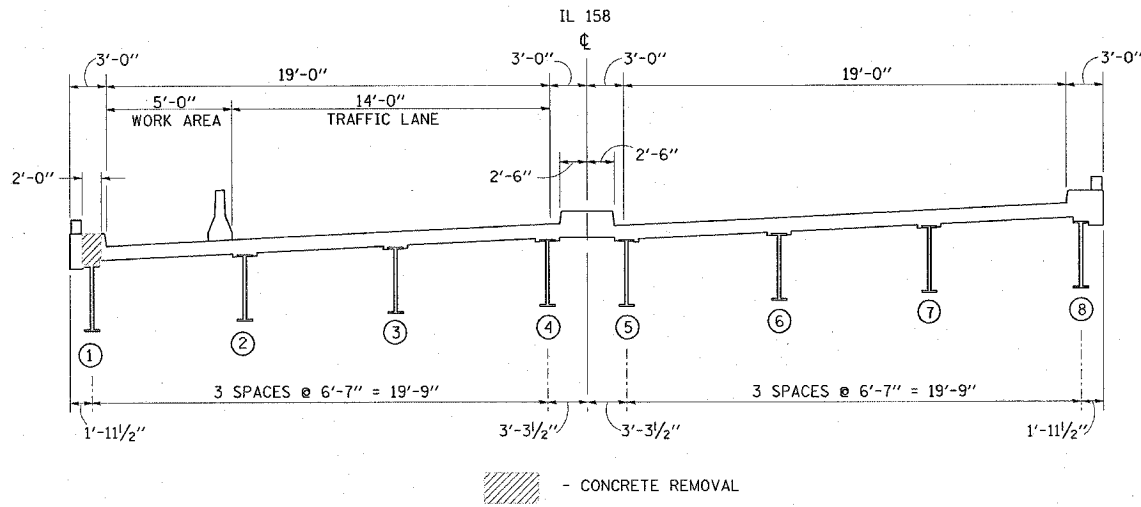
## STANDARDS

- 000001-04
- 701411-03
- 701421-01
- 701423-01
- 702001-06
- 704001-03

REVISIONS	
NAME	DATE

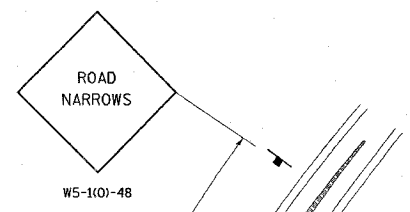
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**INDEX OF SHEETS, GENERAL NOTES,  
 STANDARDS &  
 SUMMARY OF QUANTITIES**  
 FAP ROUTE 809 (IL 158)  
 SECTION 67-1HB-MCHD-1  
 MONROE COUNTY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
809	67-1HB-MCHD-1	MONROE	9	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



CONCRETE REMOVAL

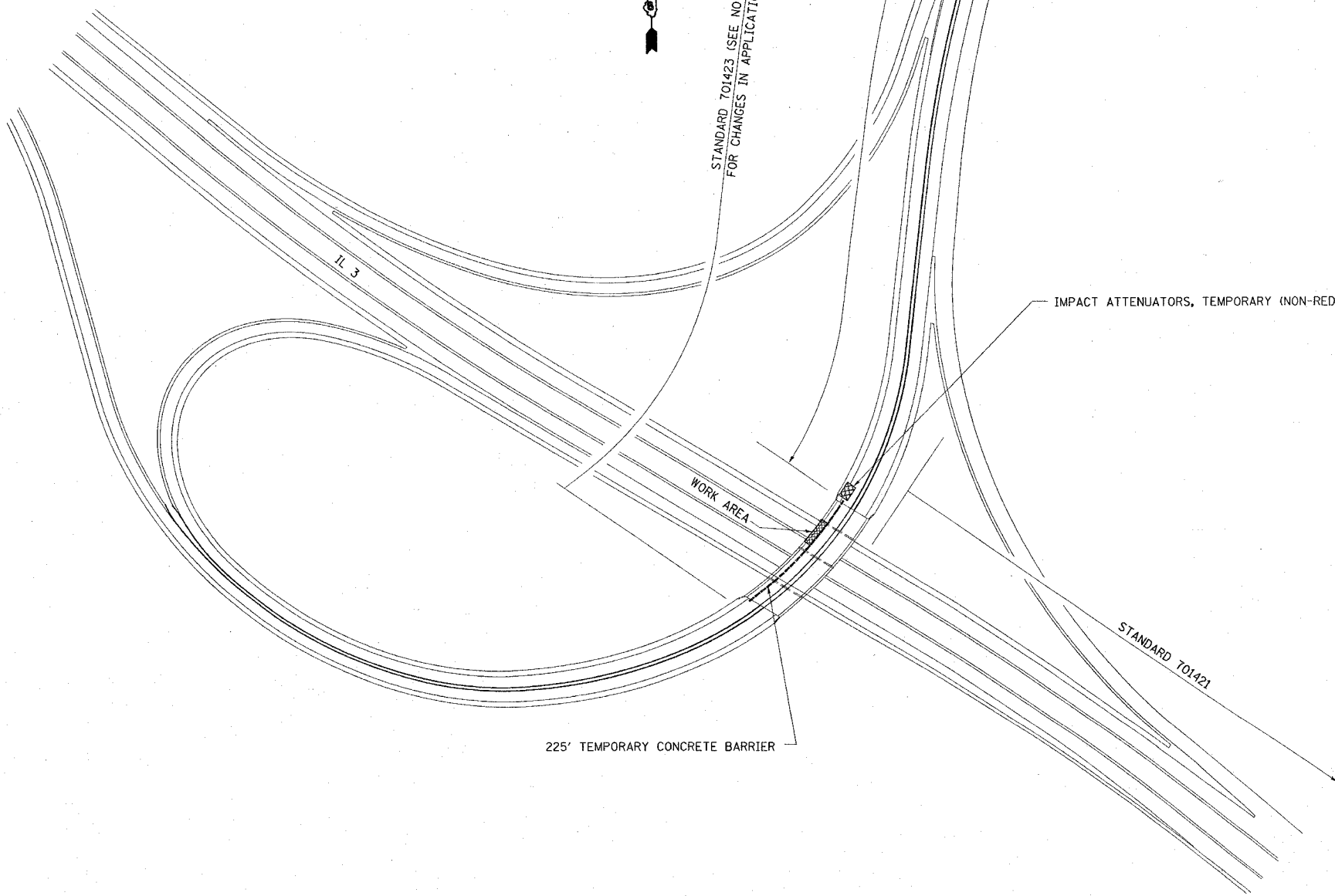
STANDARD 701423 (SEE NOTES FOR CHANGES IN APPLICATION)



NOTES

- STANDARD 701423 SHALL BE USED ON IL 158 WITH THE FOLLOWING CHANGES:
1. ONLY ONE SET OF SIGNS IS NEEDED TO BE ERECTED TO THE RIGHT OF THE SOUTHBOUND LANE.
  2. THE "RIGHT LANE CLOSED 1/2 MILE" SIGN IS TO BE OMITTED.
  3. THE "RIGHT LANE ENDS" SIGN IS TO BE REPLACED WITH A "ROAD NARROWS" SIGN AS SHOWN.
  4. THE TEMPORARY CONCRETE BARRIER IS TO BE EXTENDED TO THE PAVEMENT AT BOTH ENDS OF THE BRIDGE.

THE COST OF ALL TRAFFIC CONTROL DEVICES AS HEREIN SPECIFIED SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "TRAFFIC CONTROL AND PROTECTION, STANDARD 701423 (SPECIAL)".



225' TEMPORARY CONCRETE BARRIER

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3

PLAN	DATE
DESIGNED	
PLOTTED	
ALIGNED	
CHECKED	
DATE	
FILE NAME	
NO.	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL PLAN**  
 FAP ROUTE 809 (IL 158)  
 SECTION 67-1HB-MCHD-1  
 MONROE COUNTY  
 DRAWN BY:  
 PLOT DATE: 2/1/2007

2/1/2007  
 REF-  
 2/1/2007

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
809	67-1HB-MCHD-1	MONROE	9	4
STA. TO STA.				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC CONTROL AND PROTECTION FOR STRUCTURAL STEEL ERECTION

NOTES

ALL SIGNS SHOWN SHALL:

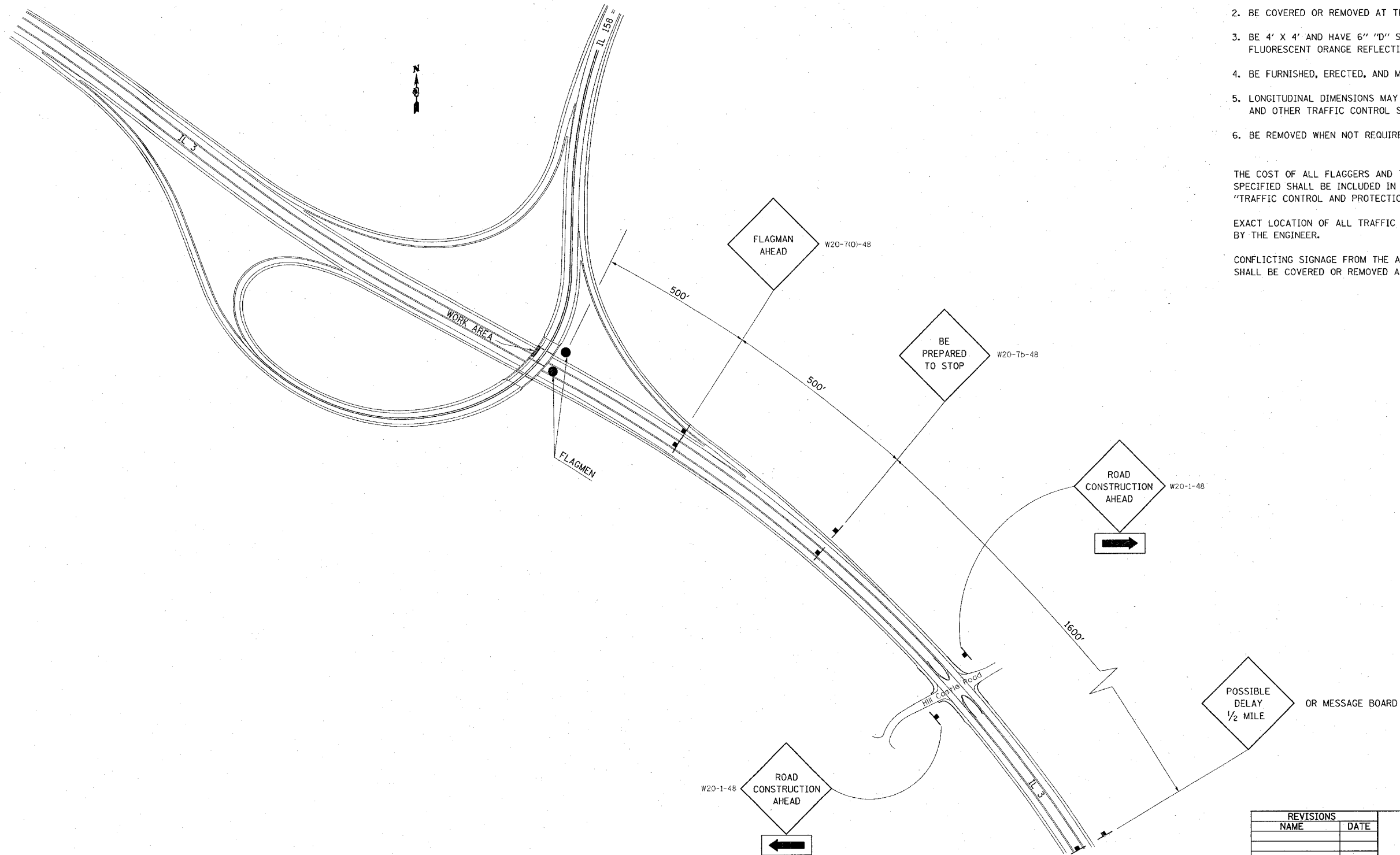
1. BE POST MOUNTED.
2. BE COVERED OR REMOVED AT THE END OF EACH WORK DAY.
3. BE 4' X 4' AND HAVE 6" "D" SIZE LETTERS AND NUMBERS ON A FLUORESCENT ORANGE REFLECTIVE BACKGROUND.
4. BE FURNISHED, ERECTED, AND MAINTAINED BY THE CONTRACTOR.
5. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS AND OTHER TRAFFIC CONTROL SIGNAGE IN PLACE.
6. BE REMOVED WHEN NOT REQUIRED FOR FUTURE USE.

THE COST OF ALL FLAGGERS AND TRAFFIC CONTROL DEVICES AS HEREIN SPECIFIED SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "TRAFFIC CONTROL AND PROTECTION (SPECIAL)".

EXACT LOCATION OF ALL TRAFFIC CONTROL ITEMS SHALL BE APPROVED BY THE ENGINEER.

CONFLICTING SIGNAGE FROM THE APPLICATION OF STANDARD 701421 SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

PLAN	DATE	BY
SUBMITTED		
PLOTTED		
ALIGNED		
CHECKED		
CADD FILE NAME		
NO.		

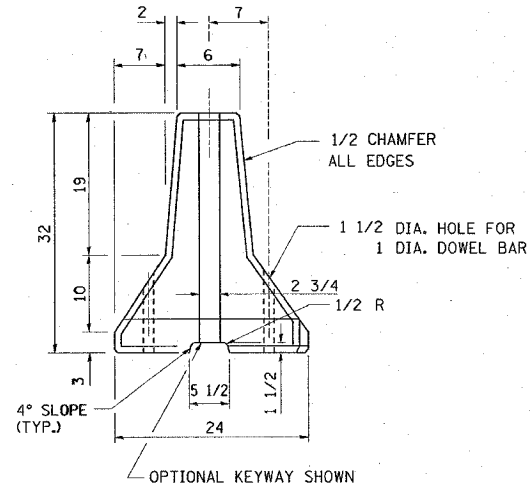


REVISIONS	
NAME	DATE

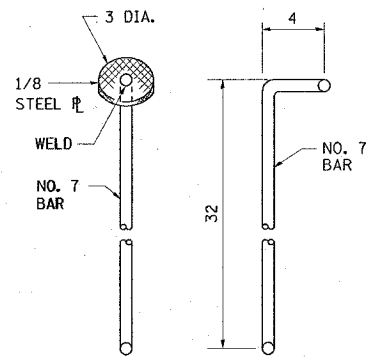
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL PLAN**  
 FAP ROUTE 809 (IL 158)  
 SECTION 67-1HB-MCHD-1  
 MONROE COUNTY  
 DRAWN BY:

DATE: 2/1/2007  
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 REF: 76A87

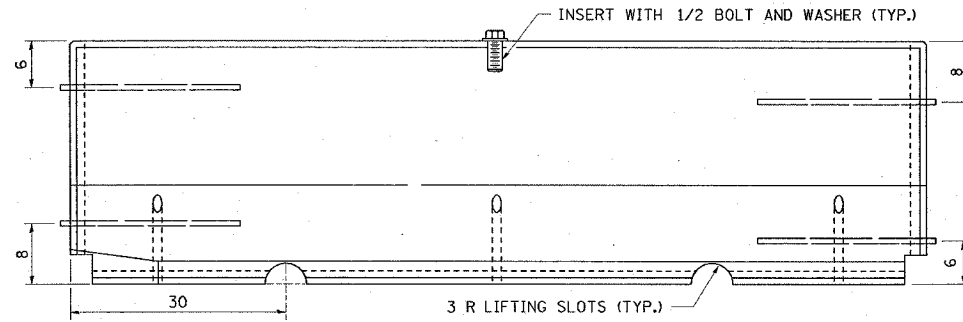
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STA.		TO STA.		
FEB. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



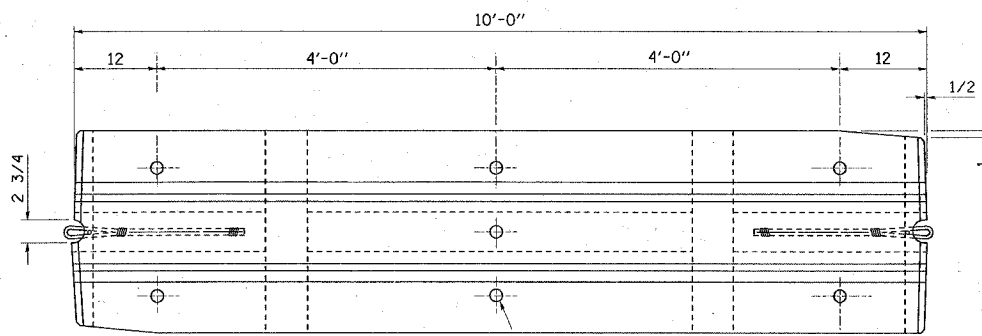
END VIEW  
 (WITHOUT WIRE ROPE LOOPS)



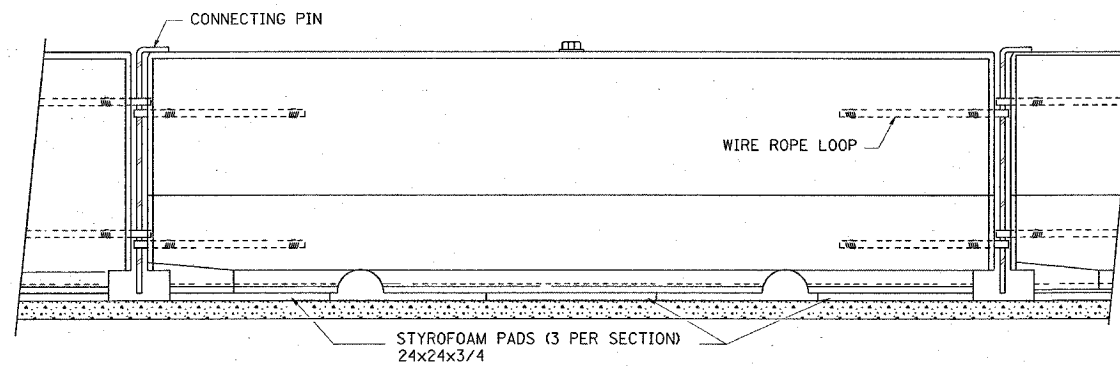
ALTERNATE CONNECTING PINS



ELEVATION

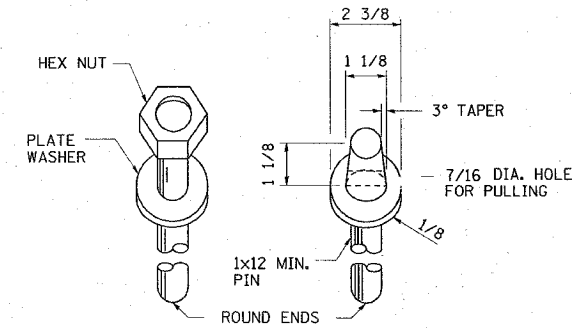


PLAN



TYPICAL INSTALLATION WITH STYROFOAM PADS

TEMPORARY CONCRETE BARRIER  
 NJ SHAPE DESIGN



DOWEL BARS

NOTES:  
 NEW JERSEY (NJ) SHAPE BARRIER SHALL NOT BE PRODUCED AFTER OCTOBER 1, 2002. HOWEVER, NEW JERSEY SHAPE BARRIER PRODUCED PRIOR TO OCTOBER 1, 2002 MAY BE USED UNTIL JANUARY 1, 2008.

THE NJ SHAPE BARRIER UNITS SHALL BE SEATED ON STYROFOAM PADS EXCEPT WHEN THEY ARE ANCHORED.

NJ SHAPE DOWEL BARS SHALL BE EMBEDDED AT LEAST 8 INCHES INTO THE PAVEMENT, AND SHALL NOT PROJECT ABOVE THE OUTER SURFACE OF THE BARRIER. THE CONNECTING PIN FOR THE NJ SHAPE PIN AND LOOP CONNECTION, MAY BE EITHER A PLAIN 7/8 INCH DIAMETER OR A DEFORMED NO. 7 BAR MEETING THE REQUIREMENTS OF ARTICLE 1006.10(b) EXCEPT GRADE 60 BARS SHALL BE USED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE

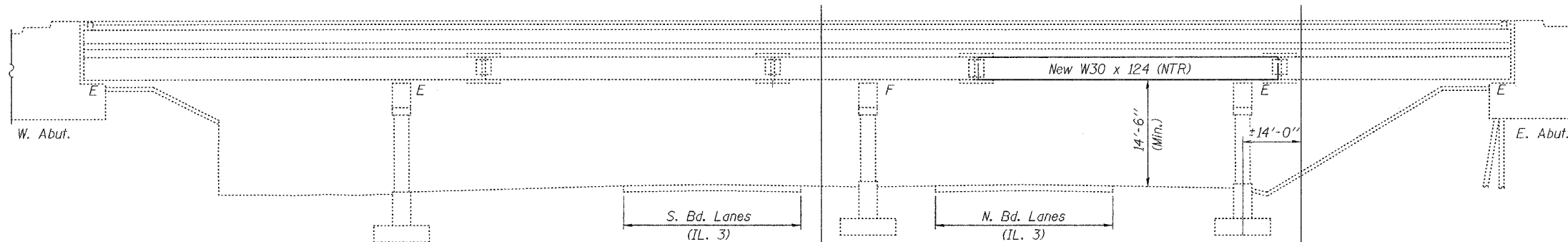
ILLINOIS DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS

FAP ROUTE 809 (IL 158)  
 SECTION 67-1HB-MCHD-1  
 MONROE COUNTY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A. 809		MONROE	9	6	4 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



REACTION TABLE AT  
TEMPORARY SHORING

R <sub>1</sub>	(K)	15.6
R <sub>2</sub>	(K)	29.9
Imp.	(K)	9.0
R (Total)	(K)	54.5

**ELEVATION**  
(Looking North)

Temporary shoring may be required to facilitate alignment of existing splice. Use 12" x 12" Timbers or HP's to be paid for as Temporary Shoring and Cribbing.  
The shoring shall be removed as soon as possible after the splice is completed to minimize Traffic Control.  
\* Temporary shoring is required for Beam 1. See table for reactions.  
\* Remove and replace slopewall/sidewalk, if required. Cost included with Temporary Shoring and Cribbing.

**GENERAL NOTES**

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

The Contractor shall provide support and/or shoring systems for the slab and beam in the area of existing beam removal. See Special Provisions "Temporary Shoring and Cribbing" and "Temporary Slab Support System."

After the new beam is in its final position and/or beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

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.

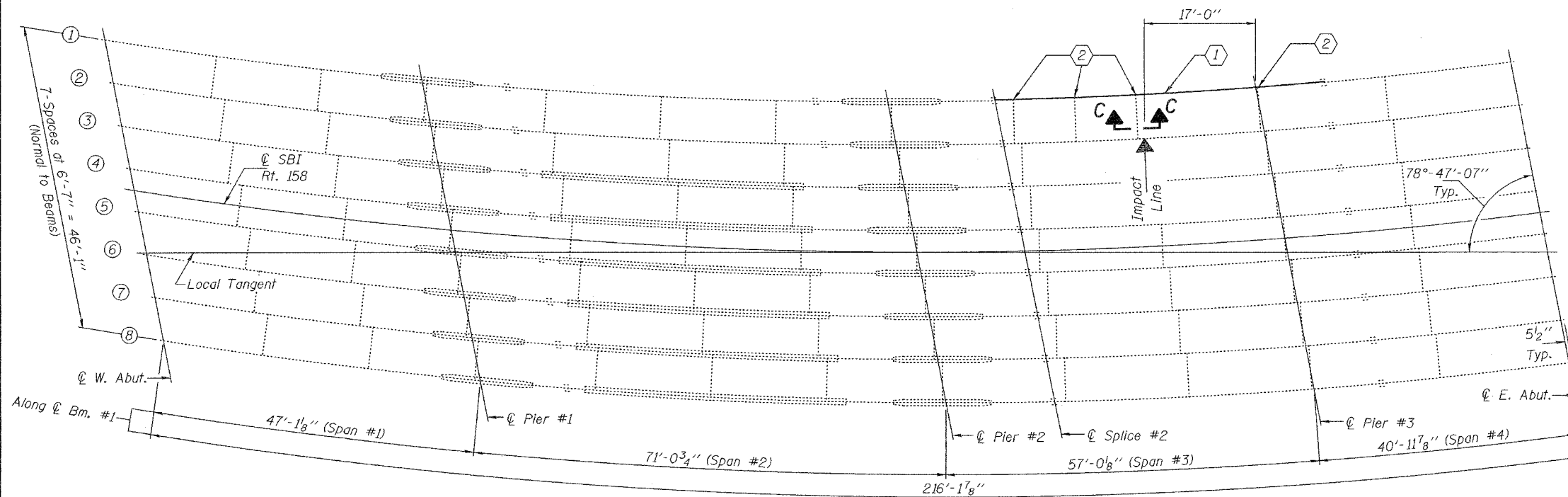
Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of Furnishing and Erecting Structural Steel.

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project. 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 shall be included with Concrete Removal.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.



**PLAN**

For Section C-C see sheet 3 of 4.

Notes: ① Replace beam section.  
② Replace diaphragm connection bolts.

**CURVE DATA**

Δ = 67°  
D = 7°-30'  
T = 505.64 Ft.  
L = 893.33 Ft.  
R = 763.94 Ft.  
E = 152.18 Ft.  
P.C. Sta. 105+86.80  
P.T. Sta. 114+80.12

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	1.3
Concrete Superstructure	Cu. Yd.	1.3
Structural Steel Removal	Pound	6610
Furnishing and Erecting Structural Steel	Pound	6610
Temporary Slab Support System	L.S.	1
Temporary Shoring and Cribbing	L.S.	1

DESIGNED	Haha
CHECKED	Adrian T. Hallaway
DRAWN	balliva
CHECKED	AJH ASB

FEBRUARY 28, 2007  
EXAMINED *[Signature]*  
PASSED *[Signature]*  
REPAIR PLANS UNIT CHIEF  
ENGINEER OF BRIDGES AND STRUCTURES

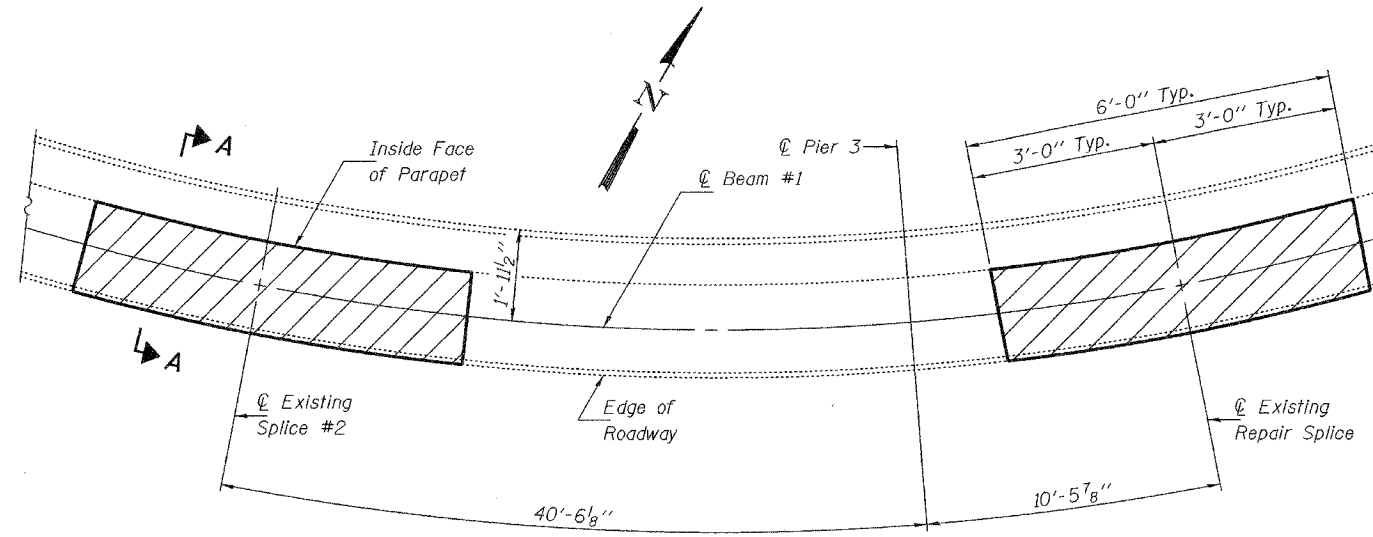


EXPIRES 11-30-2008

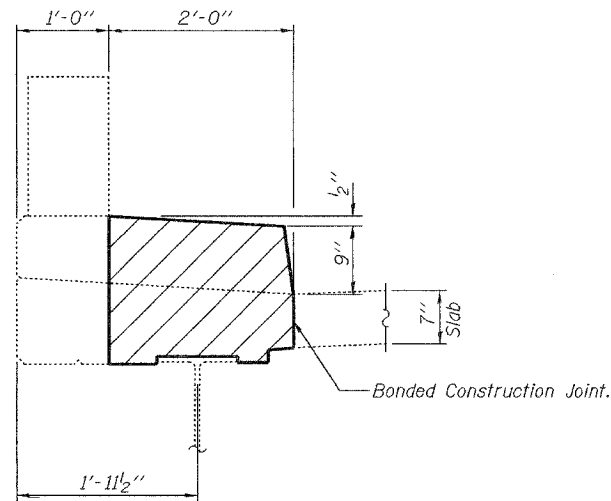
**BRIDGE REPAIRS**  
**IL 158 OVER IL 3**  
**SBI RT. 158**  
**MONROE COUNTY**  
**SN 067-0006**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 4 SHEETS
F.A. 809		MONROE	9	7	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



**PARTIAL DECK PLAN**  
(For Beam #1, Spans 3 & 4)



**SECTION A-A**

NOTES:

Hatched areas indicate concrete sections to be removed and replaced. Perimeters of Concrete Removal areas shall be saw cut  $\frac{3}{4}$ " prior to the removal of concrete.  
Reinforcement shall be cut only if required for fitting bolts.  
Cut reinforcement shall be spliced as directed by the Engineer.  
Cost included with "Concrete Removal".

DESIGNED	AJB
CHECKED	ATH
DRAWN	baliva
CHECKED	AJB ATH

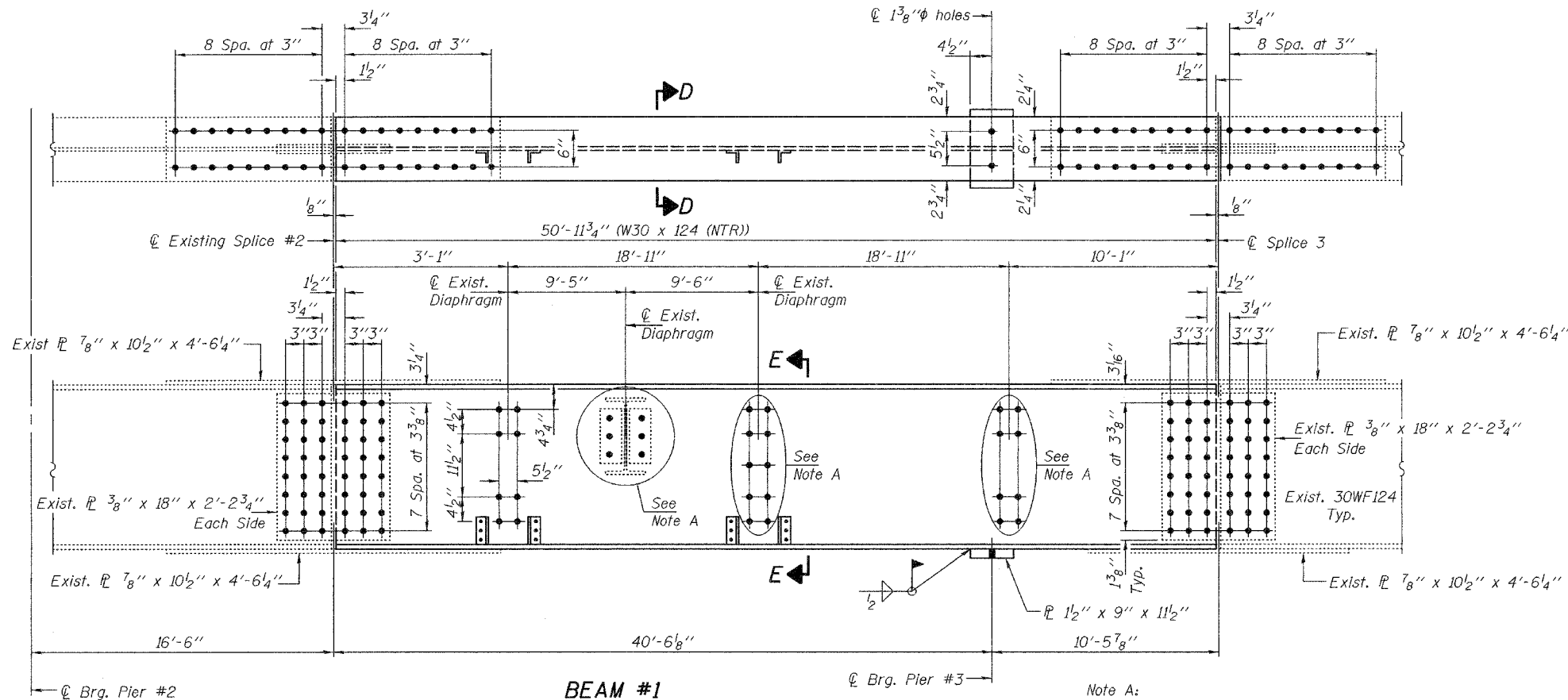
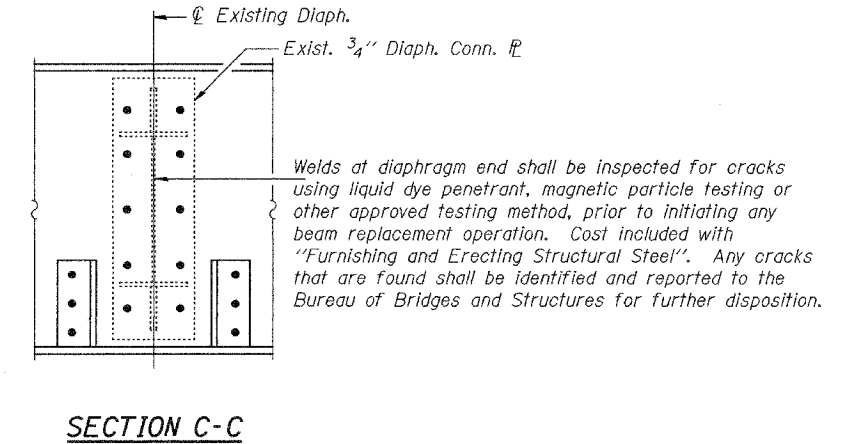
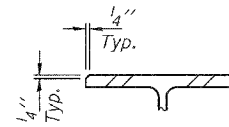
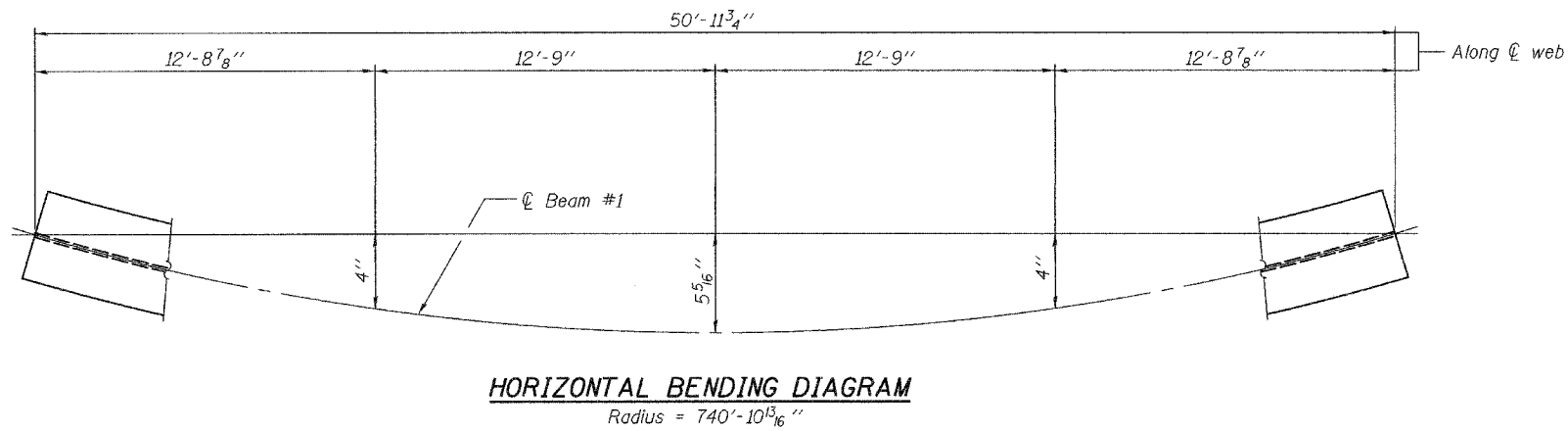
FEBRUARY 28, 2007  
EXAMINED *Carl Henry*  
REPAIR PLANS UNIT CHIEF  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**BRIDGE REPAIRS**  
**IL 158 OVER IL 3**  
**SBI RT. 158**  
**MONROE COUNTY**  
**SN 067-0006**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

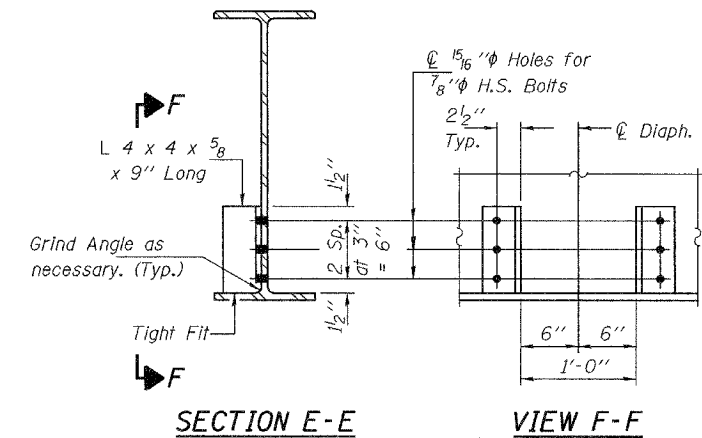
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 809		MONROE	9	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3  
4 SHEETS



(All dimensions are along  $\bar{C}$  of beam.)  
Required: One (1) W30 x 124 (NTR) x 50'-11<sup>3</sup>/<sub>4</sub>" Long.  
Four (4) L's 4 x 4 x 5/8 x 9" Long.

Note A:  
Use existing diaphragm conn. plate as a template to field drill holes in new beam.



Notes:  
Existing flange and web splice plates used on splices shall be cleaned on the contact surface and re-used on the new beam, unless otherwise directed by the Engineer in the field.  
15/16"  $\phi$  Holes for new 3/4"  $\phi$  H.S. Bolts shall be used for all diaphragm connections.  
Two hardened washers shall be required at diaphragm connections.  
The cost of all field drilling required for installation of the steel members is included with Furnishing and Erecting Structural Steel.  
Natural camber of new beam shall be placed upward for fabrication.  
Existing bolts shall not be re-used.  
Fasteners shall be high strength bolts.  
Flange splice holes shall be 15/16"  $\phi$  for 7/8"  $\phi$  bolts.  
Web splice holes shall be 13/16"  $\phi$  for 3/4"  $\phi$  bolts.

DESIGNED	AJB
CHECKED	ATH
DRAWN	baliva
CHECKED	AJB ATH

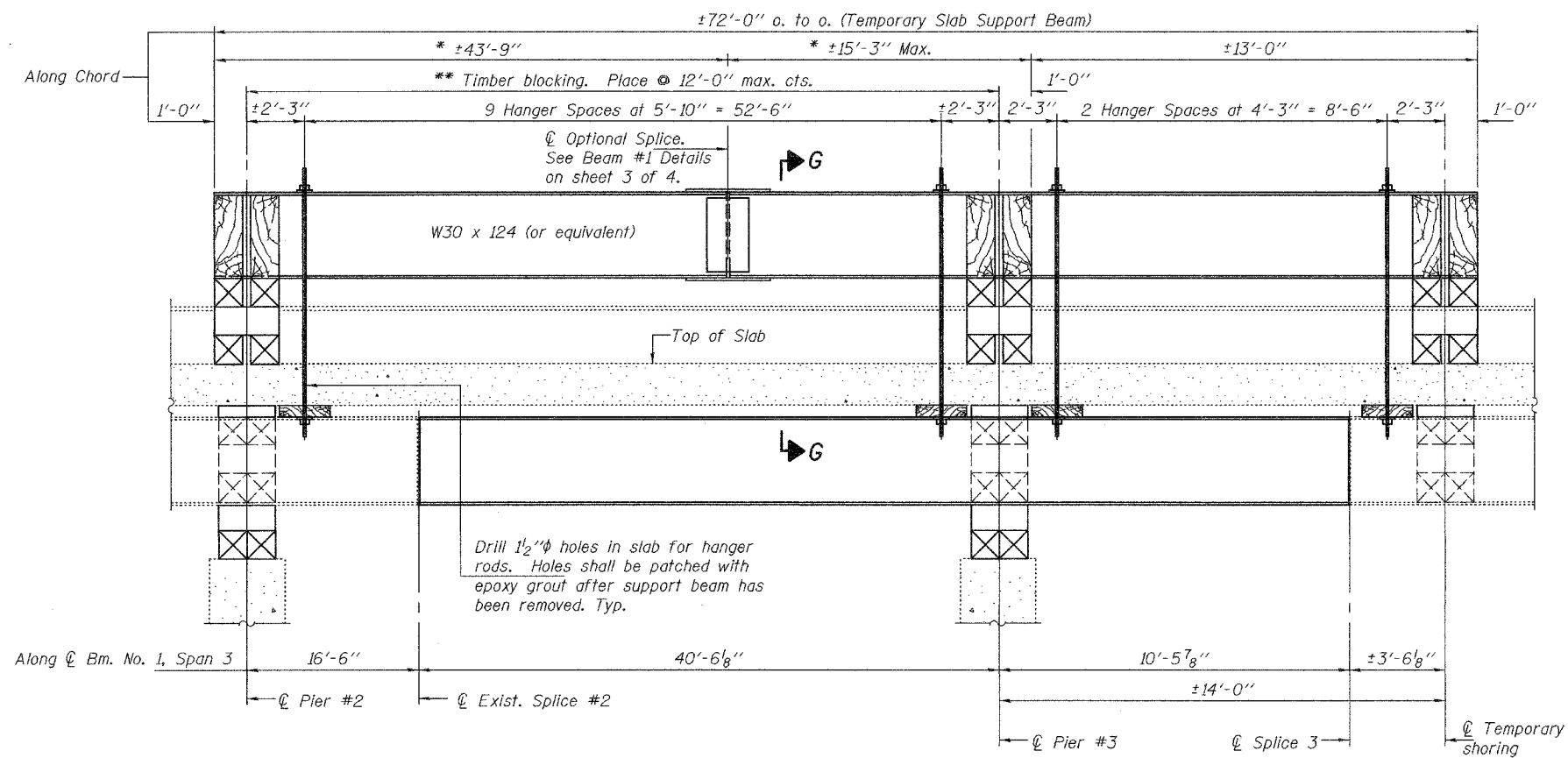
FEBRUARY 28, 2007  
EXAMINED *Carl Perry*  
PASSED *Ralph E. Anderson*  
REPAIR PLANS UNIT CHIEF  
ENGINEER OF BRIDGES AND STRUCTURES

**BRIDGE REPAIRS**  
**IL 158 OVER IL 3**  
**SBI RT. 158**  
**MONROE COUNTY**  
**SN 067-0006**



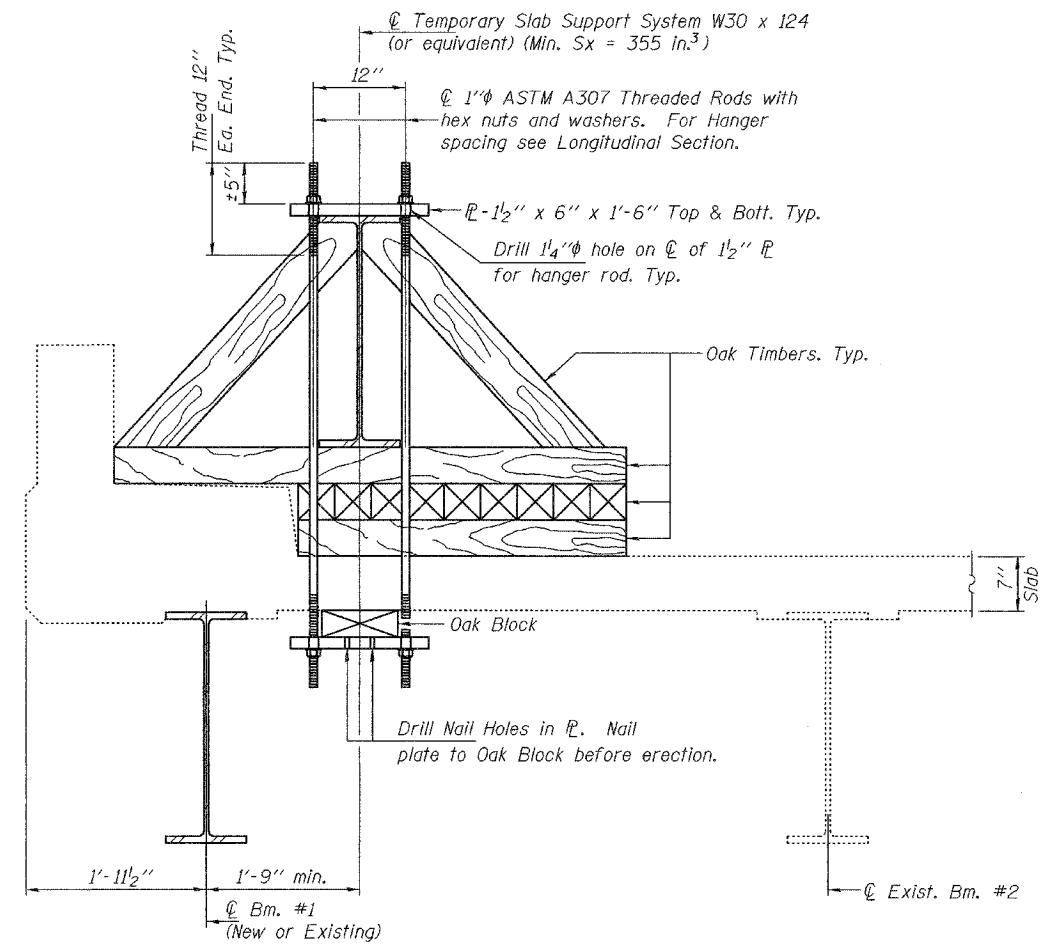
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 4 SHEETS
F.A. 809		MONROE	9	9	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



**LONGITUDINAL SECTION (LOOKING NORTH)  
SUGGESTED TEMPORARY SLAB SUPPORT SYSTEM**

\* These dimensions may vary for available beams in stock.  
\*\* Wood blocking between piers to be placed after support beam deflects under its own weight.



**SECTION G-G**

DESIGNED	AJB
CHECKED	ATH
DRAWN	ballva
CHECKED	AJB ATH

FEBRUARY 28, 2007  
EXAMINED *Carl P. [Signature]*  
REPAIR PLANS UNIT CHIEF  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**BRIDGE REPAIRS  
IL 158 OVER IL 3  
SBI RT. 158  
MONROE COUNTY  
SN 067-0006**