

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

VARIOUS ROUTES AT
VARIOUS BASCULE BRIDGES
SECTION 2011-065-BR
MOVEABLE BRIDGE STEEL REPAIRS
WILL COUNTY

C-91-621-11

FOR INDEX OF SHEETS, SEE SHEET NO. 2

DESIGN DESIGNATIONS

- CASS STREET (SN 099-0101)
OTHER PRINCIPAL ARTERIAL
ADT 9300 (2009)
SPEED LIMIT 30 MPH
- JEFFERSON STREET (SN 099-0166)
OTHER PRINCIPAL ARTERIAL
ADT 9000 (2009)
SPEED LIMIT 30 MPH
- JACKSON STREET (SN 099-0239)
MINOR ARTERIAL (URBAN)
ADT 3450 (2008)
SPEED LIMIT 30 MPH
- BRANDON ROAD (SN 099-9903)
MINOR ARTERIAL (URBAN)
ADT 6100 (2008)
SPEED LIMIT 35 MPH

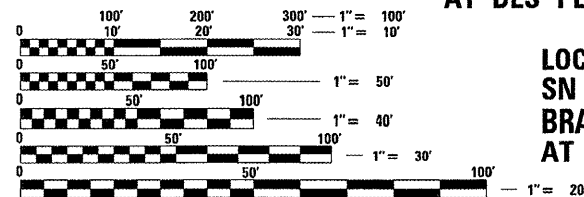
LOCATION 1
SN 099-0239
JACKSON STREET OVER
DES PLAINES RIVER

LOCATION 2
SN 099-0101
US 30 WB (CASS STREET)
OVER DES PLAINES RIVER

LOCATION 3
SN 099-0166
US 30 EB (JEFFERSON STREET)
AT DES PLAINES RIVER

LOCATION 4
SN 099-9903
BRANDON ROAD
AT DES PLAINES RIVER

IMPROVEMENTS ARE LOCATED
IN THE CITY OF JOLIET

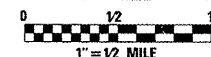
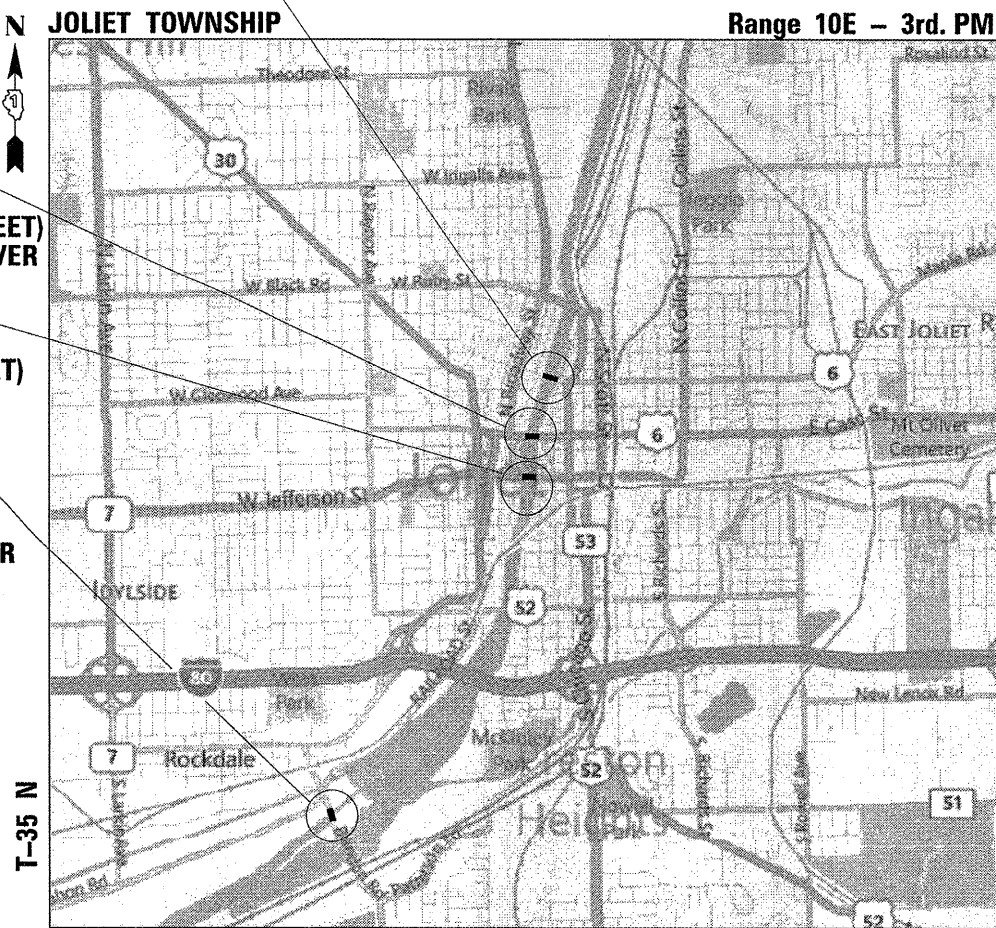


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

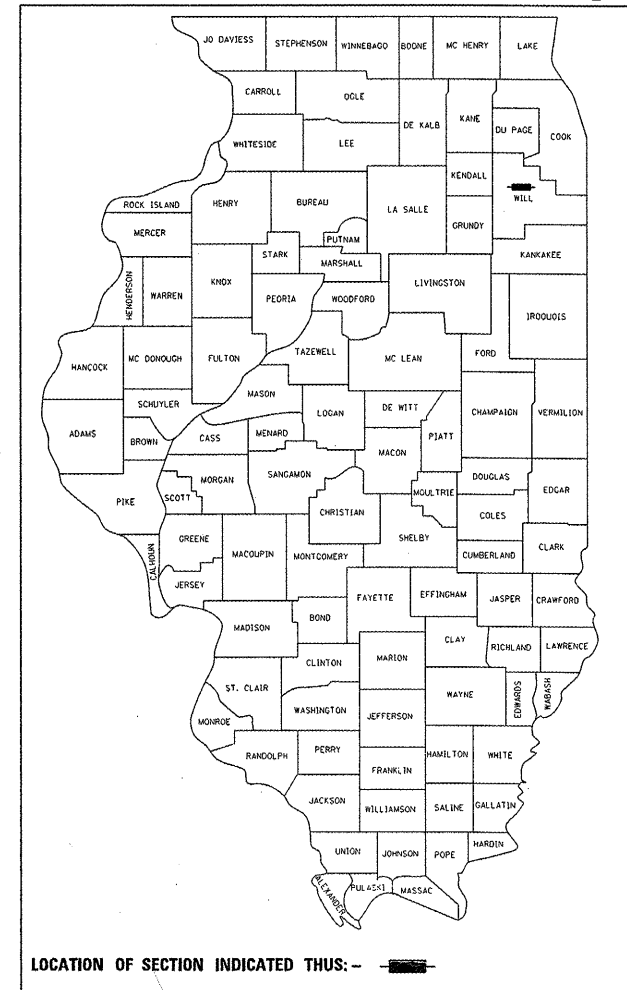
PROJECT MANAGER: MR. ISSAM RAYYAN, P.E. (847) 705-4178
PROJECT ENGINEER: MR. ROBERT T. BORO, P.E. (847) 705-4237

CONTRACT NO. 60P84

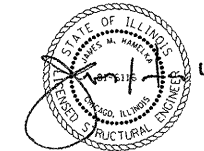


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2011-065-BR	WILL	33	1
		ILLINOIS	CONTRACT NO. 60P84	

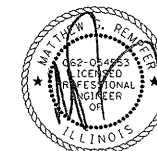
D-91-621-11 * 33 41 = 34



LOCATION OF SECTION INDICATED THUS: - [shaded area] -



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 81-6116
EXPIRES 11-30-2012



COLLINS ENGINEERS, INC.
MATTHEW G. REMPFER
NO. 062-054553
EXPIRES 11-30-2013

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED MARCH 29, 2012

Diane M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 11, 2012
John D. Baranzelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

May 11, 2012
William R. Freyler
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

**COLLINS
ENGINEERS, INC.**
123 N. WACKER DR., SUITE 900
CHICAGO, IL 60606
(312) 704-9300
ILLINOIS PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-000993

Rac

INDEX OF SHEETS

- 1 Title Sheet
- 2 Index of Sheets, General Notes and Highway Standards
- 3 Summary of Quantities
- 4 Detour Plan - US 30 WB (Cass Street)-S.N. 099-0101
- 5 Detour Plan - US 30 EB (Jefferson Street)-S.N. 099-0166
- 6 Detour Plan - Jackson Street-S.N. 099-0239
- 7 Detour Plan - Brandon Road-S.N. 099-9903
- 8-13 S.N. 099-0101 Structural Plans S1-S6
- 14-22 S.N. 099-0166 Structural Plans S1-S9
- 23-27 S.N. 099-0239 Structural Plans S1-S5
- 28-31 S.N. 099-9903 Structural Plans S1-S4
- 32 TC 21 - Detour Signing For Closing State Highways
- 33 TC 22 - Arterial Road Information Signing

INDEX OF HIGHWAY STANDARDS

Standard No.	Description
701301-04	Lane Closure, 2L, 2W, Short Term Operations
701801-05	Sidewalk, Corner, or Crosswalk Closure

GENERAL NOTES

1. These plans have been prepared from notes received from IDOT Bridge Inspectors.
2. 10 ft (3 m) transitions shall be used to match proposed items of work to existing items in the field, unless otherwise shown. The transitions shall be paid for at the contract unit price for the proposed item of work specified.
3. The Contractor shall contact the Traffic Control Supervisor at (847)705-4470 at least 72 hours prior to start of work.
4. The Contractor shall contact the Bureau of Traffic Signals Unit at (847)705-4139 a minimum of 48 hours prior to closure so the detour route traffic signals may be adjusted as necessary.
5. The Contractor shall be responsible for the notification of all emergency services, school districts, IDOT's Communications Center, Springfield Truck Permit Section, and other agencies affected by the closure. The Contractor shall also be responsible for posting signs that will indicate the dates the closure will be in place.
6. Work on the structure shall be done in such a manner that the closure of the bridge(s) to river traffic (periods where the bridge is restricted in the down position) is prohibited. River traffic is to be maintained at all times. Work that requires the bridge to be immobilized shall be done with the bridge restricted in the up position, subject to Coast Guard approval.
7. The Contractor shall obtain Coast Guard approval to occupy navigable waters, if required, for the proposed work. A work plan shall be prepared by the Contractor, reviewed and approved by the Engineer and be submitted by the Engineer to the Coast Guard for approval.
8. The Contractor shall not be allowed to set up a yard or field office on state property without written permission from the Department.
9. Do not scale these plans for construction purposes. 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 in work. However, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
10. During construction operations, loose material deposits that obstruct the flow of water in draining the area shall be removed before the end of each work day. At the conclusion of construction operations, all drainage structures (new and existing) shall be free from all dirt and debris. This work will not be paid for separately but shall be considered incidental to the project.
11. Before beginning any work, the Contractor shall retain and record for future reference, all existing pavement marking lines, symbols and letters in order that these locations can be re-established for striping. Exact locations of all pavement markings shall be as directed by the Engineer.
12. Before starting any excavation, the Contractor shall call "Julie" at 800-892-0123 or 811 for field locations of buried electric, telephone, and gas facilities. (48 hour notification is required).
13. The Contractor shall coordinate activities with utility companies & City of Joliet.
14. The plans do not represent a complete depiction of all utilities that may be impacted by the proposed work. The Contractor shall conduct his or her own investigation to determine the ownership of impacted utilities. The Contractor shall coordinate with utility owners and may be required to provide temporary support, adjust, relocate or remove utilities that are impacted by the proposed improvement. This work shall be considered incidental to the project.
15. The Contractor shall be required to provide access to abutting property at all times during the construction of this project.
16. When artificial lighting is utilized in nighttime operations, the Contractor shall exercise the utmost precautions preventing adverse visibility to the motoring public.
17. See Special Provisions for requirement regarding detour coordination and duration requirements.

18. The contractor shall take necessary precautions to ensure that no debris will endanger or interfere with river traffic beneath the bridge(s). This work will not be paid for separately, but shall be included in the contract unit price for the appropriate pay item involved and no additional compensation will be allowed.

19. Prior to closure of each structure, the movable bridge technician shall be contacted to coordinate operation of the bridge.

FILE NAME =	USER NAME = #USER#	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VARIOUS BASCULE BRIDGES INDEX OF SHEETS, GENERAL NOTES AND HIGHWAY STANDARDS				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - PRH	REVISED -		VAR.	2011-065-BR	WILL	33	2				
	PLOT SCALE = #SCALE#	CHECKED - JMH	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO. 60PB4				
	PLOT DATE = #DATE#	DATE - FEBRUARY, 2012	REVISED -	[ILLINOIS] FED. AID PROJECT									

CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE			
				URBAN			
				100% STATE			
		BRIDGE	BRIDGE	BRIDGE	BRIDGE		
		0014	0014	0014	0014		
		S.N. 099-0101	S.N. 099-0166	S.N. 099-0239	S.N. 099-9903		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	1	1	1	1
67100100	MOBILIZATION	L SUM	1	0.25	0.25	0.25	0.25
85000300	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	L SUM	1	0.25	0.25	0.25	0.25
X0323941	OPERATING MACHINERY	L SUM	1	0.5	0.5		
X0326562	REFURBISHING OF LIVE LOAD BEARINGS	EACH	12	4	4	4	
X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	0.25	0.25	0.25	0.25
Z0001902	OPEN STEEL FLOOR	SQ FT	280			280	
Z0001905	STRUCTURAL STEEL REPAIR	POUND	1780	660	730	390	
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	102.8	25.7	25.7	25.7	25.7
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	2		2		
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	11	2	6	1	2
X0327408	REINSTALL RUBBER FENDER SYSTEM	L SUM	1		1		
X0327409	CENTER BREAK ADJUSTMENT	EACH	3				3

FILE NAME :	USER NAME : #USER#	DESIGNED - JMS	REVISED -
#FILE#		DRAWN - PRH	REVISED -
	PLOT SCALE : #SCALE#	CHECKED - JMH	REVISED -
	PLOT DATE : #DATE#	DATE - FEBRUARY, 2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS BASCULE BRIDGES
SUMMARY OF QUANTITIES

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			VAR.	2011-065-BR	WILL	33	3
							CONTRACT NO. 60PB4
							ILLINOIS FED. AID PROJECT

REV

BRIDGE CLOSED
XX MILES AHEAD
LOCAL TRAFFIC ONLY

BRIDGE
CLOSED

1 R11-2 (48" x 30")

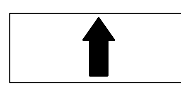
2 R11-3a (60" x 30")

DETOUR

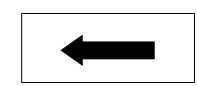


3 M4-8-2412

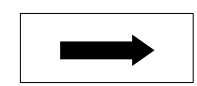
4 M1-40-2424



5 M6-3-2115



6L M6-1L-2115



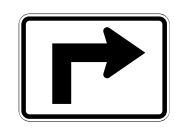
6R M6-1R-2115

EAST

7E M3-2-2412

WEST

7W M3-4-2412



8R M5-1R-2115



8L M5-1L-2115



9R M4-10R (48"x18")



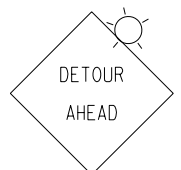
9L M4-10L (48"x18")

END
DETOUR

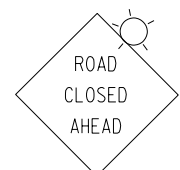
10 M4-8A (24" x 18")

SIDEWALK
CLOSED

11 R11-1101



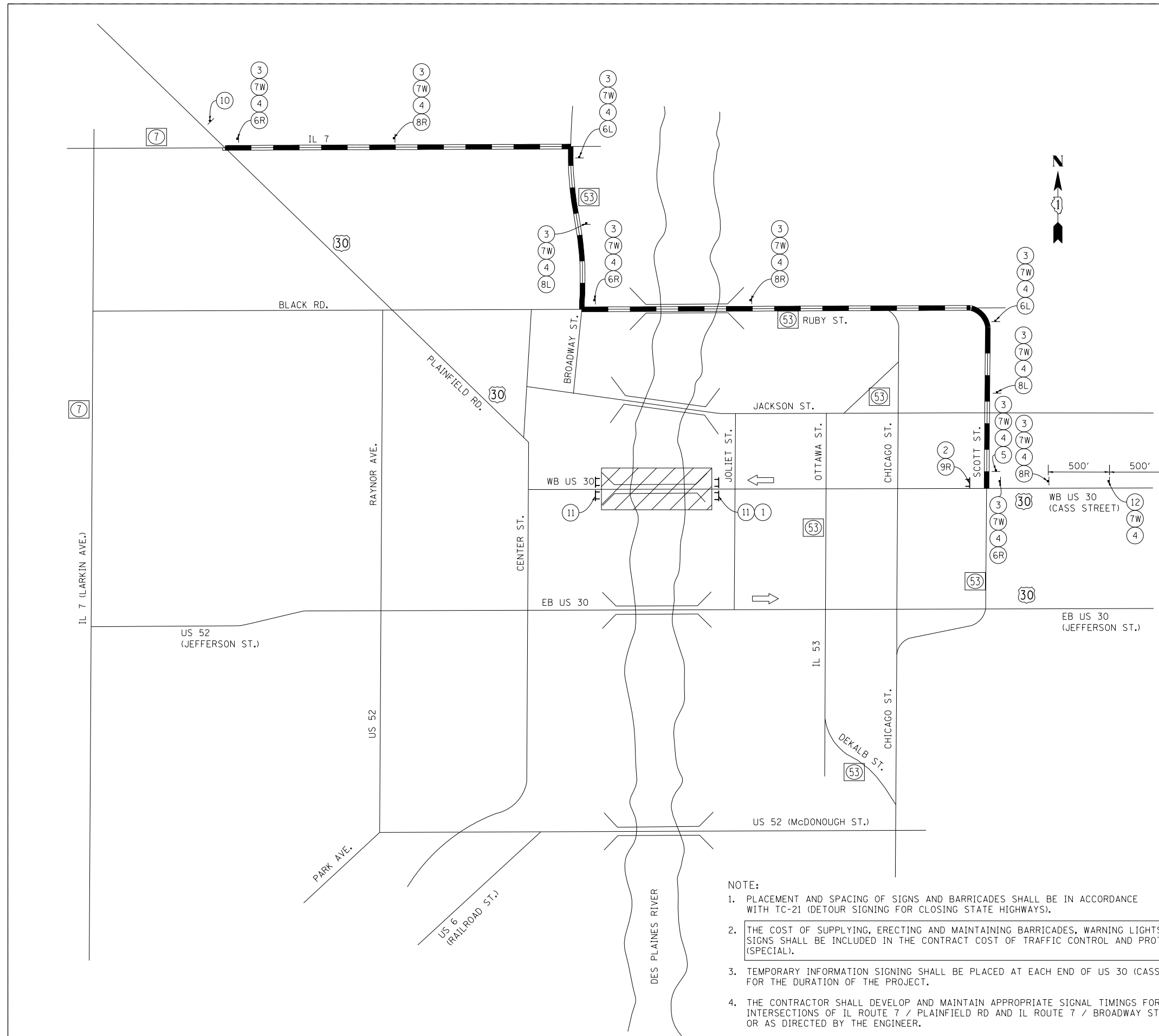
12 W20-2 (48" X 48")



13 W20-3 (48" X 48")

LEGEND:

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TYPE III BARRICADE
- AMBER FLASHING LIGHT



NOTE:

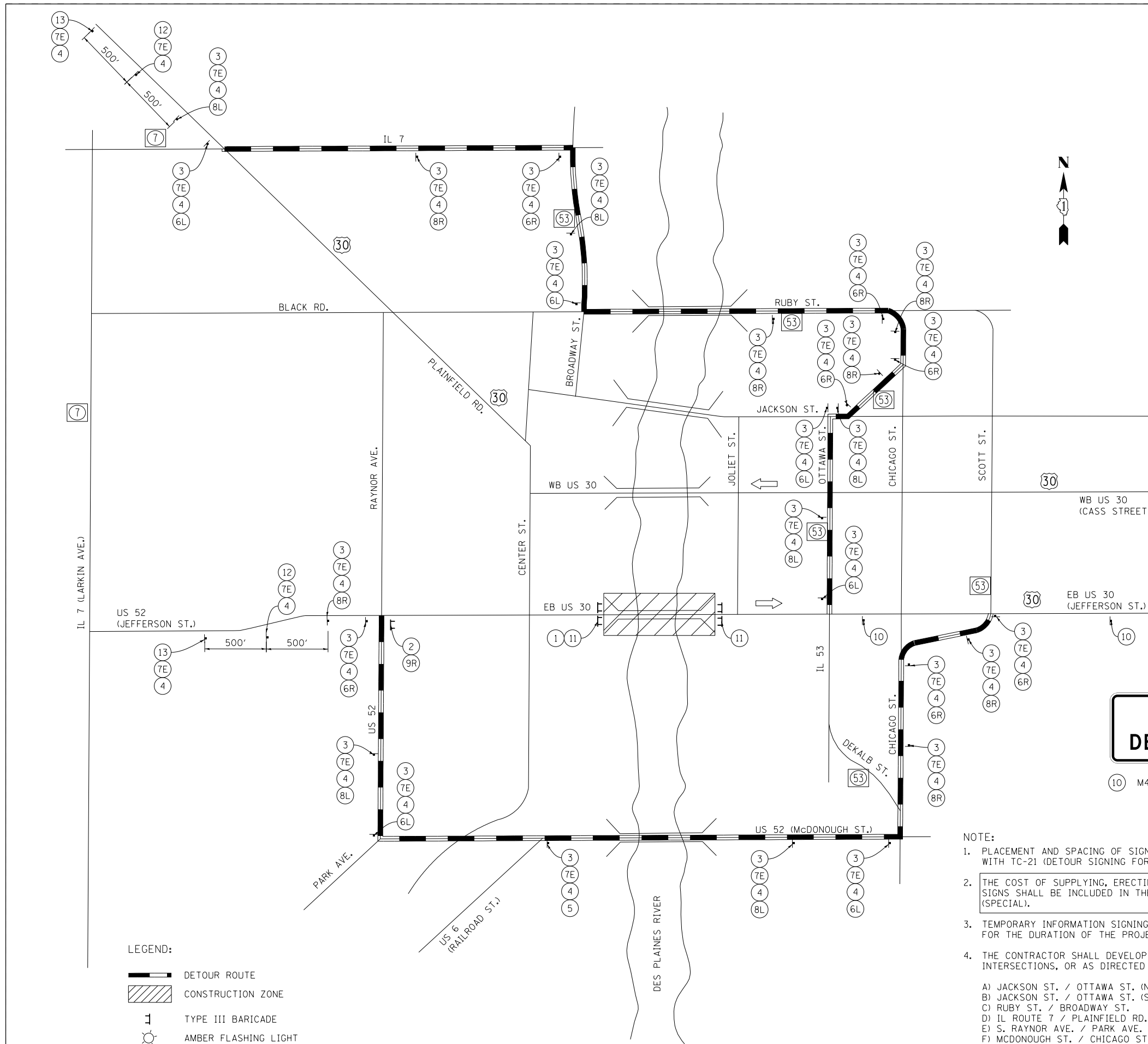
1. PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21 (DETOUR SIGNING FOR CLOSING STATE HIGHWAYS).
2. THE COST OF SUPPLYING, ERECTING AND MAINTAINING BARRICADES, WARNING LIGHTS AND SIGNS SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
3. TEMPORARY INFORMATION SIGNING SHALL BE PLACED AT EACH END OF US 30 (CASS ST.) FOR THE DURATION OF THE PROJECT.
4. THE CONTRACTOR SHALL DEVELOP AND MAINTAIN APPROPRIATE SIGNAL TIMINGS FOR THE INTERSECTIONS OF IL ROUTE 7 / PLAINFIELD RD AND IL ROUTE 7 / BROADWAY ST., OR AS DIRECTED BY THE ENGINEER.

FILE NAME =	USER NAME = #USER#	DESIGNED - MGR	REVISED -
#FILE#		DRAWN - RAG	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - MGR	REVISED -
	PLOT DATE = #DATE#	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR PLAN
US 30 WB (CASS STREET) - S.N. 099-0101
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	4
CONTRACT NO. 60P84				
ILLINOIS FED. AID PROJECT				



BRIDGE
CLOSED

BRIDGE CLOSED
XX MILES AHEAD
LOCAL TRAFFIC ONLY

1

 R11-2 (48" x 30")

2

 R11-3a (60" x 30")

DETOUR

30

3

 M4-8-2412

4

 M1-40-2424

↑

←

→

5

 M6-3-2115

6L

 M6-1L-2115

6R

 M6-1R-2115

EAST

WEST

7E

 M3-2-2412

7W

 M3-4-2412

↻

↶

8R

 M5-1R-2115

8L

 M5-1L-2115

DETOUR →

← DETOUR

9R

 M4-10R (48"x18")

9L

 M4-10L (48"x18")

END
DETOUR

SIDEWALK
CLOSED

10

 M4-8A (24" x 18")

11

 R11-1101

◇

◇

12

 W20-2 (48" x 48")

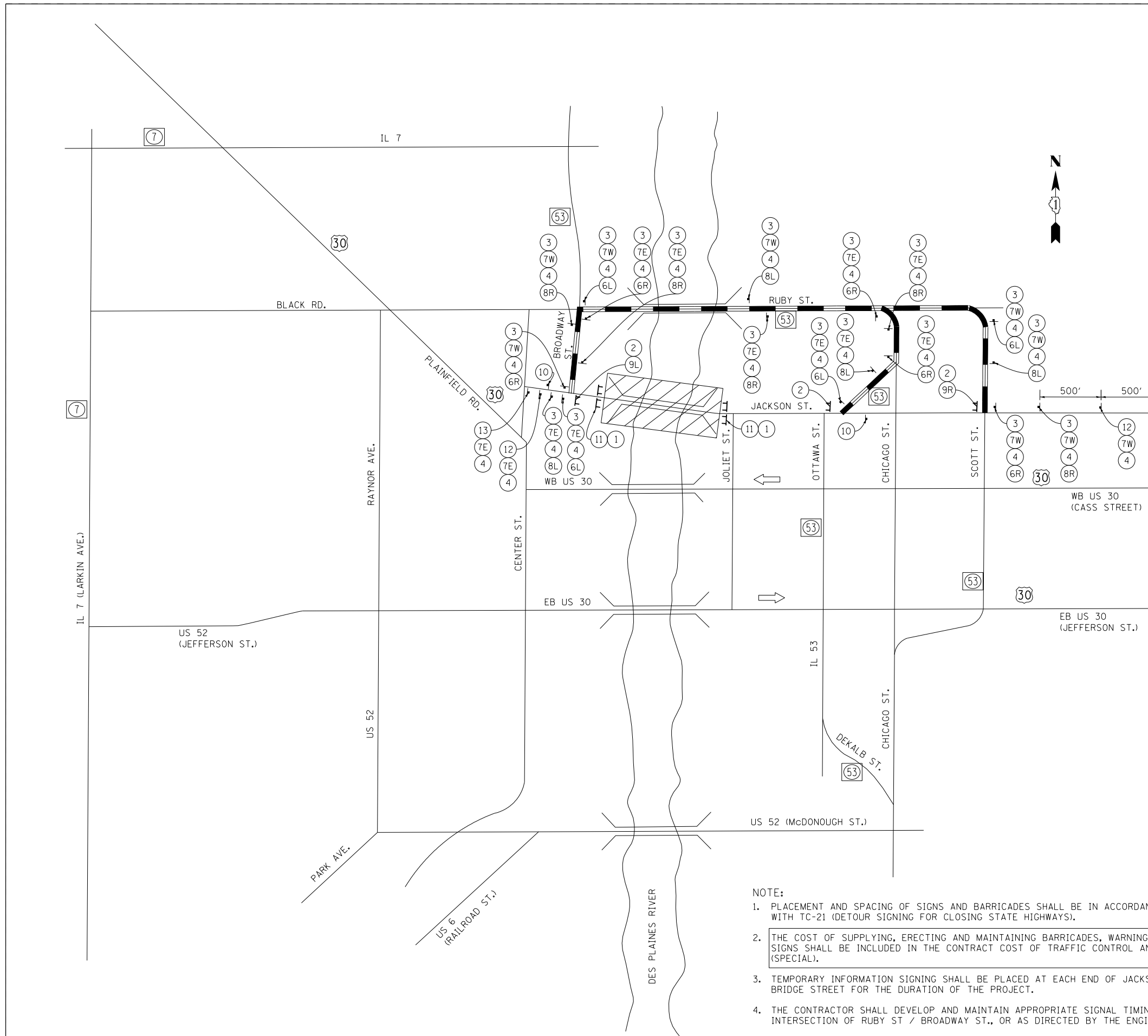
13

 W20-3 (48" x 48")

- LEGEND:**
- DETOUR ROUTE
 - CONSTRUCTION ZONE
 - TYPE III BARRICADE
 - AMBER FLASHING LIGHT

- NOTE:**
1. PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21 (DETOUR SIGNING FOR CLOSING STATE HIGHWAYS).
 2. THE COST OF SUPPLYING, ERECTING AND MAINTAINING BARRICADES, WARNING LIGHTS AND SIGNS SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
 3. TEMPORARY INFORMATION SIGNING SHALL BE PLACED AT EACH END OF EB US 30 (JEFFERSON ST.) FOR THE DURATION OF THE PROJECT.
 4. THE CONTRACTOR SHALL DEVELOP AND MAINTAIN APPROPRIATE SIGNAL TIMINGS FOR THE FOLLOWING INTERSECTIONS, OR AS DIRECTED BY THE ENGINEER
 - A) JACKSON ST. / OTTAWA ST. (NORTH LEG)
 - B) JACKSON ST. / OTTAWA ST. (SOUTH LEG)
 - C) RUBY ST. / BROADWAY ST.
 - D) IL ROUTE 7 / PLAINFIELD RD.
 - E) S. RAYNOR AVE. / PARK AVE.
 - F) MCDONOUGH ST. / CHICAGO ST.

FILE NAME =	USER NAME = *USER*	DESIGNED - MGR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETOUR PLAN US 30 EB (JEFFERSON STREET) - S.N.099-0166	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
*FILE#		DRAWN - RAG	REVISED -			607	2011-065-BR	WILL	33	5	
	PLOT SCALE = *SCALE*	CHECKED - MGR	REVISED -			CONTRACT NO. 60P84					
	PLOT DATE = *DATE*	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



BRIDGE CLOSED

BRIDGE CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY

① R11-2 (48" x 30")

② R11-3a (60" x 30")

DETOUR

③ M4-8-2412

BORDER
R=1.5"
TH=0.63"
IN=0.47"

④ 4" BLACK LETTERS ON ORANGE REFLECTIVE BACKGROUND

3'-6"
6.5"
4" W=28.3" X=6.9"
3"
4" W=24.0" X=9.0"
6.5"
6.9" 28.3" 6.9"

⑤ M6-3-2115

⑥L M6-1L-2115

⑥R M6-1R-2115

EAST

⑦E M3-2-2412

WEST

⑦W M3-4-2412

⑧R M5-1R-2115

⑧L M5-1L-2115

DETOUR

⑨R M4-10R (48"x18")

⑨L M4-10L (48"x18")

END DETOUR

⑩ M4-8A (24" x 18")

SIDEWALK CLOSED

⑪ R11-1101

⑫ W20-2 (48" X 48")

⑬ W20-3 (48" X 48")

DETOUR AHEAD

ROAD CLOSED AHEAD

LEGEND:

— DETOUR ROUTE

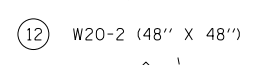
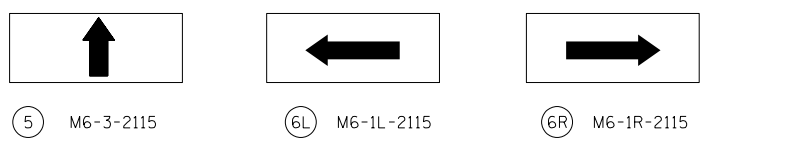
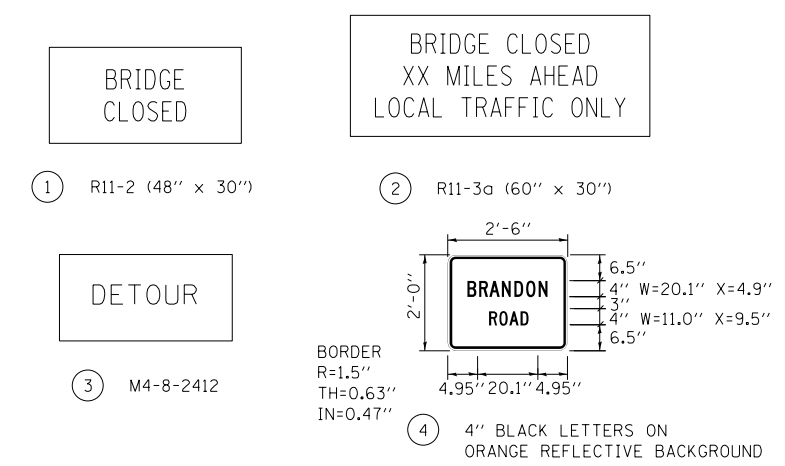
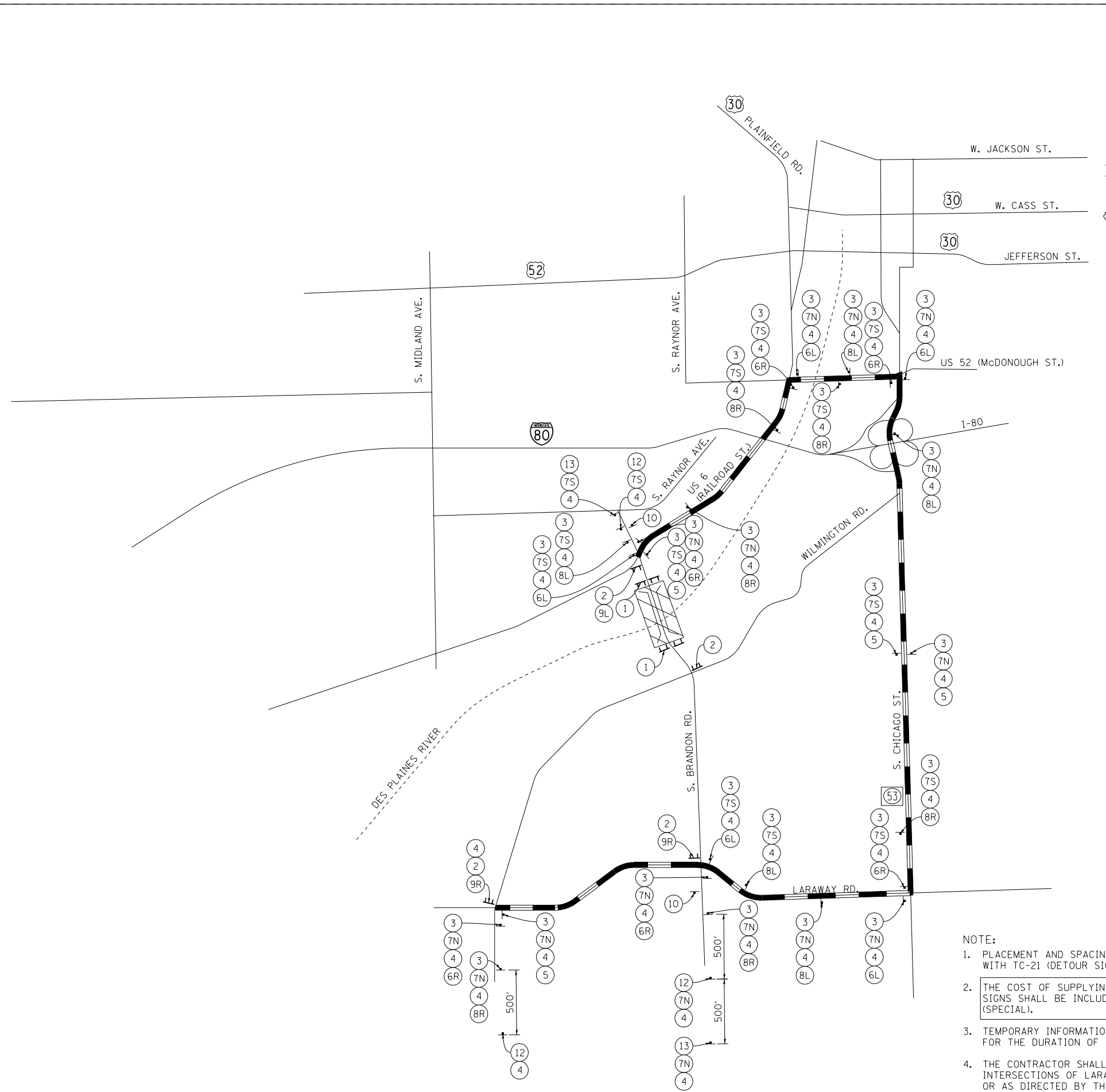
▨ CONSTRUCTION ZONE

⊥ TYPE III BARRICADE

⊙ AMBER FLASHING LIGHT

- NOTE:**
1. PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21 (DETOUR SIGNING FOR CLOSING STATE HIGHWAYS).
 2. THE COST OF SUPPLYING, ERECTING AND MAINTAINING BARRICADES, WARNING LIGHTS AND SIGNS SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
 3. TEMPORARY INFORMATION SIGNING SHALL BE PLACED AT EACH END OF JACKSON STREET AND BRIDGE STREET FOR THE DURATION OF THE PROJECT.
 4. THE CONTRACTOR SHALL DEVELOP AND MAINTAIN APPROPRIATE SIGNAL TIMINGS FOR THE INTERSECTION OF RUBY ST / BROADWAY ST., OR AS DIRECTED BY THE ENGINEER.

FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED - MGR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETOUR PLAN JACKSON STREET - S.N. 099-0239				F.A.U. RTE. 297	SECTION 2011-065-BR	COUNTY WILL	TOTAL SHEETS 33	SHEET NO. 6
	PLOT SCALE = *SCALE*	CHECKED - MGR	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	CONTRACT NO. 60P84	
	PLOT DATE = *DATE*	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



NOTE:

1. PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21 (DETOUR SIGNING FOR CLOSING STATE HIGHWAYS).
2. THE COST OF SUPPLYING, ERECTING AND MAINTAINING BARRICADES, WARNING LIGHTS AND SIGNS SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
3. TEMPORARY INFORMATION SIGNING SHALL BE PLACED AT EACH END OF BRANDON ROAD FOR THE DURATION OF THE PROJECT.
4. THE CONTRACTOR SHALL DEVELOP AND MAINTAIN APPROPRIATE SIGNAL TIMINGS FOR THE INTERSECTIONS OF LARAWAY RD. / CHICAGO STREET AND CHICAGO ST. / US 52 (MCDONOUGH ST), OR AS DIRECTED BY THE ENGINEER.

LEGEND:

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TYPE III BARRICADE
- AMBER FLASHING LIGHT

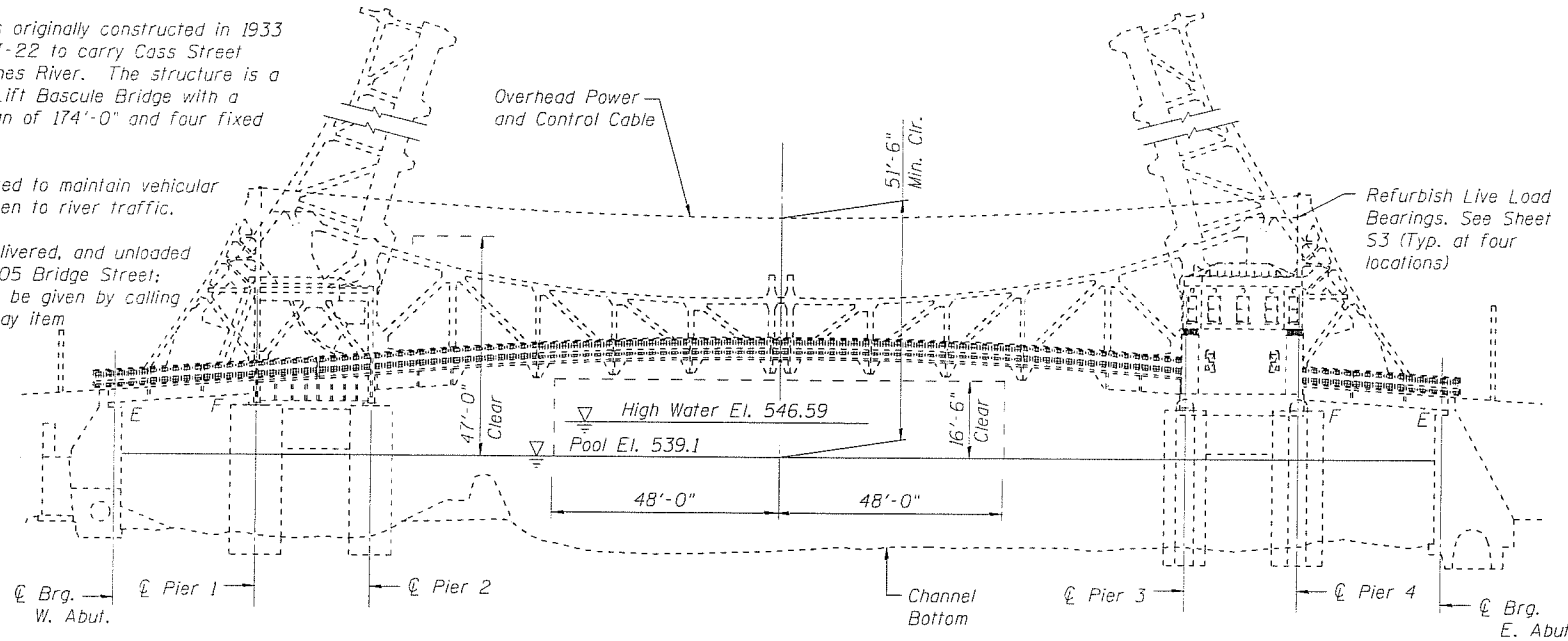
FILE NAME = *FILE*	USER NAME = *USER*	DESIGNED - MGR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETOUR PLAN BRANDON ROAD - S.N. 099-9903			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
		DRAWN - RAG	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	341	2011-065-BR	WILL	33	7
		CHECKED - MGR	REVISED -		CONTRACT NO. 60P84											
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT											

Bench Mark: Brass disk in concrete wall (M.S.L. Elev. 544.578) at Sta. 9+42 Left ±316', IL Waterway BM #288.2

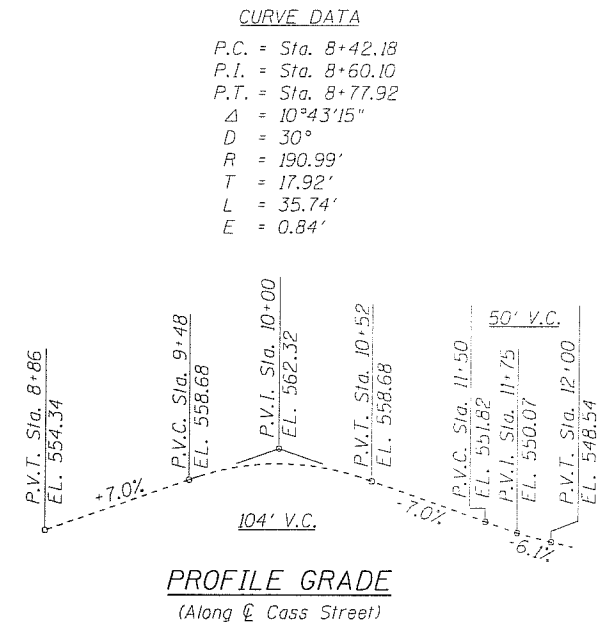
Existing Structure: S.N. 099-0101 was originally constructed in 1933 under Section SB1-22 to carry Cass Street over the Des Plaines River. The structure is a Scherzer Rolling Lift Bascule Bridge with a main moveable span of 174'-0" and four fixed approach spans.

An assigned detour route will be utilized to maintain vehicular traffic, but the channel will remain open to river traffic.

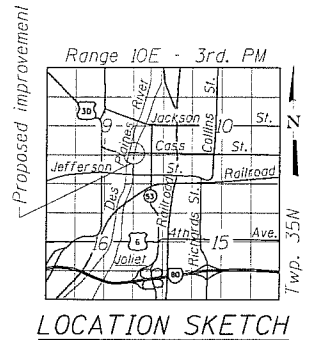
NE Rack Section shall be salvaged, delivered, and unloaded at the Joliet Moveable Bridge Office: 105 Bridge Street, Joliet, IL 60435. 24 hour notice shall be given by calling 815-726-5495. Cost included in the pay item Operating Machinery.



ELEVATION



PROFILE GRADE
(Along \bar{C} Cass Street)



LOCATION SKETCH

SCOPE OF WORK

1. Refurbish live load bearings.
2. Realign/Replace northeast rack.
3. Repair floor beam sidewalk cantilevers. See Sheet 55.
4. Remove and replace batten plates.

DESIGN SPECIFICATIONS

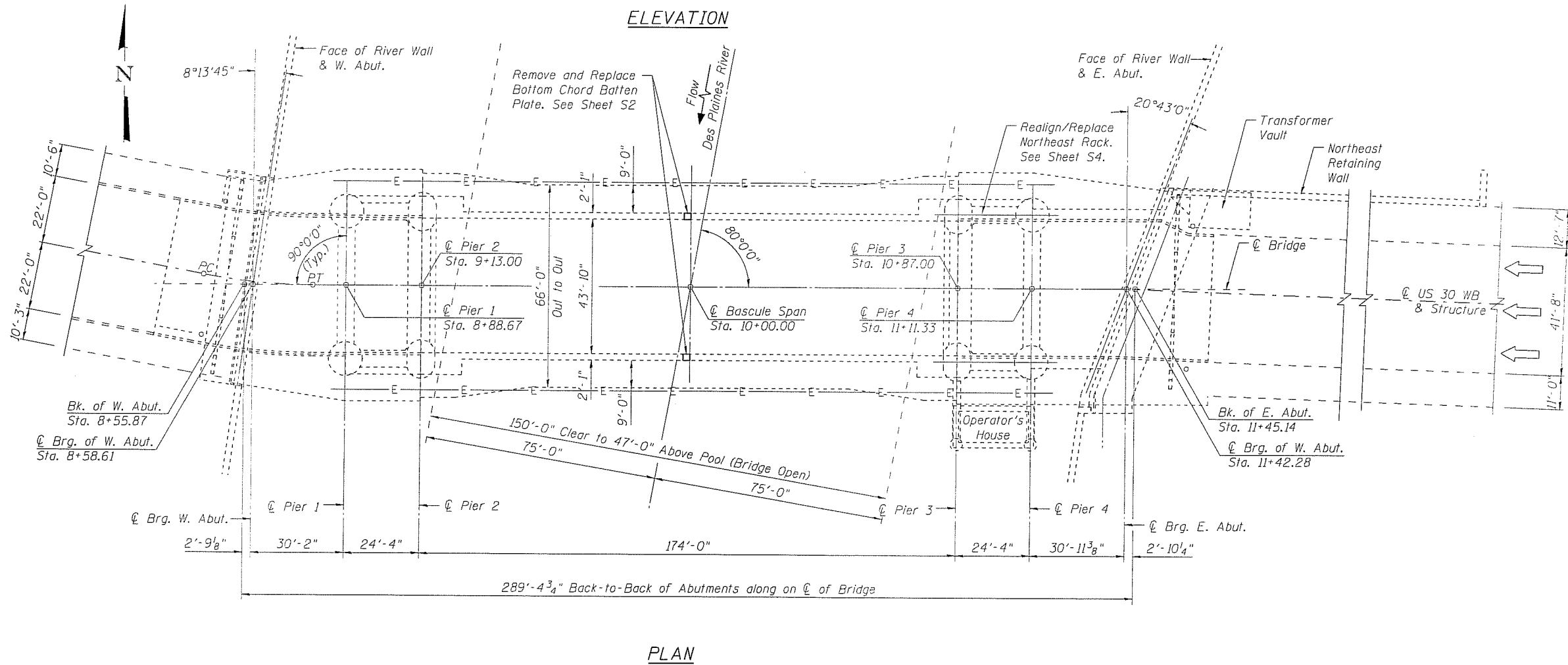
2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)

1988 AASHTO Standard Specifications for Movable Bridges (5th Edition)

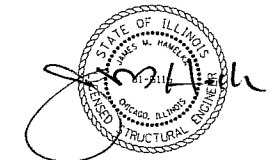
LOADING HS20-44

DESIGN STRESSES

FIELD UNITS
 $f_y = 36,000$ psi (structural steel)



PLAN



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 81-6116
EXPIRES 11-30-2012

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION US 30 WB (CASS STREET) OVER DES PLAINES RIVER STRUCTURE NO. 099-0101 SHEET NO. 51 OF 56 SHEETS	F.A.P. RTE. 607	SECTION 2011-065-BR	COUNTY WILL	TOTAL SHEETS 33	SHEET NO. 8
PLOT SCALE =	DRAWN - PRH	CHECKED - JMH	REVISIONS -			CONTRACT NO. 60P84				
PLOT DATE =	CHECKED - JMH	REVISIONS -	REVISIONS -			[ILLINOIS] FED. AID PROJECT				

INDEX OF SHEETS

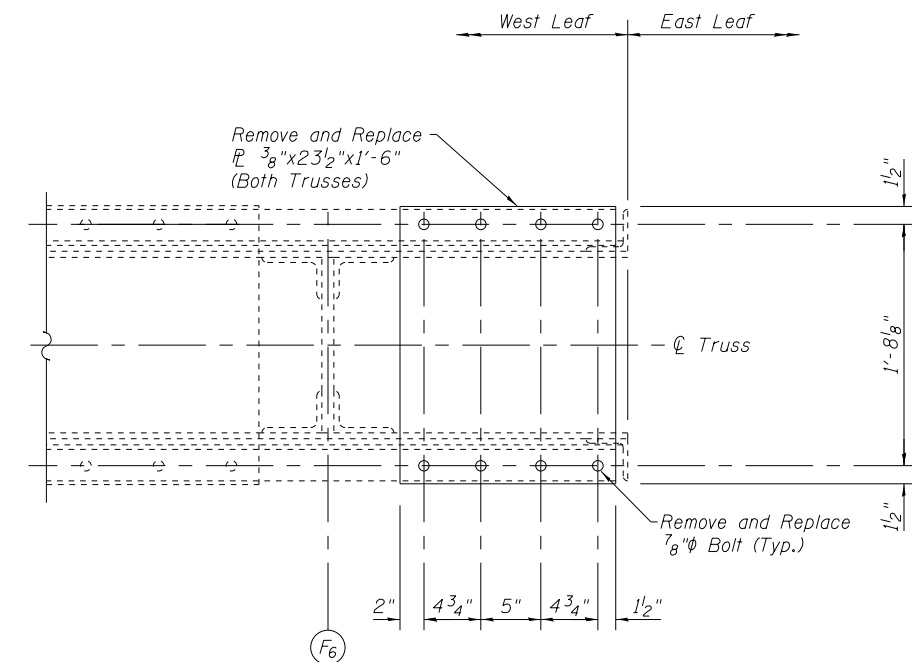
- S1. General Plan and Elevation
- S2. General Notes, Bill of Materials, and Index of Sheets
- S3. Live Load Bearing Details
- S4. Northeast Rack Repair Details
- S5. Bascule Framing Plan
- S6. Bascule Framing Repair Details

GENERAL NOTES:

1. 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.
2. Fasteners shall be ASTM A325, Type 1 mechanically galvanized bolts. Bolts $\frac{7}{8}$ " ϕ , holes $\frac{15}{16}$ " ϕ , unless noted otherwise.
3. All structural steel shall be AASHTO M270 Grade 36, unless noted otherwise.
4. No field welding permitted except as specified in the Contract Documents.
5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of material containing lead on this project.
6. 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".
7. All new structural steel shall be shop painted according to the requirements of Paint System 1-0Z/E/U. The color of the final finish coat shall match the existing paint color. Cost included in the applicable Pay Items.
8. The removal and reattachment of guardrail, handrail, steel railings, traffic barrier terminal, and etcetera required for repair work (e.g. Structural Steel Repair) shall be included in the contract unit price of the work item being performed.
9. Removal and disposal of all structural steel necessary to complete the work as detailed on the plans shall be performed in accordance with Section 501 of the Standard Specifications and included in the cost of the associated work.
10. Burning of existing rivets or bolts will not be permitted when the subject fasteners are installed in existing structural steel to remain in place. Such rivets and bolts shall have the head of the fastener sheared off and the shank driven or drilled out. Extreme care shall be exercised when removing such fasteners so as not to damage the existing structural steel to remain. Removal of such fasteners will not be measured for payment but shall be included in the cost of the associated work. Any damage to the existing structural steel to remain in place due to the removal of such fasteners shall be repaired or replaced to the satisfaction of the Engineer at no additional cost to the Department.

TOTAL BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	QUANTITY
Structural Steel Repair	Pound	660
Refurbishing of Live Load Bearings	Each	4
Operating Machinery	L Sum	0.5



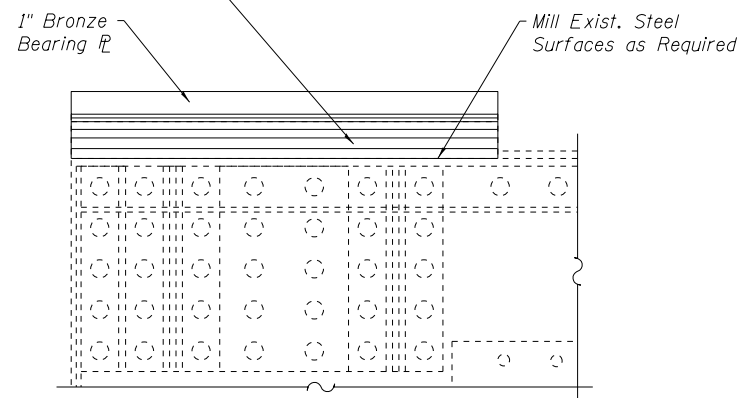
BATTEN PLATE DETAIL

Note:

Members attached to Batten Plates may require straightening prior to installation of proposed Batten Plates. Any straightening required shall be included in the pay item Structural Steel Repair.

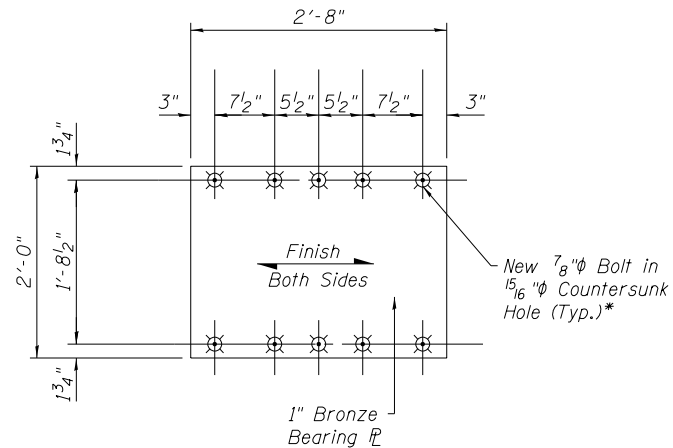
FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, BILL OF MATERIALS, AND INDEX OF SHEETS STRUCTURE NO. 099-0101	F.A.P. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =	
		CHECKED - JMH	REVISED -			607	2011-065-BR	WILL	33	9	
		DRAWN - PRH	REVISED -			CONTRACT NO. 60P84					
		CHECKED - JMH	REVISED -			ILLINOIS FED. AID PROJECT					
		PLOT SCALE =		SHEET NO. S2 OF S6 SHEETS							
		PLOT DATE =									

Provide $\pm 3\frac{3}{8}$ " Shim P's of Varying Thickness to Provide Sufficient Bearing; See Table of Shim Plates.



ELEVATION AT LIVE LOAD BEARING

△ Bronze Bearing Plate shall be in full contact with anchorage girder plate to allow for full live load transfer.



BRONZE BEARING PLATE DETAIL

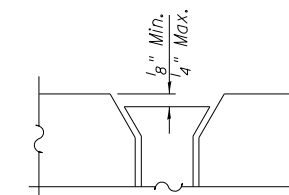
Material: ASTM B171, Alloy C464000
*See Countersink Detail

TABLE OF SHIM PLATES**

Material: ASTM B19, UNS 26000, 1/2 Hard

No.	Thickness (in.)
5	1/2
2	1/4
2	1/8
2	1/16

**Match dimensions and bolt hole locations shown on Bronze Bearing Plate Detail.



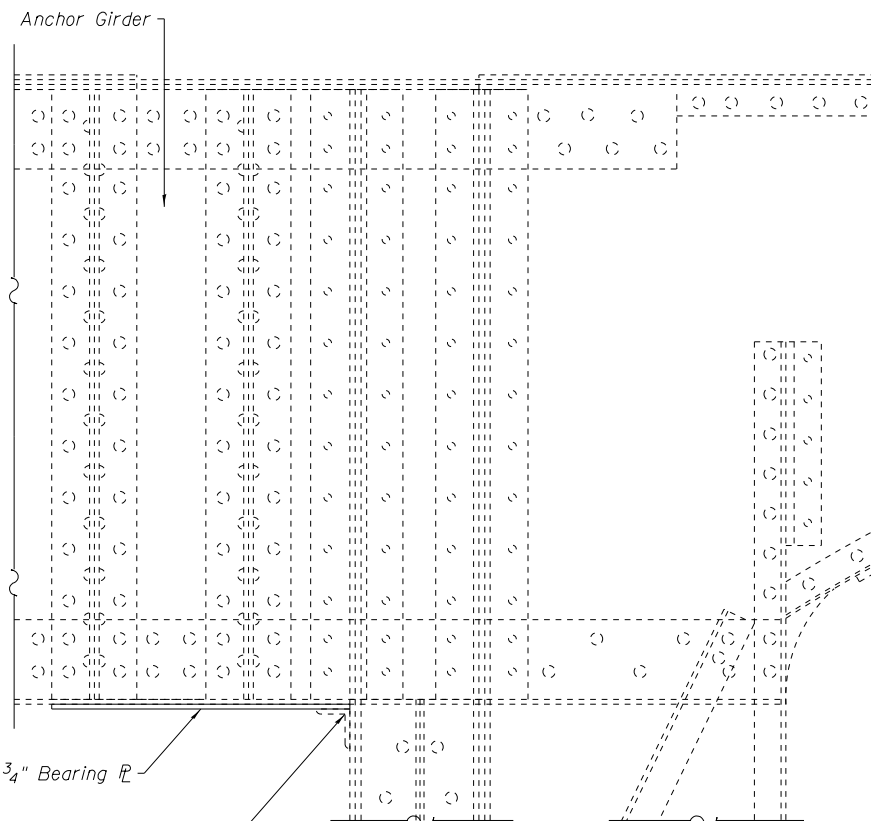
COUNTERSINK DETAIL

BILL OF MATERIAL

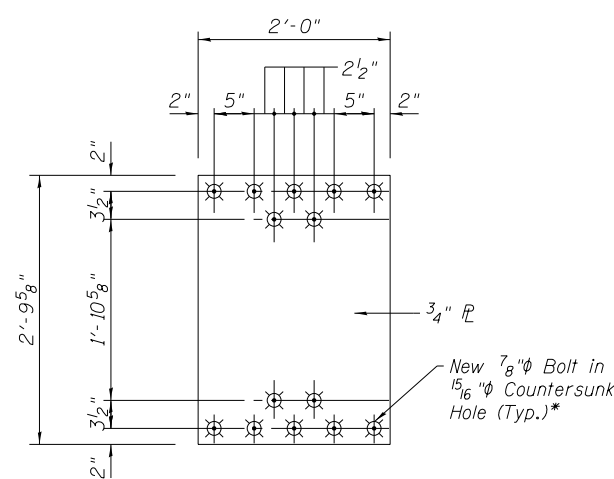
ITEM	UNIT	Quantity
Refurbishing of Live Load Bearings	Each	4

Notes:

- 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 details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
- The Contractor shall verify all pertinent dimensions prior to fabrication.
- Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
- See Sheet S2 for notes regarding painting of new and existing steel.
- Cost of removal and disposal of existing bronze plates, bearing plates, shim plates, and bolts is included in the pay item Refurbishing Live Load Bearings.
- Cost of all bronze plates, bearing plates, shim plates, and bolts included in pay item Refurbishing Live Load Bearings.
- As-received surfaces must be 63 microinch or better. If not, plates shall be ground or machined to 63 microinch or better.



ANCHORAGE GIRDER ELEVATION



BEARING PLATE DETAIL

*See Countersink Detail

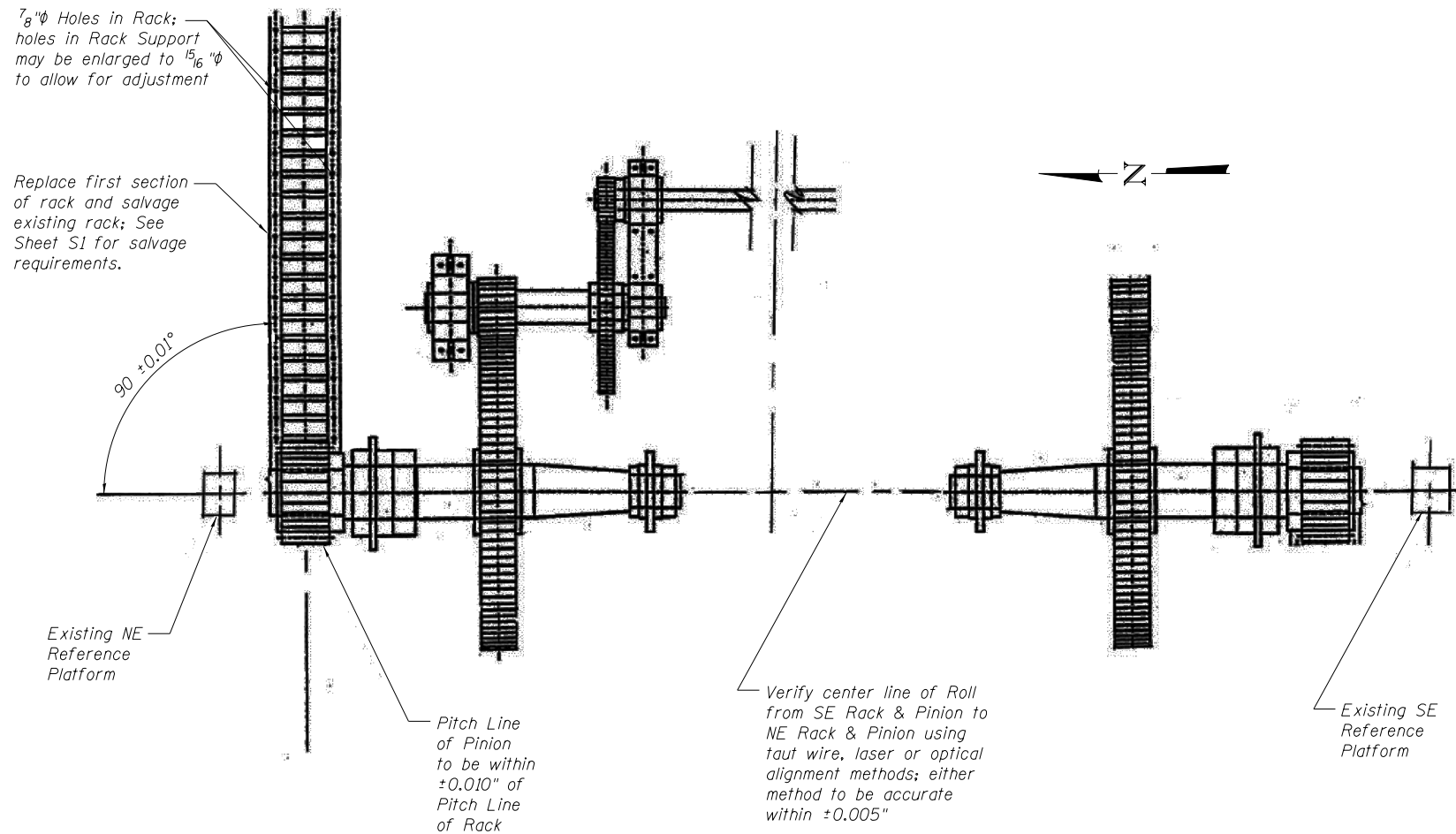
FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - JMH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

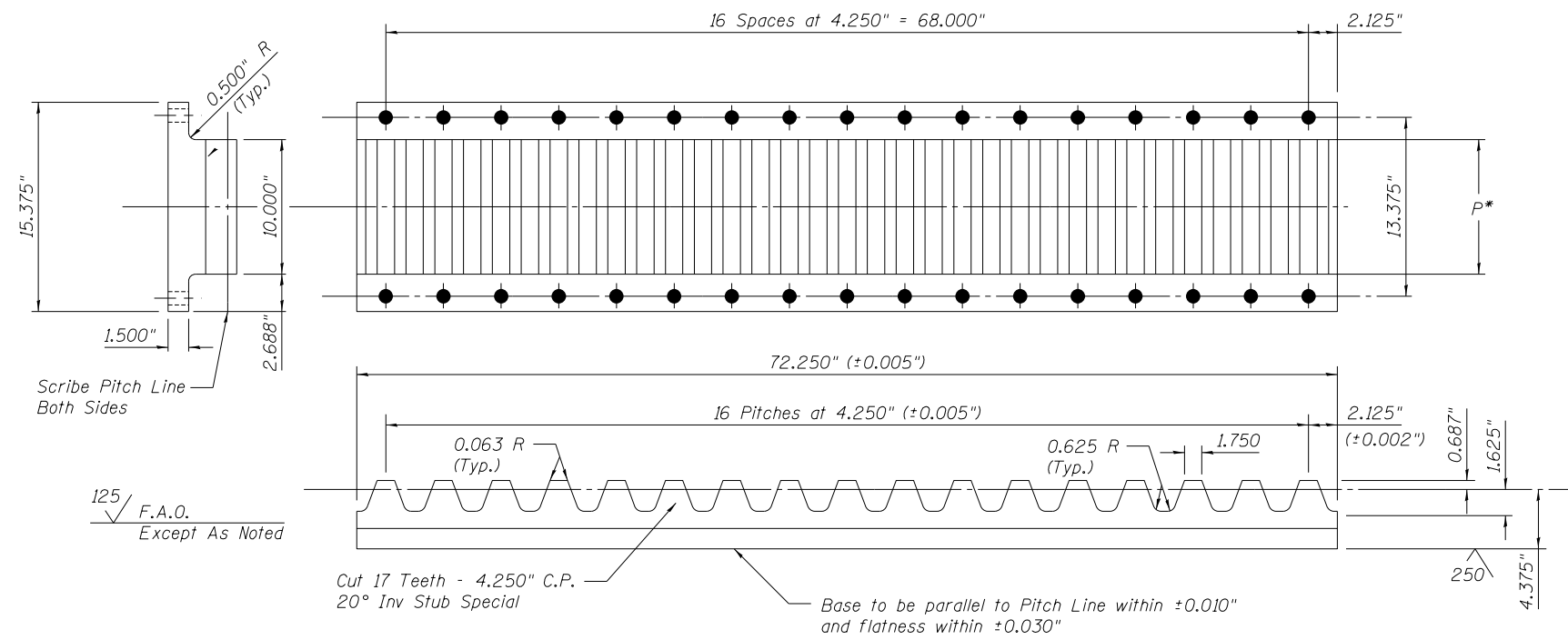
**LIVE LOAD BEARING DETAILS
STRUCTURE NO. 099-0101**

SHEET NO. S3 OF S6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	10
			CONTRACT NO. 60P84	
ILLINOIS FED. AID PROJECT				



EAST MACHINE ROOM - OPERATING MACHINERY PLAN

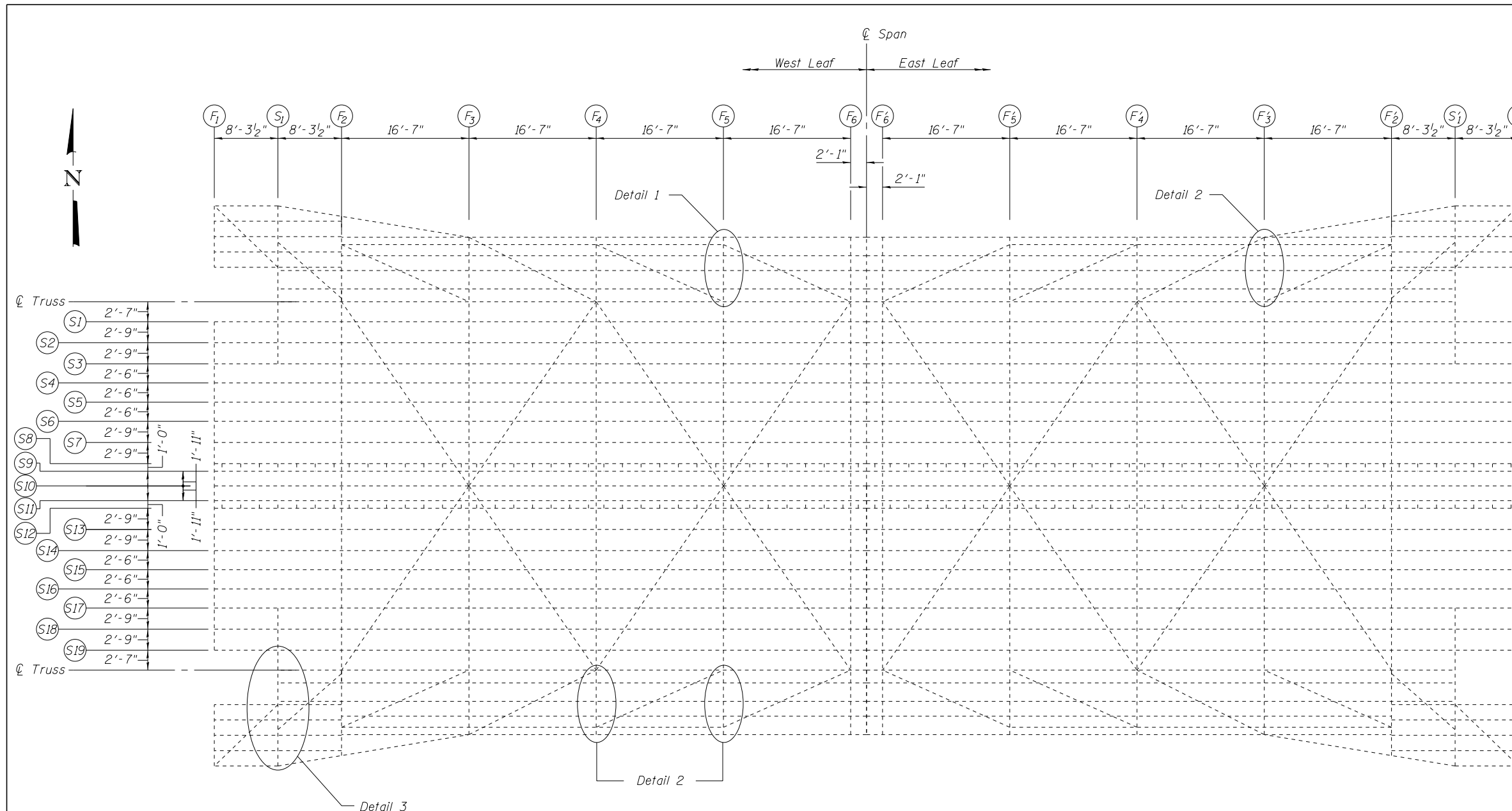


RACK DETAILS
Tolerances Non-Accumulative

Notes:

1. P* = Parallelism of each Rack side shall be within ±0.005" of its center line.
2. Starting Material: ASTM A829, SAE 4140 alloy steel, stress relieved and annealed, fine grain practice, with Charpy V-Notch toughness 25 Ft-lbs at 40°F minimum average required, tested as per ASTM A370.
3. Shop drill 7/8" holes for 7/8"-9 UNC ASTM A325 bolts, ASTM A563 Grade DH Nuts, and ASTM F436 hardened steel extra thick washers. Nuts may be tightened in either side (top or bottom), as long as there is no interference with the Pinion Gear. If nuts are on top, washers will be used on top and bottom. The 7/8" ID holes at the top of the Rack shall be chamfered at 45° to 0.070". For adjustment purposes, holes in the Rack Support Channel may be enlarged to 15/16" using either twist drills, reamers or hole cutters. 3/4" bolts may be used for temporary fit-up for alignment and verification of Pitch Line correspondence. Bolts shall be preloaded on final assembly to 65% of proof load using copper anti-seize or molydenum disulfide thread lubricants. New 7/8" rack bolts shall be torqued to 175 Ft-Lbs. Pitch Line of the Rack must be within ±0.010" of Pitch Line the Pinion Gear throughout the entire length of the Rack. Deviations shall be corrected by use of either flat or tapered shims.
4. All dimensions are in inches, unless noted otherwise.

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTHEAST RACK REPAIR DETAILS STRUCTURE NO. 099-0101	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - JMH	REVISED -			607	2011-065-BR	WILL	33	11	
		DRAWN - PRH	REVISED -			CONTRACT NO. 60P84					
		CHECKED - JMH	REVISED -			ILLINOIS FED. AID PROJECT					
				SHEET NO. S4 OF S6 SHEETS							

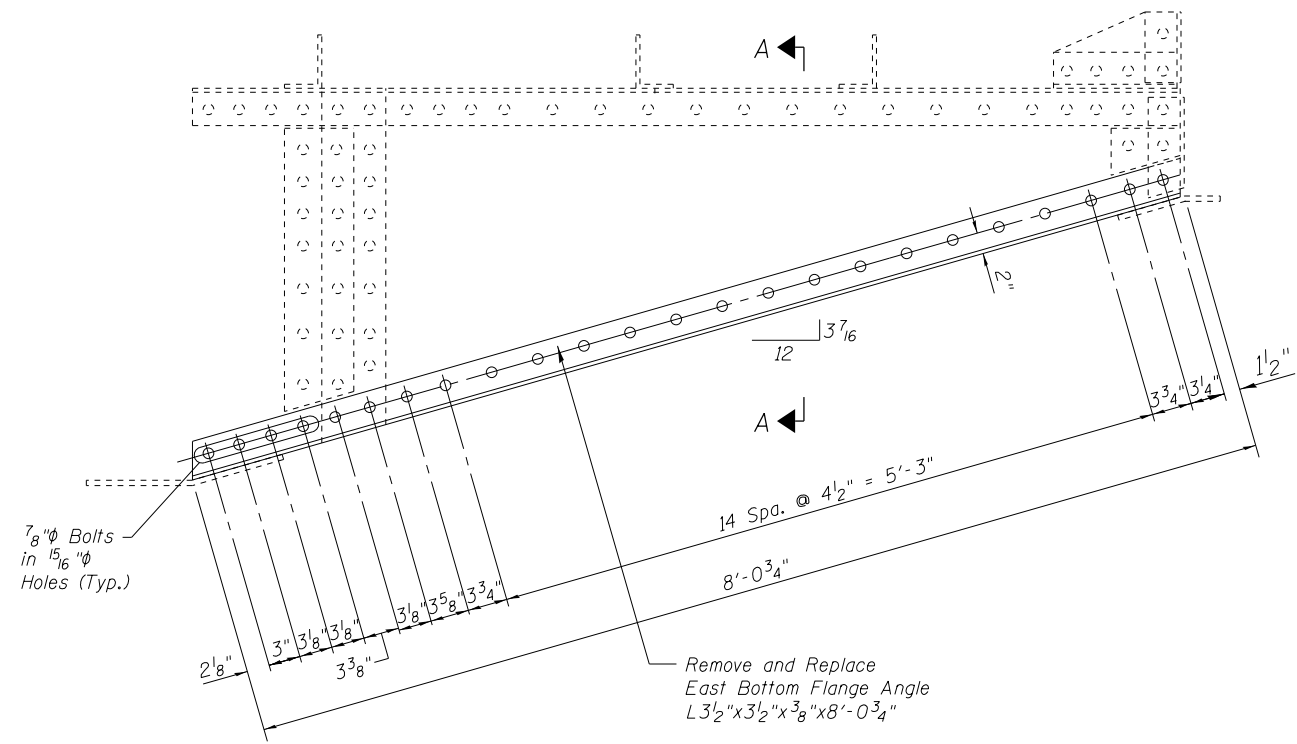


BASCULE FRAMING PLAN

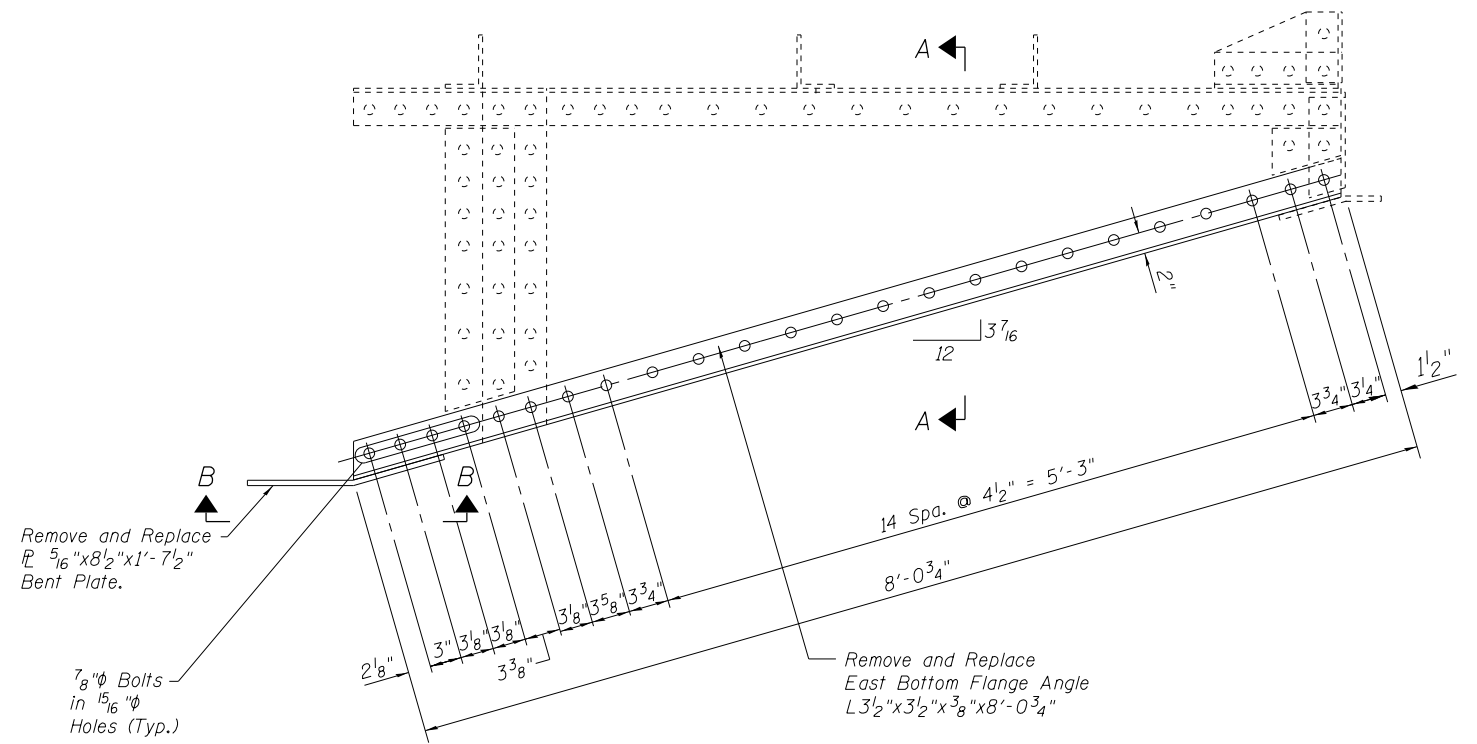
Notes (Sheets S5 and S6):

1. 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.
2. The details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
3. The Contractor shall verify all pertinent dimensions prior to fabrication.
4. Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
5. See Sheet S2 for notes regarding painting of new and existing steel.
6. The Contractor shall mill ends of angles and plates as required to allow for proper installation. Cost included in the Pay Item for Structural Steel Repair.
7. All bolts on Sheet S6 are 3/4"φ in 1 3/16"φ holes, unless noted otherwise.

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BASCULE FRAMING PLAN STRUCTURE NO. 099-0101	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - JMH	REVISED -			607	2011-065-BR	WILL	33	12	
		DRAWN - PRH	REVISED -			CONTRACT NO. 60P84					
		CHECKED - JMH	REVISED -			ILLINOIS FED. AID PROJECT					
				SHEET NO. S5 OF S6 SHEETS							

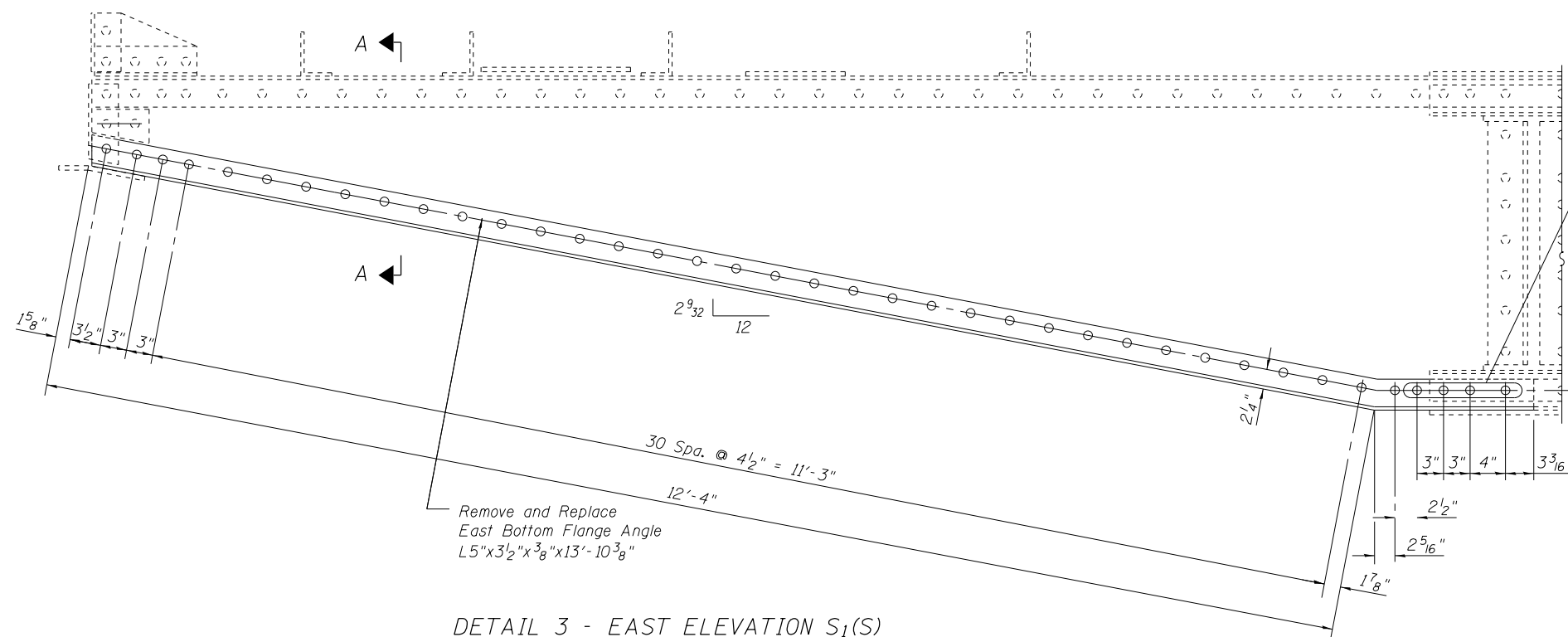


DETAIL 1 - EAST ELEVATION F₅(N)

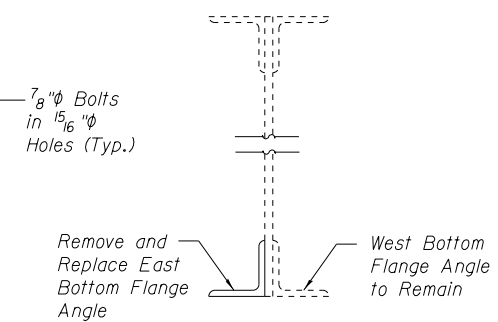


DETAIL 2 - EAST ELEVATION F₃(N)

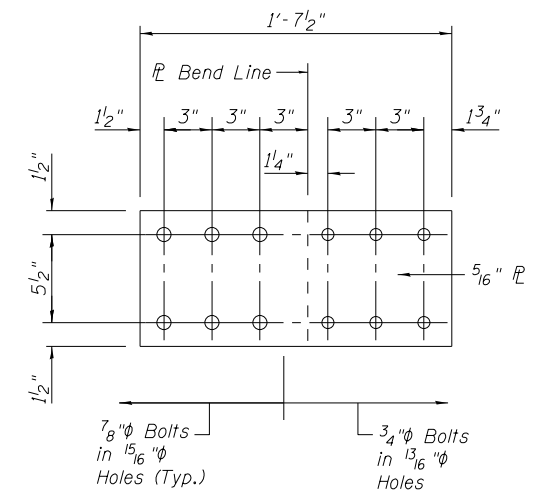
F₄(S) & F₅(S), Opp. Hand



DETAIL 3 - EAST ELEVATION S₁(S)



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	Quantity
Structural Steel Repair	Pound	550

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BASCULE FRAMING REPAIR DETAILS
STRUCTURE NO. 099-0101

SHEET NO. S6 OF S6 SHEETS

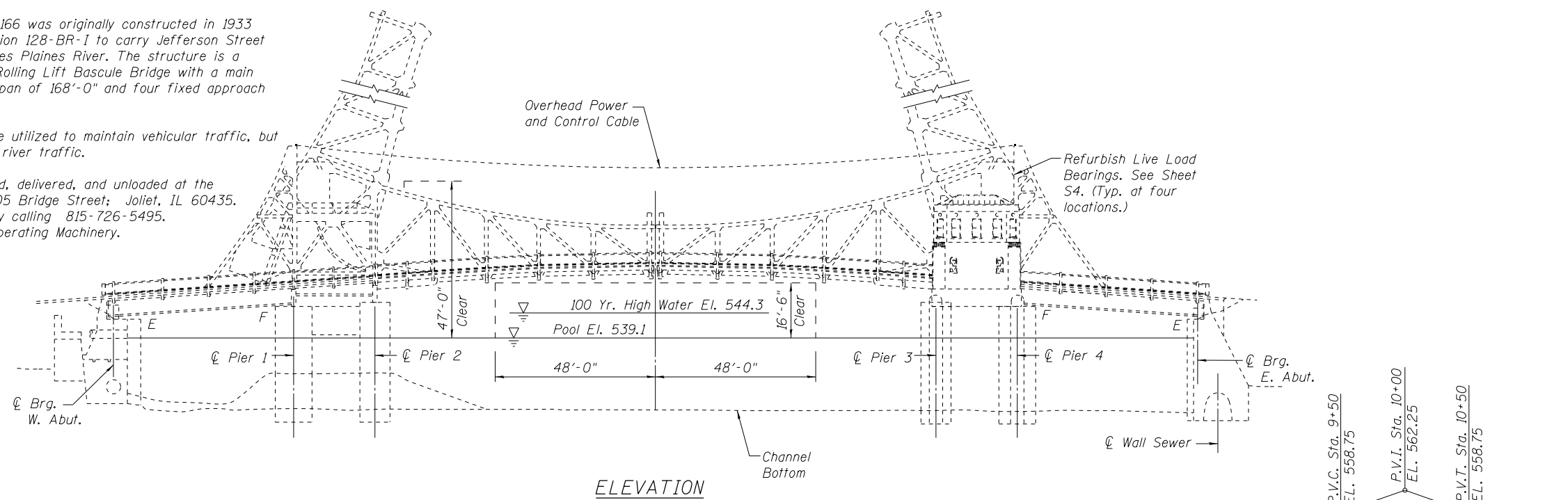
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	13
			CONTRACT NO. 60P84	
ILLINOIS FED. AID PROJECT				

Bench Mark: Brass disk in concrete wall (M.S.L. Elev. 544.082)
Sta. 105+09.54 BR Right Bank (N.G.V.D. Elev. = 543.644)

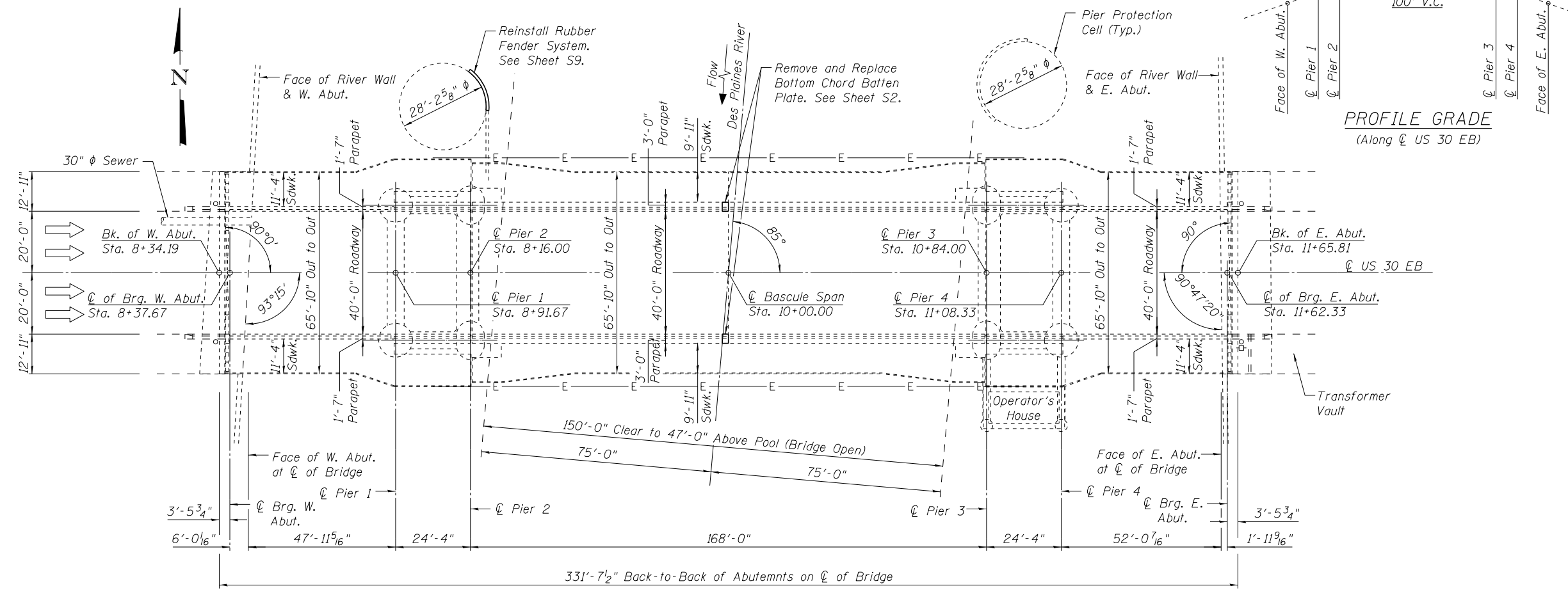
Existing Structure: S.N. 099-0166 was originally constructed in 1933 under Section 128-BR-I to carry Jefferson Street over the Des Plaines River. The structure is a Scherzer Rolling Lift Bascule Bridge with a main moveable span of 168'-0" and four fixed approach spans.

An assigned detour route will be utilized to maintain vehicular traffic, but the channel will remain open to river traffic.

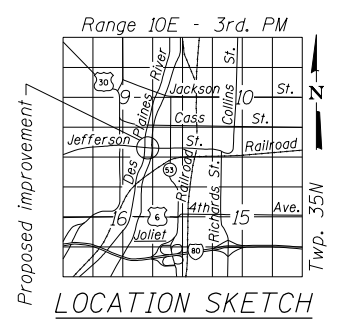
NE Pinion Gear shall be salvaged, delivered, and unloaded at the Joliet Moveable Bridge Office: 105 Bridge Street, Joliet, IL 60435. 24 hour notice shall be given by calling 815-726-5495. Cost included in the pay item Operating Machinery.



ELEVATION



PLAN



SCOPE OF WORK

1. Repair Floor Beam A. See Sheet S3.
2. Refurbish live load bearings.
3. Refurbish/replace operating machinery components. See Sheet S5.
4. Reinstall rubber fender system at west pier protection cell.
5. Sidewalk post repairs. See Sheet S8.
6. Remove and replace batten plates.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)
1988 AASHTO Standard Specifications for Movable Bridges (5th Edition)

LOADING HS20-44

DESIGN STRESSES

FIELD UNITS
 $f_y = 36,000$ psi (structural steel)



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 81-6116
EXPIRES 11-30-2012

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION US 30 EB (JEFFERSON STREET) OVER DES PLAINES RIVER STRUCTURE NO. 099-0166	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - JMH	REVISOR -			607	2011-065-BR	WILL	33	14	
		PLOT SCALE =	REVISOR -			CONTRACT NO. 60P84					
		PLOT DATE =	REVISOR -			ILLINOIS FED. AID PROJECT					

INDEX OF SHEETS

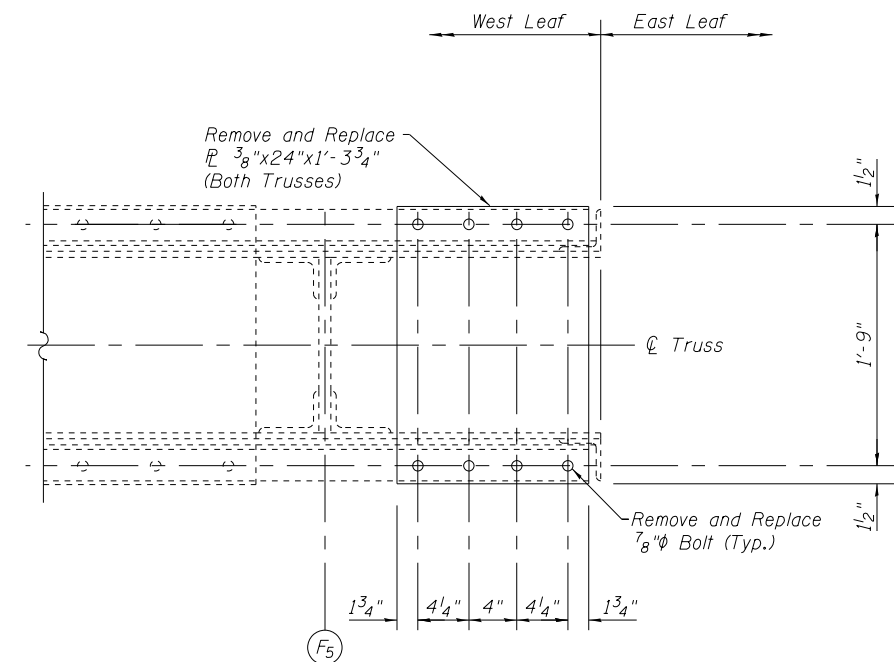
- S1. General Plan and Elevation
- S2. General Notes, Bill of Materials, and Index of Sheets
- S3. West Approach Span Framing Plan
- S4. West Approach Span Repair Details
- S5. Live Load Bearing Details
- S6. East Machinery Room Plan
- S7. Machinery Details I
- S8. Machinery Details II
- S9. Bascule Span Handrail Elevation & Repair Details
- S10. Pier Protection Cell Fender System Details

GENERAL NOTES:

1. 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.
2. Fasteners shall be ASTM A325, Type 1 mechanically galvanized bolts. Bolts 7/8"φ, holes 15/16"φ, unless noted otherwise.
3. Holes shall be subpunched or subdrilled 11/16"φ and reamed in the field to 13/16"φ for 3/4"φ bolts, unless noted otherwise. Holes shall be subpunched or subdrilled 13/16"φ and reamed in the field to 15/16"φ for 7/8"φ bolts, unless noted otherwise.
4. All structural steel shall be AASHTO M270 Grade 36, unless noted otherwise.
5. No field welding permitted except as specified in the Contract Documents.
6. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of material containing lead on this project.
7. 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".
8. All new structural steel shall be shop painted according to the requirements of Fender System 1-OZ/E/U. The color of the final finish coat shall match the existing paint color. Cost included in the applicable pay items.
9. The removal and reattachment of guardrail, handrail, steel railings, traffic barrier terminal, and etcetera required for repair work (e.g. Structural Steel Repair) shall be included in the contract unit price of the work item being performed.
10. Removal and disposal of all structural steel necessary to complete the work as detailed on the plans shall be performed in accordance with Section 501 of the Standard Specifications and included in the cost of the associated work.
11. Burning of existing rivets or bolts will not be permitted when the subject fasteners are installed in existing structural steel to remain in place. Such rivets and bolts shall have the head of the fastener sheared off and the shank driven or drilled out. Extreme care shall be exercised when removing such fasteners so as not to damage the existing structural steel to remain. Removal of such fasteners will not be measured for payment but shall be included in the cost of the associated work. Any damage to the existing structural steel to remain in place due to the removal of such fasteners shall be repaired or replaced to the satisfaction of the Engineer at no additional cost to the Department.

TOTAL BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	QUANTITY
Structural Steel Repair	Pound	730
Refurbishing of Live Load Bearings	Each	4
Operating Machinery	L Sum	0.5
Reinstall Rubber Fender System	L Sum	1
Temporary Shoring and Cribbing	Each	2

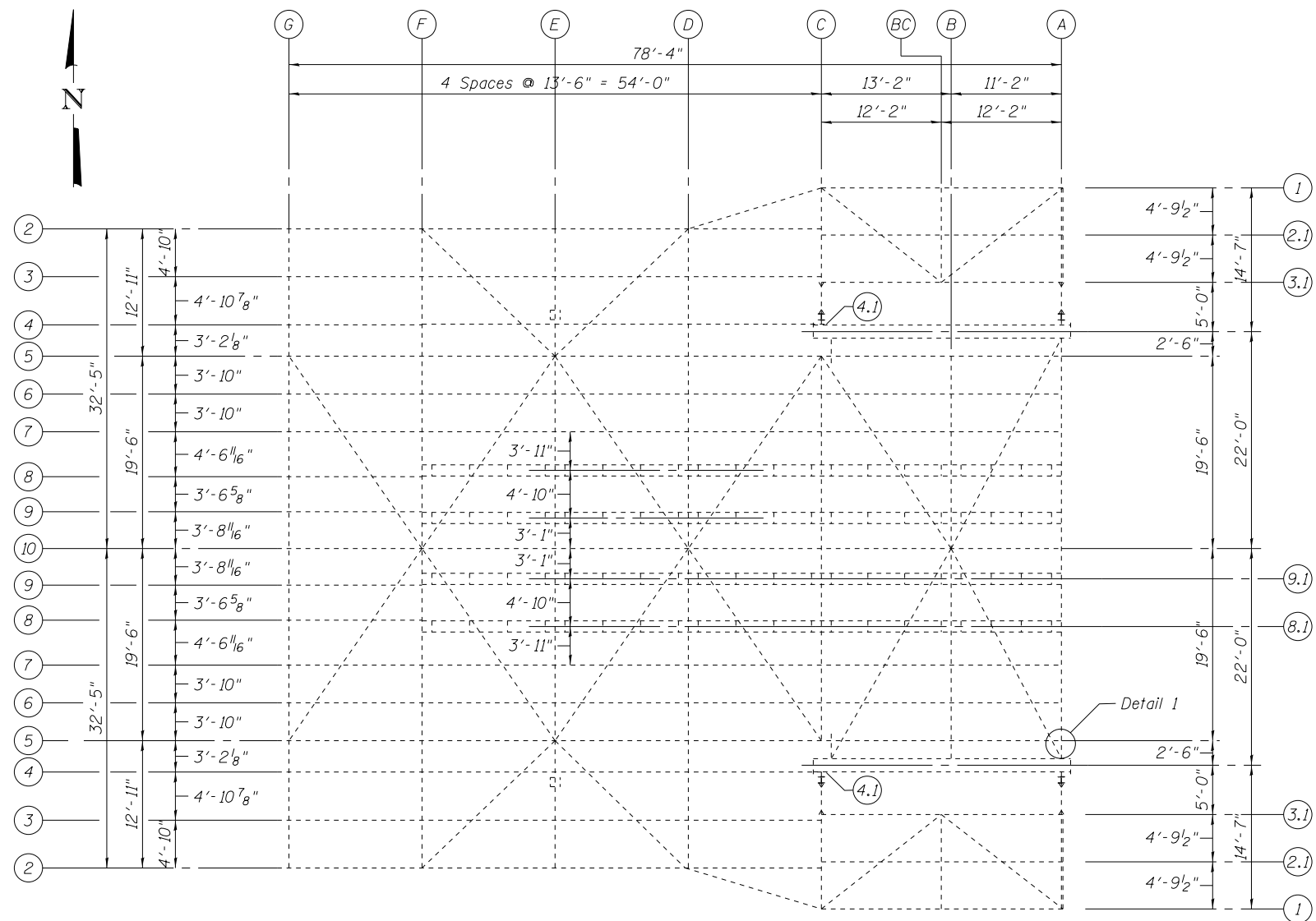


BATTEN PLATE DETAIL

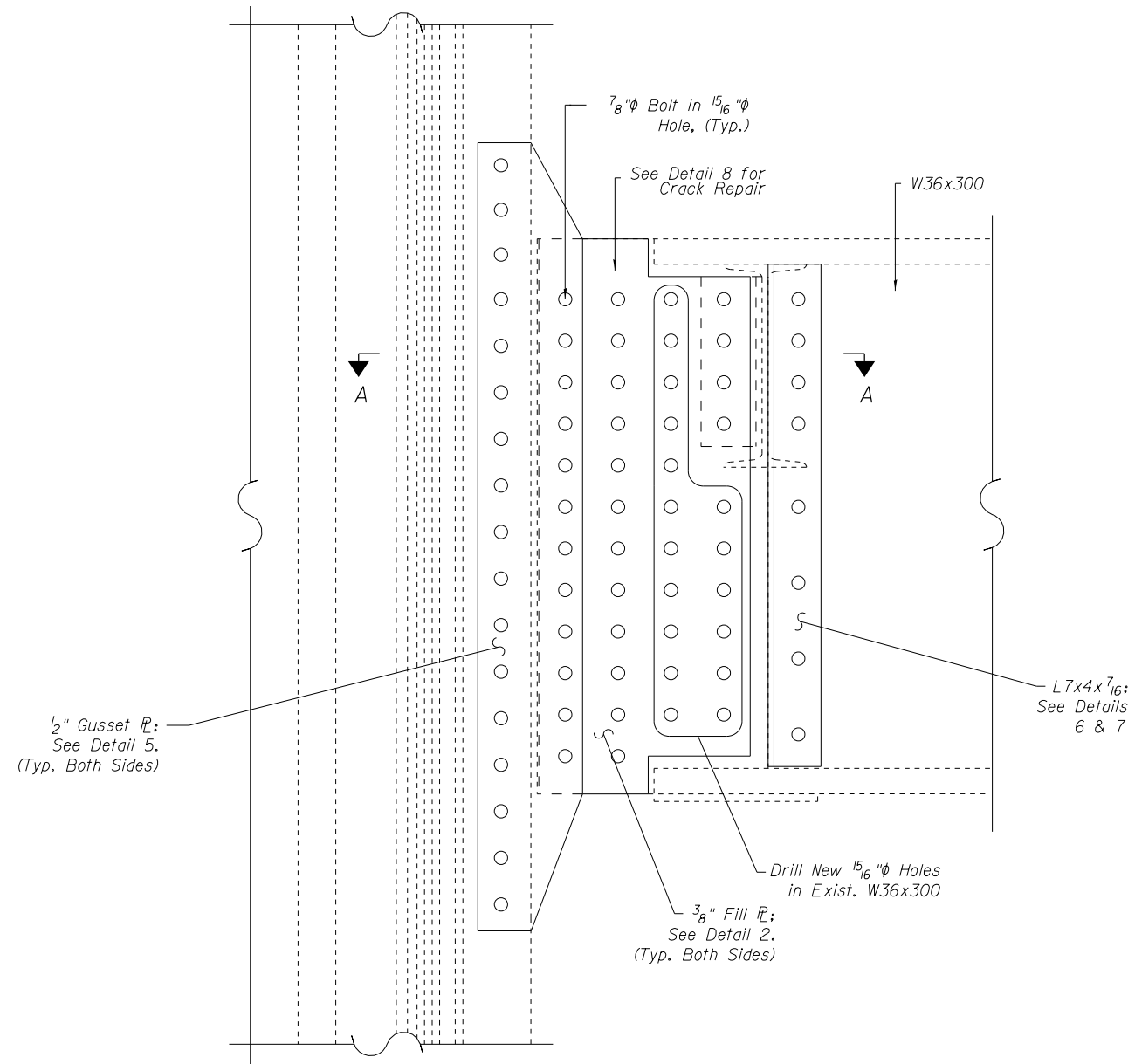
Note:

Members attached to Batten Plates may require straightening prior to installation of proposed Batten Plates. Any straightening required shall be included in the pay item Structural Steel Repair.

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, BILL OF MATERIALS, AND INDEX OF SHEETS STRUCTURE NO. 099-0166	F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - JMH	REVISED -			607	2011-065-BR	WILL	33	15	
		DRAWN - PRH	REVISED -			CONTRACT NO. 60P84					
		CHECKED - JMH	REVISED -			ILLINOIS FED. AID PROJECT					
				SHEET NO. S2 OF S9 SHEETS							



WEST APPROACH FRAMING PLAN



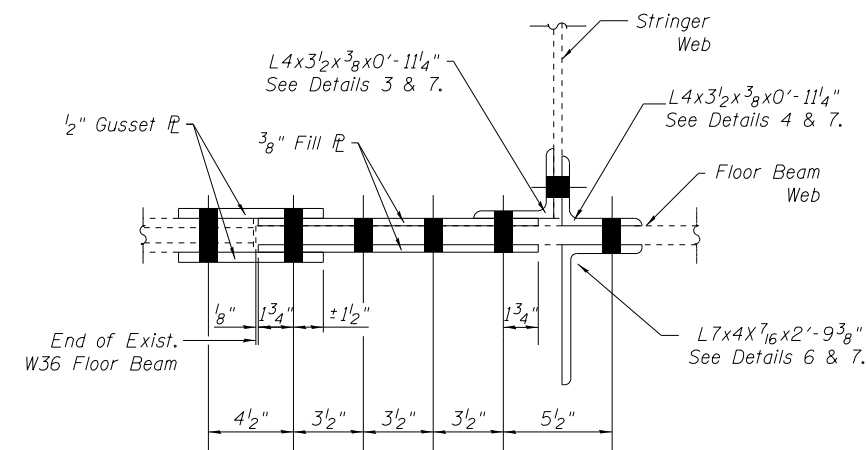
DETAIL 1 - EAST ELEVATION

NOTES:

- 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 details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
- The Contractor shall verify all pertinent dimensions prior to fabrication.
- Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
- See Sheet S2 for notes regarding painting of new and existing steel.
- Temporary shoring and cribbing to be provided at bottom Floor Beam A and affected stringer.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	390
Temporary Shoring and Cribbing	Each	2



SECTION A-A

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH SPAN FRAMING PLAN
STRUCTURE NO. 099-0166

SHEET NO. S3 OF S9 SHEETS

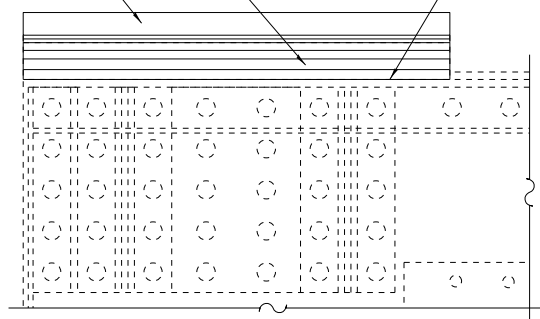
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	16
CONTRACT NO. 60P84				

ILLINOIS FED. AID PROJECT

Provide $\pm 3\frac{3}{8}$ " Shim P's of Varying Thickness to Provide Sufficient Bearing. See Table of Shim Plates.

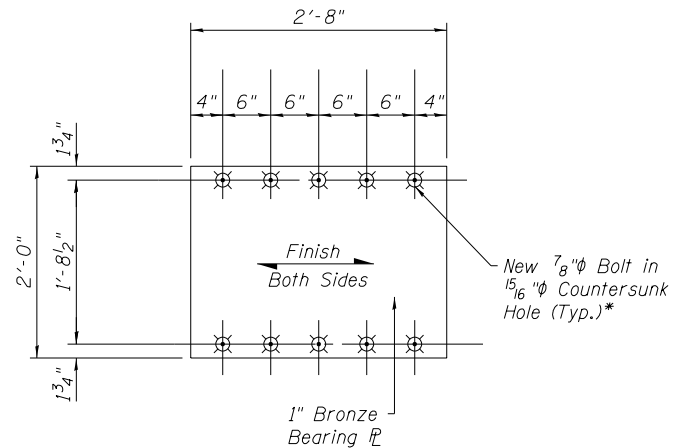
1" Bronze Bearing P

Mill Exist. Steel Surfaces as Required



ELEVATION AT LIVE LOAD BEARING

△ Bronze Bearing Plate shall be in full contact with anchorage girder plate to allow for full live load transfer.



BRONZE BEARING P DETAIL

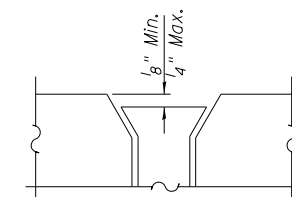
Material: ASTM B171, Alloy C464000
*See Countersink Detail

TABLE OF SHIM PLATES**

Material: ASTM B19, UNS 26000, 1/2 Hard

No.	Thickness (in.)
5	1/2
2	1/4
2	1/8
2	1/16

**Match dimensions and bolt hole locations shown on Bronze Bearing Plate Detail.



COUNTERSINK DETAIL

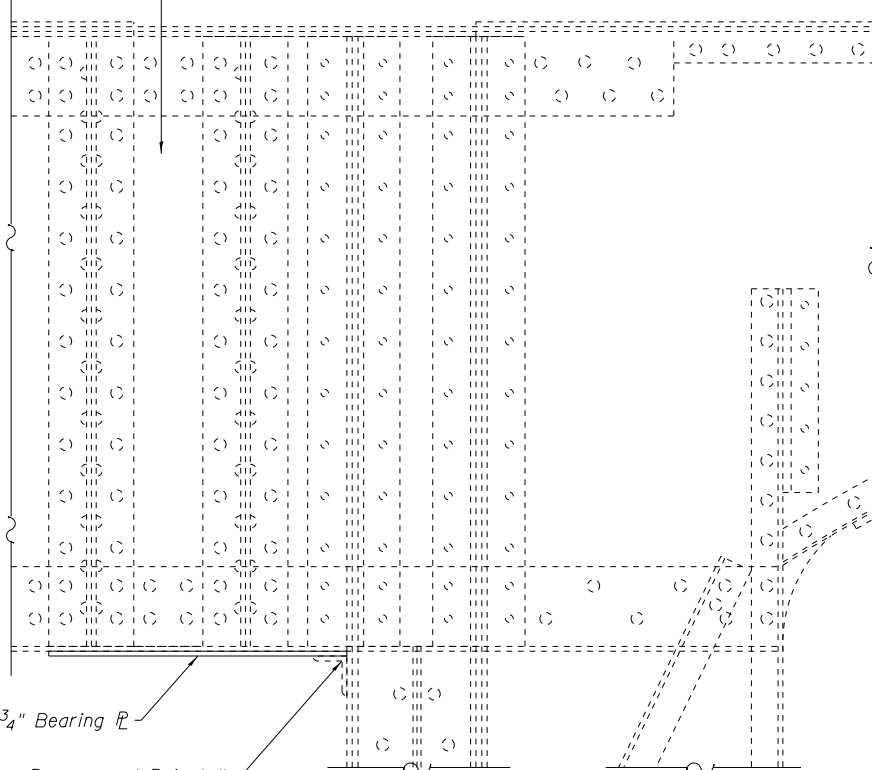
BILL OF MATERIAL

ITEM	UNIT	Quantity
Refurbishing of Live Load Bearings	Each	4

Notes:

- 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 details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
- The Contractor shall verify all pertinent dimensions prior to fabrication.
- Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
- See Sheet S2 for notes regarding painting of new and existing steel.
- Cost of removal and disposal of existing bronze plates, bearing plates, shim plates, and bolts is included in the pay item Refurbishing Live Load Bearings.
- Cost of all bronze plates, bearing plates, shim plates, and bolts included in pay item Refurbishing Live Load Bearings.
- As-recieved surfaces must be 63 microinch or better. If not, plates shall be ground or machined to 63 microinch or better.

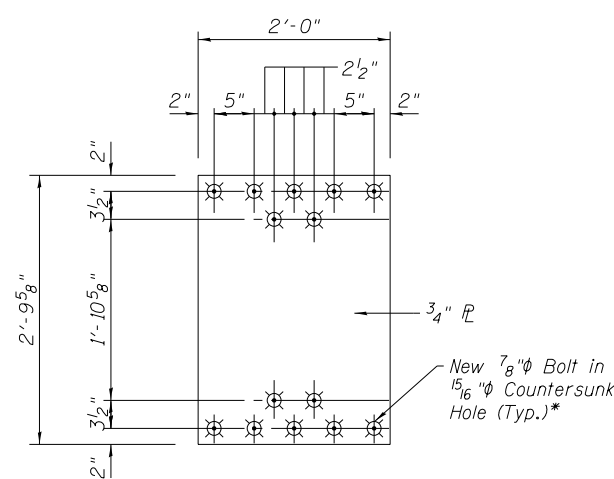
Anchor Girder



3/4" Bearing P

Remove and Reinstall Exist. Angle as Required

ANCHORAGE GIRDER ELEVATION



BEARING P DETAIL

*See Countersink Detail

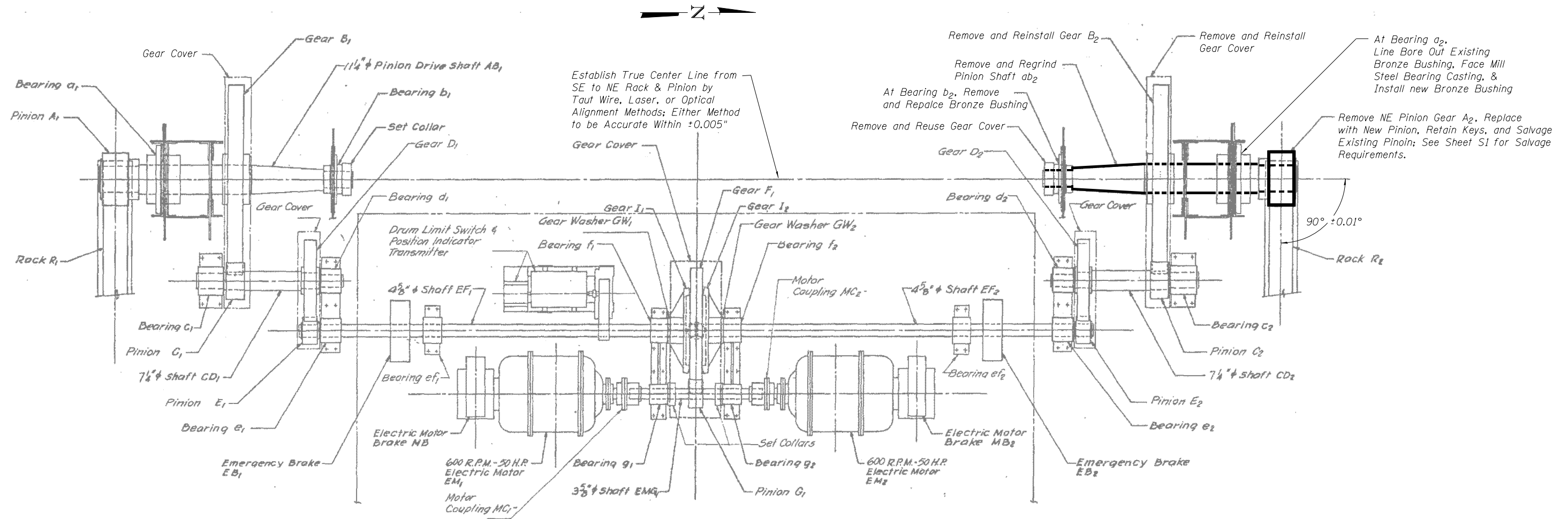
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		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - JMH	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**LIVE LOAD BEARING DETAILS
STRUCTURE NO. 099-0166**

SHEET NO. S4 OF S9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	17
			CONTRACT NO. 60P84	
ILLINOIS FED. AID PROJECT				



EAST MACHINERY ROOM - OPERATING MACHINERY PLAN

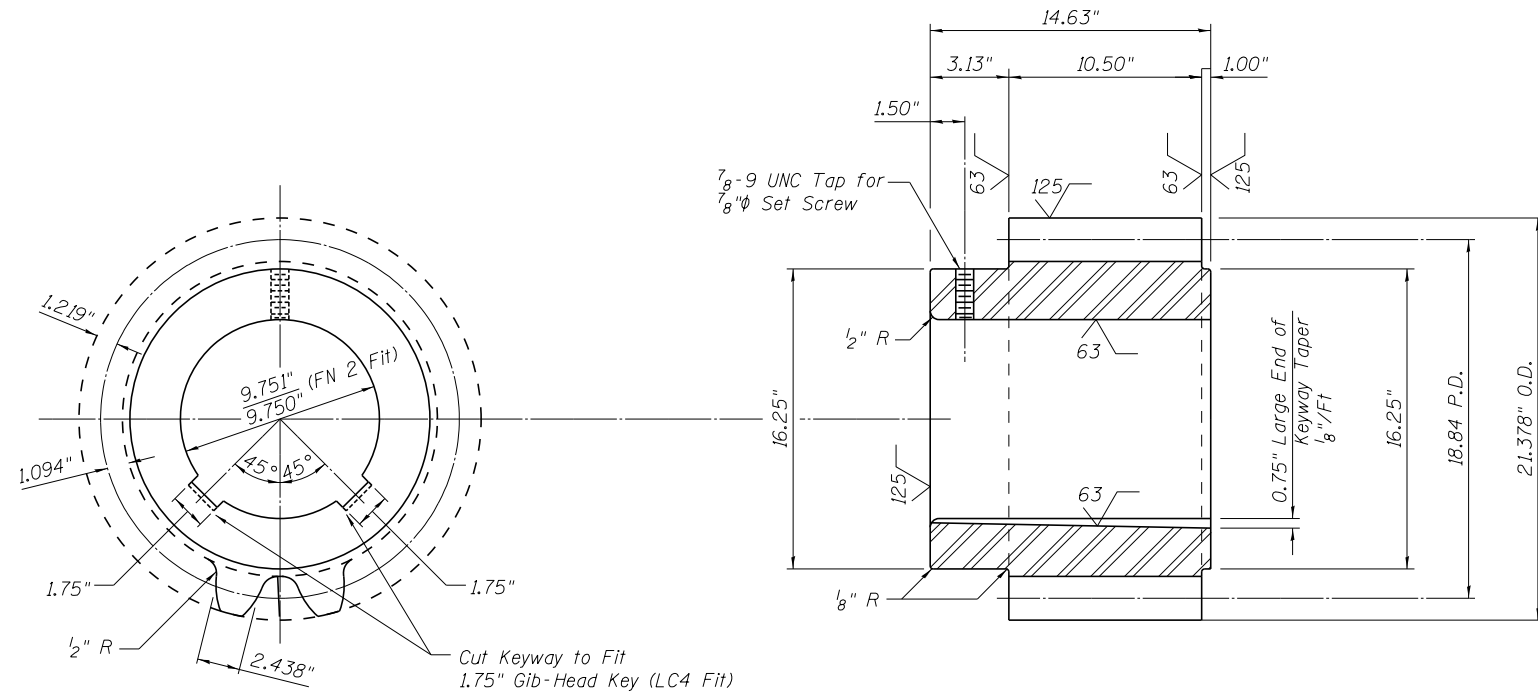
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	PLOT DATE =	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

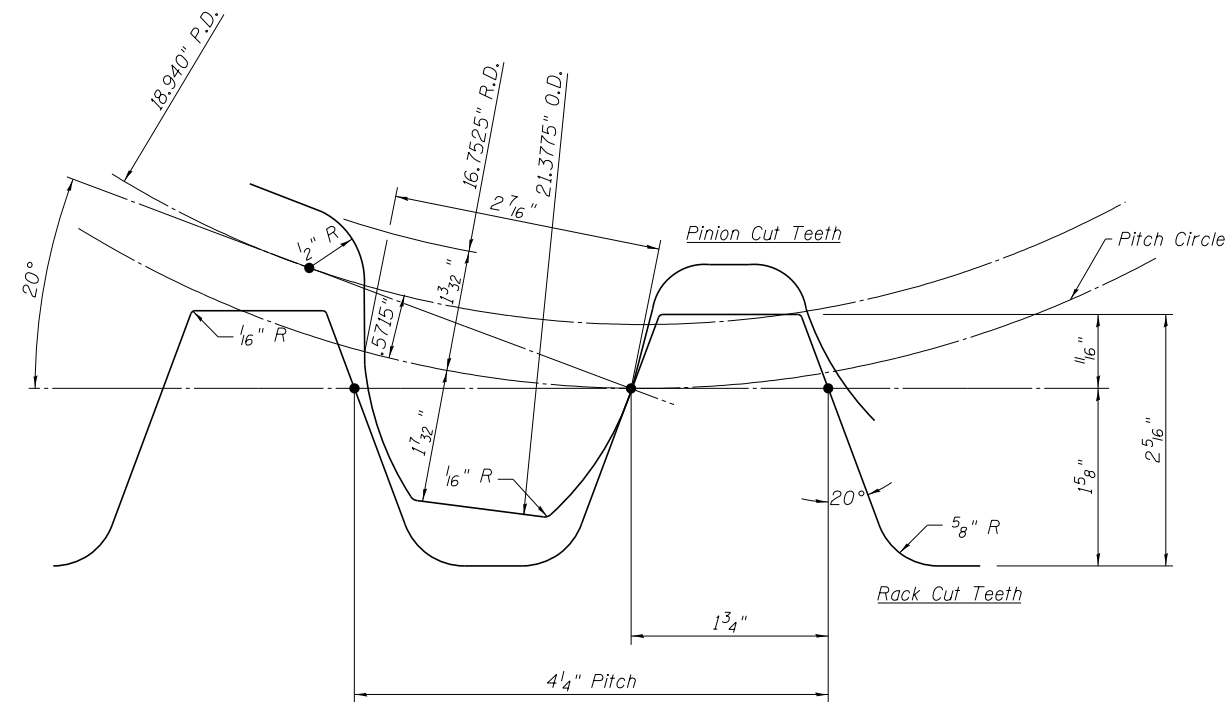
EAST MACHINERY ROOM PLAN
STRUCTURE NO. 099-0166

SHEET NO. 55 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	18
CONTRACT NO. 60P84				
ILLINOIS FED. AID PROJECT				



PINION GEAR A₂
 14 Teeth, 4 1/4" Circular Pitch, Special 20° Involute Cut Teeth
 Forged Alloy Steel, ASTM A668, Class G/ASTM Alloy 4140 Annealed



RACK AND PINION GEARS
 4 1/4" Circular Pitch - 20° Involute
 For Information Only

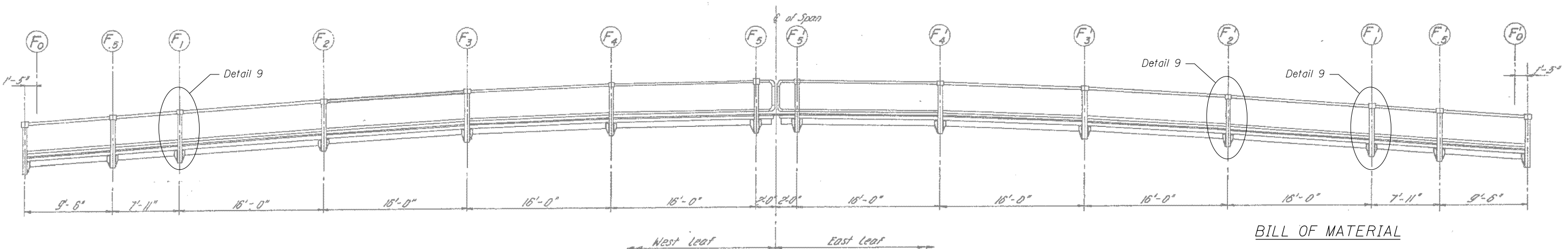
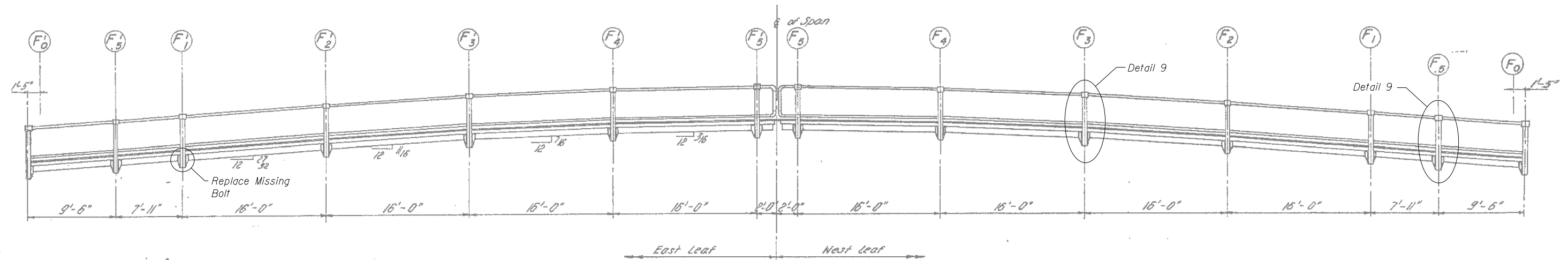
FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MACHINERY DETAILS II
STRUCTURE NO. 099-0166

SHEET NO. 57 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	20
CONTRACT NO. 60P84				
ILLINOIS FED. AID PROJECT				

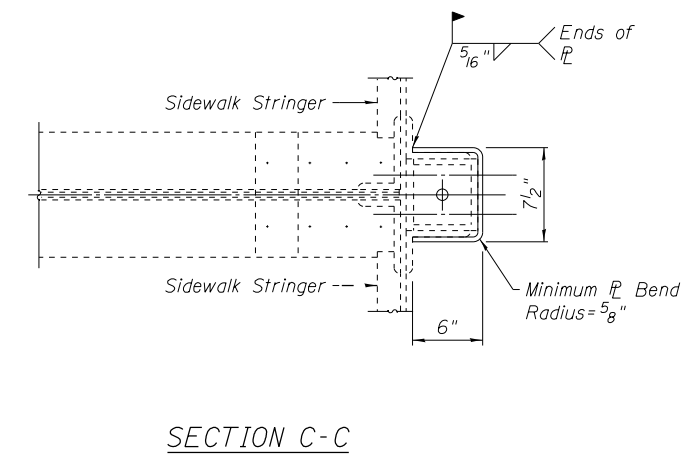
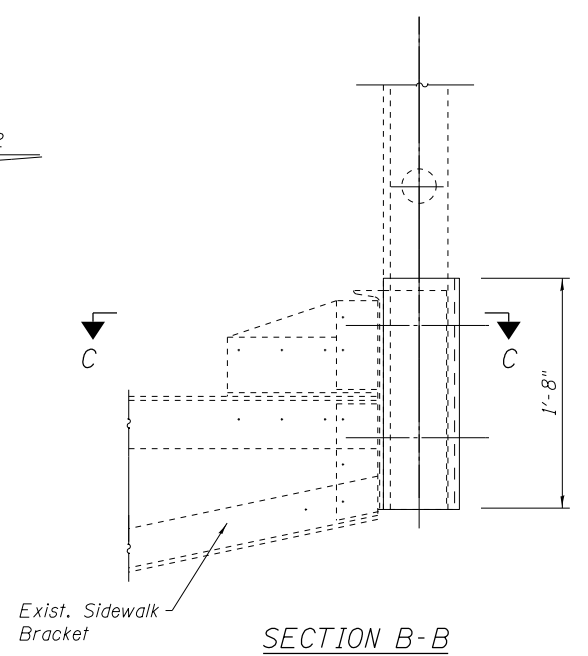
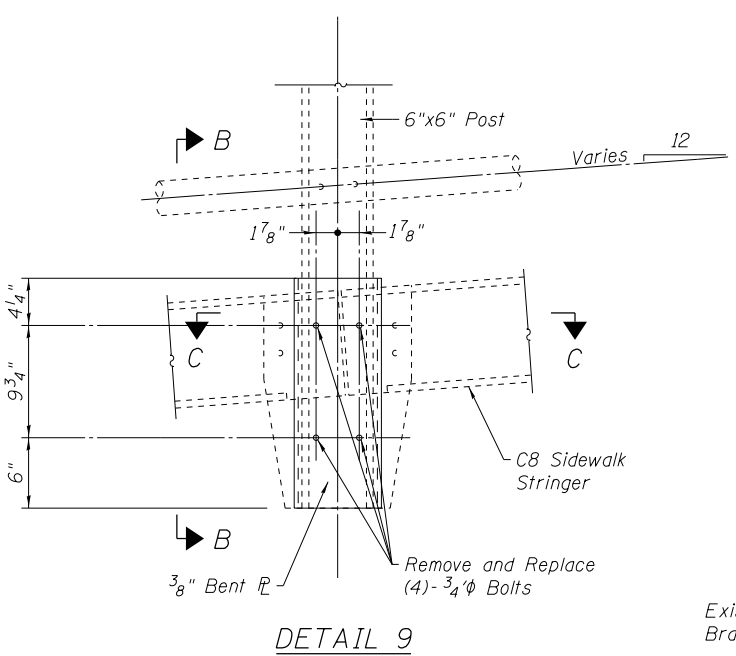


BILL OF MATERIAL

ITEM	UNIT	Quantity
Structural Steel Repair	Pound	240

NOTES:

- 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 details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
- The Contractor shall verify all pertinent dimensions prior to fabrication.
- Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
- New and existing structural steel shall be painted in accordance with the notes shown on Sheet S2. Where field welds are shown on the Plans, new and existing structural steel shall be painted in accordance with Section 506 of the Standard Specifications after welding operations have been completed.
- All bolts on this page are 3/4"φ in 1 3/16"φ holes, unless noted otherwise.
- Cost of welding included in Pay Item for Structural Steel Repair.
- In lieu of bent plate, additional steel shapes may be proposed by the Contractor and shall be submitted to the Engineer for approval.



FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -
		CHECKED - JMH	REVISED -
		DRAWN - PRH	REVISED -
		CHECKED - JMH	REVISED -

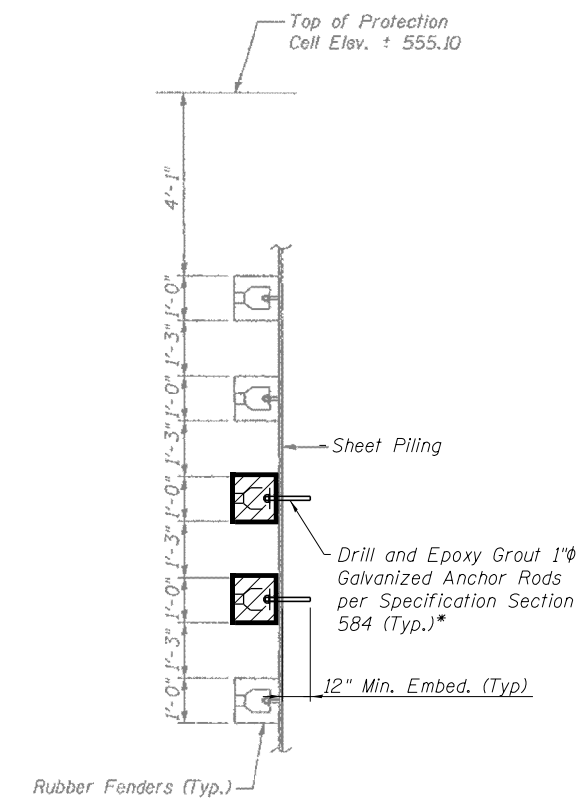
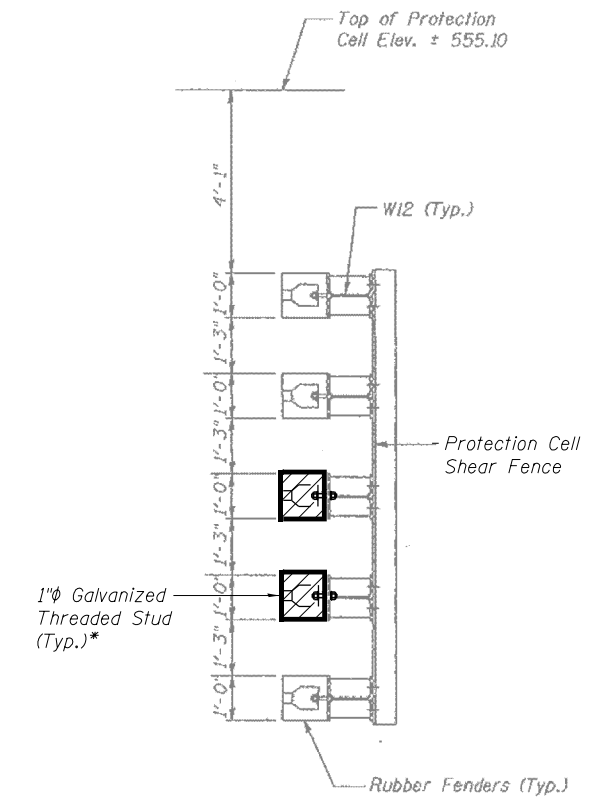
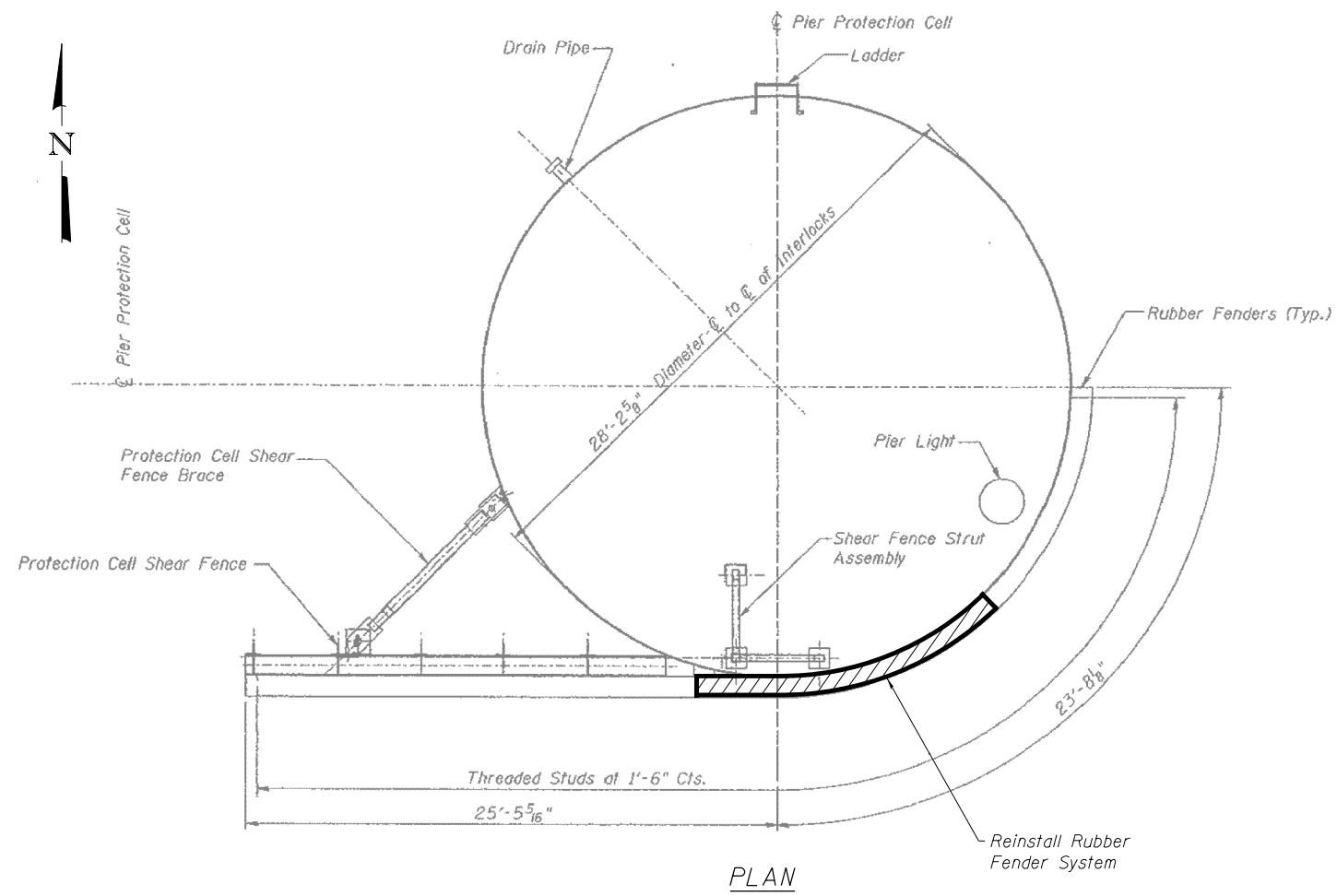
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BASCULE SPAN HANDRAIL ELEVATION & REPAIR DETAILS
STRUCTURE NO. 099-0166

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	21
			CONTRACT NO. 60P84	

SHEET NO. 58 OF 59 SHEETS

ILLINOIS FED. AID PROJECT

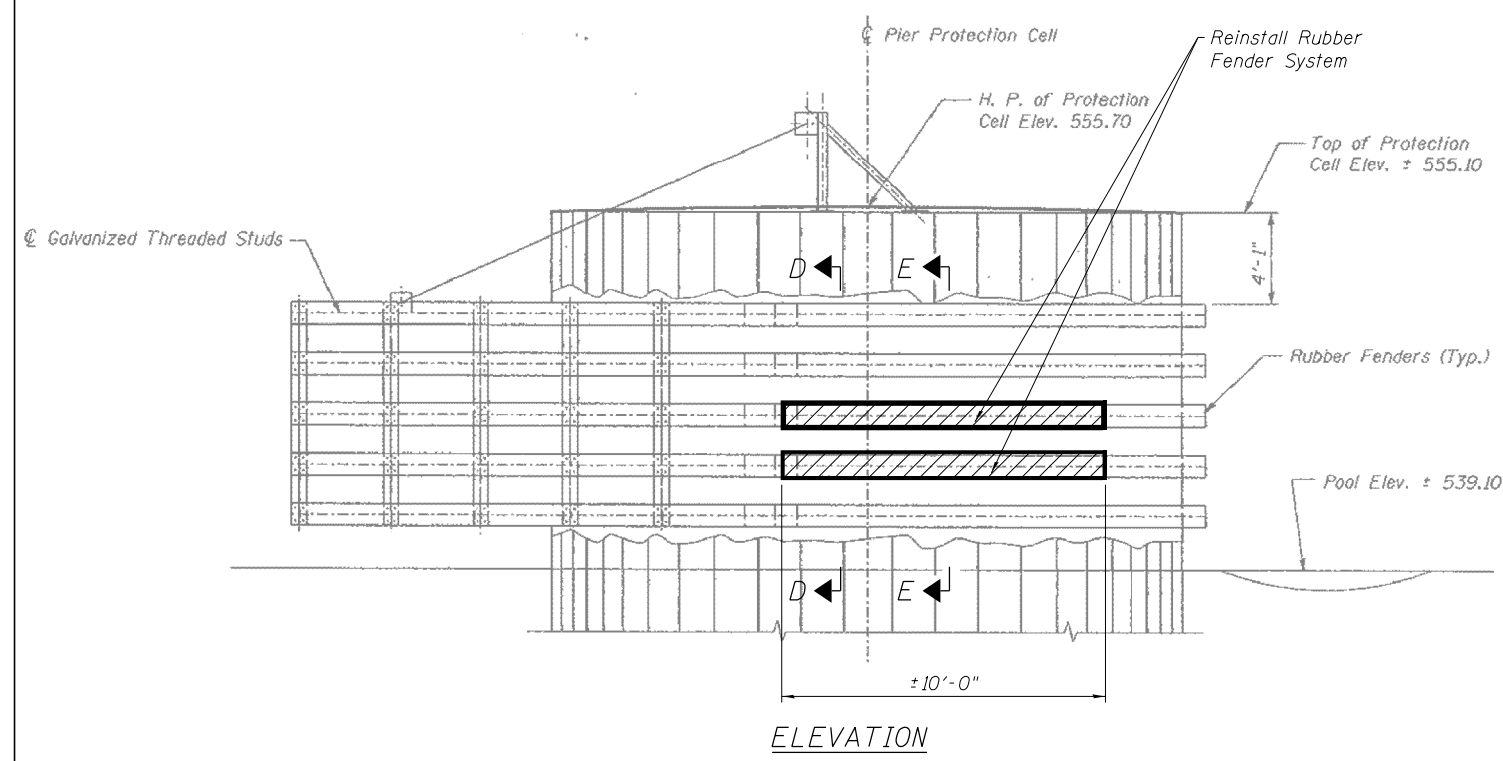


SECTION D-D

*Cost included in Pay Item
Reinstall Rubber Fender System

SECTION E-E

*Cost included in Pay Item
Reinstall Rubber Fender System



ELEVATION

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Reinstall Rubber Fender System	L Sum	1

FILE NAME =	USER NAME =	DESIGNED - JMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER PROTECTION CELL FENDER SYSTEM DETAILS
STRUCTURE NO. 099-0166

SHEET NO. S9 OF S9 SHEETS

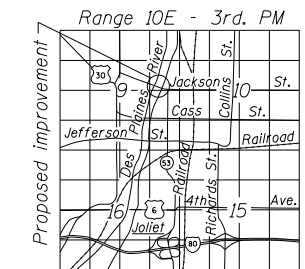
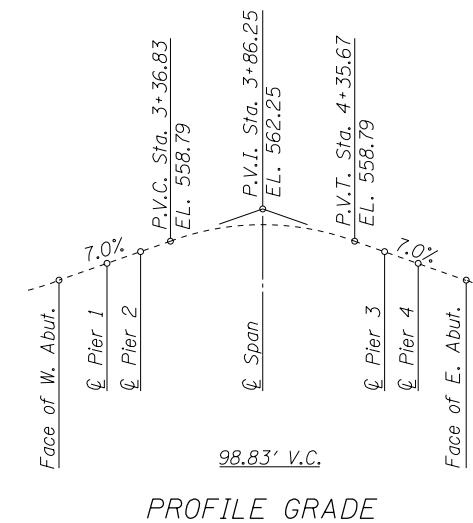
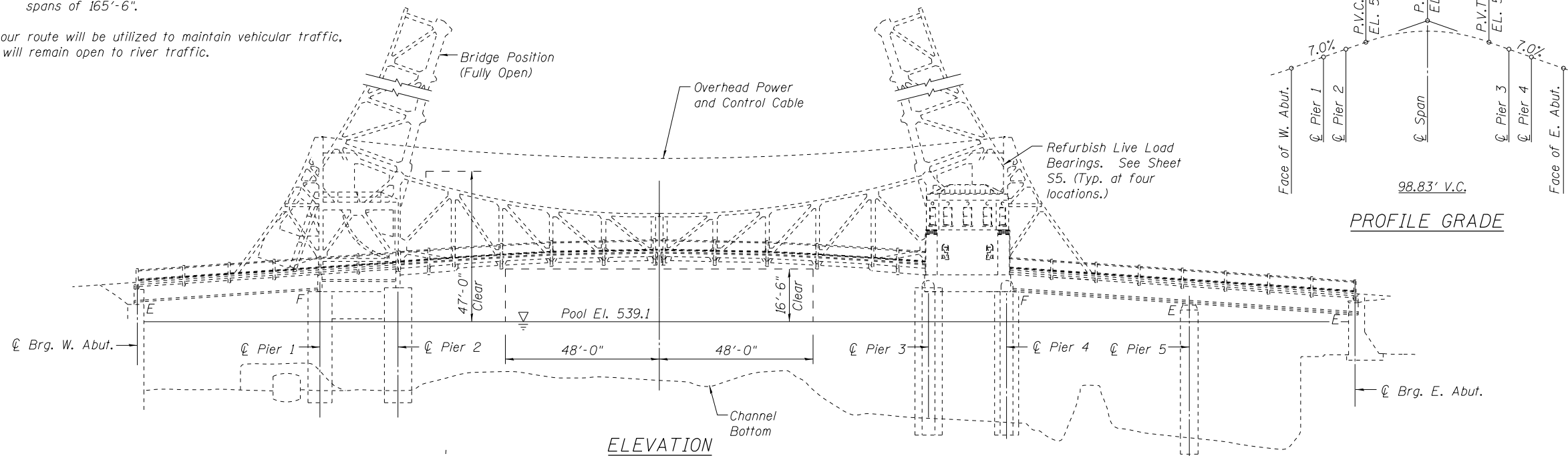
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	2011-065-BR	WILL	33	22
CONTRACT NO. 60P84			ILLINOIS FED. AID PROJECT	

Bench Mark: Brass plug in concrete wall (M.S.L. El. 544.026)
 Station 134+12.61 BR Right Bank.
 (N.G.V.D. EL. = 543.589)

Existing Structure: S.N. 099-0239 was originally constructed in 1932 to carry Jackson Street over the Des Plaines River and reconstructed in 1985. The structure is a Scherzer Rolling Lift Bascule Bridge with a main moveable span and five fixed approach spans of 165'-6".

An assigned detour route will be utilized to maintain vehicular traffic, but the channel will remain open to river traffic.

No Salvage.



LOCATION SKETCH

SCOPE OF WORK

1. Refurbish live load bearings.
2. Repair steel grid deck. See Sheet S3.
3. Remove and replace batten plates on west leaf of both trusses. See Sheet S4.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)

1988 AASHTO Standard Specifications for Movable Bridges (5th Edition)

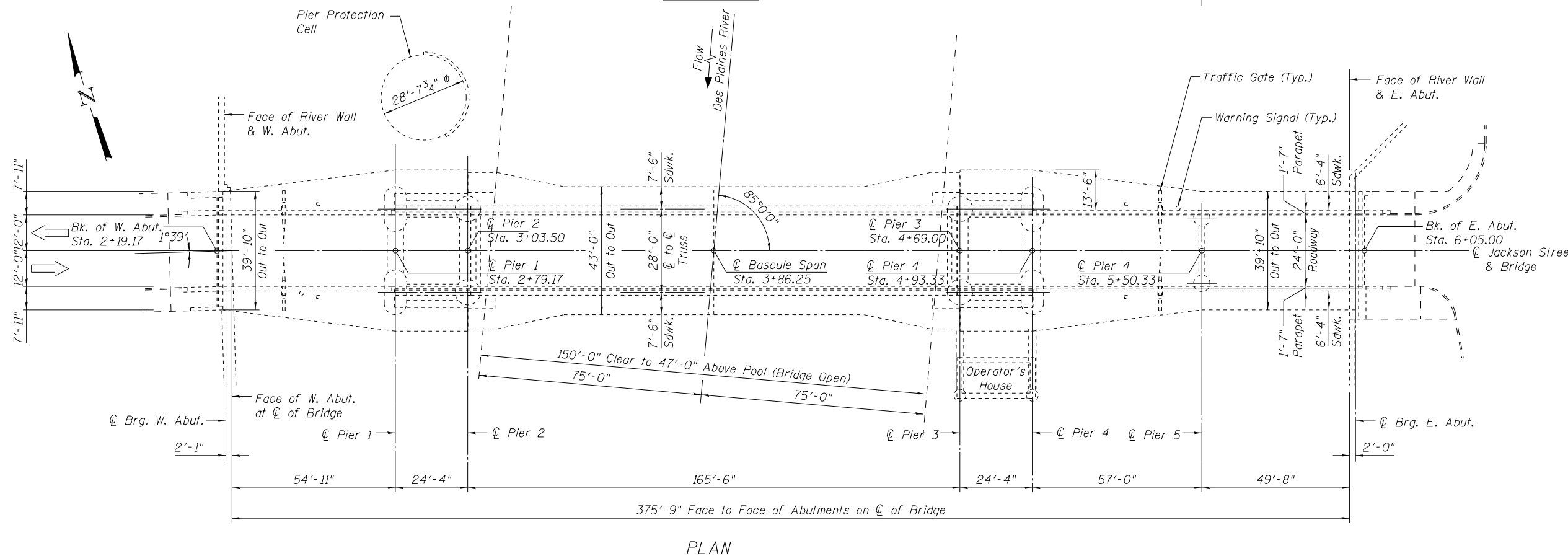
LOADING HS20-44

DESIGN STRESSES

FIELD UNITS
 $f_y = 36,000$ psi (structural steel)



COLLINS ENGINEERS, INC.
 JAMES M. HAMELKA
 NO. 81-6116
 EXPIRES 11-30-2012



PLAN

FILE NAME =	USER NAME =	DESIGNED - AMS	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION JACKSON STREET OVER DES PLAINES RIVER STRUCTURE NO. 099-0239		F.A.U. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - JMH	REVISOR -		297	2011-065-BR	WILL	33	23		
		DRAWN - PRH	REVISOR -		CONTRACT NO. 60P84						
		CHECKED - AMS	REVISOR -		SHEET NO. 51 OF 55 SHEETS		ILLINOIS FED. AID PROJECT				

INDEX OF SHEETS

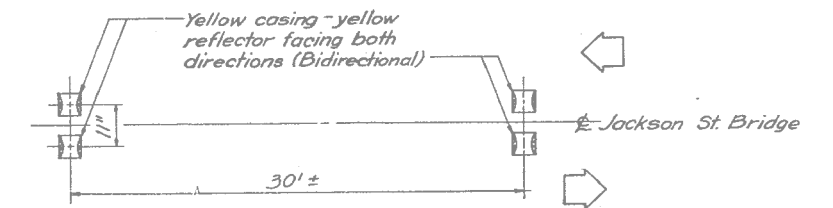
- S1. General Plan and Elevation
- S2. General Notes, Bill of Materials, and Index of Sheets
- S3. Steel Grid Deck Repairs
- S4. Batten Plate Repairs
- S5. Live Load Bearing Details

GENERAL NOTES:

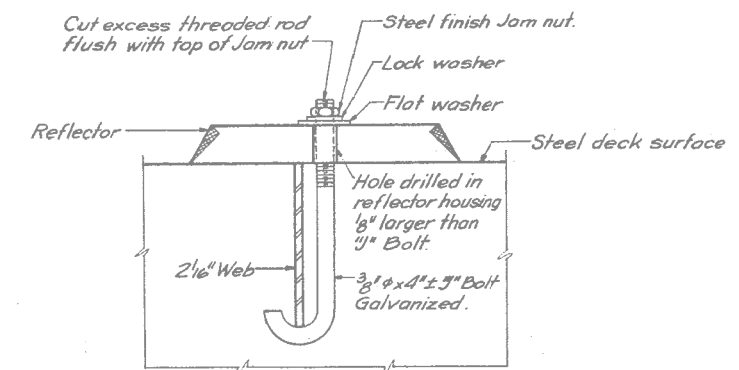
1. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations 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.
2. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8"φ holes 15/16"φ, unless noted otherwise.
3. All structural steel shall be AASHTO M270 Grade 36, unless noted otherwise.
4. No field welding permitted except as specified in the Contract Documents.
5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of material containing lead on this project.
6. 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".
7. All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300, Type I. Cost included in the applicable Pay Items
8. The removal and reattachment of guardrail, hand rail, steel railings, traffic barrier terminal, and etcetera required for repair work (e.g. Structural Steel Repair, Open Steel Floor) shall be included in the contract unit price of the work item being performed.
9. Removal and disposal of all structural steel necessary to complete the work as detailed on the plans shall be performed in accordance with Section 501 of the Standard Specifications and included in the cost of the associated work.
10. Burning of existing rivets or bolts will not be permitted when the subject fasteners are installed in existing structural steel to remain in place. Such rivets and bolts shall have the head of the fastener sheared off and the shank driven or drilled out. Extreme care shall be exercised when removing such fasteners so as not to damage the existing structural steel to remain. Removal of such fasteners will not be measured for payment but shall be included in the cost of the associated work. Any damage to the existing structural steel to remain in place due to the removal of such fasteners shall be repaired or replaced to the satisfaction of the Engineer at no additional cost to the Department.

TOTAL BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	QUANTITY
Open Steel Floor	Sq. Ft.	280
Structural Steel Repair	Pound	390
Refurbishing of Live Load Bearings	Each	4

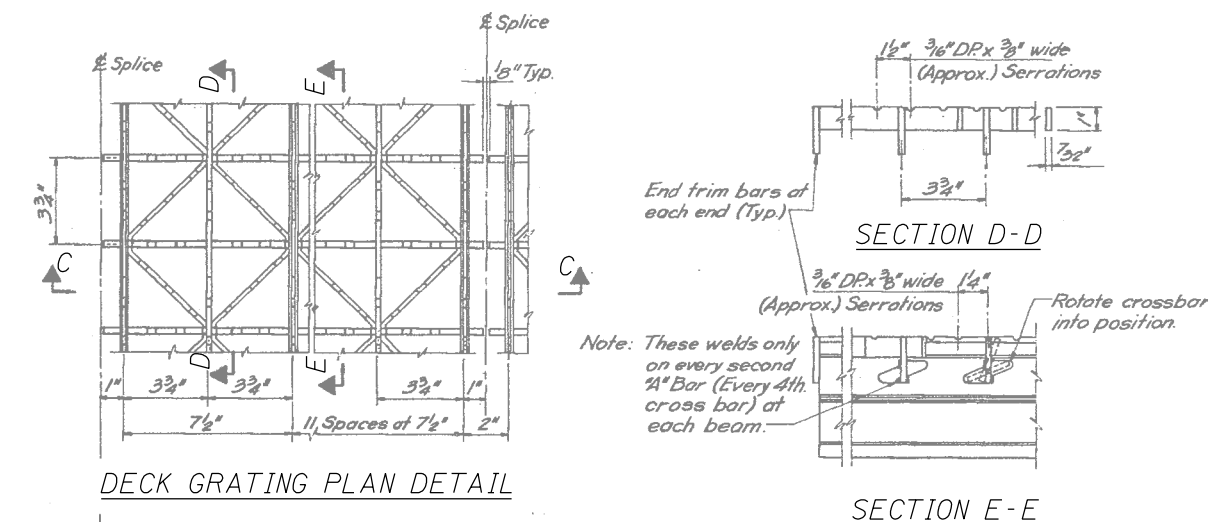
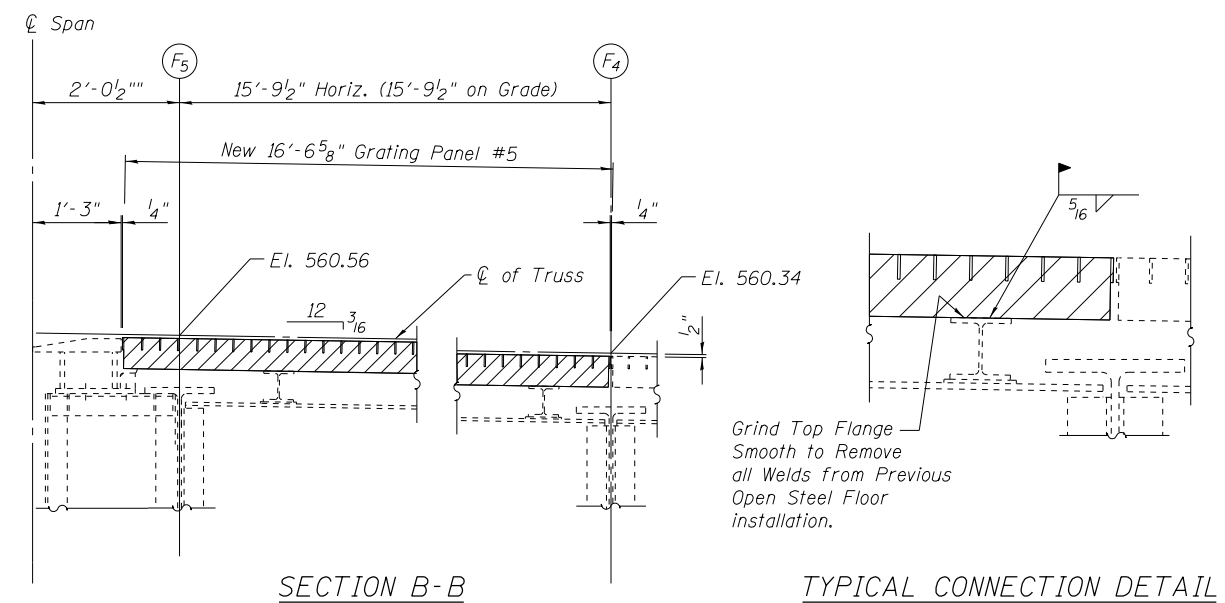
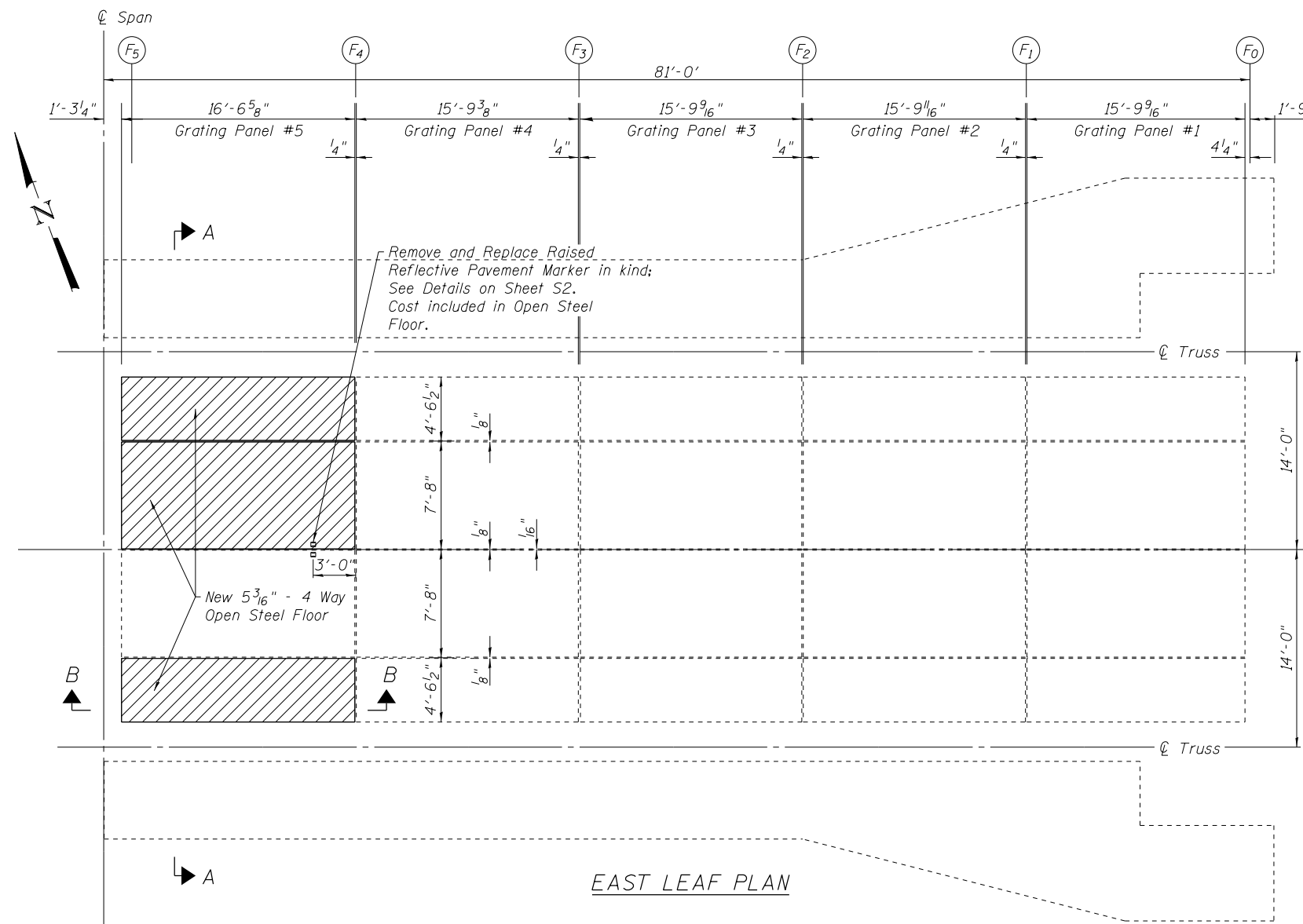


PLAN



SECTION

DETAILS OF RAISED REFLECTIVE PAVEMENT MARKERS



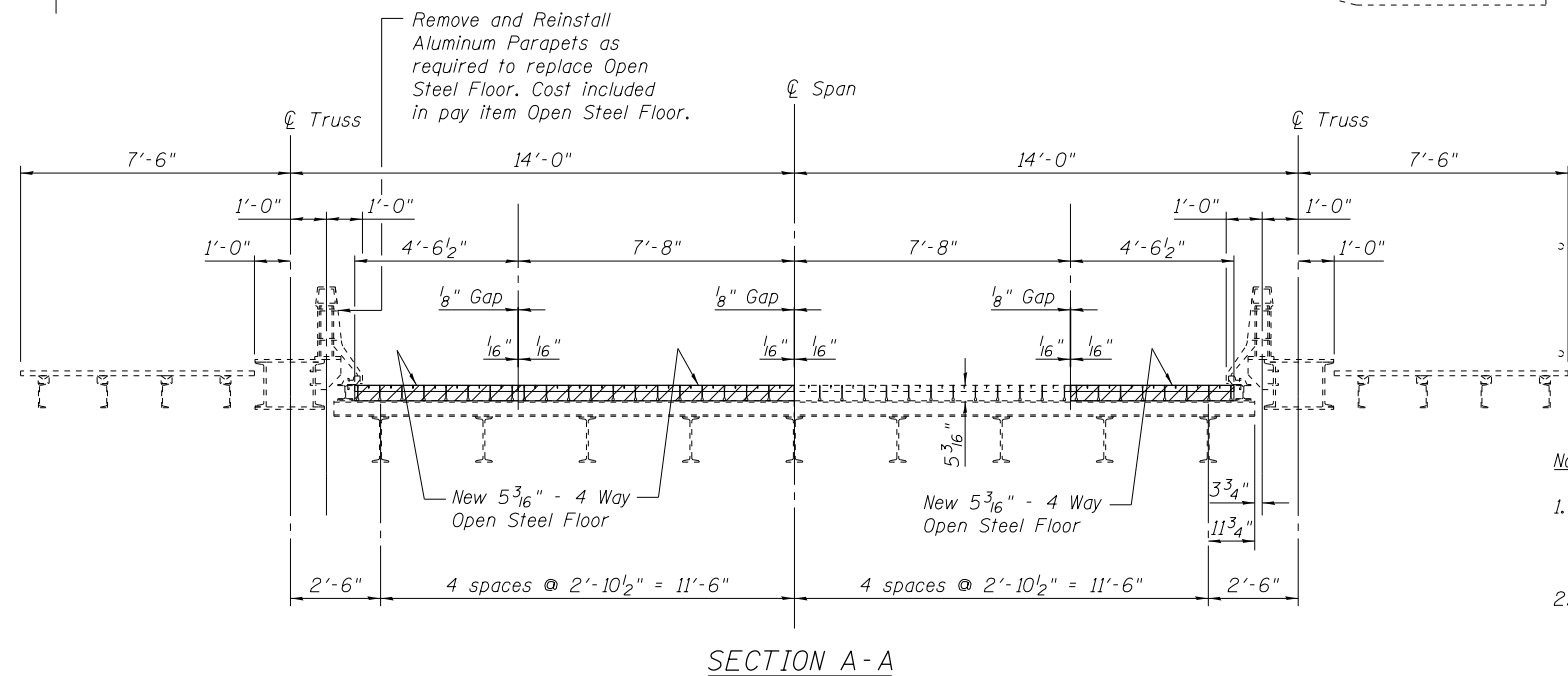
DECK GRATING CHART

BAR TYPE	MIN. PROPERTIES
Primary Bar	$I = 4.137 in^4$, $S_x = 14.08 in^3$, $W_x = 9.83$, $F_y = 48$, $F_u = 63$
Secondary Bar	2 $\frac{1}{16}$ " x 1 $\frac{1}{2}$ "
Tertiary D Bar	1" x 3 $\frac{1}{2}$ "
Tertiary Diag. Bar	1" x 3 $\frac{1}{2}$ "

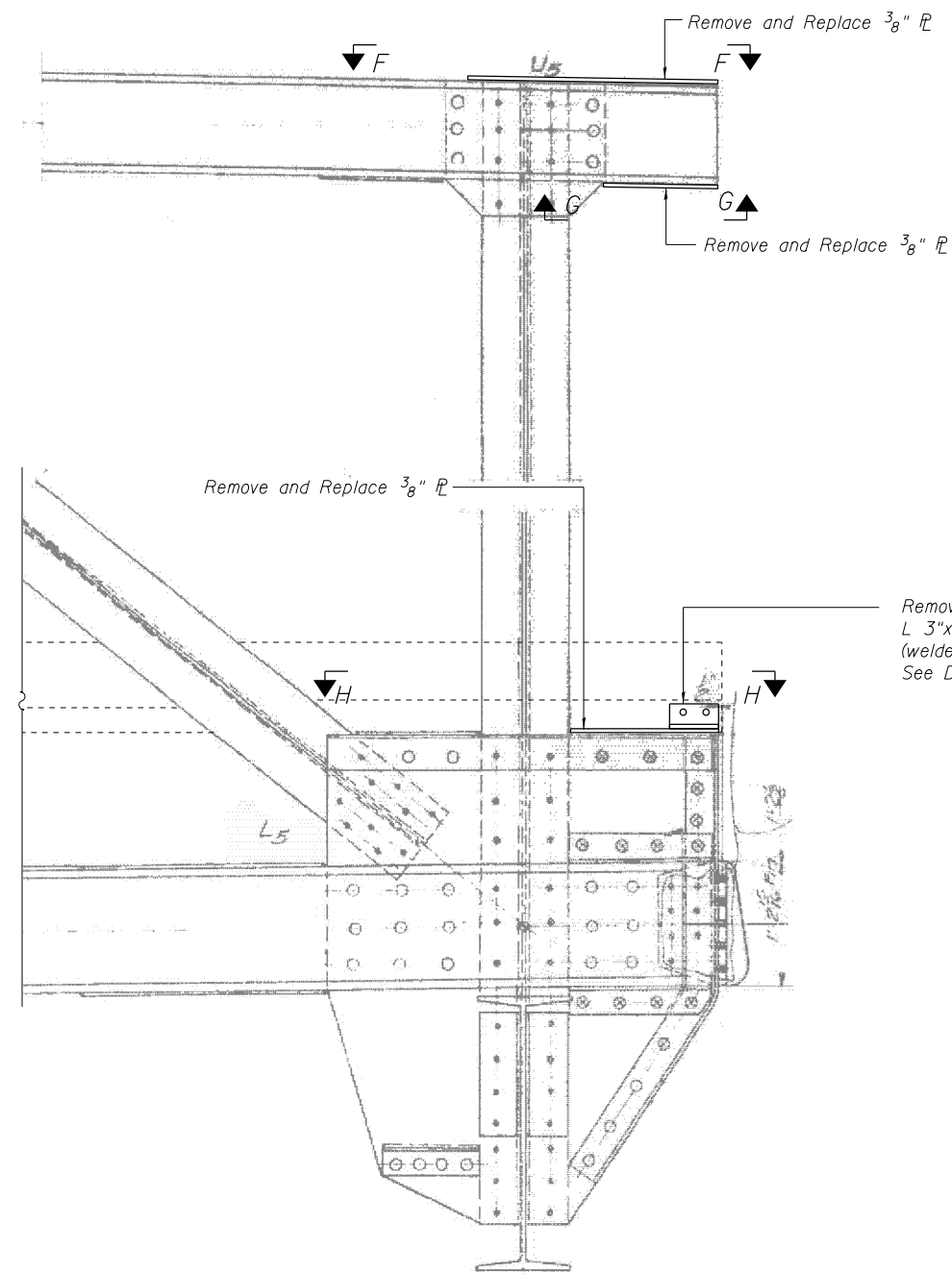
Note: 1. The minimum section modulus for a one-foot width of grating shall be 3.65 in³ based upon a 50% effectiveness of the intermediate and reticulate bars.
 2. Grating shall weigh 19 lbs. per sq.ft. with a maximum variation of ± 2 lb., plus or minus.
 3. See Special Provisions.

BILL OF MATERIAL

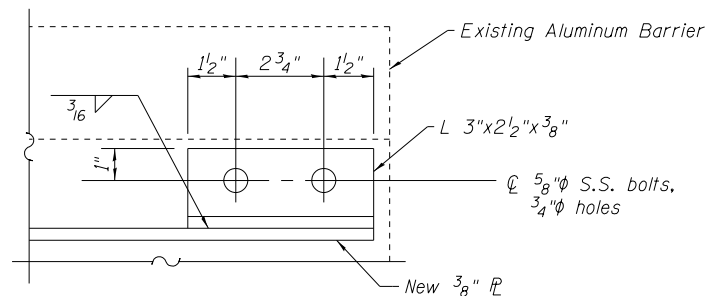
SYMBOL	ITEM	UNIT	QUANTITY
	Open Steel Floor	Sq. Ft.	280



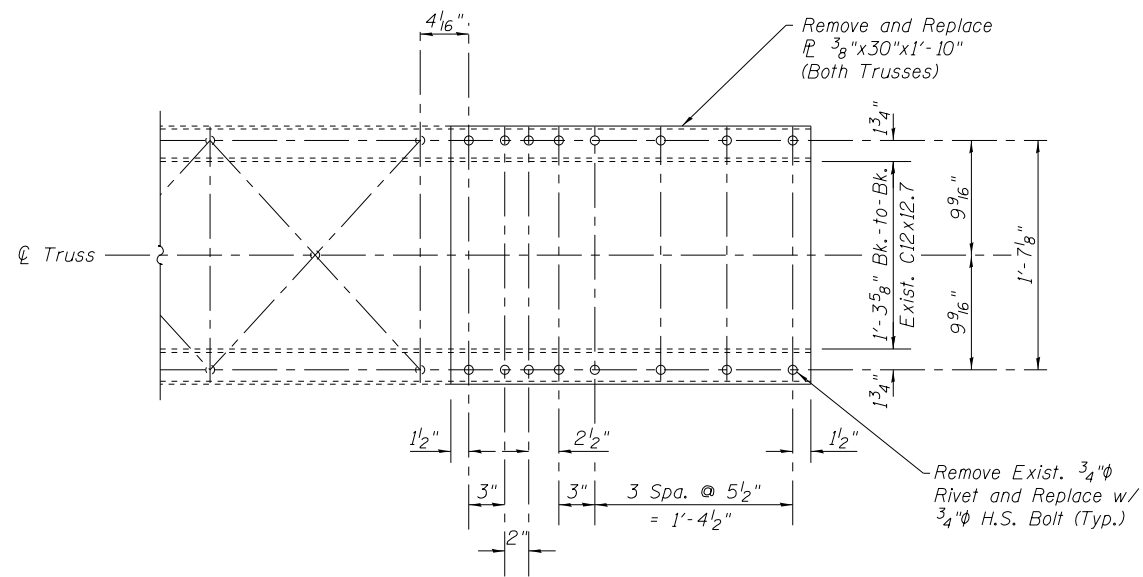
- Notes:**
- Pavement Markings shall be replaced to the satisfaction of the Engineer. Cost included in Open Steel Floor.
 - See Special Provisions for additional Open Steel Floor requirements.



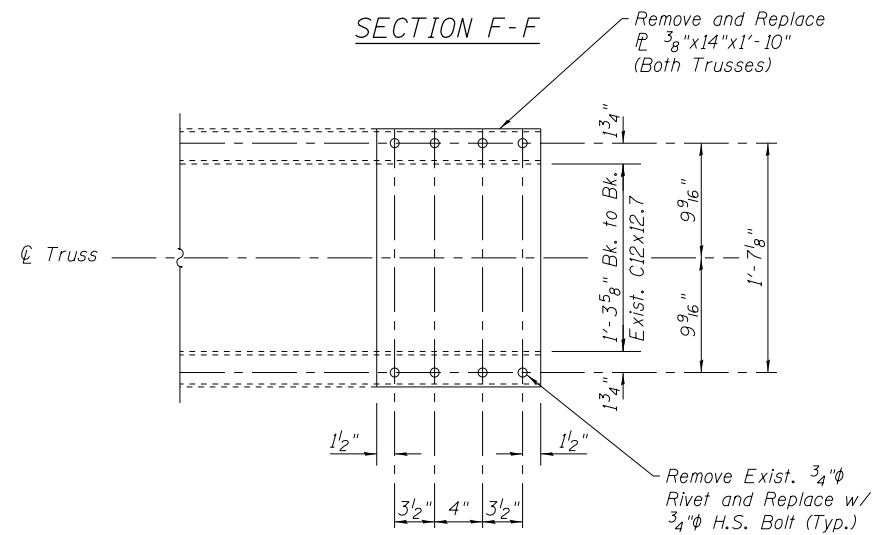
WEST LEAF TRUSS
(Looking North)



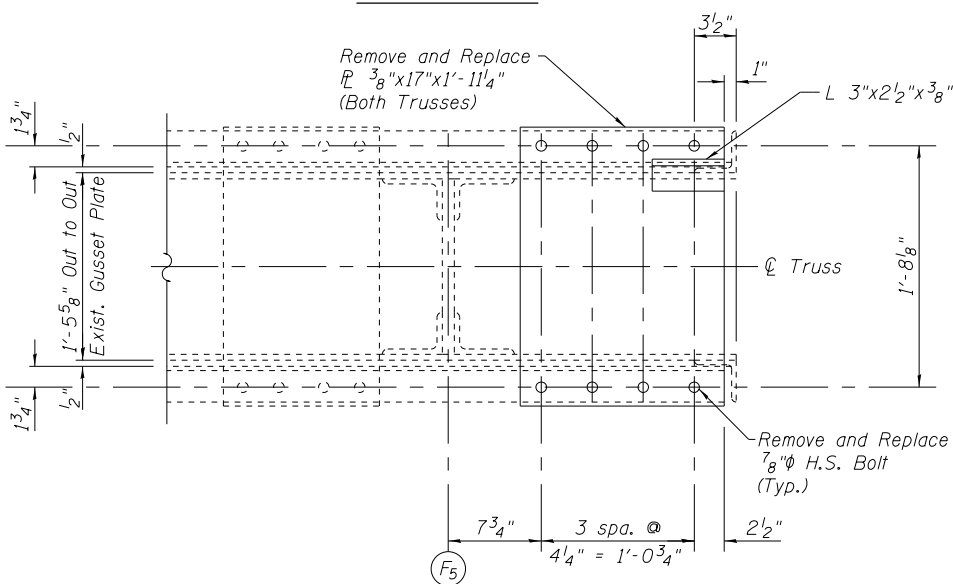
DETAIL 1



SECTION F-F



SECTION G-G



SECTION H-H

(Aluminum Barrier not shown for clarity)

Notes:

1. 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.
2. The details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
3. The Contractor shall verify all pertinent dimensions prior to fabrication.
4. Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
5. See Sheet S2 for notes regarding painting of new and existing steel.
6. Removal and reattachment of the Aluminum Barrier required for repair work shall be included in cost of Structural Steel Repair.
7. Members attached to Batten Plates may require straightening prior to installation of proposed Batten Plates. Any straightening required shall be included in the pay item Structural Steel Repair.

BILL OF MATERIAL

ITEM	UNIT	LOAD
Structural Steel Repair	Pound	390

FILE NAME =	USER NAME =	DESIGNED - AMS	REVISED -
		CHECKED - JMH	REVISED -
		DRAWN - PRH	REVISED -
		CHECKED - AMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BATTEN PLATE REPAIRS
STRUCTURE NO. 099-0239

SHEET NO. S4 OF 55 SHEETS

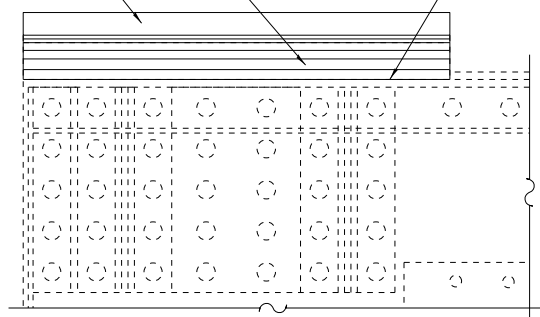
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
297	2011-065-BR	WILL	33	26
			CONTRACT NO. 60P84	

ILLINOIS FED. AID PROJECT

Provide $\pm 3\frac{3}{8}$ " Shim P's of Varying Thickness to Provide Sufficient Bearing. See Table of Shim Plates.

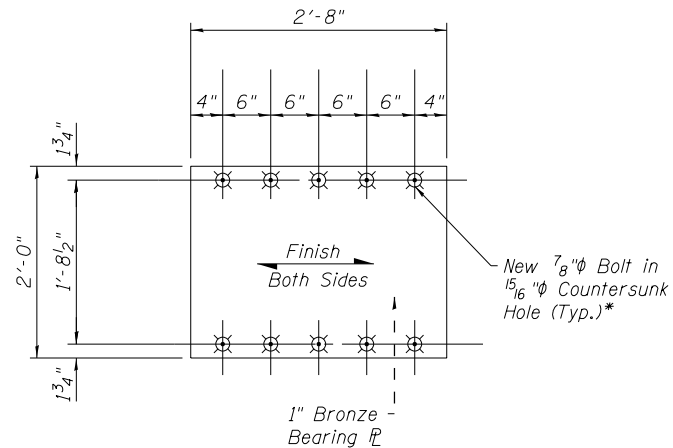
1" Bronze Bearing P

Mill Exist. Steel Surfaces as Required



ELEVATION AT LIVE LOAD BEARING

△ Bronze Bearing Plate shall be in full contact with anchorage girder plate to allow for full live load transfer.



BRONZE BEARING P DETAIL

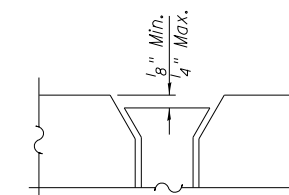
Material: ASTM B171, Alloy C464000
*See Countersink Detail

TABLE OF SHIM PLATES**

Material: ASTM B19, UNS 26000, 1/2 Hard

No.	Thickness (in.)
5	1/2
2	1/4
2	1/8
2	1/16

**Match dimensions and bolt hole locations shown on Bronze Bearing Plate Detail.



COUNTERSINK DETAIL

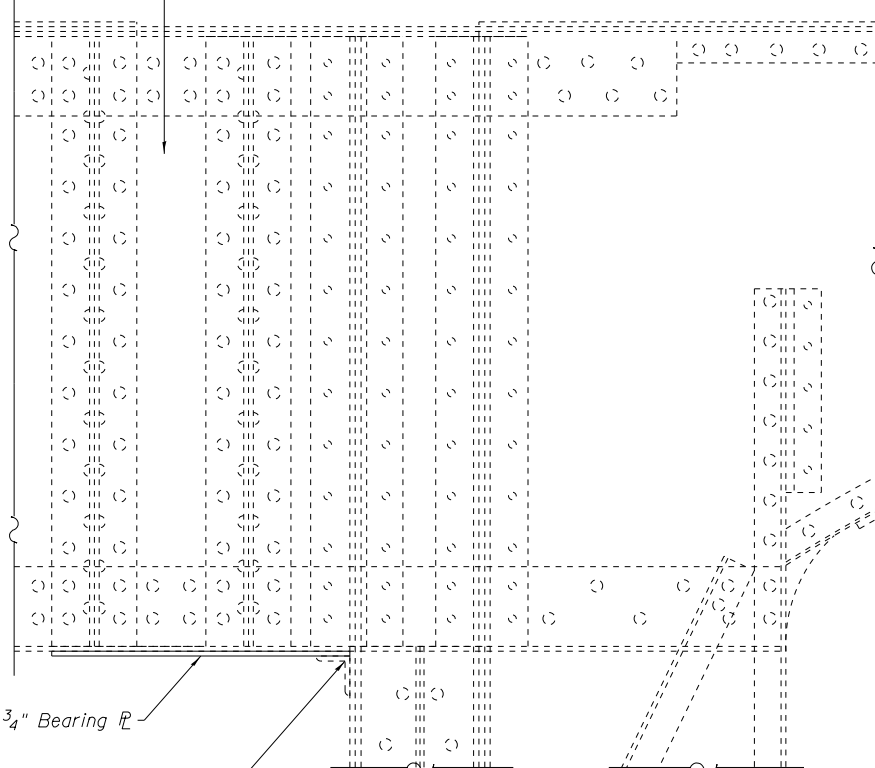
BILL OF MATERIAL

ITEM	UNIT	Quantity
Refurbishing of Live Load Bearings	Each	4

Notes:

1. 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.
2. The details shown are the final configurations and details. The Contractor shall be responsible for obtaining approval for all methods and procedures necessary to achieve the details shown.
3. The Contractor shall verify all pertinent dimensions prior to fabrication.
4. Where removal of existing rivets is required to facilitate the work, remove rivets and replace with the same diameter high strength bolts, unless noted otherwise.
5. See Sheet S2 for notes regarding painting of new and existing steel.
6. Cost of removal and disposal of existing bronze plates, bearing plates, shim plates, and bolts is included in the pay item Refurbishing Live Load Bearings.
7. Cost of all bronze plates, bearing plates, shim plates, and bolts included in pay item Refurbishing Live Load Bearings.
8. As-recieved surfaces must be 63 microinch or better. If not, plates shall be ground or machined to 63 microinch or better.

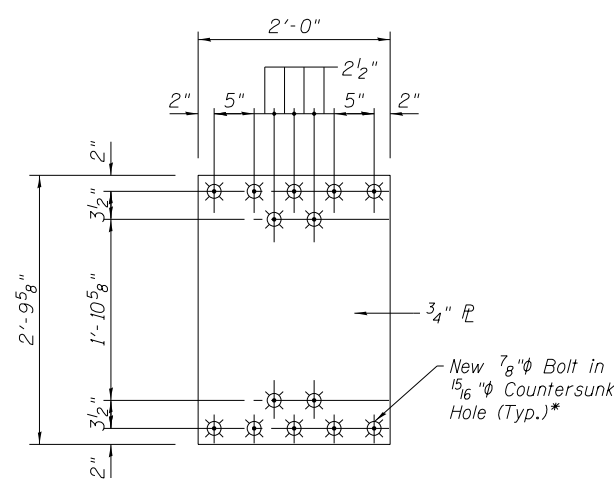
Anchor Girder



3/4" Bearing P

Remove and Reinstall Exist. Angle as Required

ANCHORAGE GIRDER ELEVATION



BEARING P DETAIL

*See Countersink Detail

FILE NAME =	USER NAME =	DESIGNED - AMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - AMS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**LIVE LOAD BEARING DETAILS
STRUCTURE NO. 099-0239**

SHEET NO. 55 OF 55 SHEETS

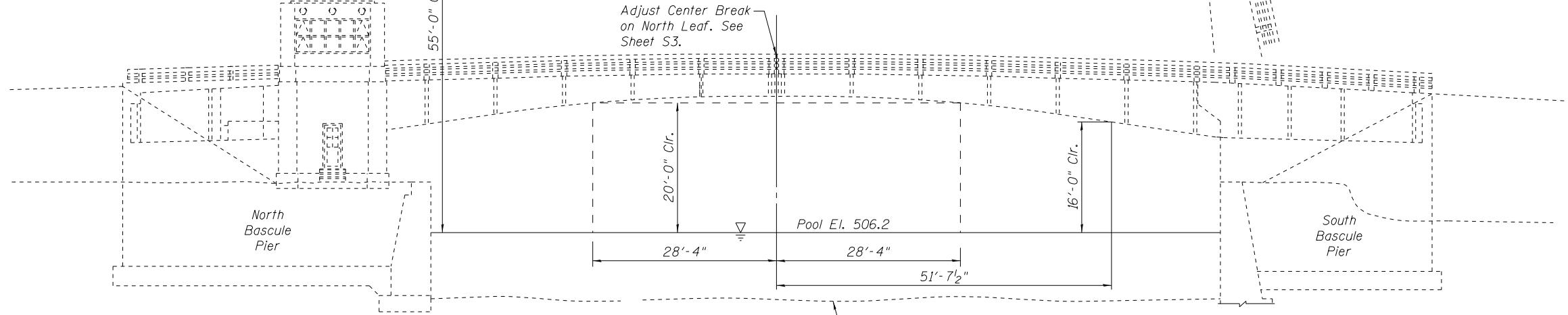
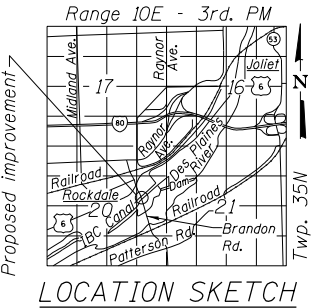
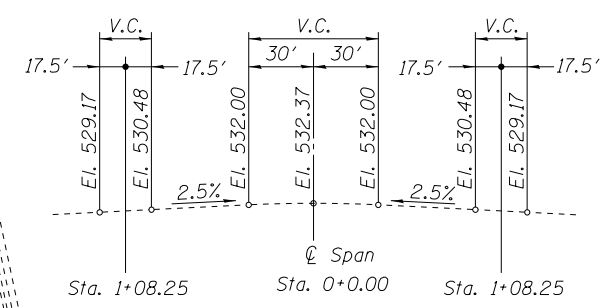
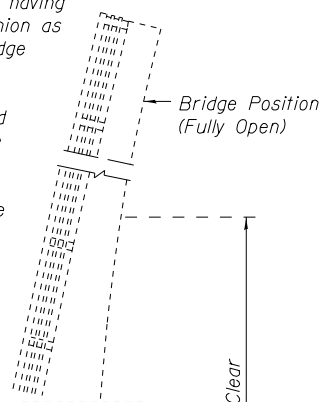
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
297	2011-065-BR	WILL	33	27
			CONTRACT NO. 60P84	
ILLINOIS FED. AID PROJECT				

Bench Mark: All elevations are based upon the bridge having an elevation of 526.1 at centerline trunnion as shown on the plans for the existing bridge dated 1931.

Existing Structure: S.N. 099-9903 was originally constructed in 1932 to carry Brandon Road over the Des Plaines River and reconstructed in 1990. The structure is a double leaf Trunnion Bascule Bridge with a moveable span of 151'-0".

An assigned detour route will be utilized to maintain vehicular traffic, but the channel will remain open to river traffic.

No Salvage.



SCOPE OF WORK

1. Adjust center break on North Leaf.

DESIGN SPECIFICATIONS

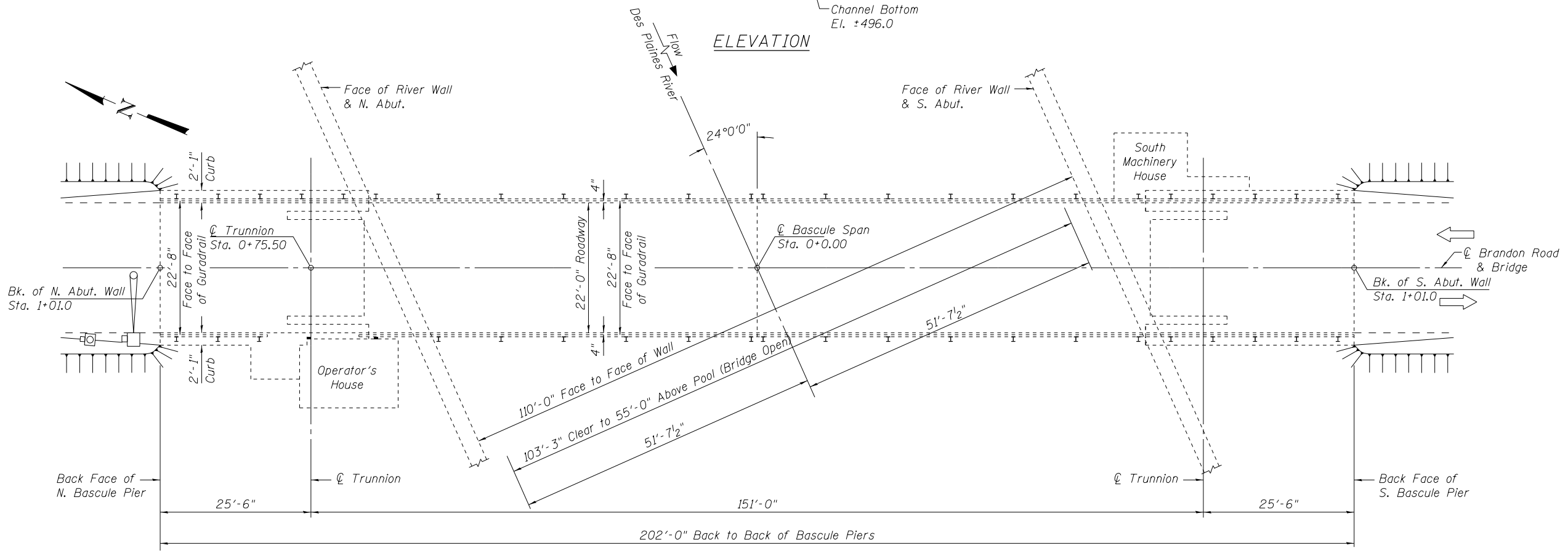
2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)

1988 AASHTO Standard Specifications for Movable Bridges (5th Edition)

LOADING HS20-44



COLLINS ENGINEERS, INC.
JAMES M. HAMELKA
NO. 81-6116
EXPIRES 11-30-2012



PLAN

FILE NAME =	USER NAME =	DESIGNED - AMS	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION BRANDON ROAD OVER DES PLAINES RIVER STRUCTURE NO. 099-9903	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - JMH	REVISOR -			341	2011-065-BR	WILL	33	28	
		DRAWN - PRH	REVISOR -			CONTRACT NO. 60P84					
		CHECKED - AMS	REVISOR -			ILLINOIS FED. AID PROJECT					

INDEX OF SHEETS

- S1. General Plan and Elevation
- S2. General Notes, Bill of Materials, and Index of Sheets
- S3. Center Break Details - I
- S4. Center Break Details - II

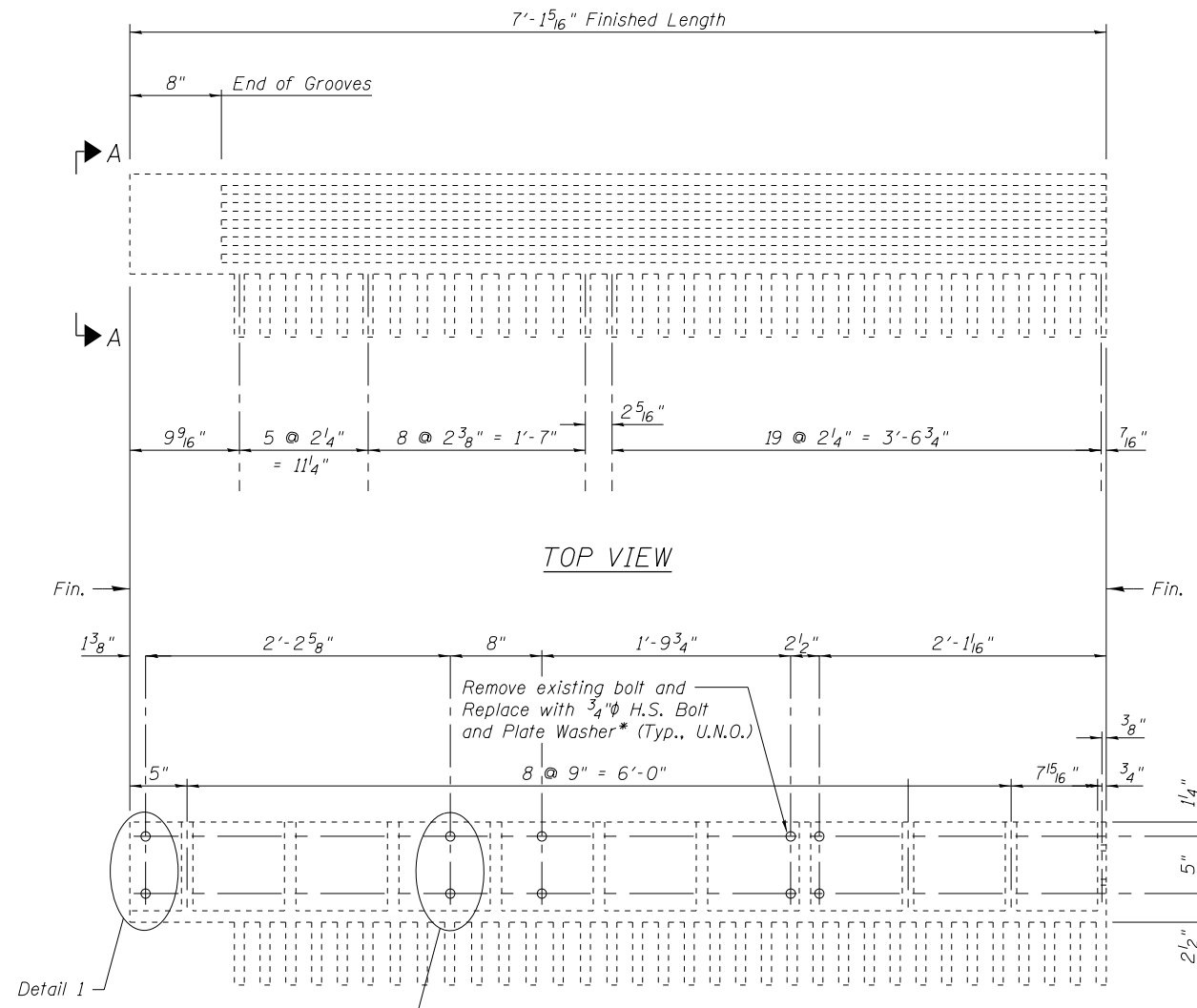
GENERAL NOTES:

1. 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.
2. The removal and reattachment of the guardrail, hand rail, steel railings, traffic barrier terminal, etc. required for repair work (e.g. Center Break Adjustment) shall be included in the contract unit price of the work item being performed.
3. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
4. Fasteners shall be ASTM A325 Type 1, Mechanical Galvanized Bolts.
5. Existing structural steel shall only be cleaned and painted as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures."

TOTAL BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	QUANTITY
Center Break Adjustment	Each	3

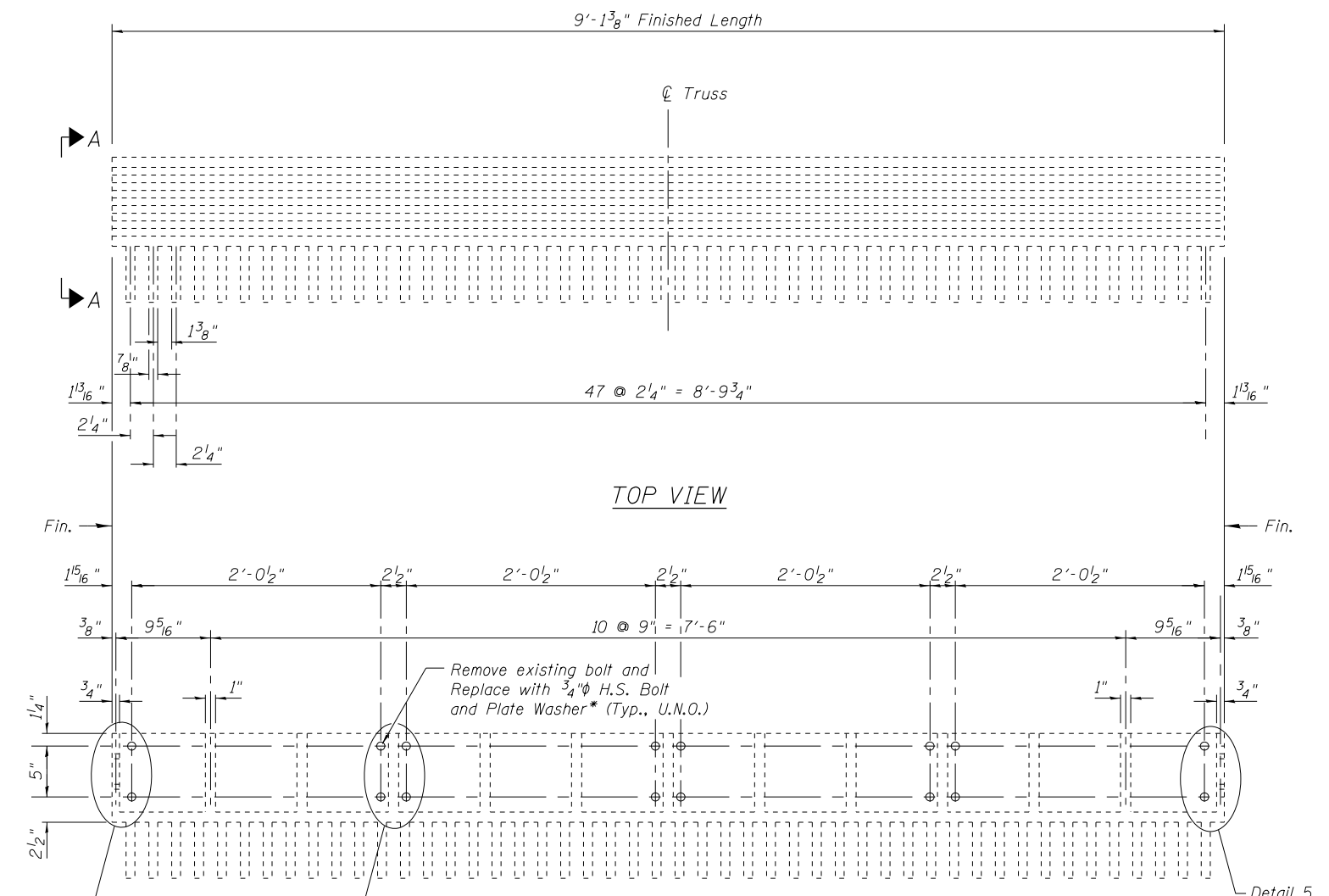
FILE NAME =	USER NAME =	DESIGNED - AMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, BILL OF MATERIALS, AND INDEX OF SHEETS STRUCTURE NO. 099-9903	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - JMH	REVISED -			341	2011-065-BR	WILL	33	29	
	PLOT SCALE =	DRAWN - PRH	REVISED -			CONTRACT NO. 60P84					
	PLOT DATE =	CHECKED - AMS	REVISED -			ILLINOIS FED. AID PROJECT					
					SHEET NO. S2 OF S4 SHEETS						



TOP VIEW

SECTION B-B

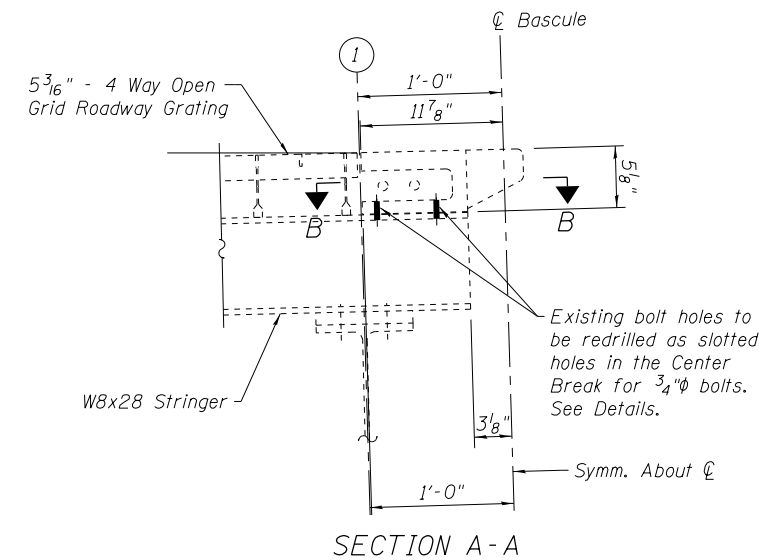
*Clip plate washers as required to fit.



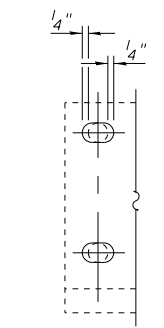
TOP VIEW

SECTION B-B

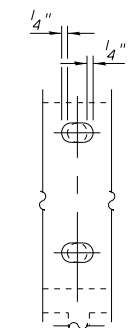
*Clip plate washers as required to fit.



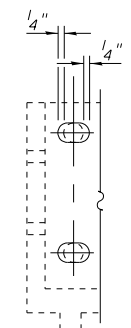
SECTION A-A



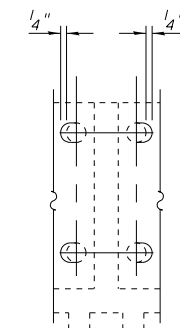
DETAIL 1



DETAIL 2

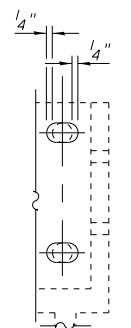


DETAIL 3



DETAIL 4

Only reinstall one pair of bolts at this location.



DETAIL 5

Note:

See Sheet S4 for General Repair Procedure and Final Break Position.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Center Break Adjustment	Each	2

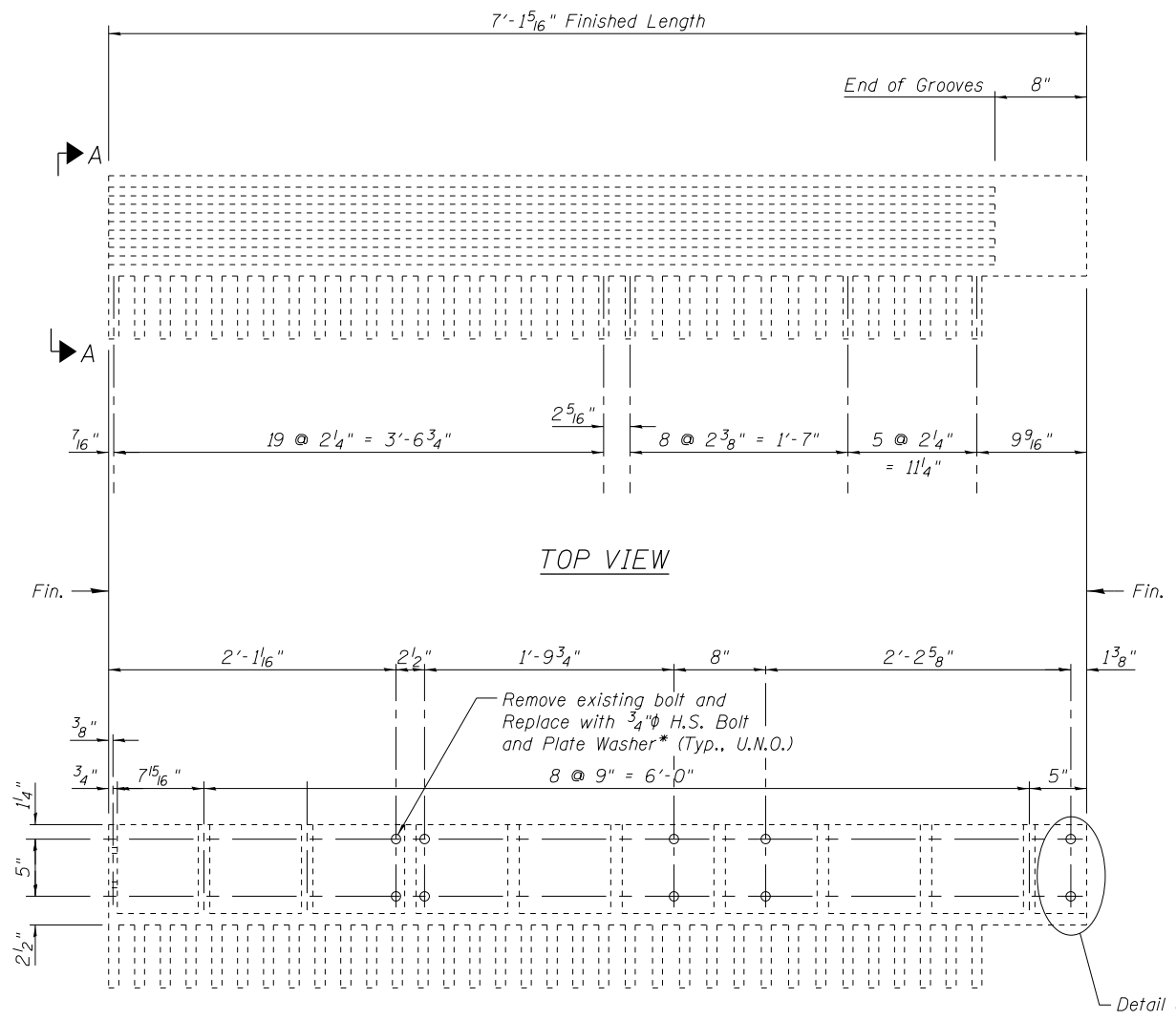
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	PLOT DATE =	CHECKED - AMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

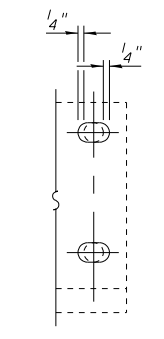
CENTER BREAK DETAILS - I
STRUCTURE NO. 099-9903

SHEET NO. S3 OF S4 SHEETS

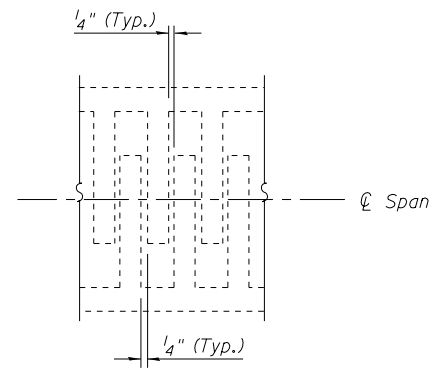
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	2011-065-BR	WILL	33	30
CONTRACT NO. 60P84				
ILLINOIS FED. AID PROJECT				



TOP VIEW

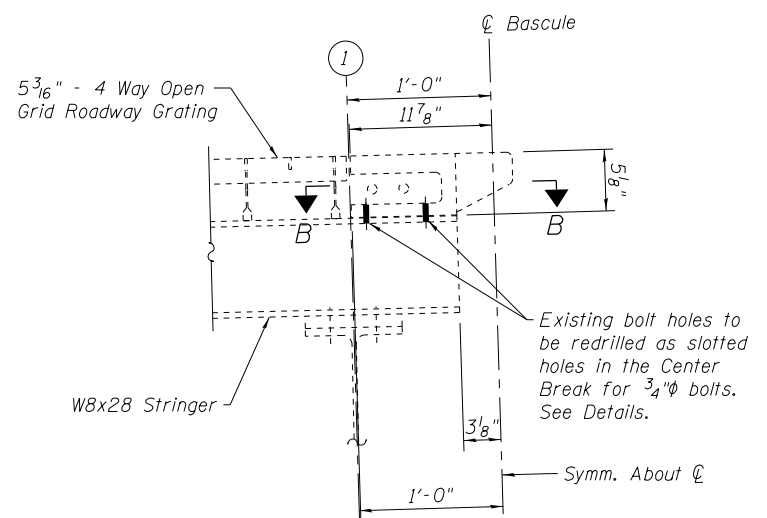


DETAIL 6



FINAL BREAK POSITION

SECTION B-B
*Clip plate washers as required to fit.



SECTION A-A

GENERAL REPAIR PROCEDURE

1. Remove Center Break on North Leaf
2. Slot bolt holes as shown in Details.
3. Reinstall Center Break on North Leaf with break position as shown in Final Break Position.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Center Break Adjustment	Each	1

Note:
See Sheet S3 for additional Details.

FILE NAME =	USER NAME =	DESIGNED - AMS	REVISED -
		CHECKED - JMH	REVISED -
	PLOT SCALE =	DRAWN - PRH	REVISED -
	PLOT DATE =	CHECKED - AMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CENTER LOCK DETAILS - II
STRUCTURE NO. 099-9903

SHEET NO. S4 OF S4 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
341	2011-065-BR	WILL	33	31
			CONTRACT NO. 60P84	
ILLINOIS FED. AID PROJECT				

ROUTE MARKERS

FOR U.S. ROUTES
MI-40-2424

FOR ILLINOIS ROUTES
MI-50-2424

R.R. UNMARKED ROUTES
SPECIAL 24" x 18" VARIABLE
4" BLACK LETTERS ON WHITE
REFLECTIVE BACKGROUND

ARROWS SIGNS

M5-1L-2115

M5-1R-2115

M6-1L-2115

M6-1R-2115

M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

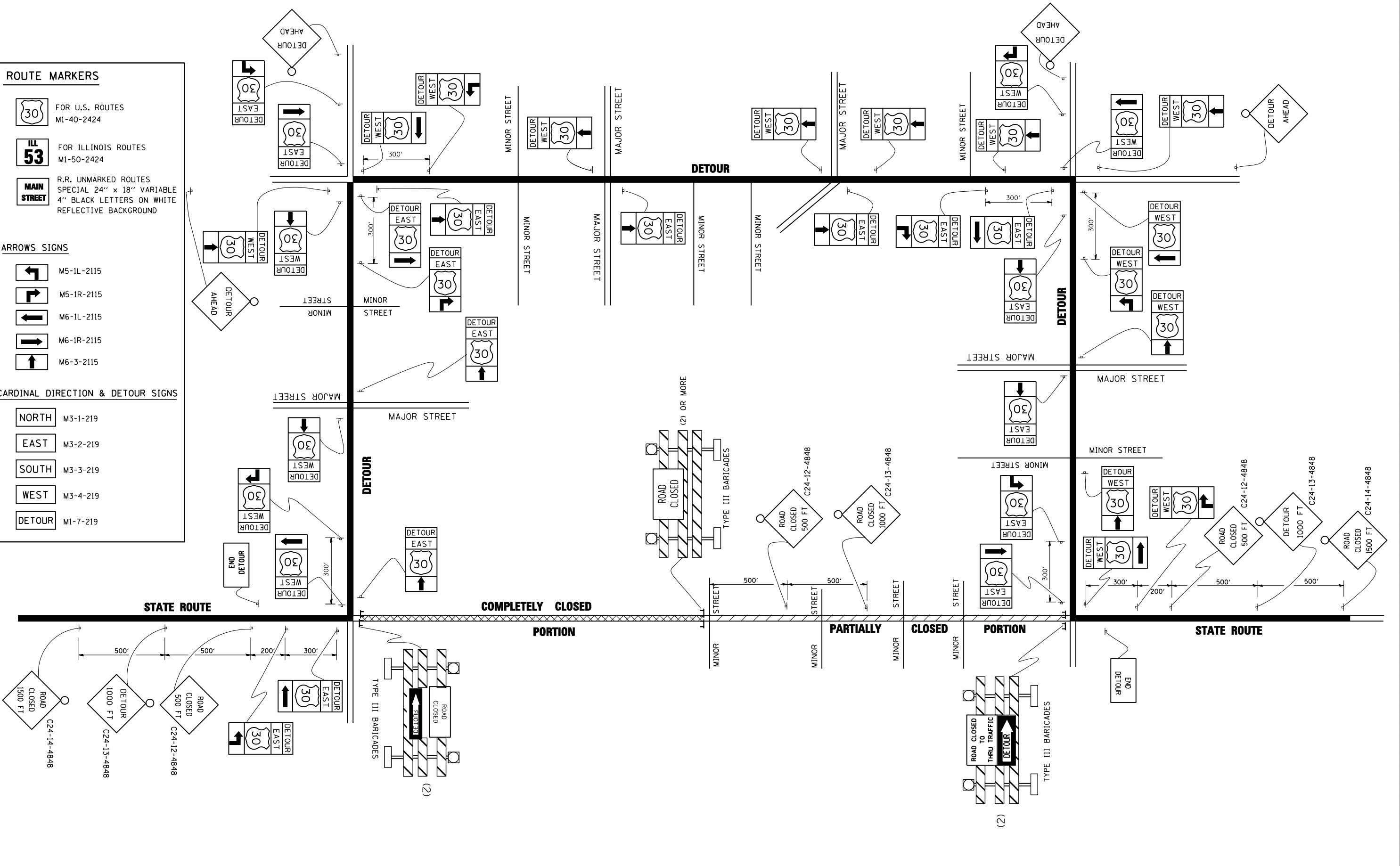
NORTH M3-1-219

EAST M3-2-219

SOUTH M3-3-219

WEST M3-4-219

DETOUR MI-7-219



FILE NAME =
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USER NAME = gaglianobt

PLOT SCALE = 50.0000' / IN.

PLOT DATE = 1/4/2008

DESIGNED -
DRAWN -
CHECKED -
DATE -

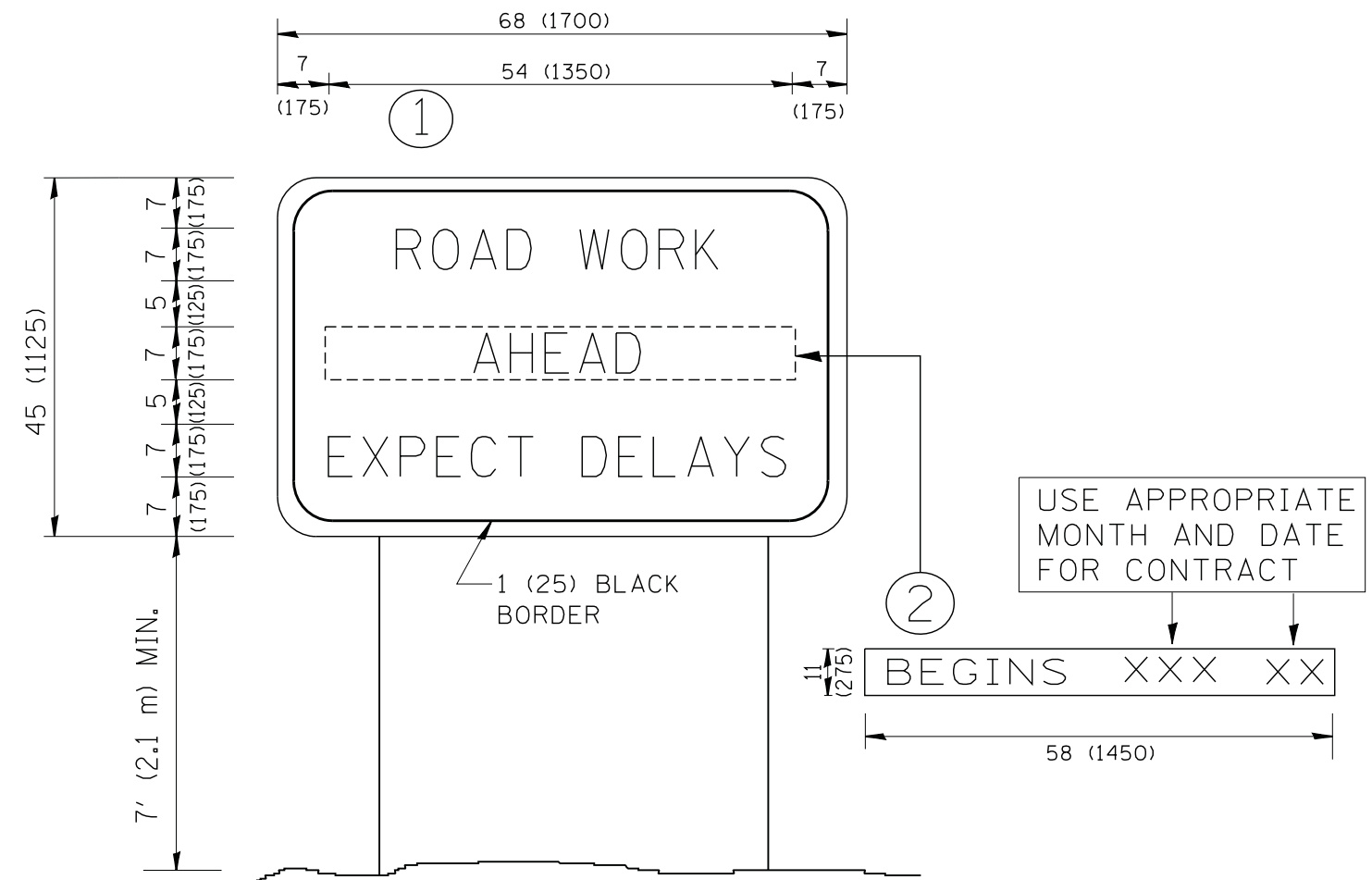
REVISED - 10-18-02
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TYPICAL MARKING
FOR CLOSING STATE HIGHWAYS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP	2011-065-BR	WILL	33	32
TC-21			CONTRACT NO. 60P84	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = gegl@nbt	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2011-065-BR	WILL	33	33
TC-22		CONTRACT NO. 60P84		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				