

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	[(50-4B)BR]I	LASALLE	12	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 66A34	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 39 (I-39)
SECTION [(50-4B)BR]I

**INSTALLATION OF HANGER TIE ASSEMBLIES FOR THE
ARCH SPAN OF THE ABARAHAM LINCOLN MEMORIAL BRIDGE
LASALLE COUNTY**

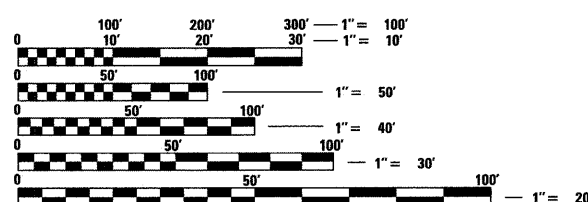
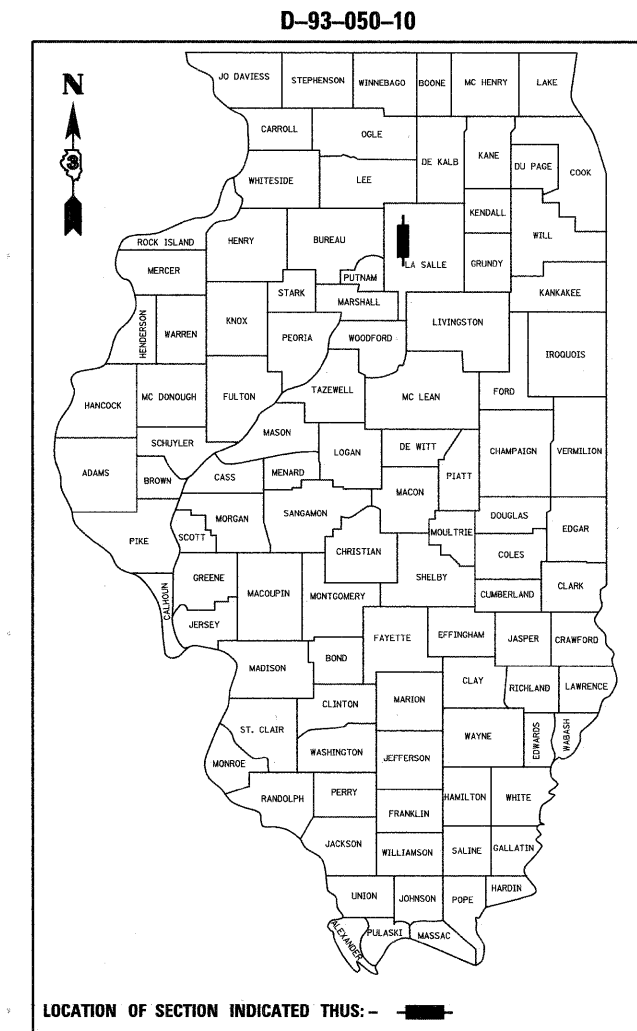
C-93-119-10

INDEX OF SHEETS

- 1 COVER SHEET
- 2 COMMITMENTS, GENERAL NOTES & SUMMARY OF QUANTITIES
- 3 STANDARD 701402 (SPECIAL) - STAGE I
- 4 STANDARD 701402 (SPECIAL) - STAGE II
- 5 STANDARD 701400 (SPECIAL)
- 6 LANE CLOSURE CROSS SECTIONS
- 7 HANGER TIE ASSEMBLY LAYOUT
- 8 HANGER TIE ASSEMBLY DETAILS
- 9 EXISTING TIED ARCH GENERAL PLAN AND ELEVATION
- 10 EXISTING TIED ARCH GENERAL NOTES
- 11 EXISTING TIED ARCH GEOMETRY
- 12 EXISTING TIED ARCH HANGER DETAILS

HIGHWAY STANDARDS

- 701901-01 TRAFFIC CONTROL DEVICES
- 704001-06 TEMPORARY CONCRETE BARRIER



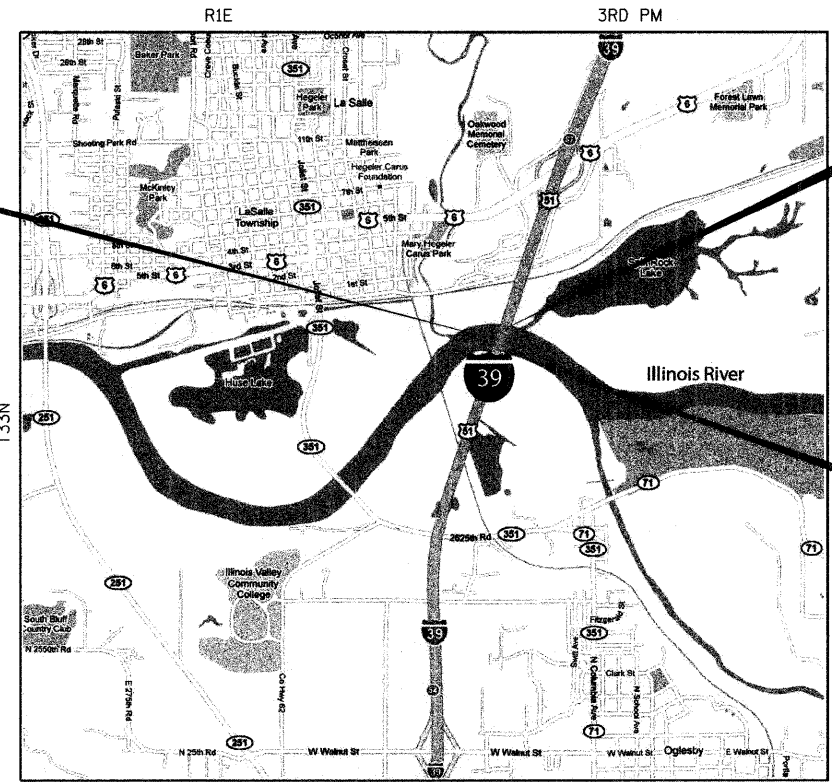
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

DISTRICT 3 NO. (815) 434-6131
PROJECT ENGINEER: JOE KANNEL
UNIT CHIEF: MICHELE LINDEMANN
TOWNSHIP: LASALLE

CONTRACT NO. 66A34

ABRAHAM LINCOLN MEMORIAL BRIDGE
OVER THE ILLINOIS RIVER
STA. 863+16.00
S.N. 050-0191 (NB & SB)

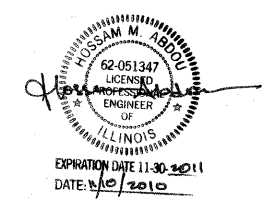


LOCATION MAP
NOT TO SCALE

GROSS LENGTH = 620.50 FT. = 0.118 MI.
NET LENGTH = 620.50 FT. = 0.118 MI.

END IMPROVEMENT
STA. 866+26.25

BEGIN IMPROVEMENT
STA. 860+05.75



FUNCTIONAL CLASSIFICATION

INTERSTATE
F.A.P. ROUTE 39 (I-39)
2009 ADT = 19,700
P.V. = 71.0% S.U. = 3.6% M.U. = 25.4%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 7, 2010
Henry Ryman
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

February 4 2011
Scott E. Sitt, P.E.
acting ENGINEER OF DESIGN AND ENVIRONMENT

February 4 2011
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**



COMMITMENTS

NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT.

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO ROUTINE VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING THE INSTALLATION OF TIE ASSEMBLIES 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.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE: 0014			
100% STATE		URBAN	
CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2
67100100	MOBILIZATION	L SUM	1
X7010208	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL)	EACH	2
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3000
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	1432
70400100	TEMPORARY CONCRETE BARRIER	FOOT	862
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	862
* 78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	1074
78300100	PAVEMENT MARKING REMOVAL	SO FT	538
X0325969	PORTABLE, VEHICLE MOUNTED, CHANGEABLE MESSAGE BOARD	CAL DA	30
X0326880	MESSAGE BOARD VEHICLE DRIVER	HOUR	120
X0326907	PORTABLE, VEHICLE MOUNTED, CHANGEABLE MESSAGE SIGN	CAL MO	1
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	80
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1
X0327128	HANGER TIE ASSEMBLY	EACH	32

* SPECIALTY ITEM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

REVIEWED BY: Don Bonnik
DISTRICT STUDIES & PLANS ENGINEER

DATE: 12-06-10

EXAMINED BY: Herbert Long (w)
DISTRICT CONSTRUCTION ENGINEER

Ray J. Williams
DISTRICT MATERIALS ENGINEER

Bruce A. Huelser
DISTRICT OPERATIONS ENGINEER



FILE NAME =	USER NAME = carpenterdj	DESIGNED - HMS/MC	REVISED -
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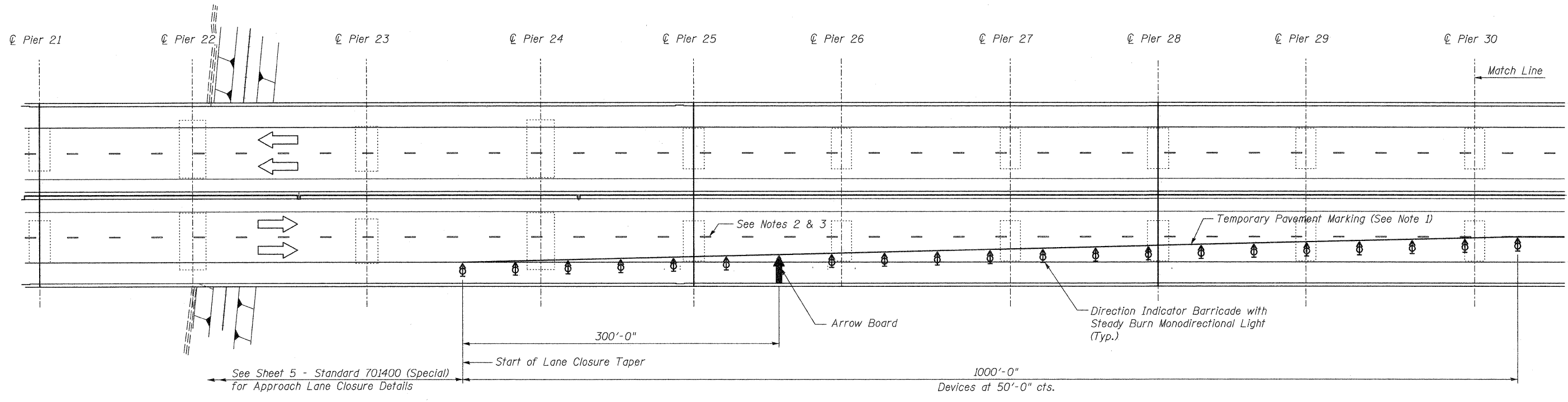
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COMMITMENTS, GENERAL NOTES
& SUMMARY OF QUANTITIES

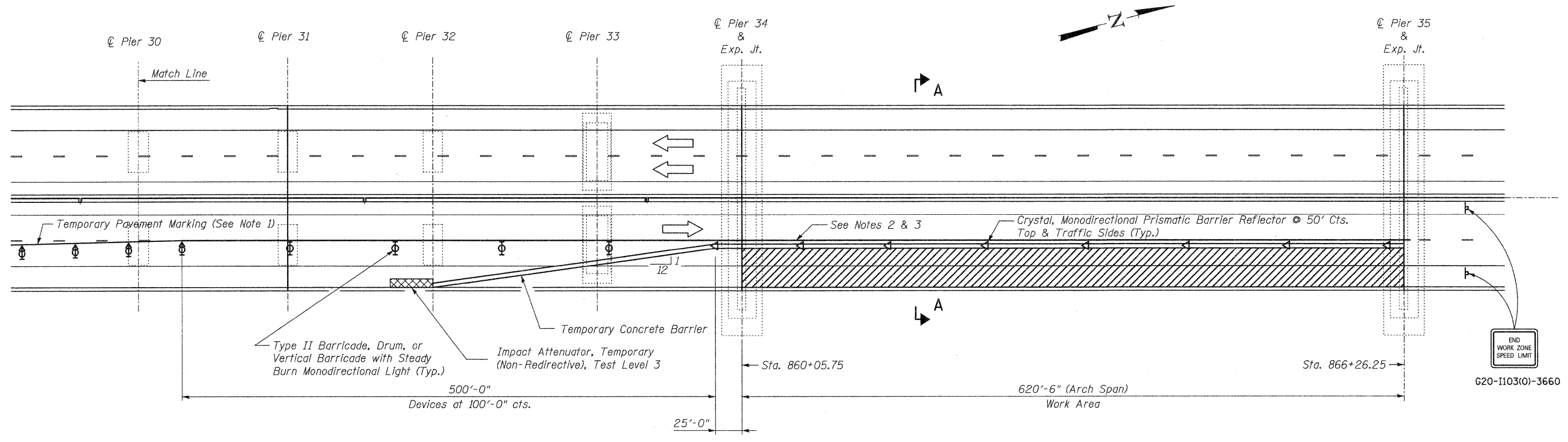
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Rev.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	(150-4B)BR11	LASALLE	12	2
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 66A34				



PART PLAN



PART PLAN

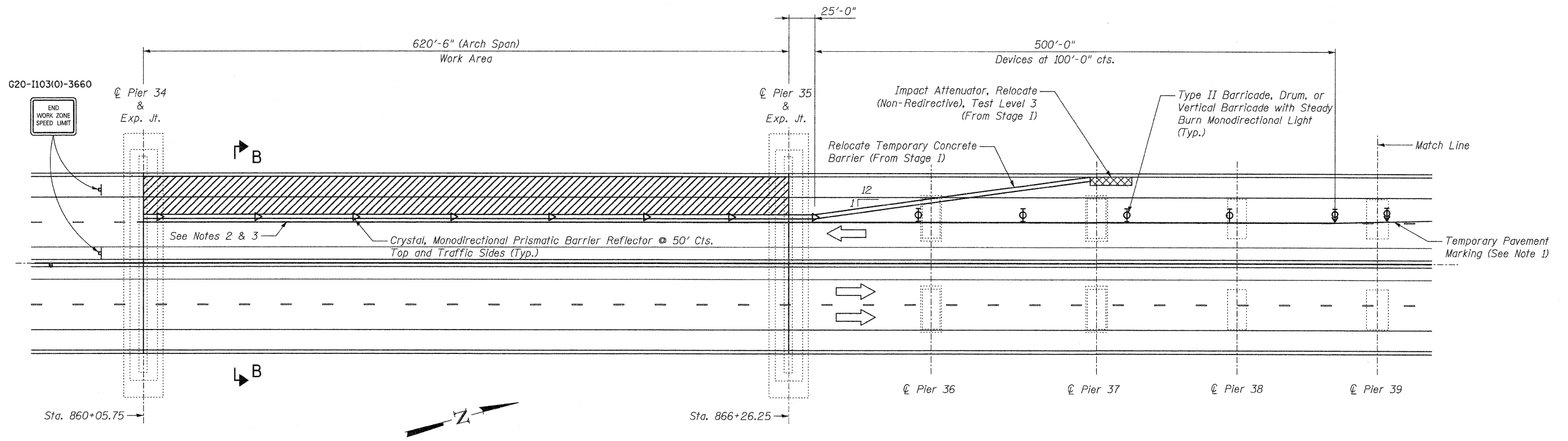
NOTES:

1. A White Temporary Pavement Marking-Line 4" shall be placed throughout the taper and up to the Temporary Concrete Barrier 25' ahead of the Work Area.
2. Remove existing Pavement Markings from start of Lane Closure Taper to the end of the Work Area to avoid conflict with Lane Closure Taper and Temporary Pavement Markings during construction. Paid for as Pavement Marking Removal.
3. See Sheet 6 for Pavement/Barrier Marking Line placement. Removal of the Pavement/Barrier Marking Line shall be paid for as Work Zone Pavement Marking Removal. White Polyurea Pavement Marking Type I-Line 6" shall be placed to match the original skip-dash conditions prior to removal.
4. Traffic Control Devices shall be according to Standard 701901.
5. Work this Sheet with Sheets 5 and 6.

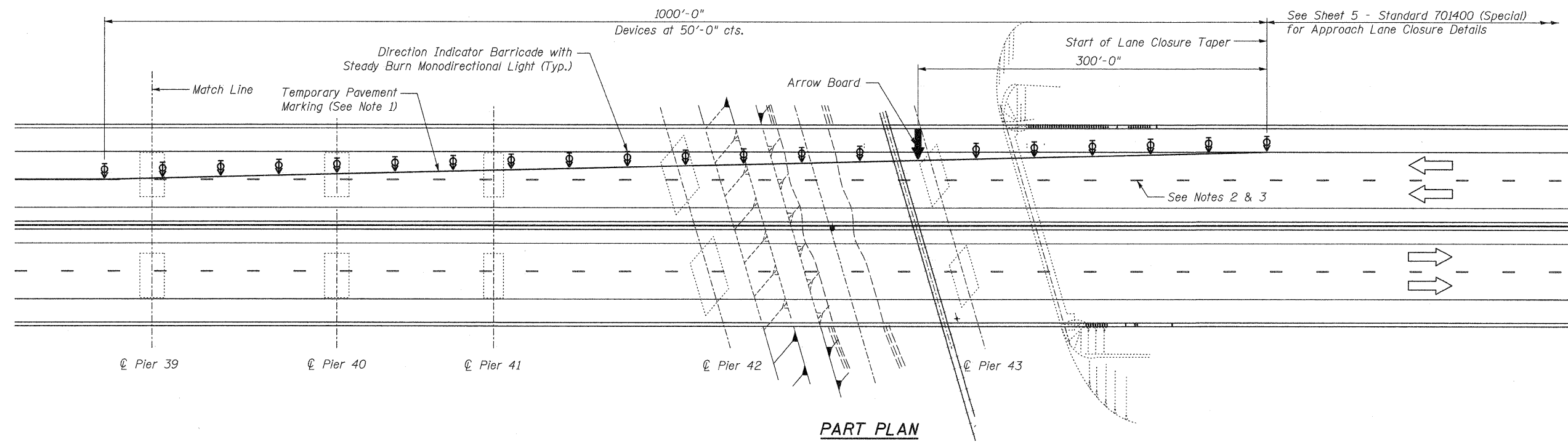
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 Chicago, Illinois 60601
 312-565-0450 Job No. 3938.05

FILE NAME =	USER NAME = rgr1mm	DESIGNED - HMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STANDARD 701402 (SPECIAL) STAGE I			F.A.I. RTE. 39	SECTION [(50-4B)BRJI]	COUNTY LASALLE	TOTAL SHEETS 12	SHEET NO. 3
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PART PLAN



PART PLAN

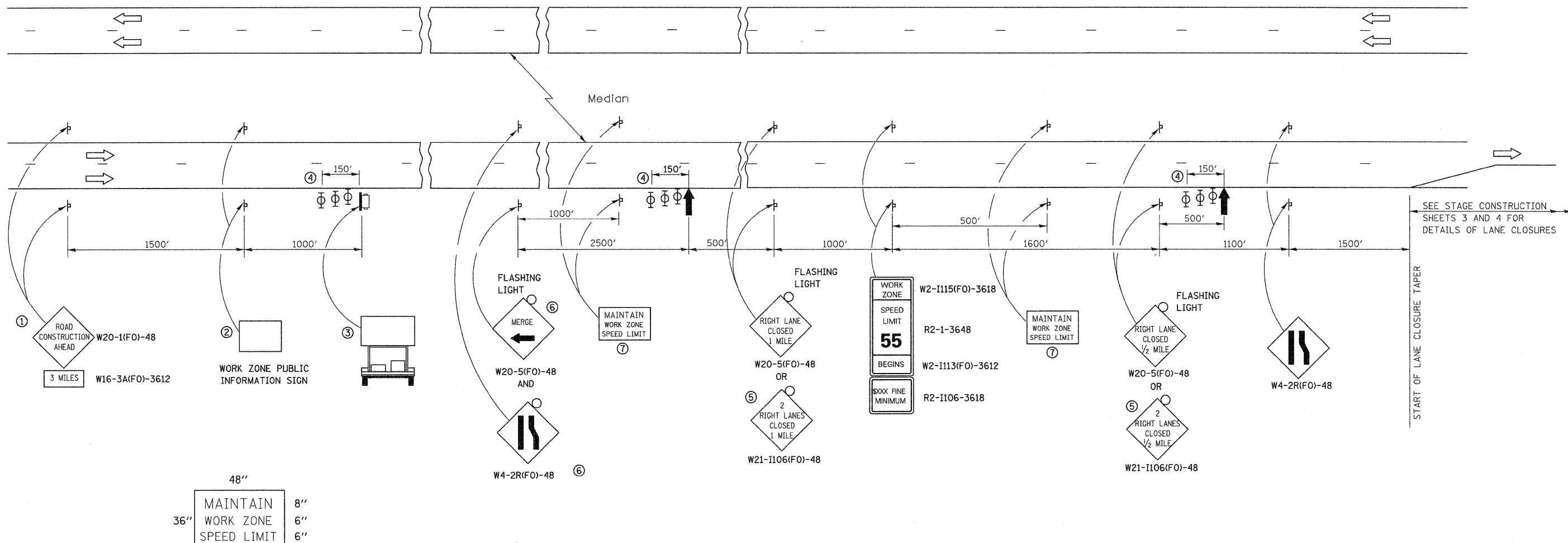
NOTES:

1. A White Temporary Pavement Marking-Line 4" shall be placed throughout the taper and up to the Temporary Concrete Barrier 25' ahead of the Work Area.
2. Remove existing Pavement Markings from start of Lane Closure Taper to the end of the Work Area to avoid conflict with Lane Closure Taper and Temporary Pavement Markings during construction. Paid for as Pavement Marking Removal.
3. See Sheet 6 for Pavement/Barrier Marking Line placement. Removal of the Pavement/Barrier Marking Line shall be paid for as Work Zone Pavement Marking Removal. White Polyurea Pavement Marking Type I-Line 6" shall be placed to match the original skip-dash conditions prior to removal.
4. Traffic Control Devices shall be according to Standard 701901.
5. Work this Sheet with Sheets 5 and 6.



FILE NAME =	USER NAME = rgrimm	DESIGNED - HMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STANDARD 701402 (SPECIAL) STAGE II			F.A.I. RTE. 39	SECTION [(50-4B)BRJ]	COUNTY LASALLE	TOTAL SHEETS 12	SHEET NO. 4
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	PLT DATE = 11/10/2010	CHECKED - KJN	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							
		DATE - 11/10/2010	REVISED -									

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48"
 36" MAINTAIN WORK ZONE SPEED LIMIT 8"
 6"
 6"

- ⑦ 48"x36" FLUORESCENT ORANGE SIGN WITH BLACK LETTERS.
- ↑ ARROW BOARD
- ☐ PORTABLE CHANGEABLE MESSAGE SIGN
- ⊥ SIGN
- ⊕ TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH MONODIRECTIONAL FLASHING LIGHT

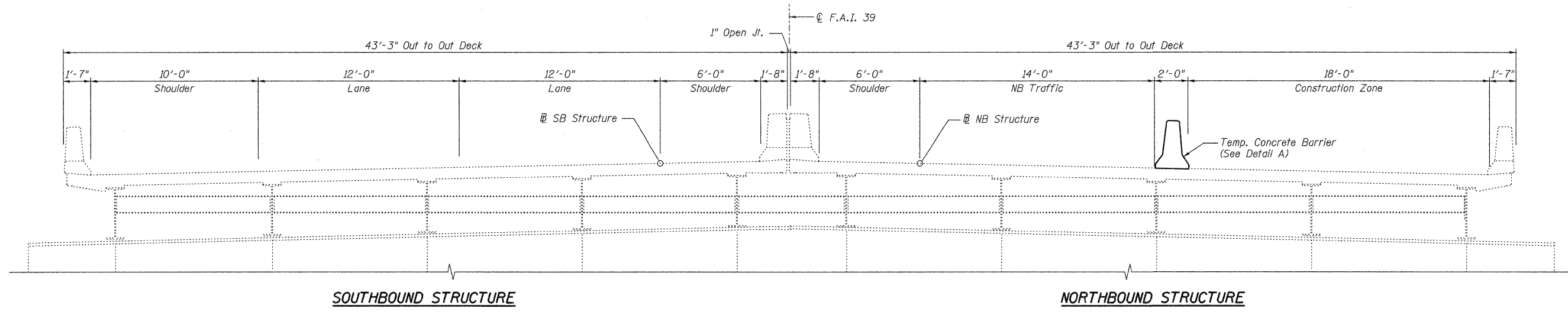
- ① THE ROAD CONSTRUCTION AHEAD SIGN SHALL BE LOCATED 3 MILES IN ADVANCE OF THE PROJECT LIMITS.
- ② THE MESSAGE AND SIZE OF THE WORK ZONE PUBLIC INFORMATION SIGN SHALL BE AS SPECIFIED BY THE DEPARTMENT.
- ③ TO BE PLACED IN THE MEDIAN WHEN FEASIBLE. THE MESSAGE BOARD SHALL BE USED TO DISPLAY STATUS OF LANES WITHIN THE PROJECT. THE PRIMARY MESSAGES SHALL BE:
 "RIGHT LANE CLOSED" / " x MILES AHEAD"
 "LEFT LANE CLOSED" / " x MILES AHEAD"
 "ALL LANES OPEN"
- ④ THREE, TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES AT 50' CENTERS.
- ⑤ THIS SIGN SHALL BE USED WHEN 2 LANES ARE CLOSED.
- ⑥ WHEN THE LEFT LANE IS CLOSED, SWITCH THESE TWO SIGNS AND THE DIRECTION OF THE MERGE ARROW.

- NOTES:**
1. THE FIRST TWO SIGNS AND THE MESSAGE BOARD ARE STATIONARY. THE OTHER SIGNS AND ARROWBOARDS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED DISTANCE FROM THE START OF THE LANE CLOSURE TAPER(S).
 2. WORK THIS SHEET WITH SHEETS 3 AND 4.

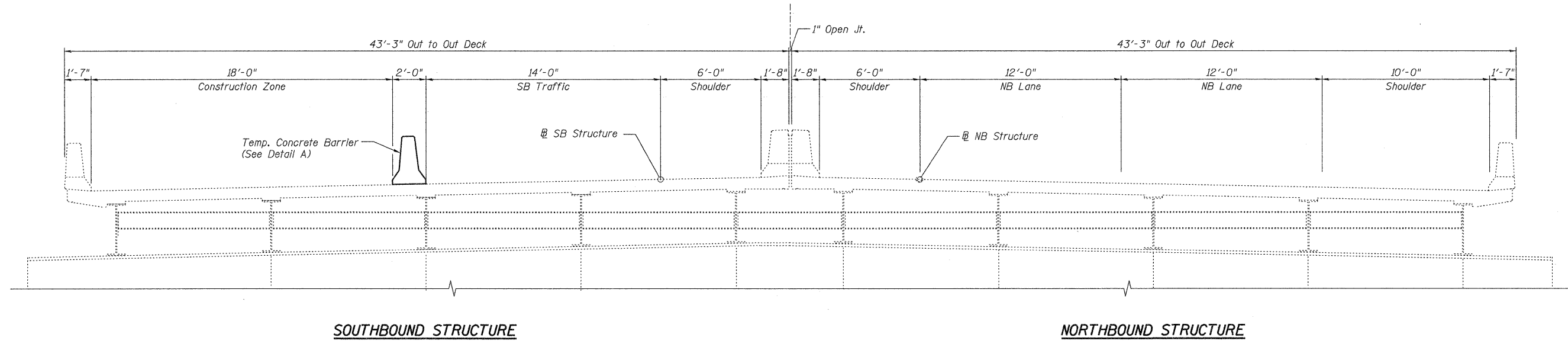
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 312-565-0450 Job No. 3938.05

FILE NAME =	USER NAME = rgr:mm	DESIGNED - HMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STANDARD 701400 (SPECIAL)	F.A.I. RTE. 39	SECTION [(50-4B)BR]I	COUNTY LASALLE	TOTAL SHEETS 12	SHEET NO. 5		
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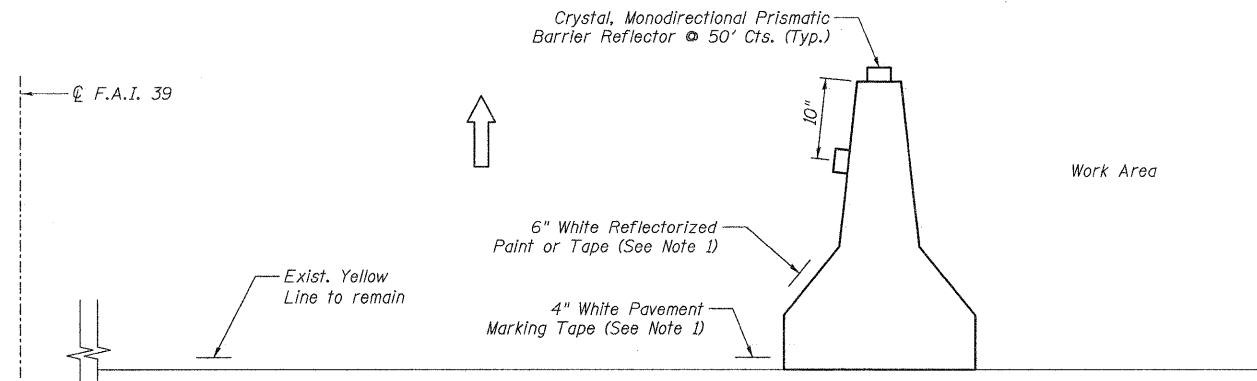
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STAGE I SECTION A-A
(Looking upstation)



STAGE II SECTION B-B
(Looking upstation)



DETAIL A
(Stage I Shown - Stage II Opposite Hand)

NOTES:

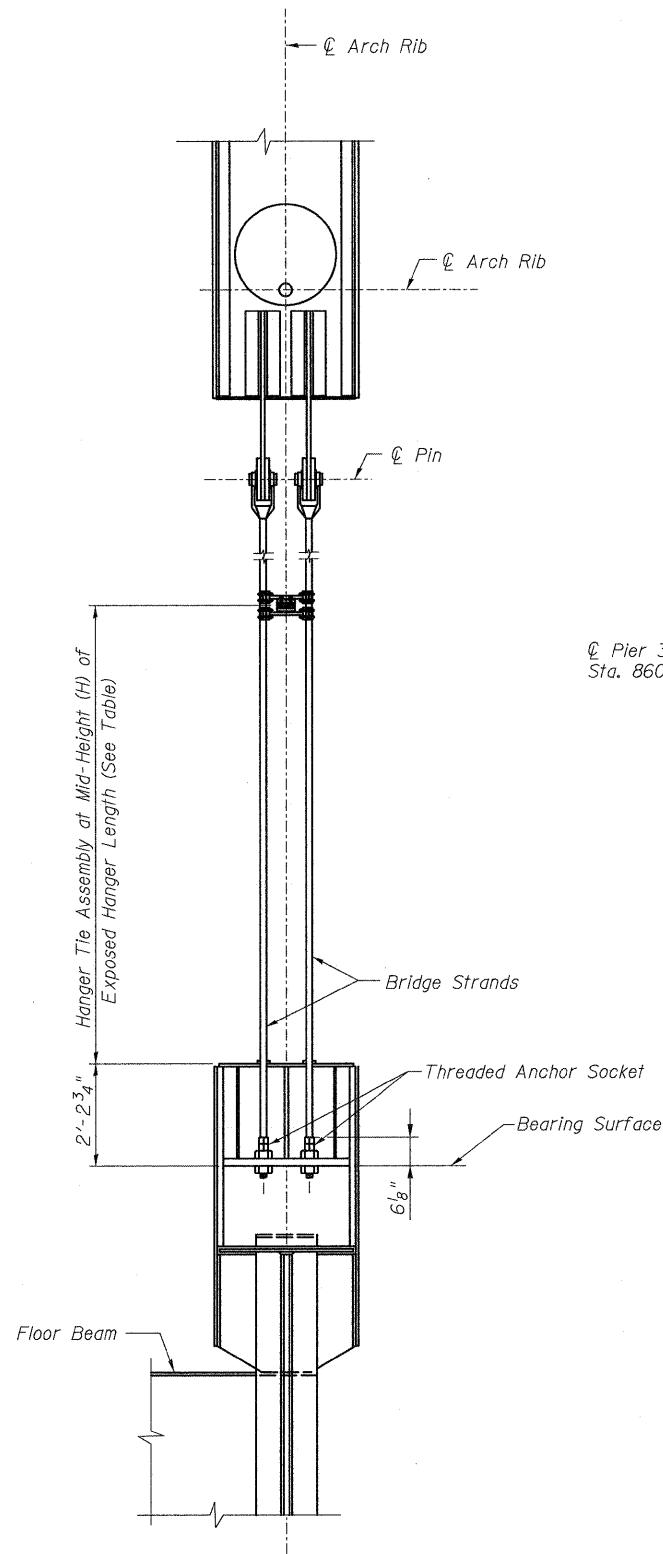
1. The Contractor has the option of using either the line on the Temporary Concrete Barrier or on the Pavement.
2. The cost of the Reflectors and the Pavement/Barrier Marking Line is included in the cost of the Temporary Concrete Barrier. Removal of the Pavement/Barrier Marking Line shall be paid for as Work Zone Pavement Marking Removal and the quantity is based on 4" tape.
3. Temporary Concrete Barrier shall be according to Standard 704001.
4. Work this Sheet with Sheets 3-5.

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FILE NAME =	USER NAME = rgram	DESIGNED - HMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LANE CLOSURE CROSS SECTIONS			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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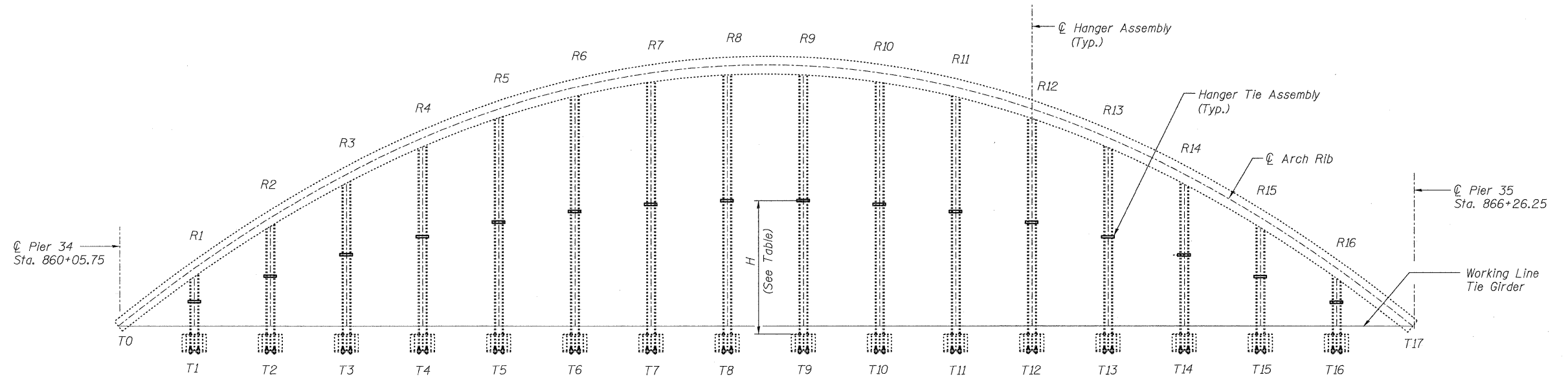
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



HANGER ASSEMBLY

DESIGNED -	VH
CHECKED -	HMA
DRAWN -	VH
CHECKED -	HMA



ELEVATION OF TIED ARCH

HANGER TIE LOCATION TABLE

Hanger Assembly	H (Feet)
R1 - T1	6.73
R2 - T2	18.80
R3 - T3	29.20
R4 - T4	37.85
R5 - T5	44.78
R6 - T6	50.00
R7 - T7	53.51
R8 - T8	55.23
R9 - T9	55.23
R10 - T10	53.51
R11 - T11	50.00
R12 - T12	44.78
R13 - T13	37.85
R14 - T14	29.20
R15 - T15	18.80
R16 - T16	6.73

NOTE:

For Hanger Tie Assembly Details, see Sheet 8.



EXPIRATION DATE 11-30-2012
DATE 11/10/2010

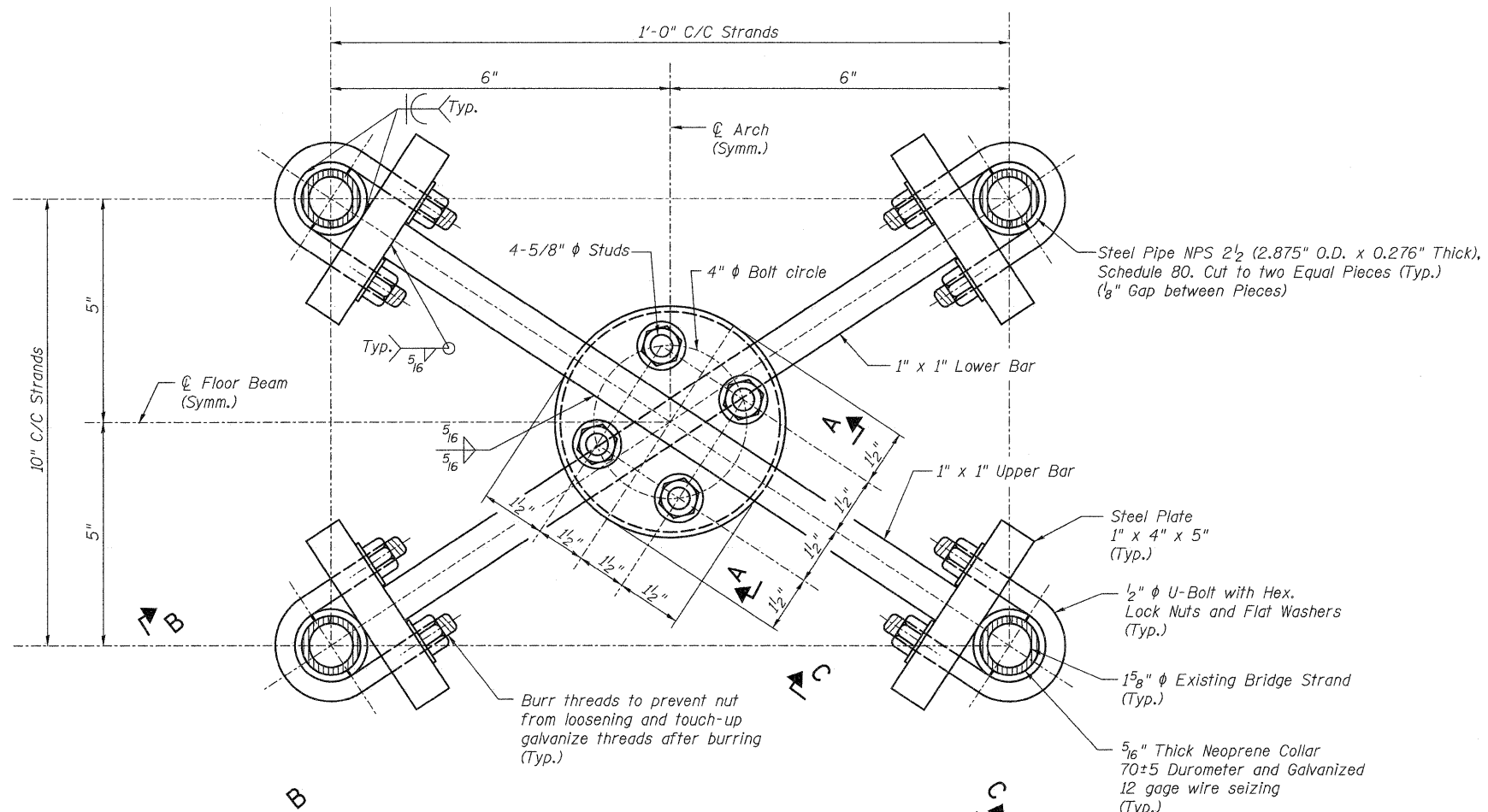
**HANGER TIE ASSEMBLY LAYOUT
ABRAHAM LINCOLN MEMORIAL BRIDGE OVER
THE ILLINOIS RIVER (PUBLIC WATERS)**



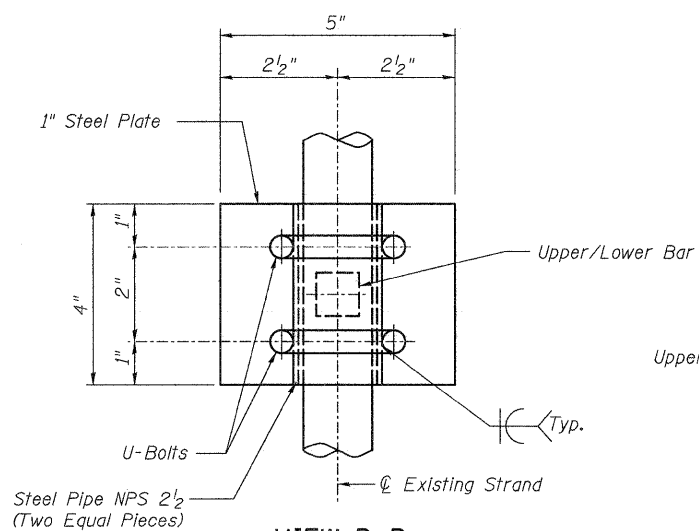
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SHEETS S6	CONTRACT NO. 66A34				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

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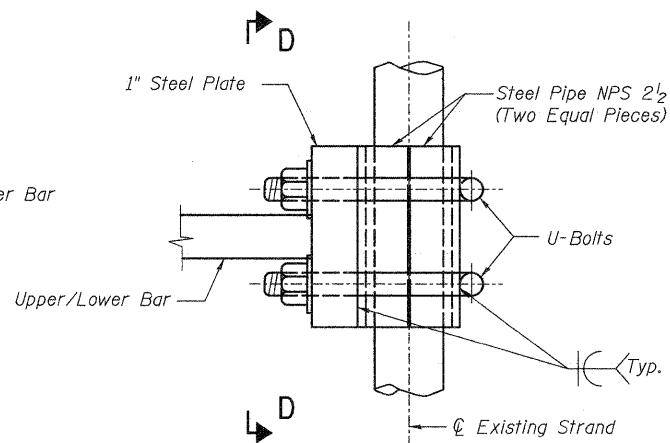
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



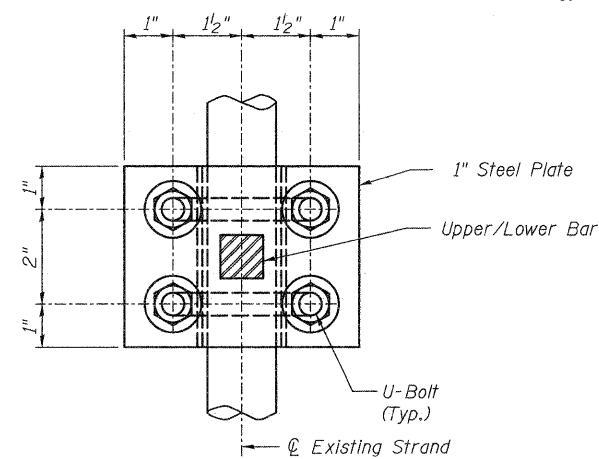
HANGER TIE ASSEMBLY



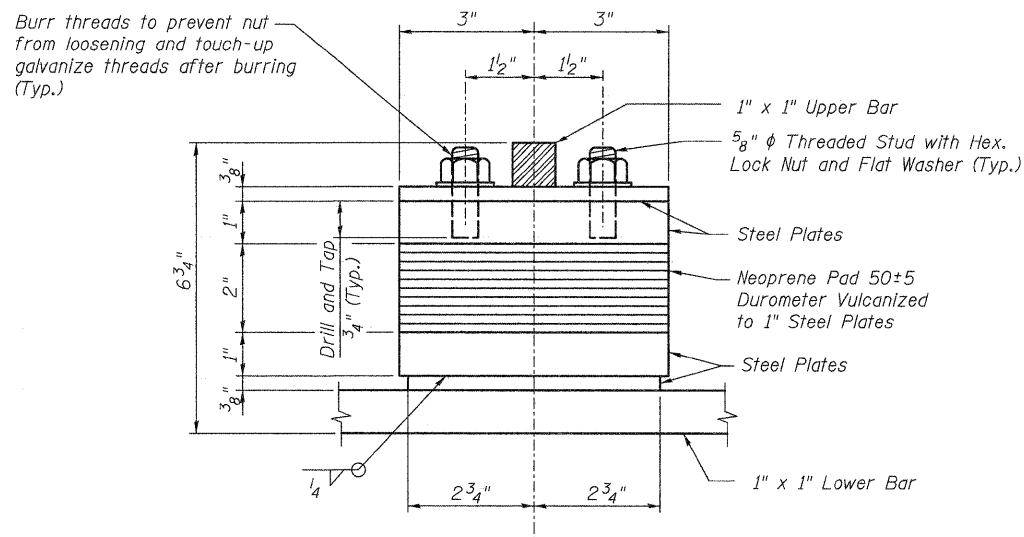
VIEW B-B



VIEW C-C



SECTION D-D



SECTION A-A

NOTES:

- Hanger Size and Spacing are taken from Existing Drawings. Contractor to field verify.
- Tie Assemblies shall be installed at the location shown on Sheet 7.
- See Special Provision "Hanger Tie Assembly" for material and construction details.

BILL OF MATERIAL

Item	Unit	Total
Hanger Tie Assembly	Each	32

DESIGNED -	VH
CHECKED -	HMA
DRAWN -	VH
CHECKED -	HMA

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Chicago, Illinois 60601
312-565-0450 Job No. 3938.05

SHEET NO. S2	F.A.I. RTE. 39	SECTION [(50-4B)BR]I	COUNTY LASALLE	TOTAL SHEETS 12	SHEET NO. 8
SHEETS S6	CONTRACT NO. 66A34				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

**HANGER TIE ASSEMBLY DETAILS
ABRAHAM LINCOLN MEMORIAL BRIDGE OVER
THE ILLINOIS RIVER (PUBLIC WATERS)**

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

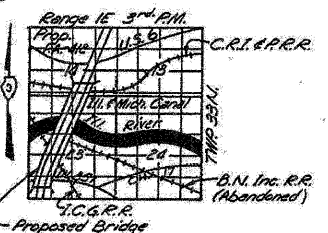
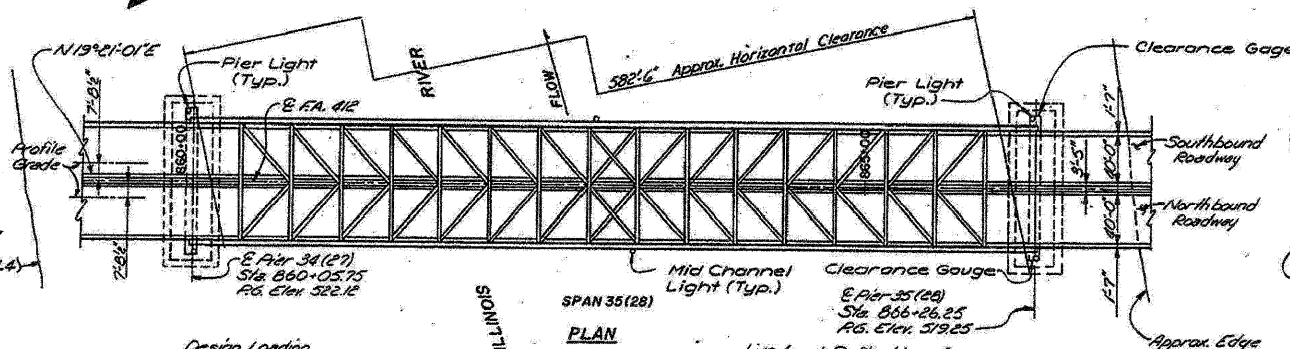
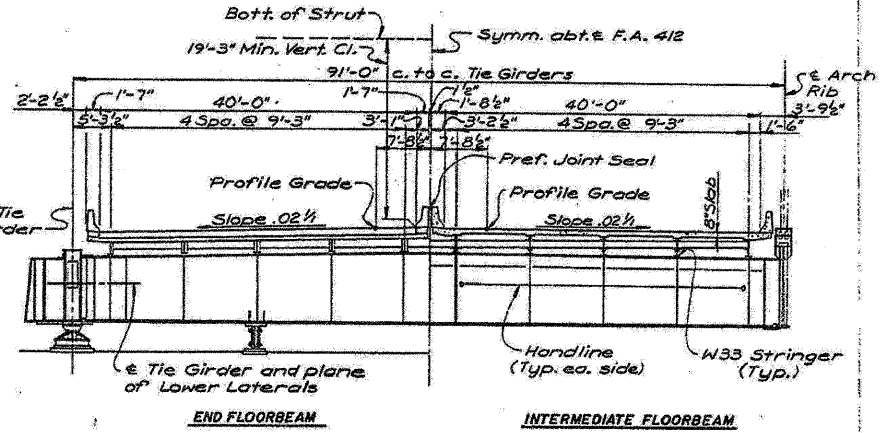
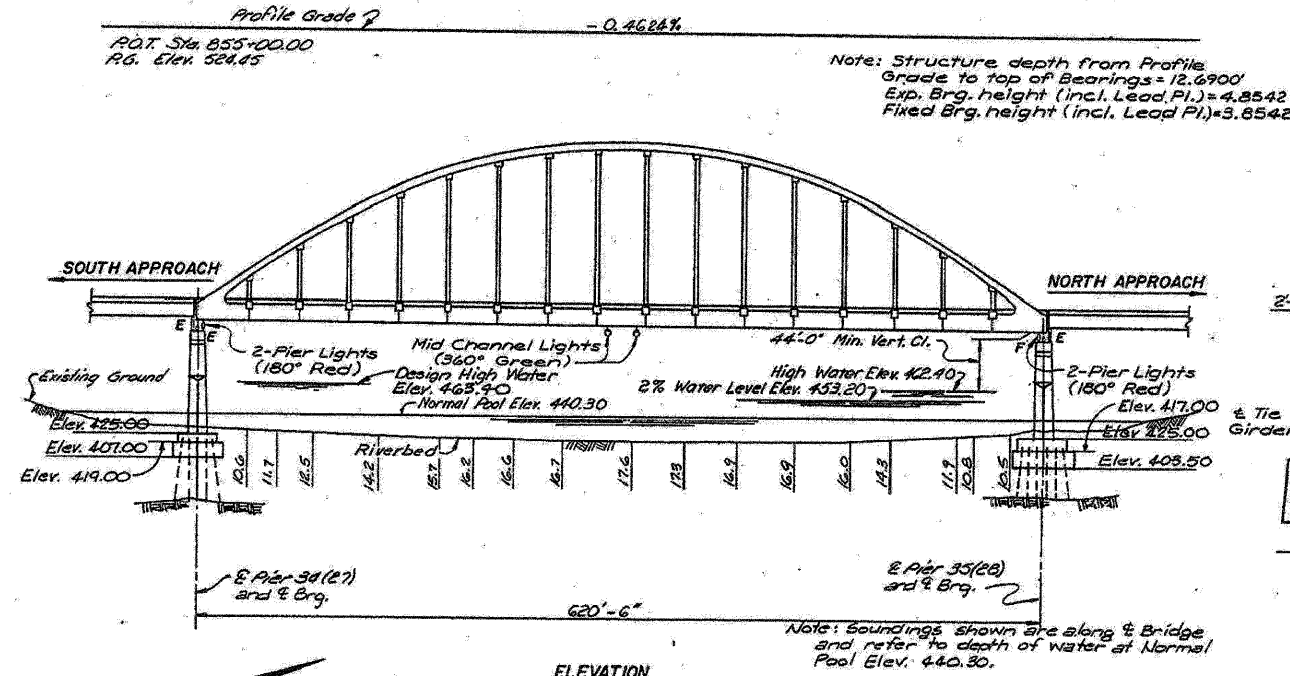
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 412	50-4B (F&E)	LASALLE	26	3
FED. ROAD DIST. NO. ILLINOIS PROJECT EBF-412-4(G)				

WATERWAY INFORMATION

Flood	Freq. Yr.	Low Grade Elev.		High Level Bridge at Sta. 863+16.00	
		Opening Sq. Ft.	No.	Head - Ft.	Headwater Elev.
Design	50	88,000	10,500	463.4	463.4
Base	100	92,800	11,100	464.9	464.9
Overlapping					
Max. Col.	500				

* Gross waterway opening (Includes Piers)



Bridge Grounding Note:
Ground cables have been installed in the up-stream column of Pier 34(27) and the down-stream column of Pier 35(28) by others. Include in this Contract fastening of ground cables to Tied Arch Span steel with compression lugs bolted and brazed to steel members.

DESIGNER
C. Hieczorek

CHECKED
G. J. Roufo
D.T. Smith/peters
C. Hieczorek

DESIGNED - VH
CHECKED - HMA
DRAWN - VH
CHECKED - HMA

Design Loading
Live load-HS20-44 with alternate Military Loading.
Dead load includes 25 lbs./sq. ft. of roadway for future wearing surface.
Earthquake in accordance with Article 1.2.20 of AASHTO Spec. for Zone 1.

Design Stresses
Load Factor Design - Stringers and Floorbeams.
F_y = 39,000 psi - M183 & 50,000 psi - M222 & M223 (Grade 50) Structural Steel.
Working Stress Design - Tied Arches (including Hangers).
F_a = 20,000 psi - M183 & 27,000 psi - M222 & M223 (Grade 50).
Bridge Girand (f_s) = 65,000 pounds per sq. in. (based on F.S. = 3.0).

Live Load Deflections (Including Impact)
Tied Arch, stringers, and floorbeams = $\frac{L_s}{1000}$
Cantilever Arm of Stringers = $\frac{L_s}{200}$
L_s is the distance between center of supports.
L_s is the length of cantilever arm.

Pier Numbering
Pier 34 and 36 for Structural Steel Approaches
Pier (27) and (28) for Post-Tensioned Concrete Approaches

APPROVED

BENCH MARK
B.M. #23 - Railroad Spike in north base of 20' Willow tree 150'± right of & Sta. 267+67. Elev. 448.76



NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

FOR INFORMATION ONLY

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312-565-0450 Job No. 3938.05

EXISTING TIED ARCH GENERAL PLAN AND ELEVATION
ABRAHAM LINCOLN MEMORIAL BRIDGE OVER
THE ILLINOIS RIVER (PUBLIC WATERS)

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S3	39	[(50-4B)BR]	LASALLE	12	9
CONTRACT NO. 66A34					
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412 50-4B (F.B.E.)	LASALLE	26	4
FED. ROAD DIST. NO.	ILLINOIS PROJECT	EBF-412-4(6)	

GENERAL NOTES

DESIGN SPECIFICATIONS: IN ACCORDANCE WITH AASHTO 1977 EDITION AND 1978, 1979, 1980, 1981, AND 1982 INTERIM SPECIFICATIONS.

SUPERSTRUCTURE - STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M-183 UNLESS OTHERWISE NOTED. STEEL INDICATED M-223 SHALL BE GRADE 50.

CALCULATED WEIGHT OF STRUCTURAL STEEL:

2,255,500 Lbs. M-183
4,064,590 Lbs. M-223, GRADE 50 & M-222
68,290 Lbs. M-192, GRADE 90

ALL SHOP AND FIELD CONNECTIONS, OTHER THAN WELDED SHALL BE MADE WITH 7/8" Ø HIGH STRENGTH BOLTS AND 15/16" Ø HOLES AND CONFORM TO AASHTO M-104 UNLESS OTHERWISE NOTED. SHOP BOLTS ARE SHOWN ON THE PLANS BY THE SYMBOL (+), AND FIELD BOLTS BY (x). SHOP AND FIELD CONNECTIONS MAY BE INTERCHANGED AT THE OPTION OF THE CONTRACTOR.

FRACTURE CRITICAL MEMBER REQUIREMENTS ARE MANDATORY FOR TIE GIRDERS, KNUCKLES. THESE COMPONENTS ARE NOTED F.C.M. ON THE PLANS. SEE SPECIAL PROVISIONS.

SUPPLEMENTAL NOTCH TOUGHNESS REQUIREMENTS (ZONE 2) ARE MANDATORY FOR ALL STRINGERS, LINK BARS, SPLICE PLATES, AND BOTTOM FLANGES AND WEBS OF ALL FLOORBEAMS. THESE COMPONENTS ARE NOTED N.T.R. ON PLANS. SEE SPECIAL PROVISIONS.

PROVISIONS HAVE BEEN MADE FOR JACKING THE TOTAL DEAD LOAD ONLY, OF THE ARCH SPAN AT BOTH PIERS.

A COMPLETE PENETRATION GROOVE WELD SHALL BE USED WHENEVER THE TERM "GROOVE WELD" IS USED ON THE PLANS. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO ANY PART OF THE ARCH TIES, THE BOTTOM FLANGES AND WEBS OF FLOORBEAMS AND STRINGERS OR TO THE TOP FLANGE OF STRINGERS FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE CENTER OF SUPPORT OVER WHICH THE MEMBER IS CONTINUOUS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ARCH SPAN SHALL BE FABRICATED TO THE FINAL GEOMETRIC SHAPE UNDER FULL DEAD LOAD EXCLUDING FUTURE WEARING SURFACE. A FABRICATION ALLOWANCE SHALL BE MADE FOR SHORTENING OF THE ARCH RIB AND LENGTHENING OF THE TIE GIRDER AND HANGERS UNDER FULL DEAD LOAD EXCLUDING FUTURE WEARING SURFACE. SEE SPECIAL PROVISIONS.

HANGERS SHALL CONSIST OF MULTIPLE-WIRE BRIDGE STRAND CONFORMING TO ASTM A586 AND SHALL BE ZINC COATED. ZINC COATING SHALL BE CLASS C ON OUTER WIRES AND CLASS A ON INNER WIRES. MINIMUM METALLIC AREA OF EACH STRAND SHALL BE 1.59 SQUARE INCHES AND HAVE A MINIMUM BREAKING STRENGTH (EACH STRAND) OF 310 KIPS. MODULUS OF ELASTICITY AFTER PRESTRESSING SHALL BE 24,000 KSI. SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER COMPLETE PLANS OF PROPOSED ERECTION SCHEMES FOR THE WORK SHOWING ERECTION LOAD STRESSES. ANY MATERIAL ORDERED PRIOR TO THE REVIEW OF THE ERECTION SCHEME BY THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ERECTION STRESSES SHALL BE COMPOSED OF THE STEEL DEAD LOAD OF THE STRUCTURE AND ERECTION EQUIPMENT PLUS THE STRESS FROM WIND OF 45 POUNDS PER SQUARE FOOT ON THE STRUCTURE AND ERECTION EQUIPMENT IN ELEVATION. ERECTION STRESSES SHALL NOT EXCEED NORMAL UNIT STRESS BY MORE THAN 33-1/3 PERCENT. NO PAYMENT WILL BE MADE FOR ANY EXTRA MATERIAL REQUIRED DUE TO ERECTION CONDITIONS. REVIEW OF THE ERECTION PLANS SHALL NOT RELIEVE THE CONTRACTOR FROM HIS FULL RESPONSIBILITY FOR THE SAFETY OF THE ERECTION SCHEMES.

SEE SPECIAL PROVISIONS FOR NAVIGATIONAL CONSIDERATIONS AND CONSTRUCTION IN NAVIGABLE WATERS.

THE ZINC-SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP PAINTING AND FIELD PAINTING OF STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.

ALL CONTACT SURFACES OF JOINTS WITH FRICTION TYPE BOLTS SHALL BE FREE OF PAINT OR LACQUER.

ALL LENGTHS SHOWN ON PLANS ARE AT A NORMAL TEMPERATURE OF 50° F. UNDER TOTAL DEAD LOAD EXCLUDING FMS, EXCEPT AS NOTED.

IN THE APPLICATION OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS AND THE SUPPLEMENTARY REQUIREMENTS STATED HEREIN, THE FOLLOWING STRUCTURAL PARTS SHALL BE CLASSIFIED AS MAIN MEMBERS: STRINGERS, FLOORBEAMS, ARCH MEMBERS (TIES, HANGERS, AND RIBS), UPPER BRACING BETWEEN THE ARCH RIBS AND THE COMPONENTS OF THE LOWER LATERAL BRACING SYSTEM.

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- 6 FLOOR SYSTEM AND STRINGER DETAILS
- 7 FLOOR SYSTEM AND STRINGER DETAILS
- 8 END FLOORBEAMS AND LIVE LOAD SUPPORTS
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TOTAL BILL OF MATERIAL SUPERSTRUCTURE - STRUCTURAL STEEL		
ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	L.SUM	1
Maintaining Engineer's Field Office	COL. MO.	24

NOTES
For Anchor Bolt Details, see Sheet 10 of 24.

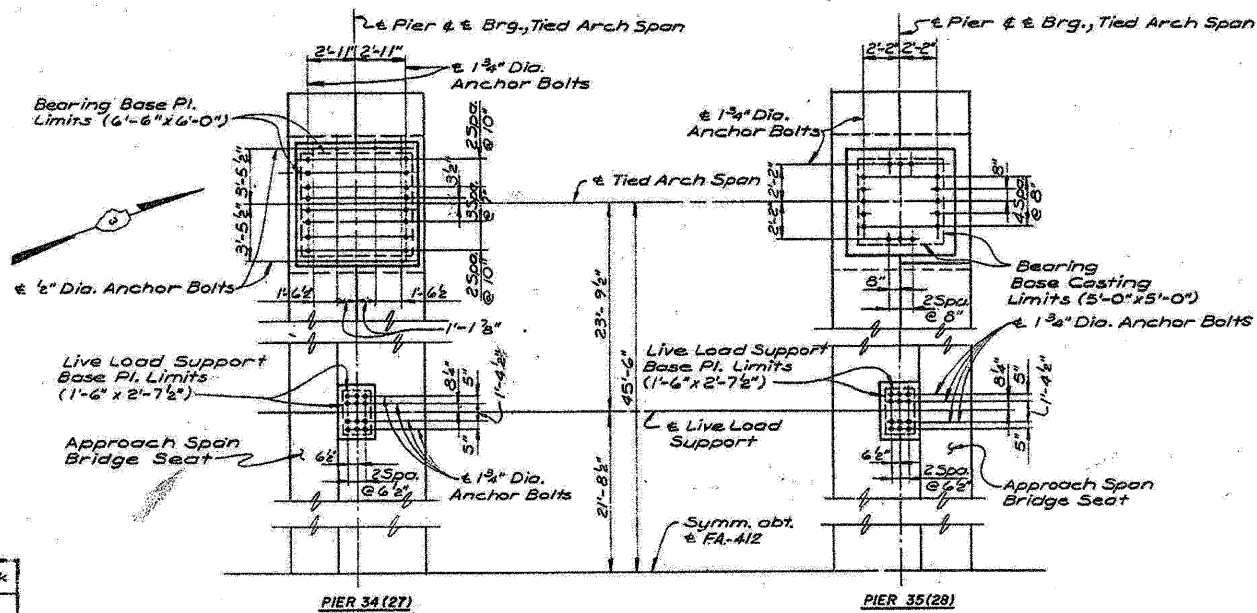
State of Illinois
Department of Transportation
District Three

Reviewed By: *Robert Q. Chalk*
District Engineer of Design

Date: 7-11-82

Examined By: *Charles J. Jones*
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District Engineer of Materials
John J. ...
District Engineer of Traffic
John ...
District Engineer of Planning

TIED ARCH SPAN
GENERAL NOTES, ANCHOR BOLT PLAN,
QUANTITIES AND INDEX
FA-412 OVER ILLINOIS RIVER
SECTION 50-4B (F.B.E.) PROJECT EBF-412-4(6)
STA. 863+1600 (FA-412) LASALLE CO.



DESIGNED - C. Wiczorek
DRAWN - R. L. Olson, S. J. Rault, D. Smithpeters
CHECKED - C. Wiczorek

PREPARED BY:
SVERDRUP & PARCEL AND ASSOCIATES, Inc.
ENGINEERS ARCHITECTS PLANNERS
ST. LOUIS, MISSOURI

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 24

DESIGNED -	VH
CHECKED -	HMA
DRAWN -	VH
CHECKED -	HMA

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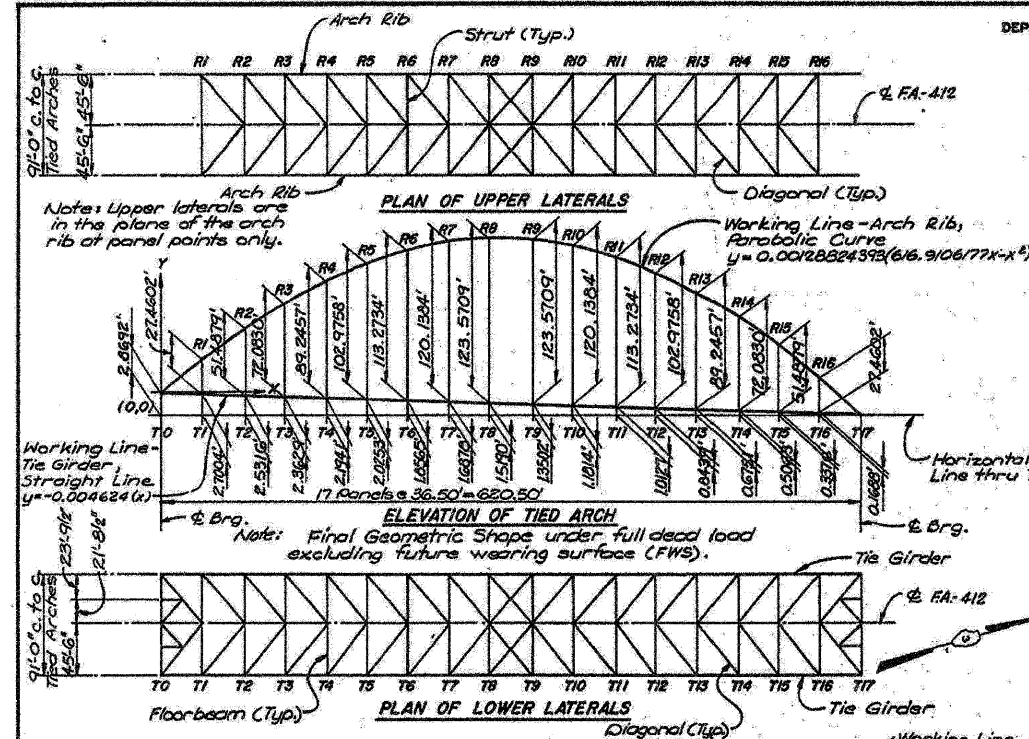
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EXISTING TIED ARCH GENERAL NOTES ABRAHAM LINCOLN MEMORIAL BRIDGE OVER THE ILLINOIS RIVER (PUBLIC WATERS)					
SHEET NO. S4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	39	[(50-4B)BR]I	LASALLE	12	10
SHEETS S6	CONTRACT NO. 66A34				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412	50-4B (F&E)	LASALLE	26	5
FED. ROAD DIST. NO.	ILLINOIS PROJECT NO.	FA-412-4(B)		



ARCH GEOMETRY - TOTAL DEAD LOAD (EXCLUDING FWS)

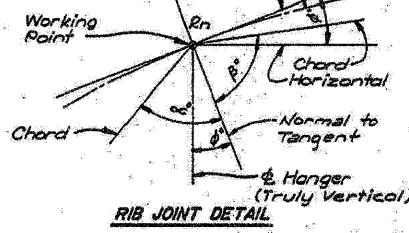
WORKING POINT	HORIZ. DIST. FROM COORD. CENTER (FT.)	ELEVATION OF RIB N.P. (FT.)	ANGLE α°	ANGLE β°	ANGLE θ°	MEMBER	CHORD LENGTH (FT.)	WORKING POINT	HORIZ. DIST. FROM COORD. CENTER (FT.)	ELEV. OF TIE W.P. (FT.)	MEMBER	LENGTH (FT.)
T0	0.0	515.187	--	--	--	T0 - R1	45.597	T0	0.0	515.187	T0 - R1	45.597
R1	36.5	542.478	88.2327	88.1529	35.0185	R1 - R2	43.606	T1	36.5	515.018	T1 - R2	27.460
R2	73.0	568.537	88.0716	87.9896	31.2430	R2 - R3	41.827	T2	73.0	514.849	T2 - R3	51.488
R3	109.5	593.763	87.8075	87.8261	27.1399	R3 - R4	40.282	T3	109.5	514.680	T3 - R4	72.083
R4	146.0	608.763	87.7854	87.6668	22.7128	R4 - R5	38.938	T4	146.0	514.512	T4 - R5	89.246
R5	182.5	617.310	87.5972	87.5300	17.9794	R5 - R6	37.879	T5	182.5	514.343	T5 - R6	102.976
R6	219.0	627.407	87.4695	87.4170	12.9789	R6 - R7	37.109	T6	219.0	514.174	T6 - R7	113.273
R7	255.5	634.144	87.3735	87.3402	7.7694	R7 - R8	36.646	T7	255.5	514.005	T7 - R8	120.138
R8	292.0	637.407	87.3181	87.2073	2.4277	--	--	T8	292.0	513.846	T8 - R8	123.571
R9	328.5	637.793	87.3085	87.3215	2.3564	R8 - R9	36.500	T9	328.5	513.687	T9 - R9	123.571
R10	365.0	635.637	87.3460	87.3815	8.2889	R9 - R10	36.677	T10	365.0	513.499	T10 - R10	120.138
R11	401.5	626.804	87.4264	87.4807	13.4810	R10 - R11	37.172	T11	401.5	513.330	T11 - R11	113.273
R12	438.0	616.337	87.5428	87.6111	18.4575	R11 - R12	37.971	T12	438.0	513.161	T12 - R12	102.976
R13	474.5	602.239	87.6846	87.7618	23.1618	R12 - R13	39.057	T13	474.5	512.993	T13 - R13	89.246
R14	511.0	584.507	87.8420	87.9237	27.5580	R13 - R14	40.406	T14	511.0	512.824	T14 - R14	72.083
R15	547.5	564.143	88.0056	88.0876	31.6287	R14 - R15	41.993	T15	547.5	512.655	T15 - R15	51.488
R16	584.0	539.947	88.1687	88.2482	35.3724	R15 - R16	43.732	T16	584.0	512.486	T16 - R16	27.460
T17	620.5	512.318	88.3256	--	38.7986	R16 - T17	45.778	T17	620.5	512.318	--	--

ARCH GEOMETRY - FOR FABRICATION

WORKING POINT	ANGLE α°	ANGLE β°	ANGLE θ°	MEMBER	CHORD LENGTH (FT.)	MEMBER	LENGTH (FT.)	PANEL POINT	STRAND LENGTH (FT.)
T0	--	88.3124	38.4755	T0 - R1	45.597	T0 - T1	38.487	1	15.175
R1	88.2308	88.1551	35.0185	R1 - R2	43.627	T1 - T2	38.487	2	39.518
R2	88.0694	87.9916	31.2430	R2 - R3	41.846	T2 - T3	38.488	3	60.122
R3	87.9055	87.8279	27.1399	R3 - R4	40.280	T3 - T4	38.489	4	77.418
R4	87.7446	87.6711	22.7124	R4 - R5	38.955	T4 - T5	38.489	5	91.287
R5	87.5959	87.5310	17.9794	R5 - R6	37.895	T5 - T6	38.489	6	101.727
R6	87.4685	87.4176	12.9789	R6 - R7	37.126	T6 - T7	38.488	7	108.745
R7	87.3729	87.3407	7.7694	R7 - R8	36.662	T7 - T8	38.487	8	112.171
R8	87.3176	87.3073	2.4277	--	--	--	--	9	112.171
R9	87.3086	87.3206	2.3564	R8 - R9	36.517	T8 - T9	38.487	10	108.745
R10	87.3469	87.3805	8.2889	R9 - R10	36.684	T9 - T10	38.487	11	101.727
R11	87.4276	87.4796	13.4810	R10 - R11	37.188	T10 - T11	38.488	12	91.287
R12	87.5499	87.6093	18.4575	R11 - R12	37.987	T11 - T12	38.489	13	77.418
R13	87.6864	87.7598	23.1618	R12 - R13	39.074	T12 - T13	38.489	14	60.122
R14	87.8440	87.9212	27.5580	R13 - R14	40.424	T13 - T14	38.489	15	39.518
R15	88.0081	88.0852	31.6287	R14 - R15	42.012	T14 - T15	38.488	16	15.175
R16	88.1711	88.2861	35.3724	R15 - R16	43.812	T15 - T16	38.487	16	15.175
T17	88.3277	--	38.7986	R16 - T17	45.800	T16 - T17	38.487	16	15.175

RIB CHORD OFFSETS - FOR FABRICATION

CHORD	OFFSET TO CHORD (FT.)					
	POINT 1		POINT 2		POINT 3	
	DIST.	OFFSET	DIST.	OFFSET	DIST.	OFFSET
T0 - R1	11.592	0.258	23.056	0.344	34.391	0.258
R1 - R2	11.083	0.269	22.048	0.359	32.886	0.270
R2 - R3	10.619	0.281	21.135	0.375	31.542	0.281
R3 - R4	10.205	0.292	20.321	0.389	30.346	0.292
R4 - R5	9.851	0.302	19.627	0.402	29.328	0.302
R5 - R6	9.560	0.310	19.062	0.414	28.508	0.310
R6 - R7	9.339	0.317	18.640	0.422	27.902	0.317
R7 - R8	9.194	0.321	18.359	0.428	27.525	0.321
R8 - R9	9.128	0.322	18.256	0.430	27.386	0.322
R9 - R10	9.142	0.320	18.305	0.427	27.489	0.321
R10 - R11	9.236	0.316	18.513	0.422	27.831	0.316
R11 - R12	9.408	0.309	18.875	0.413	28.401	0.309
R12 - R13	9.654	0.301	19.384	0.401	29.191	0.301
R13 - R14	9.968	0.291	20.028	0.388	30.189	0.291
R14 - R15	10.344	0.280	20.794	0.373	31.350	0.280
R15 - R16	10.775	0.268	21.669	0.358	32.681	0.268
R16 - T17	11.258	0.257	22.641	0.342	34.156	0.257

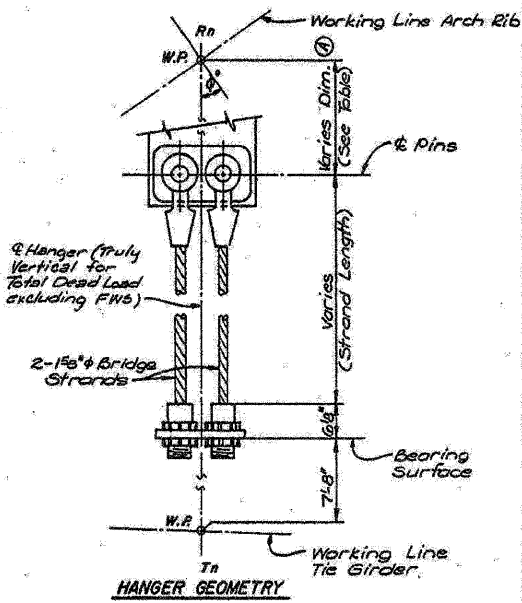
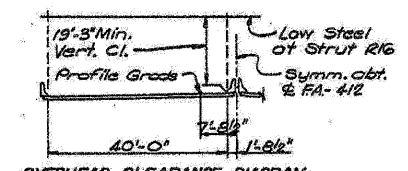


HANGER ASSEMBLIES

PANEL POINT	RIB TIE DIST. (FT.)	STRAND ELONGATION (FT.) (3)		
		STRAND LENGTH (FT.)	STEEL	CONC.
1	27.460	15.200	0.007	0.020
2	51.488	30.394	0.024	0.076
3	72.083	60.239	0.038	0.079
4	89.246	77.569	0.051	0.100
5	102.976	91.466	0.061	0.118
6	113.273	101.929	0.070	0.132
7	120.138	108.961	0.076	0.140
8	123.571	112.384	0.079	0.144

PANEL DIMENSION

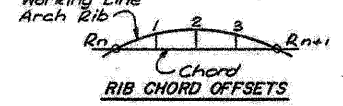
PANEL POINT	DIMENSION
R1	4' - 1"
R2	3' - 11"
R3	3' - 8"
R4	3' - 6"
R5	3' - 4"
R6	3' - 2"
R7	3' - 0"
R8	3' - 0"
R9	3' - 0"
R10	3' - 0"
R11	3' - 2"
R12	3' - 4"
R13	3' - 6"
R14	3' - 8"
R15	3' - 11"
R16	4' - 1"



① Vertical distance from W.P. of rib to W.P. of tie girder under total dead load excluding FWS.
② Length under total dead load excluding FWS.
③ Modulus of elasticity for strand elongation assumed = 24,000,000 psi. See Special Provisions.

TIED ARCH SPAN
ARCH GEOMETRY
FA-412 OVER ILLINOIS RIVER
SECTION 50-4B(F&E) PROJECT EBF-412-4(B)
STA. 863+16.00 (FA-412) LASALLE CO.

DESIGNED - C. Wieszorek
CHECKED - G. J. DEE
DRAWN - G. J. DEE
CHECKED - C. Wieszorek



NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGNED -	VH
CHECKED -	HMA
DRAWN -	VH
CHECKED -	HMA

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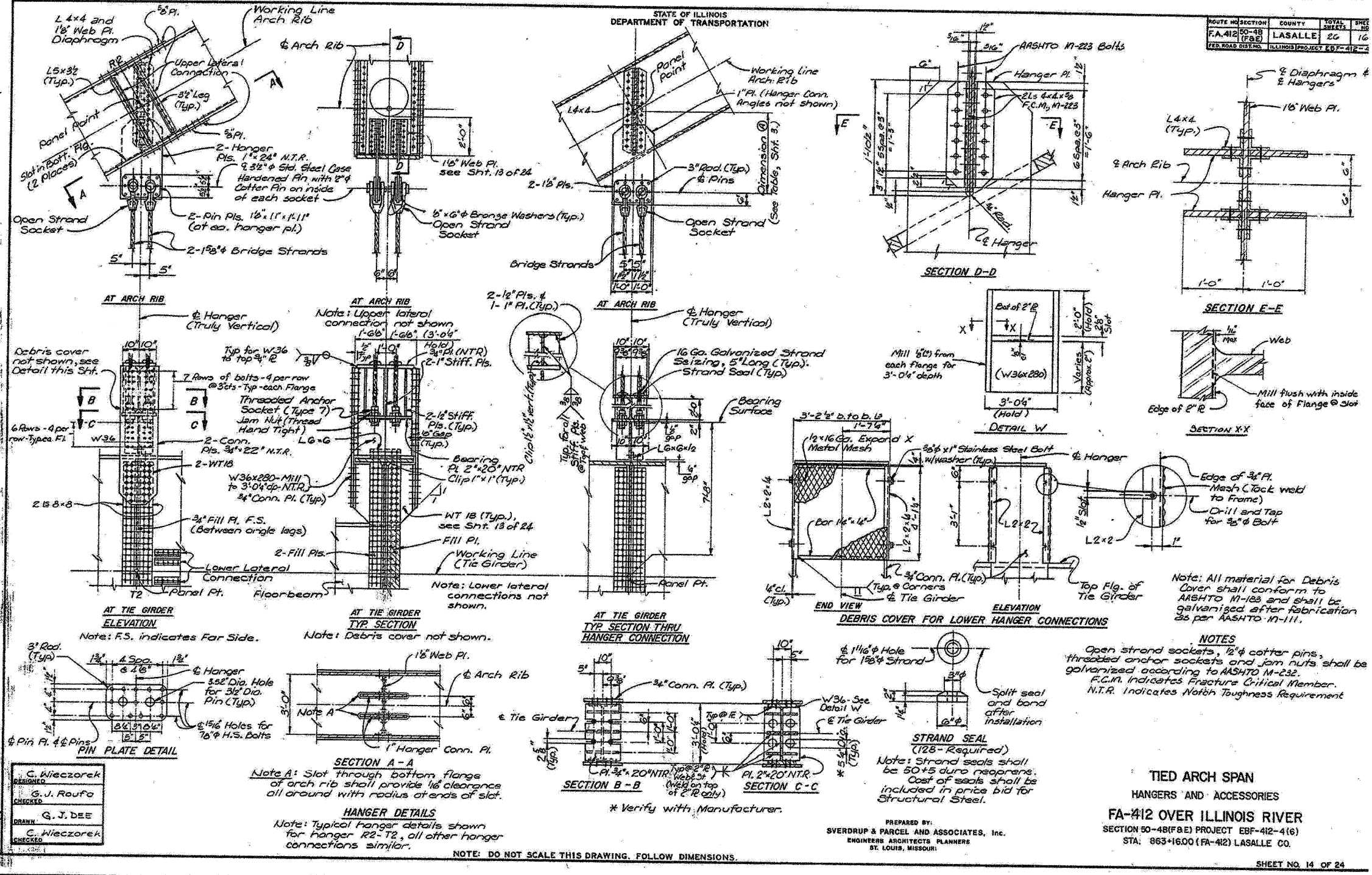
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312-565-0450 Job No. 3938.05

SHEET NO. S5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	39	[(50-4B)BR]I	LASALLE	12	11
SHEETS S6	CONTRACT NO. 66A34		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-412	50-48 (F&E)	LASALLE	26	16
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT EBF-412-2			



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SHEET NO. S6		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEETS S6		39	[(50-48)BRJI]	LASALLE	12	12
		CONTRACT NO. 66A34				
		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

EXISTING TIED ARCH HANGER DETAILS
ABRAHAM LINCOLN MEMORIAL BRIDGE OVER
THE ILLINOIS RIVER (PUBLIC WATERS)

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