

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

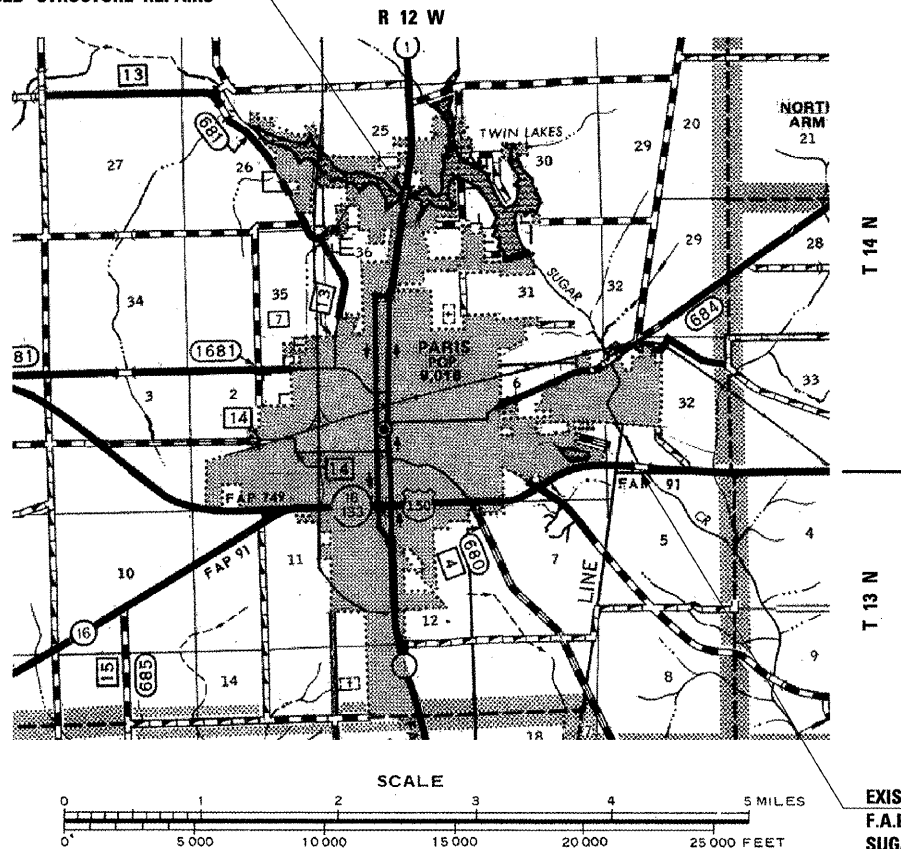
PROPOSED  
HIGHWAY PLANS

FAP ROUTE 332 (US 150/L 1) & FAP ROUTE 91 (US 150)  
SECTION 101BDR & CX-BJR

BRIDGE DECK REPAIR & JOINT REPLACEMENT  
EDGAR COUNTY

C-95-050-10

EXISTING S.N. 023-0024  
F.A.P. 332 (US 150 / IL 1) OVER  
TWIN LAKES  
STA. 911 + 27.95  
PROPOSED STRUCTURE REPAIRS



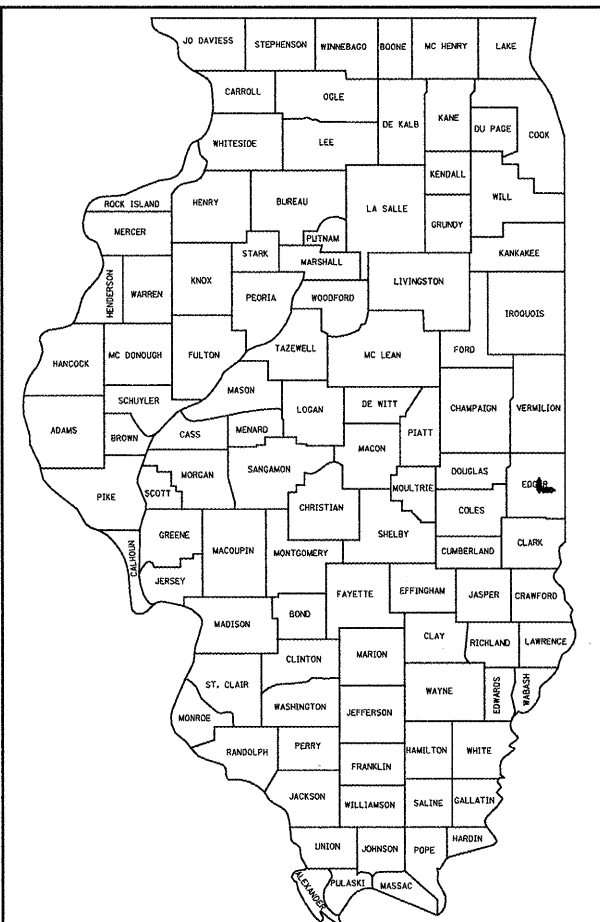
GROSS LENGTH = 429.46 FT. = 0.081 MILE  
NET LENGTH = 429.46 FT. = 0.081 MILE

EXISTING S.N. 023-0013  
F.A.P. 91 (US 150) OVER  
SUGAR CREEK  
STA. 121 + 27.75  
PROPOSED STRUCTURE REPAIRS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	101 BDR & CX-BJR	EDGAR	36	1
		ILLINOIS	CONTRACT NO. 70873	

•332 & 91

D-95-050-10



LOCATION OF SECTION INDICATED THUS: —

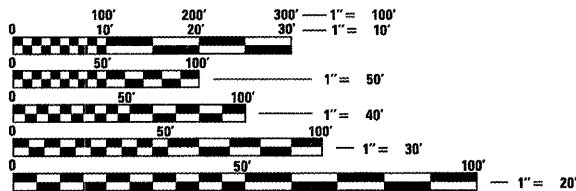
FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

CURRENT  
TRAFFIC DATA

US 150 / IL 1  
2010 ADT = 5,400  
2030 ADT = 5,900

US 150  
2010 ADT = 3,650  
2030 ADT = 4,200

DESIGN DESIGNATION  
NA



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  
TOWNSHIP  
PARIS

PROJECT ENGINEER: TIMOTHY BRANDENBURG  
DESIGNERS: GARY SIMS & RYAN CARROLL  
217-465-4181  
CONTRACT NO. 70873

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
SUBMITTED 12/14/2010  
Jasmin E. Lowe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER  
Feb 4 2011  
Scott E. Stitt, P.E.  
acting ENGINEER OF DESIGN AND ENVIRONMENT  
Feb 4 2011  
Christine M. Readler  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
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3	SUMMARY OF QUANTITIES
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5	S.N. 023-0013 DECK CROSS SECTION
6	S.N. 023-0013 WEARING SURFACE DETAILS
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10	S.N. 023-0013 FLOOR DRAIN DETAILS
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15	S.N. 023-0024 CONCRETE REMOVAL AND PATCHING PLAN
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32	TRAFFIC CONTROL AND PROTECTION (ROAD & SIDEROAD/STREETS CLOSURES)
33 - 36	PAVEMENT MARKING AND MARKERS

LIST OF HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 4.5 (15') AWAY
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 4.5 M (15') TO 600 MM (24") FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 M.P.H.
701311-03	LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
701316-05	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR
701321-11	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701801-04	LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
886001-01	DETECTOR LOOP INSTALLATIONS
886006-01	TYPICAL LAYOUTS FOR DETECTION LOOPS

GENERAL NOTES

G.N.-100  
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-107.31  
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY.

UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PERFORMED. J.U.L.I.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM (800)892-0123 OR 811.

G.N.-406  
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N. -406H

MIXTURE REQUIREMENTS

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

Location(s):	S.N. 023-0013
Mixture Use(s):	Wearing Surface
AC/PG:	PG 64-22
RAP %: (Max)**	15%
Design Air Voids:	4.0% @ N <sub>max</sub> =50
Mixture Composition: (Gradation Mixture)	IL 9.5
Friction Aggregate:	Mix C

G.N.-609  
PRIOR TO ROUTING TRAFFIC ONTO THE SHOULDERS AS SHOWN IN THE STAGING PLANS, THE CONTRACTOR SHALL SECURE THE GRATINGS ON SHOULDER INLETS AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.

G.N.-781  
RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 781001, AND THE DETAILS SHOWN IN THE PLANS. IF THERE IS ANY DISCREPANCY BETWEEN THE STANDARD AND THE DETAILS IN THE PLANS, THE DETAILS IN THE PLANS SHALL GOVERN. THE FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING THE RAISED REFLECTIVE PAVEMENT MARKERS AND THE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED MIDWAY IN THE 30 FOOT (9 m) SPACE BETWEEN THE DASHED CENTERLINE STRIPES (WHEN APPLICABLE).

G.N.-1004.01  
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

COMMITMENTS:  
THE CONTRACTOR SHALL NOTIFY LOCAL RESIDENTS THAT WILL BE AFFECTED BY THE CLOSING OF CIRCLE DRIVE AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF WORK.

AN ADDITIONAL SIGN WILL BE REQUIRED FOR SOUTHBOUND MAINLINE TRAFFIC TO INDICATE THAT WEST LAKE BOAT RAMP TRAFFIC IS TO USE NORTH SHORE DRIVE DUE TO THE CLOSING OF CIRCLE DRIVE. THIS SIGN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE VARIOUS TRAFFIC CONTROL AND PROTECTION ITEMS IN THE CONTRACT.

				*91 & 332													
FILE NAME = c:\pwork\pwork\carroll-t\0212107\057873-shr-cover.dgn	USER NAME = carroll-t	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				INDEX OF SHEETS, LIST OF HIGHWAY STANDARDS & GENERAL NOTES				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -									•	101 BDR & CX-BJR	EDGAR	36	2	
		PLOT SCALE = 40.0000' / IN.	CHECKED -									REVISED -	CONTRACT NO. 70873				
		PLOT DATE = 12/15/2010	DATE -									REVISED -					
				SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT							



SUMMARY OF QUANTITIES

LOCATION OF WORK:

EDGAR CO.  
FAP 91 (US 150)  
RURAL TWO-LANE  
MINOR STUCTURE REPAIR  
023-0013  
100% STATE  
**0014**

EDGAR CO.  
FAP 332 (US 150 / IL 1)  
URBAN TWO-LANE  
MINOR STUCTURE REPAIR  
023-0024  
100% STATE  
**0014**

STRUCTURE NUMBER:

FUNDING BREAKOUT:

CONSTRUCTION TYPE CODE:

CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	73.0	73.0	
50102400	CONCRETE REMOVAL	CU YD	9.9		9.9
50300100	FLOOR DRAINS	EACH	34.0	34.0	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	9.9		9.9
50300300	PROTECTIVE COAT	SQ YD	29.0		29.0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	880.0		880.0
50800515	BAR SPLICERS	EACH	10.0		10.0
52000110	PREFORMED JOINT STRIP SEAL	FOOT	68.0		68.0
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	899.0	899.0	
67100100	MOBILIZATION	L SUM	1.0	1.0	
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1.0	0.5	0.5
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1.0	1.0	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1.0	0.5	0.5
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2.0	1.0	1.0
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	309.0	212	97.0
70400100	TEMPORARY CONCRETE BARRIER	FOOT	325.0		325.0
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	325.0		325.0
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,237.0	850.0	387.0
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	7.0	7.0	
* 78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	7.0	7.0	
<del>X5080600</del>	<del>MECHANICAL SPLICERS</del>	<del>EACH</del>	<del>10.0</del>		<del>10.0</del>
* X7200201	WIDTH RESTRICTION SIGNING	L SUM	1.0		1.0
Z0001800	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	26.0		26.0
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	870.0	870.0	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	179.0	179.0	
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	130.0	130.0	
Z0021908	SILICONE JOINT SEALER, 2"	FOOT	41.0	41.0	
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2.0		2.0
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2.0		2.0

\* SPECIALTY ITEMS

FILE NAME :  
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USER NAME : carrollr

DESIGNED -  
DRAWN -

REVISED -  
REVISED -

PLOT SCALE : 40.0000 ' / IN.

CHECKED -  
DATE -

PLOT DATE : 12/10/2010

DATE -

REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

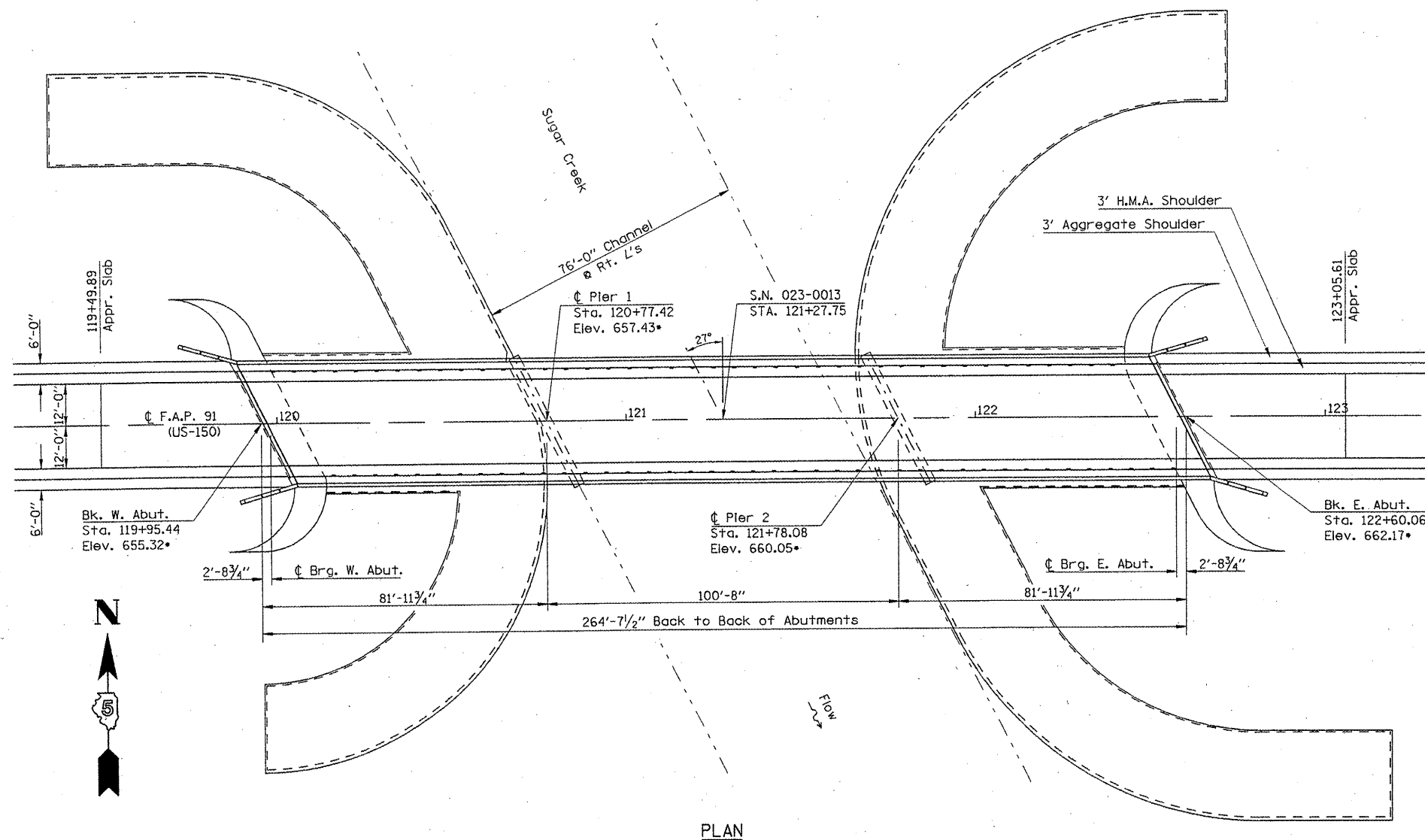
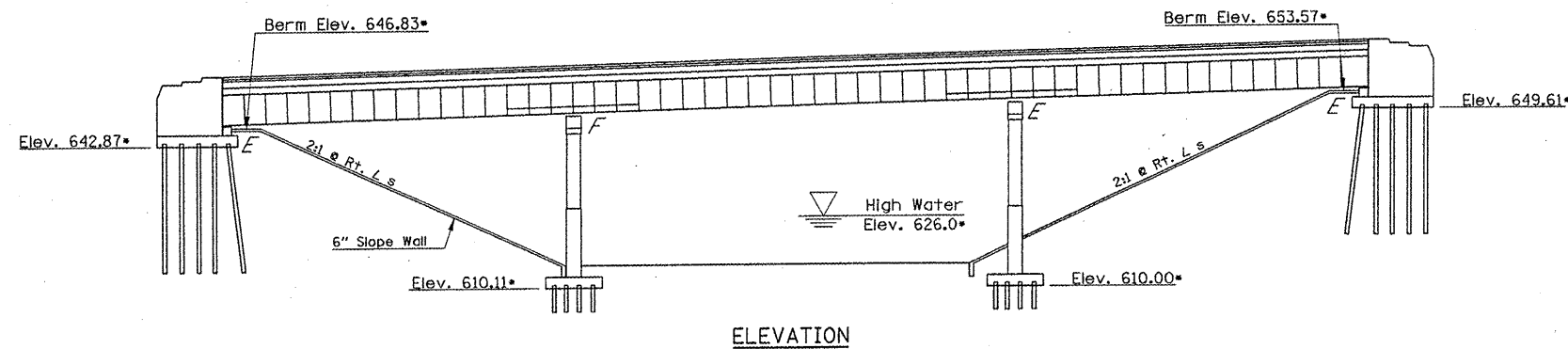
SUMMARY OF QUANTITIES

SCALE: SHEET NO. OF SHEETS STA. TO STA.

•91 & 332  
F.A.P.  
RTE.  
SECTION  
COUNTY  
TOTAL  
SHEETS  
SHEET  
NO.  
101 BDR & CX-BJR  
EDGAR  
36  
3  
CONTRACT NO. 70873  
ILLINOIS FED. AID PROJECT

# GENERAL PLAN & ELEVATION S.N. 023-0013

ELEVATIONS PROVIDED ON THIS SHEET WERE TAKEN FROM AS-BUILT PLANS OF THE EXISTING STRUCTURE AND HAVE BEEN INCLUDED FOR PERSPECTIVE ONLY.



THE EXISTING STRUCTURE WAS BUILT IN 1966 BY THE STATE OF ILLINOIS AS S.B.I. ROUTE 134, SECTION 101 BR AT STATION 121+28 IN EDGAR COUNTY. THE STRUCTURE WAS IMPROVED IN 1986 WITH F.A. ROUTE 91, SECTION 101BR-1. WITH THAT SECTION, THE ORIGINAL STEEL ROCKER BEARINGS WERE REPLACED WITH ELASTOMERIC BEARINGS. IN AUGUST OF 2009, THE DISTRICT BRIDGE CREW REMOVED THE HATCH BLOCKS AND PREFORMED JOINT SEALS AND REPLACED THEM WITH NEW HATCH BLOCKS AND SILICONE JOINT SEALER. THE STRUCTURE CARRIES F.A.P. 91 (US-150) OVER SUGAR CREEK 1 MILE EAST OF PARIS.

THE SUPERSTRUCTURE CONSISTS OF AN 7" R.C. DECK WITH A WATERPROOFING MEMBRANE SYSTEM AND A 1 1/2" H.M.A. WEARING SURFACE SUPPORTED BY FIVE 63" PLATE GIRDERS. THE DECK WAS CONSTRUCTED WITH GALVANIZED STAY-IN-PLACE FORMS. THE FORM-WORK HAS BEEN REMOVED IN THE OUTER BAYS AND PARTIALLY REMOVED AT THE WEST END OF THE SOUTH INNER BAY. THE SUPERSTRUCTURE IS SUPPORTED BY TWO COLUMN PIERS ON SPREAD FOOTINGS AND TIMBER PILES AND TWO SPILL-THRU ABUTMENTS ON CONCRETE PILES. THE STRUCTURE MEASURES 264'-7 1/2" FROM BACK TO BACK OF ABUTMENTS. THE DECK HAS A CLEAR WIDTH OF 30'-0" FROM FACE TO FACE OF CURB AND AN OUT-TO-OUT WIDTH OF 36'-0".

METHOD OF CONSTRUCTION: STAGE CONSTRUCTION

SEE PROPOSED IMPROVEMENTS ON THIS SHEET.

## PROPOSED WORK

1. REMOVE EXISTING WATERPROOFING MEMBRANE SYSTEM AND H.M.A. WEARING SURFACE ON DECK.
2. PERFORM FULL AND PARTIAL-DEPTH DECK PATCHING.
3. PLACE NEW FLOOR DRAINS IN DECK.
4. PLACE WATERPROOFING MEMBRANE SYSTEM AND 1 1/2" H.M.A. WEARING SURFACE ON BRIDGE DECK.
5. REMOVE AND REPLACE SILICONE JOINT FILLER AT EAST JOINT.

## TOTAL BILL OF MATERIALS

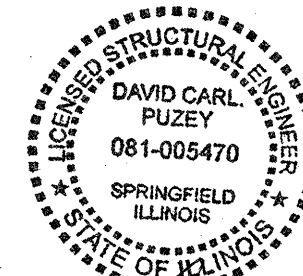
ITEM	UNIT	TOTAL
H.M.A. SURFACE REMOVAL (DECK)	SQ YD	870.0
DECK SLAB REPAIR (PARTIAL)	SQ YD	130.0
DECK SLAB REPAIR (FULL-DEPTH, TY II)	SQ YD	179.0
FLOOR DRAINS	EACH	34.0
WATERPROOFING MEMBRANE SYSTEM	SQ YD	899.0
H.M.A. SURFACE CSE. MIX C, N-50	TON	73.0
SILICONE JOINT SEALER, 2"	FOOT	41.0

## GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE 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 WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

SEE SPECIAL PROVISION "DECK SLAB REPAIR" FOR ADDITIONAL REQUIREMENTS PERTAINING TO DECK SLAB REPAIR AND H.M.A. SURFACE REMOVAL (DECK).

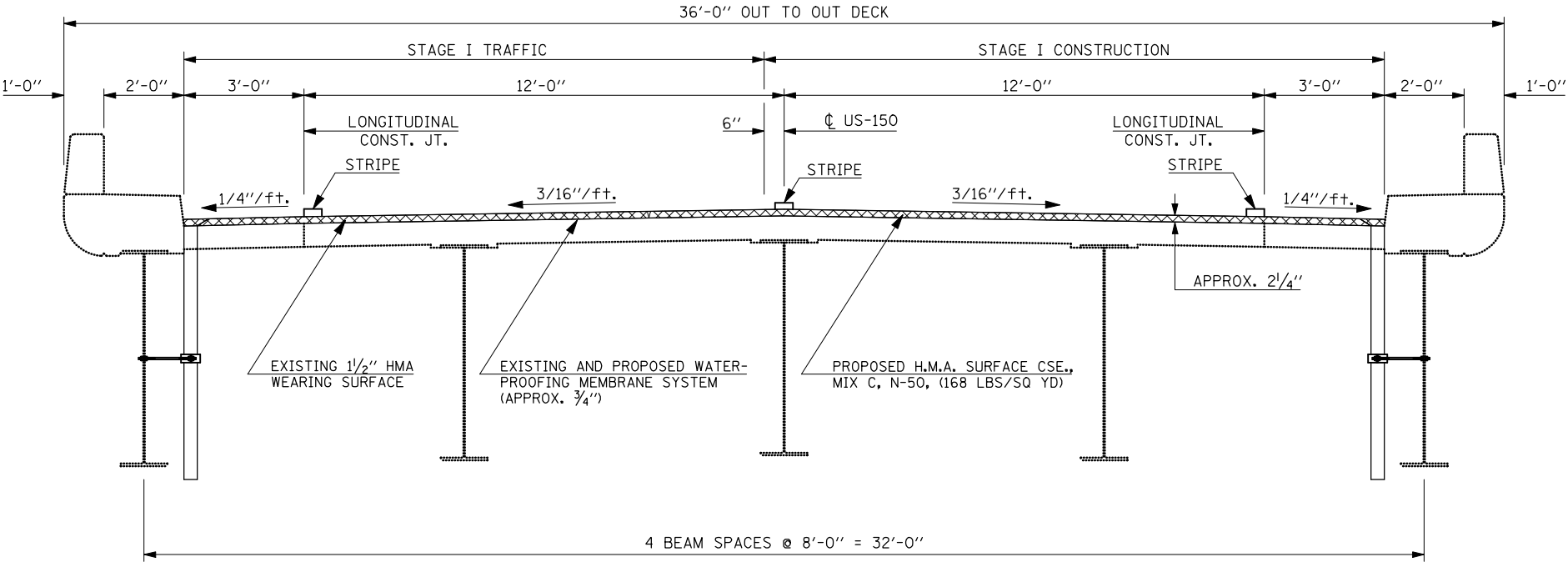
THE EXISTING STRUCTURE HAS BEEN FOUND TO CONTAIN NO ASBESTOS.



*David Carl Puzey* 2/7/11  
Expires 11/30/2012

										*91 & 332											
FILE NAME =		USER NAME = carrollrt	DESIGNED - GMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION					GENERAL PLAN & ELEVATION S.N. 023-0013					F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
c:\pw\work\pawid\carrollrt\0212096\8-Bridge Repairs - 023-0013.dgn			DRAWN - GMS	REVISED -						*	101 BDR & CX-BJR	EDGAR	36	4							
PLOT SCALE = 40.0000' / IN.			CHECKED -	REVISED -						SCALE:					SHEET NO. 1 OF 9 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT
PLOT DATE = 12/10/2010			DATE -	REVISED -														CONTRACT NO. 70873			

DECK CROSS SECTION  
S.N. 023-0013

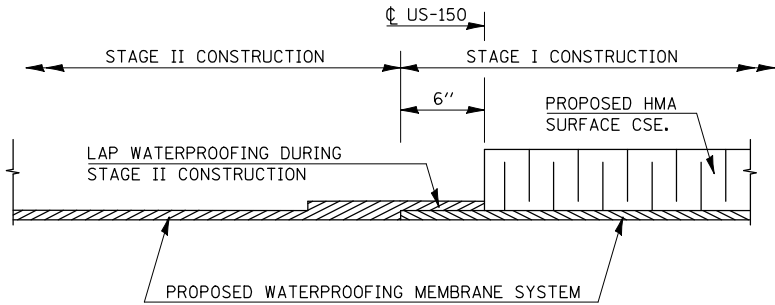
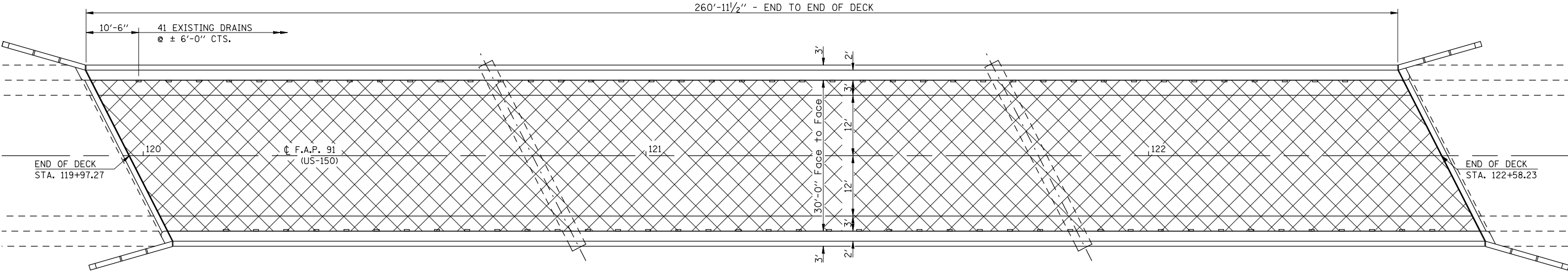


•91 & 332

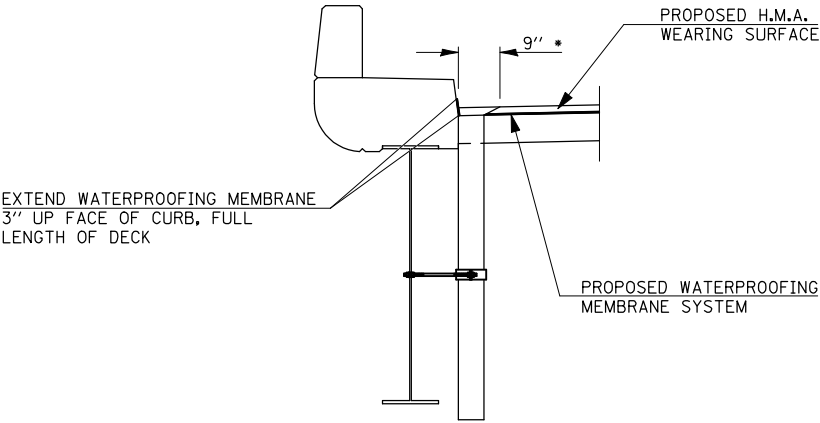
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		DRAWN - GMS	REVISED -					*	101 BDR & CX-BJR	EDGAR	36	5
		PLOT SCALE = 40.0001' / IN.	CHECKED -		REVISED -	CONTRACT NO. 70873						
		PLOT DATE = 12/10/2010	DATE -		REVISED -	SCALE:	SHEET NO. 2 OF 9 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT



**WEARING SURFACE DETAILS**  
**S.N. 023-0013**




**WATERPROOFING TREATMENT  
AT STAGE CONSTRUCTION**



**SECTION AT DRAIN**

\* SEE SHEET 7 OF 9 FOR PROPOSED FLOOR DRAIN DETAILS

**LEGEND**

 H.M.A. SURFACE REMOVAL (DECK) & PROPOSED  
H.M.A. WEARING SURFACE AND WATERPROOFING  
MEMBRANE SYSTEM

**BILL OF MATERIALS**

ITEM	UNIT	TOTAL
H.M.A. SURFACE REMOVAL (DECK)	SQ YD	870.0
WATERPROOFING MEMBRANE SYSTEM	SQ YD	899.0
H.M.A. SURFACE COURSE, MIX C, N-50	TON	73.0

•91 & 332

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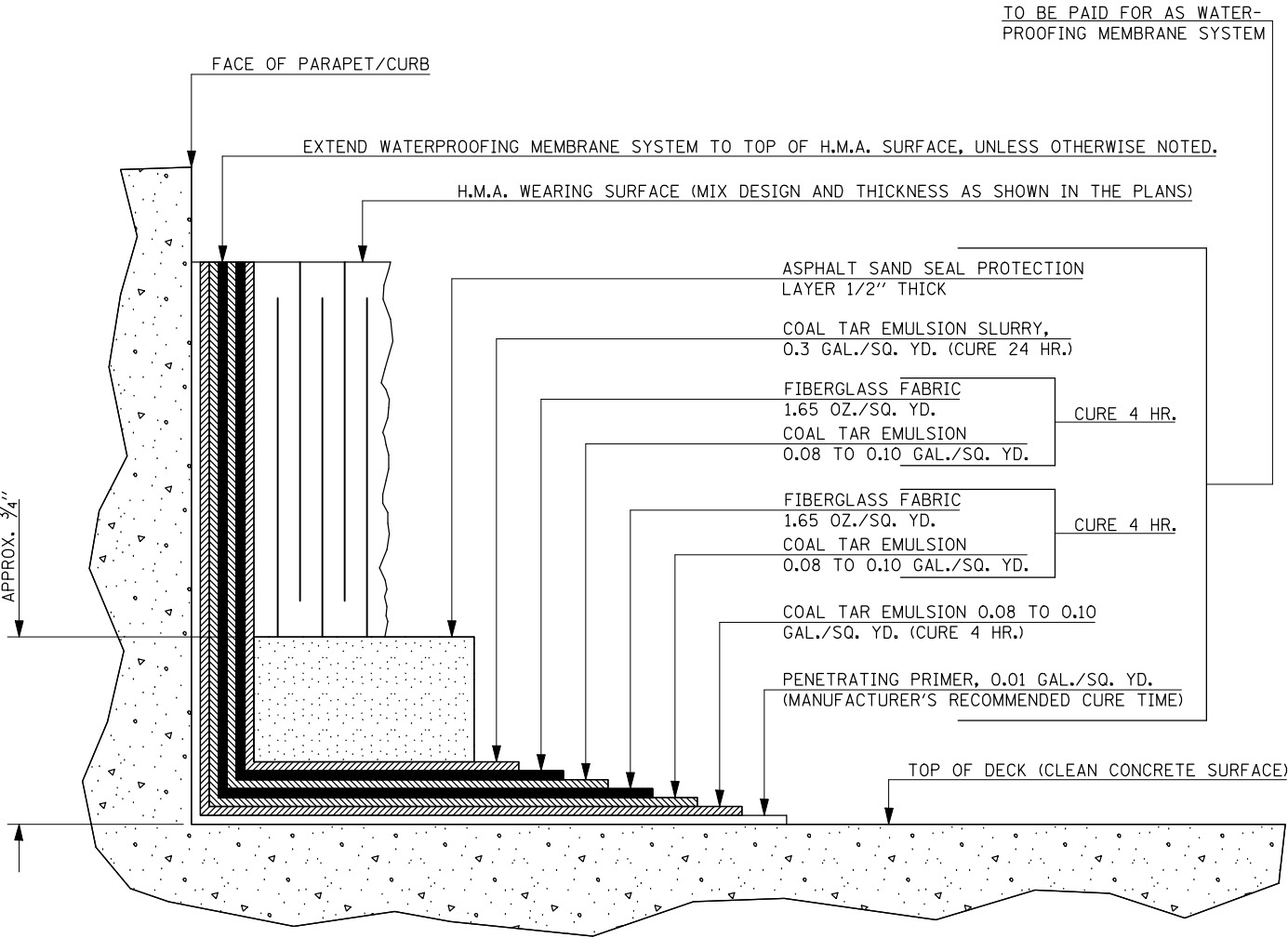
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WEARING SURFACE DETAILS**  
**S.N. 023-0013**

SCALE: SHEET NO. 3 OF 9 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	6
CONTRACT NO. 70873				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

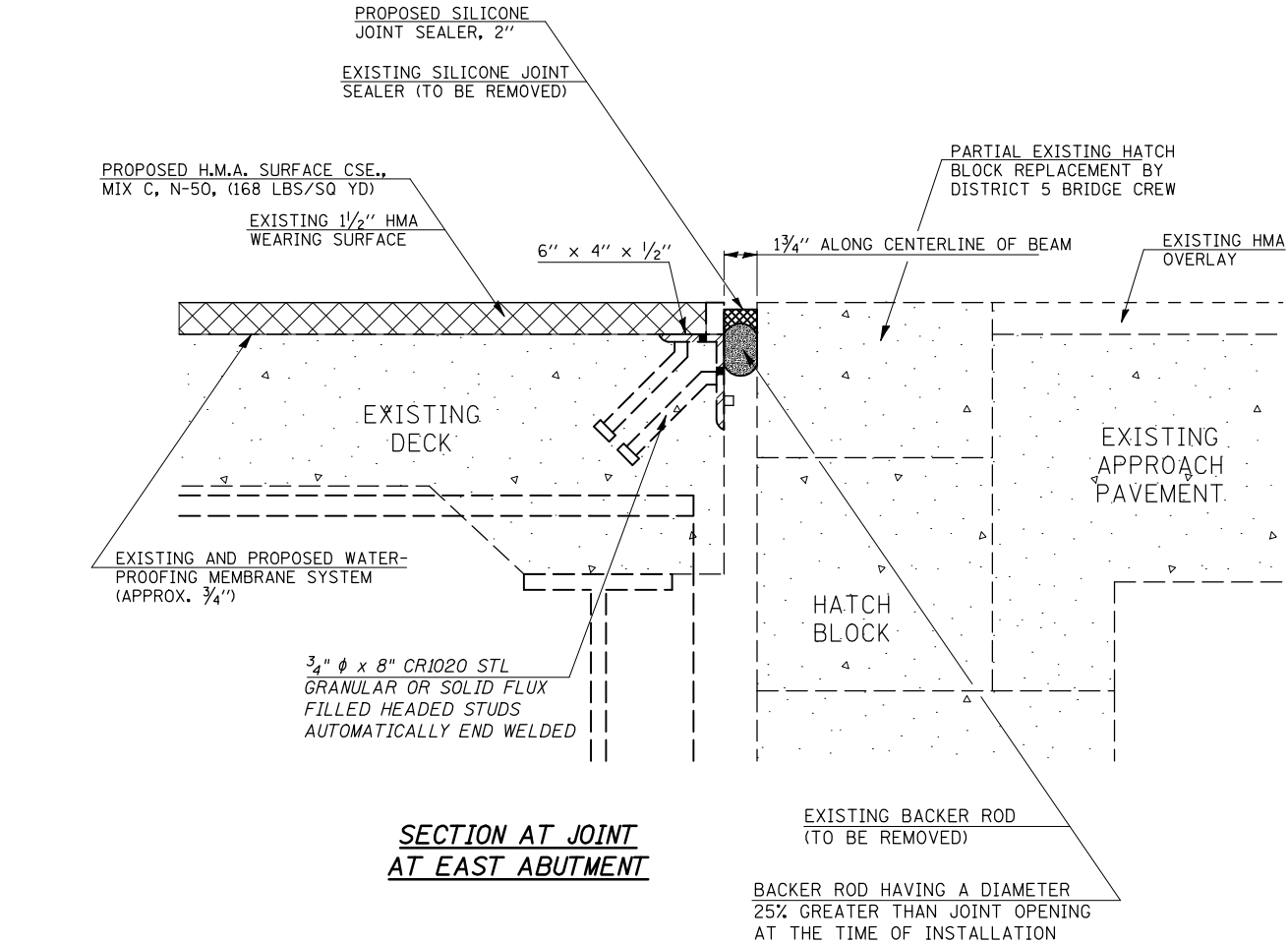
WATERPROOFING MEMBRANE SYSTEM  
S.N. 023-0013



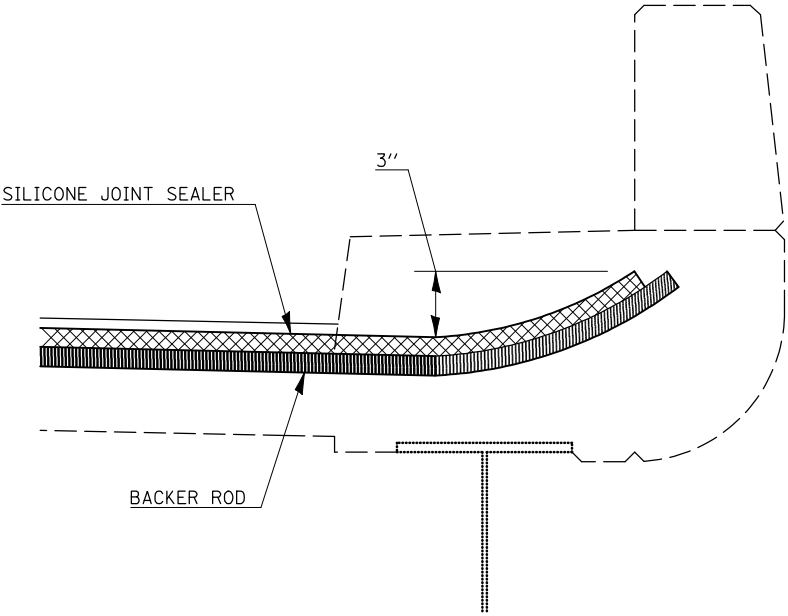
NOTES

THIS DETAIL HAS BEEN INCLUDED TO ILLUSTRATE THE ASSOCIATED LAYERS AND CURE TIMES NECESSARY FOR THE PLACEMENT OF THE WATERPROOFING MEMBRANE SYSTEM. THIS DETAIL SHALL SUPPLEMENT, NOT SUPERSEDE, SECTION 581 OF THE STANDARD SPECIFICATIONS.

SILICONE JOINT REPLACEMENT  
S.N. 023-0013  
(EAST ABUTMENT ONLY)



SECTION AT JOINT  
AT EAST ABUTMENT



SECTION AT PARAPET

NOTES

REMOVE EXISTING SILICONE JOINT SEALER AND BACKER ROD AND REPLACE WITH NEW SILICONE JOINT SEALER AND BACKER ROD.

REMOVAL OF THE EXISTING SILICONE JOINT SEALER AND BACKER ROD AND PREPARATION OF SURFACES THAT THE PROPOSED JOINT SEALER WILL BE IN CONTACT WITH IS INCLUDED IN THE COST OF SILICONE JOINT SEALER, 2". SEE SPECIAL PROVISIONS.

BILL OF MATERIALS

ITEM	UNIT	TOTAL
SILICONE JOINT SEALER, 2"	FOOT	41.0

•91 & 332

FILE NAME =	USER NAME = carrollrt	DESIGNED - GMS	REVISED -
ct\pw\work\p\id\carrollrt\0212096\Bridge Repairs - 023-0013.dgn		DRAWN - GMS	REVISED -
PLOT SCALE = 40.0000 ' / IN.		CHECKED -	REVISED -
PLOT DATE = 12/10/2010		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WATERPROOFING MEMBRANE SYSTEM & SILICONE JOINT REPLACEMENT  
S.N. 023-0013

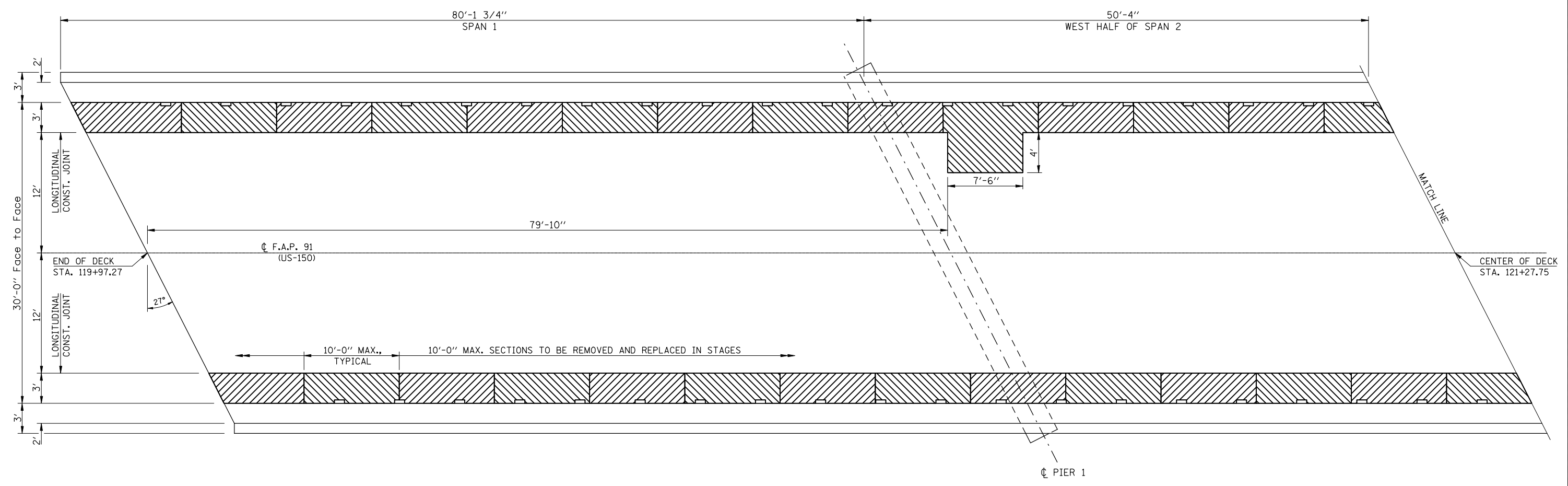
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	7
CONTRACT NO. 70873				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				





DECK SLAB REPAIR PLAN  
S.N. 023-0013



NOTES

LONGITUDINAL REMOVAL FOR DECK SLAB REPAIR (FULL-DEPTH, TY II) MUST BE DONE IN ALTERNATING SECTIONS OF NO MORE THAN 10 FEET. ADJACENT SECTIONS MUST NOT BE REMOVED UNTIL BOTH OF THE FOLLOWING REQUIREMENTS ARE MET:

1. AT LEAST 72 HOURS SHALL HAVE ELAPSED FROM THE END OF THE PREVIOUS POUR, AND
2. THE CONCRETE SHALL HAVE ATTAINED A MINIMUM MODULUS OF RUPTURE OF 650 PSI OR A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI.

\* AREA OF DECK SLAB REPAIR (PARTIAL) HAS BEEN ESTIMATED. THE ACTUAL QUANTITY AND LOCATIONS SHALL BE DETERMINED BY THE ENGINEER AFTER THE EXISTING H.M.A. WEARING SURFACE AND WATERPROOFING MEMBRANE ARE REMOVED. THE ENGINEER SHALL SHOW THE ACTUAL LOCATIONS OF ALL DECK REPAIRS ON THIS SHEET.

SEE SHEET 7 OF 9 FOR LOCATIONS AND DETAILS OF PROPOSED FLOOR DRAINS. THE DECK CONTAINS APPROXIMATELY 84 EXISTING DECK DRAINS IN ALL. REMOVAL OF THE EXISTING DECK DRAINS SHALL BE INCLUDED IN THE COST OF DECK SLAB REPAIR (FULL-DEPTH, TY II).

LEGEND

- DECK SLAB REPAIR (FULL DEPTH, TY II) - STAGES I & III
- DECK SLAB REPAIR (FULL DEPTH, TY II) - STAGES II & IV

BILL OF MATERIALS (HALF OF DECK)

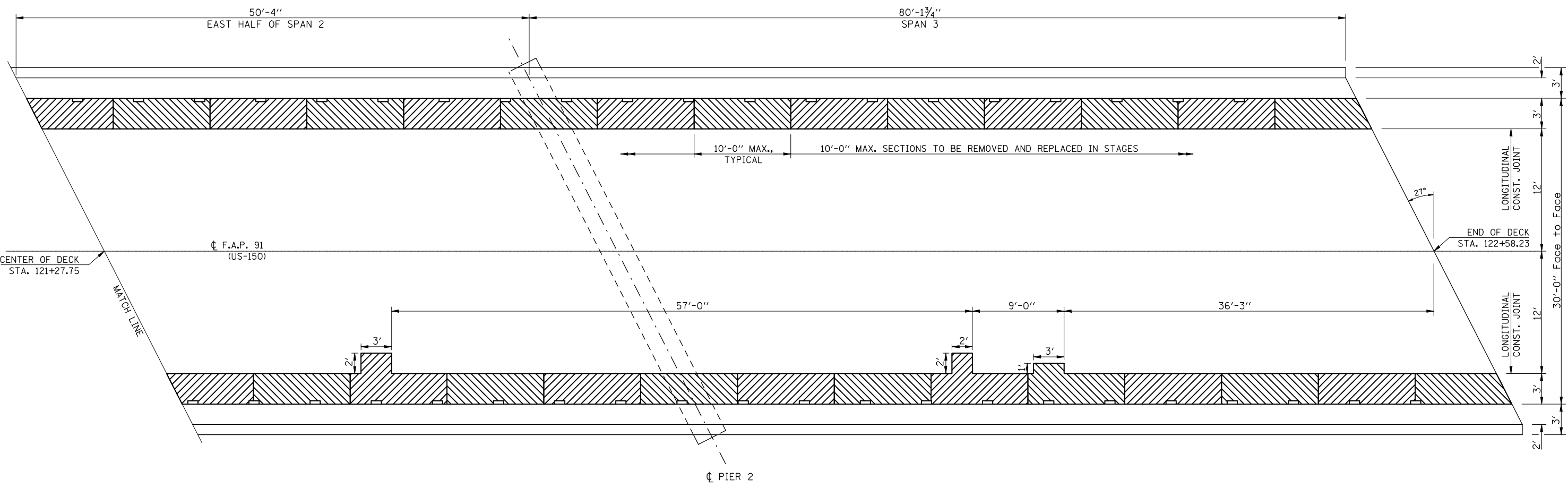
ITEM	UNIT	TOTAL
DECK SLAB REPAIR (PARTIAL) *	SQ YD	65.0
DECK SLAB REPAIR (FULL-DEPTH, TY II)	SQ YD	90.5

•91 & 332

FILE NAME =	USER NAME = carrollr	DESIGNED - GMS	REVISED -	<div>STATE OF ILLINOIS</div> <div>DEPARTMENT OF TRANSPORTATION</div>	<div>DECK SLAB REPAIR PLAN</div> <div>S.N. 023-0013</div>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pw\work\pwidth\carrollr\d0212096\Bridge Repairs - 023-0013.dgn	DRAWN - GMS	REVISED -	*					101 BDR & CX-BJR	EDGAR	36	8	
	PLOT SCALE = 40.0001' / IN.	CHECKED -	REVISED -		SCALE:		SHEET NO. 5 OF 9 SHEETS		STA.		TO STA.	
	PLOT DATE = 12/10/2010	DATE -	REVISED -				FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 70873	



DECK SLAB REPAIR PLAN  
S.N. 023-0013



NOTES

LONGITUDINAL REMOVAL FOR DECK SLAB REPAIR (FULL-DEPTH, TY II) MUST BE DONE IN ALTERNATING SECTIONS OF NO MORE THAN 10 FEET. ADJACENT SECTIONS MUST NOT BE REMOVED UNTIL BOTH OF THE FOLLOWING REQUIREMENTS ARE MET:

1. AT LEAST 72 HOURS SHALL HAVE ELAPSED FROM THE END OF THE PREVIOUS POUR, AND
2. THE CONCRETE SHALL HAVE ATTAINED A MINIMUM MODULUS OF RUPTURE OF 650 PSI OR A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI.

\* AREA OF DECK SLAB REPAIR (PARTIAL) HAS BEEN ESTIMATED. THE ACTUAL QUANTITY AND LOCATIONS SHALL BE DETERMINED BY THE ENGINEER AFTER THE EXISTING H.M.A. WEARING SURFACE AND WATERPROOFING MEMBRANE ARE REMOVED. THE ENGINEER SHALL SHOW THE ACTUAL LOCATIONS OF ALL DECK REPAIRS ON THIS SHEET.

SEE SHEET 7 OF 9 FOR LOCATIONS AND DETAILS OF PROPOSED FLOOR DRAINS. THE DECK CONTAINS APPROXIMATELY 84 EXISTING DECK DRAINS IN ALL. REMOVAL OF THE EXISTING DECK DRAINS SHALL BE INCLUDED IN THE COST OF DECK SLAB REPAIR (FULL-DEPTH, TY II).

LEGEND

- DECK SLAB REPAIR (FULL DEPTH, TY II) - STAGES I & III
- DECK SLAB REPAIR (FULL DEPTH, TY II) - STAGES II & IV

BILL OF MATERIALS (HALF OF DECK)

ITEM	UNIT	TOTAL
DECK SLAB REPAIR (PARTIAL) *	SQ YD	65.0
DECK SLAB REPAIR (FULL-DEPTH, TY II)	SQ YD	88.5

•91 & 332

FILE NAME = c:\pwork\pwidth\carrollr\t\d0212096\Bridg	USER NAME = carrollr	DESIGNED - GMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK SLAB REPAIR PLAN S.N. 023-0013			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	Bridge Repairs - 023-0013.dgn	DRAWN - GMS	REVISED -					*	101 BDR & CX-BJR	EDGAR	36	9	
	PLOT SCALE = 40.0000 ' / IN.	CHECKED -	REVISED -		SCALE:		SHEET NO. 6 OF 9 SHEETS		STA.		TO STA.		
	PLOT DATE = 12/10/2010	DATE -	REVISED -						FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
												CONTRACT NO. 70873	

± 19'-6"

• 4 SPACES @ 12'-0" = 48'-0"

28'-0"

14'-0"

14'-0"

• 6 SPACES @ 12'-0" = 72'-0"

28'-0"

14'-0"

14'-0"

• 4 SPACES @ 12'-0" = 48'-0"

± 19'-6"

17 FLOOR DRAINS (EACH SIDE)

END OF DECK  
STA. 119+97.27

120

CL F.A.P. 91  
(US-150)

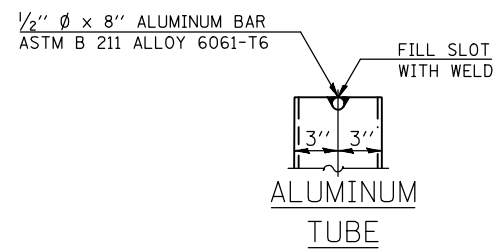
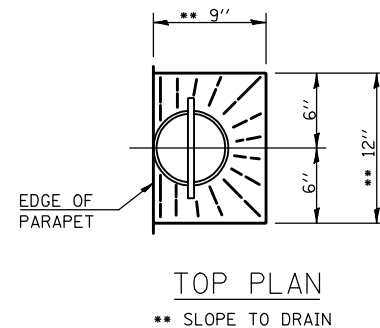
121

122

END OF DECK  
STA. 122+58.23

A

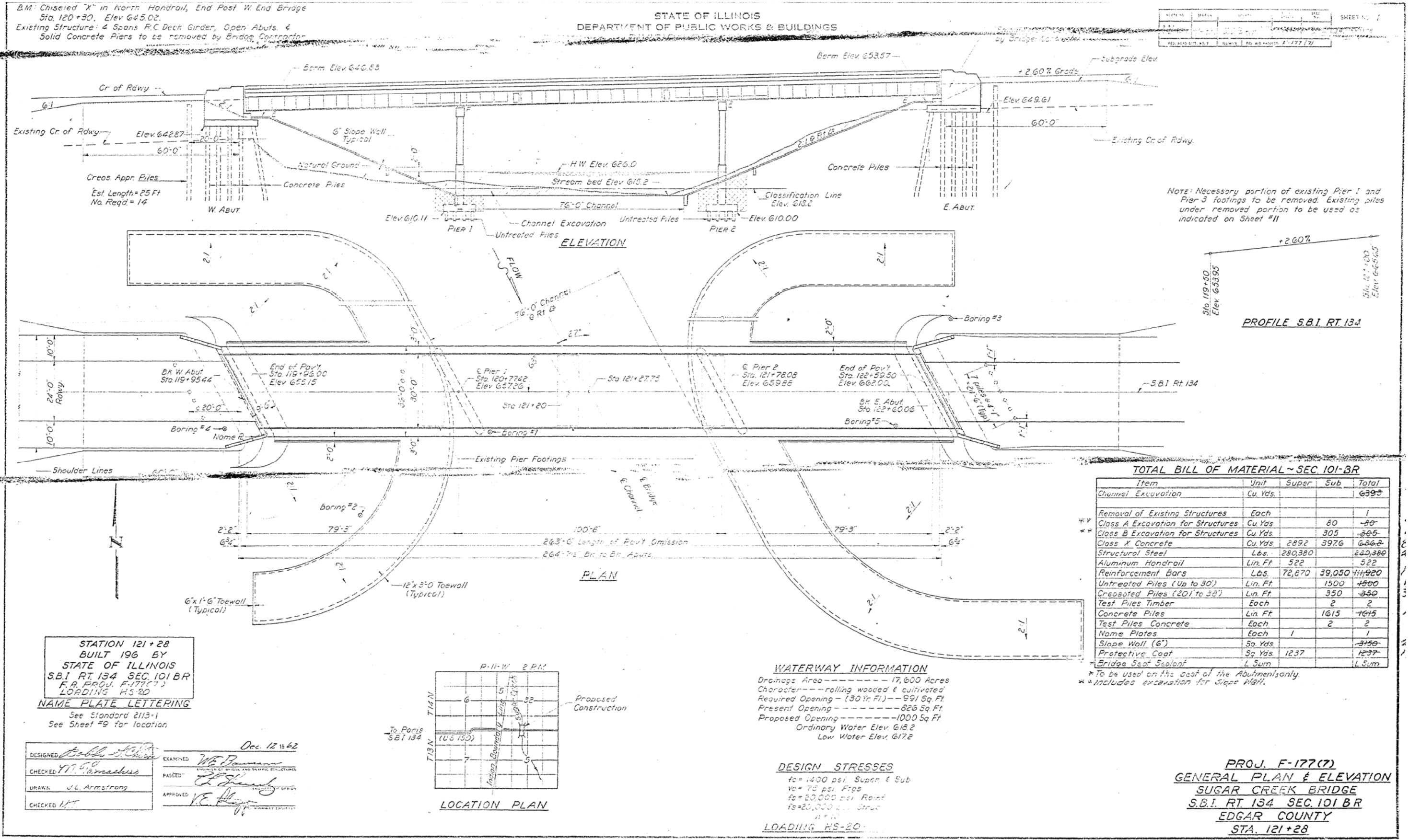
A



ITEM	UNIT	TOTAL
FLOOR DRAINS	EACH	34.0

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	10
		CONTRACT NO. 70873		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

AS-BUILT PLANS  
FOR INFORMATION ONLY



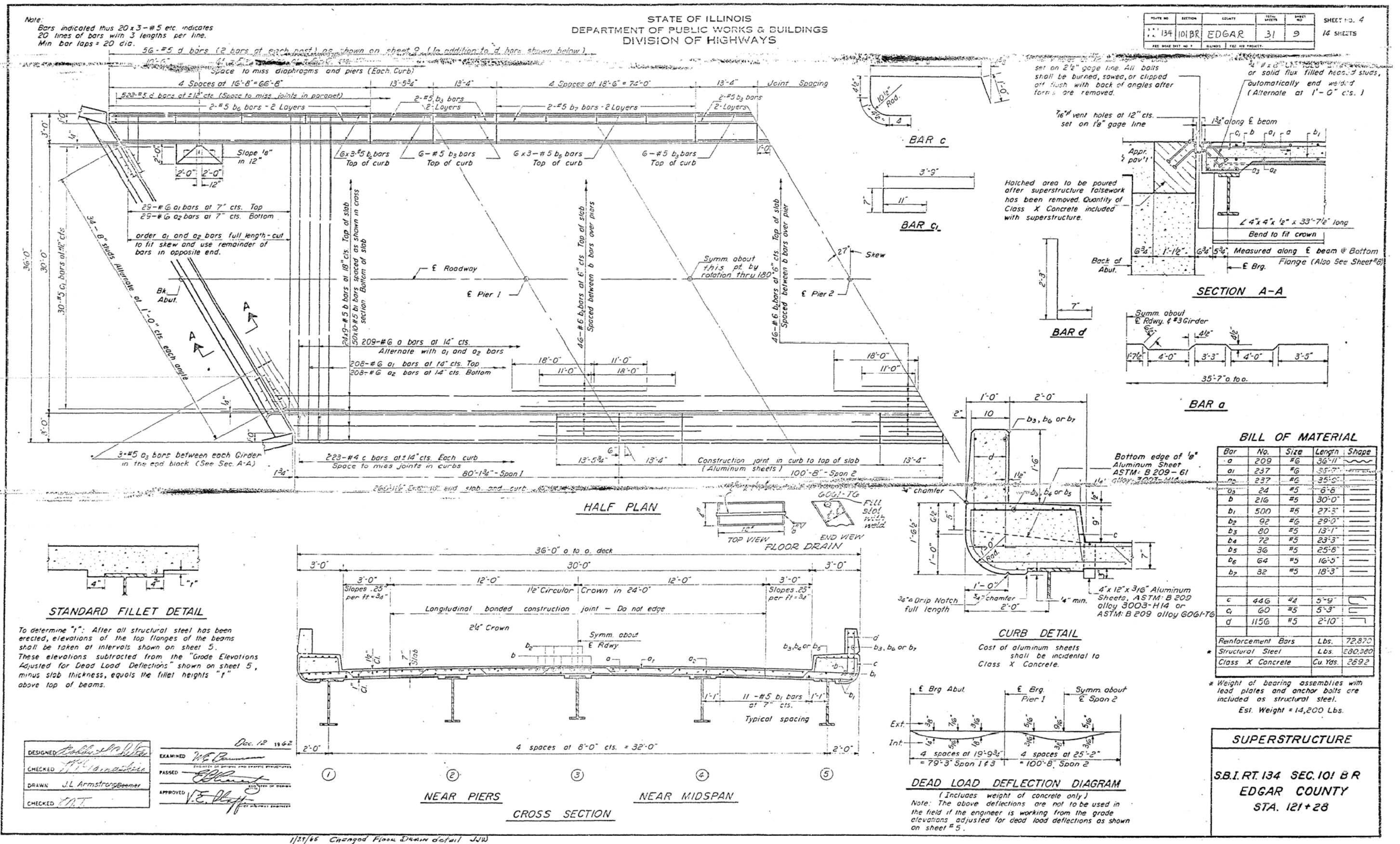
TOTAL BILL OF MATERIAL - SEC. 101-BR

Item	Unit	Super	Sub	Total
Channel Excavation	Cu. Yds.			639.3
Removal of Existing Structures	Each			1
Class A Excavation for Structures	Cu. Yds.		80	80
Class B Excavation for Structures	Cu. Yds.		305	305
Class X Concrete	Cu. Yds.	2892	3976	6868
Structural Steel	Lbs.	280,380		280,380
Aluminum Handrail	Lin. Ft.	522		522
Reinforcement Bars	Lbs.	72,870	39,050	111,920
Untreated Piles (Up to 30')	Lin. Ft.		1500	1500
Crested Piles (20' to 38')	Lin. Ft.		350	350
Test Piles Timber	Each		2	2
Concrete Piles	Lin. Ft.		1615	1615
Test Piles Concrete	Each		2	2
Name Plates	Each	1		1
Slope Wall (6')	Sq. Yds.			2150
Protective Coat	Sq. Yds.			1237
Bridge Seat Sealant	L. Sum			L. Sum

\* To be used on the east of the Abutment only.  
\*\* Includes excavation for Slope Wall.

PROJ. F-177(7)  
GENERAL PLAN & ELEVATION  
SUGAR CREEK BRIDGE  
S.B.I. RT. 134 SEC. 101 BR  
EDGAR COUNTY  
STA. 121+28

**AS-BUILT PLANS**  
**FOR INFORMATION ONLY**





The Existing Structure was built in 1979 by the State of Illinois as F.A.P.  
Route 132, Section (C-X)BR at Station 911+27.95 in Edgar Co.

The structure is a 2 span concrete deck on steel beams, pile bent pier, & spill  
through abutments with a back to back abutment length of 128'-6". The structure  
has an out to out width of 66'-0", consisting of 2 - 12' lanes, 2 - 7'-5"  
shoulders, and 2 - 11' multi-use pathways.

Method of Construction: Staged Construction

See proposed improvements.

## GENERAL PLAN AND ELEVATION S.N. 023-0024

### PROPOSED IMPROVEMENTS

1. Partial removal of deck and parapets at South end of structure.
2. Removal of existing joint at South abutment.
3. Removal of hatch block at South abutment.
4. Place reinforcement bars, locking edge rail, and studs.
5. Pour deck ends.
6. Pour hatch block.
7. Insert Rubber Strip Seal into Locking Edge Rails.
8. Pour parapet ends.

### TOTAL BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	CU YD	9.9
Concrete Superstructure	CU YD	9.9
Protective Coat	SQ YD	29.0
Reinforcement Bars, Epoxy Coated	POUND	880.0
Preformed Joint Strip Seal	FOOT	68.0
Bar Splicers	EACH	10.0
Approach Slab Repair (Partial Depth)	SQ YD	26.0

### GENERAL NOTES

The deck ends, hatch blocks and approach pavement shall have its  
final surface tined according to Article 420.09 (e) (1) of the Standard  
Specifications. Cost to be included with concrete superstructure.

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

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

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

Reinforcement bars designated (E) shall be epoxy coated.

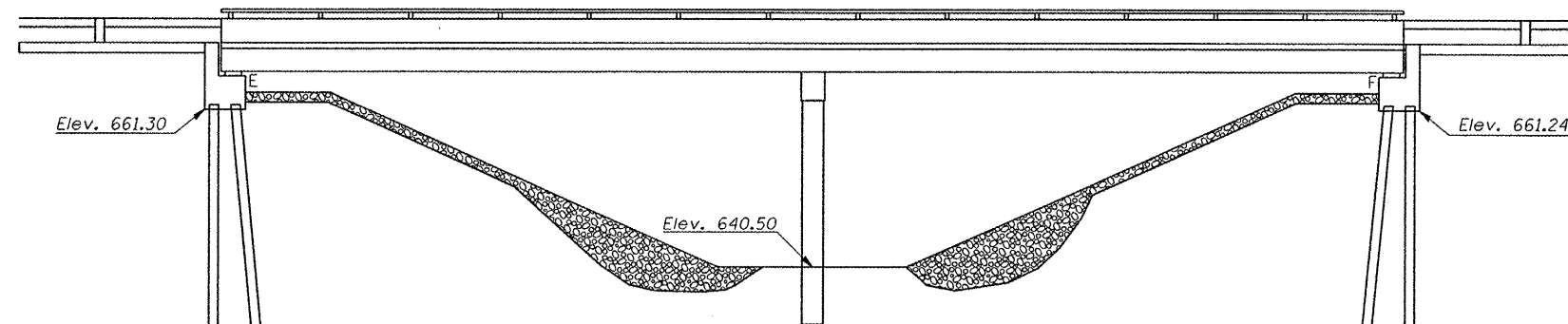
Prior to pouring the new concrete deck, all heavy or loose rust, loose  
mill scale, and other loose or potentially detrimental foreign material  
shall be removed from the surface in contact with concrete. Tightly  
adhered paint may remain unless otherwise noted. Removal shall be  
accomplished by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

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".

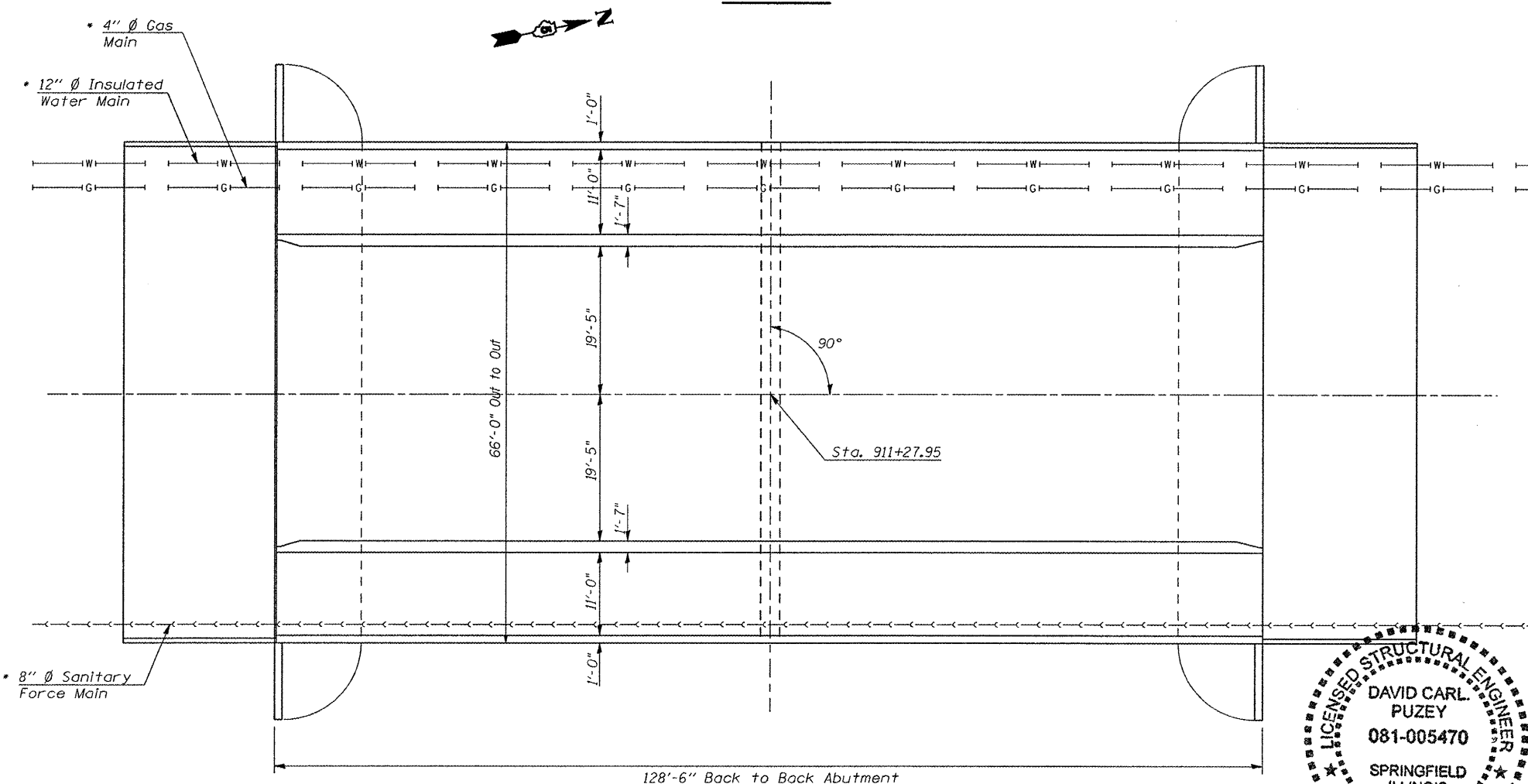
Existing reinforcement bars extending into the removal area shall be  
cleaned, straightened and incorporated into the new construction. Any  
reinforcement bars that are damaged during concrete removal shall be  
replaced with an approved bar splicer or anchorage system. Cost  
included with Concrete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

Joint openings shall be adjusted according to article 520.04 of the Std.  
Specs. when the deck is poured at an ambient temperature other than  
50° F.

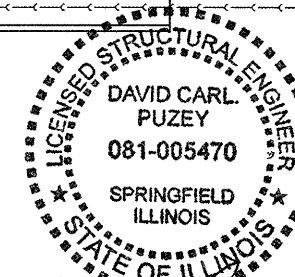
\*It is the responsibility of the contractor to  
communicate with the appropriate city authorities  
and utility company regarding the gas, water and  
sewer mains. Proper precautions must be made  
accordingly and all damages will be at the cost of  
the contractor.



ELEVATION



PLAN



David Carl Puzey 2/7/11  
Expires 11/30/2012

FILE NAME : c:\pwork\pudot\carroll\t\d0212096\Bri	USER NAME : carrollrt Bridge Repairs - 023-0024.dgn	DESIGNED R. Carroll	REVISED -
		DRAWN R. Carroll	REVISED -
	PLOT SCALE : 40.0000' / IN.	CHECKED T. Brandenburg	REVISED -
	PLOT DATE : 2/7/2011	DATE 10/1/2010	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

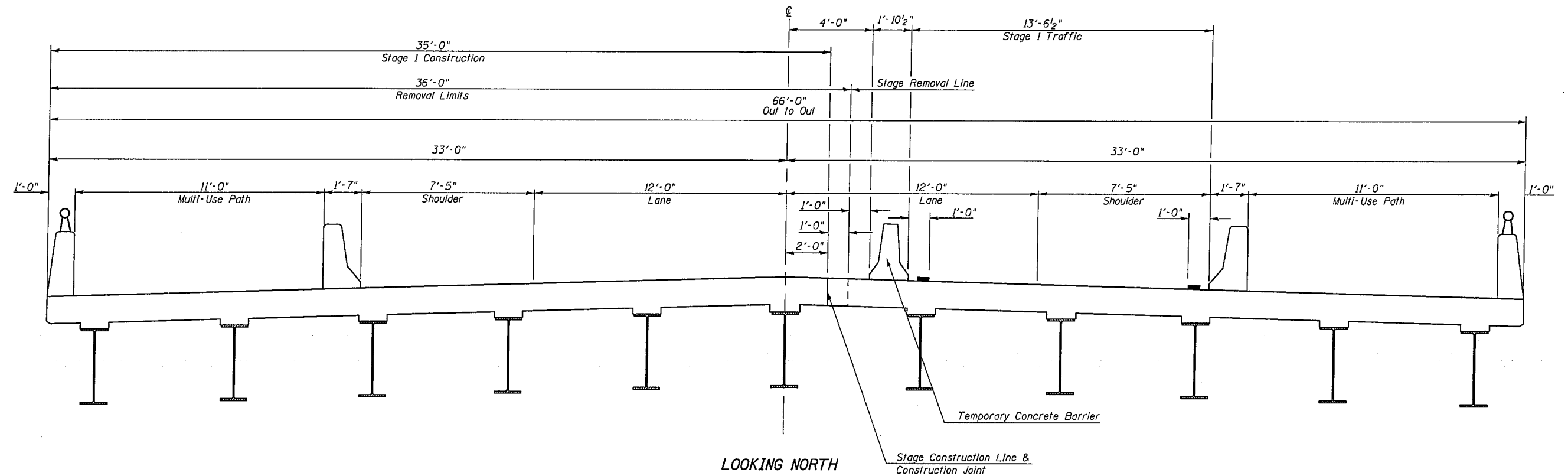
GENERAL PLAN & ELEVATION  
S.N. 023-0024

SCALE: SHEET NO. 1 OF 19 SHEETS STA. TO STA.

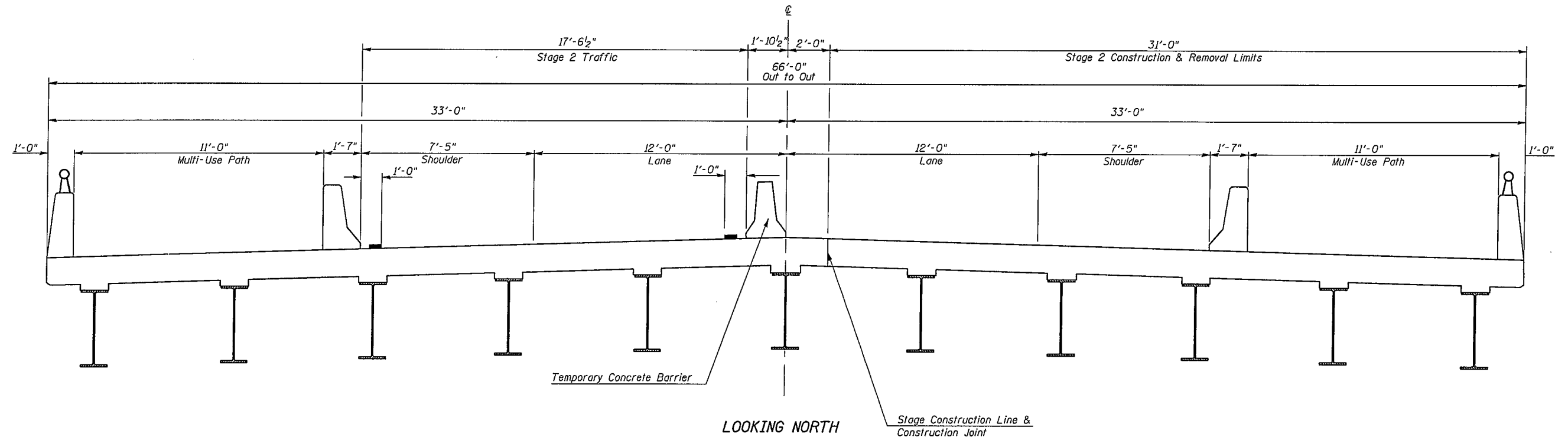
\*332 & 91

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	13
CONTRACT NO. 70873				
ILLINOIS FED. AID PROJECT				

# **STAGE 1 CONSTRUCTION** **S.N. 023-0024**

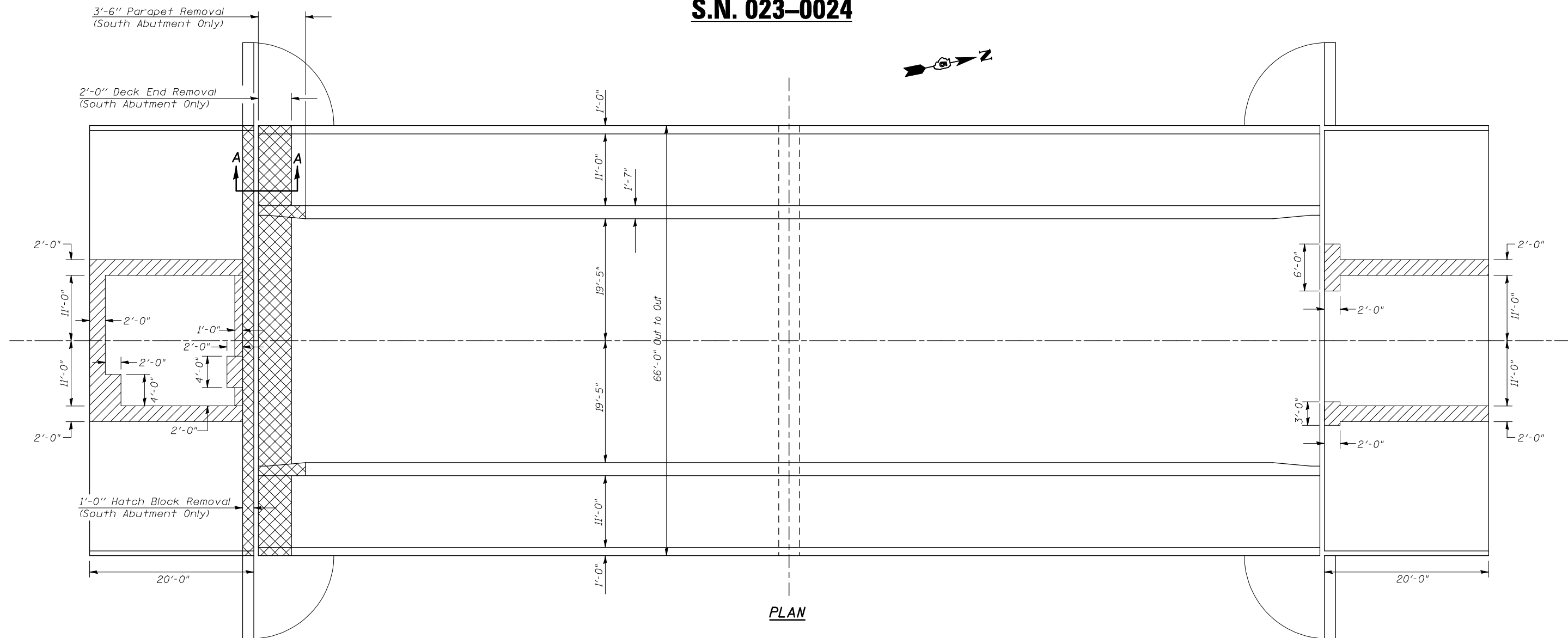


# **STAGE 2 CONSTRUCTION** **S.N. 023-0024**

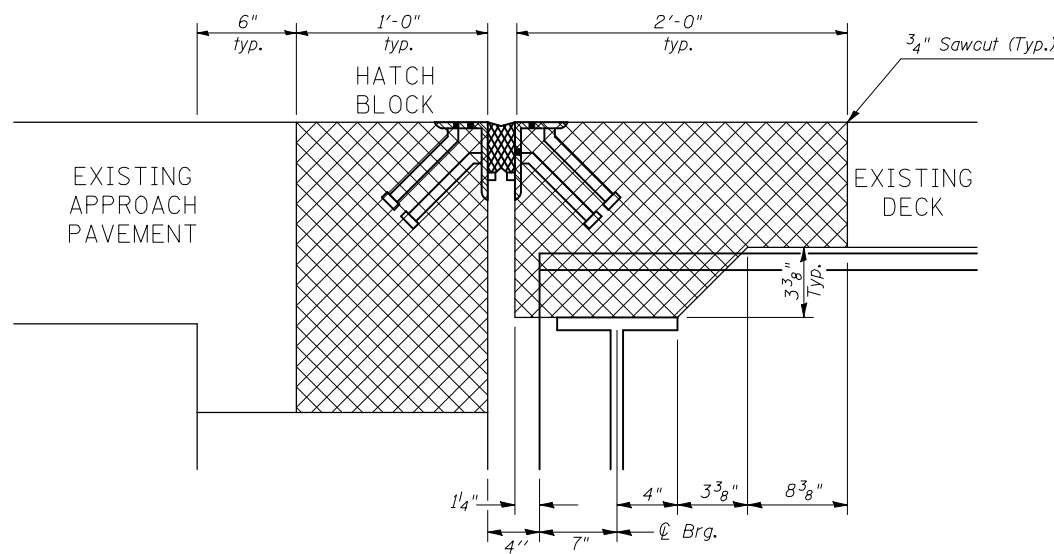


FILE NAME =	USER NAME = carrollr	DESIGNED R. Carroll	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGED CONSTRUCTION WIDTH DETAILS			F.A.P. RTE.				
c:\pwwork\pwwork\carrollr\td0212096\Bri	ge Repairs - 023-0024.dgn	DRAWN R. Carroll	REVISED -		S.N. 023-0024			SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 40.0000' / IN.	CHECKED T. Brandenburg	REVISED -					101 BDR & CX-BJR		EDGAR	36	14
	PLOT DATE = 2/7/2011	DATE 10/1/2010	REVISED -		SCALE:			SHEET NO. 2 OF 19 SHEETS		STA.	TO STA.	
								CONTRACT NO. 70873				
								ILLINOIS FED. AID PROJECT				

CONCRETE REMOVAL & PATCHING PLAN  
S.N. 023-0024



PLAN



SECTION A-A

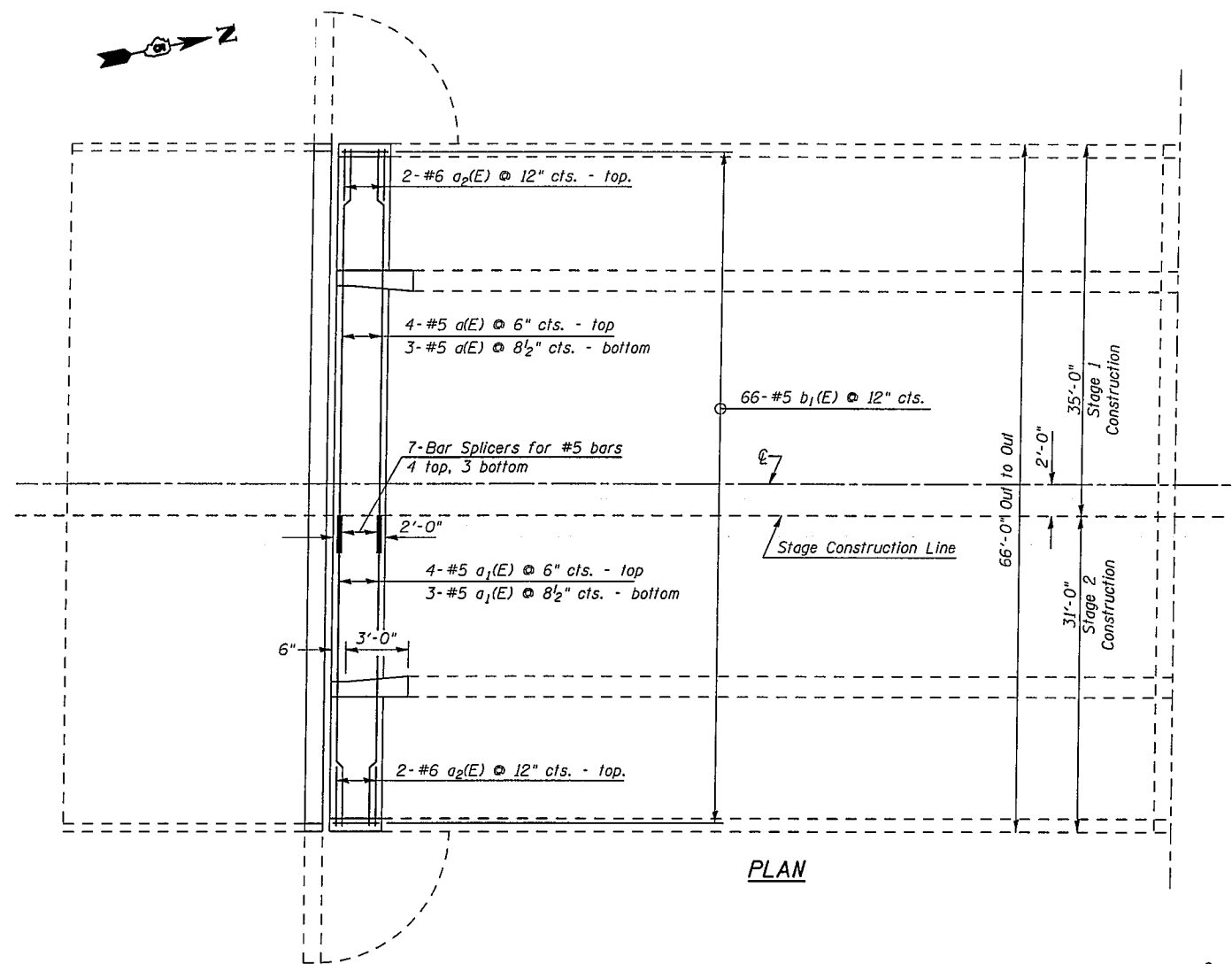
Approach Slab Repair  
(Partial Depth)

Concrete Removal

Note:  
Removal of existing joint is included  
with Concrete Removal.

FILE NAME =		USER NAME = carrollt		DESIGNED R. Carroll		REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				CONCRETE REMOVAL & PATCHING PLAN S.N. 023-0024				F.A.P. RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwidtht\carrollt\td0212096\Bridg		Bridge Repairs - 023-0024.dgn		DRAWN R. Carroll		REVISED -										*	101 BDR & CX-BJR		EDGAR	36	15
		PLOT SCALE = 48.0000 ' / IN.		CHECKED T. Brandenburg		REVISED -						CONTRACT NO. 70873									
		PLOT DATE = 12/10/2010		DATE 10/1/2010		REVISED -															
								SCALE:		SHEET NO. 3 OF 19 SHEETS		STA.		TO STA.		ILLINOIS FED. AID PROJECT					

**SUPERSTRUCTURE PLAN – DECK REINFORCEMENT**  
**S.N. 023-0024**



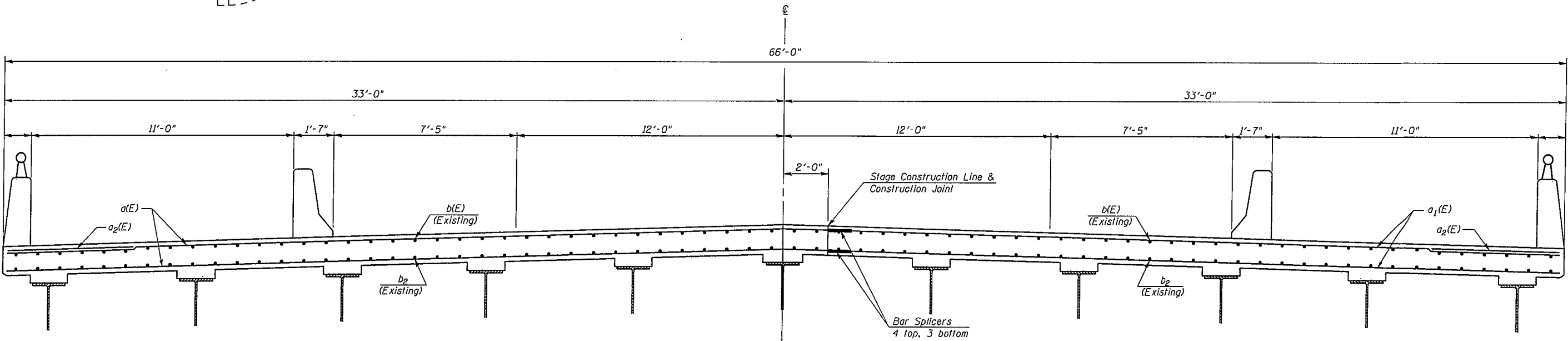
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$a(E)$	7	#5	34'-10"	
$a_1(E)$	7	#5	30'-10"	
$a_2(E)$	4	#6	4'-0"	
Reinforcement Bars, Epoxy Coated		Pound	503.4	
Bar Splicers		Each	7.0	
Concrete Superstructures		Cu Yd	4.3	
Bar	No.	Size	Length	Shape
$d(E)$	4	#4	5'-1"	J
$d_1(E)$	4	#5	4'-11"	J
$d_2(E)$	4	#4	5'-3"	J
$d_3(E)$	4	#6	5'-1"	J
Reinforcement Bars, Epoxy Coated		Pound	80.7	
Concrete Superstructures		Cu Yd	1.5	
Bar	No.	Size	Length	Shape
$h(E)$	6	#6	32'-10"	
$h_1(E)$	6	#6	32'-10"	
Reinforcement Bars, Epoxy Coated		Pound	295.9	
Bar Splicers		Each	3.0	
Concrete Superstructures		Cu Yd	4.1	
TOTAL BILL OF MATERIAL				
Reinforcement Bars, Epoxy Coated		Pound	880.0	
Bar Splicers		Each	10.0	
Concrete Superstructures		Cu Yd	9.9	

**Notes:**

The Rail Posts at the south end of the structure shall be removed to allow for the removal and replacement of the parapet end. Following completion of the parapet ends, the Rail Posts shall be re-attached. It is the option of the contractor to either save and reuse the existing cast-in-place anchor system or use epoxy-grouted threaded rods. The cost of this work shall be included in Concrete Superstructures. See As-Built Plans for aluminum railing detail.

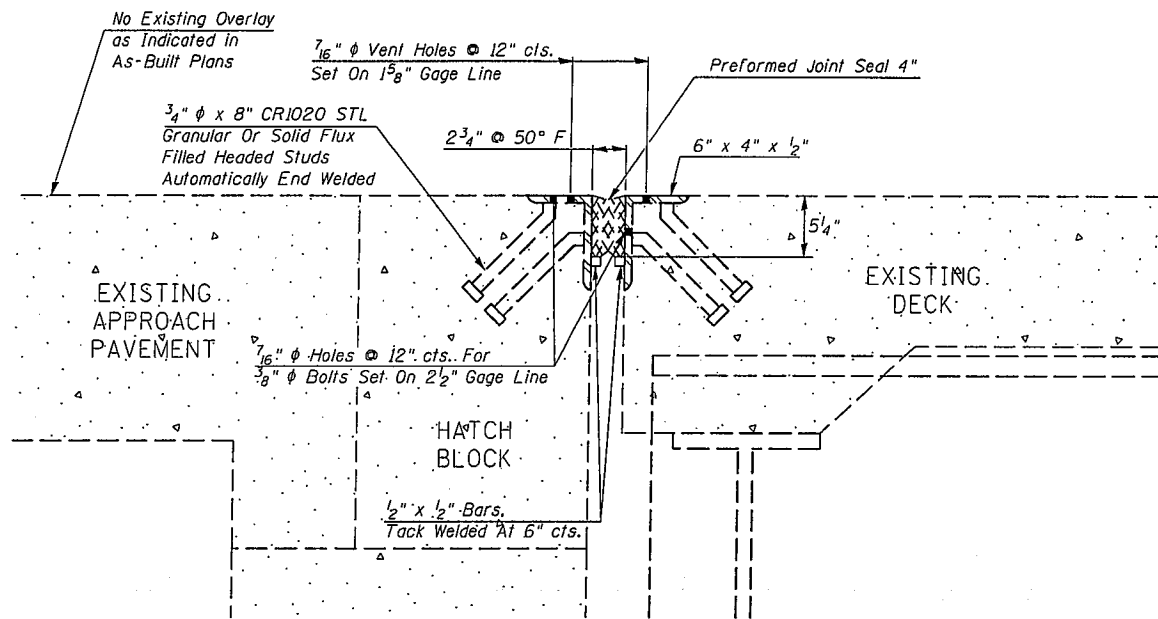
The guardrail attached to the south end of the inside parapets shall be unbolted from the parapets to allow for the removal and replacement of the parapet ends. Following completion of the parapet ends, the guardrail shall be re-attached. The cost of this work shall be included in Concrete Superstructures.



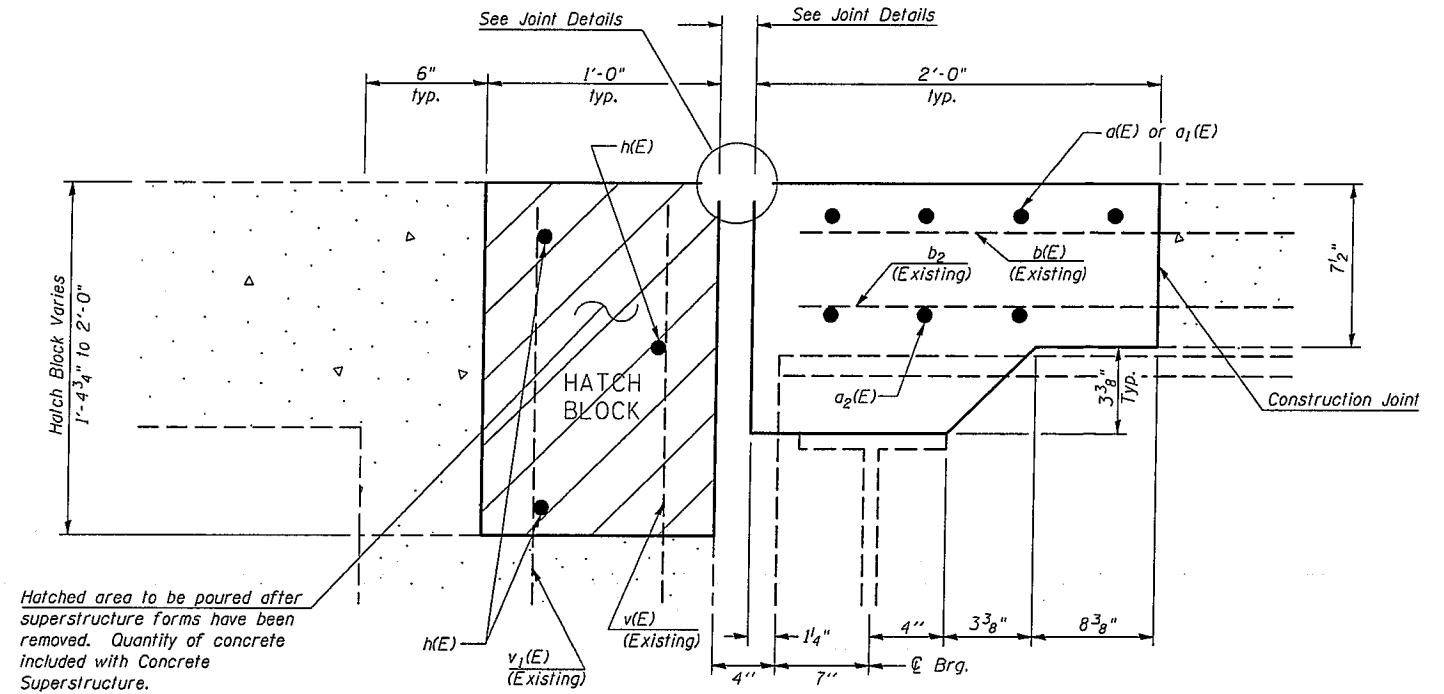
LOOKING NORTH

## HATCH BLOCK AND DECK END DETAILS

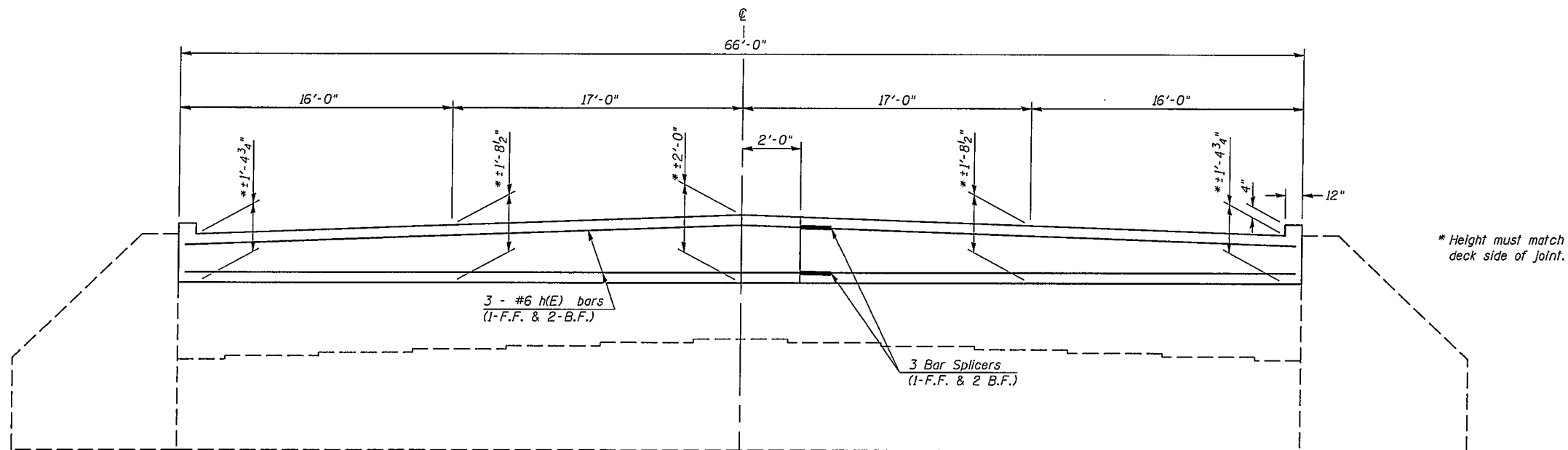
### S.N. 023-0024



SECTION AT EXISTING JOINT  
AT SOUTH ABUTMENT



SECTION AT PROPOSED JOINT  
AT SOUTH ABUTMENT

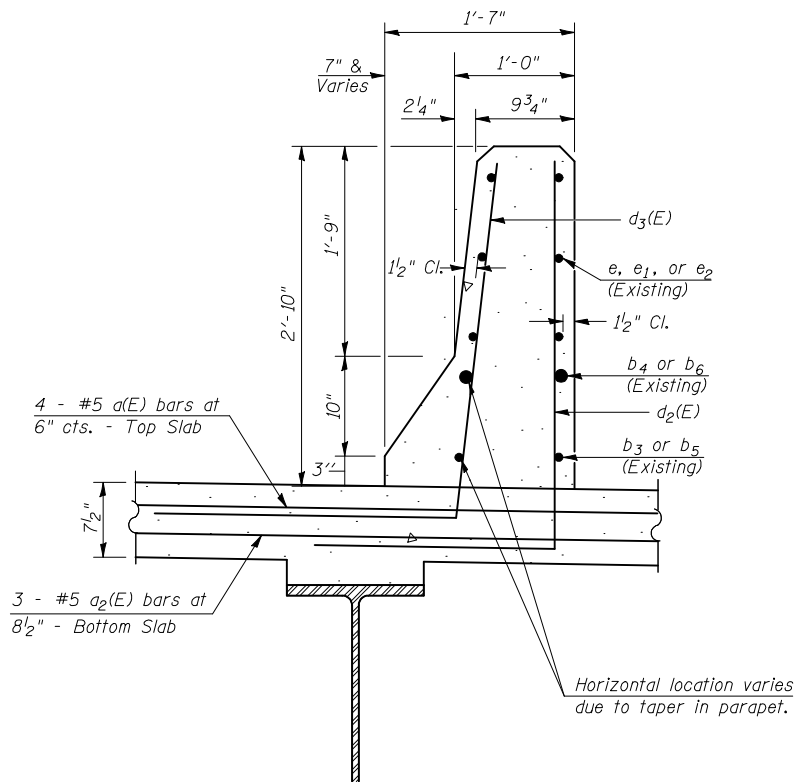


ELEVATION SHOWING HATCH BLOCK  
SOUTH ABUTMENT

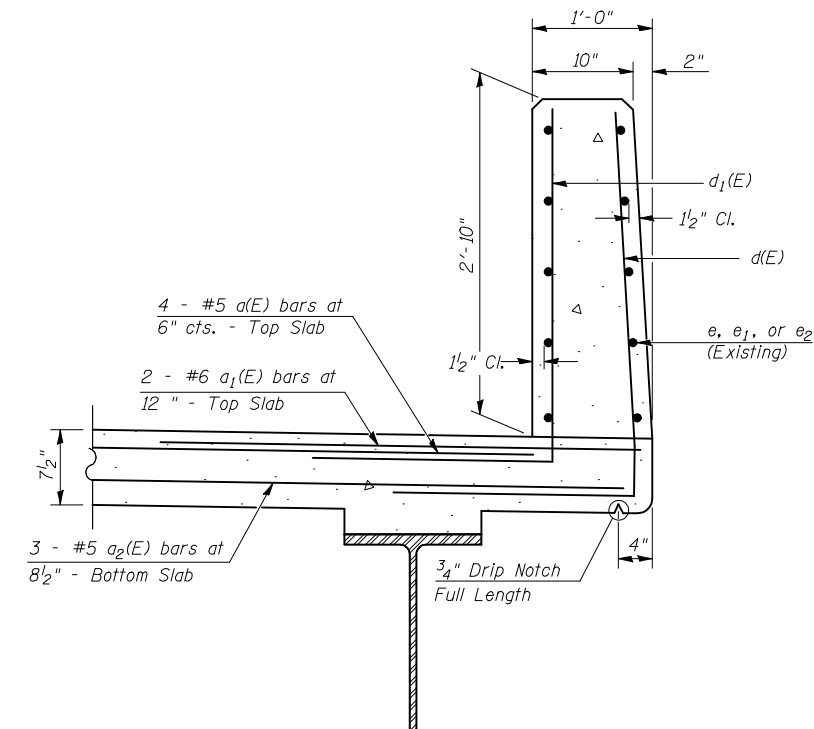
FILE NAME =	USER NAME = carrollt	DESIGNED <i>R. Carroll</i>	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HATCH BLOCK & DECK END DETAILS S.N. 023-0024	SHEET NO. 5 OF 19 SHEETS				
c:\pwwork\pwwork\carrollt\td0212096\Bridg	Bridge Repairs - 023-0024.dgn	DRAWN <i>R. Carroll</i>	REVISED -			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 40.0000' / IN.	CHECKED <i>T. Brandenburg</i>	REVISED -			*	101 BDR & CX-BJR	EDGAR	36	17
	PLOT DATE = 2/7/2011	DATE <i>10/1/2010</i>	REVISED -			SCALE:	SHEET NO. 5 OF 19 SHEETS	STA.	TO STA.	CONTRACT NO. 70873
				ILLINOIS FED. AID PROJECT						



PARAPET DETAILS  
S.N. 023-0024



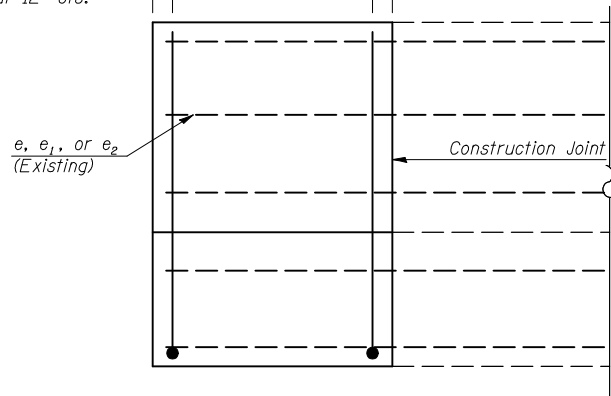
SECTION THRU  
INSIDE PARAPET



SECTION THRU  
OUTSIDE PARAPET

3'-6" Parapet Removal Limits

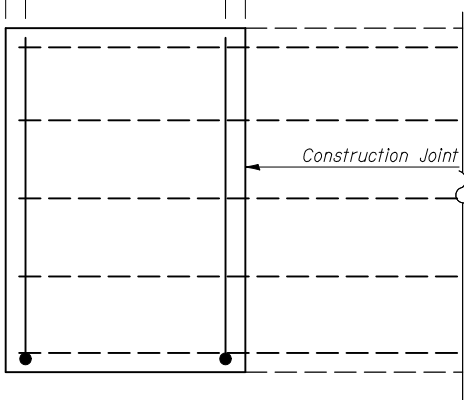
4- #4  $d_2(E)$  bars at 12" cts.  
4- #6  $d_3(E)$  bars at 12" cts.



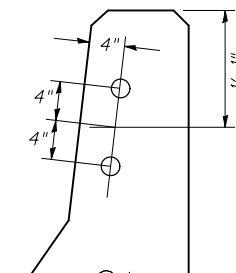
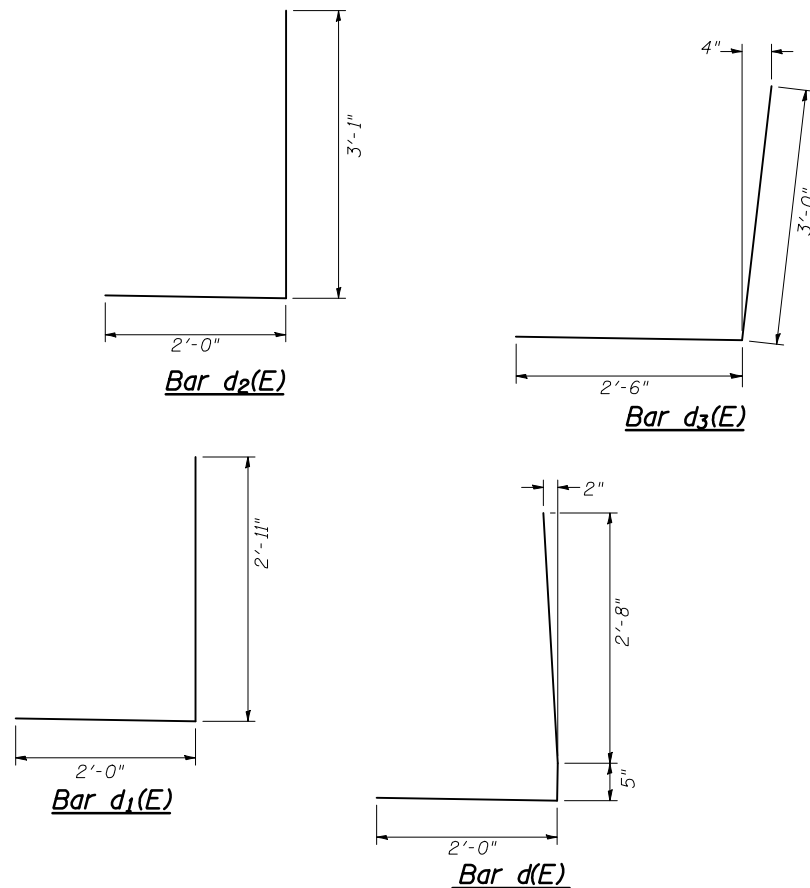
ELEVATION  
INSIDE PARAPET

3'-6" Parapet Removal Limits

4- #4  $d_1(E)$  bars at 12" cts.  
4- #5  $d_1(E)$  bars at 12" cts.

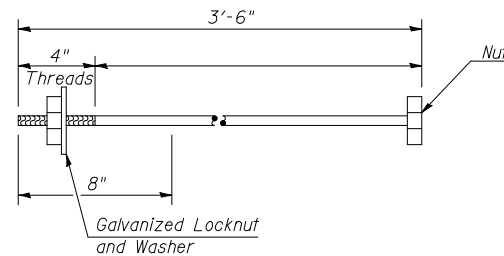


ELEVATION  
OUTSIDE PARAPET



ANCHOR BOLT LOCATION

Note:  
Bolts are to be placed nearest face toward  
approaching traffic at each end of parapet.



1"  $\phi$  ANCHOR BOLT

(Cost Incidental to  
Concrete Superstructures)

\*332 & 91

FILE NAME =	USER NAME = carrollrt	DESIGNED R. Carroll	REVISED -
ct:\pw\work\p\midot\carrollrt\d0212096\Bridg	Bridge Repairs - 023-0024.dgn	DRAWN R. Carroll	REVISED -
	PLOT SCALE = 40.0000 ' / IN.	CHECKED T. Brandenburg	REVISED -
	PLOT DATE = 12/10/2010	DATE 10/1/2010	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

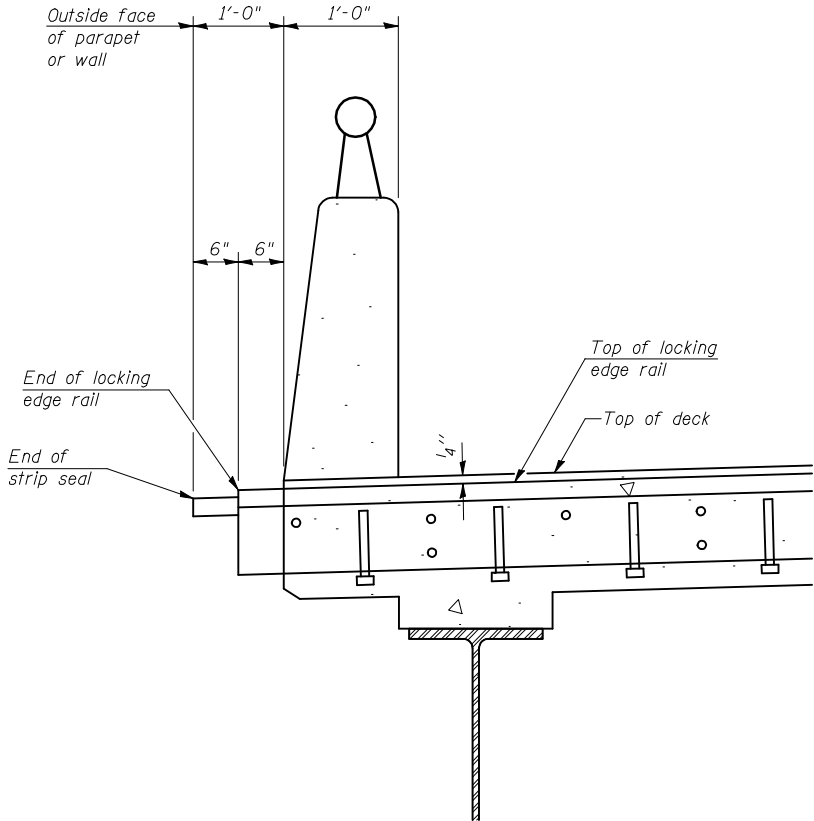
PARAPET DETAILS  
S.N. 023-0024

SCALE: SHEET NO. 6 OF 19 SHEETS STA. TO STA.

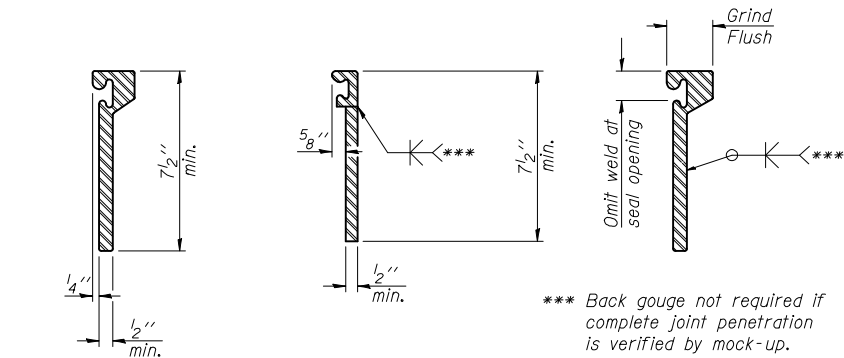
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	18
CONTRACT NO. 70873				
ILLINOIS FED. AID PROJECT				

# PREFORMED JOINT STRIP SEAL DETAILS

## S.N. 023-0024



SECTION AT PROPOSED JOINT  
 AT SOUTH ABUTMENT



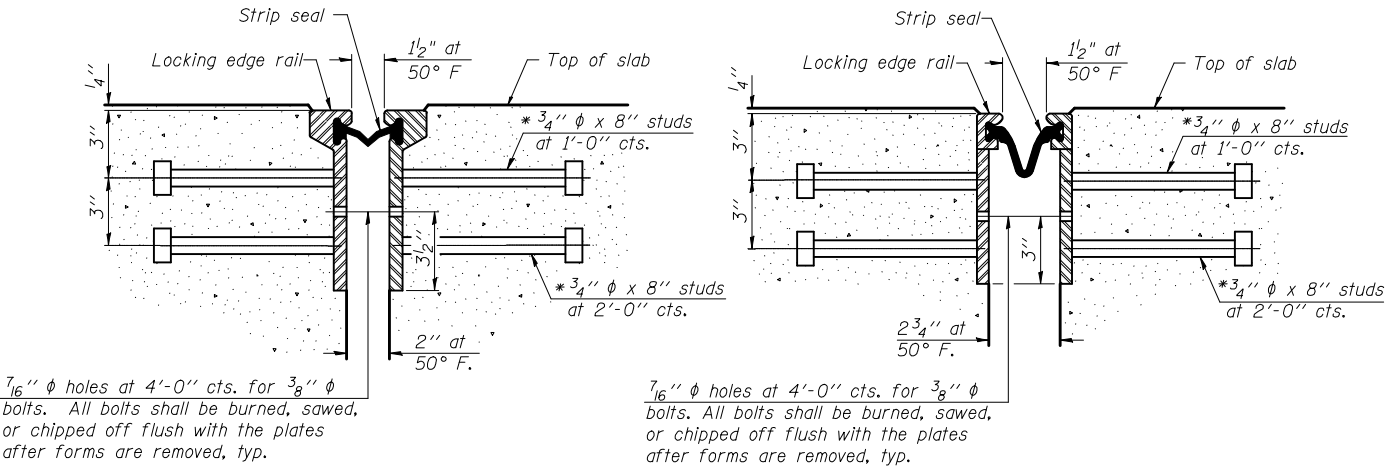
ROLLED  
 EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE  
 RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.  
 Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS



SECTION THRU  
 ROLLED RAIL JOINT

SECTION THRU  
 WELDED RAIL JOINT

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

Notes:  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
 The strip seal shall be inserted into the Locking Edge Rails before the parapet ends are formed and poured to allow for proper placement of the strip seal.  
 The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
 The manufacturer's recommended installation methods shall be followed.  
 The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
 Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.  
 Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

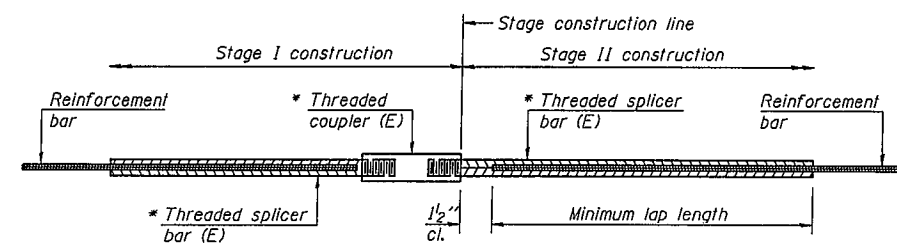
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	68.0

•332 & 91

FILE NAME =	USER NAME = carrollrt	DESIGNED R. Carroll	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL DETAILS S.N. 023-0024			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pw\work\p\idot\carrollrt\d0212096\Bridge Repairs - 023-0024.dgn		DRAWN R. Carroll	REVISED -					*	101 BDR & CX-BJR	EDGAR	36	19
	PLOT SCALE = 40.0000 ' / IN.	CHECKED T. Brandenburg	REVISED -				CONTRACT NO. 70873		ILLINOIS FED. AID PROJECT			
	PLOT DATE = 12/10/2010	DATE 10/1/2010	REVISED -		SCALE:	SHEET NO. 7 OF 19 SHEETS	STA.	TO STA.				

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
S.N. 023-0024



STANDARD BAR SPLICER ASSEMBLY

Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C

Table 2: Black bar, Top bar lap, 0.8 Class C

Table 3: Epoxy bar, 0.8 Class C

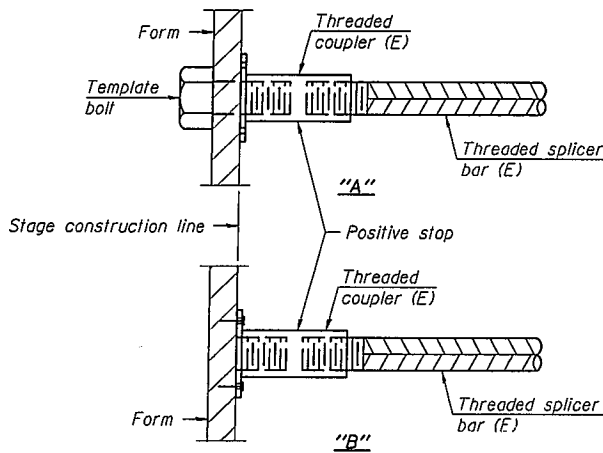
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1 1/2' + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck End	#5	7	3
Hatch Block	#6	3	3

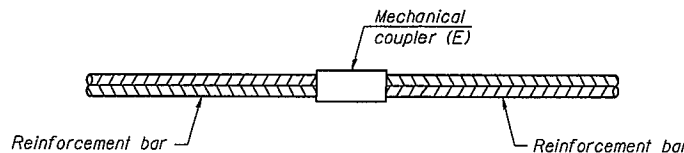


INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.

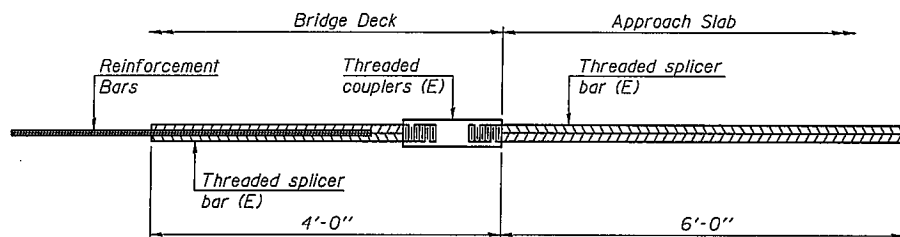
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



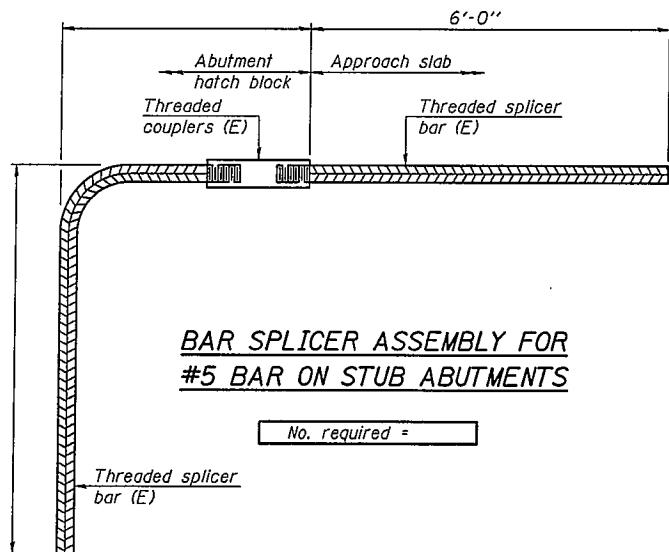
STANDARD MECHANICAL SPLICER

Bar Size	No. Assemblies Required	Location



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

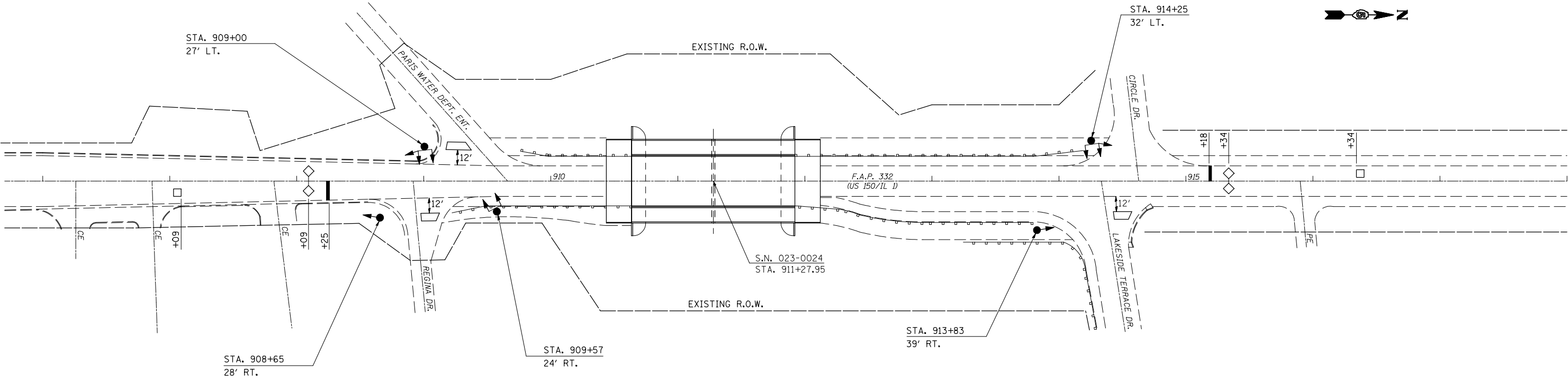
See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

7-1-10

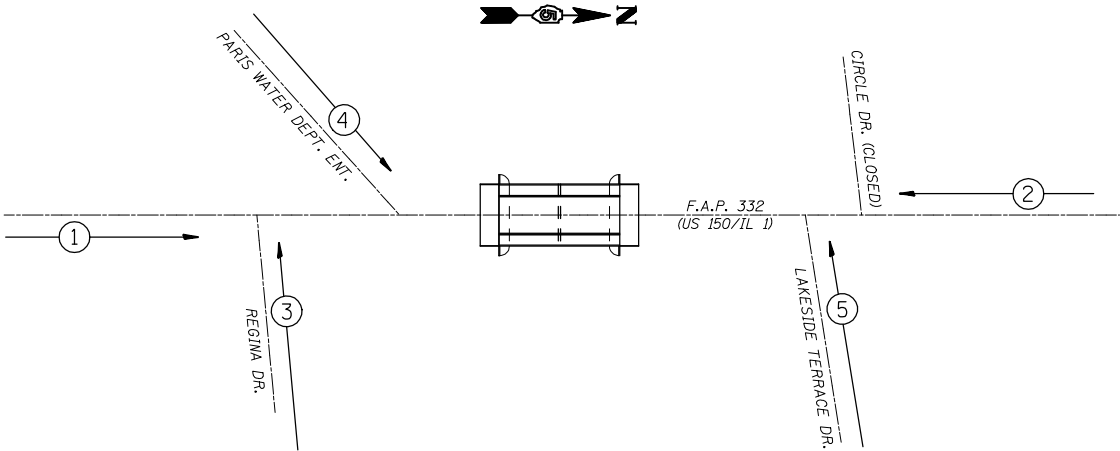
TEMPORARY BRIDGE TRAFFIC SIGNAL LAYOUT



NOTES

THE FINAL LOCATION OF ALL TRAFFIC CONTROL ITEMS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

ALL SIDESTREET LOOP LENGTHS = 6 FT.  
SIDESTREET LOOP WIDTHS ARE VARIABLE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.



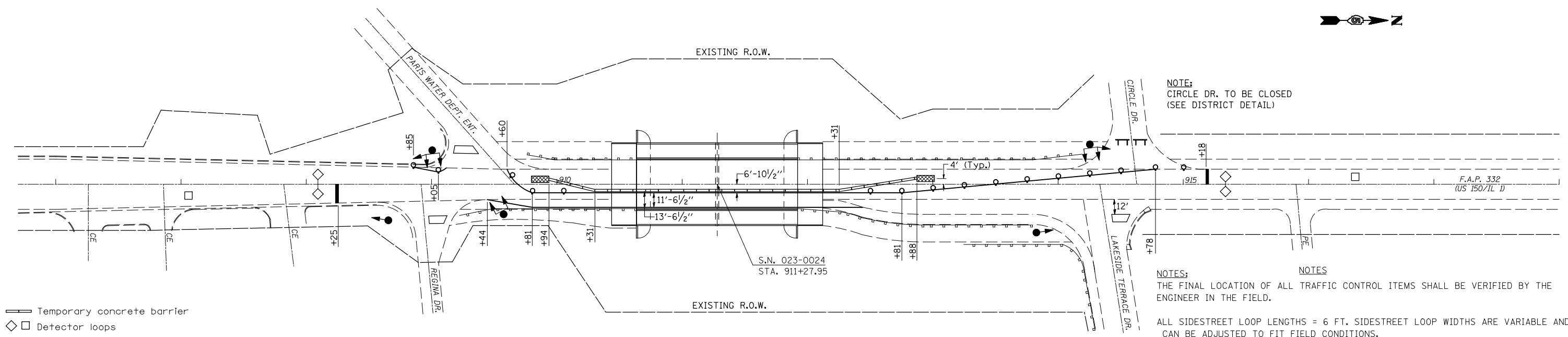
LEGEND

- ◇ DETECTOR LOOP
- ◀ TRAFFIC SIGNAL HEAD
- TRAFFIC SIGNAL POST

PHASE DESIGNATION DIAGRAM  
FOR TEMPORARY SIGNALS

FILE NAME =	USER NAME = carrollrt	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY BRIDGE TRAFFIC SIGNAL LAYOUT	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pw\work\p\midot\carrollrt\d0212088\070873-Design_023-0024.dgn		DRAWN -	REVISED -				•	101BDR & CX-BJR	EDGAR	36	21
	PLOT SCALE = 100.0000' / IN.	CHECKED -	REVISED -				CONTRACT NO. 70873				
	PLOT DATE = 12/10/2010	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				
SCALE:		SHEET NO.		OF	SHEETS	STA.	TO STA.				

STAGE 1 TRAFFIC CONTROL PLAN



- Temporary concrete barrier
- Detector loops
- Impact Attenuator
- Drum with steady burning light
- Type III barricade
- Traffic signal

NOTE:  
CIRCLE DR. TO BE CLOSED  
(SEE DISTRICT DETAIL)

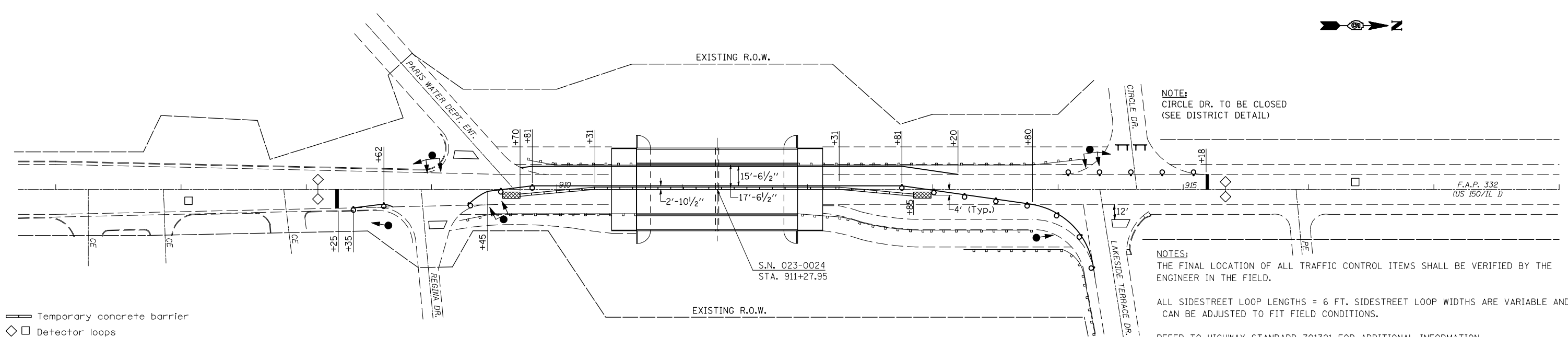
NOTES:  
THE FINAL LOCATION OF ALL TRAFFIC CONTROL ITEMS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

ALL SIDESTREET LOOP LENGTHS = 6 FT. SIDESTREET LOOP WIDTHS ARE VARIABLE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.

REFER TO HIGHWAY STANDARD 701321 FOR ADDITIONAL INFORMATION.

EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE REVISED STAGED TRAFFIC PATTERNS DURING ALL PHASES OF STAGED CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS PAVEMENT MARKING REMOVAL.

STAGE 2 TRAFFIC CONTROL PLAN



- Temporary concrete barrier
- Detector loops
- Impact Attenuator
- Drum with steady burning light
- Type III barricade
- Traffic signal

NOTE:  
CIRCLE DR. TO BE CLOSED  
(SEE DISTRICT DETAIL)

NOTES:  
THE FINAL LOCATION OF ALL TRAFFIC CONTROL ITEMS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

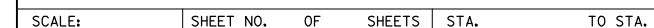
ALL SIDESTREET LOOP LENGTHS = 6 FT. SIDESTREET LOOP WIDTHS ARE VARIABLE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.

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EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE REVISED STAGED TRAFFIC PATTERNS DURING ALL PHASES OF STAGED CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS PAVEMENT MARKING REMOVAL.

FILE NAME =	USER NAME = carrollrt	DESIGNED R. Carroll	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE 1 & 2 TRAFFIC CONTROL PLAN S.N. 023-0024					F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pw\work\p\idot\carrollrt\d0212088\070873-Design_023-0024.dgn	DRAWN R. Carroll	CHECKED R. Biggs	REVISED -		*	101BDR & CX-BJR	EDGAR	36	22					
PLOT SCALE = 100.0000 ' / IN.	DATE -	REVISED -	REVISED -		CONTRACT NO. 70873									
PLOT DATE = 12/10/2010														
				SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.					

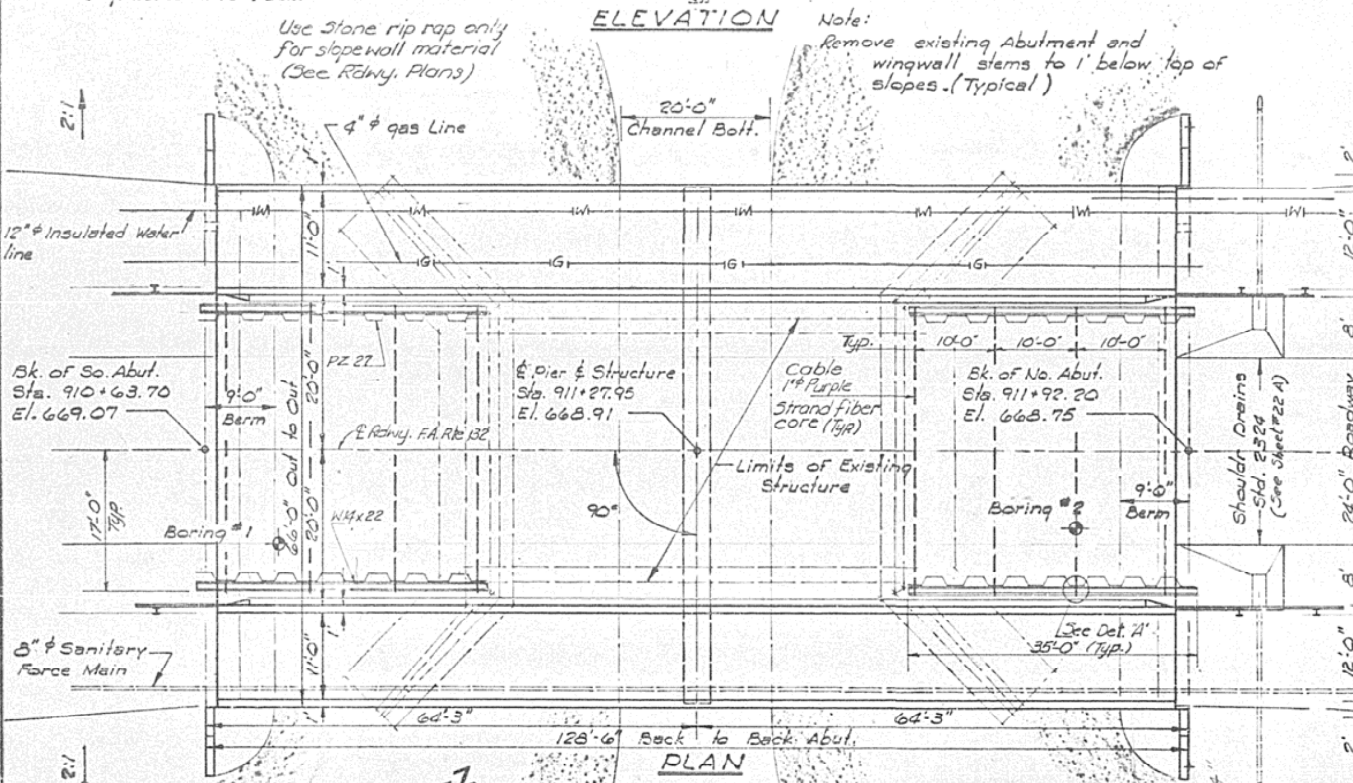
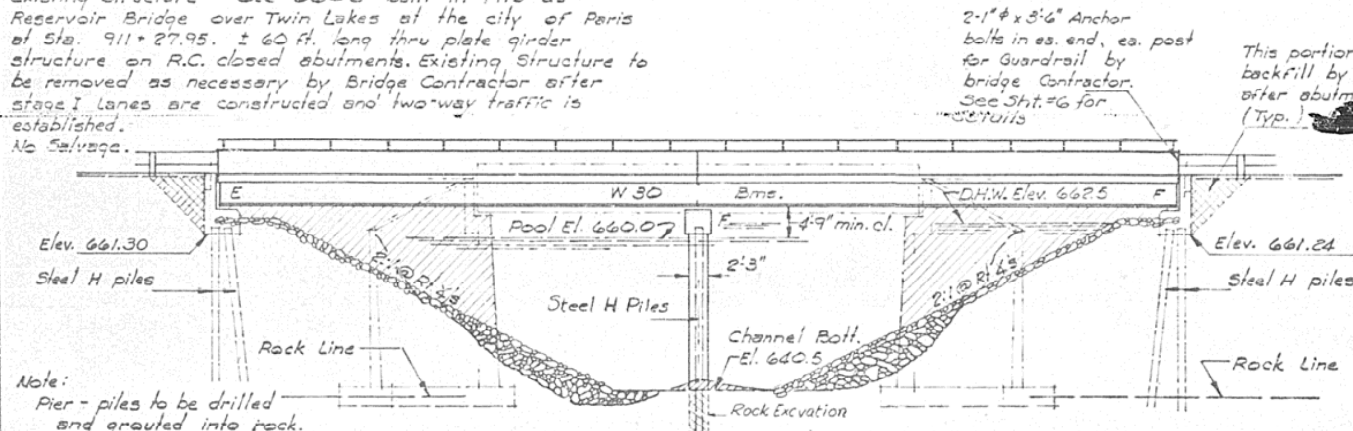




AS-BUILT PLANS  
FOR INFORMATION ONLY

B.M. Cut "D" in N.E. Corner of R.C.C. inspection well on N. side of pump building. 60' U. Sta. 908+80. Elev. 667.06

Existing Structure #023-0006 Built in 1915 as Reservoir Bridge over Twin Lakes at the city of Paris at Sta. 911+27.95. ± 60 ft. long thru plate girder structure on R.C. closed abutments. Existing structure to be removed as necessary by Bridge Contractor after stage I lanes are constructed and two-way traffic is established. No Salvage.



STATION 911+27.95  
BUILT 1915 BY  
STATE OF ILLINOIS  
FA. RTE. 132 SEC. (C-X) BR  
PROJ. 3R-F-F-132(18)  
LOADING HS 20  
STR. No. 023-0024

DESIGNED R. Carroll  
CHECKED DR Gathard  
DRAWN A. Borazza  
CHECKED D.R. Gathard

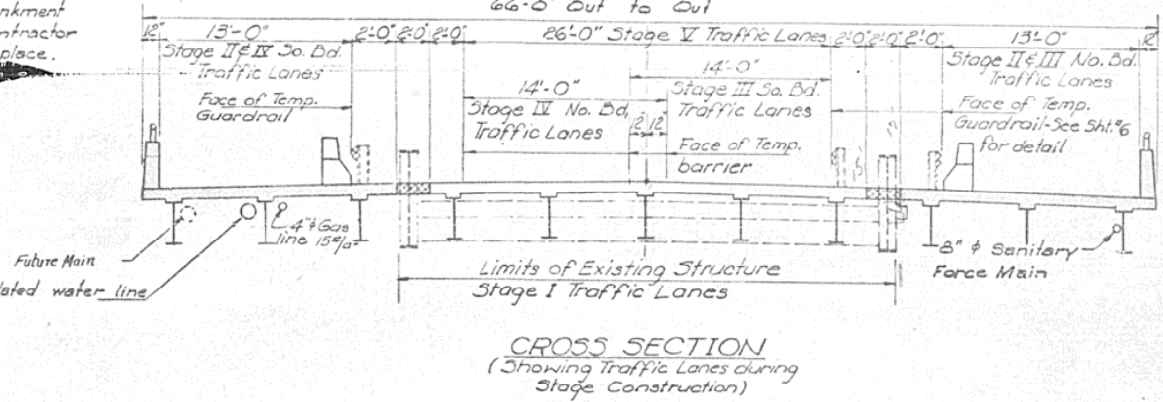
EXAMINED Carl E. Thompson  
PASSED  
APPROVED

WATERWAY INFORMATION

Drainage Area	= 17.4 sq. mi.
Discharge (50yr)	= 2300 cfs.
Required Opening	= 1366 sq. ft.
Existing Opening	= 1223 sq. ft.
Proposed Opening	= 1366 sq. ft.
Created Hd. (50yr)	= NA
Q (100 yr.)	= 2800 cfs
H.W.E. (100yr)	= 663.0
Created Hd. (100yr)	= NA

DETAIL "A"  
Cost of anchor devices shall be incidental to Temp. Sht. Pile

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



TOTAL BILL OF MATERIAL

Item	Super.	Sub	Total
Removal of Existing Structures Ea.			1
Protective Coat Sq Yds	1141		1141
Class X Concrete Cu Yds	262.4	121.5	383.9
Structural Steel L.S.			9676
Aluminum Railing Lin Ft	252		252
Temporary Guardrail Lin Ft	252		252
Reinforcement Bars Lbs	27290	8920	36210
Reinforcement Bars (Epoxy coated) Lbs	36800		36800
Steel Piles HP 8x36 Lin Ft		564	564
Steel Piles HP 12x53 (Special) Lin Ft		319	319
Test Piles Steel HP 8x36 Ea.	2		2
Class X Concrete Encasement Cuts	44.3		44.3
Name Plates Ea.			1
Rock Excavation Cu Yds			10
Temp. Sheet Piling Sq Ft			4200
Preformed Jt. Sealer # Lin Ft	66		66
Shear Connectors Ea.	4356		4356
Coil Rods 3/4x3'0" (Epoxy coated) Ea.	260		260
Coil Rods 2x29" (Epoxy coated) Ea.	264		264
Straight Loop Inserts 2x4 Ea.	264		264
Open Coil Inserts 3/4x4 Ea.	260		260

GENERAL NOTES

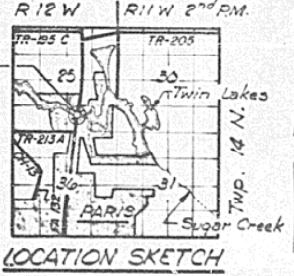
See Proposal for Boring Data. Fasteners shall be high strength bolts. Bolts 3/4"; open holes 13/16" unless otherwise noted. Calculated weight of Structural Steel = 131720 lbs. All structural steel shall be AASHTO M282 unpainted except expansion joint angles and attached bars which shall be AASHTO M183 and shop painted with two coats of basic lead silico chromate paint. Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer. Anchor bolts shall be set before bolting diaphragms over supports. Layout of rip rap may be varied in the field to suit ground conditions as directed by the Engineer. The Contractor shall drive 2 steel test piles in a permanent location, 1 @ ea. Abut., as directed by the Engineer before ordering the remainder of piles. It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials. The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Conc. except the aggregates shall conform to the requirements of Handrail Concrete. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 6". Adjustment shall be made either by grinding the surface or by shimming the brg. Two 6" adjusting shims, of the dimensions of the bolt brg. flt., shall be provided for ea. bearing in addition to all other plates or shims. Protective coat shall be applied in accordance with Art. 503.12 of Standard Specifications. All reinforcement bars shall be AASHTO M31 Grade 60

DESIGN STRESSES PROFILE GRADE FA. RTE. 132

f<sub>c</sub> = 3500 psi  
\*f<sub>y</sub> = 60,000 psi (Reinf.)  
f<sub>s</sub> = 27,000 psi (Struct.)

LOADING HS 20-44

Allow 25#/sq. ft. for future wearing surface. Design Specification: 1973 AASHTO 1974, 1975 and 1976 Interim specifications. \*Epoxy coated reinforcement shall be used in top layer of the slab.

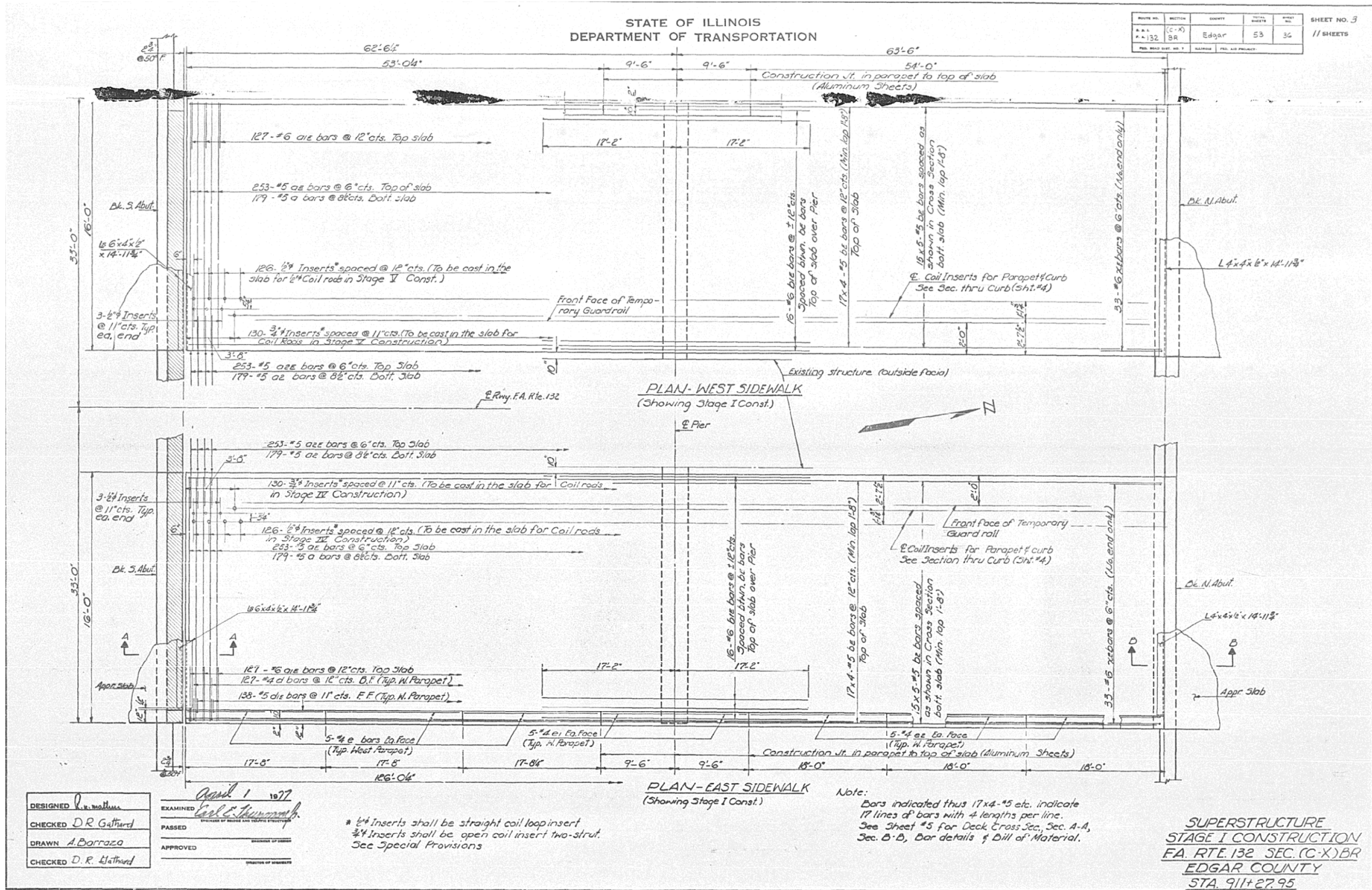


GENERAL PLAN & ELEVATION  
FA. RTE. 132 Over TWIN LAKES-CITY OF PARIS  
FA. RTE. 132 SECTION (C-X) BR  
EDGAR COUNTY  
STATION 911+27.95

Rev 6-1-77



AS-BUILT PLANS  
FOR INFORMATION ONLY



FILE NAME =	USER NAME = carrollrt	DESIGNED R. Carroll	REVISED -
ct:\pw\work\pudot\carrollrt\d0212096\Bridg	Repairs - 023-0024.dgn	DRAWN R. Carroll	REVISED -
PLOT SCALE = 40.0000' / IN.		CHECKED T. Brandenburg	REVISED -
PLOT DATE = 12/10/2010		DATE 10/31/2010	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS (FOR INFORMATION ONLY)  
S.N. 023-0024

SCALE: SHEET NO. 13 OF 19 SHEETS STA. TO STA.

\*332 & 91

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	25
CONTRACT NO. 70873				
ILLINOIS FED. AID PROJECT				

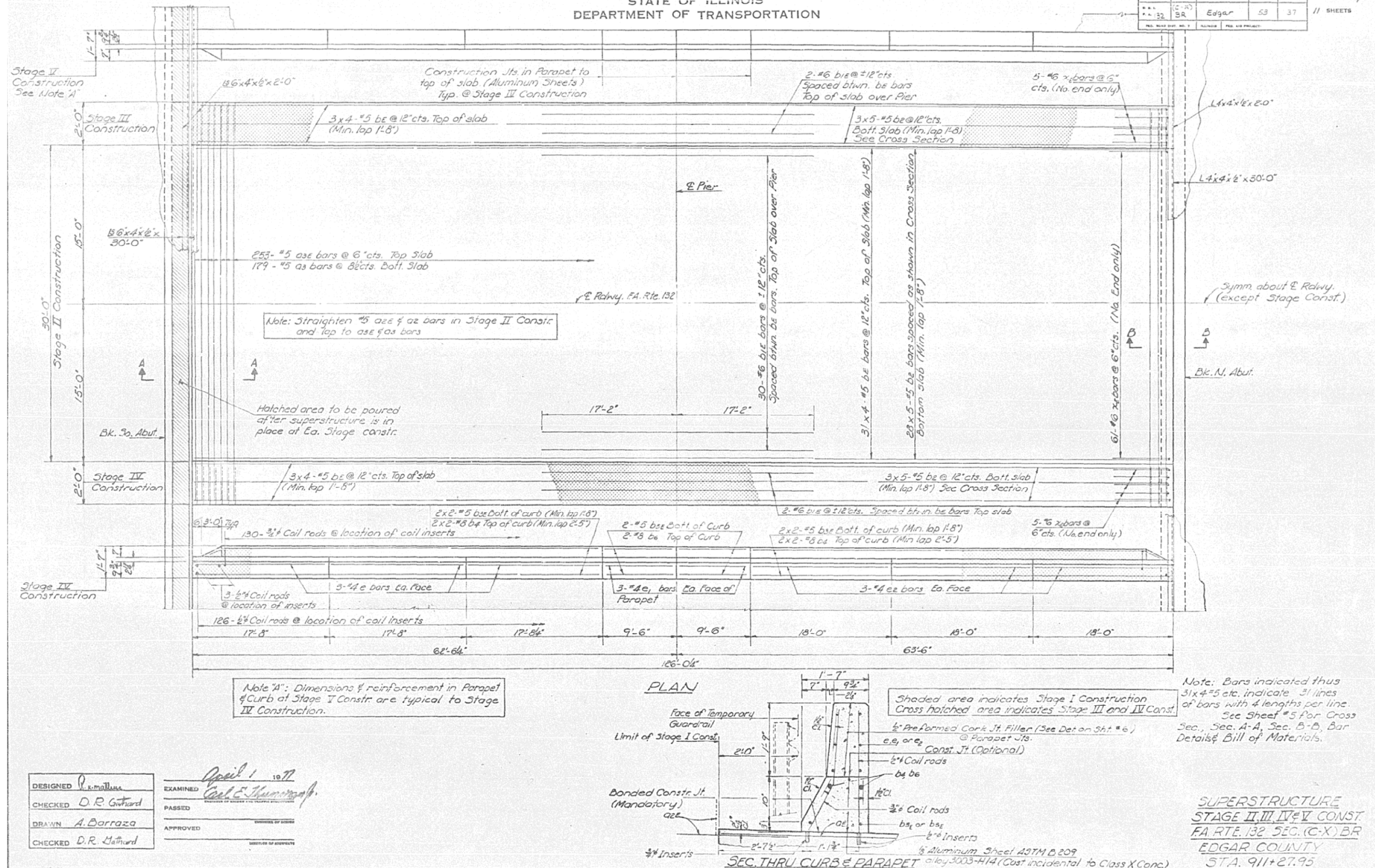


**AS-BUILT PLANS  
FOR INFORMATION ONLY**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
R. L. P. A. 32	(E-W) SR	Edgar	53	37
FED. ROAD DIST. NO. 7		ALLIANCE	FED. AID PROJECT:	

SHEET NO. 4  
// SHEETS



DESIGNED	R. R. Mathews
CHECKED	D. R. Gurnard
DRAWN	A. Barraza
CHECKED	D. R. Mathews

EXAMINED April 1 1977  
Carl E. Hummer  
DIRECTOR OF HIGHWAY AND TRAFFIC STRUCTURES

PASSED

APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**AS-BUILT PLANS (FOR INFORMATION ONLY)**  
**S.N. 023-0024**

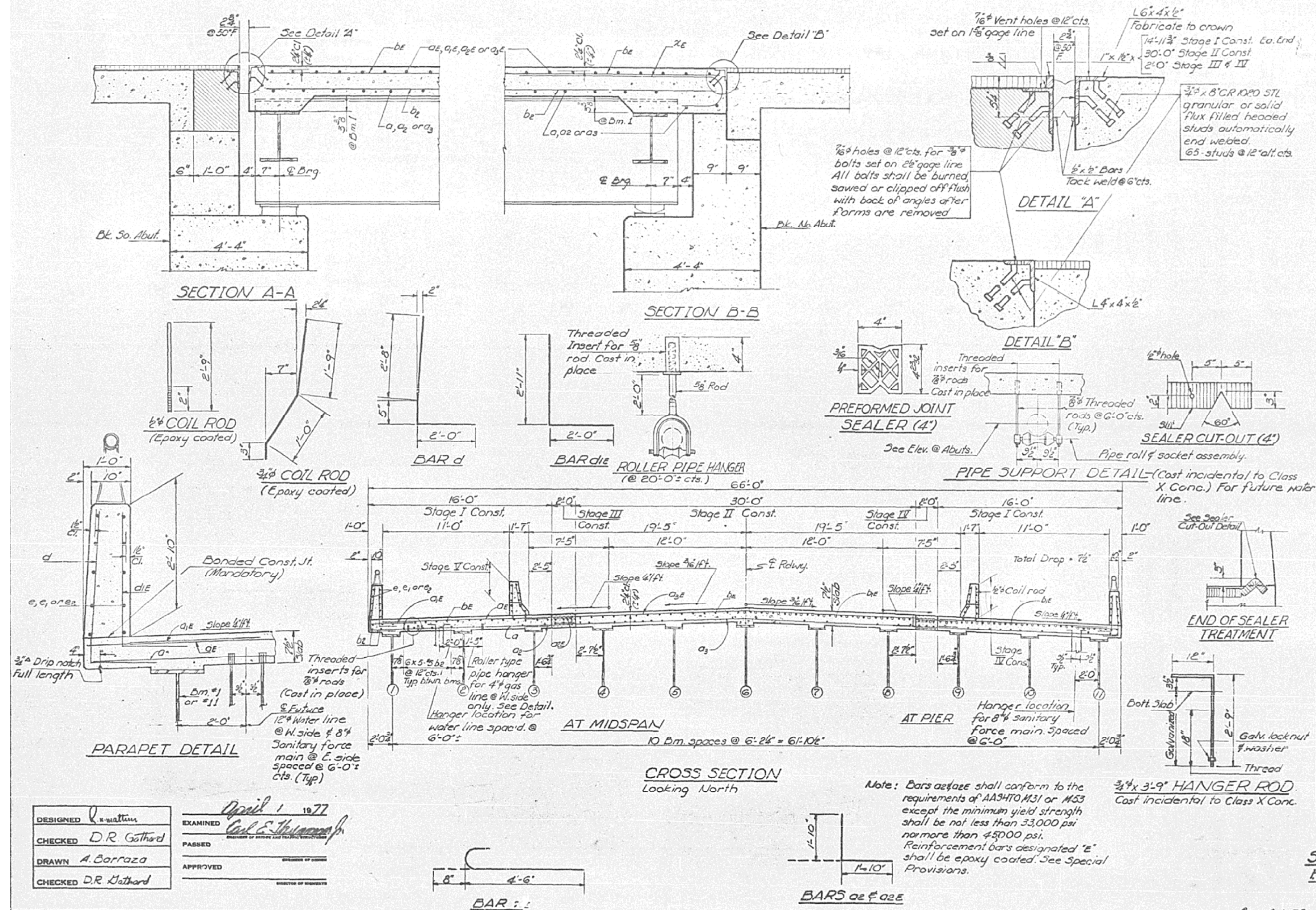
*332 & 91				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	26
CONTRACT NO. 70873				
ILLINOIS FED. AID PROJECT				



AS-BUILT PLANS  
FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
132	(C-X) BR	Edgar	53	38	11 SHEETS



BILL OF MATERIAL  
STAGE I CONST.

Bar	No.	Size	Length	Shape
a	358	#5	15'-9"	
aE	506	#5	15'-9"	
a1E	254	#8	4'-0"	
a2	358	#5	3'-8"	
a2E	506	#5	3'-8"	
be	136	#5	32'-9"	
b1E	32	#6	34'-4"	
be	150	#5	26'-6"	
d	254	#4	5'-1"	
d1E	276	#5	4'-11"	
e	60	#4	17'-5"	
e1	40	#4	9'-3"	
e2	60	#4	17'-9"	
xE	66	#6	5'-2"	
Open Coil Insert	34' x 4 1/2" Ea.		260	
Straight Loop Insert	2 1/2" x 4" Ea.		264	
Class X Concrete	Cu. Yds.		124.4	
Reinf. Bars	Lbs.		13,920	
Reinf. Bars (Epoxy Coated)	Lbs.		20,000	

STAGE II CONST.

Bar	No.	Size	Length	Shape
a3	179	#5	33'-9"	
a3E	253	#5	33'-9"	
be	124	#5	32'-9"	
b1E	30	#6	34'-4"	
be	40	#5	26'-6"	
xE	61	#6	5'-2"	
Class X Concrete	Cu. Yds.		970	
Reinf. Bars	Lbs.		10,170	
Reinf. Bars (Epoxy Coated)	Lbs.		15,160	

STAGE III, IV AND V CONST.

Bar	No.	Size	Length	Shape
b5E	24	#5	32'-9"	
b1E	4	#6	34'-4"	
b2	30	#5	26'-6"	
b3E	16	#5	27'-4"	
b4	16	#8	27'-8"	
b5E	8	#5	9'-3"	
b6	8	#8	9'-3"	
e	36	#4	17'-5"	
e1	24	#4	9'-3"	
e2	36	#4	17'-9"	
xE	10	#6	5'-2"	
Class X Concrete	Cu. Yds.		41.0	
Coil Rods 2 1/2" x 2'-9"	Ea.		264	
Coil Rods 3/4" x 3'-0"	Ea.		260	
Reinf. Bars	Lbs.		3200	
Reinf. Bars (Epoxy Coated)	Lbs.		1640	

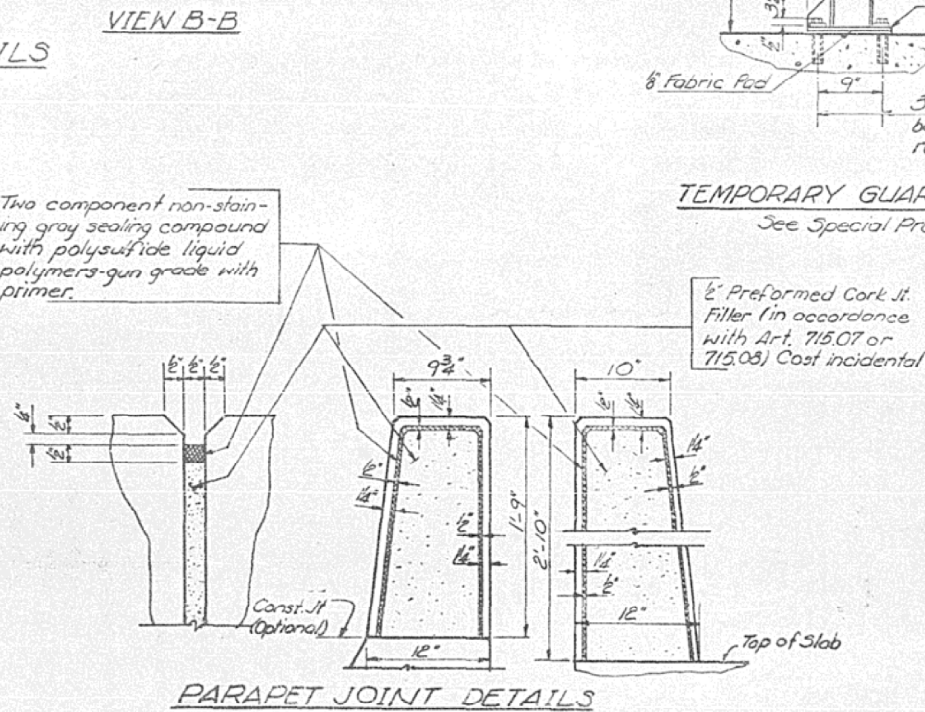
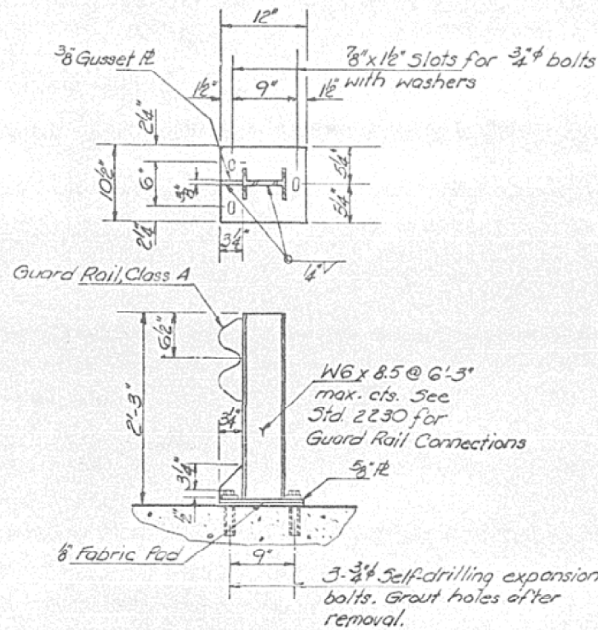
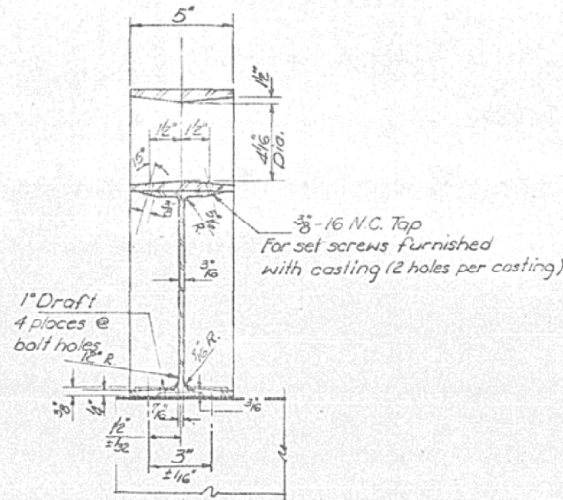
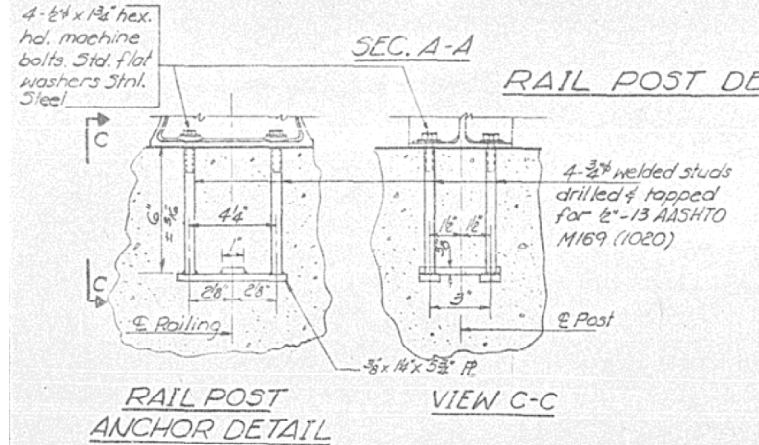
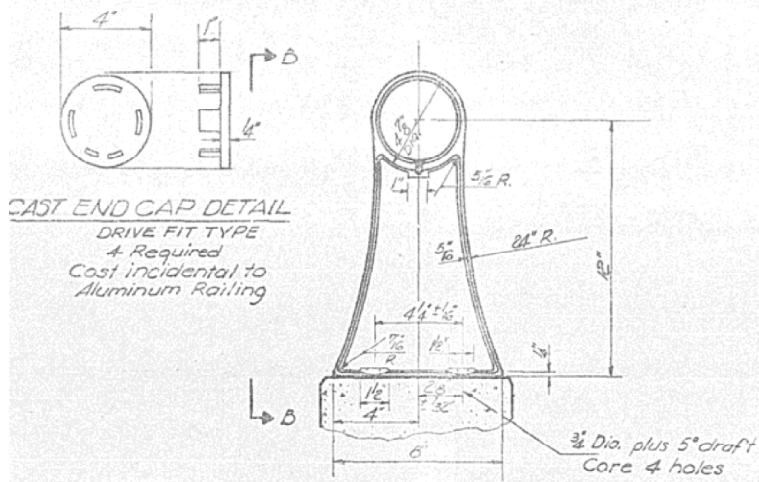
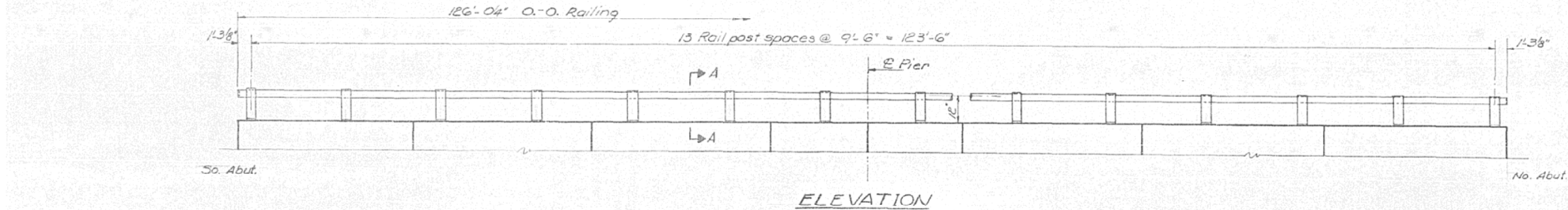
SUPERSTRUCTURE DETAILS  
FA. RTE. 132 SEC. (C-X) BR  
EDGAR COUNTY  
STA. 911+27.95  
Rev 6-1-77  
+332 & 91



AS-BUILT PLANS  
FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
R.A. 132	(C-X) BR	Edgar	53	39	11 SHEETS
FED. ROAD DIST. NO. 7					



**NOTES**

Stainless steel machine bolts or cap screws shall be in accordance with Art. 710.37 (a) of the Std. Specs. except Grade B8 or B8M may be furnished.

All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 ft., except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of two posts.

Provide 1-1/8" and 2-1/8" Aluminum Shims for 25% of the posts.

Rail element shall be parallel to Grade - High spots shall be ground and low spots shimmed.

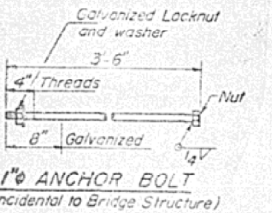
Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi min. tensile 38 ksi and elongation of 10% in 2 inches.



BILL OF MATERIAL	
Item	Quantity
Aluminum Railing Lin. Ft.	232

Quantities of Class X Conc. & Reinf. Bars for parapet are included with Superstructure. See Sheet #5



ALUMINUM RAILING  
FA RTE 132 SEC. (C-X) BR  
EDGAR COUNTY  
STA. 911+27.95

DESIGNED	R. Carroll	EXAMINED	R. Carroll
CHECKED	DR Gaffard	PASSED	
DRAWN	A. Barroza	APPROVED	
CHECKED	DR. H. H. H.		

FILE NAME =	USER NAME = carrollrt	DESIGNED R. Carroll	REVISED -
ct:\pwork\pwork\carrollrt\0212096\Bridge Repairs - 023-0024.dgn		DRAWN R. Carroll	REVISED -
PLOT SCALE = 40.0000 ' / IN.		CHECKED T. Brandenburg	REVISED -
PLOT DATE = 12/10/2010		DATE 10/1/2010	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

AS-BUILT PLANS (FOR INFORMATION ONLY)  
S.N. 023-0024

SCALE: SHEET NO. 16 OF 19 SHEETS STA. TO STA.

\*332 & 91

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	28
CONTRACT NO. 70873				
ILLINOIS FED. AID PROJECT				

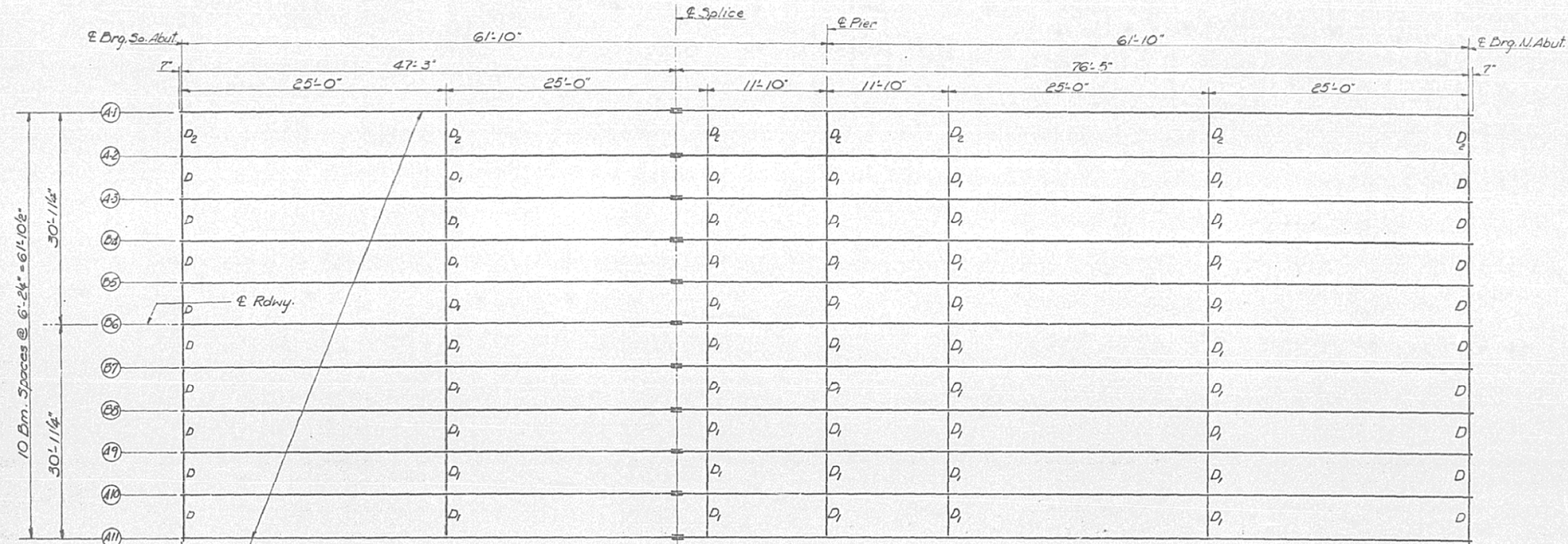


AS-BUILT PLANS  
FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7
132	(C-X) BR	Edgar	53	40	11 SHEETS
FED. ROAD DIST. NO. 7					
ILLINOIS FED. AID PROJECT					

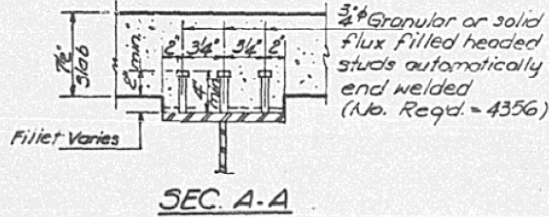
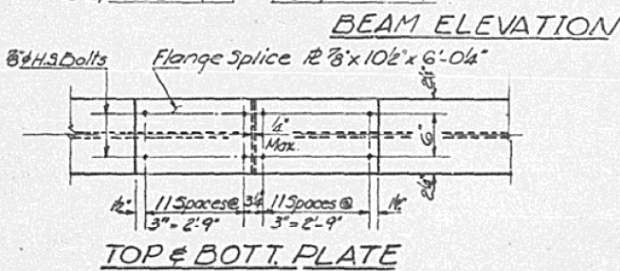
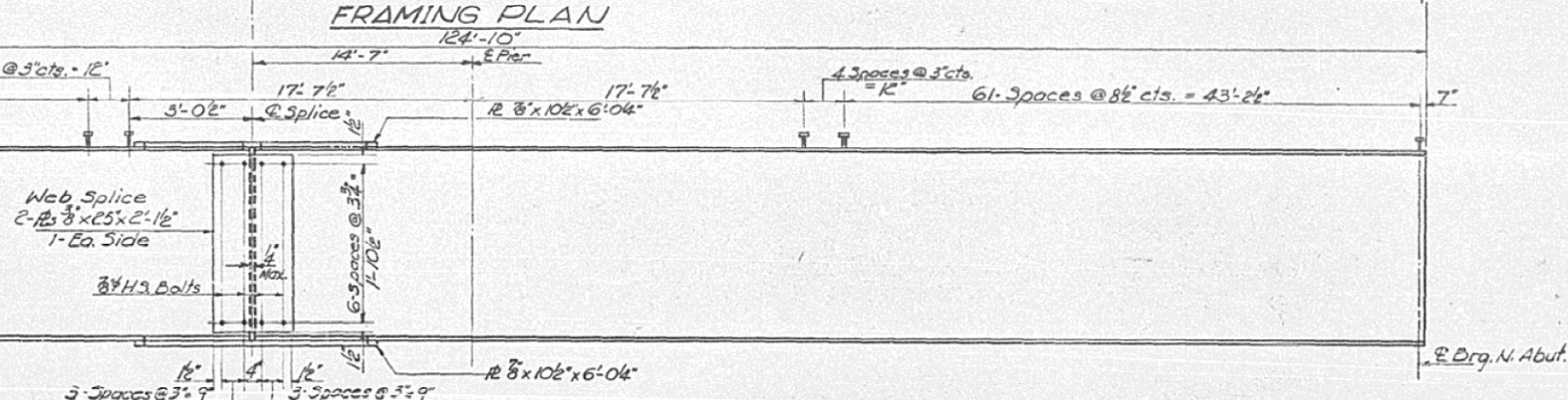
Note: Girders with the Prefix "A" indicates Stage I Construction. Prefix "B" indicates Stage II Construction.



Note: All structural steel shall meet the requirements of AASHTO M-222 Grade 50. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone C. These components are the tension flanges, webs and all splice plate material of the wide flange bms.

DESIGNED	R. Carroll
CHECKED	D.R. Lethard
DRAWN	A. Barroza
CHECKED	D.R. Lethard

April 1 1977  
EXAMINED  
PASSED  
APPROVED



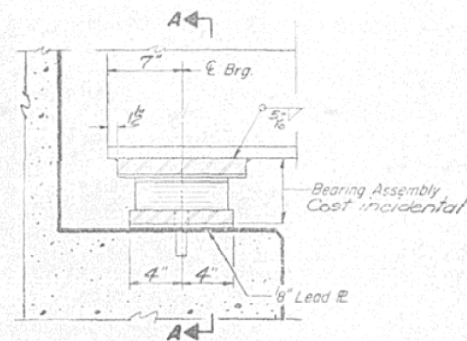
TOP OF FLANGE ELEVATIONS						
Location	Station	111	2410	349	448	547
⊕ Drg. So. Abut.	667.743	667.872	668.000	668.129	668.227	668.324
⊕ Splice	667.625	667.754	667.882	668.011	668.109	668.206
⊕ Pier	667.589	667.718	667.846	667.975	668.073	668.170
⊕ Drg. N. Abut.	667.435	667.564	667.692	667.821	667.919	668.016

STRUCTURAL STEEL  
F.A. RTE. 132 SEC. (CX) BR  
EDGAR COUNTY  
STA. 911+27.95

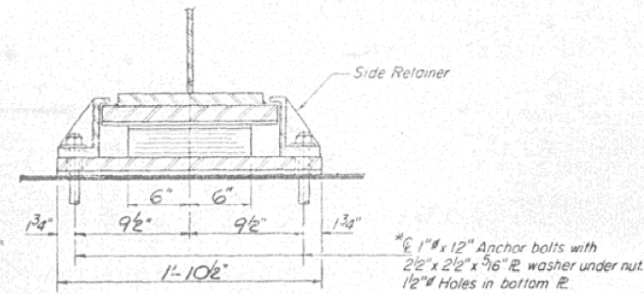


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

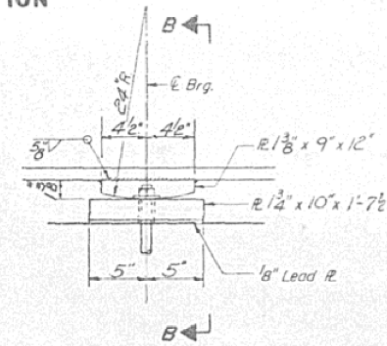
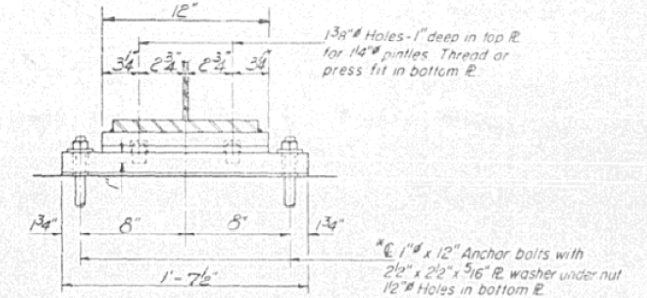
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 11 SHEETS
132	(C-X) BR	Edgar	53	41	
FED. ROAD DIST. NO. 3		ALL RIGHTS	FED. ROAD PROJECT		



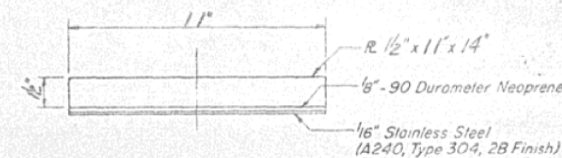
SECTION AT ABUT. (EXP. BRG.)



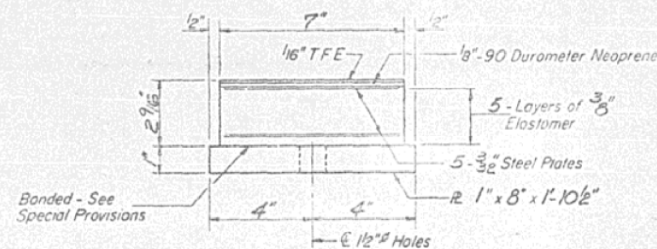
SECTION A-A

ELEVATION AT PIER

SECTION B-B

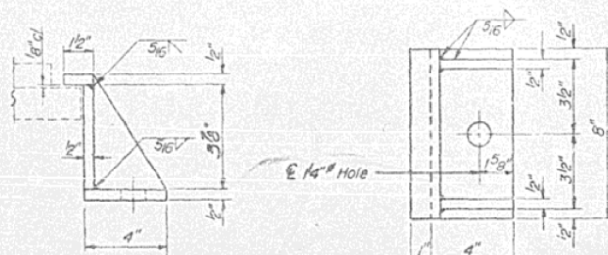


TOP BEARING ASSEMBLY



### BOTTOM BEARING ASSEMBLY

*These Elastomeric Bearings contain features for which patents have been granted or applied for. Free license for projects governed by these standards may be obtained by applying to Fel-Pro Incorporated, Skokie, Illinois.*



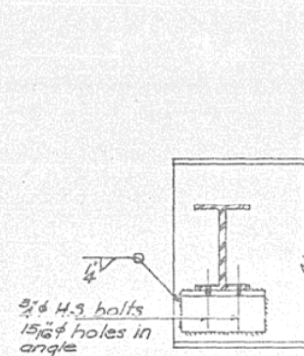
### *SIDE RETAINER*

DESIGNED <u>P. K. Williams</u>	EXAMINED <u>Dr. E. H. Williams</u>
CHECKED <u>DR. Gathard</u>	PASSED
DRAWN <u>A. Barroso</u>	APPROVED
CHECKED <u>DR. Gathard</u>	

I-2-E2 2-1-76

\*Note: After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

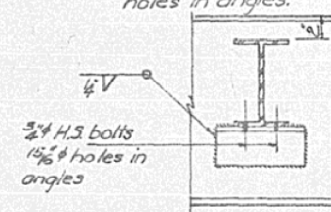
Note: Brq. plates and retainers shall be AASHTO M222.



DIAPHRAGM D

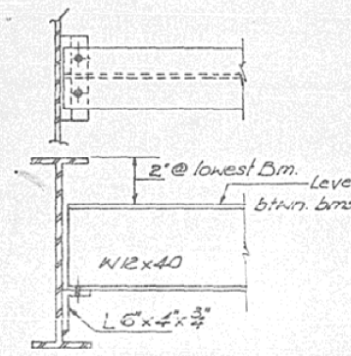
18 Required

Note: Hardened washers shall be required over  $\frac{15}{16}$ " holes in angles.



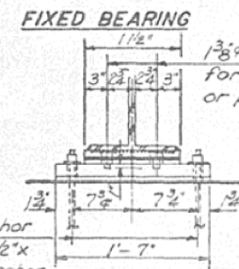
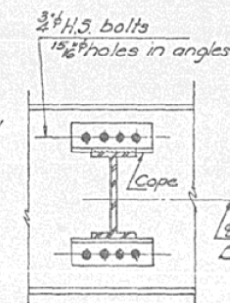
DIAPHRAGM D<sub>2</sub>

7 Required

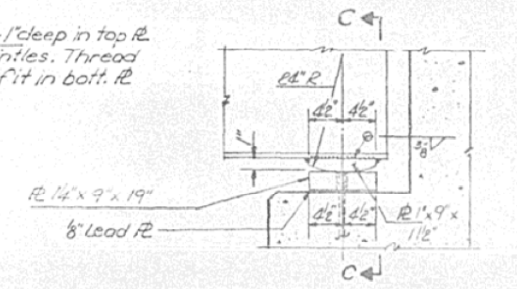


DIAPHRAGM D

45 Required



SECTION C-C



SEC. AT ABUT. (FIX BRG.)

	0.45 Sp.1	Per
Is (in <sup>2</sup> )	4930	4930
Ic (in <sup>4</sup> )	12863	-
Js (in <sup>2</sup> )	329	329
Sc (in <sup>3</sup> )	474	-
Q (in <sup>4</sup> )	.729	1043
M <sub>2</sub> (k)	175.1	422.2
f <sub>3/4</sub> (ksi)	71	16.9
S <sub>2</sub> (in <sup>3</sup> )	.314	-
M <sub>3/4</sub> (k)	93.5	-
M <sub>2</sub> (k)	401.3	222.1
M Imp (k)	107.5	59.4
TOTAL (k)	607.3	281.5
f <sub>3/4</sub> (ksi)	15.4	10.3
f <sub>3/4</sub> TOTAL (ksi)	22.5	27.2
VR (k)	45.8	-

	ABUT	PIER
R <sub>Q</sub> (K)	84.8	79.4
R <sub>L</sub> (K)	33.5	41.1
Imp (K)	9.0	10.9
R <sub>TOTAL</sub> (K)	67.3	131.4

$I_s$  &  $S_s$  are the moment of inertia and section modulus of the steel section  
 $I_c$  &  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_b$ .  
 $V_R$  is the maximum  $V$  + Impact shear range in Span.

DIAPHRAGM &  
BEARING DETAILS  
FA. RTE. 132 SEC. (C-X) BR  
EDGAR COUNTY  
STA. 911-27.95

\*332 & 91

FILE NAME =	USER NAME = carrollrt	DESIGNED <i>R. Carroll</i>	REVISED -	<div>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</div>	<div>AS-BUILT PLANS (FOR INFORMATION ONLY) S.N. 023-0024</div>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwid01\carrollrt\d0212096\Bri	ge Repairs - 023-0024.dgn	DRAWN <i>R. Carroll</i>	REVISED -			•	101 BDR & CX-BJR	EDGAR	36	30
PLOT SCALE = 40.0000 ' / IN.	CHECKED <i>T. Brandenburg</i>	REVISED -				CONTRACT NO. T0873				
PLOT DATE = 12/10/2010	DATE <i>10/1/2010</i>	REVISED -				SCALE:	SHEET NO. 18 OF 19 SHEETS	STA.	TO STA.	
					ILLINOIS FED. AID PROJECT					

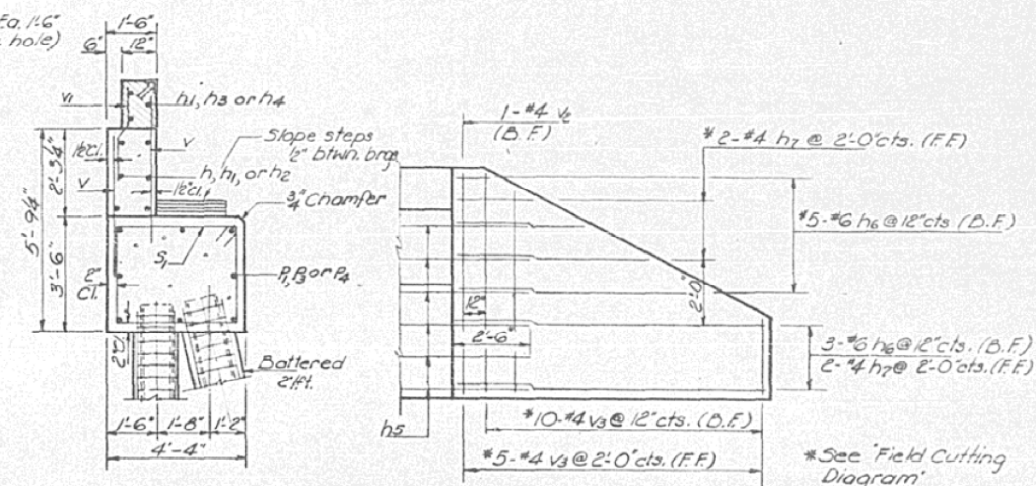
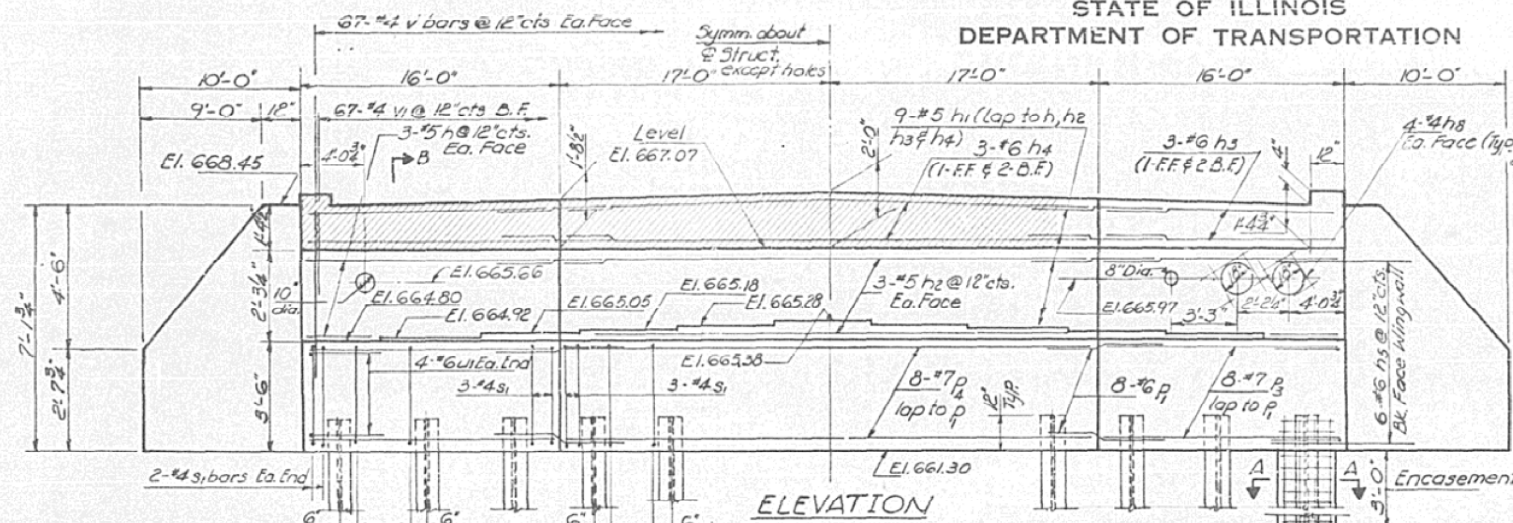


**AS-BUILT PLANS  
FOR INFORMATION ONLY**

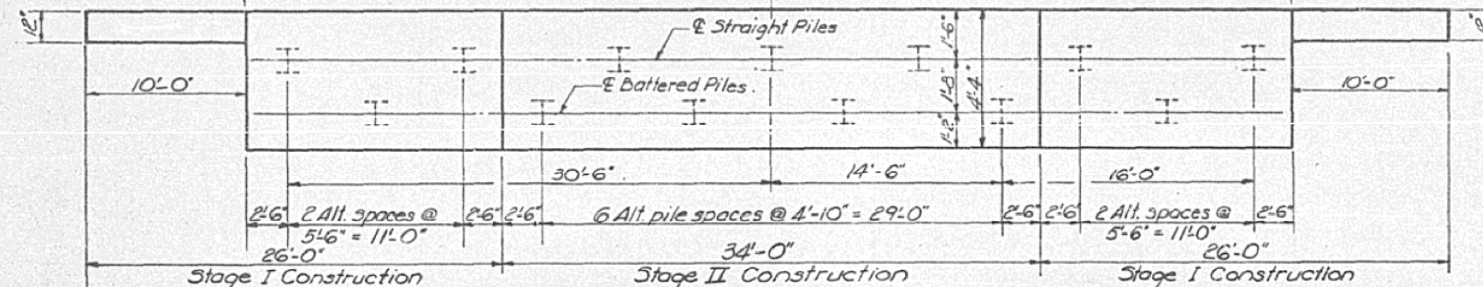
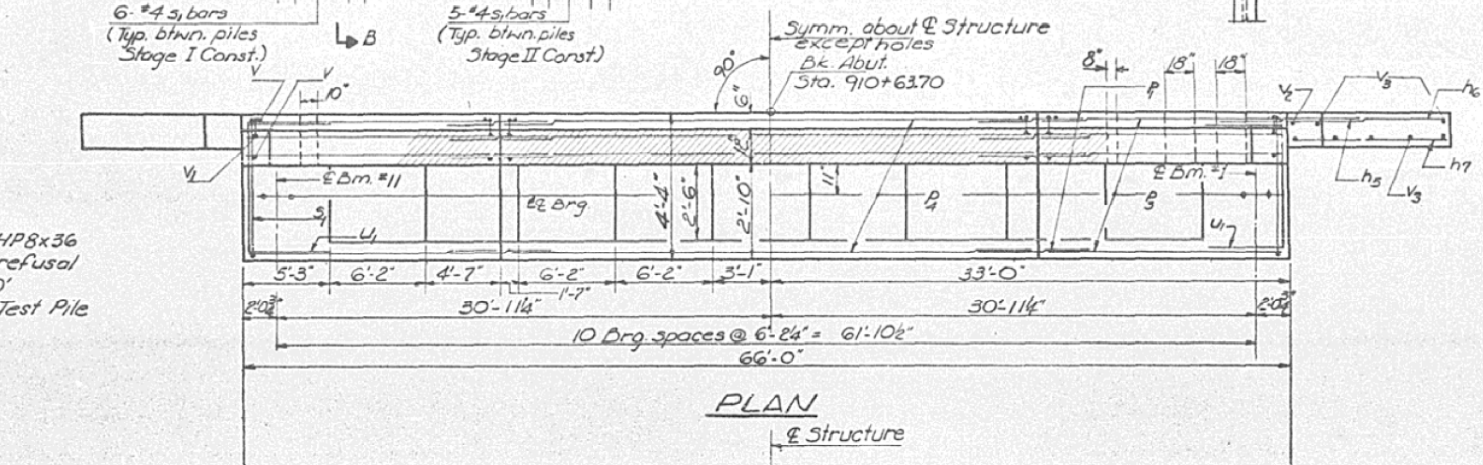
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	CORRECTION	TOTAL SHEETS	SHEET NO.
N. S. 132	(C-X) BR	Edgar	53	42
P&S. ROAD DIST. NO. 7		DATE: 10	P&S. AND PROJECT:	

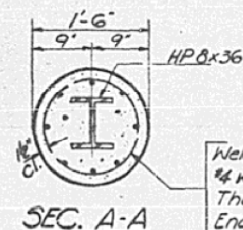
SHEET NO. 9  
// SHEETS



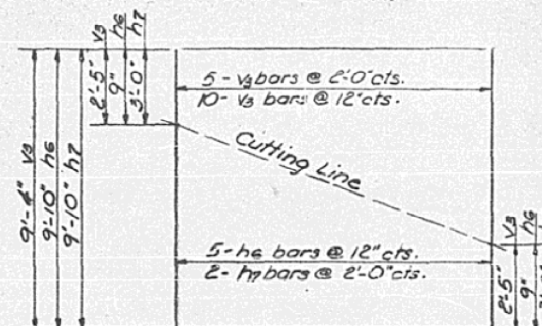
PILE DATA  
Type - Steel / H Piles HP8x36  
Capacity - Drive to refusal  
Estimate Length - 20'  
No. Req'd. 12 Plus 1 Test Pile



FOOTING PLAN



Welded wire fabric 6"x6" mesh  
3/4 wire - weighing 58#/100 sq. ft.  
The cost of Class X Concrete  
Encasement & Reinf. is incidental  
to the cost of furnishing piles.  
Forms for encasement may be  
omitted when soil conditions  
will permit



FIELD CUTTING DIAGRAM

NOTES

- 1- Order h<sub>6</sub>, h<sub>7</sub> &  $\frac{1}{2}$  bars full length  
Cut to fit as shown and use  
remainder of bars in other wing.
- 2- Bars h<sub>1</sub> & p shall conform to the  
requirements of AASHTO M31  
or M53 except the minimum  
yield strength shall be not less  
than 33,000 psi nor more than  
43,000 psi.
- 3- Hatched portion shall be poured  
after the superstructure is in place.  
Quantity of Class X Concrete is  
included with superstructure.

BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
h	12	#5	15'-9"	—
h <sub>1</sub>	18	#5	4'-0"	L
h <sub>2</sub>	6	#5	33'-10"	—
h <sub>3</sub>	6	#6	15'-9"	—
h <sub>4</sub>	3	#6	33'-10"	—
h <sub>5</sub>	12	#6	5'-0"	—
h <sub>6</sub>	11	#6	9'-10"	—
h <sub>7</sub>	6	#4	9'-10"	—
h <sub>8</sub>	16	#4	3'-6"	—
P <sub>1</sub>	16	#6	4'-0"	L
P <sub>2</sub>	16	#7	15'-9"	—
P <sub>3</sub>	8	#7	33'-10"	—
S <sub>1</sub>	70	#4	15'-1"	□
U <sub>1</sub>	8	#6	13'-3"	□
V	134	#4	5'-6"	—
V <sub>1</sub>	67	#4	3'-9"	—
V <sub>2</sub>	2	#4	6'-10"	—
V <sub>3</sub>	15	#4	9'-4"	—
Steel Piles (HP8x36)			Ln.Ft.	240
Class X Concrete			Cu. Yds.	50.9
Reinf. Bars			Pounds	3900
Test Pile Steel (HP8x36)			Ea.	1

SOUTH ABUTMENT  
FA. RTE. 132 SEC. (C-X) BR  
EDGAR COUNTY  
STA. 911+2795

Rou 6-1-77

\*332 &amp; 91

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	31
		CONTRACT NO. 70873		
ILLINOIS FED. AID PROJECT				

FILE NAME =	USER NAME = carrollrt	DESIGNED <i>R. Carroll</i>	REVISED -
c:\pwwork\pwwork\carrollrt\d0212096\Bridge Repairs - 023-0024.dgn		DRAWN <i>R. Carroll</i>	REVISED -
	PLOT SCALE = 40.0000' / IN.	CHECKED <i>T. Brandenburg</i>	REVISED -
	PLOT DATE = 12/10/2010	DATE <i>10/1/2010</i>	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

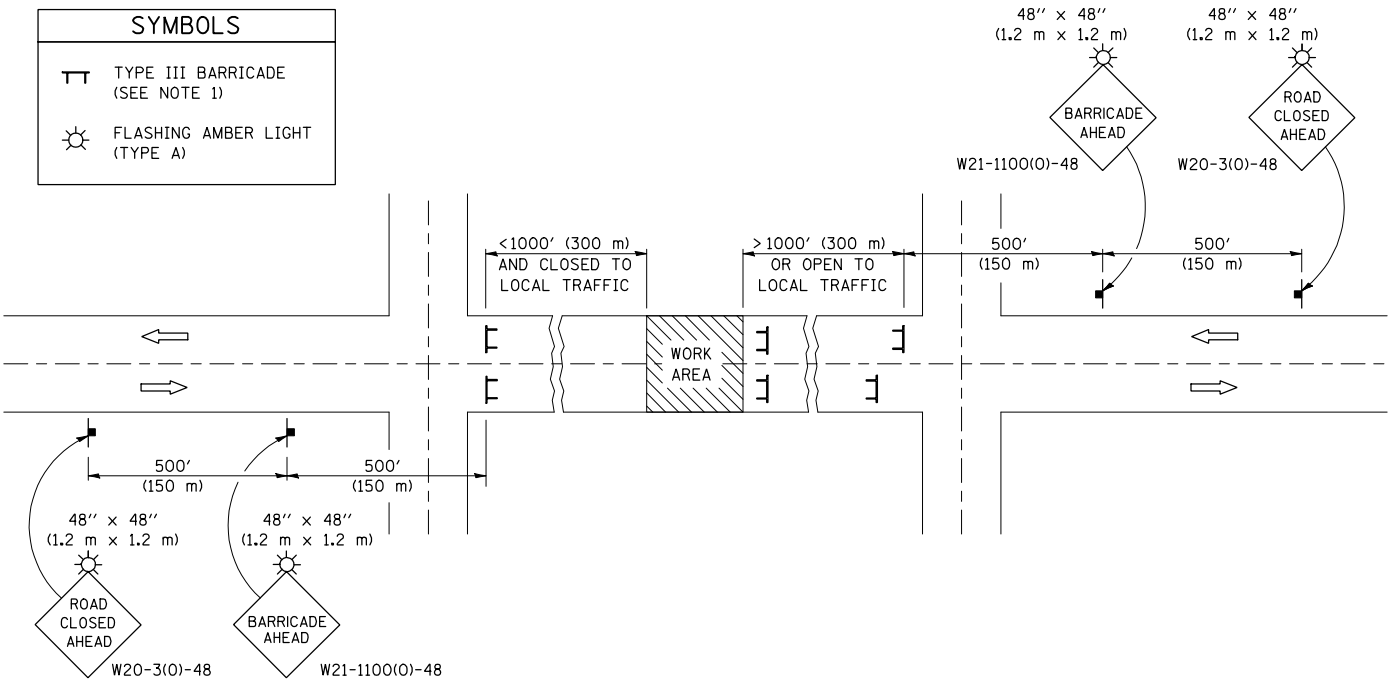
**AS-BUILT PLANS (FOR INFORMATION ONLY)**  
**S.N. 023-0024**

SCALE:	SHEET NO. 19 OF 19 SHEETS	STA.	TO STA.
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ROAD CLOSURE

SIDEROAD / STREET CLOSURE

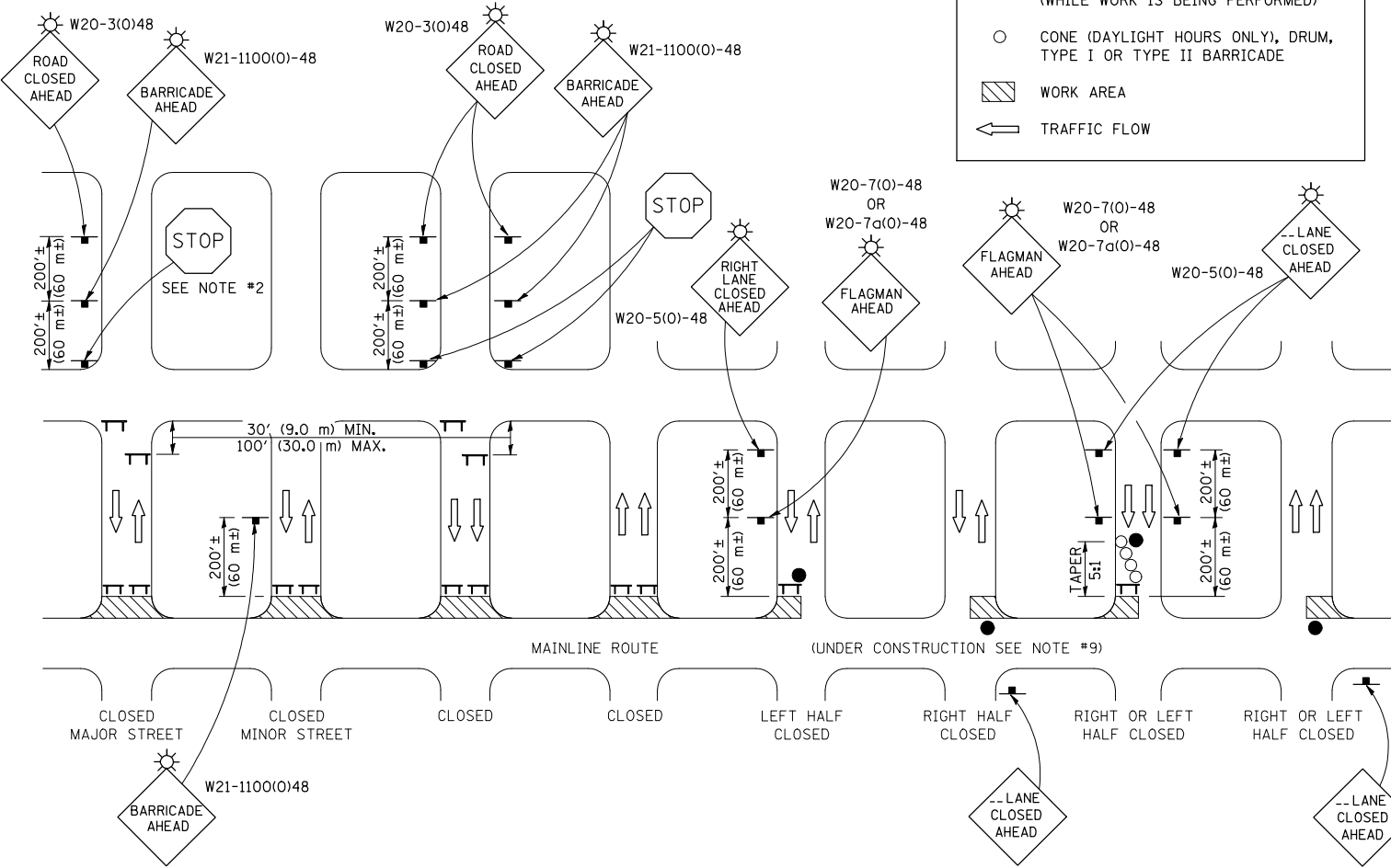
SYMBOLS	
	TYPE III BARRICADE (SEE NOTE 1)
	FLASHING AMBER LIGHT (TYPE A)



GENERAL NOTES

- TYPE III BARRICADES SHALL BE AS SHOWN ON STANDARD 701901 "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
- IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR EXCEEDS 1000' (300 m), ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
- WHEN A STOP CONDITION EXISTS, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' (30 m) OF THE INTERSECTION.
- STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & DESIGN OF TYPE III BARRICADES.
- IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON AN NCHRP 350 TEMPORARY SIGN SUPPORT DIRECTLY IN FRONT OF THE BARRICADE.
- REFLECTORIZED STRIPING SHALL APPEAR ON BOTH SIDES OF THE TY III BARRICADES IF ROAD IS OPEN TO LOCAL TRAFFIC.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- FORMS BT. 725 AND BT. 726 ARE REQUIRED.
- WHEN A SIDEROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.
- AN ADDITIONAL SIGN MAY BE REQUIRED AT A MAJOR INTERSECTING ROAD IN ADVANCE OF THE CLOSURE. THE ADDITIONAL SIGN SHALL GIVE THE DISTANCE TO THE BARRICADE IN MILES OR FRACTIONS OF A MILE.

SYMBOLS	
	TYPE III BARRICADE (SEE NOTE)
	FLASHING LIGHT
	FLAGGER WITH TRAFFIC CONTROL SIGN (WHILE WORK IS BEING PERFORMED)
	CONE (DAYLIGHT HOURS ONLY), DRUM, TYPE I OR TYPE II BARRICADE
	WORK AREA
	TRAFFIC FLOW



GENERAL NOTES

- TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
- WHERE A STOP CONDITION EXISTS, AS SHOWN ABOVE, WARNING SIGNS MAY BE OMITTED IN ADVANCE OF THE "STOP" SIGN.
- STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ONE FLASHING LIGHT IS REQUIRED ABOVE EACH ADVANCE WARNING SIGN DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- FORMS BT 725 AND BT 726 ARE REQUIRED.
- THE MAINLINE ROUTE TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
- ALL FLAGGERS REQUIRED AT SIDE ROADS AND ENTRANCES REMAINING OPEN TO TRAFFIC AND/OR ADDITIONAL BARRICADES REQUIRED BY THE ENGINEER TO CLOSE SIDE ROADS AND ENTRANCES WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.

NOTE:  
AN ADDITIONAL SIGN WILL BE REQUIRED FOR SOUTHBOUND MAINLINE TRAFFIC TO INDICATE THAT WEST LAKE BOAT RAMP TRAFFIC IS TO USE NORTH SHORE DRIVE DUE TO THE CLOSING OF CIRCLE DRIVE. THIS SIGN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE VARIOUS TRAFFIC CONTROL AND PROTECTION ITEMS IN THE CONTRACT.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

\*332 & 91

DISTRICT 5 DETAIL NO. 70200000

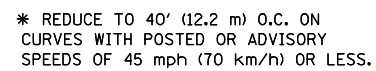
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	PLOT SCALE = 40.0000 ' / IN.	CHECKED -	REVISED - 09/09 - KJT
	PLOT DATE = 12/15/2010	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL & PROTECTION DEVICES  
(ROAD & SIDEROAD/STREET CLOSURES)

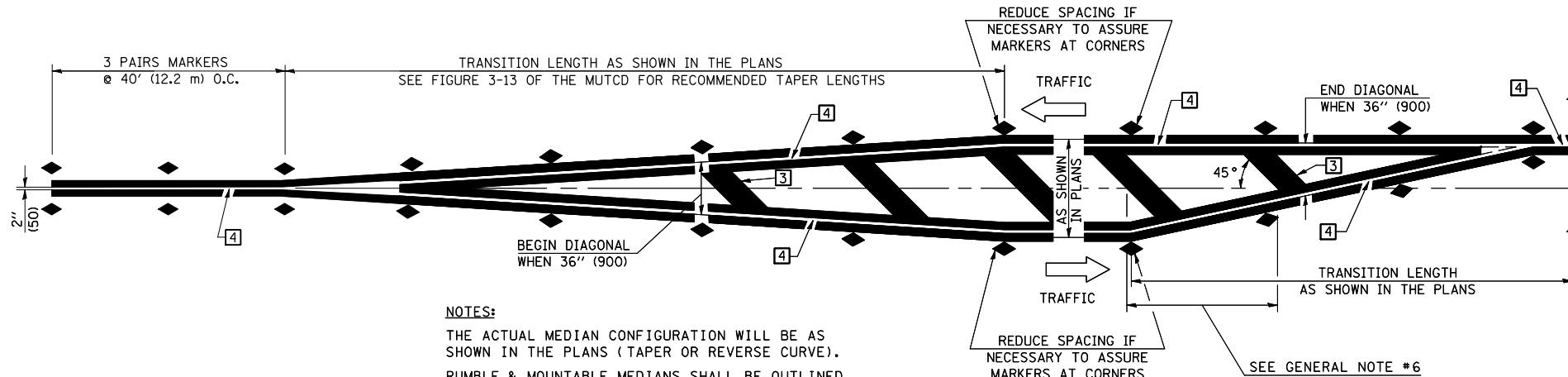
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	32
CONTRACT NO. 70873				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	101 BDR & CX-BJR	EDGAR	36	33
		CONTRACT NO. 70873		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



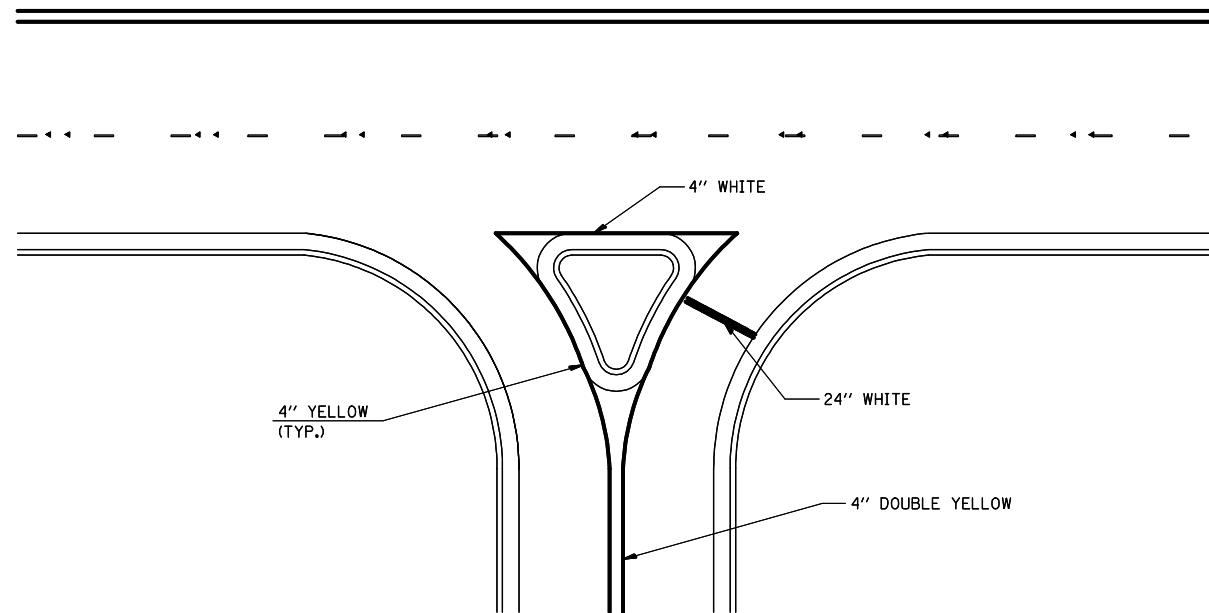


**NOTES:**  
THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE).  
RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH [2].

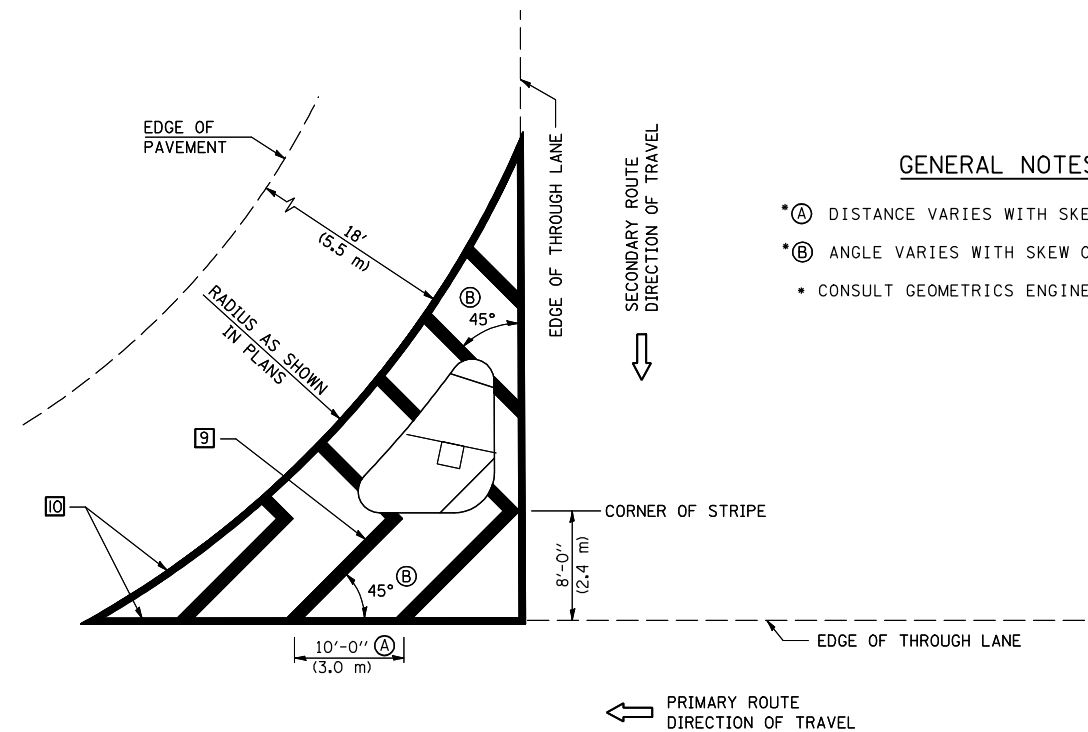
**TYPICAL MEDIAN TRANSITIONS**

**GENERAL NOTES**

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,  
< 30 MPH USE 15' (< 50 km/h USE 4.5 m)  
30-45 MPH USE 20' (50-75 km/h USE 6.0 m)  
> 45 MPH USE 30' (> 75 km/h USE 9.0 m)



**RIGHT IN - RIGHT OUT ACCESS**



**GENERAL NOTES**

- \* (A) DISTANCE VARIES WITH SKEW OF INTERSECTION.
- \* (B) ANGLE VARIES WITH SKEW OF INTERSECTION.
- \* CONSULT GEOMETRICS ENGINEER

**ISLAND**

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.  
\*332 & 91

**DISTRICT 5 DETAIL NO. 7800AAAA**

FILE NAME =	USER NAME = carrollrt	DESIGNED -	REVISED - 11/06
ct\pw\work\pwwork\carrollrt\d0212107\0570873-sht-cover.dgn		DRAWN -	REVISED - 09/2009 - KJT
	PLOT SCALE = 40.0000' / IN.	CHECKED -	REVISED -
	PLOT DATE = 12/10/2010	DATE -	REVISED -

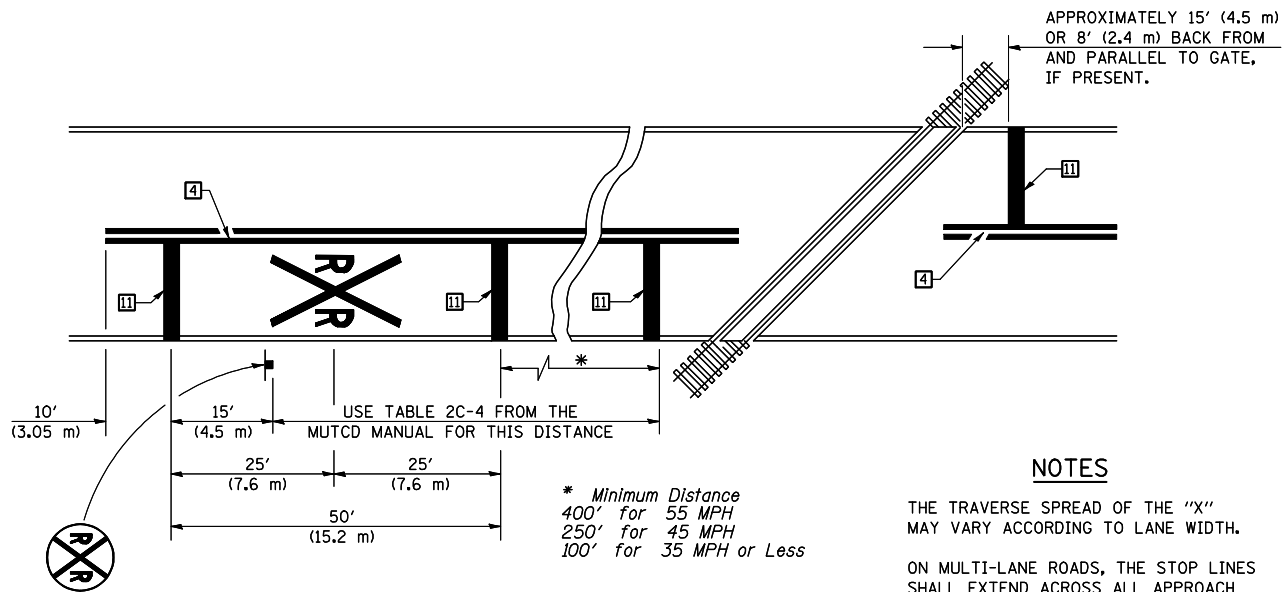
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND MARKERS  
(RURAL & URBAN APPLICATIONS)**

SCALE: SHEET NO. 3 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	35
CONTRACT NO. 70873				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				





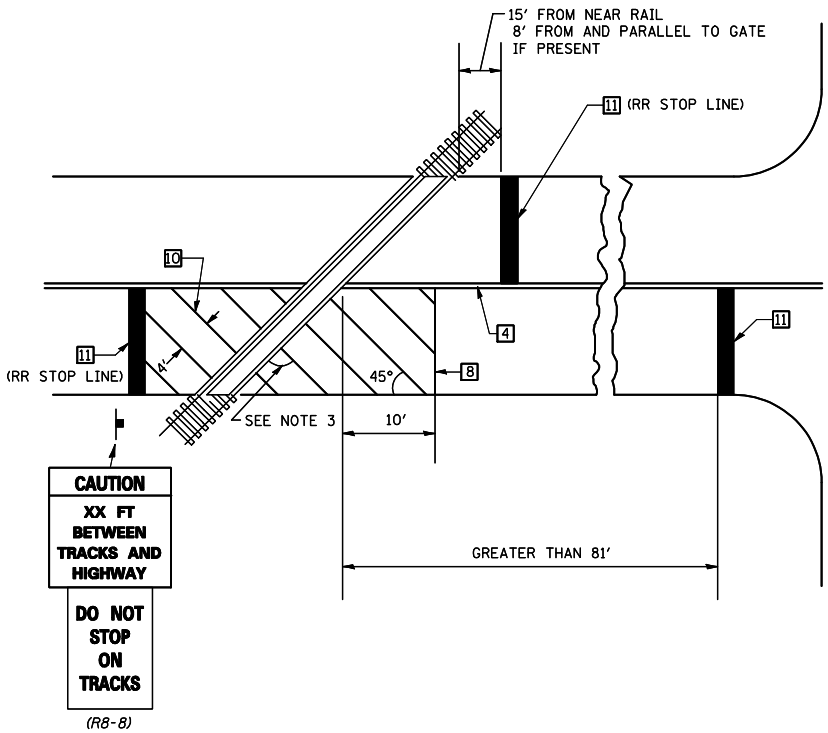
PAVEMENT MARKINGS AT  
RAILROAD-HIGHWAY GRADE CROSSING

NOTES

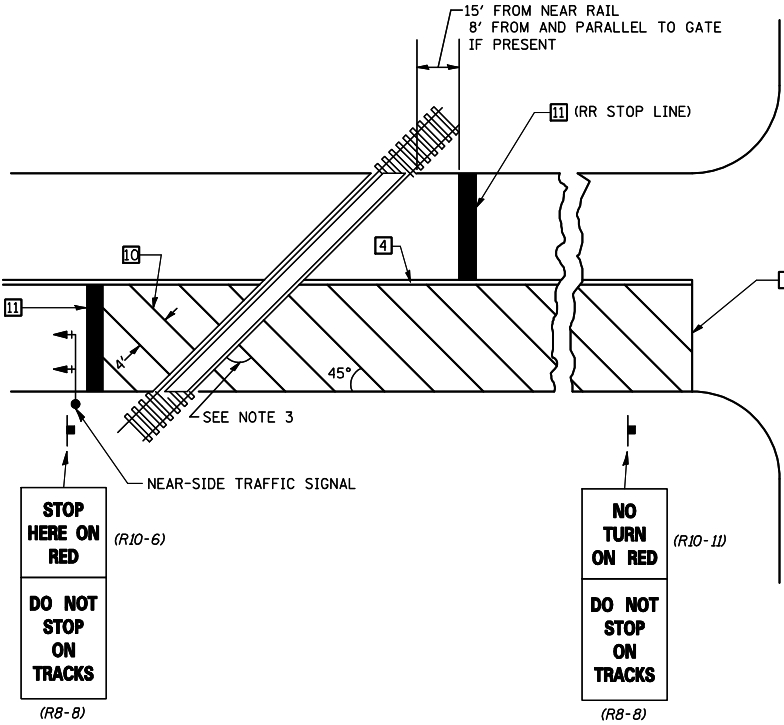
THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.



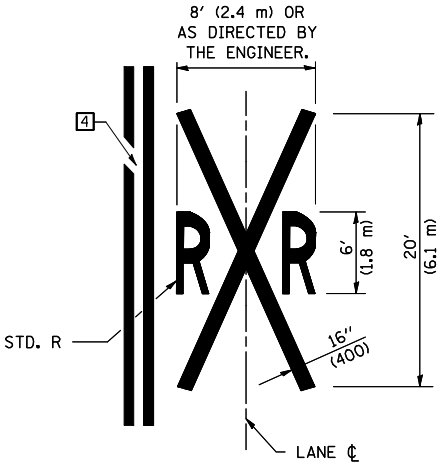
RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR  
RAILROAD-HIGHWAY GRADE CROSSING

GENERAL NOTES

- SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
- EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
- WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

•332 & 91

DISTRICT 5 DETAIL NO. 7800AAAA

FILE NAME =	USER NAME = carrollrt	DESIGNED -	REVISED - 11/06
ct\pwwork\pwwork\carrollrt\d0212107\0570873-sht-cover.dgn		DRAWN -	REVISED - 09/2009 - KJT
	PLOT SCALE = 40.0000" / IN.	CHECKED -	REVISED -
	PLOT DATE = 12/10/2010	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS  
(RURAL & URBAN APPLICATIONS)

SCALE: SHEET NO. 4 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	101 BDR & CX-BJR	EDGAR	36	36
CONTRACT NO. 70873				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		