

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP 103 ROUTE (IL 15)  
SECTION 95-VB-1

CM BRIDGE REPAIRS  
ST. CLAIR COUNTY

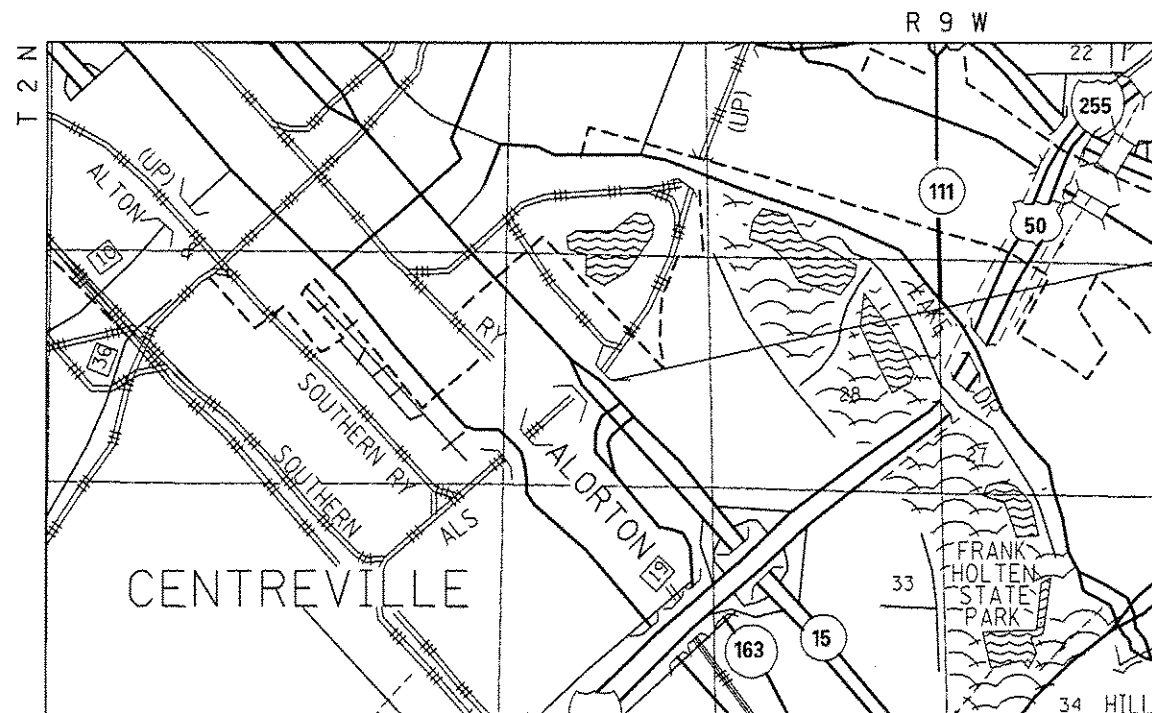
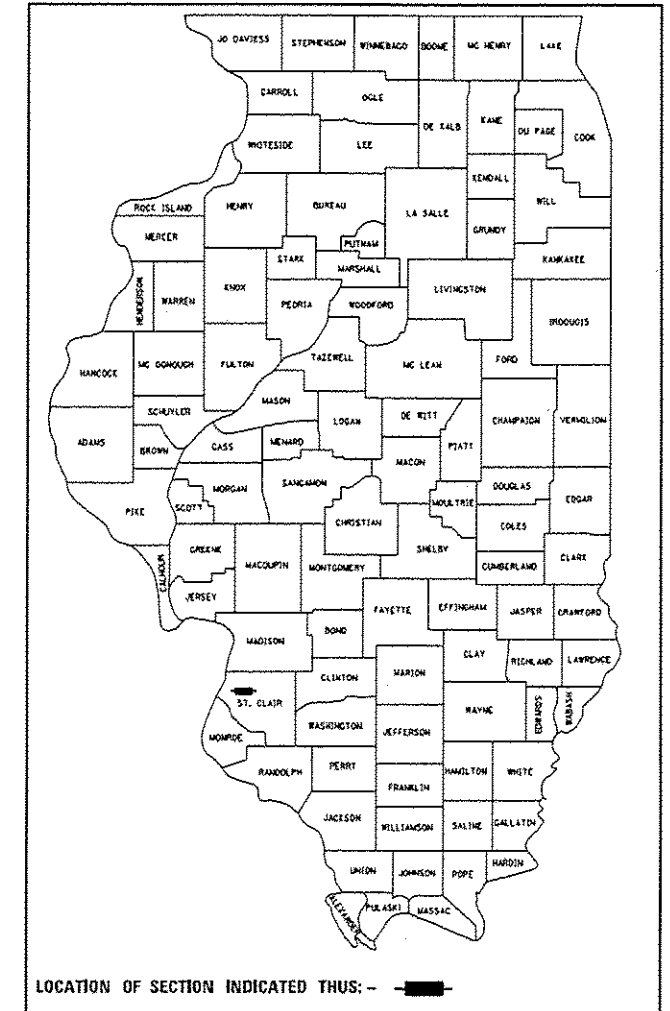
C-98-049-13

FOR INDEX OF SHEETS, SEE SHEET NO. 2

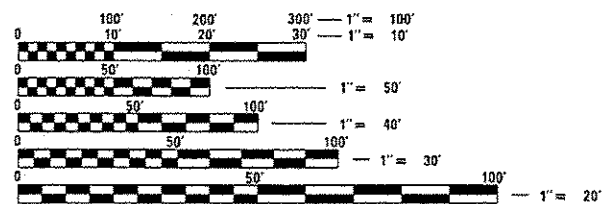
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	1
ILLINOIS			CONTRACT NO. 76G47	

\* 34+1 = 35 TOTAL SHEETS

D-98-046-13



PROJECT LOCATION  
STATION 44+70.77  
3 SPAN CONTINUOUS  
STEEL WF BEAM  
STRUCTURE CARRYING  
FAP 103 OVER A&S RR  
S.N. 082-0259;  
192'-7" BK TO BK OF  
ABUTMENT  
LAT: 38.59372  
LONG: -90.12078



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

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

PROJECT ENGINEER: PATTI LEBEAU (618)-346-3179  
DESIGNER: TONI MANN (618)-346-3189

CONTRACT NO. 76G47

GROSS LENGTH = 193 FT. = 0.04 MILES  
NET LENGTH = 193 FT. = 0.04 MILES

FUNCTIONAL CLASSIFICATION:  
OTHER ARTERIAL

ADT  
2013 = 18400 (ACTUAL)  
2014 = 18600 (ESTIMATED)  
S.U. = 2.0%  
M.U. = 2.0%

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *Dec 22 2014*

*John T. Kan*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

*John D. Baranzelli, PE*  
ENGINEER OF DESIGN AND ENVIRONMENT

*Jan 30 2015*  
*Omer Osman, PE*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

**GENERAL NOTES**

1. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN WITHIN PROJECT AREA TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

- \*AT&T ILLINOIS
- \*CITY OF CENTREVILLE
- \*AMEREN ILLINOIS
- \*BUCKEYE PARTNERS L.P. - WOOD RIVER PIPELINE
- \*COMMONFIELDS OF CAHOKIA PUBLIC WATER DISTRICT
- \*ENABLE - MISSISSIPPI RIVER TRANSMISSION LLC
- \*ILLINOIS AMERICAN WATER COMPANY
- \*LEVEL 93 COMMUNICATIONS, LLC

MEMBERS OF J.U.L.I.E. (800) 892-0123 OR 811 ARE INDICATED BY \*, NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS. THE CONTRACTOR AND THE ENGINEER SHALL BE AWARE THAT NO SURVEY WAS PERFORMED FOR THIS PROJECT. THE STATIONING SHOWN IN THE PLANS WAS CREATED USING MICROFILM AND FIELD MEASUREMENTS MADE BY DESIGN PERSONNEL. BOTH SHALL BE ASSUMED TO BE APPROXIMATE.

3. THE FOLLOWING HMA MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE	POLY SURFACE	WIDENING
AC/PG	SBS PG 76-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ Ndes=70	4.0% @ Ndes=70
MIX COMPOSITION		
GRADATION MIXTURE	IL 9.5	IL 9.5 F.G.
FRICITION AGG	MIXTURE "D"	MIXTURE "B"

PLAN QUANTITIES FOR HMA (HOT MIX ASPHALT) ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SQ YD/IN.

4. 'ROAD CONSTRUCTION AHEAD' SIGNS SHALL BE PLACED AT EACH END OF THE PROJECT PLUS THE INTERSECTING SIDEROADS, AND WILL BE CONSIDERED INCLUDED IN THE TRAFFIC CONTROL PAY ITEMS. ALL CONSTRUCTION SIGNS SHALL BE FLUORESCENT ORANGE AND 48" X 48".

5. ANY EXCAVATION OR DROP-OFF MORE THAN 3" AT EDGE OF PAVEMENT SHALL BE PROTECTED WITH EXTENDED LEG BARRICADES AND APPROPRIATE LIGHTING.

6. NO TRENCHES OR OPEN PITS WILL BE PERMITTED ADJACENT TO A TRAFFIC LANE DURING NONE WORKING HOURS. ALL WIDENING TRENCHES SHALL BE BACK FILLED DURING THE SAME WORKING DAY IT WAS EXCAVATED.

7. EARTH EXCAVATION FOR THIS PROJECT IS MINIMAL AND SHALL BE CONSIDERED AS INCLUDED IN THE COST OF THE CONTRACT.

8. COORDINATION WITH THE DEPARTMENT'S BUREAU OF OPERATIONS IS REQUIRED BEFORE ANY TRENCHING SHALL BE DONE TO LOCATE HIGHWAY LIGHTING/PUMP STATION /INTELLIGENT TRANSPORTATION SYSTEM FACILITIES AND TO COORDINATE OTHER FIELD ACTIVITIES.

9. THE RESIDENT ENGINEER SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING AND/OR I.T.S. UTILITIES WITHIN THE PROJECT LIMITS. IF HIGHWAY LIGHTING AND/OR I.T.S. EXISTS WITHIN THE PROJECT LIMITS. IF HIGHWAY LIGHTING AND/OR I.T.S. EXISTS WITHIN THE PROJECT LIMITS, AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS.

10. FOUR CHANGEABLE MESSAGE BOARDS SHALL BE REQUIRED FOR THIS PROJECT. THEY SHALL BE PLACED TWO WEEK PRIOR TO ANY LANE CLOSURE AND SHALL REMAIN UP FOR THE DURATION OF THE PROJECT. ONE CHANGEABLE MESSAGE BOARD SHALL BE PLACED ALONG THE WESTBOUND LANES OF IL ROUTE 15 PRIOR TO THE I-255 INTERCHANGE OR AT THE DIRECTION OF THE ENGINEER AND THE OTHER ONE WILL BE PLACED ALONG THE EASTBOUND LANES OF IL ROUTE 15 AT THE DIRECTION OF THE ENGINEER. THE OTHER TWO WILL BE PLACED NORTHBOUND AND SOUTHBOUND OF I-255 IN ADVANCE OF THE IL 15 CONSTRUCTION.

11. THE CONTRACTOR SHALL PROVIDE POSITIVE AND ADEQUATE DRAINAGE AT ALL TIMES.

12. ACCESS SHALL BE MAINTAINED TO ALL PROPERTIES UNLESS OTHERWISE NOTED IN THE PLANS.

13. THE DEPARTMENT STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUBCONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGE INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION ENGINEERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSE WORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOL USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

14. ALL ELEVATIONS REFER TO THE USGS MEAN SEA LEVEL DATUM.

15. ALL TERMINAL ATTACHMENTS SHALL BE CORED. NO DRILLING WILL BE PERMITTED INTO THE PARAPET WALLS. THE COST FOR THIS WORK WILL BE INCLUDED THE COST OF REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 6 AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. FOR THIS WORK, ANY DAMAGE TO THE PARAPET WALLS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT HIS OWN EXPENSE. ALL EXISTING HOLES WILL BE GROUTED IF NOT USED.

16. THE STANDARDS AND REVISION NUMBERS STATED IN THE PLANS SHALL APPLY TO THIS CONTRACT.

17. ALL TEMPORARY PAVEMENT MARKING SHALL BE PLACED IN SUCH A MANNER AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKING.

18. THE CONTRACTOR SHALL PLACE TYPE C AGGREGATE IN THE EXCAVATED AREAS BELOW THE PROPOSED HMA BASE COURSE. THIS COST WILL BE INCLUDED IN THE COST OF THE CONTRACT.

**INDEX OF SHEETS**

- 1 COVER SHEET, PROJECT LIMITS, ADT
- 2 GENERAL NOTES, STANDARDS, COMMITMENTS
- 3-5A SUMMARY OF QUANTITIES
- 6 TYPICAL SECTION
- 7-8 PLAN SHEETS
- 9-10 DETAIL SHEETS
- 11-15 SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL
- 16-28 STRUCTURE PLAN SHEETS
- 29-34 EXISTING STRUCTURE PLANS

**COMMITMENTS**

NO COMMITMENTS

**STANDARDS**

- 000001-06
- 001001-02
- 001006
- 420001-08
- 442001-04
- 606001-06
- 606301-04
- 610001-06
- 631031-13
- 635006-03
- 635011-02
- 701101-04
- 701423-08
- 701428
- 701901-04
- 704001-07
- 780001-05

FILE NAME :	USER NAME : *USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES, INDEX OF SHEETS COMMITMENTS, AND STANDARDS</b>				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -		103	95-VB-1	ST. CLAIR	34	2				
	PLOT SCALE : *SCALE*	CHECKED -	REVISED -		CONTRACT NO. 76647								
	PLOT DATE : *DATE*	DATE -	REVISED -		SCALE:	SHEET 1 OF 1 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				URBAN 100% STATE BRIDGE 0014 082-0259
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	381	381
35501320	HOT-MIX ASPHALT BASE COURSE, 9"	SO YD	1332	1332
40603540	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	18	18
44000300	CURB REMOVAL	FOOT	1271	1271
44003100	MEDIAN REMOVAL	SO FT	407	407
44004250	PAVED SHOULDER REMOVAL	SO YD	1332	1332
50102400	CONCRETE REMOVAL	CU YD	50.9	50.9
50300225	CONCRETE STRUCTURES	CU YD	31.9	31.9
50300255	CONCRETE SUPERSTRUCTURE	CU YD	18.1	18.1
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	8340	8340
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1	1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4050	4050
50800515	BAR SPLICERS	EACH	76	76
52000110	PREFORMED JOINT STRIP SEAL	FOOT	177	177

FILE NAME #	USER NAME # #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>				F.A.P. RATE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -		103	95-VB-1	ST. CLAIR	34	3				
	PLOT SCALE # #SCALE#	CHECKED -	REVISED -		SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.				CONTRACT NO. 76G47				
	PLOT DATE # #DATE#	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				URBAN 100% STATE BRIDGE 0014 082-0259
60607400	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-9. 24	FOOT	52	52
60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SQ FT	290	290
63300575	REMOVE AND REERECT RAIL ELEMENT OF EXISTING GUARDRAIL	FOOT	1275	1275
63302700	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 6	EACH	2	2
66101150	HOT-MIX ASPHALT SHOULDER CURB	FOOT	1271	1271
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5
67100100	MOBILIZATION	L SUM	1	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	16	16
70300100	SHORT TERM PAVEMENT MARKING	FOOT	208	208
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	2732	2732
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	980	980
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1825	1825
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1350	1350
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2

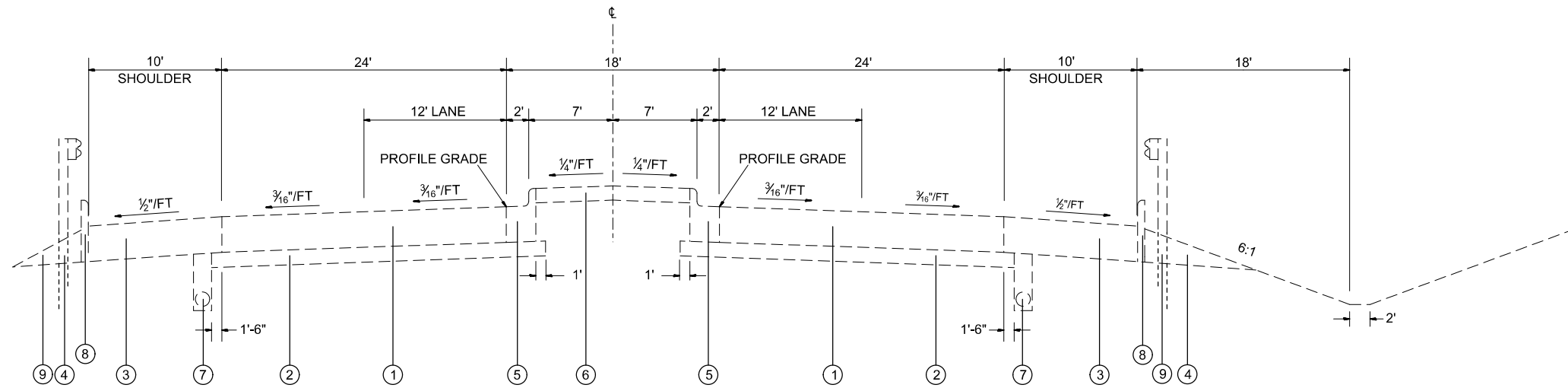


CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				URBAN 100% STATE BRIDGE 0014 082-0259
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
* 78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	2732	2732
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	4	4
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	16	16
78300100	PAVEMENT MARKING REMOVAL	SQ FT	911	911
X0327037	SPECIAL GRATE NO. 1	EACH	3	3
X4400100	PORTLAND CEMENT CONCRETE SURFACE REMOVAL (VARIABLE DEPTH)	SQ YD	80	80
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1
X5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	19,130	19,130
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1
Z0000600	ADJUSTING FRAMES FOR INLETS	EACH	9	9
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	6680	6680
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	50	50
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1

\* SPECIALTY ITEM

FILE NAME :	USER NAME : #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -		SCALE:	SHEET 3 OF 4 SHEETS	STA.	TO STA.	103	95-VB-1	ST. CLAIR	34	5
		CHECKED -	REVISED -						CONTRACT NO. 76G47				
		DATE -	REVISED -						ILLINOIS FED. AID PROJECT				

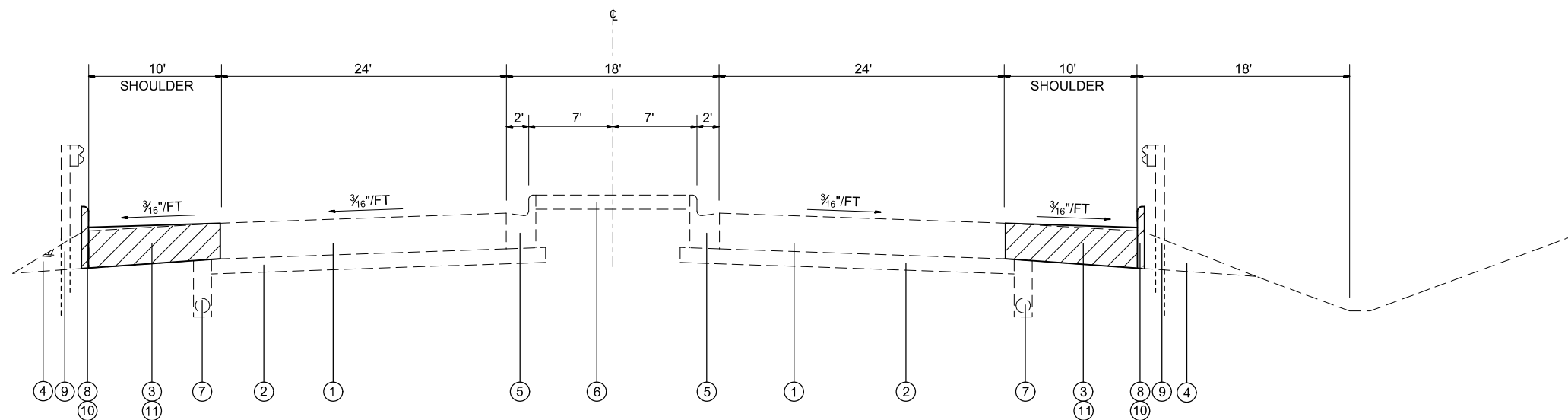




EXISTING TYPICAL SECTION  
 STA. 40+44.00 TO STA. 43+97.96  
 STA. 45+90.54 TO STA. 49+47.00

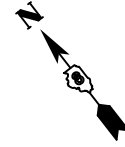
**LEGEND**

- ① EXISTING CRPCC PAVEMENT - 9"
- ② EXISTING SUBBASE GRANULAR MATERIA, TY B - 4"
- ③ EXISTING HMA SHOULDER - 9"
- ④ EXISTING AGGREGATE SHOULDER - 9"
- ⑤ EXISTING CURB AND GUTTER, TYPE B-9,24
- ⑥ EXISTING CONCRETE MEDIAN SURFACE
- ⑦ EXISTING PIPE UNDERDRAIN - 4"
- ⑧ EXISTING HMA CURB - 5"
- ⑨ EXISTING SPBGR TY A
- ⑩ PROPOSED HMA CURB - 5"
- ⑪ PROPOSED HMA BASE COURSE - 9"



PROPOSED TYPICAL SECTION  
 STA. 40+44.00 TO STA. 43+97.96  
 STA. 45+90.54 TO STA. 49+47.00

FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL SECTION</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = *SCALE*	CHECKED -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	103	95-VB-1	ST. CLAIR	34
PLOT DATE = *DATE*	DATE -	REVISED -	REVISED -				CONTRACT NO. 76G47					
							FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



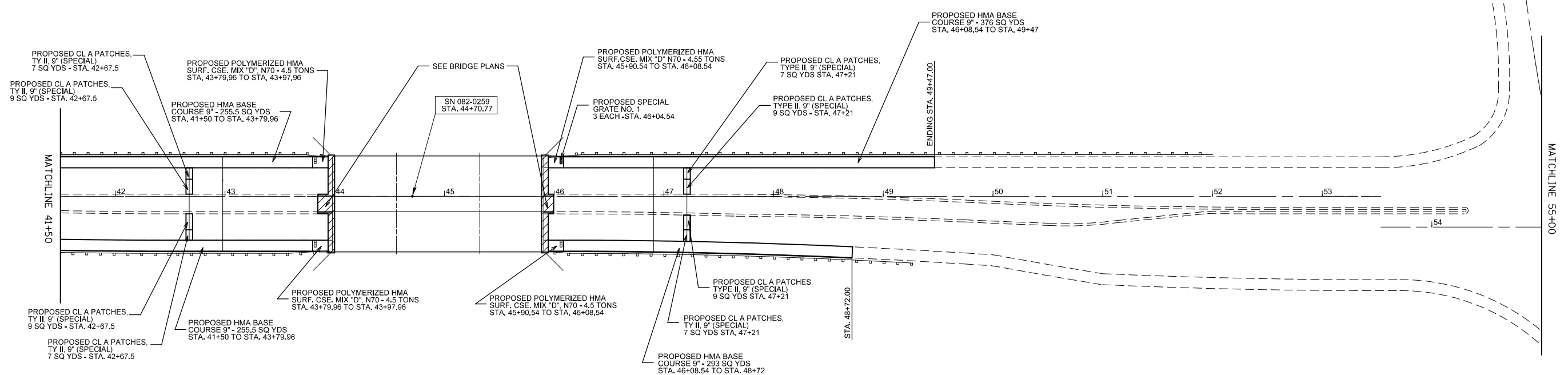
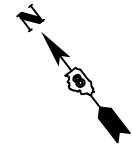
FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = *SCALE*	CHECKED -	REVISED -
	PLOT DATE = *DATE*	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN SHEET**

SCALE: 1:50      SHEET 1 OF 2 SHEETS      STA. 30+00 TO STA. 41+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	7
CONTRACT NO. 76G47				
ILLINOIS FED. AID PROJECT				

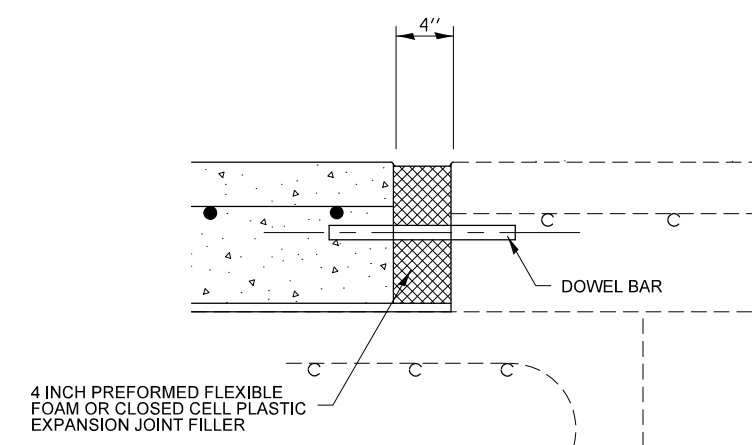
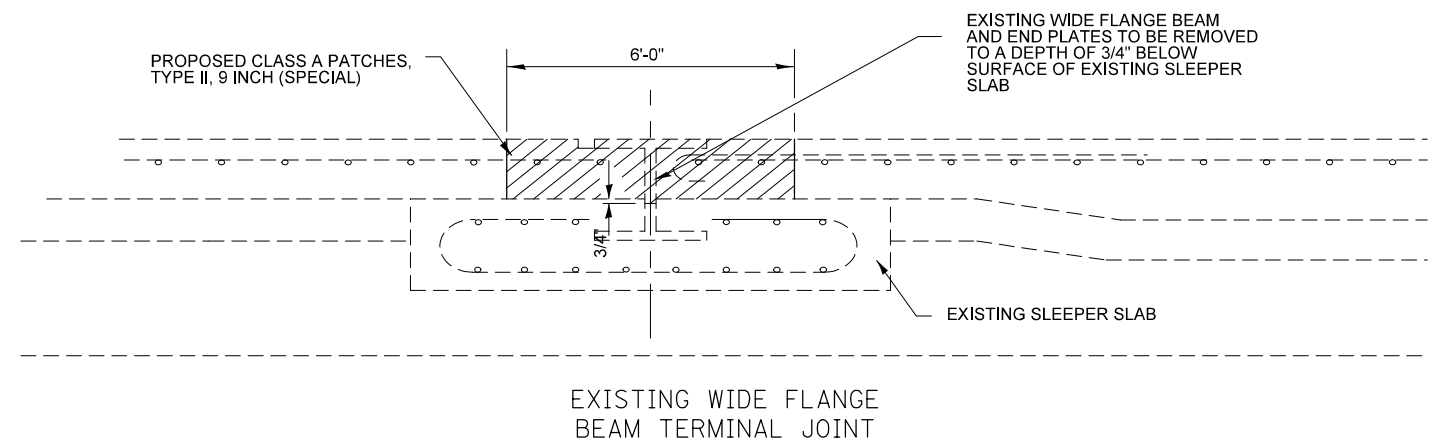


FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = *SCALE*	CHECKED -	REVISED -
	PLOT DATE = *DATE*	DATE -	REVISED -

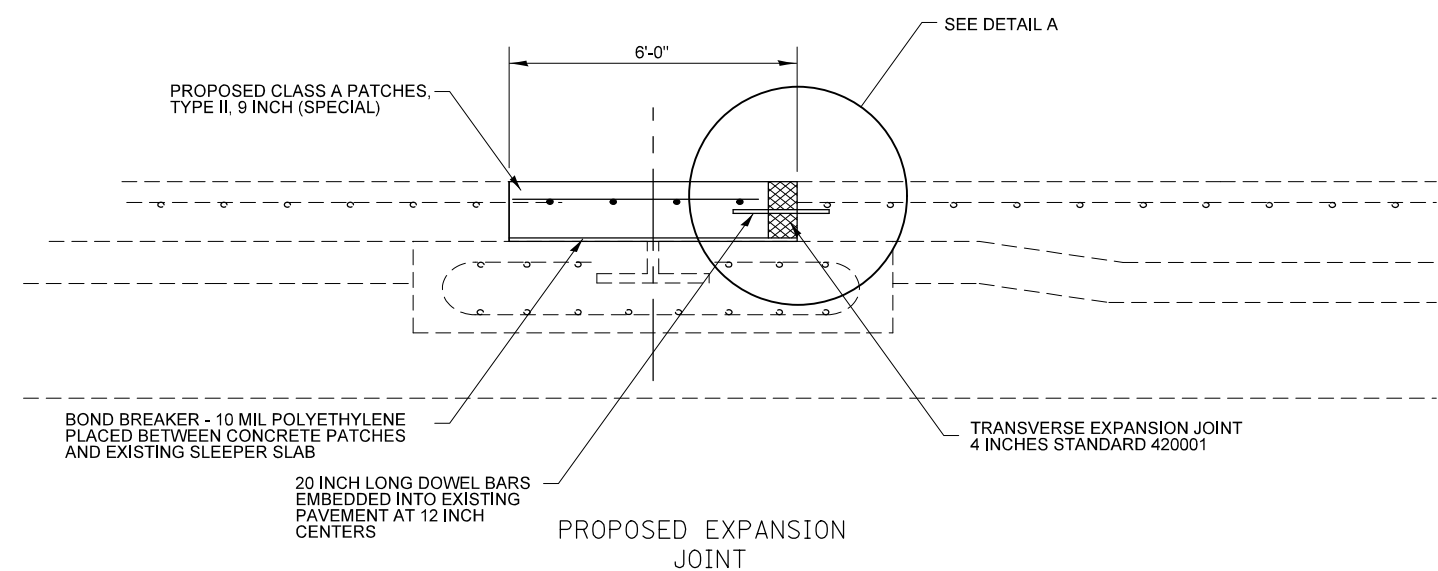
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PLAN SHEET</b>			
SCALE: 1:50	SHEET 2	OF 2	SHEETS
STA. 41+50	TO STA. 55+00		

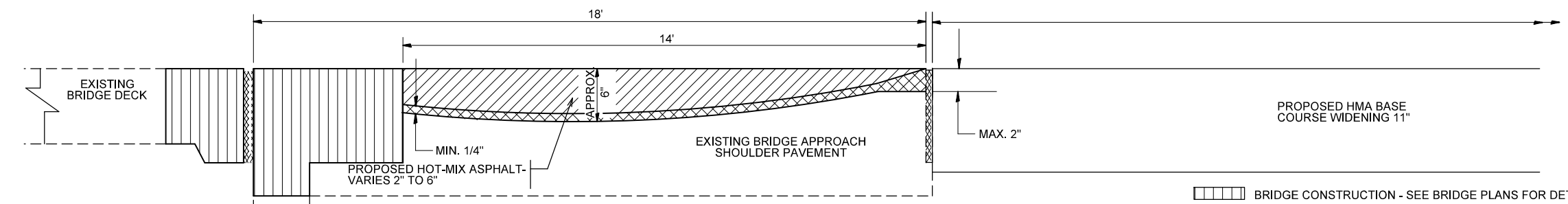
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	8
CONTRACT NO. 76G47				
ILLINOIS FED. AID PROJECT				



DETAIL A



LEGEND



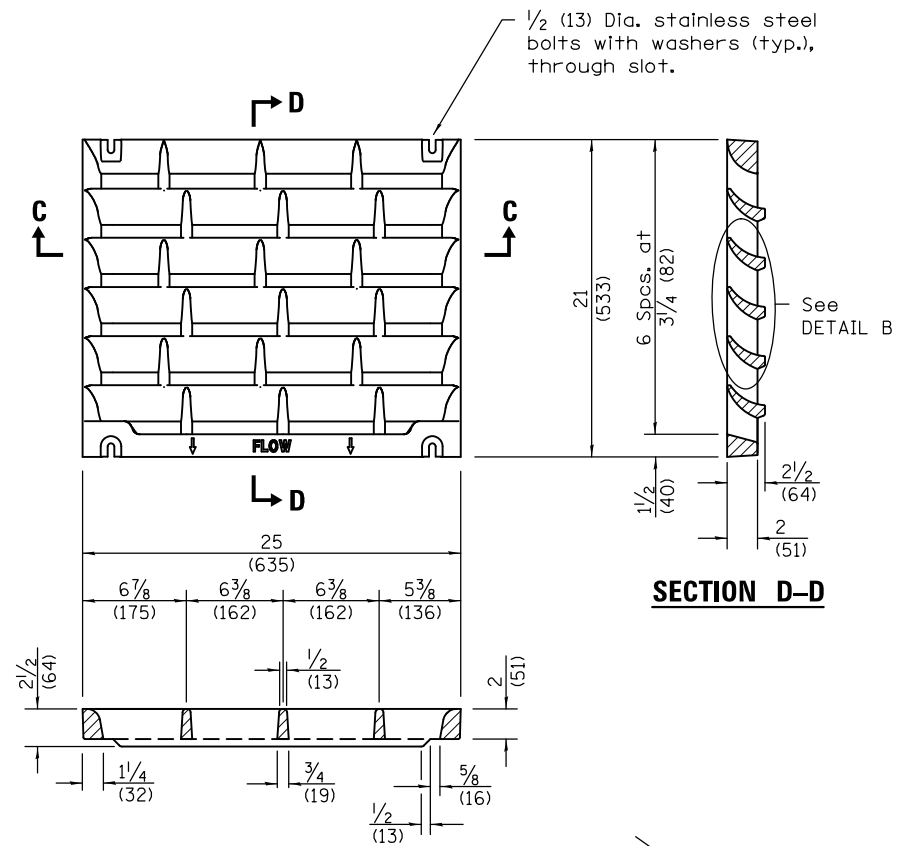
- BRIDGE CONSTRUCTION - SEE BRIDGE PLANS FOR DETAILS
- HMA SURFACE COURSE - VARIABLE DEPTH
- PCC SURFACE REMOVAL - VARIABLE DEPTH

NOTES:

1. THE PURPOSE OF THE PCC SURFACE REMOVAL IS TO OBTAIN A MINIMUM 2" RESURFACING THICKNESS AND TO HELP PROMOTE BONDING OF THE HMA SURFACE TO THE EXISTING PCC PAVEMENT.
2. THE CONTRACTOR WILL TAKE CARE TO INSURE THAT THE EXISTING JOINTS ARE NOT COVERED BY THE PROPOSED HMA SURFACING.

BRIDGE APPROACH SHOULDER SETTLEMENT CORRECTION DETAIL

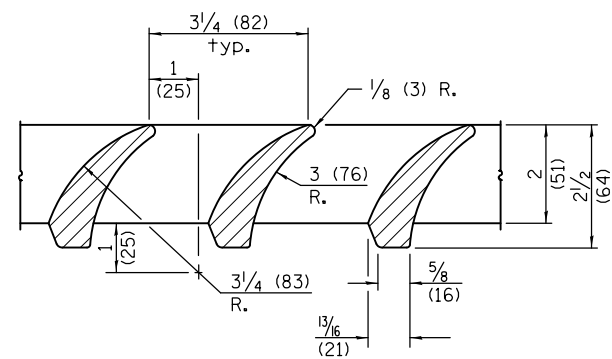
FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DETAILS</b>			F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
		DRAWN -	REVISED -		SCALE: NONE	SHEET 1	OF 1	SHEETS	STA.	TO STA.	103	95-VB-1	ST. CLAIR	34	9
		CHECKED -	REVISED -								CONTRACT NO. 76G47				
		DATE -	REVISED -								ILLINOIS FED. AID PROJECT				



**SECTION C-C**

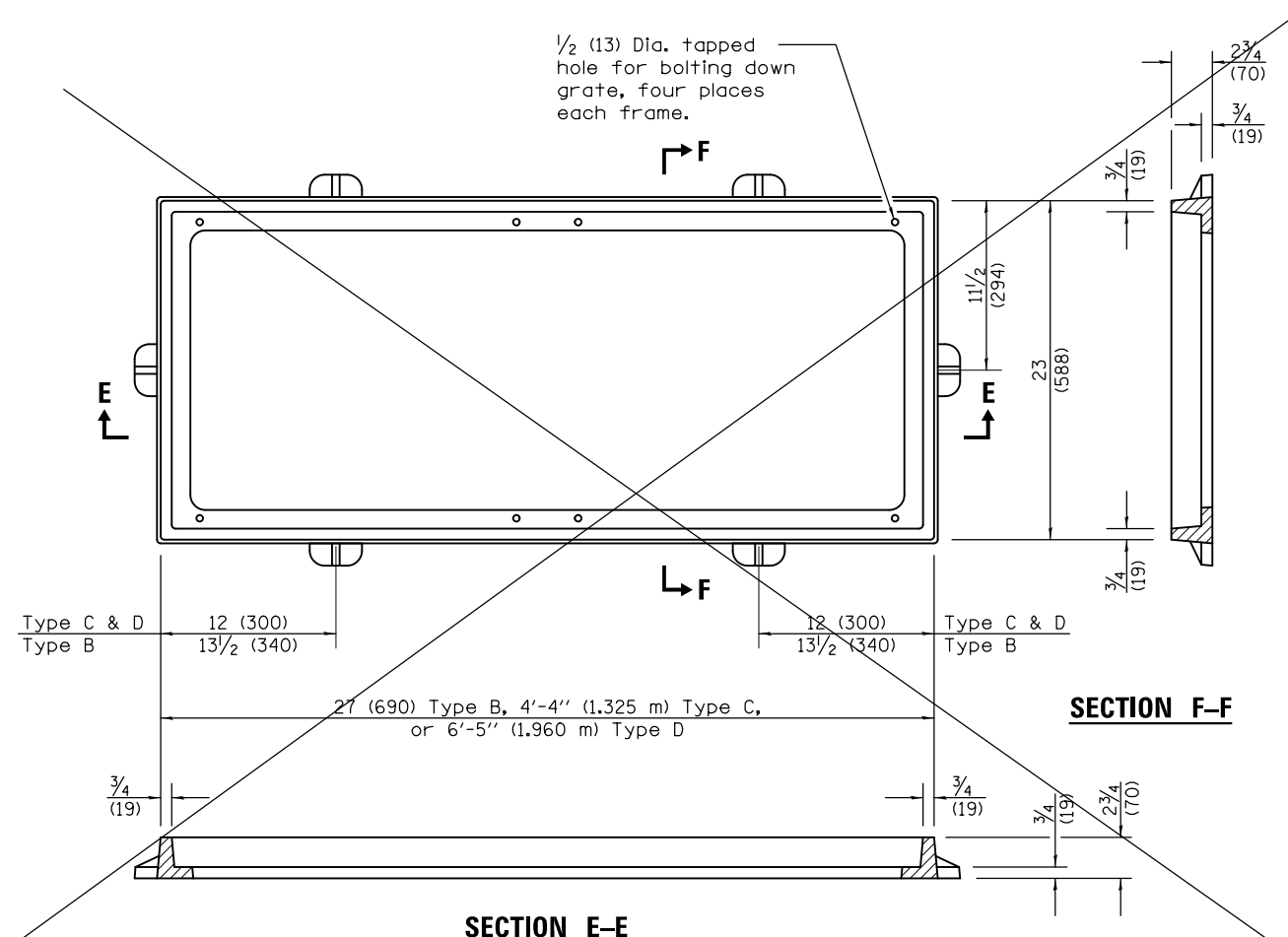
**DETAIL OF CAST GRATE**

Type B requires 1 grate  
 Type C requires 2 grates  
 Type D requires 3 grates



**DETAIL B**

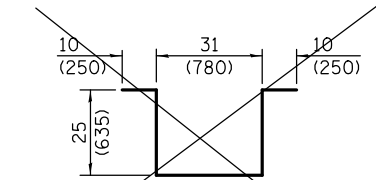
**SECTION C-C**



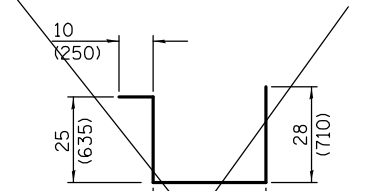
**SECTION E-E**

**DETAIL OF CAST FRAME**

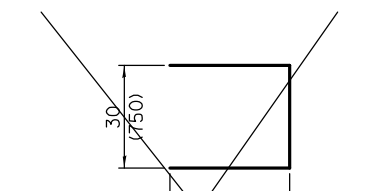
(Type C shown)



**BAR u**



**BARS u1, u2 & u5**



**BARS u3, u4 & u6**

**INLET BOX**

REQUIRED MATERIAL			
TYPE B			
Bar	Qty.	Size	Length
u	4	No. 4 (No.13)	8'-5" (2,550 m)
u5	3	No. 4 (No.13)	8'-0" (2,425 m)
u6	4	No. 4 (No.13)	6'-2" (1,870 m)
Concrete	cu. yds. (m <sup>3</sup> )		0.5 (0.4)
Reinf. bars	lbs. (kg)		55.0 (25.0)
Grating	sq. ft. (m <sup>2</sup> )		3.6 (0.34)
TYPE C			
Bar	Qty.	Size	Length
u	6	No. 4 (No.13)	8'-5" (2,550 m)
u2	3	No. 4 (No.13)	10'-1" (3,060 m)
u4	4	No. 4 (No.13)	8'-4" (2,530 m)
Concrete	cu. yds. (m <sup>3</sup> )		0.8 (0.6)
Reinf. bars	lbs. (kg)		76 (34.5)
Grating	sq. ft. (m <sup>2</sup> )		7.3 (0.68)
TYPE D			
Bar	Qty.	Size	Length
u	8	No. 4 (No.13)	8'-5" (2,550 m)
u1	3	No. 4 (No.13)	12'-2" (3,695 m)
u3	4	No. 4 (No.13)	10'-4" (3,150 m)
Concrete	cu. yds. (m <sup>3</sup> )		1.1 (0.8)
Reinf. bars	lbs. (kg)		97.0 (44.0)
Grating	sq. ft. (m <sup>2</sup> )		10.9 (1.02)

Grating	sq. ft. (m <sup>2</sup> )	10.9 (1.02)
---------	---------------------------	-------------

**BRIDGE APPROACH PAVEMENT (DRAIN DETAIL)**

(Sheet 2 of 2)

**STANDARD 609006-05**

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

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

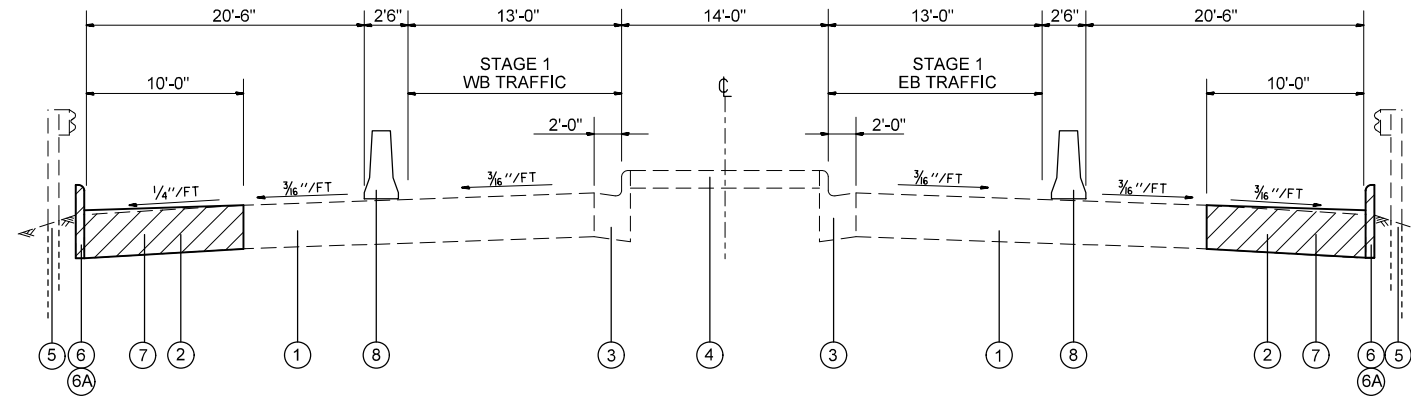
**DETAILS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

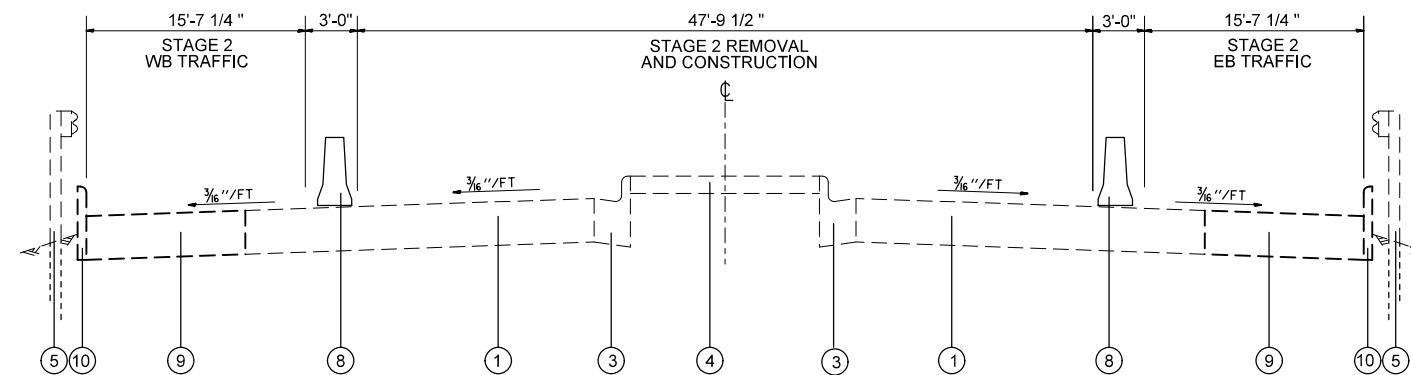
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	10
CONTRACT NO. 76C47				
ILLINOIS FED. AID PROJECT				

**LEGEND**

- ① EXISTING CRPCC PAVEMENT - 9"
- ② EXISTING HMA SHOULDER - 9"
- ③ EXISTING CURB AND GUTTER, TYPE B-9.24
- ④ EXISTING CONCRETE MEDIAN SURFACE
- ⑤ EXISTING SPBGR TY A
- ⑥ EXISTING HMA CURB - 5"
- ⑥A PROPOSED HMA CURB - 5"
- ⑦ PROPOSED HMA BASE COURSE - 9" (WIDENING FOR STAGE 2 TRAFFIC)
- ⑧ PROPOSED TEMPORARY CONCRETE BARRIER
- ⑨ HMA BASE COURSE -9" (CONSTRUCTED IN STAGE 1)
- ⑩ HMA CURB-5" (CONSTRUCTED IN STAGE 1)



**STAGE 1 TYPICAL**



**STAGE 2 TYPICAL**

**SUGGESTED SEQUENCE OF CONSTRUCTION**

**STAGE I CONSTRUCTION**

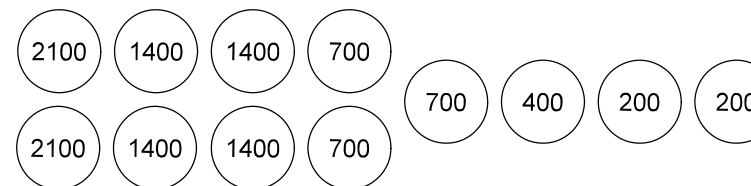
1. STAGE 1 CONSTRUCTION SHALL CONSIST OF: CONSTRUCTING THE 10' WIDENING TO THE LIMITS SHOWN ON THE PLANS; ANY MISCELLANEOUS WORK NECESSARY TO FACILITATE THE CONSTRUCTION OF THE PAVEMENT WIDENING FOR STAGE CONSTRUCTION. STAGE I BRIDGE REPAIRS AS DETAILED ON THE PLANS; TEMPORARILY FILLING THE BRIDGE APPROACH SHOULDER INLETS IN PREPARATION FOR STAGE 2 TRAFFIC; REMOVAL AND REPLACEMENT OF THE WIDE FLANGE BEAM JOINTS AT THE END OF THE BRIDGE APPROACH PAVEMENT; CONCRETE MEDIAN REPAIR; AND THE BRIDGE APPROACH SHOULDER PAVEMENT SETTLEMENT CORRECTIONS.
2. THE WIDENING SHALL CONSIST OF HOT-MIX ASPHALT BASE COURSE -9'.
3. TRAFFIC CONTROL FOR THIS WORK WILL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF TRAFFIC CONTROL AND PROTECTION, STANDARDS 701423 AND AS SHOWN IN THE PLANS. ADDITIONAL SIGNS HAVE BEEN INCLUDED TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

**STAGE 2 CONSTRUCTION**

1. STAGE 2 CONSTRUCTION SHALL CONSIST OF: STAGE I BRIDGE REPAIRS AS DETAILED ON THE PLANS; REMOVAL AND REPLACEMENT OF THE WIDE FLANGE BEAM JOINTS AT THE END OF THE BRIDGE APPROACH PAVEMENT; CONCRETE MEDIAN REPAIR; AND THE BRIDGE APPROACH SHOULDER PAVEMENT SETTLEMENT CORRECTIONS.
2. TRAFFIC CONTROL FOR THIS WORK WILL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701423 AND AS SHOWN THE PLANS. ADDITIONAL SIGNS HAVE BEEN INCLUDED TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

**NOTES**

1. THE CONTRACTOR WILL BE ALLOWED THE OPTION OF USING SAND MODULE IMPACT ATTENUATORS FOR THIS PROJECT.
2. TWO CHANGEABLE MESSAGE BOARDS SHALL BE REQUIRED FOR THIS PROJECT. THEY SHALL BE PLACED TWO WEEK PRIOR TO ANY LANE CLOSURE AND SHALL REMAIN UP FOR THE DURATION OF THE PROJECT. ONE CHANGEABLE MESSAGE BOARD SHALL BE PLACED ALONG THE WESTBOUND LANES OF IL ROUTE 15 PRIOR TO THE I-255 INTERCHANGE OR AT THE DIRECTION OF THE ENGINEER AND THE OTHER ONE WILL BE PLACED ALONG THE EASTBOUND LANES OF IL ROUTE 15 AT THE DIRECTION OF THE ENGINEER.

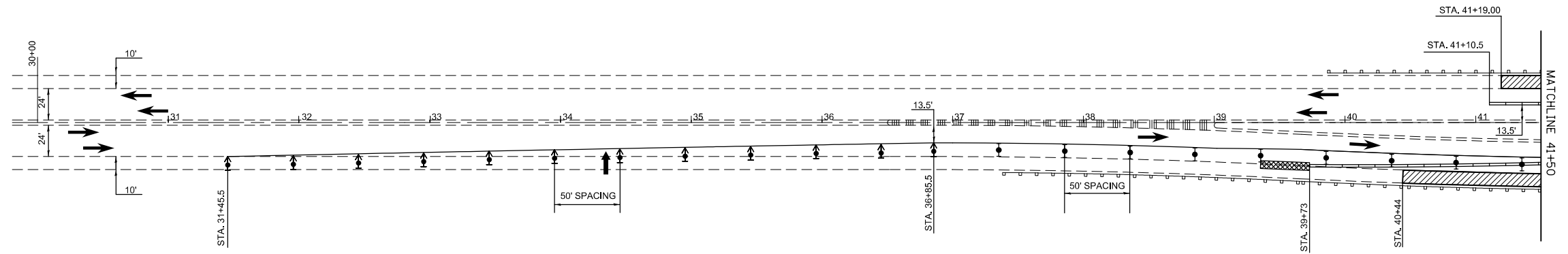
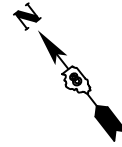


**SAND MODULE IMPACT ATTENUATOR CONFIGURATION**

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUGGESTED STAGE CONSTRUCTION AND TRAFFIC CONTROL</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -					103	95-VB-1	ST. CLAIR	34	11
		PLOT SCALE = #SCALE#	CHECKED -		REVISED -	CONTRACT NO. 76G47			ILLINOIS FED. AID PROJECT			
		PLOT DATE = #DATE#	DATE -		REVISED -	SCALE: NONE	SHEET 1	OF 5 SHEETS	STA.	TO STA.		



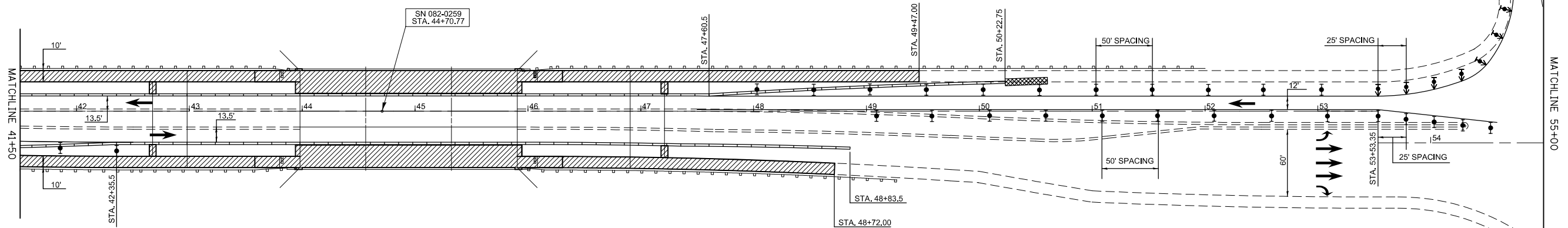
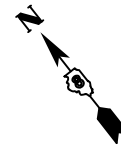
SEE STD 701423 FOR  
TRAFFIC CONTROL  
ITEMS NOT SHOWN



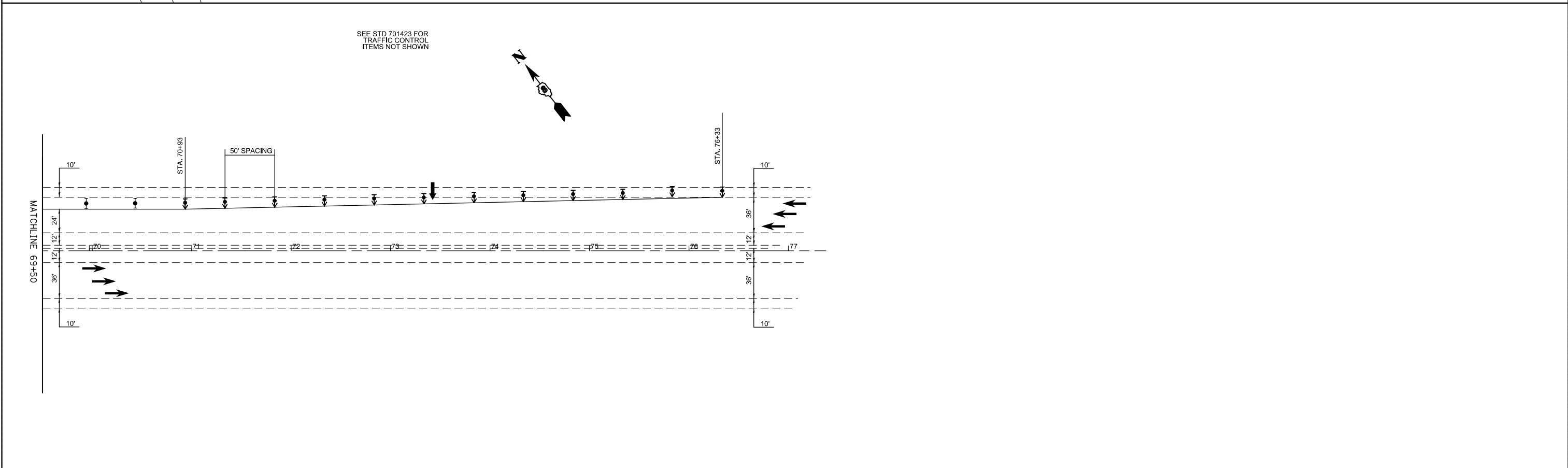
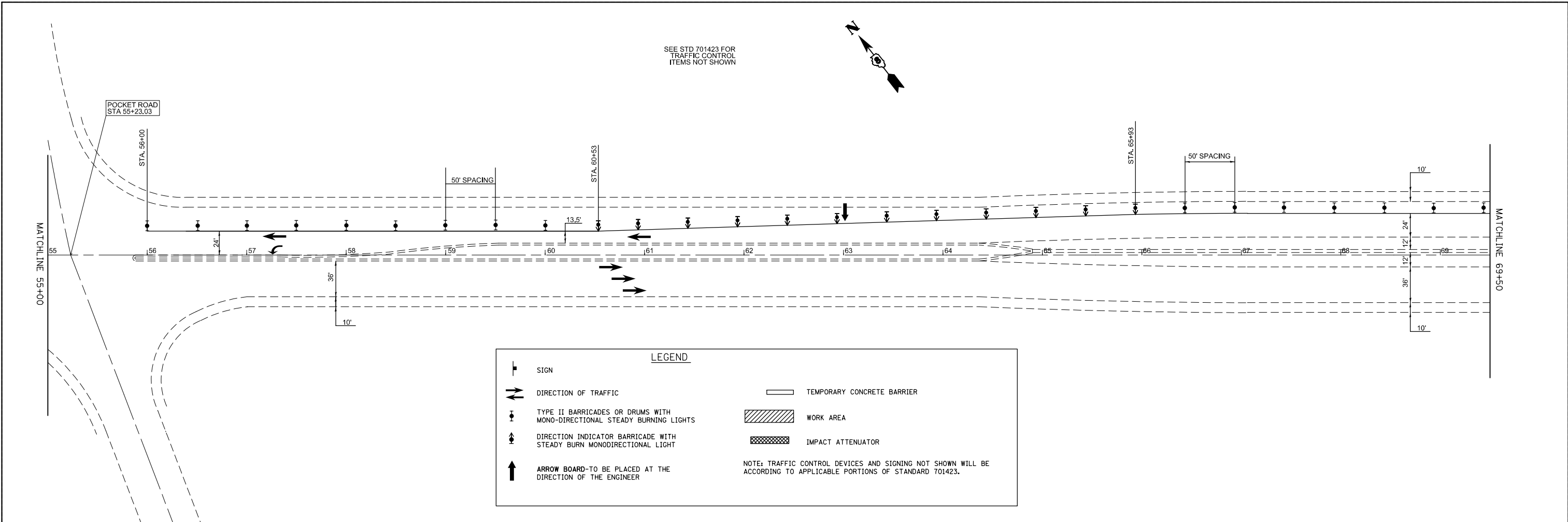
**LEGEND**

<p>↑ SIGN</p> <p>→ DIRECTION OF TRAFFIC</p> <p>⬇ TYPE II BARRICADES OR DRUMS WITH MONO-DIRECTIONAL STEADY BURNING LIGHTS</p> <p>⬆ DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT</p> <p>↑ ARROW BOARD-TO BE PLACED AT THE DIRECTION OF THE ENGINEER</p>	<p>▭ TEMPORARY CONCRETE BARRIER</p> <p>▨ WORK AREA</p> <p>▩ IMPACT ATTENUATOR</p>	<p>NOTE: TRAFFIC CONTROL DEVICES AND SIGNING NOT SHOWN WILL BE ACCORDING TO APPLICABLE PORTIONS OF STANDARD 701423.</p>
---	---	---

SEE STD 701423 FOR  
TRAFFIC CONTROL  
ITEMS NOT SHOWN

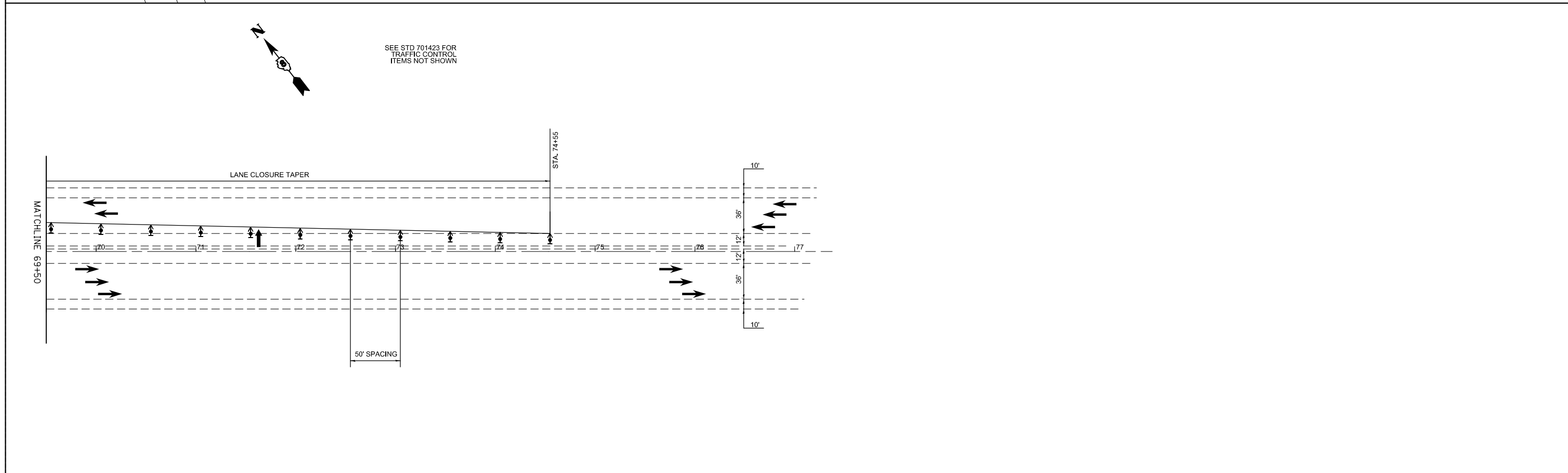
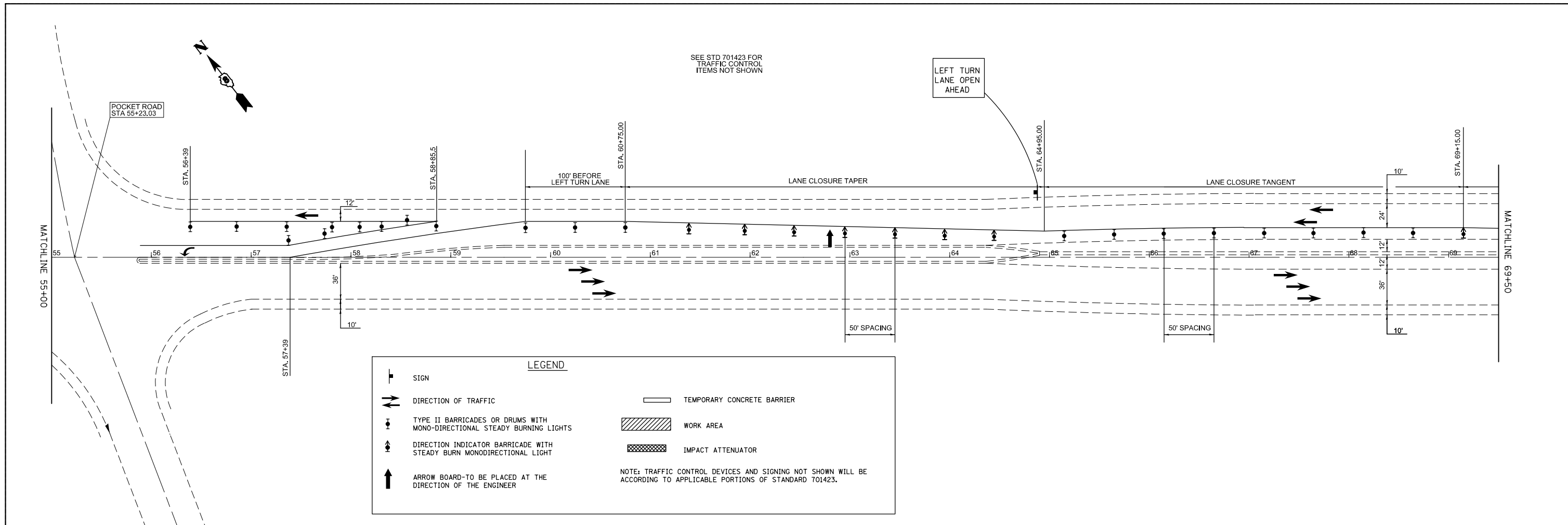


FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE I CONSTRUCTION AND TRAFFIC CONTROL</b>			F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -		SCALE: 1:50	SHEET 2	OF 5	SHEETS	STA. 30+00	TO STA. 55+00	ST. CLAIR	34	12
		CHECKED -	REVISED -		CONTRACT NO. 76G47								
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE I CONSTRUCTION AND TRAFFIC CONTROL</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = *SCALE*	DRAWN -	REVISED -		SCALE: 1:50	SHEET 3	OF 5	SHEETS	STA. 55+00	TO STA. 77+00	ST. CLAIR	34	13
	PLOT DATE = *DATE*	CHECKED -	REVISED -		CONTRACT NO. 76G47			ILLINOIS FED. AID PROJECT					
		DATE -	REVISED -										





FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE 2 CONSTRUCTION AND TRAFFIC CONTROL</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	PLOT SCALE = *SCALE*	DRAWN -	REVISED -		SCALE: 1:50	SHEET 5	OF 5 SHEETS	STA. 55+00	TO STA. 77+00	103	95-VB-1	ST. CLAIR	34	15
	PLOT DATE = *DATE*	CHECKED -	REVISED -		CONTRACT NO. 76G47									
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT									

**GENERAL NOTES**

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 surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

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

Joint opening shall be adjusted according to Article 520.04 of the Standard Specs, when the deck is poured at an ambient temperature other than 50° F.

Existing reinforcement bars extending into 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.

Cleaning and Painting of the existing structural steel and bearings shall be included with "Cleaning and Painting Structural Steel, Location 1." All beams, bearing, deck drains, and other structural steel within 5 feet at the east abutment, and 10 feet at the west abutment (measured along the beam) of the deck joints shall be cleaned per "Near White Blast Cleaning-SSPC-SPI0." Existing diaphragms at the abutments will be replaced and are excluded from the Cleaning and Painting requirements.

The designated areas cleaned per "near white blast cleaning SSPC-SPI0" shall be painted according to the requirements of paint system 1-02/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Federal Standard Color Brown 595C 20045.

Bridge deck concrete sealer shall be placed on top/inside faces of parapets (full length)/wingwalls. In addition, place sealer on the bridge deck & median (full length). Bridge sealer shall be placed on top of new concrete at joints (This includes Curb & Gutter and Median Surface).

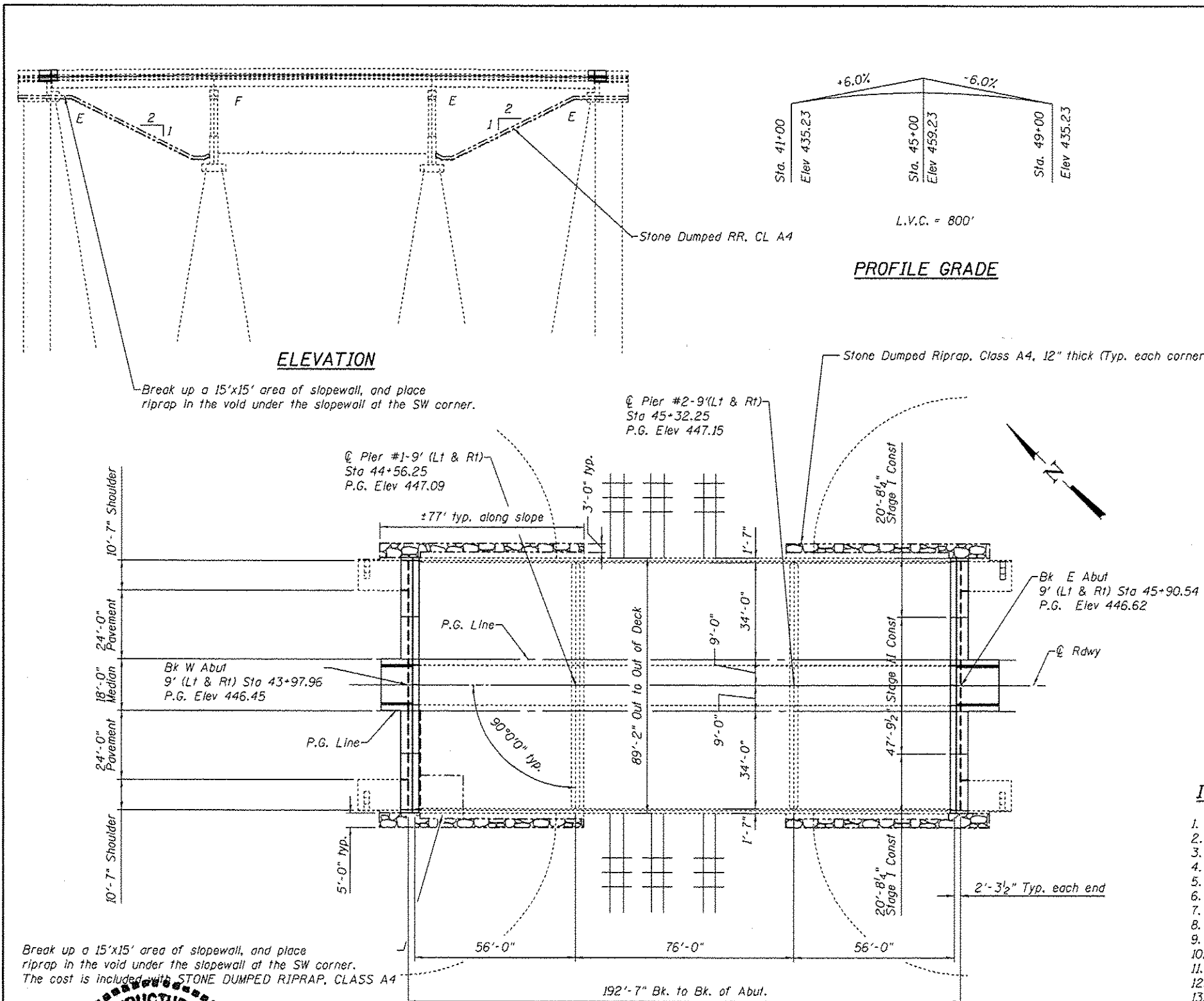
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	50.9
Concrete Superstructure	Cu. Yd.	18.1
Combination Concrete Curb and Gutter, Type B-9.24	Foot	52
Bar Splicers	Each	76
Preformed Joint Strip Seal	Foot	177
Reinforcement Bars, Epoxy Coated	Pound	4050
Bridge Deck Concrete Sealer	Sq. Ft.	19130
Furnishing and Erecting Structural Steel	Pound	8340
Concrete Median Surface, 4 Inch	Sq. Ft.	290
Concrete Structures	Cu. Yd.	31.9
*Deck Slab Repair (Partial)	Sq. Yd.	50
Median Removal	Sq. Ft.	407
Structural Steel Removal	Pound	6680
Stone Dumped Riprap, Class A4	Ton	381
Cleaning and Painting Structural Steel, Location No.1	L. Sum	1
Containment and Disposal of Non-Lead Paint Cleaning Residues No.1	L. Sum	1
Remove and Reerect Traffic Barrier Terminals, Type 6	Each	2

\*The quantity of deck slab repair is estimated. The engineer in the field shall determine the actual quantity and locations.

**INDEX OF SHEETS**

1. General Plan & Elevation
2. Deck Cross Section
3. Approach Cross Section
4. Joint Removal
5. Joint Replacement
6. Joint Details (Sheet 1 of 2)
7. Joint Details (Sheet 2 of 2)
8. Structural Steel
9. Structural Steel Details
10. Strip Seal Details
11. Bar Splicers
12. Temporary Concrete Barrier
13. For Information Only (F.I.O.)- Existing Plan & Elevation
14. F.I.O.- Existing Superstructure Plan & Half-Section
15. F.I.O.- Existing Superstructure Details
16. F.I.O.- Existing Superstructure Framing Details
17. F.I.O.- Existing Abutments
18. F.I.O.- Existing Abutment Details
19. F.I.O.- Existing Bridge Approach Shoulder Pavement



**PROFILE GRADE**

**ELEVATION**

**PLAN**

**LOCATION SKETCH**

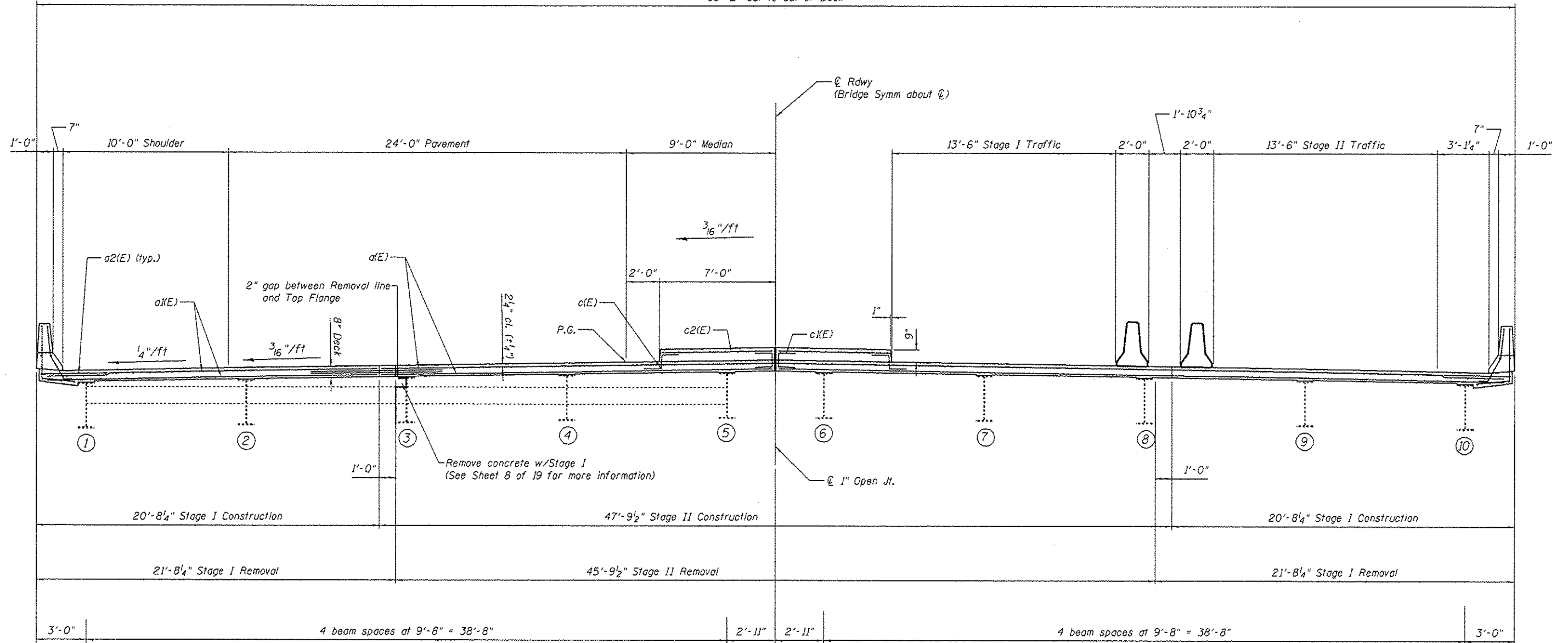
Break up a 15'x15' area of slopewall, and place riprap in the void under the slopewall at the SW corner. The cost is included with STONE DUMPED RIPRAP, CLASS A4

- Replace deck ends & 3' of approach slab with new strip seal expansion joints at abutments.
- Replace all end diaphragms with galvanized diaphragms.
- Blast clean & paint beam ends & existing rocker bearings.
- Riprap erosion along edge of slopewall and wingwalls.
- Replace portion of Concrete Median Surface & Concrete Curb & Gutter as shown in the plans.



DESIGNED - AYY	EXAMINED - <i>Timothy A. Amundson</i>	DATE - 1/26/15	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		GENERAL PLAN & ELEVATION SN 082-0259 (IL 15 over A&S RR)		F.A.P. RTE. 103	SECTION 95-VB-1	COUNTY ST. CLAIR	TOTAL SHEETS 34	SHEET NO. 16
CHECKED - TLC	PASSED - <i>David Carl Puzey</i>	REVISIONS					SHEET NO. 1 OF 19 SHEETS		ILLINOIS FED. AID PROJECT		CONTRACT NO. 76C47

89'-2" Out to Out of Deck



**DECK CROSS SECTION**

Looking East  
 ⊙ Jt. locations

DESIGNED - AYW	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYW	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

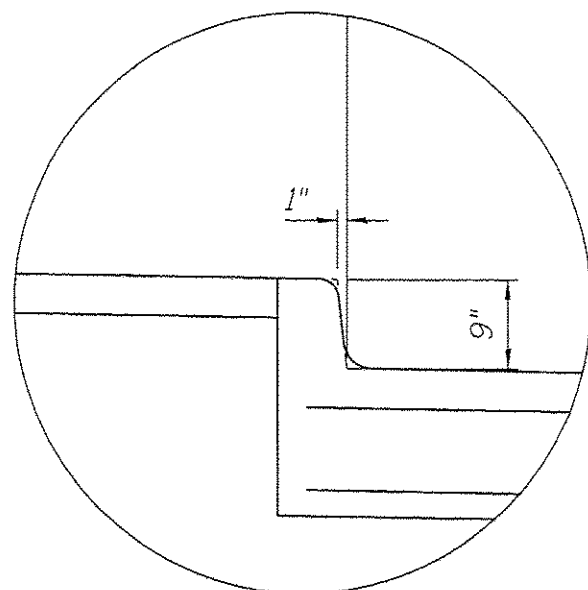
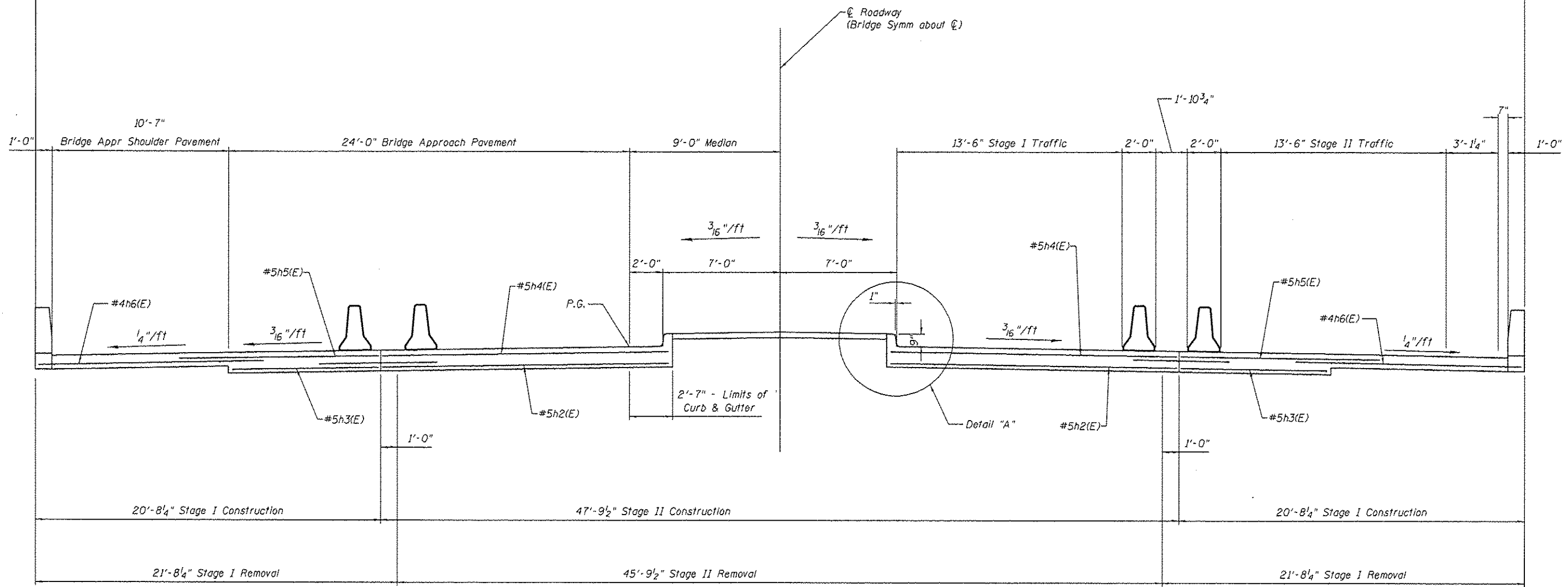
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**DECK CROSS SECTION  
 SN 082-0259**

SHEET NO. 2 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	17
CONTRACT NO. 76647				
ILLINOIS FED. AID PROJECT				

89'-2" Out to Out of Deck



DETAIL "A"

**SECTION F-F**

(Looking East)

Note:

Combination Concrete Curb & Gutter to be poured monolithically with Concrete Structures.

Work this sheet w/sheet 5 of 19

DESIGNED - AYW	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYW	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

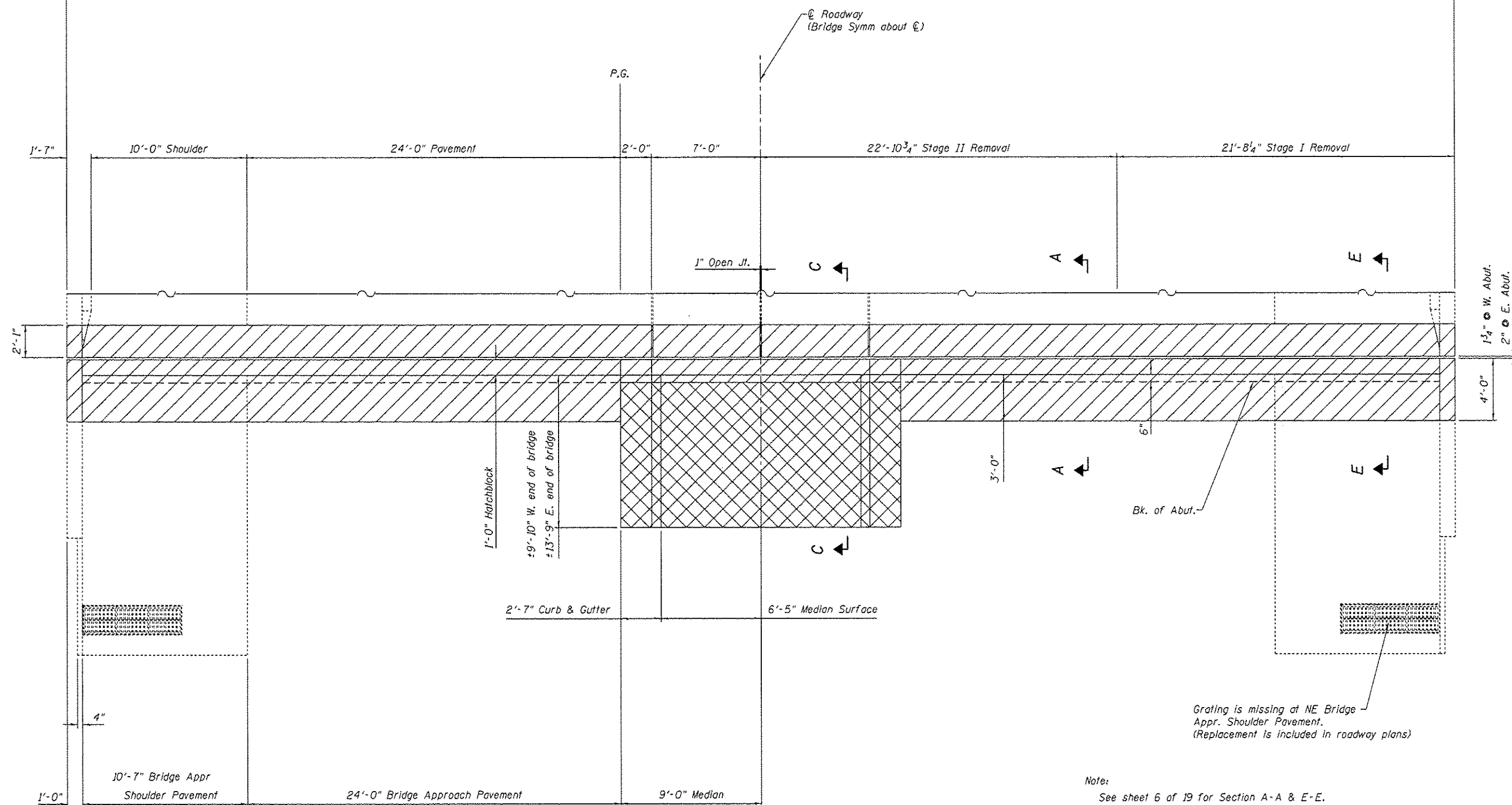
APPROACH CROSS SECTION  
SN 082-0259

SHEET NO. 3 OF 19 SHEETS


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	18
CONTRACT NO. 76G47				


ILLINOIS FED. AID PROJECT

89'-2" Out to Out of Deck



Note:  
 See sheet 6 of 19 for Section A-A & E-E.  
 See sheet 7 of 19 for Sections C-C.  
 During removal & replacement of a portion of the wingwall, the contractor shall remove & re-erect the name plate. Cost included with Concrete Removal.

 Concrete Removal (Will include removal of the Bridge Approach Pavement and the Bridge Approach Shoulder Pavement to the limits shown.)

 Median Removal

**CONCRETE REMOVAL**

W. Abut shown, E Abut similar by 180° rotation)

DESIGNED - AYY	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	REVISED
DRAWN - AYY	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

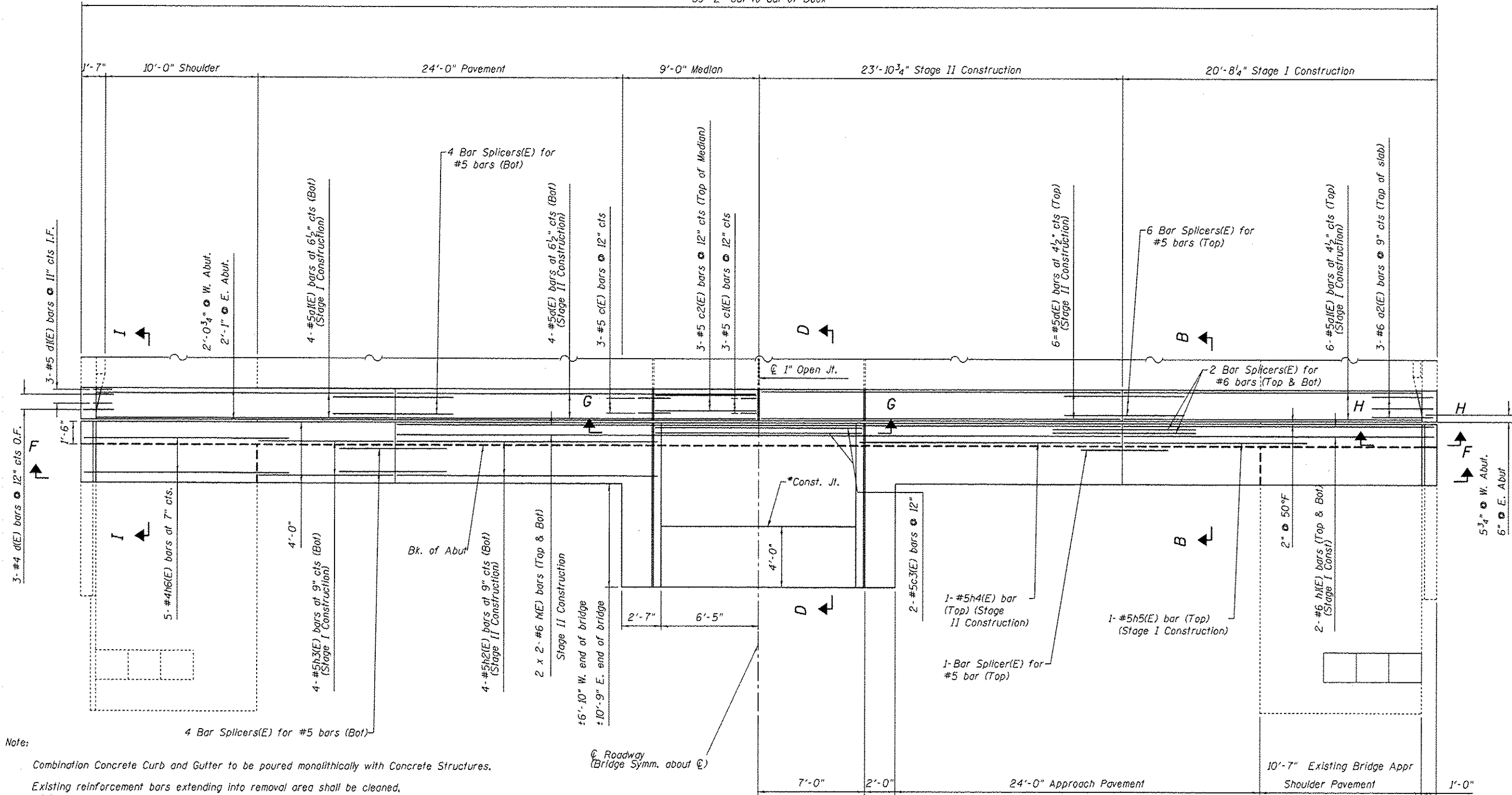
JOINT REMOVAL  
 SN 082-0259

SHEET NO. 4 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	19
CONTRACT NO. 76647			ILLINOIS FED. AID PROJECT	



89'-2" Out to Out of Deck



Note:  
 Combination Concrete Curb and Gutter to be poured monolithically with Concrete Structures.  
 Existing reinforcement bars extending into 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.  
 See sheet 6 of 19 for Sections (B-B, H-H & I-I) & Rebar details.  
 See sheet 7 of 19 for Sections D-D.  
 See sheet 3 of 19 for Section F-F.  
 See sheet 7 of 19 for Section G-G.  
 Reinforcement quantities on sheet 7 of 19  
 Quantities on this sheet are included w/ Bill of Material on sheet 7 of 19.

**CONCRETE REPLACEMENT**  
 (W. Abut shown, E' Abut similar by 180° rotation)  
 \* Place joint only in median surface east of bridge.

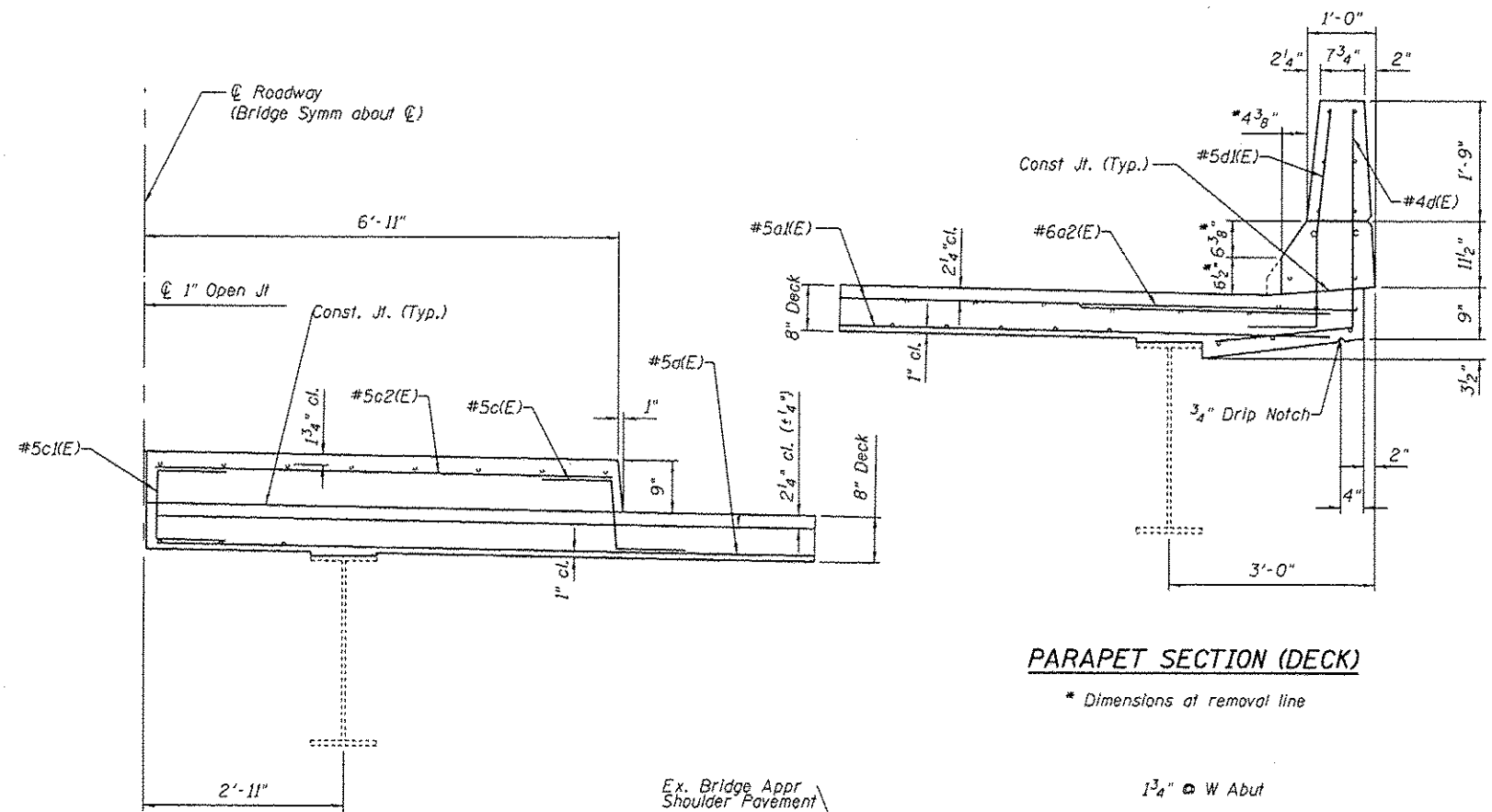
DESIGNED - AYW	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYW	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT  
 SN 082-0259

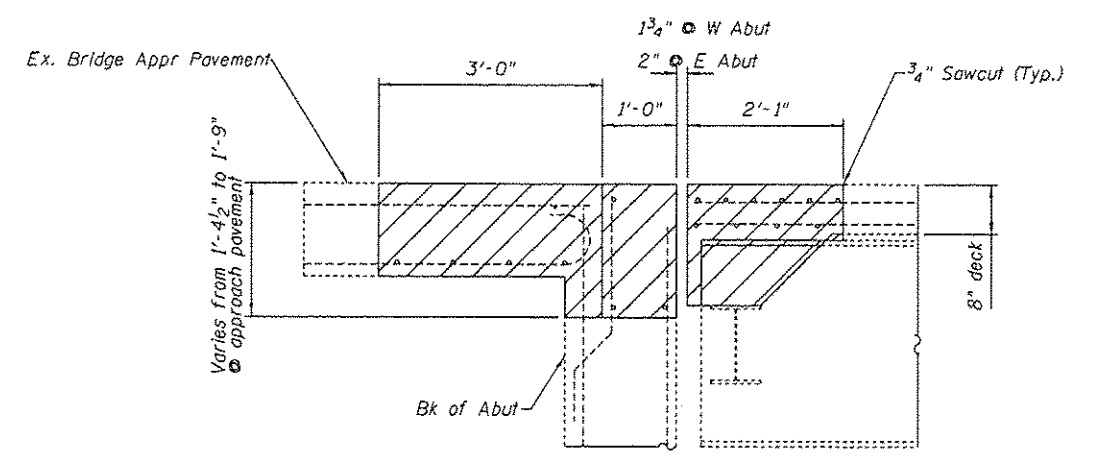
SHEET NO. 5 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	20
CONTRACT NO. 76647			ILLINOIS FED. AID PROJECT	



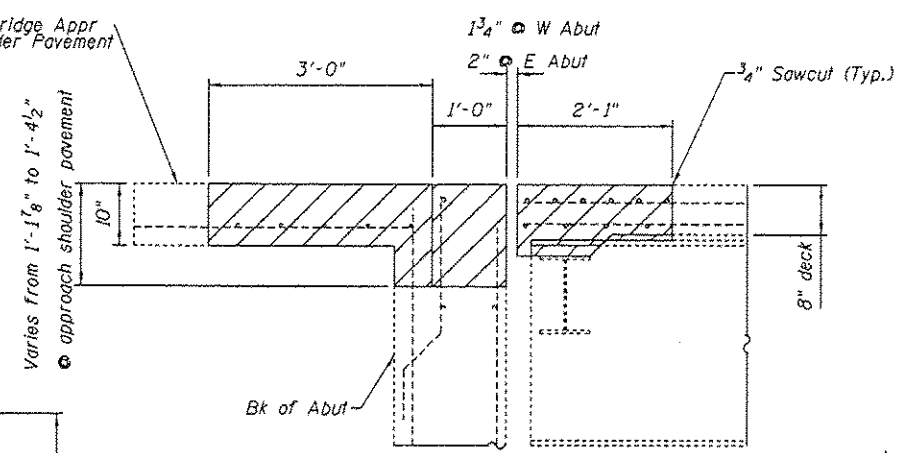
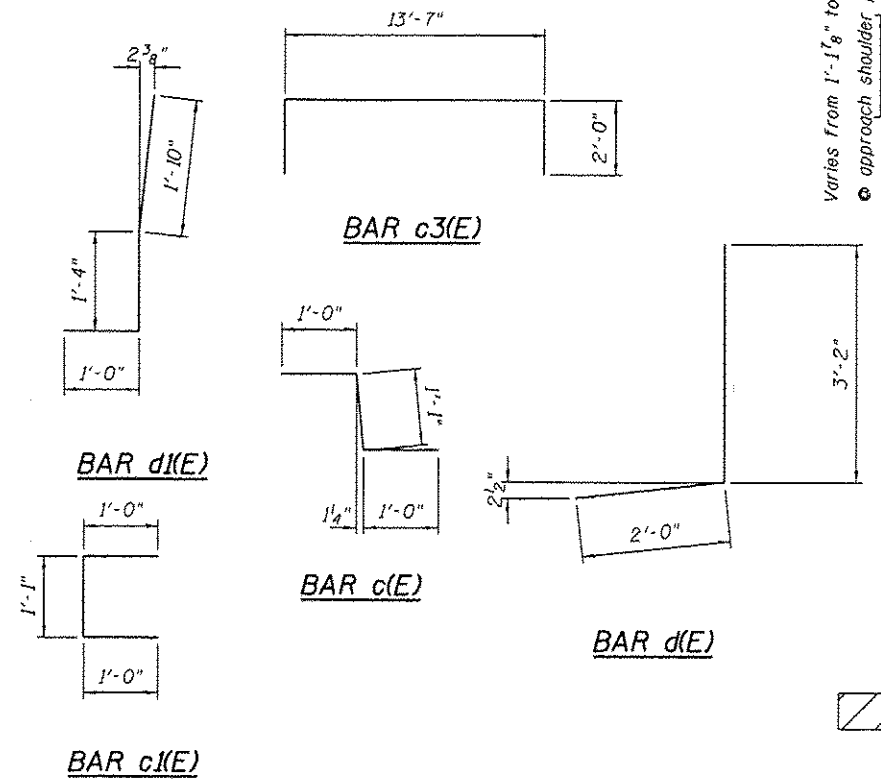
**PARAPET SECTION (DECK)**

\* Dimensions at removal line

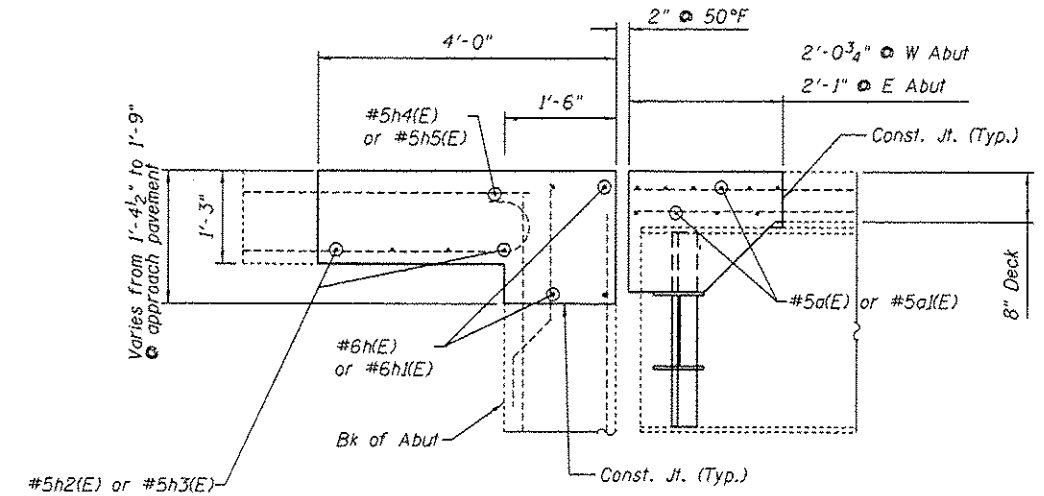


**SECTION A-A**

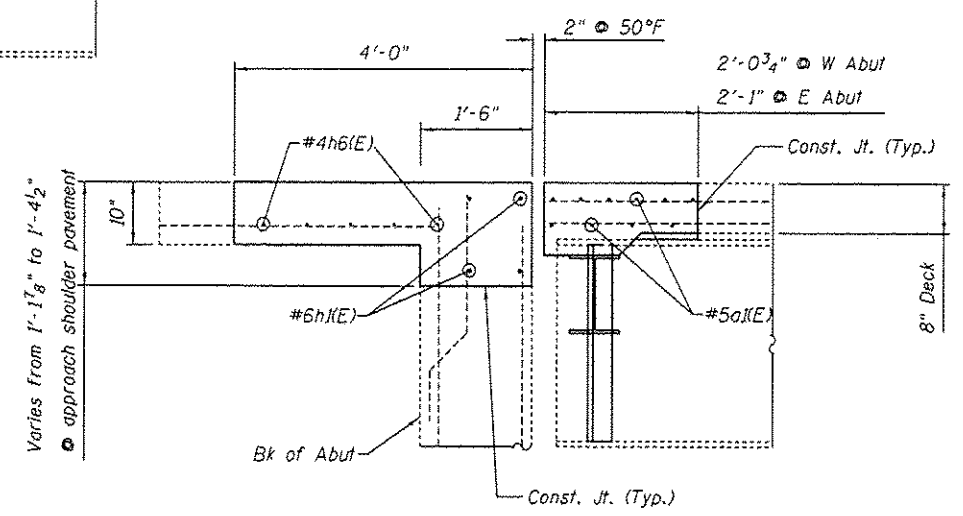
**MEDIAN SECTION (DECK)**



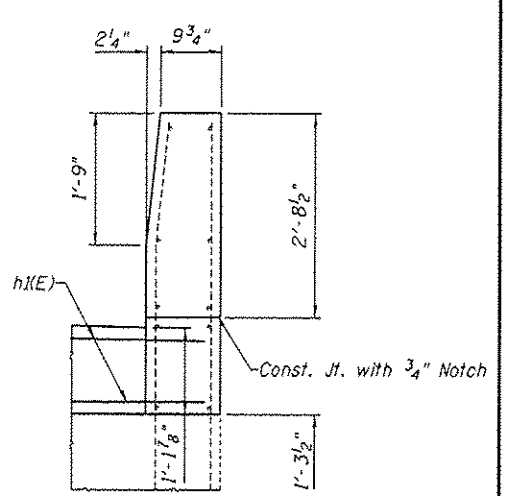
**SECTION E-E**



**SECTION B-B**



**SECTION I-I**



**SECTION H-H**

Concrete Removal

Note:  
Reinforcement quantities on sheet 7 of 19

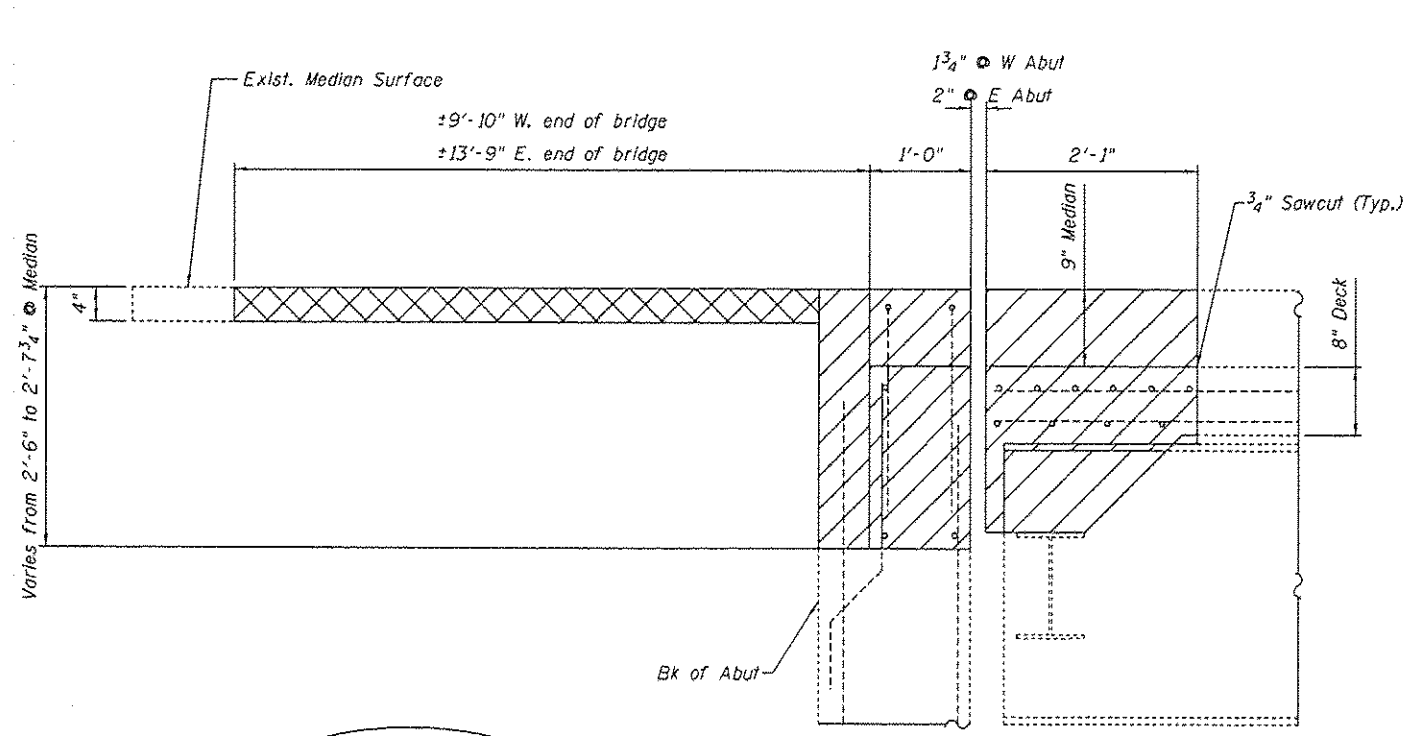
DESIGNED - AYV	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

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

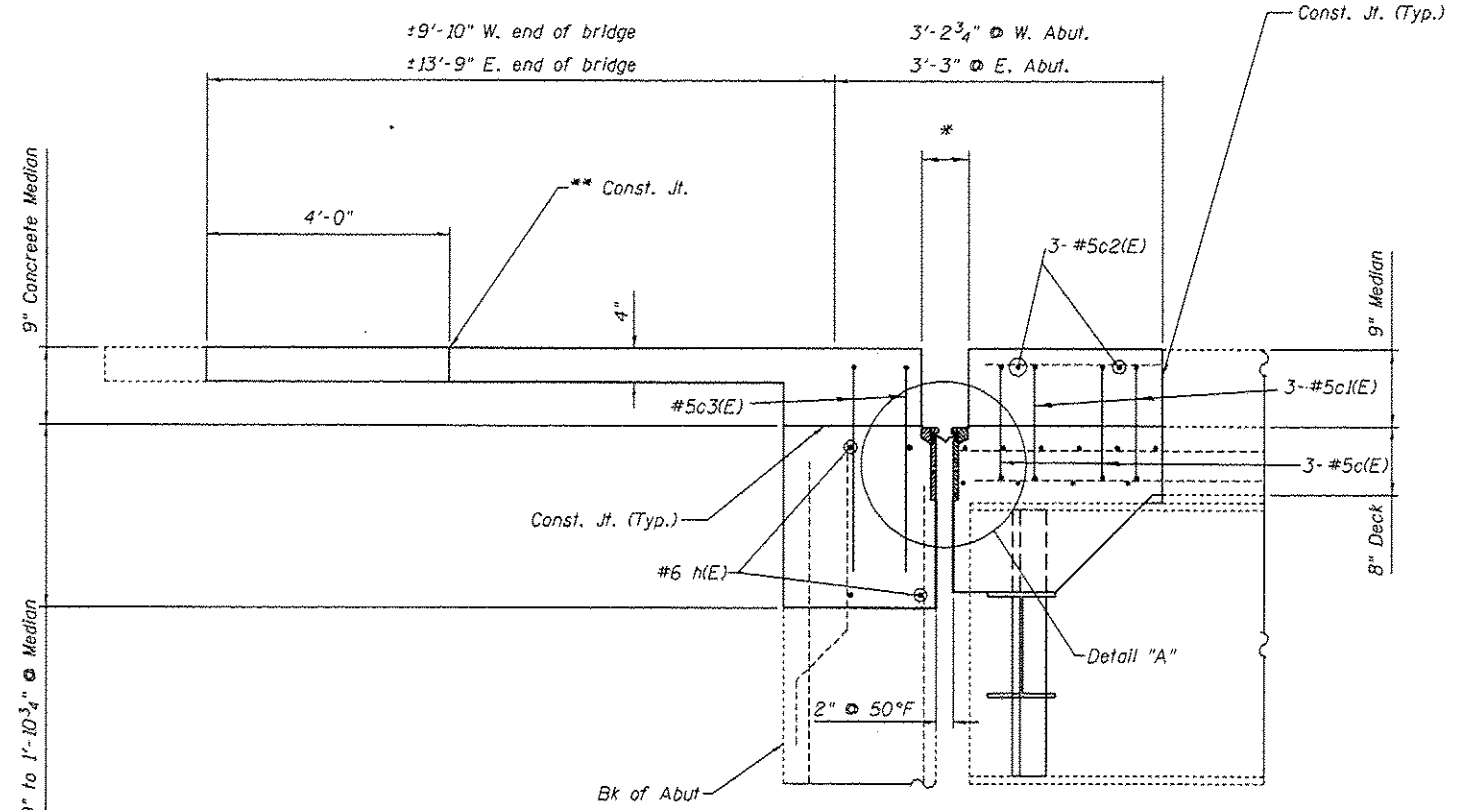
**JOINT DETAILS (Sheet 1 of 2)**  
**SN 082-0259**

SHEET NO. 6 OF 19 SHEETS

F.A.P. RTE. 103	SECTION 95-VB-1	COUNTY ST. CLAIR	TOTAL SHEETS 34	SHEET NO. 21
				CONTRACT NO. 76647
ILLINOIS FED. AID PROJECT				

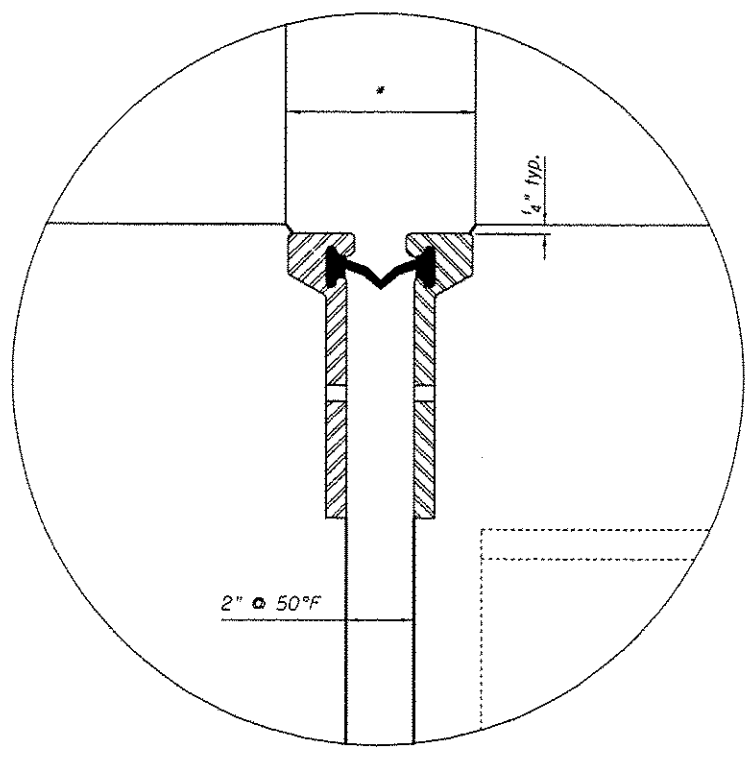


**SECTION C-C**

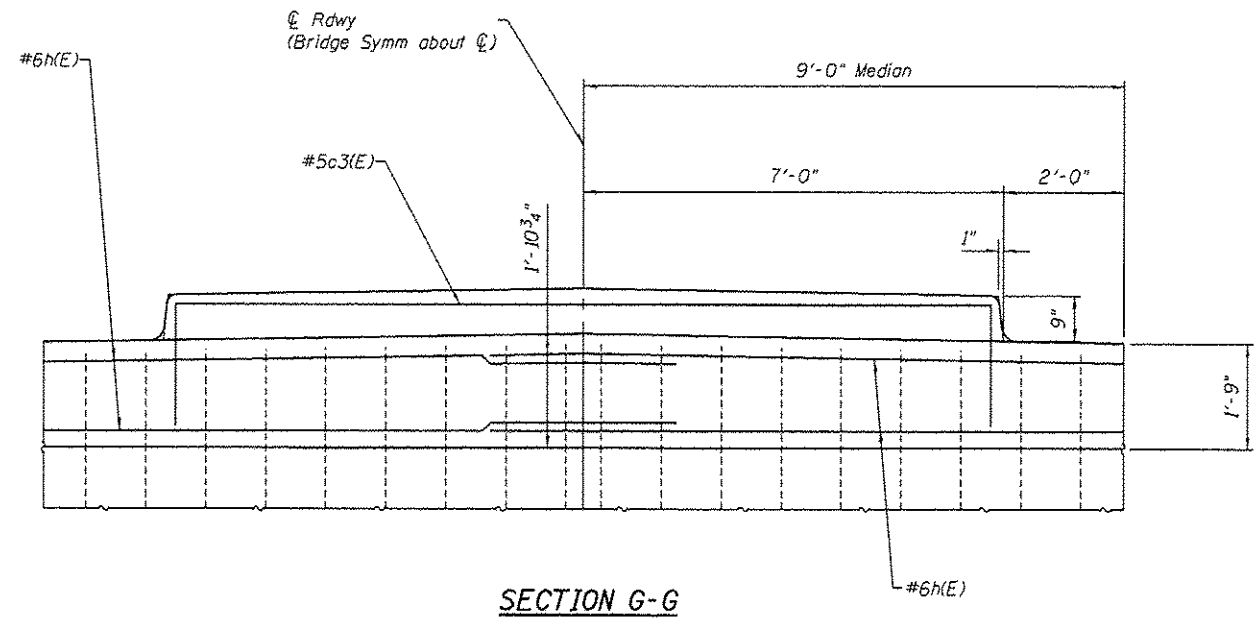


**SECTION D-D**

\*(Pour concrete for median to rail.)  
 \*\* Place joint only in median surface east of bridge.



**DETAIL "A"**



**SECTION G-G**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	40	#5	23'-7"	—
a1(E)	40	#5	19'-11"	—
a2(E)	12	#6	4'-0"	—
c(E)	12	#5	3'-1"	L
c1(E)	12	#5	3'-1"	L
c2(E)	12	#5	6'-8"	—
c3(E)	4	#5	17'-7"	L
d(E)	12	#4	5'-2"	J
d1(E)	12	#5	4'-2"	J
h(E)	16	#6	25'-4"	—
h1(E)	16	#6	20'-4"	—
h2(E)	16	#5	17'-1"	—
h3(E)	16	#5	8'-9"	—
h4(E)	4	#5	17'-1"	—
h5(E)	4	#5	12'-1"	—
h6(E)	20	#4	13'-6"	—
Concrete Structures			Cu. Yd.	31.9
Concrete Removal			Cu. Yd.	50.9
Concrete Superstructure			Cu. Yd.	18.1
Reinforcement Bars, Epoxy Coated			Lbs.	4050

Reinforcement bars designated (E) shall be epoxy coated.

Concrete Removal (diagonal hatching)  
 Median Removal (cross-hatching)

#6 bar min lap = 3'-1"

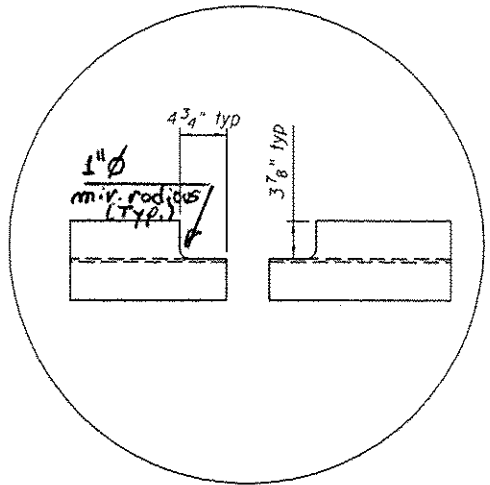
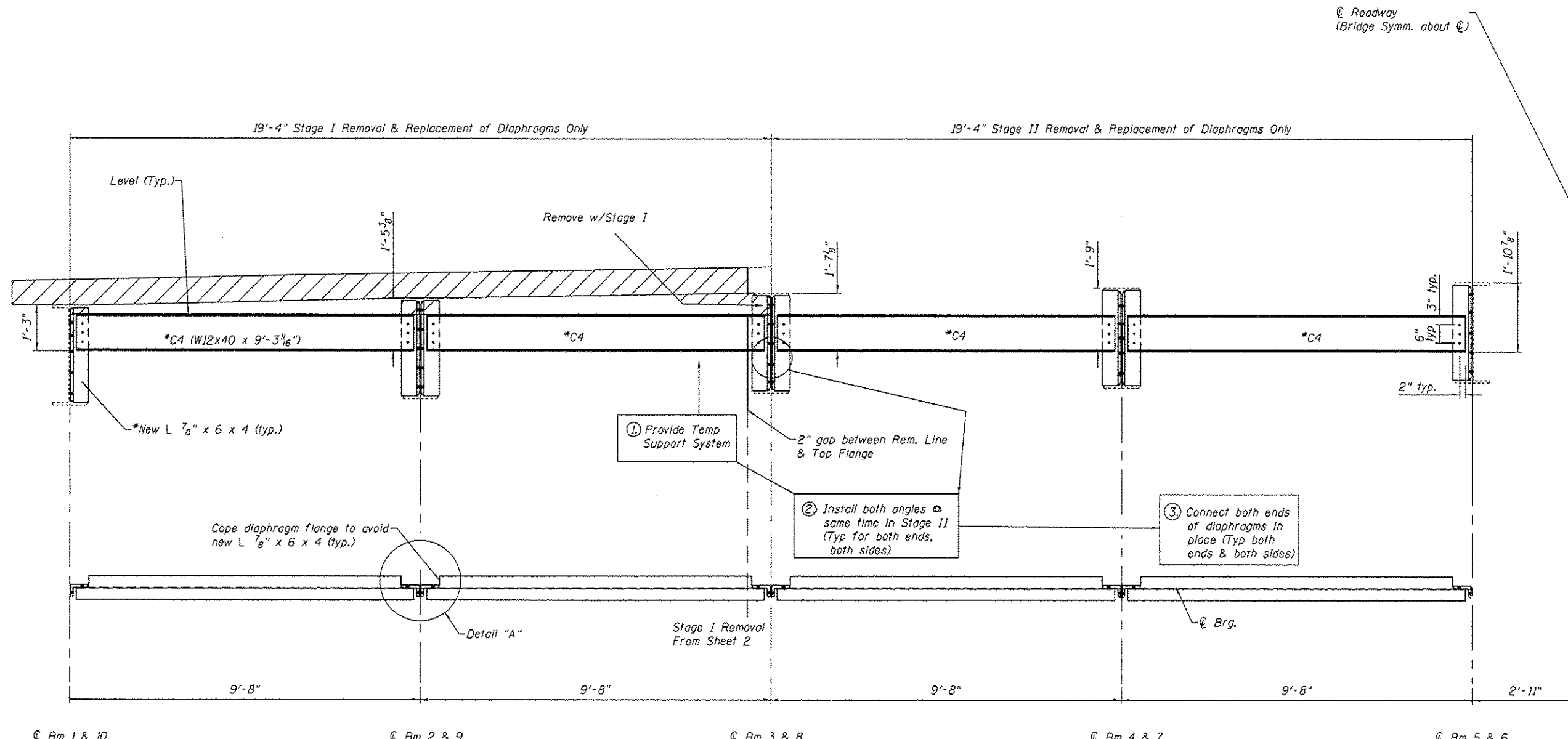
DESIGNED - AYW	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYW	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

JOINT DETAILS (Sheet 2 of 2)  
 SN 082-0259

SHEET NO. 7 OF 19 SHEETS

F.A.P. RYE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	22
CONTRACT NO. 76647			ILLINOIS FED. AID PROJECT	



DETAIL "A"  
(Only showing diaphragms for clarity)

**DIAPHRAGMS C4 (W12X40)**

Looking East at E. Abutment  
 Looking West at W. Abutment  
 Replace all end diaphragms @ each end  
 \* Galvanize new Ls & diaphragms

Note: Diaphragm connection holes shall be 1 5/16"  $\phi$  for 3/4"  $\phi$  bolts. Two hardened washers shall be required at diaphragm connections.

**BILL OF MATERIAL**

Item	Unit	Total
Structural Steel Removal	Pound	6680
F & E Structural Steel	Pound	8340

DESIGNED - AYW	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYW	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

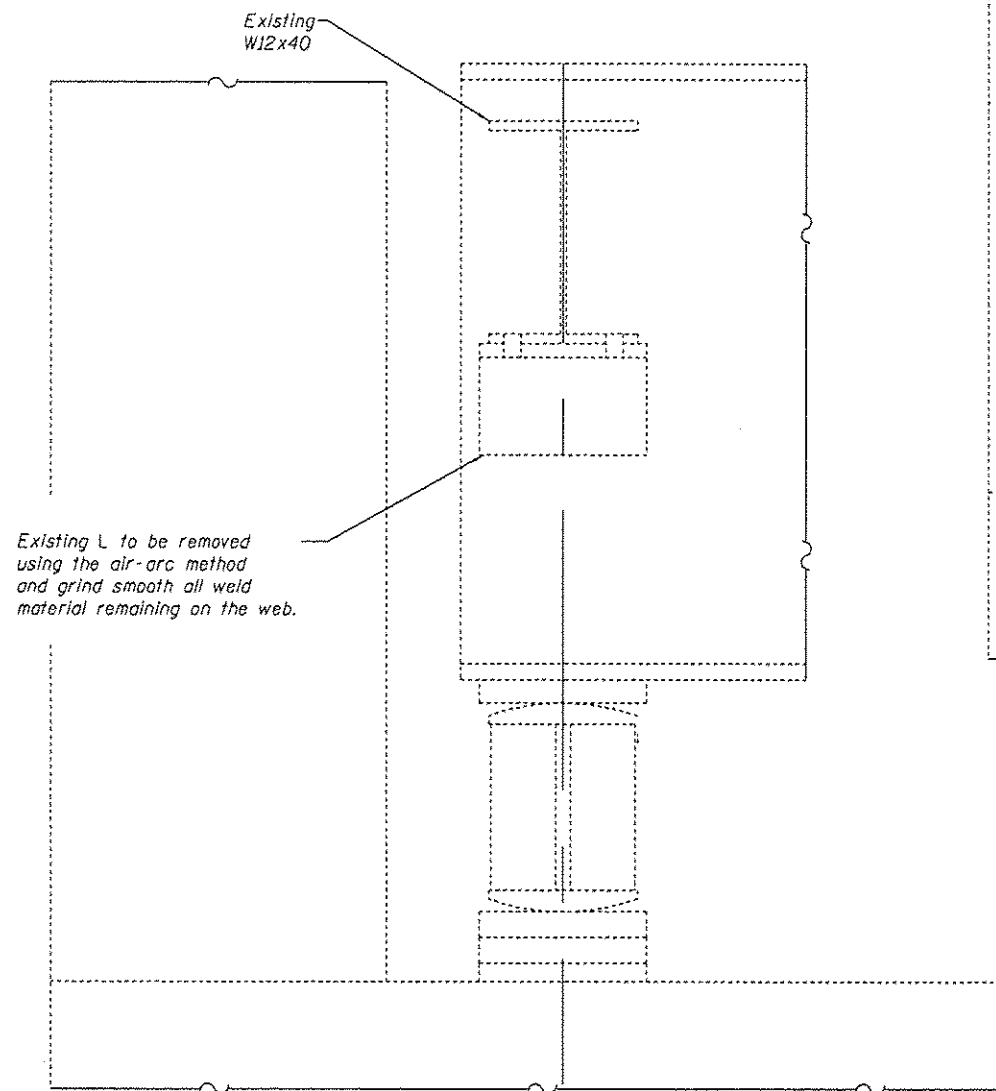
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL  
 SN 082-0259**

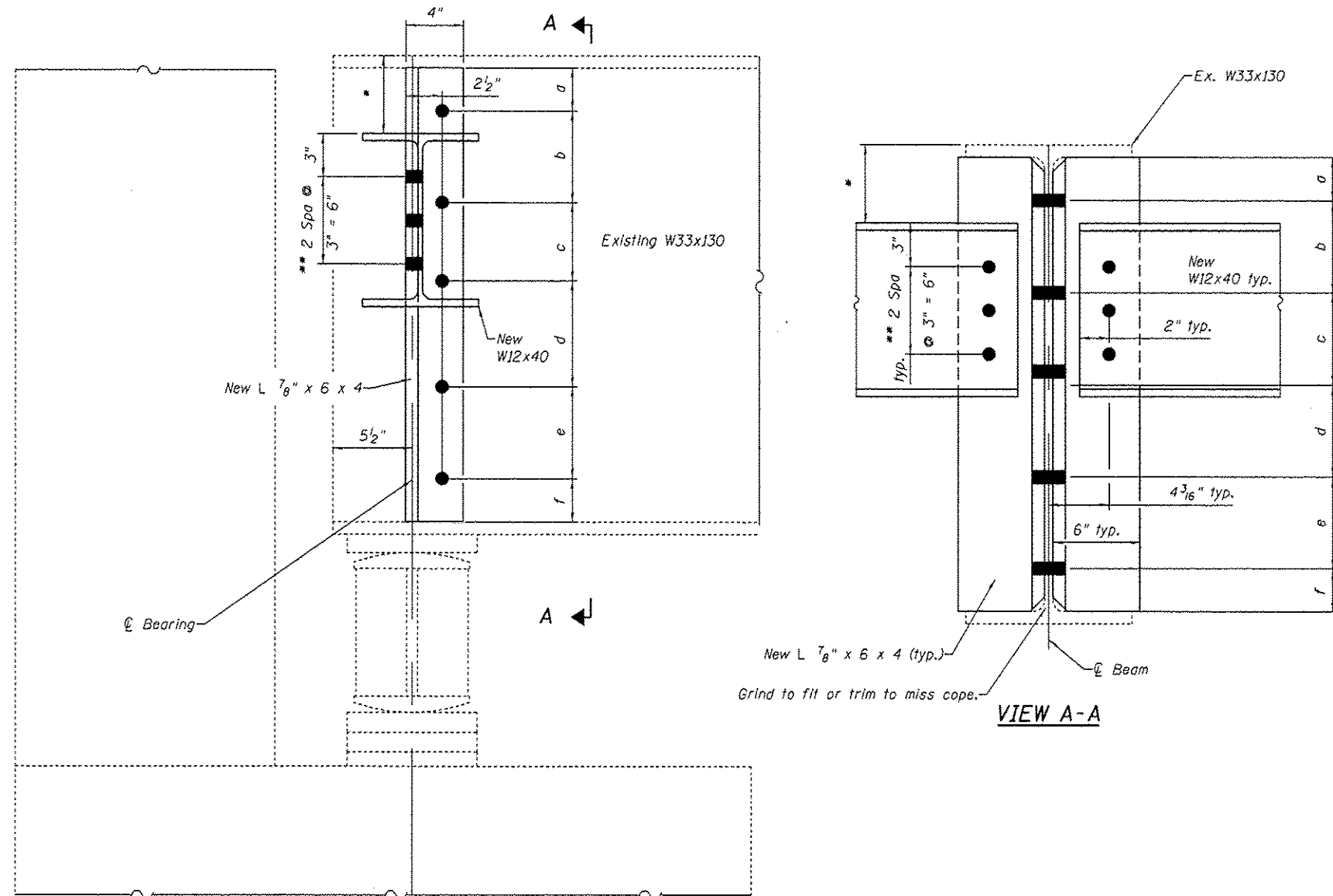
SHEET NO. 8 OF 19 SHEETS

F.A.P. RTE. 103	SECTION 95-VB-1	COUNTY ST. CLAIR	TOTAL SHEETS 34	SHEET NO. 23
CONTRACT NO. 76647				
ILLINOIS FED. AID PROJECT				

- \*  $3\frac{1}{16}$ " Bms 1 & 10
- $5\frac{7}{16}$ " Bms 2 & 9
- $7\frac{3}{16}$ " Bms 3 & 8
- $9\frac{1}{16}$ " Bms 4 & 7
- $10\frac{5}{16}$ " Bms 5 & 6



**EXISTING DIAPHRAGMS**



\*\* Holes in 6" leg of new L  $7\frac{7}{8}$ " x 6 x 4 shall be field drilled.

**PROPOSED DIAPHRAGMS**

Bms	a	b	c	d	e	f
1 & 10	$4\frac{7}{8}$ "	$4\frac{7}{16}$ "	$6\frac{1}{16}$ "	$6\frac{1}{16}$ "	$6\frac{15}{16}$ "	3"
2 & 9	$3\frac{5}{16}$ "	6"	$5\frac{7}{16}$ "	$6\frac{3}{4}$ "	$6\frac{13}{16}$ "	$3\frac{1}{16}$ "
3 & 8	3"	$6\frac{5}{16}$ "	$6\frac{3}{8}$ "	$6\frac{15}{16}$ "	$5\frac{3}{4}$ "	3"
4 & 7	5"	$5\frac{7}{8}$ "	$4\frac{13}{16}$ "	$5\frac{1}{16}$ "	6"	4"
5 & 6	$5\frac{1}{16}$ "	$6\frac{13}{16}$ "	$6\frac{1}{4}$ "	$5\frac{1}{8}$ "	$5\frac{1}{16}$ "	$3\frac{1}{16}$ "

Note: New W12x40 diaphragms, L  $7\frac{7}{8}$ " x 6 x 4 and connection bolts are included in "Furnishing and Erecting Structural Steel".

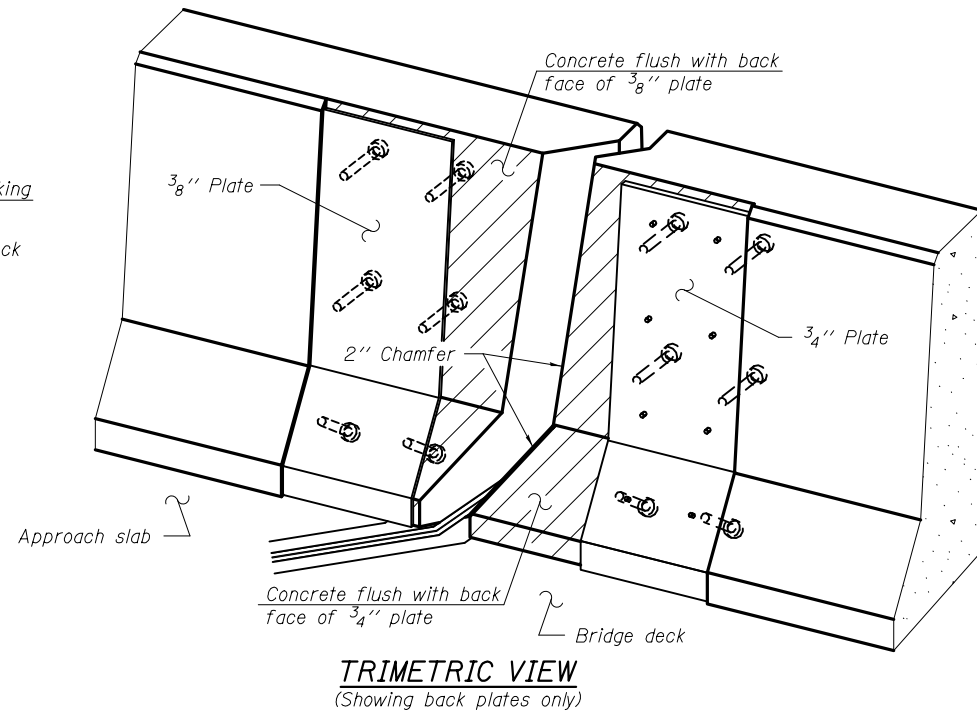
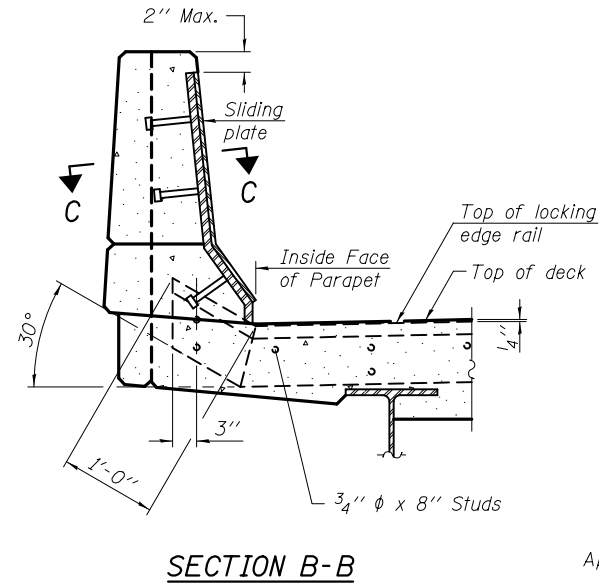
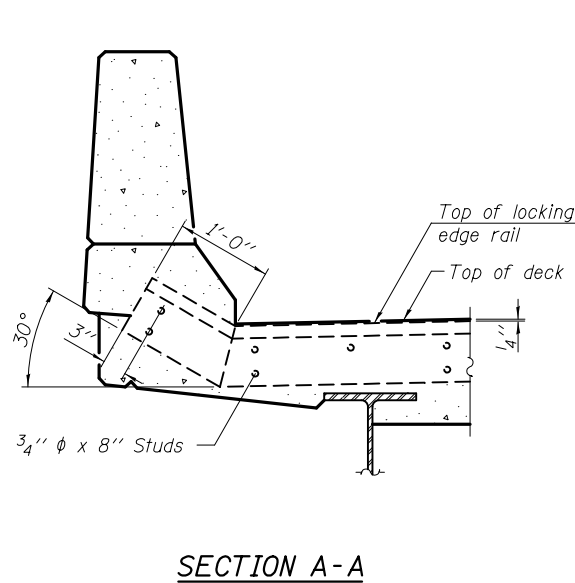
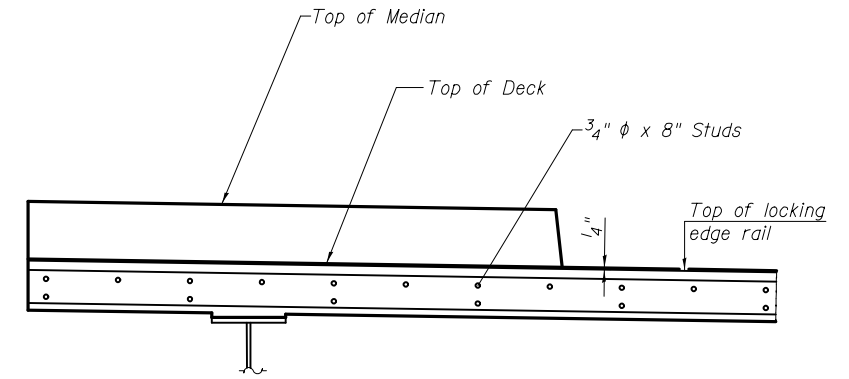
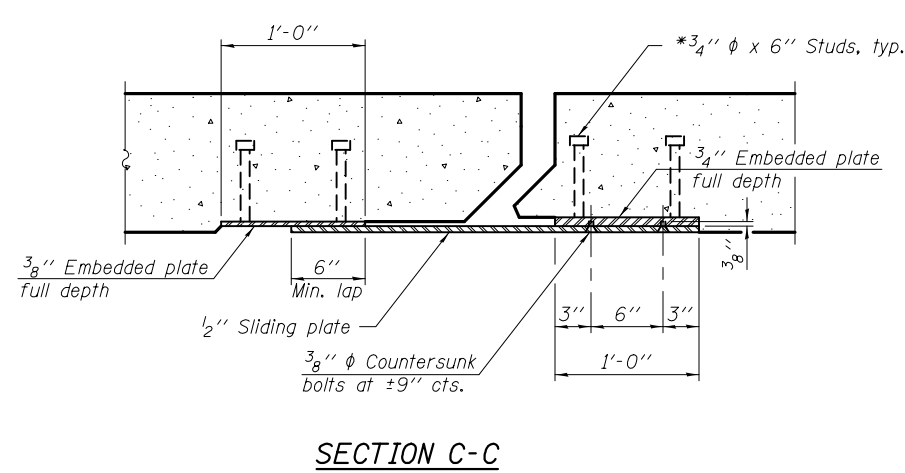
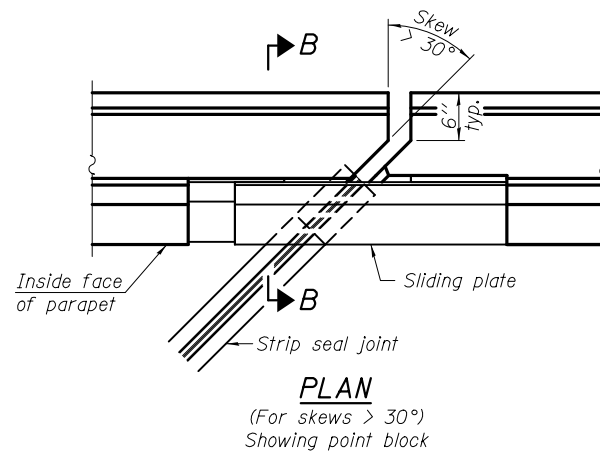
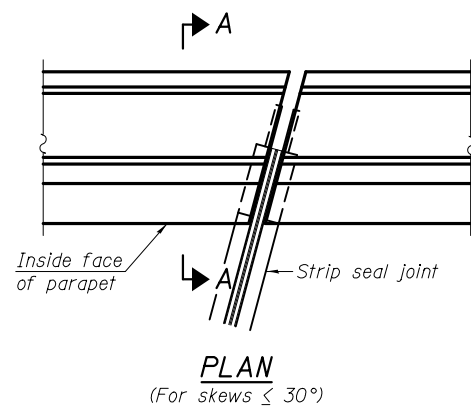
DESIGNED - AYV	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

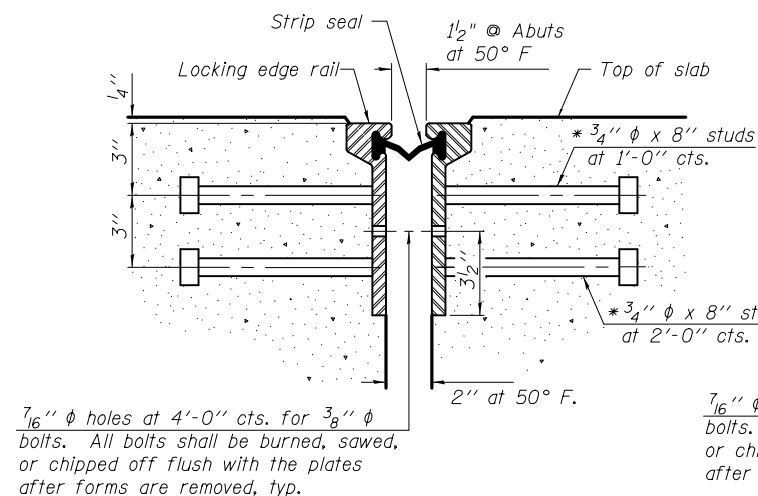
**STRUCTURAL STEEL DETAILS  
SN 082-0259**

SHEET NO. 9 OF 19 SHEETS

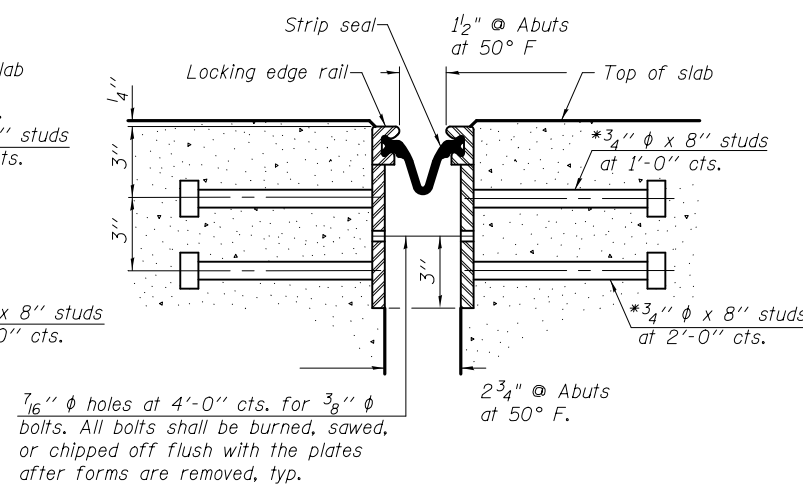
F.A.P. R.T.E. 103	SECTION 95-VB-1	COUNTY ST. CLAIR	TOTAL SHEETS 34	SHEET NO. 24
CONTRACT NO. 76C47				
ILLINOIS FED. AID PROJECT				



**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 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 shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.  
 Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

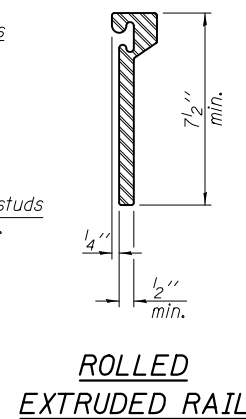


**SECTION THRU ROLLED RAIL JOINT**

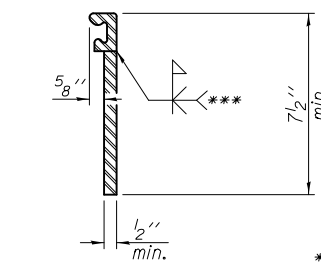


**SECTION THRU WELDED RAIL JOINT**

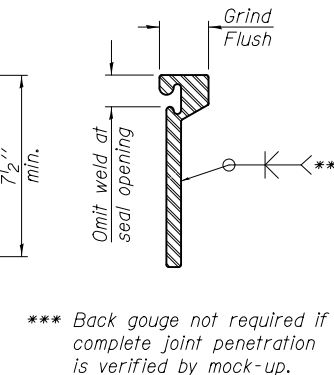
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



**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**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	177

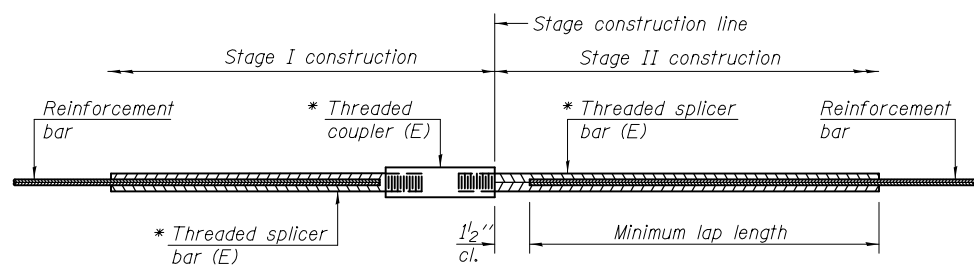
DESIGNED - AYV	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL  
 STRUCTURE NO. 082-0259**

SHEET NO. 10 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	25
CONTRACT NO. 76C47				
ILLINOIS FED. AID PROJECT				



**STANDARD BAR SPLICER ASSEMBLY**

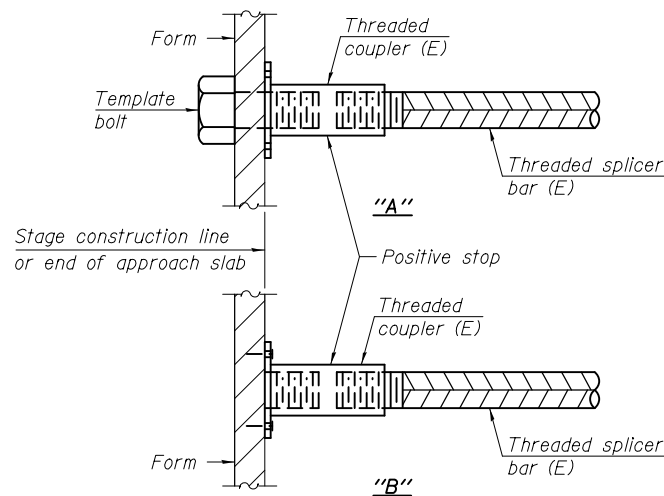
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

- 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, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

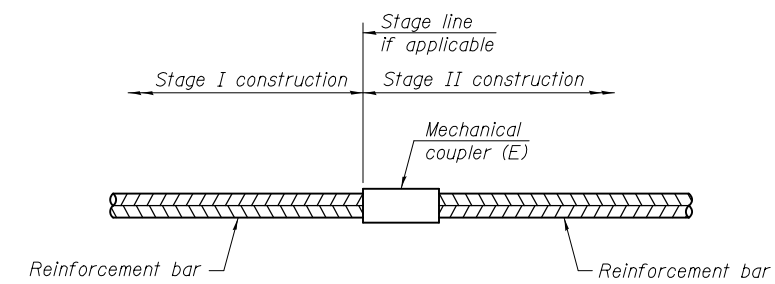
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
W. Abut Deck	#5	20	3
W. Abut Hatch	#6	8	3
W. Abut Approach	#5	10	3
E. Abut Deck	#5	20	3
E. Abut Hatch	#6	8	3
E. Abut Approach	#5	10	3



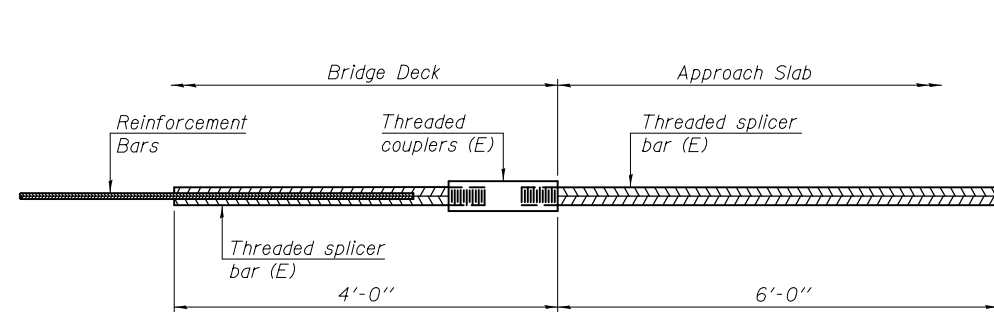
**INSTALLATION AND SETTING METHODS**

"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.



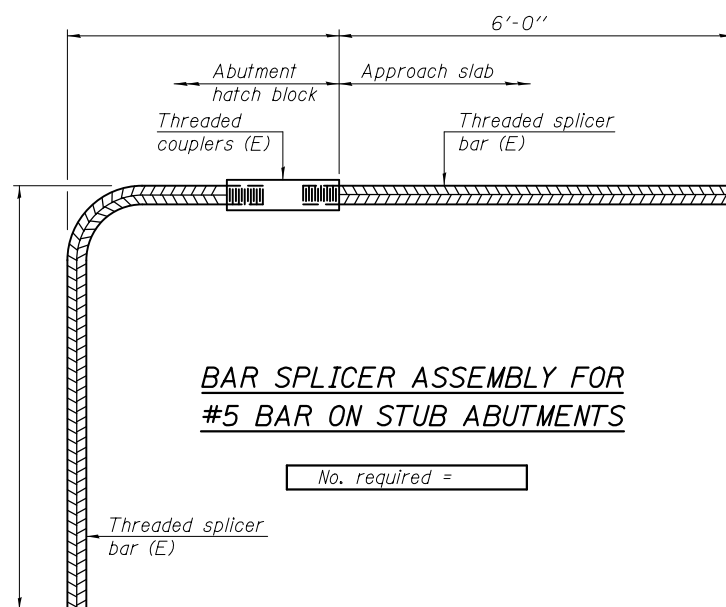
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



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

BSD-1 1-27-12

DESIGNED - AYV	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

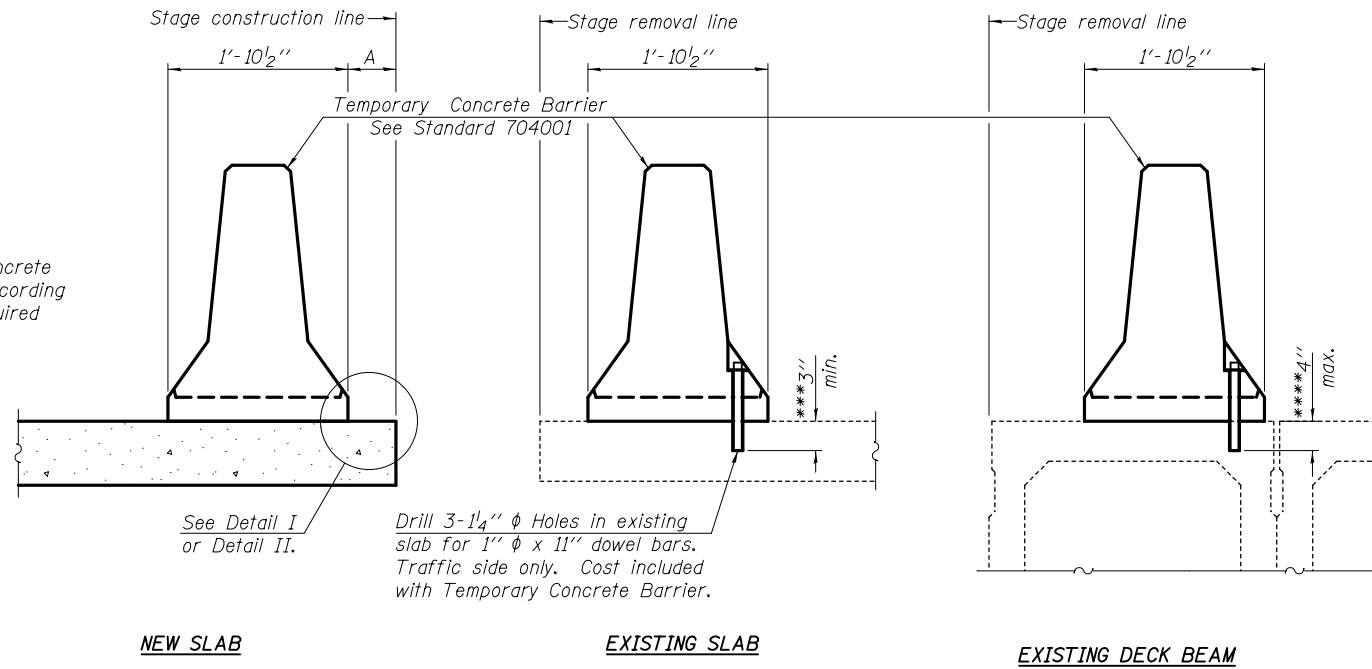
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
STRUCTURE NO. 082-0259

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	26
CONTRACT NO. 76G47				

SHEET NO. 11 OF 19 SHEETS

ILLINOIS FED. AID PROJECT

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



**SECTIONS THRU SLAB OR DECK BEAM**

**NOTES**

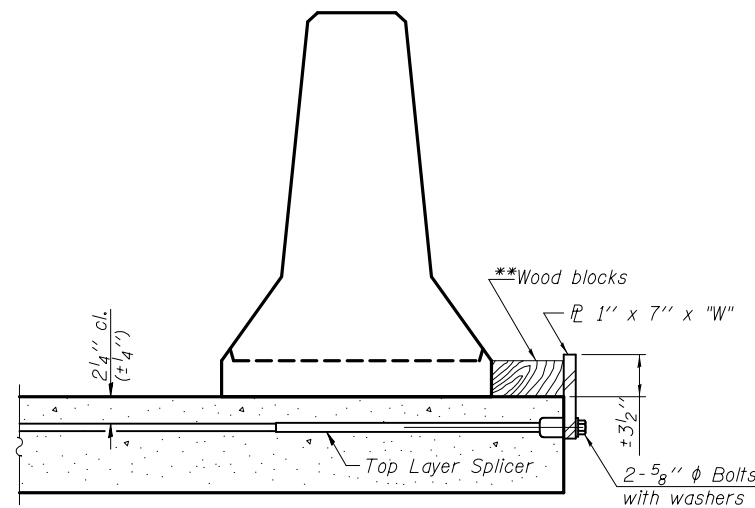
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

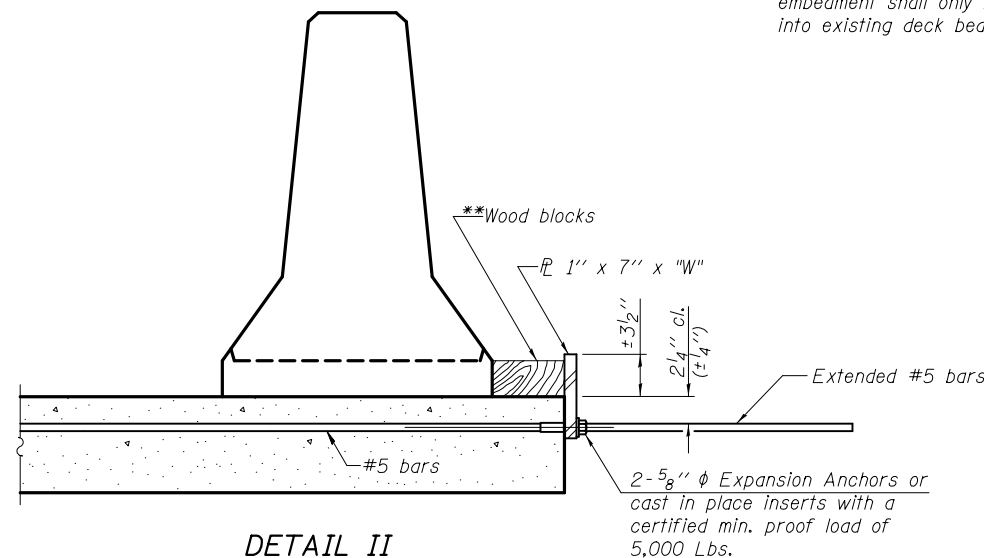
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

\*\*\* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

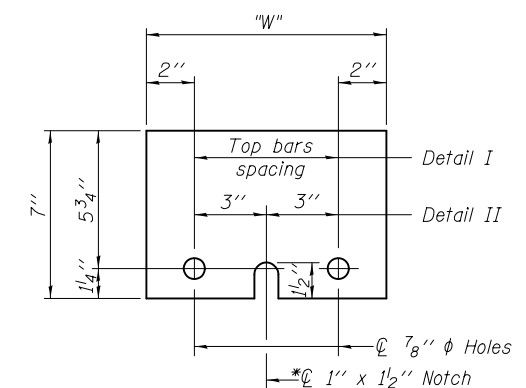
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**DETAIL I**



**DETAIL II**



**STEEL RETAINER PL 1" x 7" x "W"**

\* Required only with Detail II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

R-27 7-1-10

DESIGNED - AYV	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 082-0259**

SHEET NO. 12 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	95-VB-1	ST. CLAIR	34	27
CONTRACT NO. 76C47				
ILLINOIS FED. AID PROJECT				

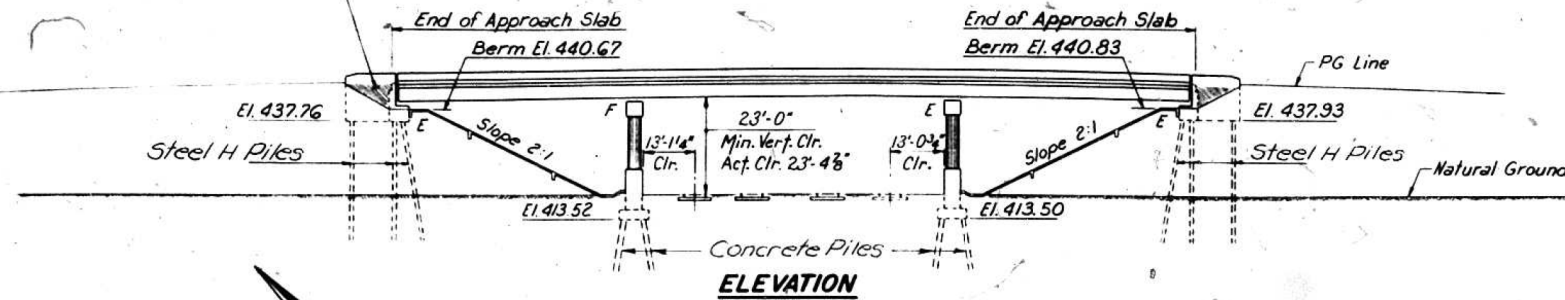


Bench Mark : RR Spike in N. side of Power Pole #4000,  
SW-Quad. of N 38<sup>th</sup> St. & U.S. Rt. 460 - Elev. 420.32

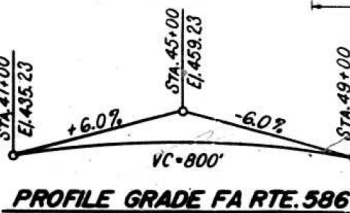
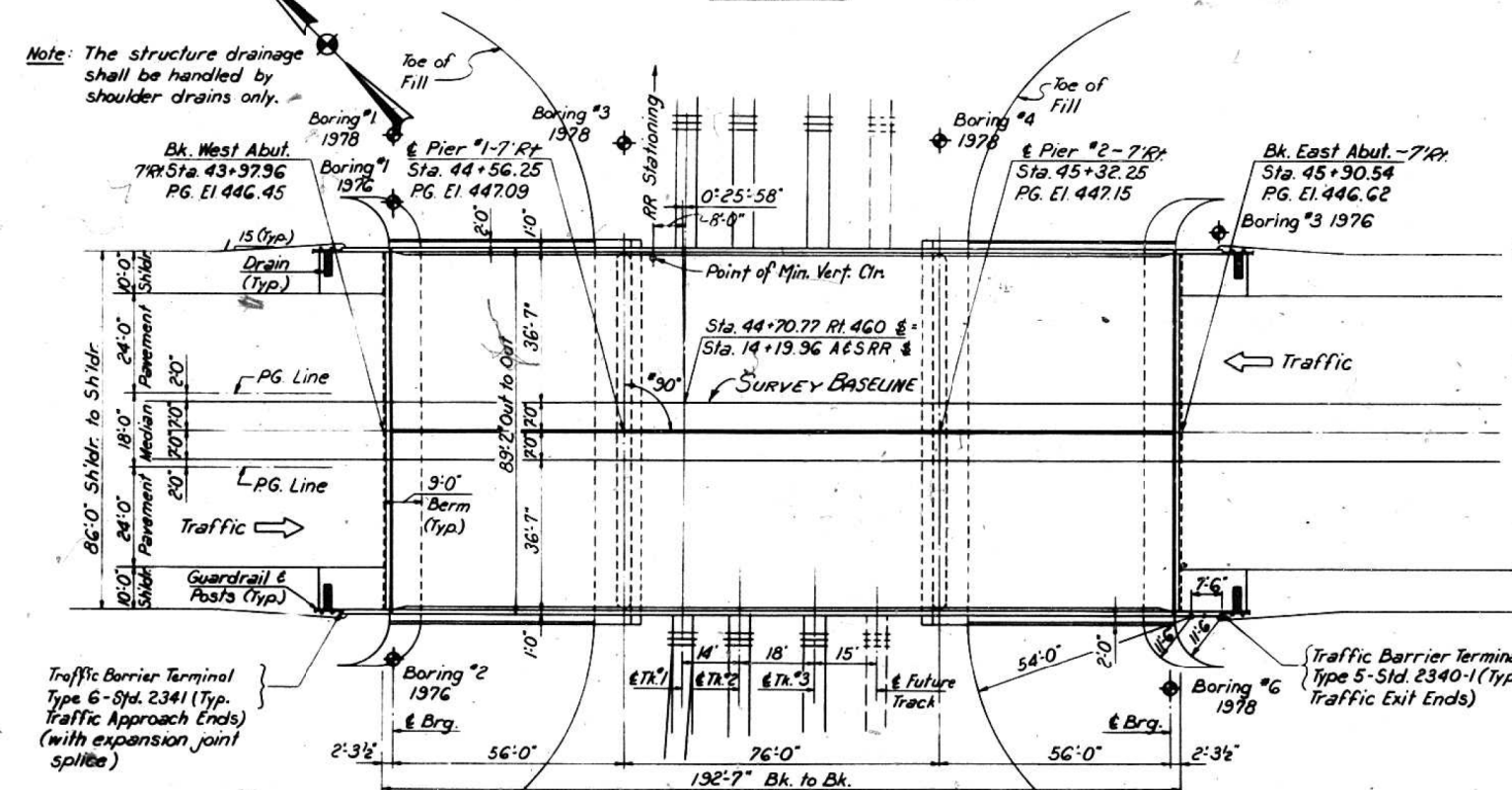
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NO.	REV.	DATE	BY	CHKD.	SHEET NO. / TOTAL SHEETS
1	1				11 / 11

This portion of embankment backfill by Bridge Contractor after Abut. is in place.

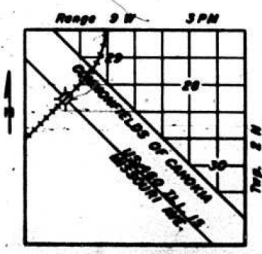


Note: The structure drainage shall be handled by shoulder drains only.



DESIGNED	Q.S.B.
CHECKED	Q.S.B.
DRAWN	M.E.G.
CHECKED	Q.S.B.

		Sta. 13+00	Sta. 13+50	Sta. 14+00	Sta. 14+50	Sta. 15+00	Sta. 15+50
Lt. Rail		419.31	419.55	419.73	419.70	419.30	419.02
Rt. Rail		419.34	419.51	419.71	419.66	419.35	419.07
Lt. Rail		419.72	419.72	419.62	419.63	419.64	419.59
Rt. Rail		419.72	419.70	419.65	419.65	419.64	419.61
Lt. Rail		419.70	419.65	419.72	419.72	419.85	419.78
Rt. Rail		419.71	419.68	419.71	419.76	419.81	419.76



GENERAL NOTES

- SEE PROPOSAL FOR BORING DATA.
- FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" Ø OPEN HOLES 1/16" Ø, UNLESS OTHERWISE NOTED.
- CALCULATED WEIGHT OF STRUCTURAL STEEL = 312,314 lbs.
- THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL SHALL BE AASHTO M 222 UNPAINTED EXCEPT EXPANSION JOINT ANGLES AND ATTACHED BARS WHICH SHALL BE AASHTO M 183 AND SHOP PAINTED WITH TWO COATS OF BASIC LEAD SILICO CHROMATE PAINT.
- THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.
- THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONSTRUCTION JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF HANDRAIL CONCRETE.
- BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITH A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.

THE MAIN LOAD CARRYING MEMBER SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR STEEL TENSILE ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS ON SIDE FLANGE BEAMS.

FIELD WELDING OF CONSTRUCTION ACCESSORIES SHALL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP OF 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 B'LTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS (BOLTING CROSS FRAMES) OVER SUPPORTS.

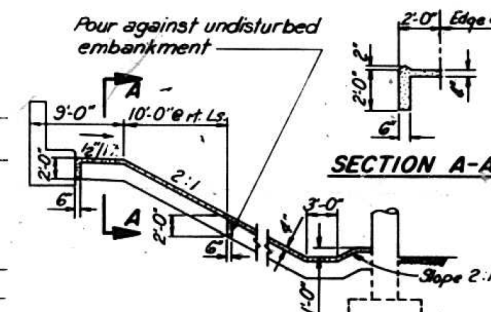
SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, WEIGHING 50 LBS. PER 100 SQ. FT.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-53 GRADE 60.

THE CONTRACTOR SHALL DRIVE 1 CONCRETE TEST PILE IN A PERMANENT LOCATION ON THE SOUTH SIDE OF EACH PIER IN A PERMANENT LOCATION AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

STEEL PILES SHALL BE DRIVEN THROUGH PRE-CORED HOLES IN THE EMBANKMENT AND THE TOP 40" OF THE PILES SHALL BE COATED WITH A MINIMUM OF 5 MM OF EITHER ASPHALTIC CEMENT OR MC OR SC LIQUID CEMENT.

VOID SPACES BETWEEN THE STEEL PILES AND THE PRE-CORED HOLES SHALL BE FILLED WITH DRY LOOSE SAND.



FOR INFORMATION ONLY

SECTION THRU SLOPEWALL

STATION 44+70.77  
BUILT 1971 BY  
STATE OF ILLINOIS  
F.A. RT. 586 SEC. 95 VB  
LOADING HS20  
STR. NO. ---

NAME PLATE  
(See Std. 2113)  
Note: Structure Number to be supplied by District.

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB.	TOTAL
Structure Excavation	Cu. Yd.		327	327
Class X Concrete	Cu. Yd.	596.2	516.8	1073.0
Structural Steel	lb.			312,314
Stud Shear Connectors	Each	5430		5430
Reinforcement Bars	Pounds	52,989	42,567	100,150
Reinforcement Bars (Epoxy Coated)	Pounds	86,758		86,758
Concrete Piles	Lin. Ft.		3,132	3,132
Test Piles Concrete	Each		2	2
Name Plates	Each		1	1
Slope Wall (4')	Sq. Yd.		1321	1321
Protective Coat	Sq. Yd.	1394	19	2013
Preformed Joint Sealer (2 1/2")	Lin. Ft.	30		30
Neoprene Expansion Joint (2")	Lin. Ft.	30		30
Steel Piles HPI2 x 14	Lin. Ft.		3,520	3,520



APPROVED  
STRUCTURAL ENGINEER ONLY  
[Signature]

AS REVISED

DESIGN STRESSES

- f<sub>c</sub> = 3,500 psi
- f<sub>y</sub> = 60,000 psi (Reinforcing)
- f<sub>y</sub> = 50,000 psi (Structure)
- n = 9
- Load Factor Design Loading HS20-44
- Allow. 25% (b<sub>1</sub>) for Future Wearing Surfaces.
- AASHTO 1977 Design Specifications

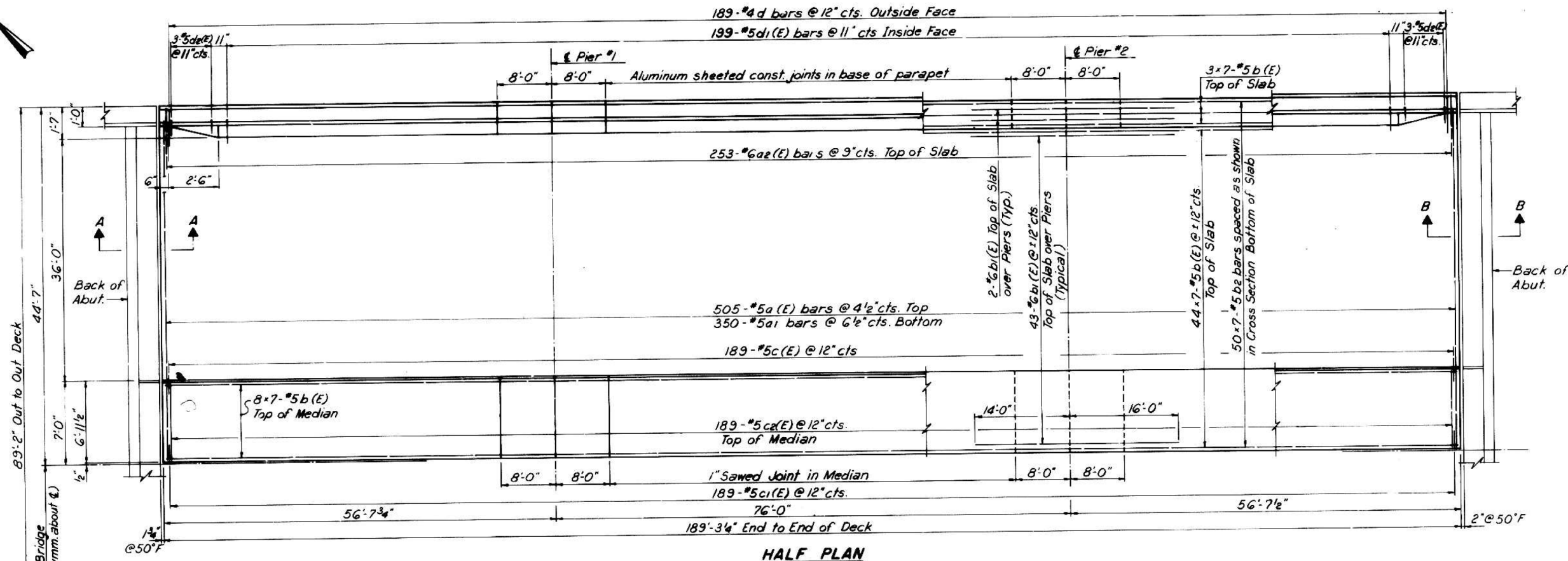
GENERAL PLAN & ELEVATION  
PROJECT RR-5(2)

MISSOURI AVE. OVER A&S RAILROAD  
FA ROUTE 586-SECTION 95VB  
ST. CLAIR COUNTY

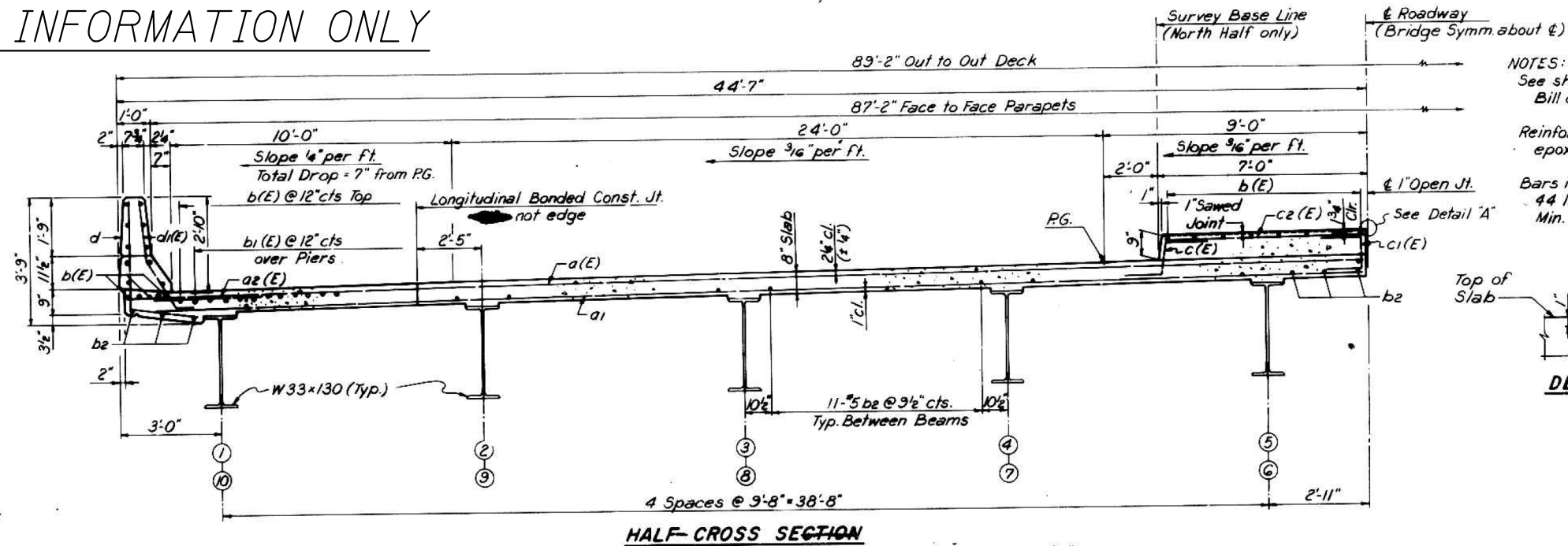
STA. 44+70.77 & SURVEY FA RTE. 586  
SECTION 95VB & SURVEY A&S RR.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

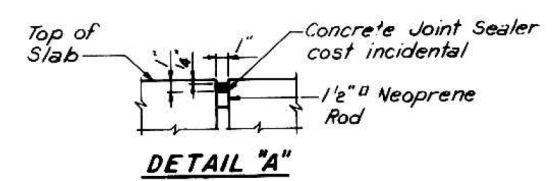
PROJECT NO.	95VB	COUNTY	ST. CLAIR	TOTAL SHEETS	31	SHEET NO.	12	SHEETS	11
-------------	------	--------	-----------	--------------	----	-----------	----	--------	----



FOR INFORMATION ONLY



NOTES:  
See sheet #5 for superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.  
Bars indicated thus 44 x 7-#5 etc. indicates 44 lines of bars with 7 lengths per line. Min. bar lap for #5 bars = 1'-8\".



SUPERSTRUCTURE PLAN & SECTION  
FA ROUTE 106 SEC. 95-VB  
ST. CLAIR COUNTY ILLINOIS  
STA. 44+70.77

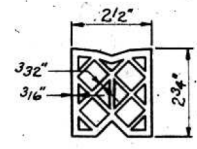
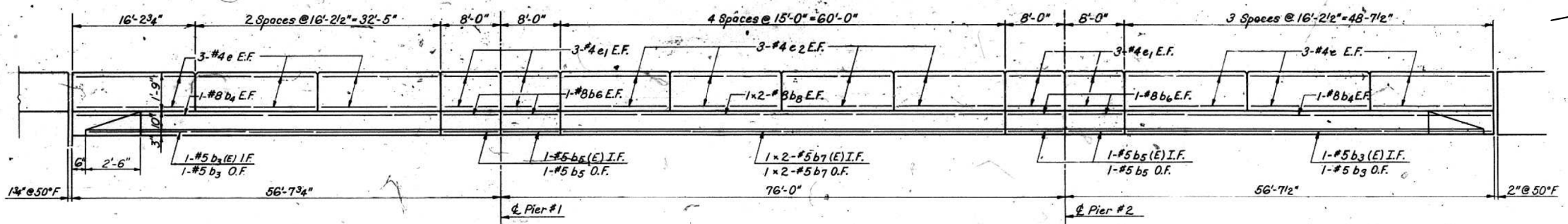
DESIGNED	DAB
CHECKED	417
DRAWN	M.E.G.
CHECKED	DAB

DESIGNED - AYV	EXAMINED	DATE	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FOR INFORMATION ONLY - EXIST. SUPERSTRUCTURE PLAN & HALF-SECT.	F.A.P. RTE. 103	SECTION 95-VB-1	COUNTY ST. CLAIR	TOTAL SHEETS 34	SHEET NO. 29
CHECKED -	PASSED	REVISOR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 082-0259	ILLINOIS FED. AID PROJECT		CONTRACT NO. 76C47		
DRAWN - AYV	ENGINEER OF STRUCTURAL SERVICES	REVISOR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SHEET NO. 14 OF 19 SHEETS					
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR							

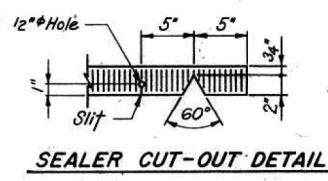


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

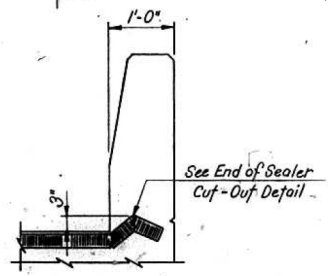
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
95 VB	ST. CLAIR	31	13	11	11 SHEETS



PREFORMED JOINT SEALER (2 1/2")

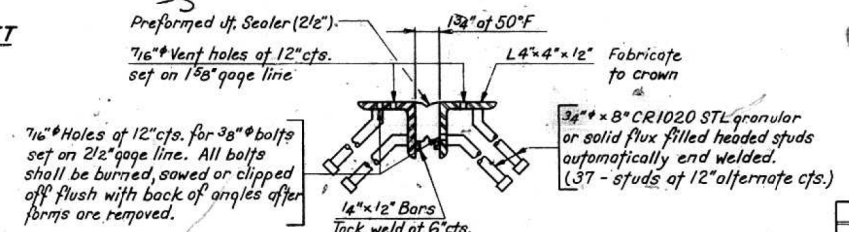


SEALER CUT-OUT DETAIL

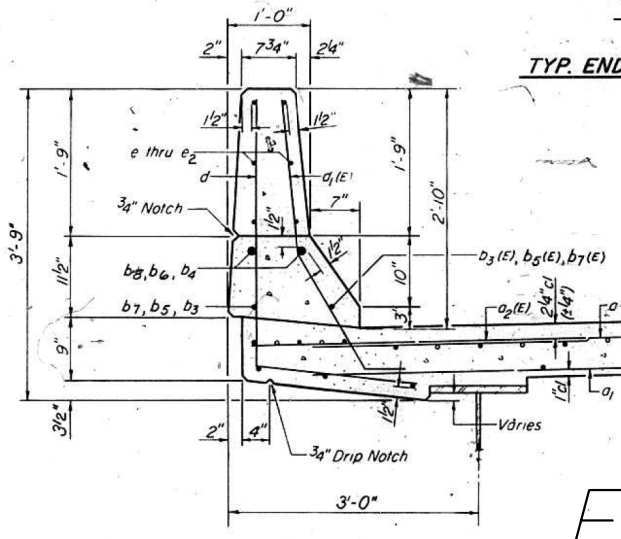


TYP. END OF SEALER TREATMENT

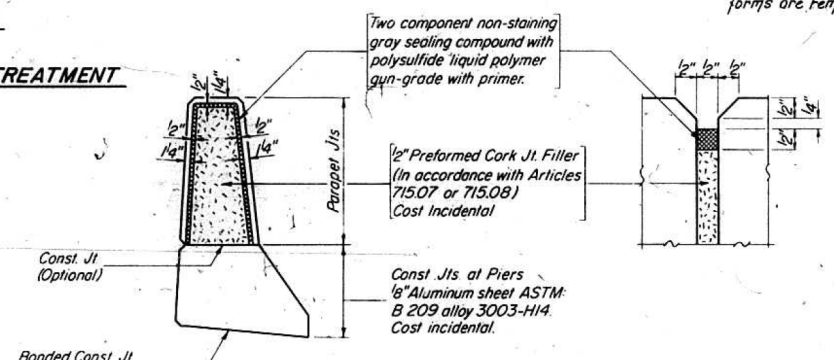
INSIDE ELEVATION OF PARAPET



DETAIL A

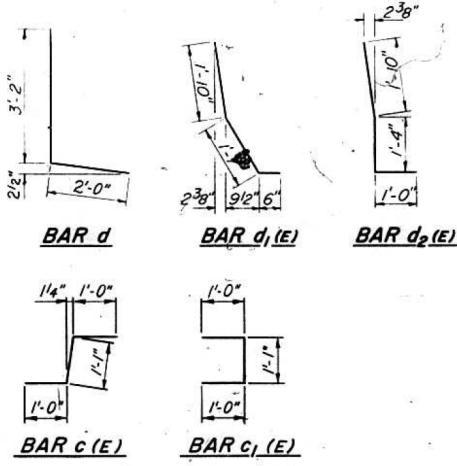


SECTION THRU PARAPET



PARAPET JOINT-DETAILS

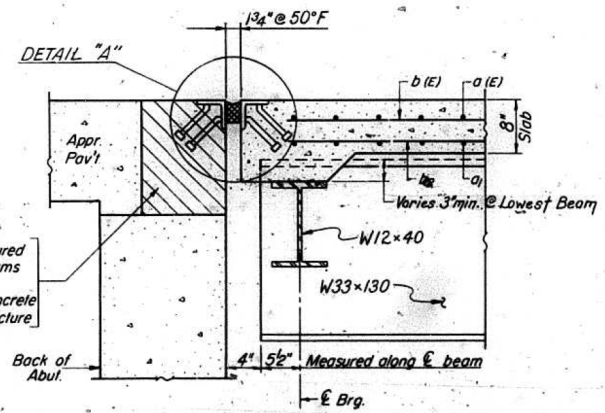
FOR INFORMATION ONLY



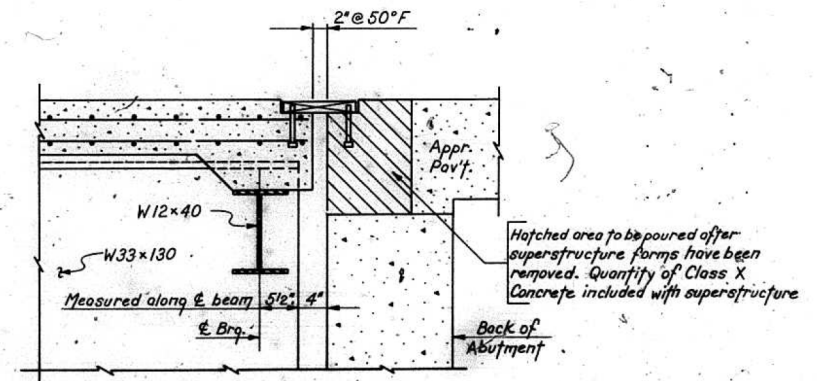
**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1 (E)	1010	#5	43'-4"	
a1	700	#5	43'-4"	
a2 (E)	506	#6	4'-0"	
b1 (E)	770	#5	28'-5"	
b1 (E)	180	#6	30'-0"	
b2	700	#5	28'-5"	
b3 (E)	4	#5	48'-4"	
b3	4	#5	48'-4"	
b4	8	#8	48'-4"	
b5 (E)	8	#5	7'-8"	
b5	8	#5	7'-8"	
b6	16	#8	7'-8"	
b7 (E)	4	#5	30'-8"	
b7	4	#5	30'-8"	
b8	8	#8	31'-0"	
c (E)	378	#5	3'-1"	
c1 (E)	378	#5	3'-1"	
c2 (E)	378	#5	6'-8"	
d	378	#4	5'-2"	
d1 (E)	398	#5	3'-11"	
d2 (E)	12	#5	4'-2"	
e	72	#4	15'-10"	
e1	48	#4	7'-8"	
e2	48	#4	14'-8"	
Reinforcement Bars	Lbs.		57,583	
Reinforcement Bars (Epoxy Coated)	Lbs.		86,758	
Class X Concrete	Cu Yds.		556.2	

Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.



SECTION A-A



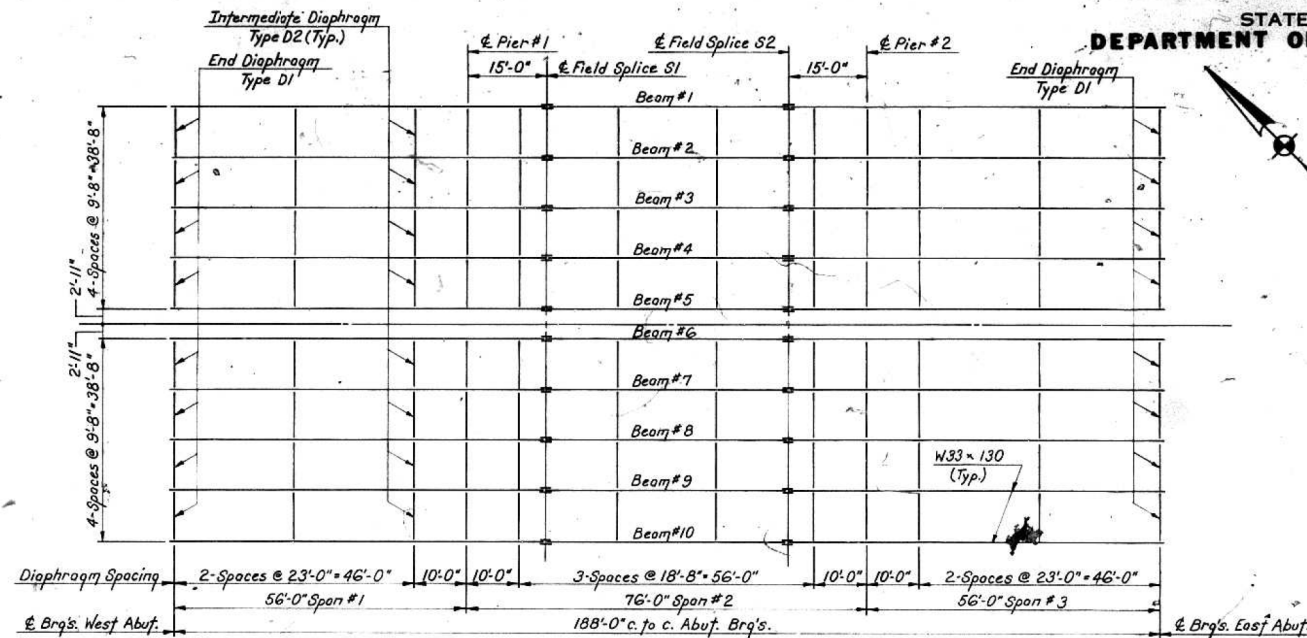
SECTION B-B

DESIGNED	DSB.
CHECKED	AKJ.
DRAWN	AKJ.
CHECKED	DSB.

**SUPERSTRUCTURE DETAILS**  
FA ROUTE 506 SEC. 95-VB  
ST. CLAIR COUNTY ILLINOIS  
STA. 44+70.77

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
95 VB	ST. CLAIR	31	15	11	11 SHEETS



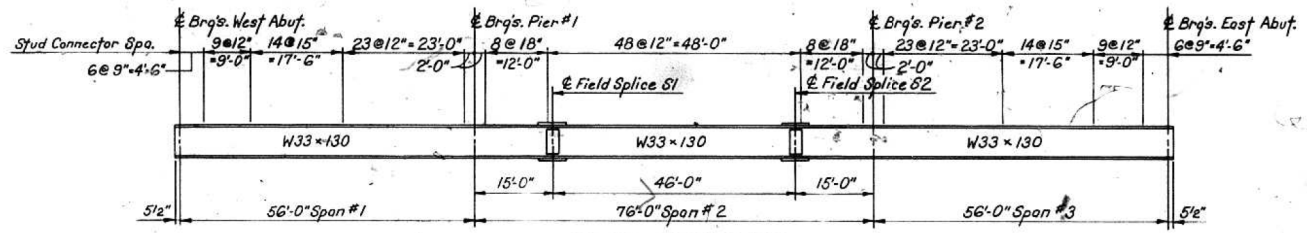
FRAMING PLAN

MAXIMUM MOMENT & STRESS TABLE  
LOAD FACTOR DESIGN

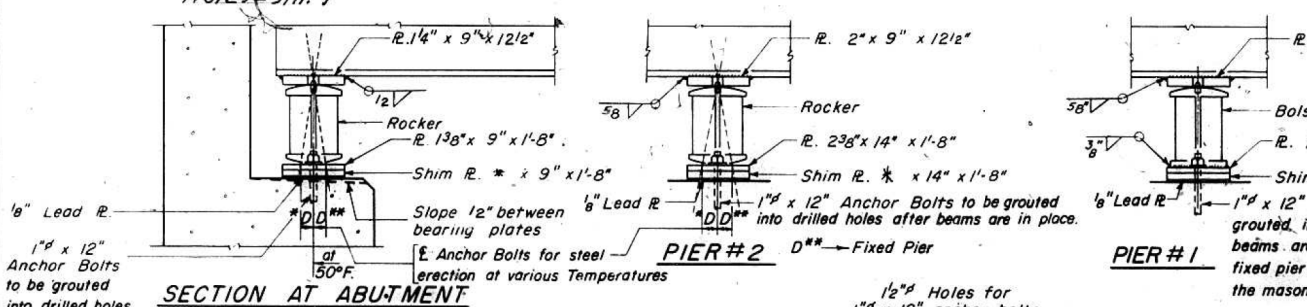
		0.4 SPAN #1	PIER #1	0.5 SPAN #2
BASIC SECTION	DL <sub>1</sub> (k')	1.145	1.145	1.145
	MDL <sub>1</sub> (k)	314	616	459
	f <sub>b1</sub> ksi	9.28	15.83	10.43
COMPOSITE	DL <sub>2</sub> (k')	0.422	0.422	0.422
	MDL <sub>2</sub> (k)	129	194	203
	f <sub>b2</sub> ksi	2.90	4.97	3.50
COMPOSITE	MLL (k)	1227	709	1547
	M Impact	339	186	385
	M Total	1566	895	1932
f <sub>b</sub> TOTAL ksi	f <sub>b3</sub> ksi	31.84	23.0	30.23
	f <sub>b</sub> TOTAL ksi	44.02	43.80	44.16
	VR (k)	76.5	-	60.8

REACTION TABLE (SERVICE LOAD)

INTERIOR GIRDER REACTION TABLE		
	ABUTMENTS	PIERS
RDL <sub>1</sub> (k)	22.7	85.0
RDL <sub>2</sub> (k)	8.9	30.8
RLL (k)	54.6	65.2
RIMP (k)	15.1	17.1
R TOTAL (k)	101.3	198.1



BEAM ELEVATION



SECTION AT ABUTMENT

PIER #1

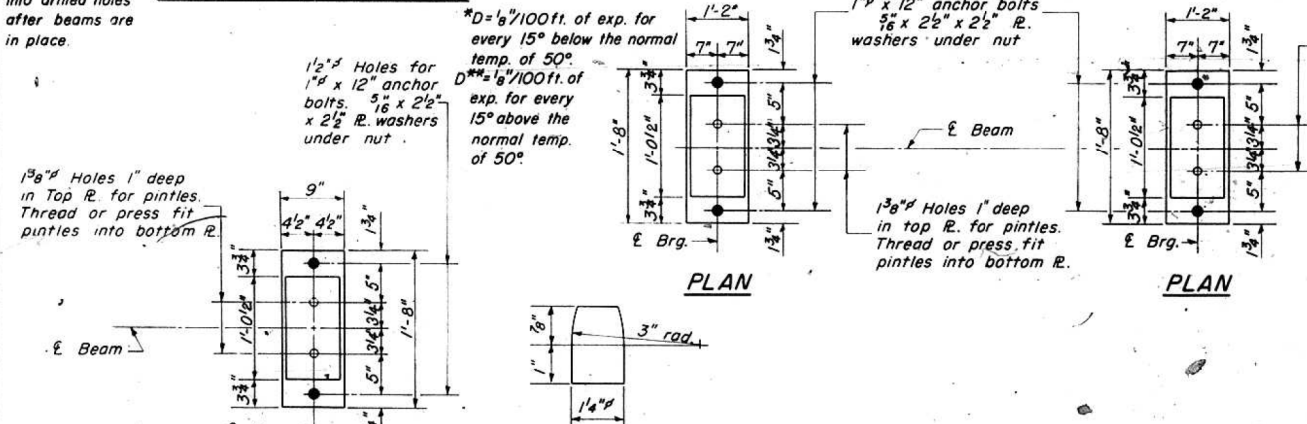
PIER #2

Note: Hardened washers shall be required over 1/16" holes in angles.

LOCATION

Beam No.	Brq's. West Abut.	Brq's. Pier #1	Splice S1	Splice S2	Brq's. Pier #2	Brq's. East Abut.
1	445.18	445.78	445.86	445.90	445.85	445.34
2	445.38	445.98	446.06	446.10	446.04	445.54
3	445.53	446.13	446.21	446.25	446.20	445.69
4	445.68	446.28	446.36	446.40	446.35	445.84
5	445.83	446.43	446.51	446.55	446.50	445.99
6	445.83	446.43	446.51	446.55	446.50	445.99
7	445.68	446.28	446.36	446.40	446.35	445.84
8	445.53	446.13	446.21	446.25	446.20	445.69
9	445.38	445.98	446.06	446.10	446.04	445.54
10	445.18	445.78	445.86	445.90	445.85	445.34

ELEVATION TOP OF W33x130 FOR FABRICATION ONLY

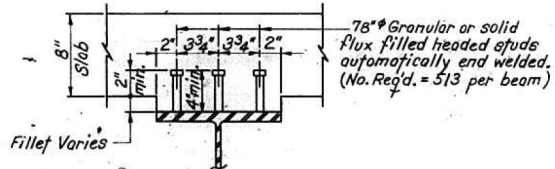


PLAN

PLAN

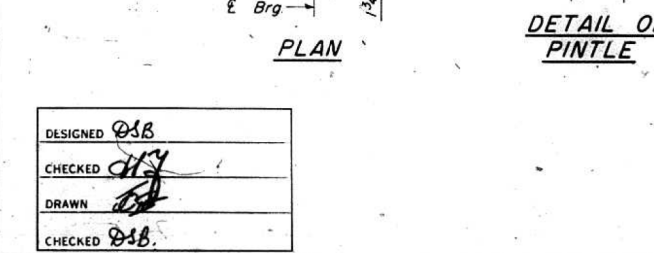
DIAPHRAGM D1  
16 Required

DIAPHRAGM D2  
80 Required

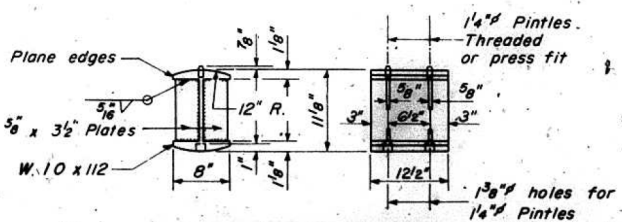


STUD CONNECTOR

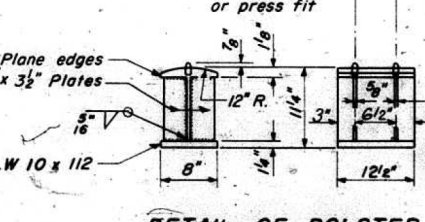
FOR INFORMATION ONLY



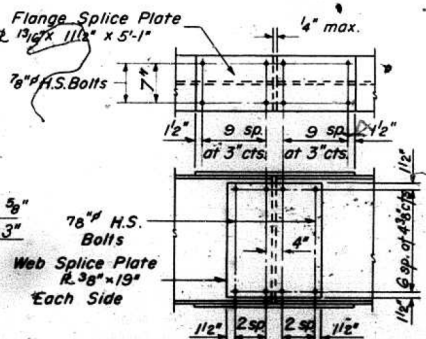
DETAIL OF PINTLE



DETAIL OF ROCKER AT ABUTS. & PIER #2



DETAIL OF BOLSTER AT PIER #1



DETAIL OF SPLICE

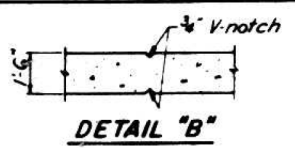
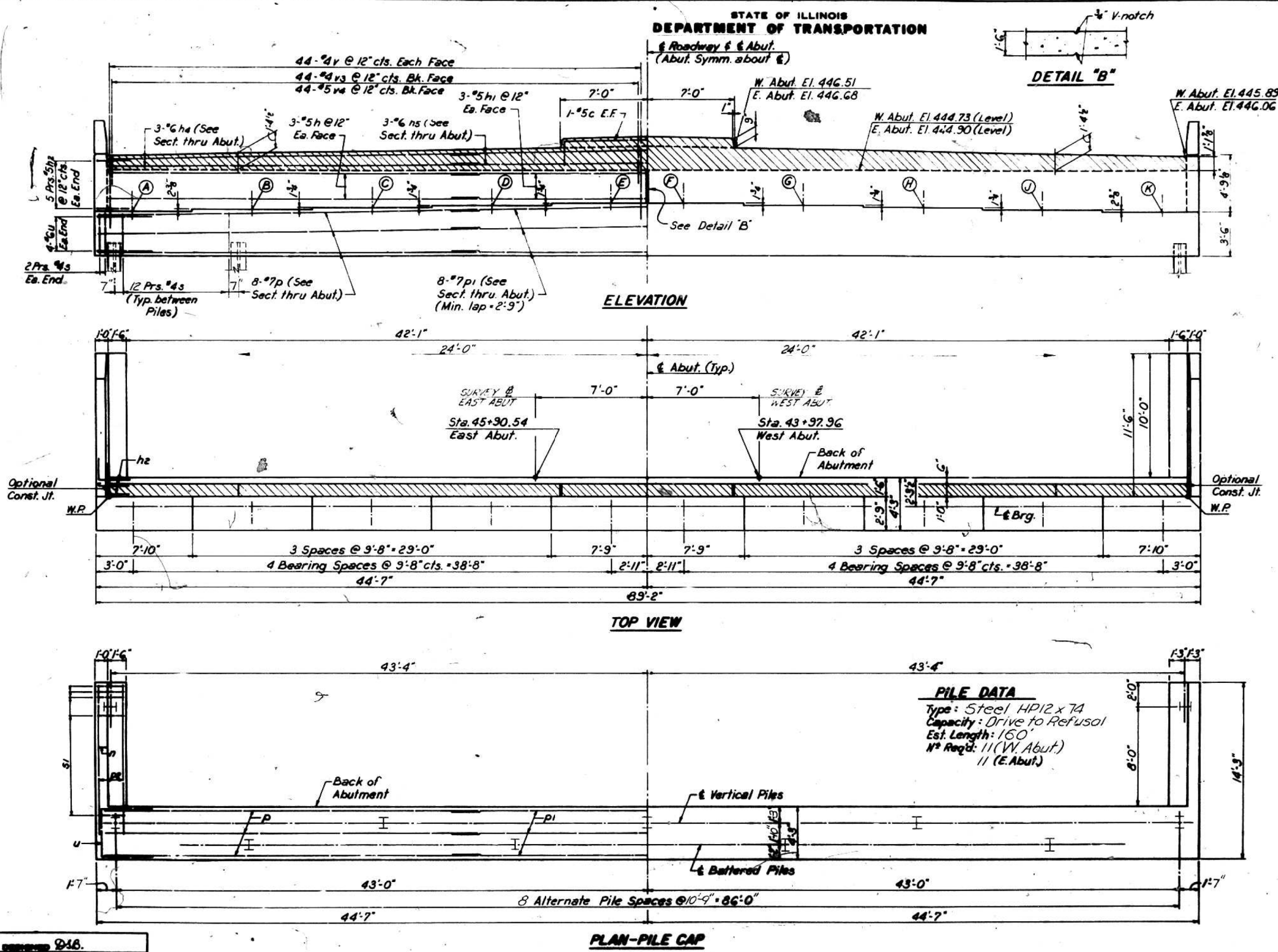
DESIGNED *ASB*  
CHECKED *ASB*  
DRAWN *ASB*  
CHECKED *ASB*

SUPERSTRUCTURE FRAMING DETAILS  
FA ROUTE 506 SEC. 95-VB  
ST. CLAIR COUNTY ILLINOIS  
STA. 44+70.77

REV. 7-27-78



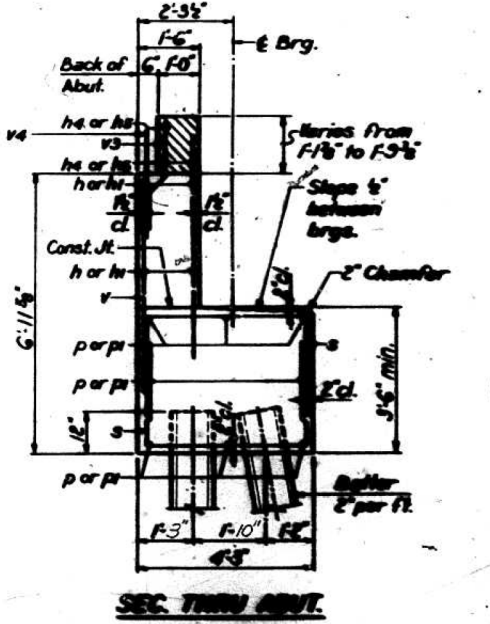
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



95 VB	ST. CLAIR	31	NOA	11
-------	-----------	----	-----	----

NOTES:  
Hatched area to be poured after super-structure forms have been removed. Quantity of Class X Concrete is included in Superstructure.  
Space reinforcement in cap to miss anchor bolts.  
Pour steps monolithically with cap.  
For wingwall details see sheet #9.  
For Bill of Material see sheet #9.

BRG. SEAT ELEVATIONS	
WEST ABUT.	EAST ABUT.
A	441.26
B	441.26
C	441.61
D	441.76
E	441.51
F	441.51
G	441.76
H	441.61
J	441.26
K	441.26



**PILE DATA**  
Type: Steel HP12 x 74  
Capacity: Drive to Refusal  
Est. Length: 160'  
No. Req'd: 11 (W. Abut.)  
11 (E. Abut.)

DESIGNED	D.L.B.
CHECKED	D.L.B.
DRAWN	M.L.B.
CHECKED	D.L.B.

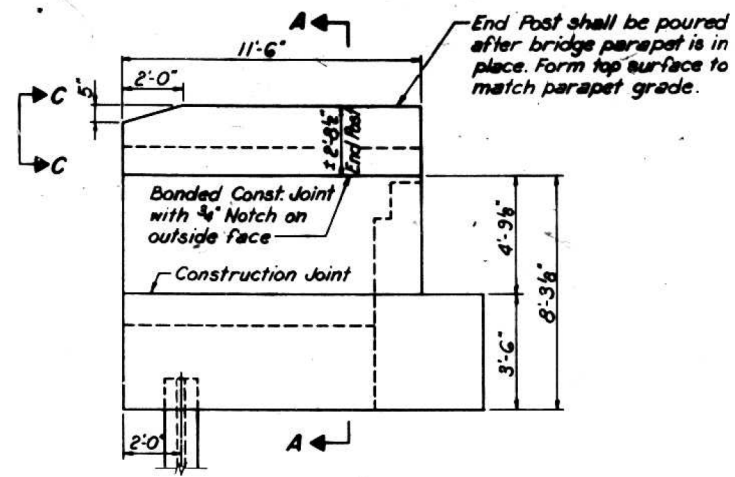
AS REVISED

FOR INFORMATION ONLY

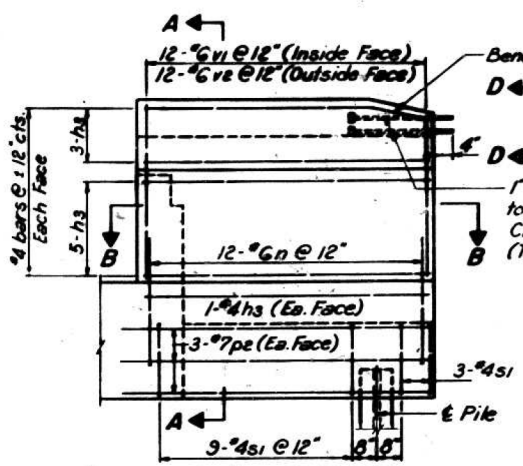
As Revised 3-12-79 L.W.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

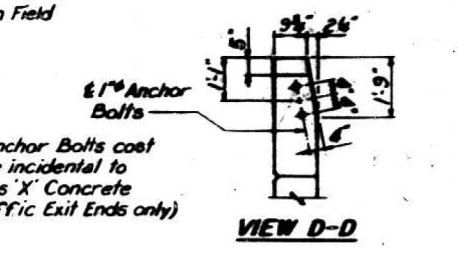
95 VB ST. CLAIR	31	17A	11
-----------------	----	-----	----



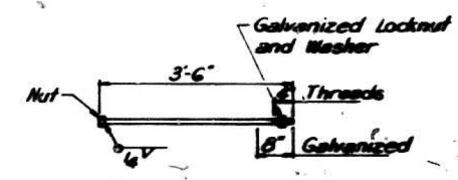
WING WALL ELEVATION



WING WALL ELEVATION Reinforcement

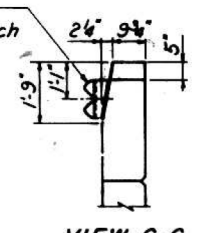


VIEW D-D

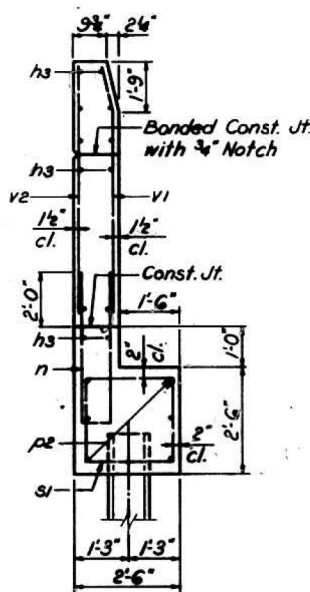


1" ANCHOR BOLT

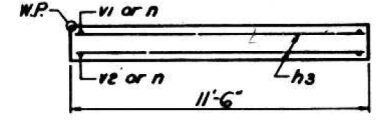
Traffic Barrier Terminal Type G Std. 2341 (Traffic Approach Ends only)



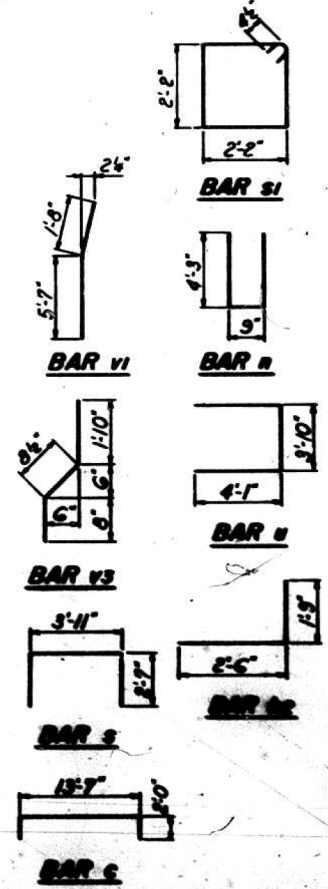
VIEW C-C



SECTION A-A



SECTION B-B



TWO ABUTMENTS  
BILL OF MATERIAL

Bar	#	Size	Length	Shape
h	24	4"	2'-6"	U
h1	12	4"	3'-0"	U
h2	40	4"	2'-3"	U
h3	20	4"	2'-6"	U
h4	12	4"	2'-6"	U
h5	6	4"	2'-6"	U
c	4	4"	1'-7"	U
n	40	4"	3'-3"	U
B	32	4"	3'-3"	U
B1	16	4"	3'-3"	U
B2	24	4"	2'-7"	U
s	400	4"	3'-1"	U
si	48	4"	3'-6"	U
v	16	4"	2'-6"	U
v1	32	4"	2'-2"	U
v2	32	4"	2'-2"	U
v3	32	4"	2'-2"	U
v4	32	4"	2'-2"	U
v5	32	4"	2'-2"	U
v6	32	4"	2'-2"	U
v7	32	4"	2'-2"	U
v8	32	4"	2'-2"	U
v9	32	4"	2'-2"	U
v10	32	4"	2'-2"	U
v11	32	4"	2'-2"	U
v12	32	4"	2'-2"	U
v13	32	4"	2'-2"	U
v14	32	4"	2'-2"	U
v15	32	4"	2'-2"	U
v16	32	4"	2'-2"	U
v17	32	4"	2'-2"	U
v18	32	4"	2'-2"	U
v19	32	4"	2'-2"	U
v20	32	4"	2'-2"	U
v21	32	4"	2'-2"	U
v22	32	4"	2'-2"	U
v23	32	4"	2'-2"	U
v24	32	4"	2'-2"	U
v25	32	4"	2'-2"	U
v26	32	4"	2'-2"	U
v27	32	4"	2'-2"	U
v28	32	4"	2'-2"	U
v29	32	4"	2'-2"	U
v30	32	4"	2'-2"	U
v31	32	4"	2'-2"	U
v32	32	4"	2'-2"	U
v33	32	4"	2'-2"	U
v34	32	4"	2'-2"	U
v35	32	4"	2'-2"	U
v36	32	4"	2'-2"	U
v37	32	4"	2'-2"	U
v38	32	4"	2'-2"	U
v39	32	4"	2'-2"	U
v40	32	4"	2'-2"	U
v41	32	4"	2'-2"	U
v42	32	4"	2'-2"	U
v43	32	4"	2'-2"	U
v44	32	4"	2'-2"	U
v45	32	4"	2'-2"	U
v46	32	4"	2'-2"	U
v47	32	4"	2'-2"	U
v48	32	4"	2'-2"	U
v49	32	4"	2'-2"	U
v50	32	4"	2'-2"	U
v51	32	4"	2'-2"	U
v52	32	4"	2'-2"	U
v53	32	4"	2'-2"	U
v54	32	4"	2'-2"	U
v55	32	4"	2'-2"	U
v56	32	4"	2'-2"	U
v57	32	4"	2'-2"	U
v58	32	4"	2'-2"	U
v59	32	4"	2'-2"	U
v60	32	4"	2'-2"	U
v61	32	4"	2'-2"	U
v62	32	4"	2'-2"	U
v63	32	4"	2'-2"	U
v64	32	4"	2'-2"	U
v65	32	4"	2'-2"	U
v66	32	4"	2'-2"	U
v67	32	4"	2'-2"	U
v68	32	4"	2'-2"	U
v69	32	4"	2'-2"	U
v70	32	4"	2'-2"	U
v71	32	4"	2'-2"	U
v72	32	4"	2'-2"	U
v73	32	4"	2'-2"	U
v74	32	4"	2'-2"	U
v75	32	4"	2'-2"	U
v76	32	4"	2'-2"	U
v77	32	4"	2'-2"	U
v78	32	4"	2'-2"	U
v79	32	4"	2'-2"	U
v80	32	4"	2'-2"	U
v81	32	4"	2'-2"	U
v82	32	4"	2'-2"	U
v83	32	4"	2'-2"	U
v84	32	4"	2'-2"	U
v85	32	4"	2'-2"	U
v86	32	4"	2'-2"	U
v87	32	4"	2'-2"	U
v88	32	4"	2'-2"	U
v89	32	4"	2'-2"	U
v90	32	4"	2'-2"	U
v91	32	4"	2'-2"	U
v92	32	4"	2'-2"	U
v93	32	4"	2'-2"	U
v94	32	4"	2'-2"	U
v95	32	4"	2'-2"	U
v96	32	4"	2'-2"	U
v97	32	4"	2'-2"	U
v98	32	4"	2'-2"	U
v99	32	4"	2'-2"	U
v100	32	4"	2'-2"	U
Steel Piles HP12x14	13,316			
				3520

REVISIONS  
NO. 1  
DATE  
BY

FOR INFORMATION ONLY

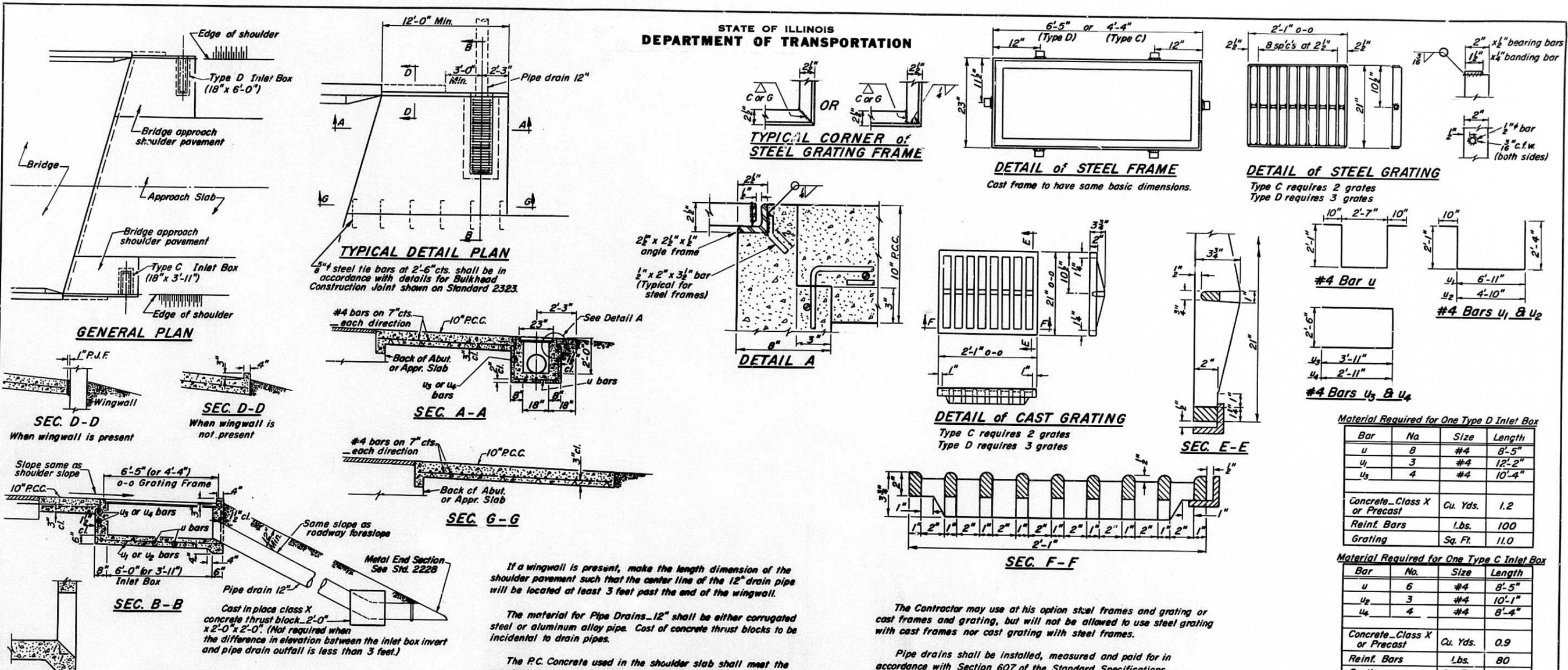
AS REVISED

DESIGNED BY	AYV
CHECKED BY	ME
DRAWN BY	ME
CHECKED BY	AYV

As Revised 3-12-79 L.W.



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BOX OUTLET WHEN PRECAST**

**GENERAL NOTES**

When Inlet Box or Boxes are not required, surface of the shoulder pavement shall be finished to provide a smooth transition from back of the abutment to normal approach roadway shoulder.

See bridge plans for location of bridge approach shoulder pavement.

Use Type C Inlet Box for 4' and 6' shoulder widths; use Type D Inlet Box for 8' and wider shoulder widths.

For placement of drainage elements on existing construction with existing rigid approach pavement, substitute expansion anchor bolts for tie bars. For non-rigid approaches, shoulder pavement will be as shown except omit tie bars.

If a wingwall is present, make the length dimension of the shoulder pavement such that the center line of the 12" drain pipe will be located at least 3 feet past the end of the wingwall.

The material for Pipe Drains-12" shall be either corrugated steel or aluminum alloy pipe. Cost of concrete thrust blocks to be incidental to drain pipes.

The P.C. Concrete used in the shoulder slab shall meet the requirements of Section 408 of the Standard Specifications.

The lengths of #4 bars used in the approach shoulder pavement shall be as required to accommodate the length, width and skew of the slab.

Class X concrete or precast concrete shall be used for Inlet Boxes. See Articles 505.01 thru 505.05 of the Standard Specifications for specifications for precast concrete structures.

Shop drawings shall not be required for these Inlet Boxes.

A 3" deep sand bedding conforming to Article 703.01 (FA 1 or FA 2) shall be provided under full length and width of precast units, and all voids around the pipe drain entrance, both inside and outside, shall be sealed with mortar.

The grating shall seat firmly in the frame but shall not be secured to the frame.

Steel grating and frames shall conform to Article 710.04 of the Standard Specifications and shall be galvanized to AASHTO Specification M III after fabrication.

Cast grating and frames shall conform to Article 710.17 of the Standard Specifications. Cast grating and frames shall not be galvanized.

The Contractor may use at his option steel frames and grating or cast frames and grating, but will not be allowed to use steel grating with cast frames nor cast grating with steel frames.

Pipe drains shall be installed, measured and paid for in accordance with Section 607 of the Standard Specifications.

Metal End Sections shall be installed, measured and paid for in accordance with Section 511 of the Standard Specifications.

Bridge approach shoulder pavement will be measured in place and paid for in square yards as P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT which shall include the cost of subgrade preparation, tie bars, reinforcement and joint fillers. In computing the area for payment, a deduction will be made for the area displaced by the inlet.

The contract unit price "Each" for TYPE D INLET BOX STANDARD 2324 or TYPE C INLET BOX STANDARD 2324, in place, shall include the frames and grating, class X or precast concrete, reinforcement bars, excavation, bedding when required, and compacted backfilling.

**Material Required for One Type D Inlet Box**

Bar	No.	Size	Length
u	8	#4	8'-5"
u <sub>1</sub>	3	#4	12'-2"
u <sub>2</sub>	4	#4	10'-4"
Concrete - Class X or Precast		Cu. Yds.	1.2
Reinf. Bars		Lbs.	100
Grating		Sq. Ft.	11.0

**Material Required for One Type C Inlet Box**

Bar	No.	Size	Length
u	6	#4	8'-5"
u <sub>2</sub>	3	#4	10'-1"
u <sub>4</sub>	4	#4	8'-4"
Concrete - Class X or Precast		Cu. Yds.	0.9
Reinf. Bars		Lbs.	80
Grating		Sq. Ft.	7.3

FOR INFORMATION ONLY

BRIDGE APPROACH SHOULDER PAVEMENT

STANDARD 2324-3  
(Full Size)

H-125C