

# STATE OF ILLINOIS

## DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

### DIVISION OF HIGHWAYS

# PLANS FOR PROPOSED FEDERAL AID HIGHWAY

## C & NWRR BRIDGE

WINNEBAGO COUNTY  
ROCKFORD BYPASS  
F.A. ROUTE 194 SECTION 4VB1  
F.A. ROUTE 194 SECTION 4VF1

PROJECT FG-284(17)

### INDEX OF SHEETS

Sec. 4VB-1 & 4VF-1

- |   |  |
|---|--|
| 1. TITLE SHEET  | 17. FILE STANDARDS                             |
| 2. GENERAL NOTES - BORING LOGS-SUMMARY OF QUANTITIES, TYPICAL SECTION | 18. STD. 1971-3 (ROAD UNDER CONSTRUCTION SIGN) |
| 3. PLAN & PROFILE   | STD. 1972-1 (BARRICADE)                        |
| 4. GENERAL PLAN   | STD. 2114 (FLAGMAN'S TRAFFIC CONTROL SIGN)     |
| 5. PIERS 1, 2, 3 & 4  | 19. STD. 2153-2 (SIGN FOR HIGHWAY IMPROVEMENT) |
| 6. ABUTMENT PART 1  | STD. 2113 (NAME PLATES)                        |
| 7. ABUTMENT PART 2  |  |
| 8. DECK PLAN  |  |
| 9. STEEL FRAMING PLAN   |  |
| 10. STEEL DETAILS PART 1  |  |
| 11. STEEL DETAILS PART 2  |  |
| 12. HANDRAIL DETAILS  |  |
| 12A. HANDRAIL CONNECTION DETAIL                                       |  |
| 13. REINFORCING SCHEDULE  |  |
| 14. BRIDGE SEAT DETAILS   |  |
| 15. CROSS SECTIONS  |  |
| 16. CROSS SECTIONS  |  |



LOCATION OF SECTION INDICATED THIS: -

PLANS FOR STRUCTURES EXAMINED JUNE 12, 1959

*M.D. ...*  
ENGINEER OF BRIDGES & TRAFFIC

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS	
SUBMITTED	MAY 29, 1959
DESIGNED BY	<i>M.D. ...</i>
EXAMINED	March 23, 1962
PASSED	March 23, 1962
APPROVED	March 23, 1962
APPROVED	MARCH 23, 1962

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	
APPROVED	
DIVISION ENGINEER	DATE

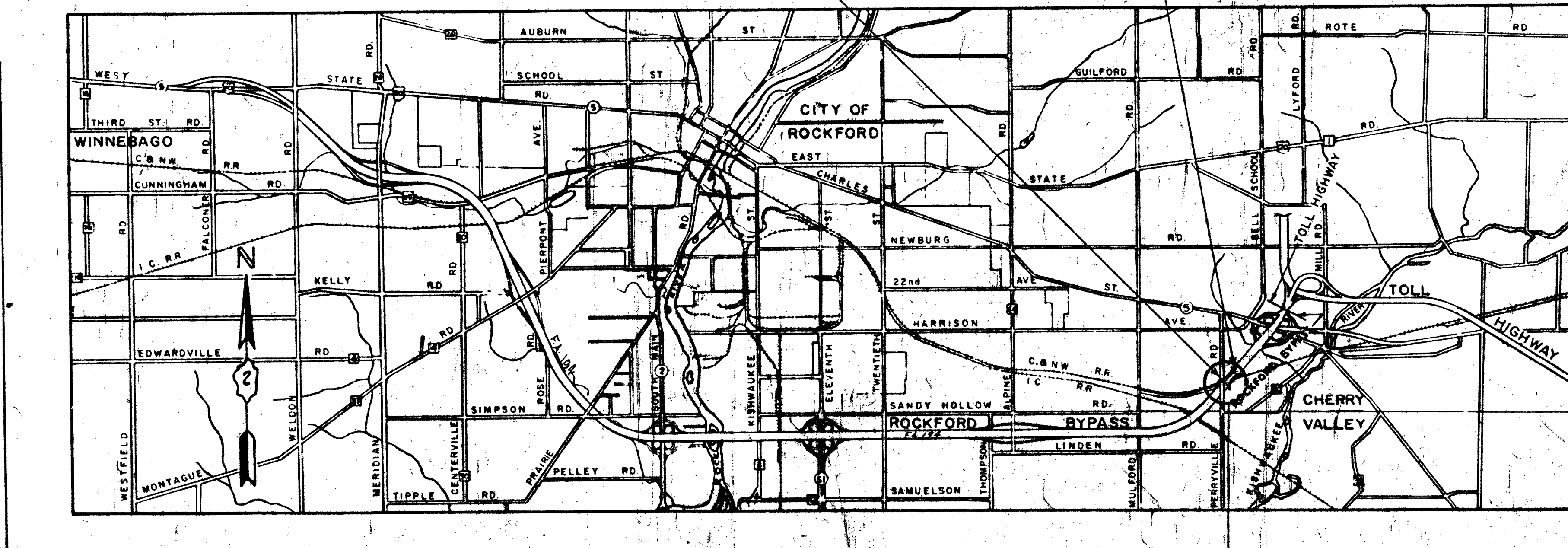
SECTION 4VB1 CONSISTS OF THE CONSTRUCTION OF TWO WF-BEAM RAILROAD GRADE SEPARATION STRUCTURES (THE ROCKFORD BYPASS OVER THE C & NWRR) SPANS: SPANS: 1 @ 86'-10 1/4", 1 @ 106'-0", AND 1 @ 86'-10 1/4" AT STATION 832 PLUS 49.16 AT THE INTERSECTION OF THE ROCKFORD BYPASS AND THE C & NWRR WITH THE EXCEPTION OF FURNISHING AND FABRICATING STRUCTURAL STEEL, FURNISHING AND APPLYING SHOP COAT OF PAINT, AND DELIVERY OF THE STRUCTURAL STEEL.

SECTION 4VF1 INCLUDES FURNISHING AND FABRICATING STRUCTURAL STEEL FURNISHING AND APPLYING SHOP COAT OF PAINT AND THE DELIVERY OF THE STRUCTURAL STEEL FOR TWO WF BEAM RAILROAD GRADE SEPARATION STRUCTURES (THE ROCKFORD BYPASS OVER THE C & NWRR) SPANS: 1 @ 86'-10 1/4", 1 @ 106'-0", AND 1 @ 86'-10 1/4" AT STATION 832 PLUS 49.16 AT THE INTERSECTION OF THE ROCKFORD BYPASS AND THE C & NWRR.

ROAD CLASSIFICATION:  
F.A. ROUTE 194 3110 - T-70

ENTIRE SECTION INSPECTED AND APPROVED AS TO POLICY.  
DATE MAY 29, 1959  
DISTRICT ENGINEER *M.D. ...*

*New FA 40*  
*26-62*



SECTION ENDS  
STATION 833+85.01

SECTION BEGINS  
STATION 831+05.31

SECTION & PROJECT LENGTH = 279.7 FT. = .533 MILES

MACCABEE, CAMPBELL & ASSOCIATES

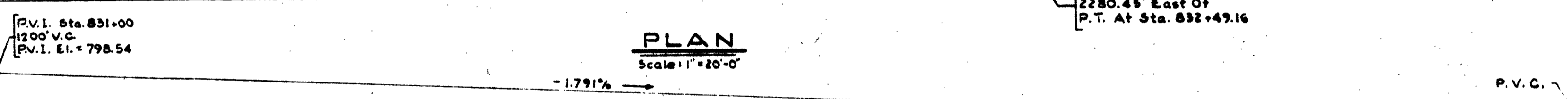
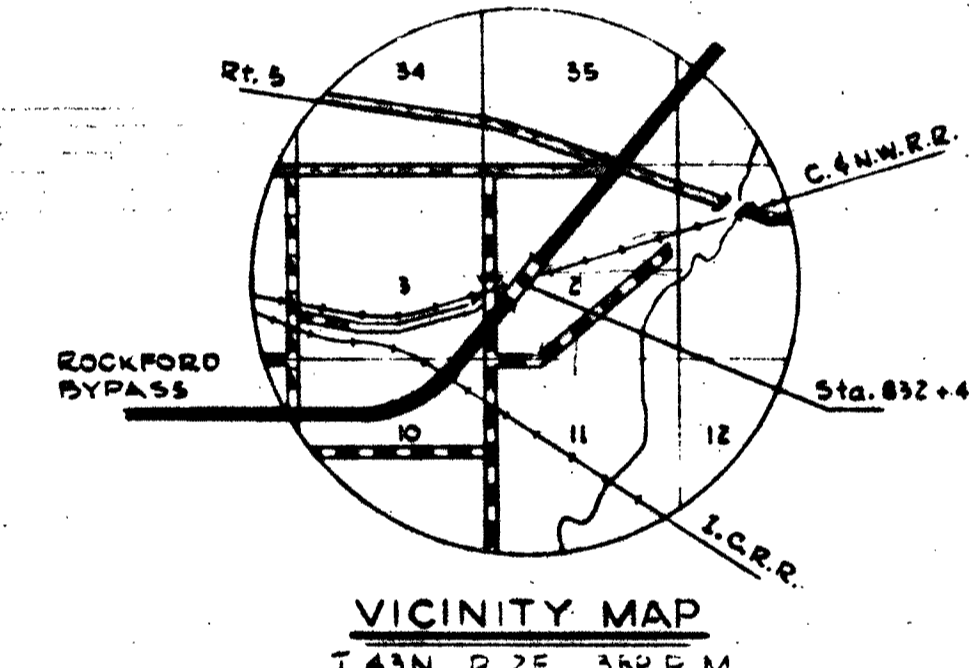
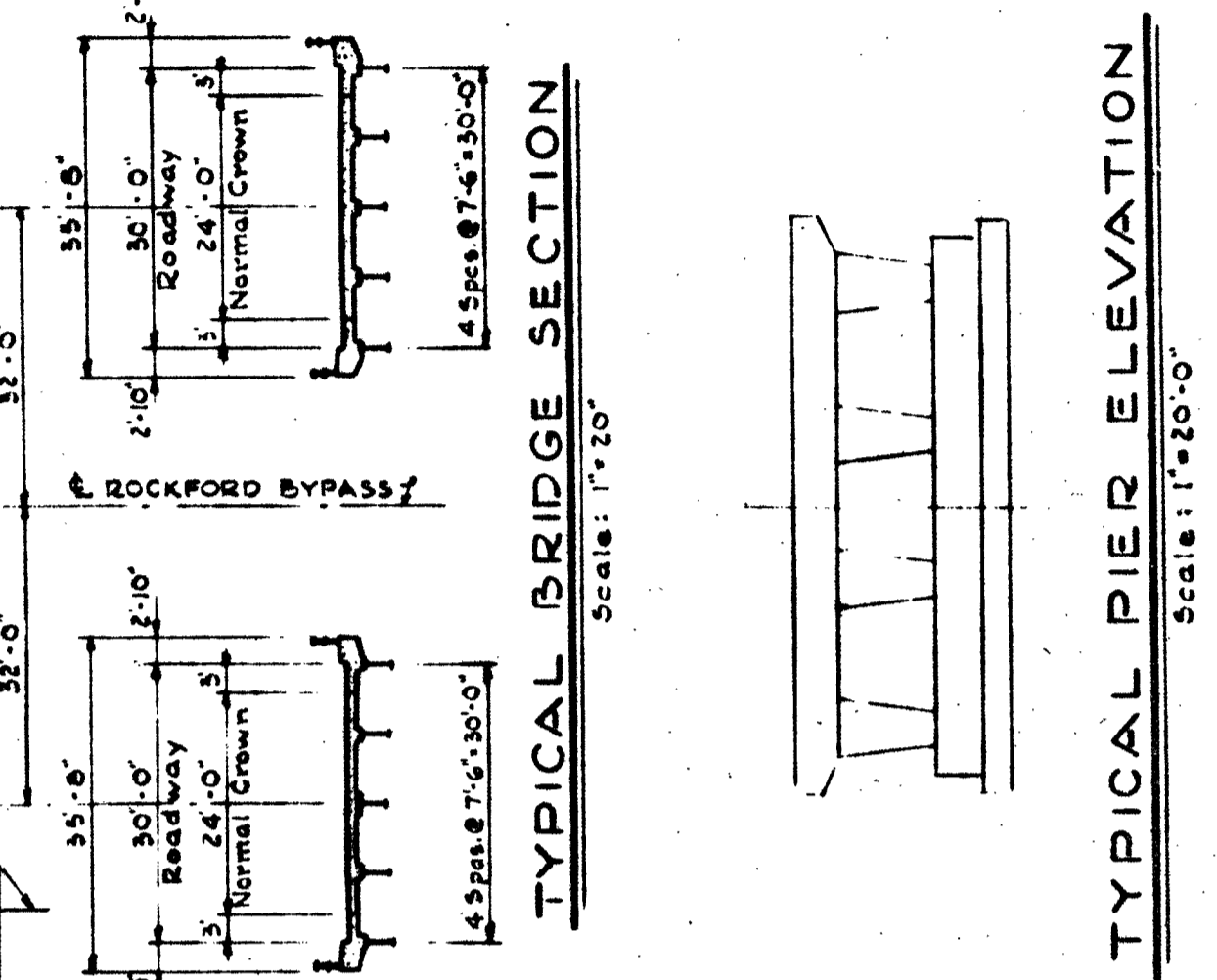
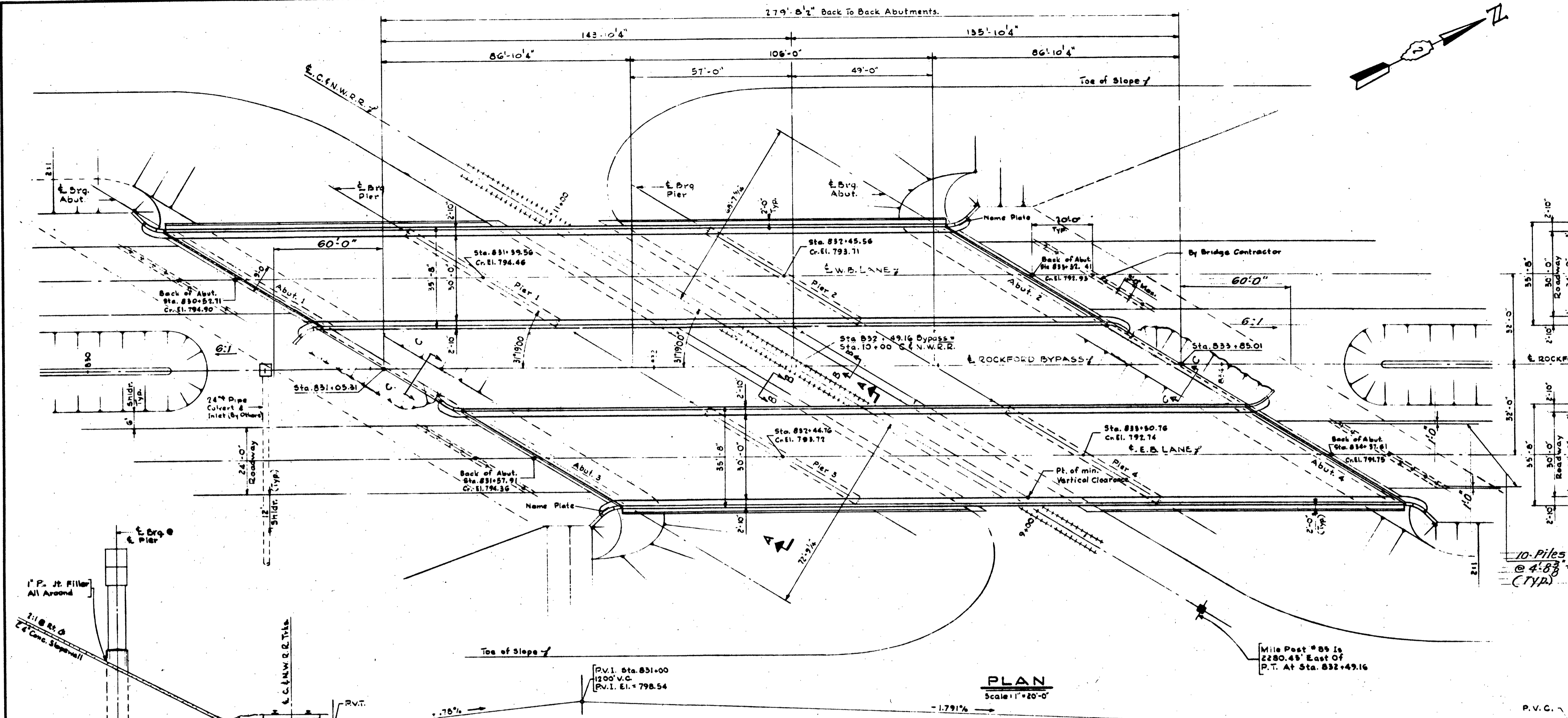
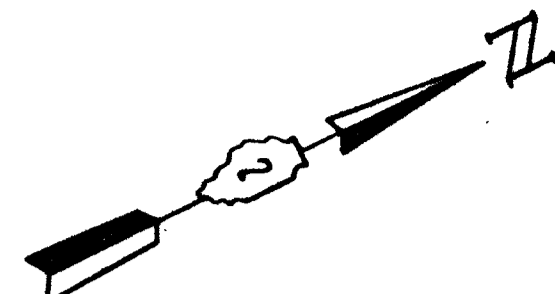
CONSULTING ENGINEERS  
173 W. MADISON ST. CHICAGO, ILL.

F.A. RTE. 194 SEC. 4VB-1, 4VF-1

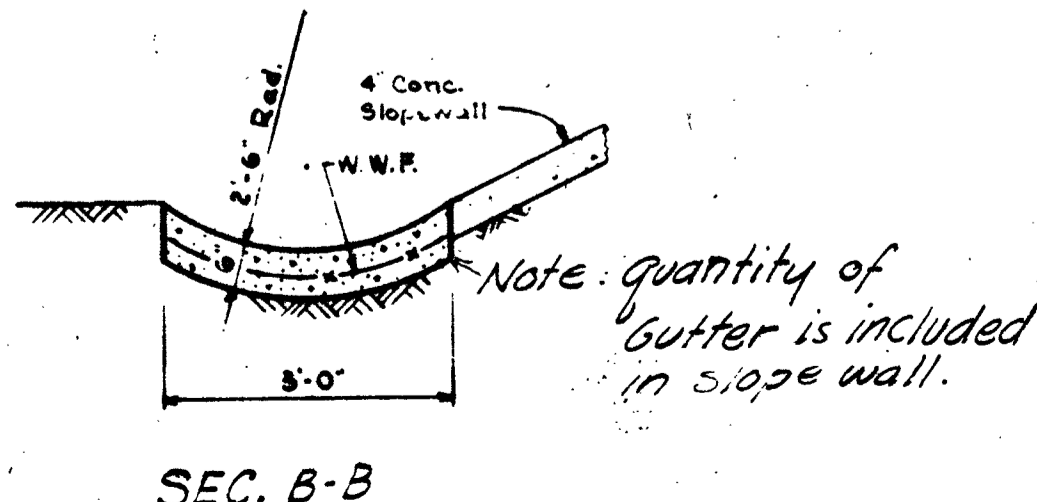
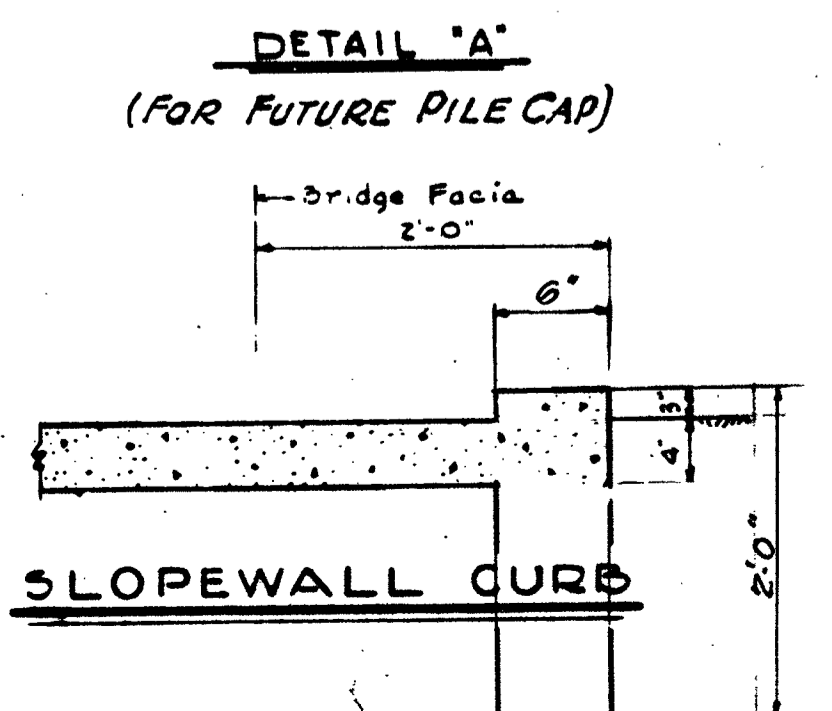
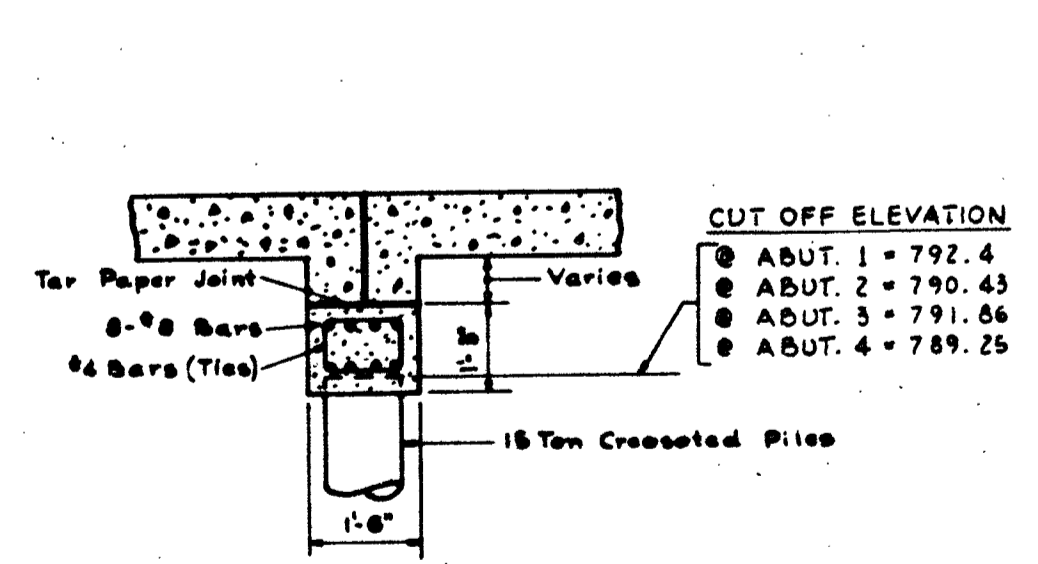




ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
P.A. 194	4-VB1	WINNEBAGO	19	4
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS		PROJ.		

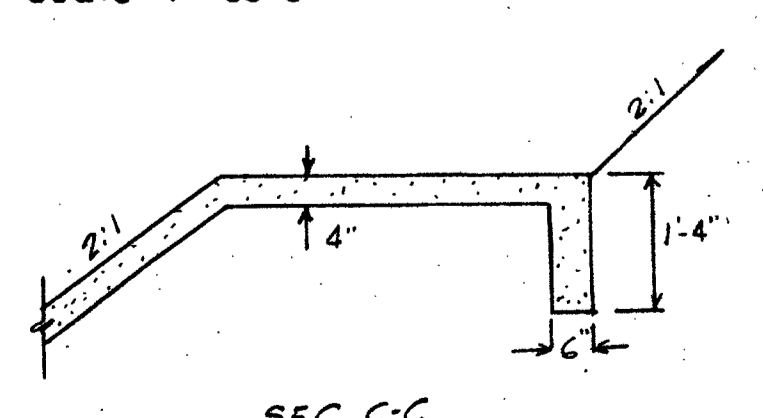


**SECTION A-A**  
AT RIGHT ANGLE TO & OF TRACKS



**APPROACH PILE DATA**  
TYPE: CREO. PILES  
EST. LENGTH: 25 FT.  
CAPACITY: 15 TONS  
TOTAL NO. REQ'D.: 40

**ELEVATION**  
Scale: 1" = 20'-0"



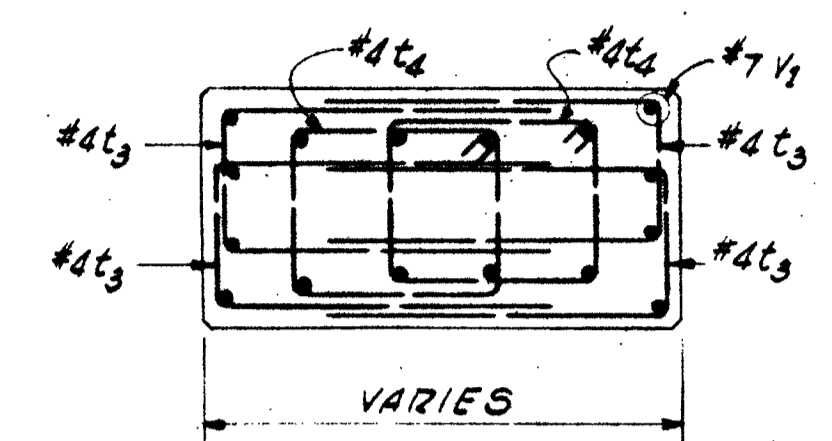
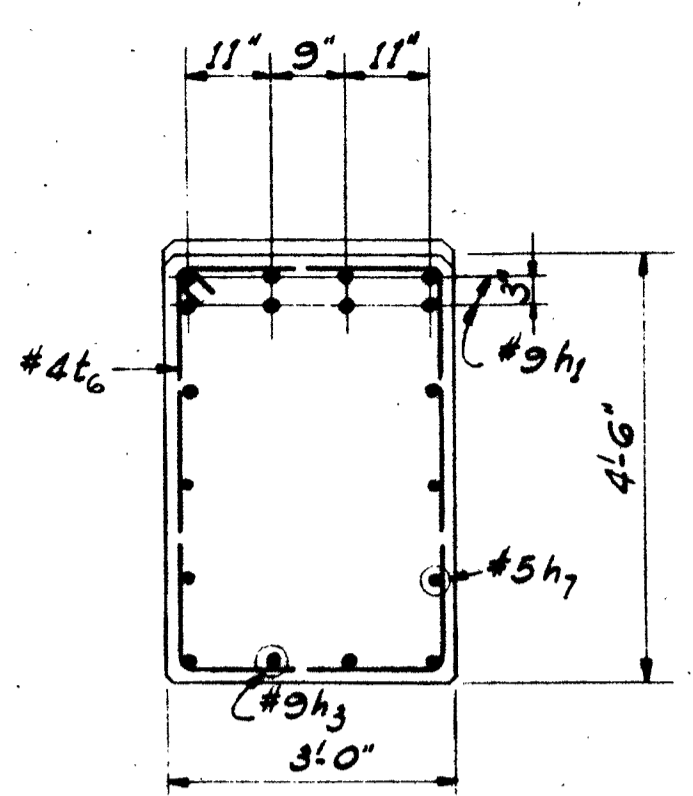
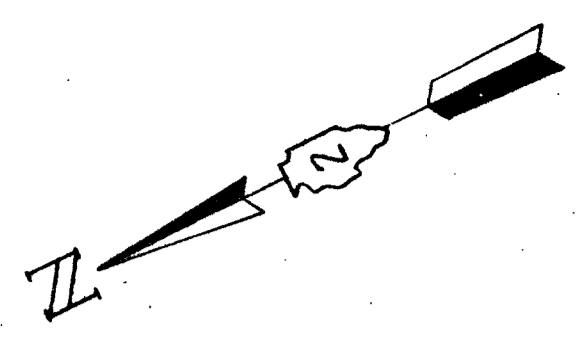
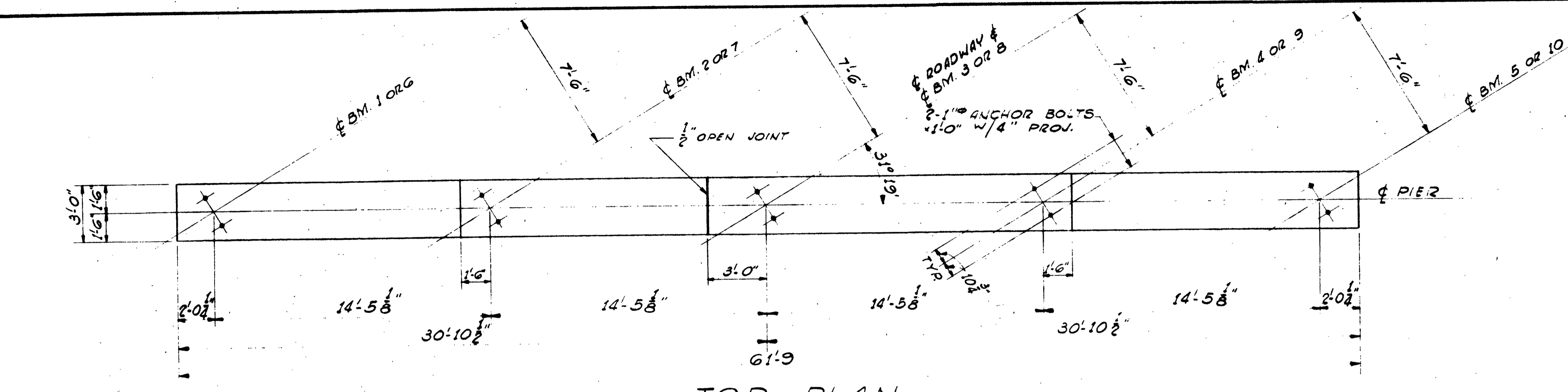
STATION 832+49.16  
BUILT 19 BY  
STATE OF ILLINOIS  
F.A. RT. 194 SEC. 4VB1  
F.A. PROJ. FG-2 B 4 (17)  
LOADING H20-S16  
NAME PLATE (2)

**DESIGN DATA**  
**SPECIFICATIONS:**  
A.A.S.H.O. Dated 1957, Standard Specifications For Road And Bridge Construction Dated January 2, 1958.  
**LOADING:**  
L.L. H 20-516-44  
D.L. 20 P.S.F. Future Wearing Surface  
**STRESSES:**  
**CONCRETE**  
f<sub>c</sub> = 1400 P.S.I. - Super & Sub.  
f<sub>s</sub> = 75 P.S.I. - Pier Footings  
m = 10  
**STEEL**  
Structural = 18000 P.S.I.  
Reinforcing = 20000 P.S.I.

**ILLINOIS DIVISION OF HIGHWAYS**  
**ROCKFORD BYPASS**  
F.A. ROUTE 194  
PROJECT SECTION 4-VB1  
WINNEBAGO COUNTY

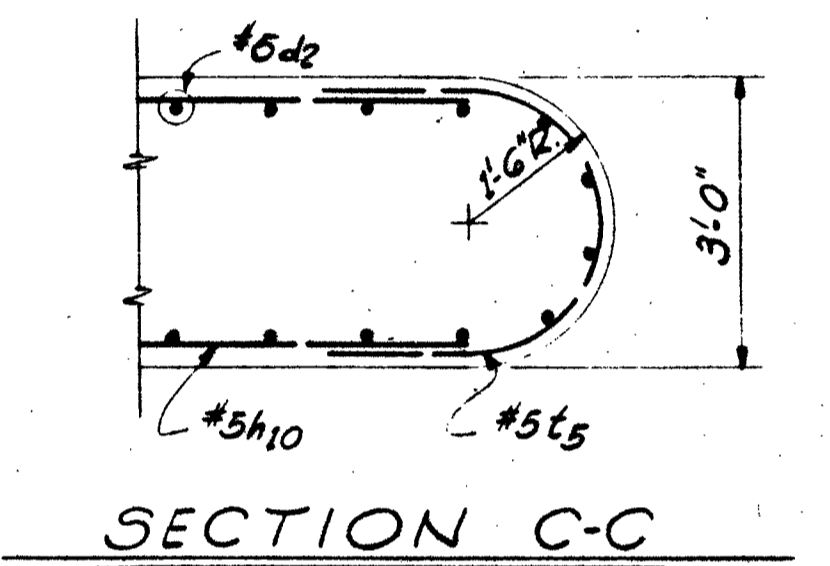
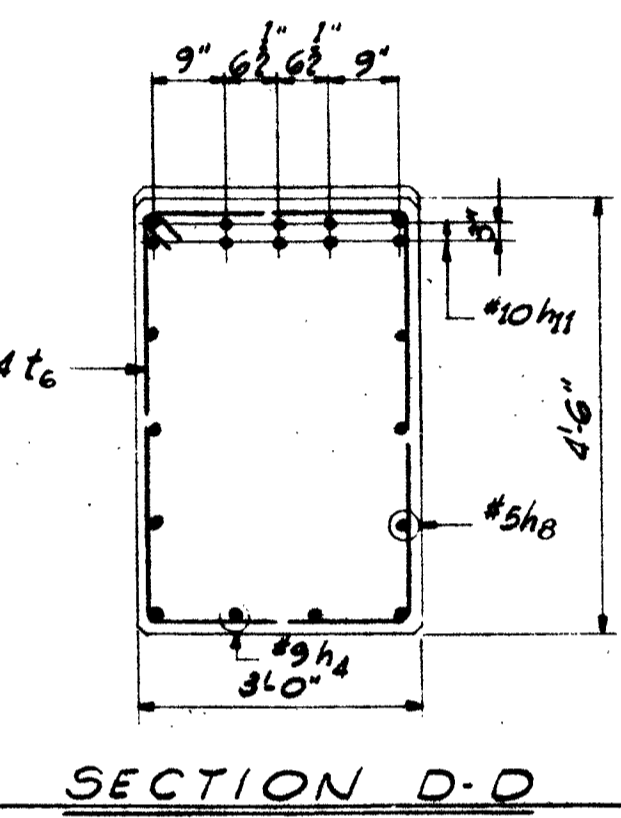
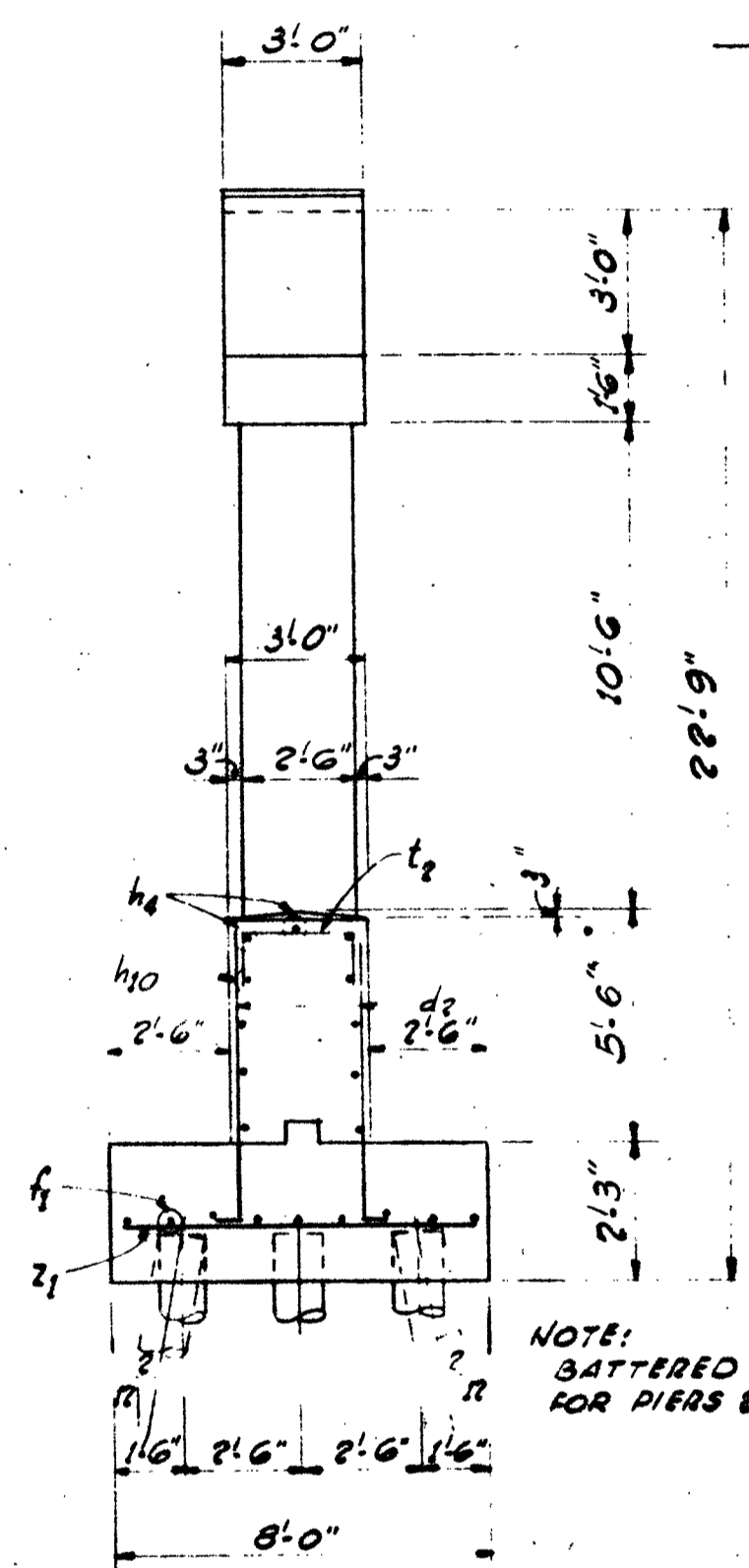
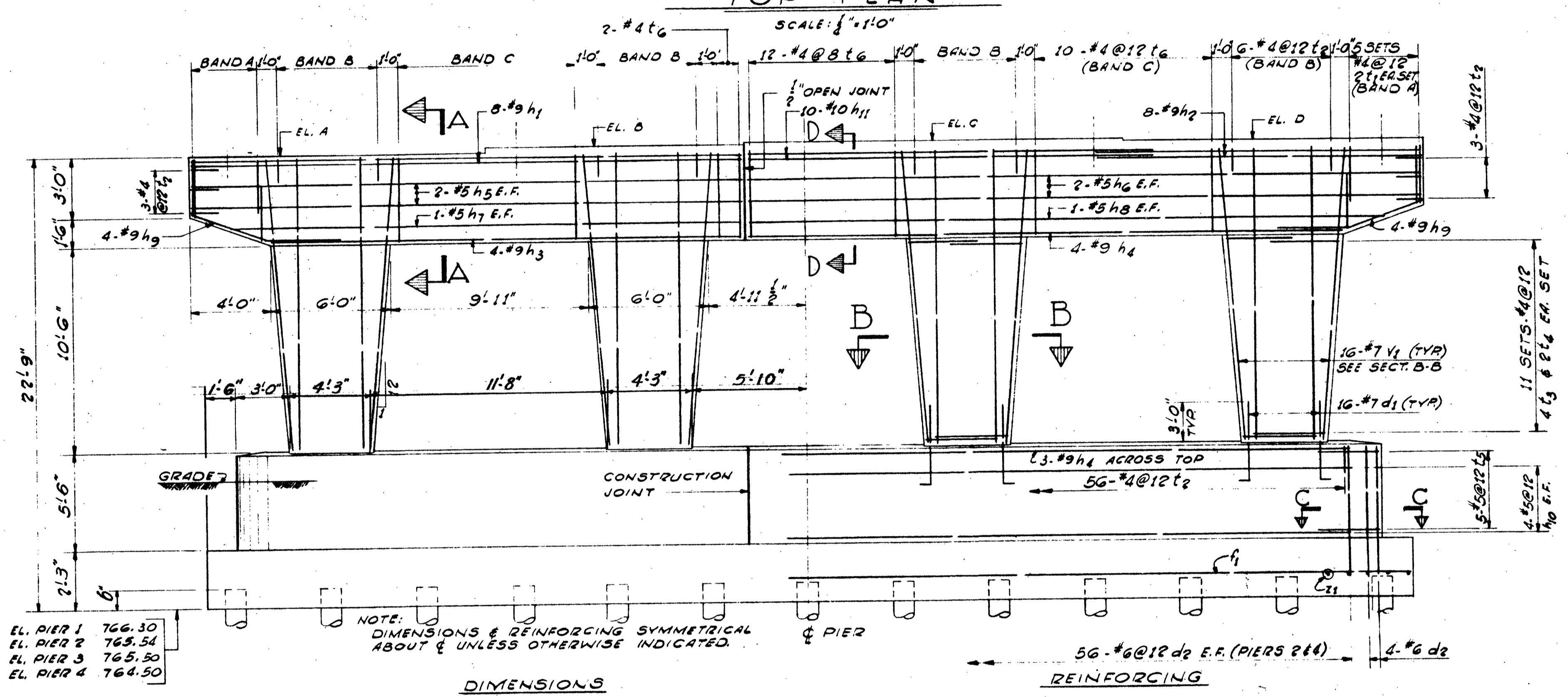
**GENERAL PLAN**  
Maccabee, Campbell & Associates Consulting Engineers  
173 West Madison Street Chicago, Illinois  
Designed By: E.S. Drawn By: C.W.G. Checked By: E.V.M.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 194	4VBI	WINNEBAGO	19	5
STA.		TO STA.		
FED. ROAD DIST. NO. 7 ILLINOIS		PROJ.		



SECTION A-A

SECTION B-B



SECTION C-C

SECTION D-D

PIER NO.	TOP OF CONCRETE ELEVATIONS			
	A	B	C	D
1	789.05	789.27	789.39	789.33
2	788.29	788.54	788.68	788.68
3	788.25	788.51	788.64	788.64
4	787.25	787.53	787.70	787.76

**NOTES**  
 FOR GENERAL NOTES SEE SHT. NO. 2  
 FOR REINFORCING SCHEDULE SEE SHT. NO. 13  
 FOR PIER LOCATIONS SEE SHT. NO. 7

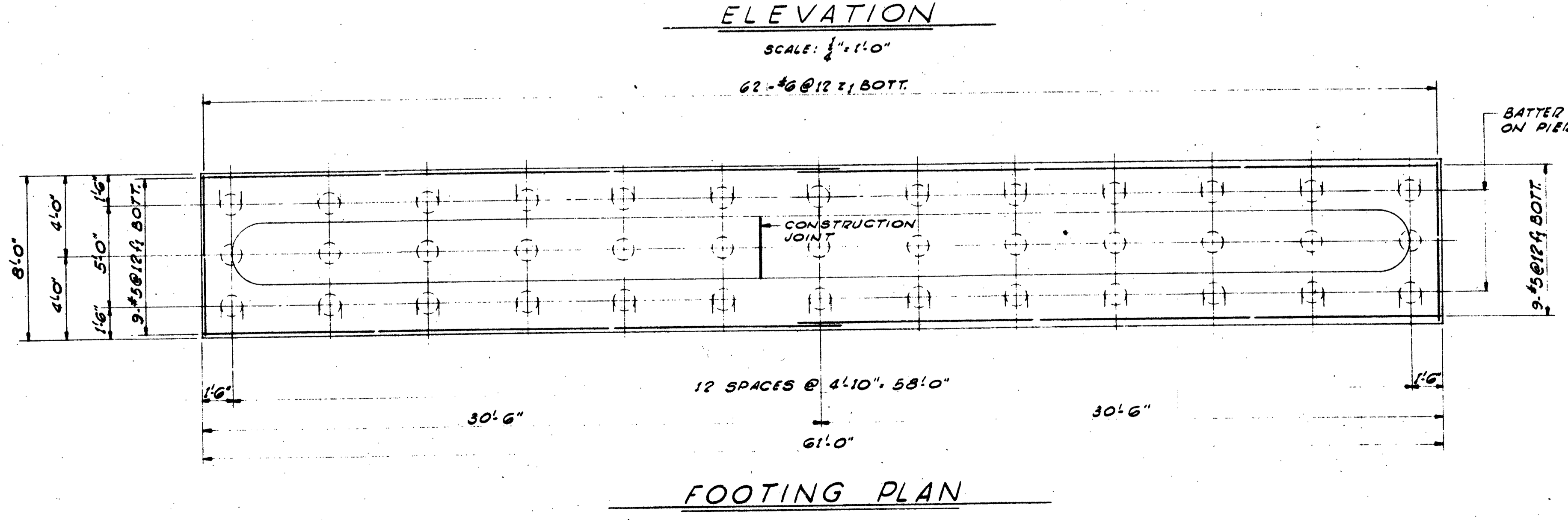
**PILE DATA**  
 20 TON CREOSOTED PILES.  
 ESTIMATED LENGTH: 20 FT. (PIERS 1 & 3)  
 15 FT. (PIERS 2 & 4)  
 NUMBER REQUIRED: 78 (20 FT.), 78 (15 FT.)  
 EACH SHOD WITH METAL SHOE  
 ONE TIMBER TEST PILE IN VICINITY OF PIER 1

**QUANTITIES OF PIERS**

ITEM	UNIT	TOTAL
CLASS X CONCRETE	CYLOS	500
REINFORCEMENT BARS	LBS.	51154
CREOSOTED PILES	LN.FT.	2730
TEST PILES (TIMBER)	EACH	1
METAL SHOES	EACH	156

QUANTITIES SHOWN ARE TOTALS FOR 4 PIERS.

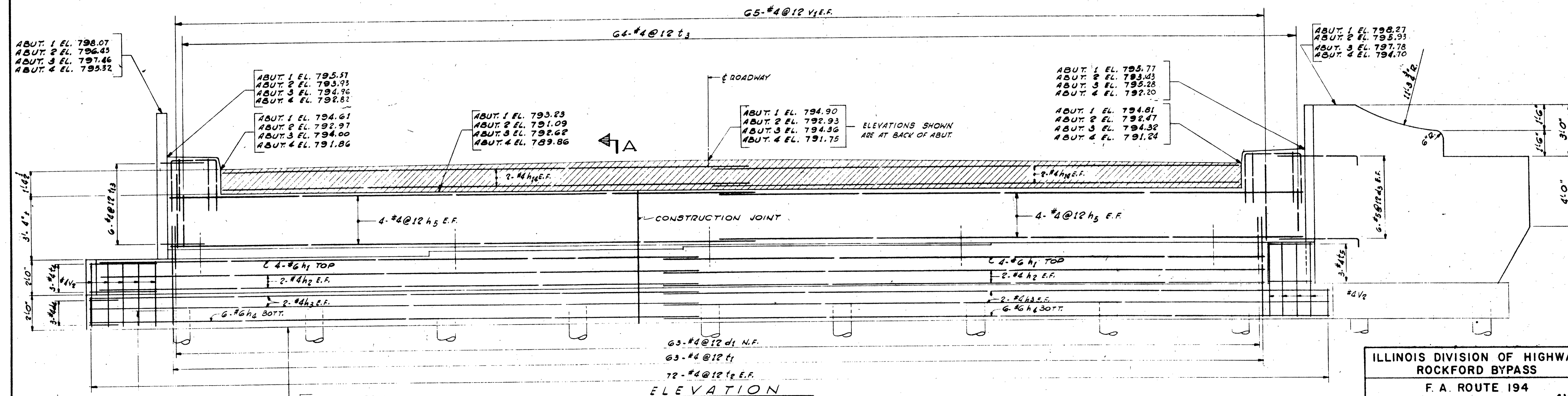
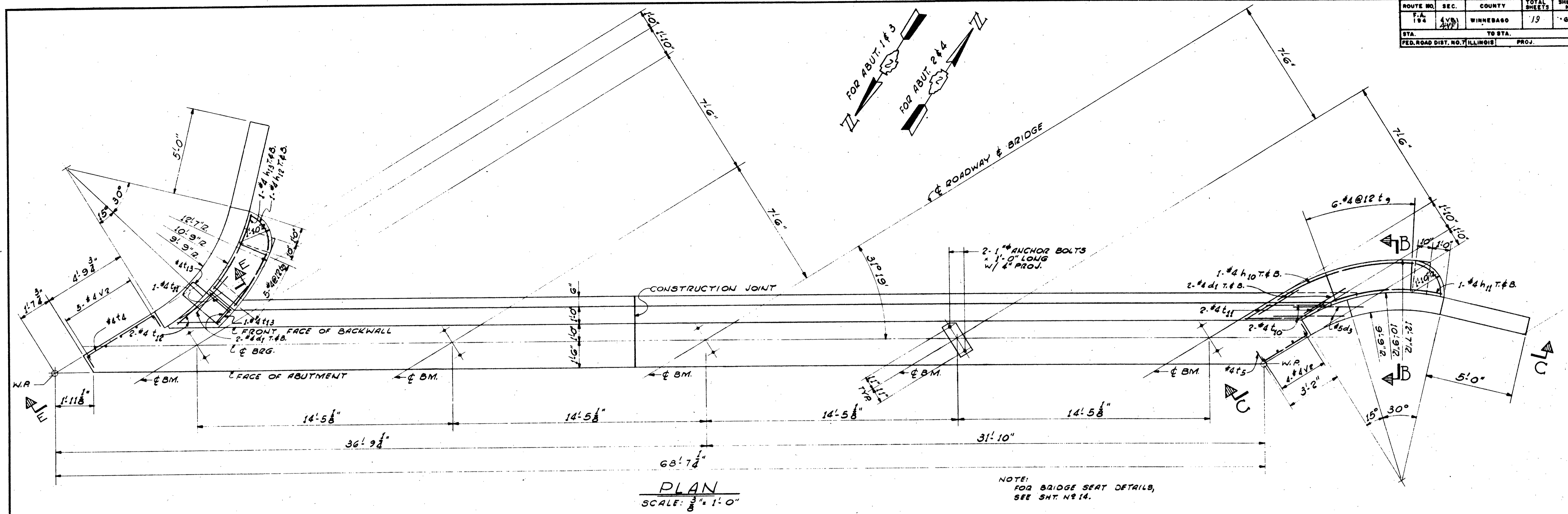
ILLINOIS DIVISION OF HIGHWAYS  
 ROCKFORD BYPASS  
 F. A. ROUTE 194  
 PROJECT SECTION 4VBI  
 WINNEBAGO COUNTY  
**PIERS 1, 2, 3 & 4**



FOOTING PLAN



ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 194	4VB1	WINNEBAGO	19	6
STA. TO STA.			PROJ.	
FED. ROAD DIST. NO. ILLINOIS				



ABUT. 1 EL. 798.07  
ABUT. 2 EL. 796.43  
ABUT. 3 EL. 797.46  
ABUT. 4 EL. 795.32

ABUT. 1 EL. 795.57  
ABUT. 2 EL. 793.93  
ABUT. 3 EL. 794.96  
ABUT. 4 EL. 792.82

ABUT. 1 EL. 794.61  
ABUT. 2 EL. 792.97  
ABUT. 3 EL. 794.00  
ABUT. 4 EL. 791.86

ABUT. 1 EL. 795.23  
ABUT. 2 EL. 791.09  
ABUT. 3 EL. 792.62  
ABUT. 4 EL. 789.86

ABUT. 1 EL. 794.90  
ABUT. 2 EL. 792.93  
ABUT. 3 EL. 794.36  
ABUT. 4 EL. 791.75

ELEVATIONS SHOWN  
ARE AT BACK OF ABUT.

ABUT. 1 EL. 795.77  
ABUT. 2 EL. 793.43  
ABUT. 3 EL. 795.28  
ABUT. 4 EL. 792.20

ABUT. 1 EL. 794.81  
ABUT. 2 EL. 792.47  
ABUT. 3 EL. 794.32  
ABUT. 4 EL. 791.24

ABUT. 1 EL. 798.27  
ABUT. 2 EL. 795.93  
ABUT. 3 EL. 797.78  
ABUT. 4 EL. 794.70

**PILE CUT-OFF**  
ABUT. 1 EL. 786.86  
ABUT. 2 EL. 784.79  
ABUT. 3 EL. 786.24  
ABUT. 4 EL. 783.57

ABUT. 1 EL. 785.86  
ABUT. 2 EL. 783.79  
ABUT. 3 EL. 785.24  
ABUT. 4 EL. 782.57

65-#4@12\"/>

63-#4@12\"/>

72-#4@12\"/>

**ELEVATION**  
SCALE: 3/8" = 1'-0"

**NOTES**  
FOR GENERAL NOTES SEE SHT. NO. 2.  
FOR REINFORCING SCHEDULE SEE SHT. NO. 13.  
WORK THIS DWG. WITH SHTS. NO. 7 & 14.

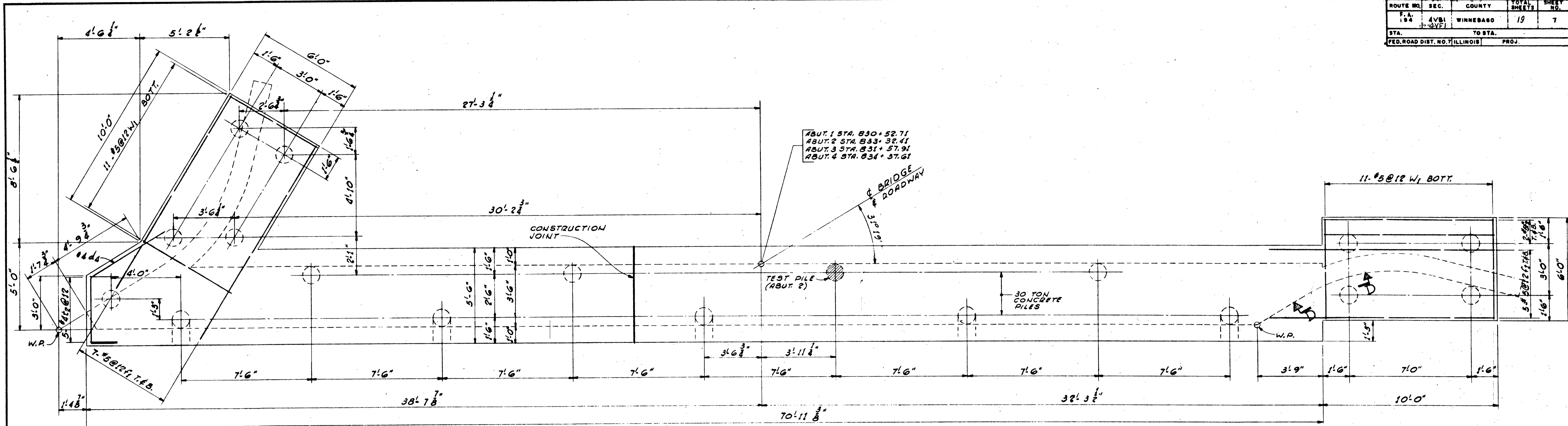
**PILE DATA**  
30 TON CONCRETE PILES  
ESTIMATED LENGTH: 35 FT.  
TOTAL NUMBER REQUIRED: 72  
INCLUDING ONE TEST PILE AT ABUT. 2

ILLINOIS DIVISION OF HIGHWAYS  
ROCKFORD BYPASS  
F.A. ROUTE 194  
PROJECT \_\_\_\_\_ SECTION 4VB1  
WINNEBAGO COUNTY

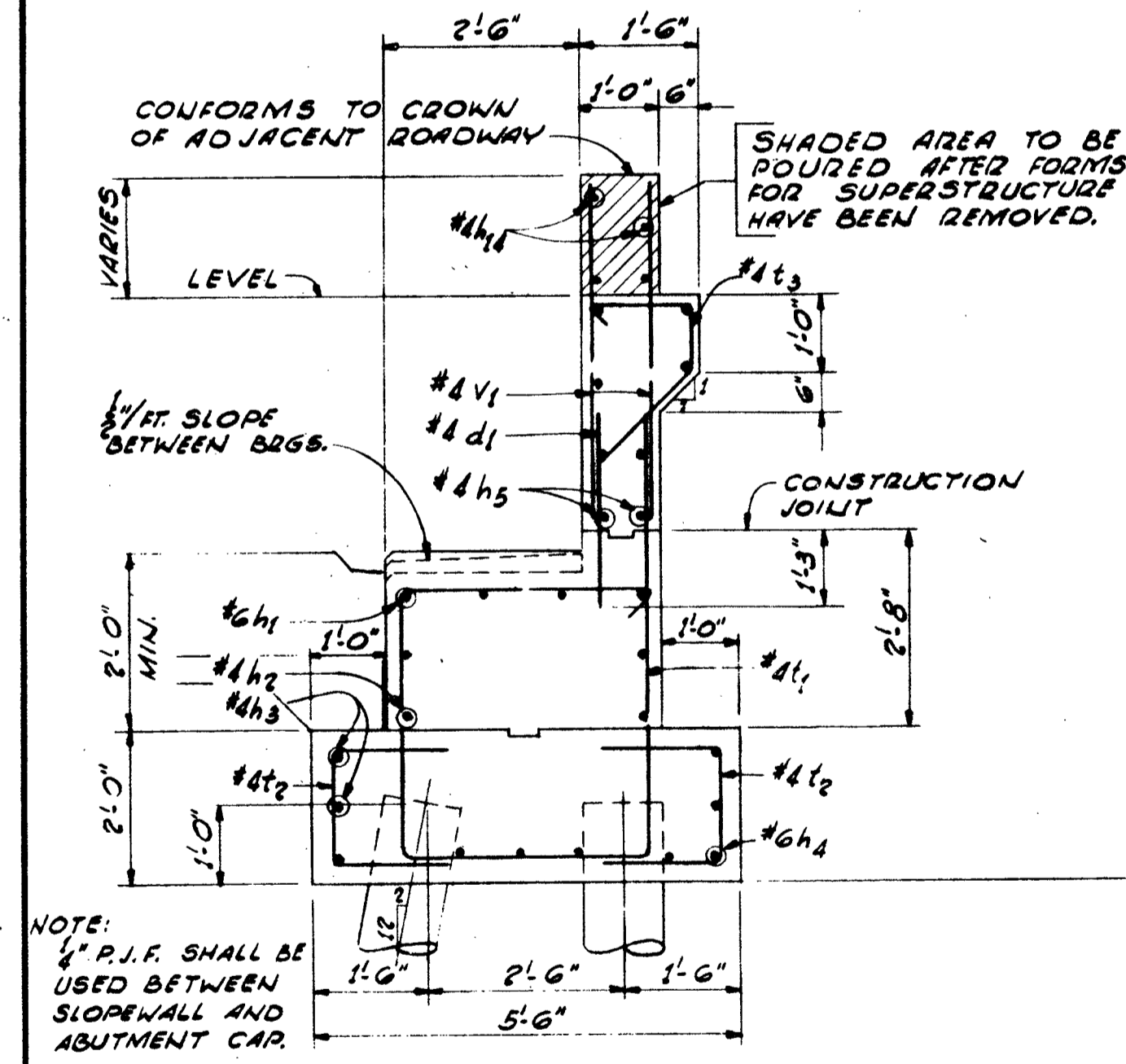
**ABUTMENT PART I**

Designed By: \_\_\_\_\_ Drawn By: J.R.M.F. Checked By: R.R.G.

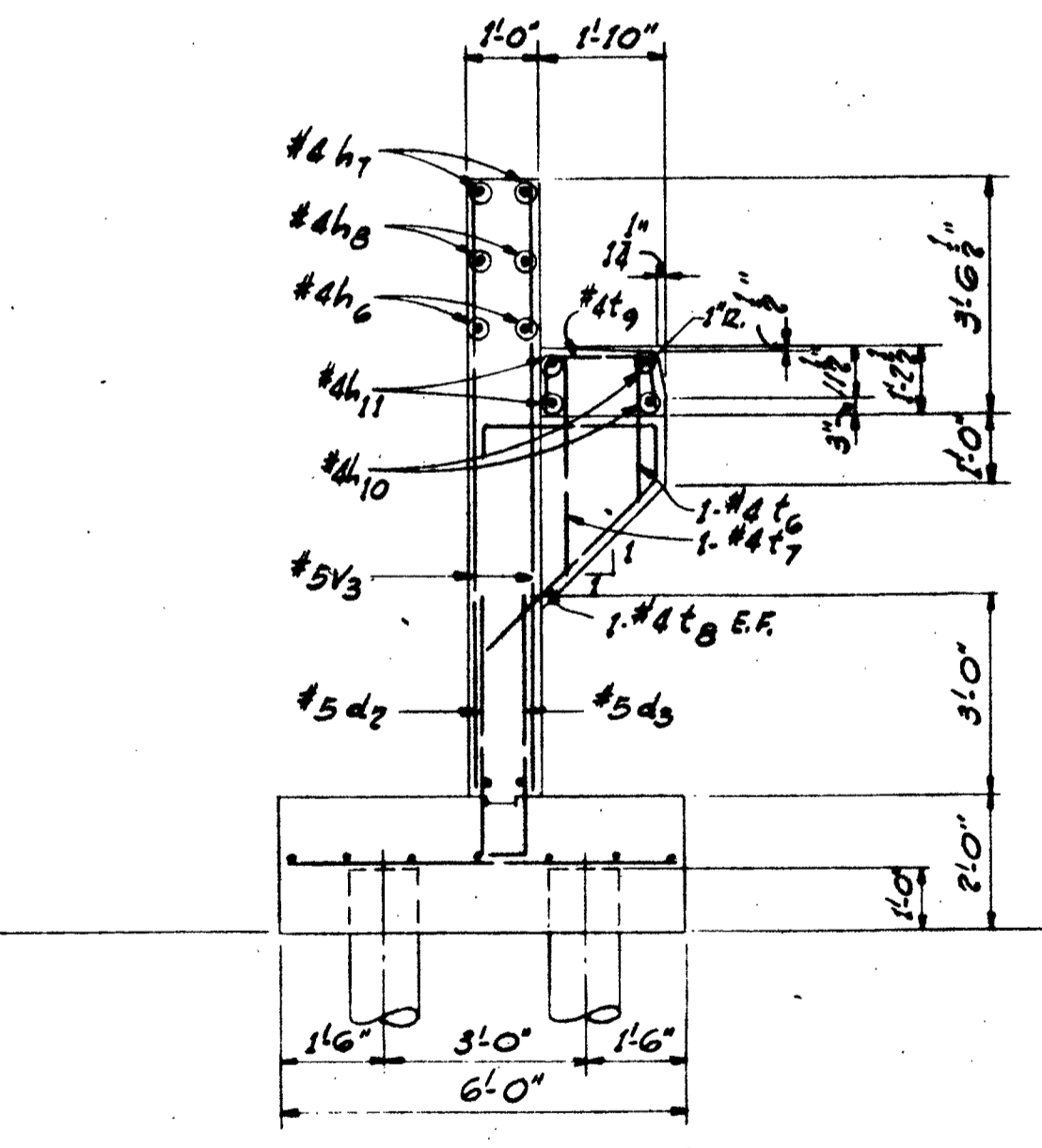




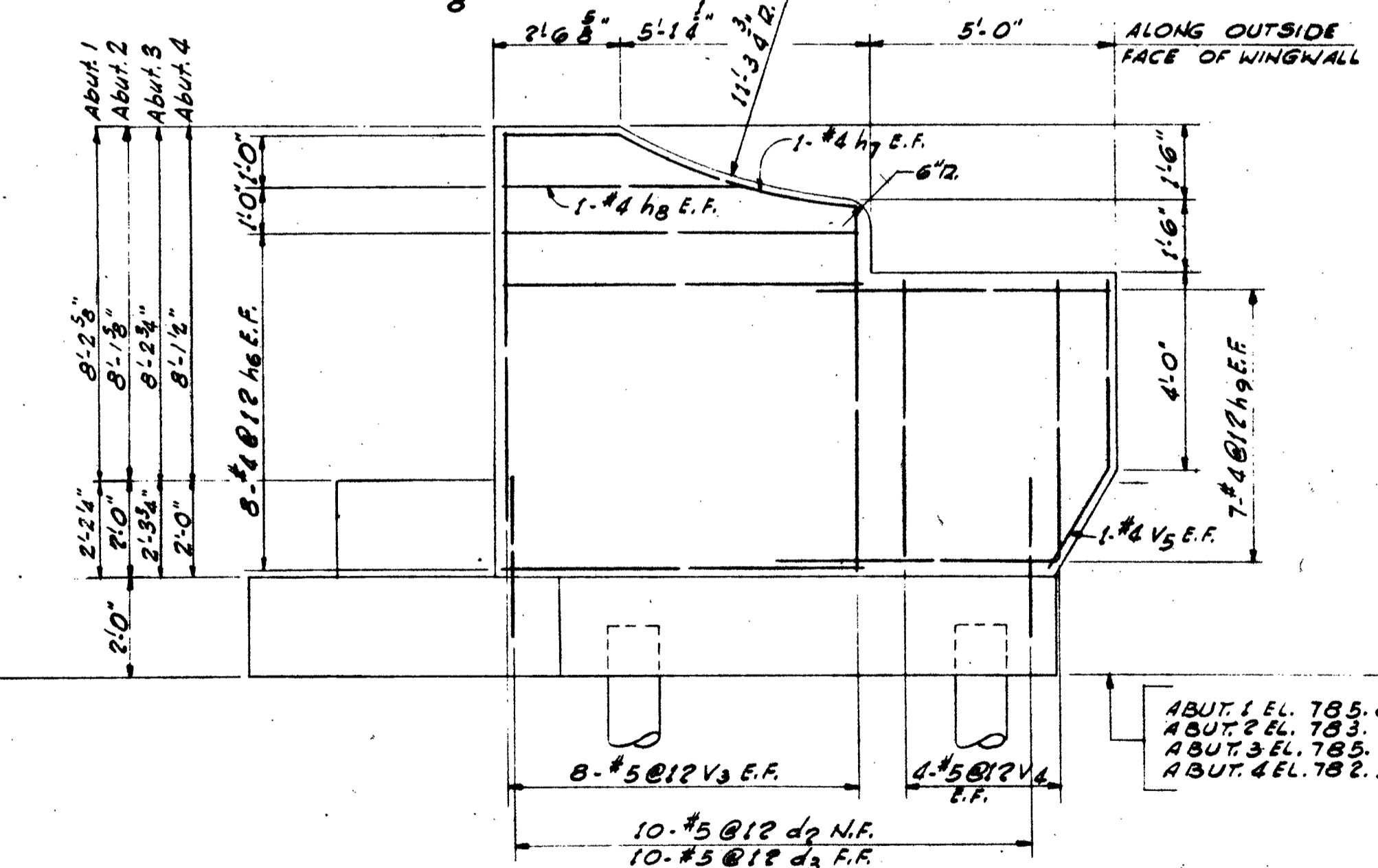
**PILE PLAN**  
SCALE: 3/8" = 1'-0"



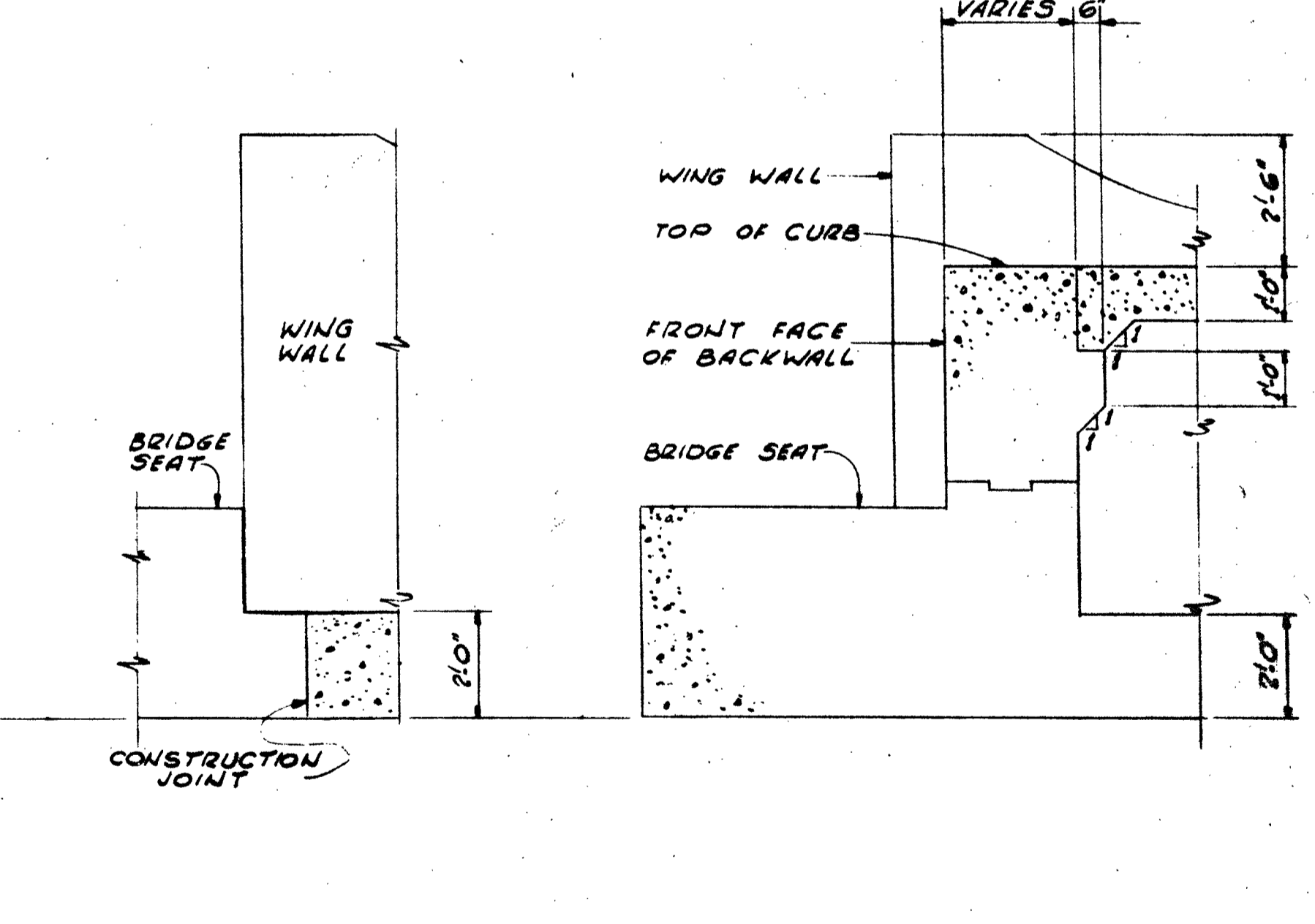
**SECTION A-A**  
SCALE: 1/2" = 1'-0"



**SECTION B-B**  
SCALE: 3/8" = 1'-0"

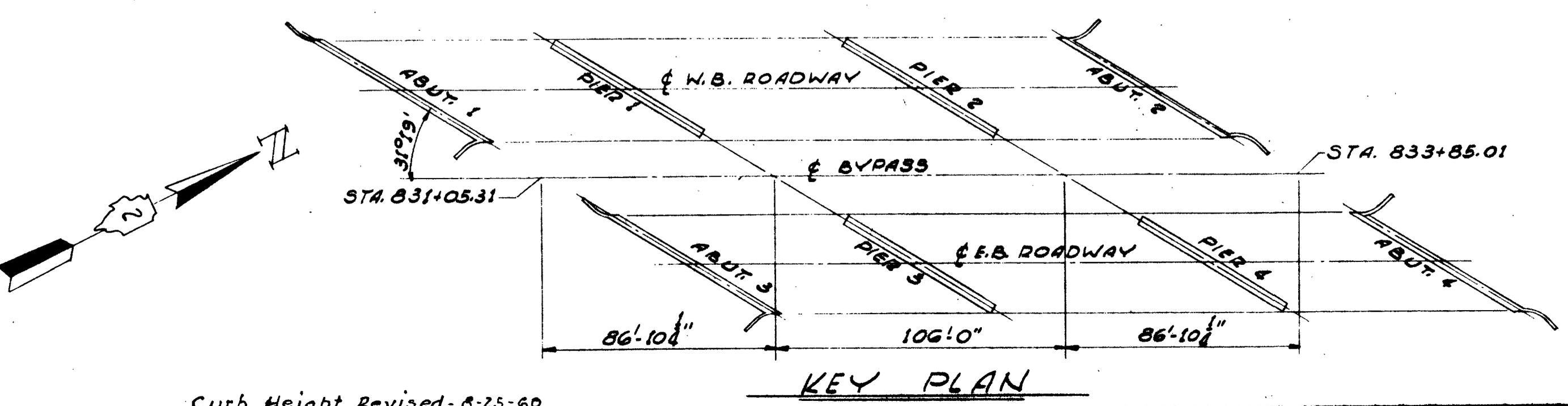


**SECTION C-C** (see sheet 6)



**SECTION D-D**

**SECTION E-E**



**KEY PLAN**

**QUANTITIES FOR ABUTMENTS**

ITEM	UNIT	TOTAL
CLASS X CONCRETE	CYD	307.1
REINFORCEMENT BARS	LB.	21809
CONCRETE PILES	LN.FT.	2485
TEST PILES (CONCRETE)	EACH	1

QUANTITIES SHOWN FOR 4 ABUTMENTS

WORK THIS DWG. WITH SH. NO. 6.

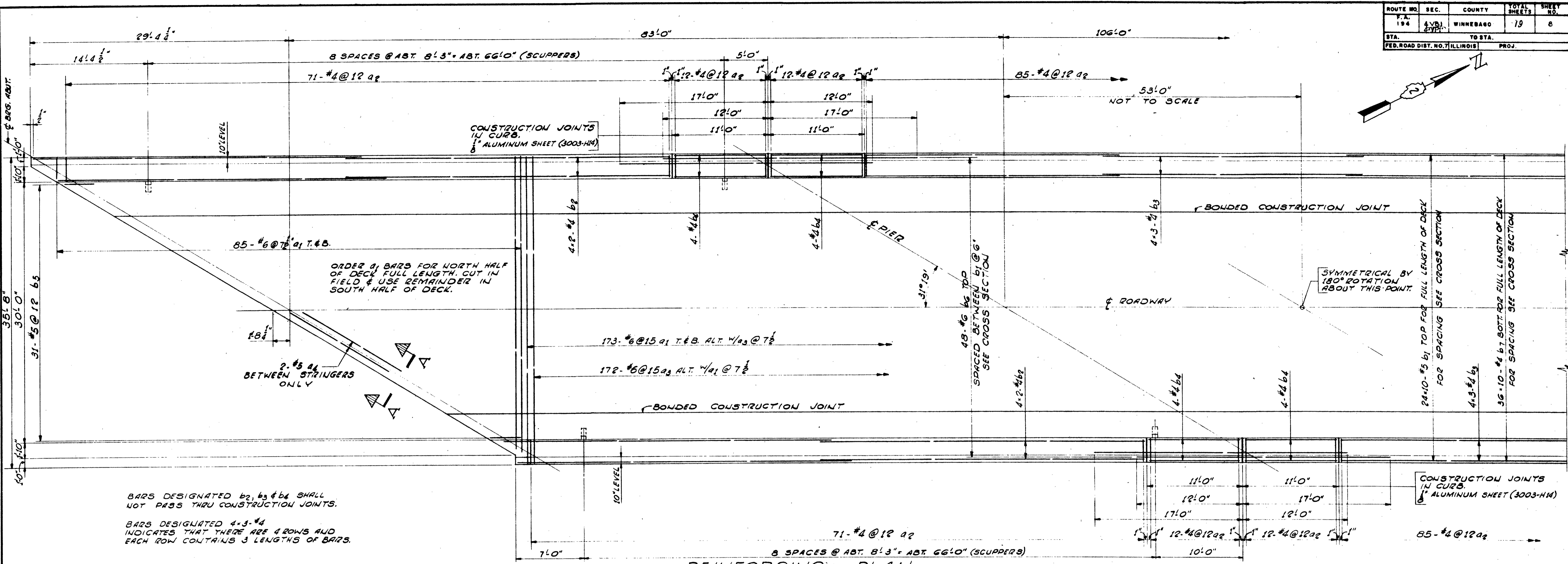
**ILLINOIS DIVISION OF HIGHWAYS**  
**ROCKFORD BYPASS**

F. A. ROUTE 194  
PROJECT \_\_\_\_\_ SECTION 4VBI  
WINNEBAGO COUNTY

**ABUTMENT PART 2**

Designed By: \_\_\_\_\_ Drawn By: J.E.M. Checked By: \_\_\_\_\_

Curb Height Revised 8-25-60

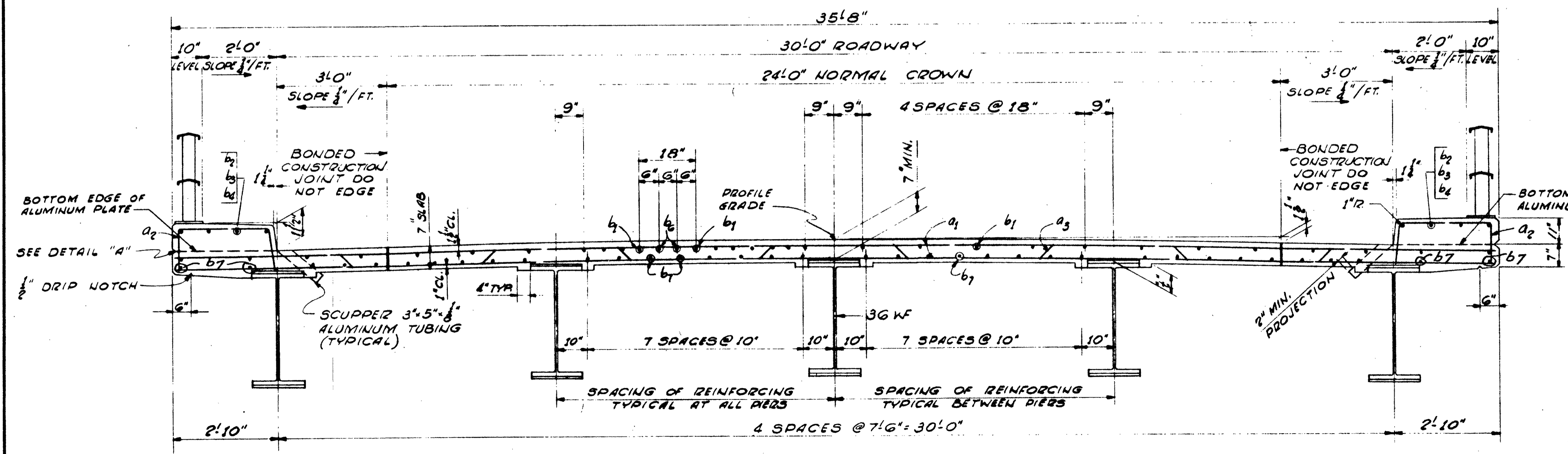


**REINFORCING PLAN**  
SCALE: 3/16" = 1'-0"

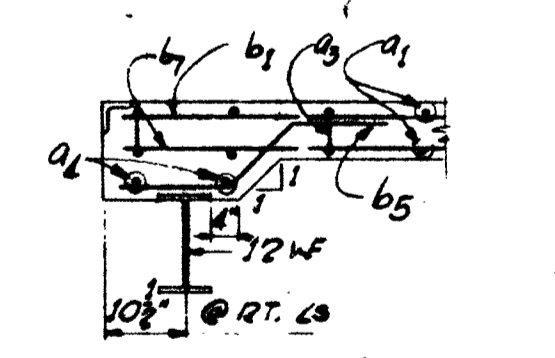
BARS DESIGNATED b<sub>2</sub>, b<sub>3</sub> & b<sub>4</sub> SHALL NOT PASS THRU CONSTRUCTION JOINTS.

BARS DESIGNATED 4-3-#4 INDICATES THAT THERE ARE 4 ROWS AND EACH ROW CONTAINS 3 LENGTHS OF BARS.

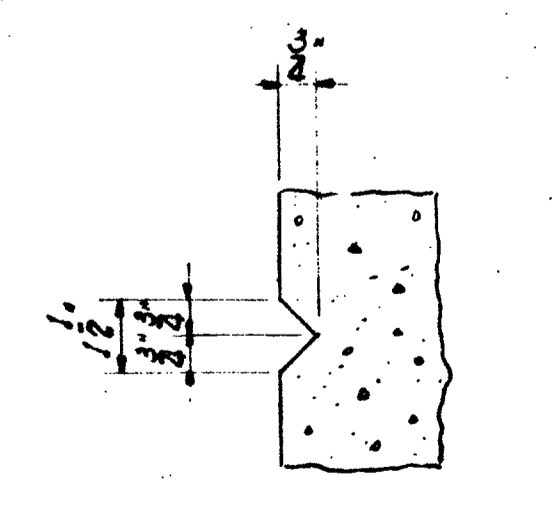
**NOTES:**  
FOR GENERAL NOTES SEE SHT. NO. 2  
FOR REINFORCING SCHEDULE SEE SHT. NO. 13  
METHOD OF DETERMINING FILLET HEIGHTS "L":  
AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS NOT TO EXCEED 10 FT. FROM THESE ELEVATIONS SUBTRACT THE INCREMENT OF DEFLECTION FOR THESE POINTS, DETERMINED FROM THE DEAD LOAD DEFLECTION DIAGRAM. THE ELEVATIONS SO ATTAINED SUBTRACTED FROM THE THEORETICAL GRADE ELEVATIONS, MINUS FLOOR THICKNESS, EQUALS THE FILLET HEIGHTS ABOVE TOP OF BEAM.



**CROSS SECTION**  
SCALE: 1/2" = 1'-0"



**SECTION A-A**  
SCALE: 1/2" = 1'-0"



**DETAIL 'A'**  
SCALE: 3/4" = 1'-0"

**QUANTITIES FOR DECKS**

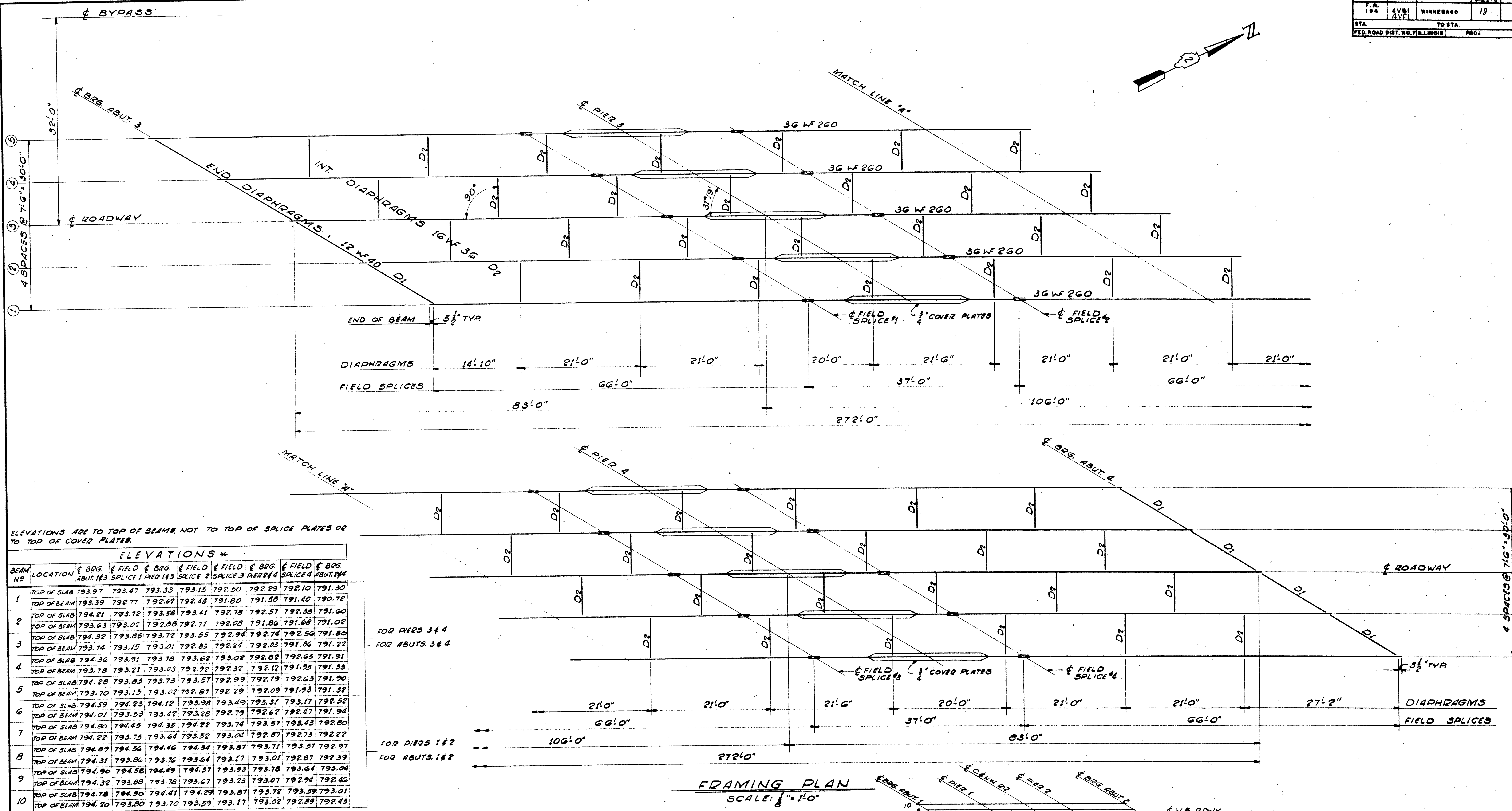
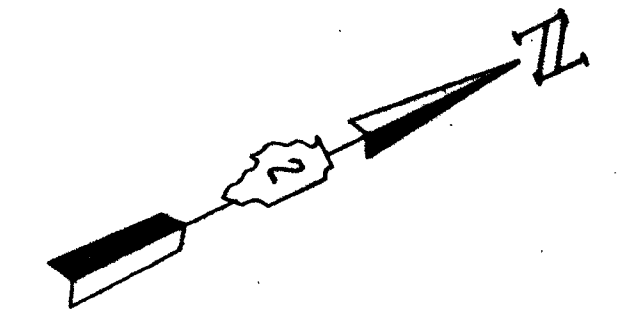
ITEM	UNIT	TOTAL
CLASS X CONCRETE	CU. YDS.	533.4
REINFORCEMENT BARS	LBS.	126368
STRUCTURAL STL.	LBS.	846188

QUANTITIES SHOWN ARE TOTALS FOR 2 DECKS.

**ILLINOIS DIVISION OF HIGHWAYS**  
**ROCKFORD BYPASS**  
PROJECT F. A. ROUTE 194 SECTION 4VBI  
WINNEBAGO COUNTY

**DECK PLAN**  
Designed By: Drawn By: J.E.M. Checked By: R.R.B.





ELEVATIONS ARE TO TOP OF BEAMS, NOT TO TOP OF SPLICE PLATES OR TO TOP OF COVER PLATES.

**ELEVATIONS \***

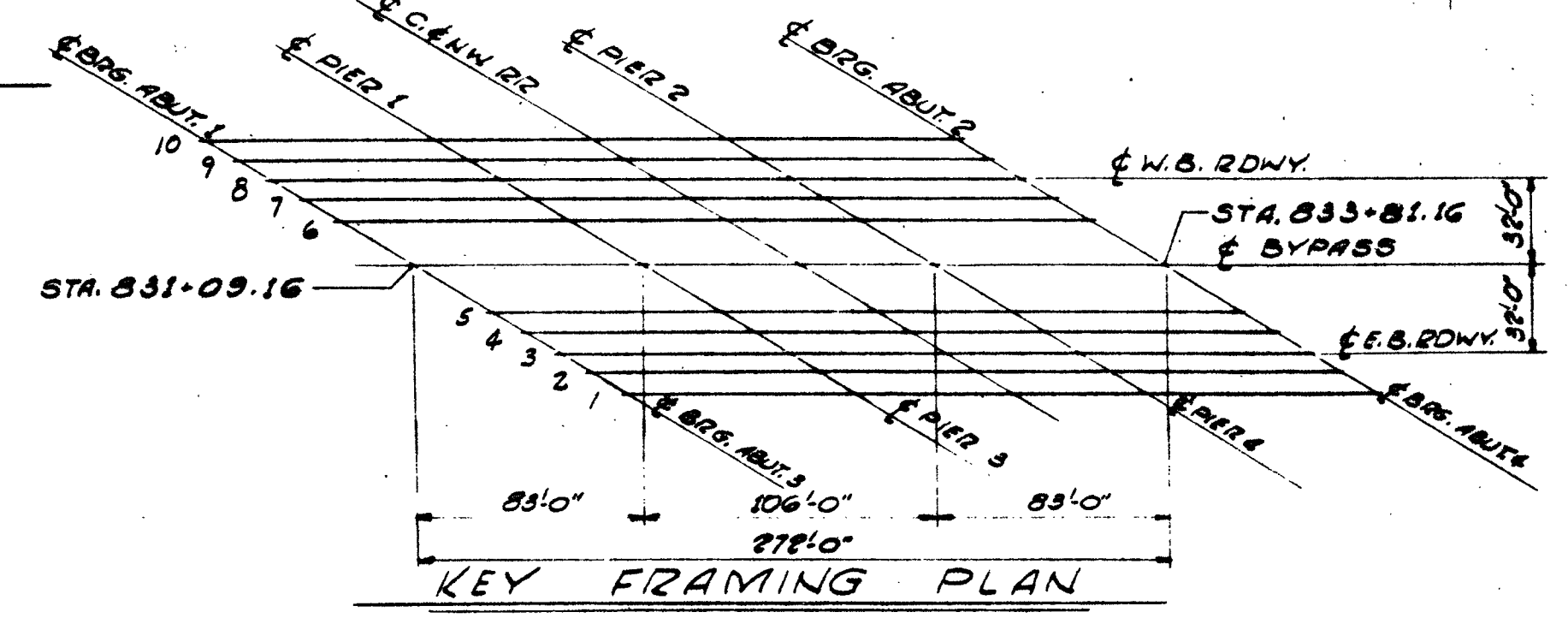
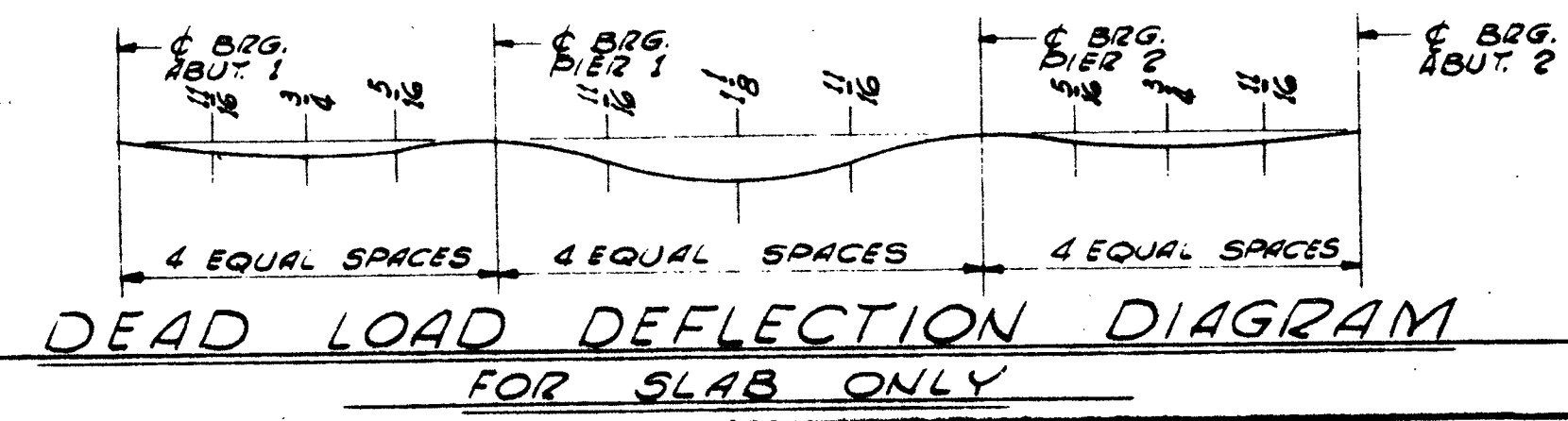
BEAM NO.	LOCATION	BRG. ABUT. 3	FIELD SPLICE 1	FIELD SPLICE 2	FIELD SPLICE 3	FIELD SPLICE 4	BRG. ABUT. 4
1	TOP OF SLAB	793.97	793.47	793.33	793.15	792.50	792.29
	TOP OF BEAM	793.39	792.77	792.62	792.45	791.80	791.58
2	TOP OF SLAB	794.21	793.72	793.58	793.41	792.78	792.57
	TOP OF BEAM	793.63	793.02	792.88	792.71	792.08	791.86
3	TOP OF SLAB	794.32	793.85	793.72	793.55	792.94	792.74
	TOP OF BEAM	793.74	793.15	793.01	792.85	792.24	792.03
4	TOP OF SLAB	794.36	793.91	793.78	793.62	793.02	792.82
	TOP OF BEAM	793.78	793.21	793.08	792.92	792.32	792.12
5	TOP OF SLAB	794.28	793.85	793.73	793.57	792.99	792.79
	TOP OF BEAM	793.70	793.15	793.02	792.87	792.29	792.09
6	TOP OF SLAB	794.59	794.23	794.12	793.98	793.49	793.31
	TOP OF BEAM	794.01	793.53	793.42	793.28	792.79	792.62
7	TOP OF SLAB	794.80	794.45	794.35	794.22	793.74	793.57
	TOP OF BEAM	794.22	793.75	793.64	793.52	793.04	792.87
8	TOP OF SLAB	794.89	794.56	794.46	794.34	793.87	793.71
	TOP OF BEAM	794.31	793.86	793.76	793.64	793.17	793.01
9	TOP OF SLAB	794.90	794.58	794.49	794.37	793.93	793.78
	TOP OF BEAM	794.32	793.88	793.78	793.67	793.23	793.07
10	TOP OF SLAB	794.78	794.50	794.41	794.29	793.87	793.72
	TOP OF BEAM	794.20	793.80	793.70	793.59	793.17	793.02

THESE ARE THEORETICAL TOP OF FLANGE ELEVATIONS AND ARE TO BE USED FOR FABRICATION OF STRUCTURAL STEEL. THEY DO NOT INCLUDE ANY ALLOWANCE FOR DEFLECTION.

FOR PIERS 3 & 4  
FOR ABUTS. 3 & 4

FOR PIERS 1 & 2  
FOR ABUTS. 1 & 2

**FRAMING PLAN**  
SCALE: 1/8" = 1'-0"



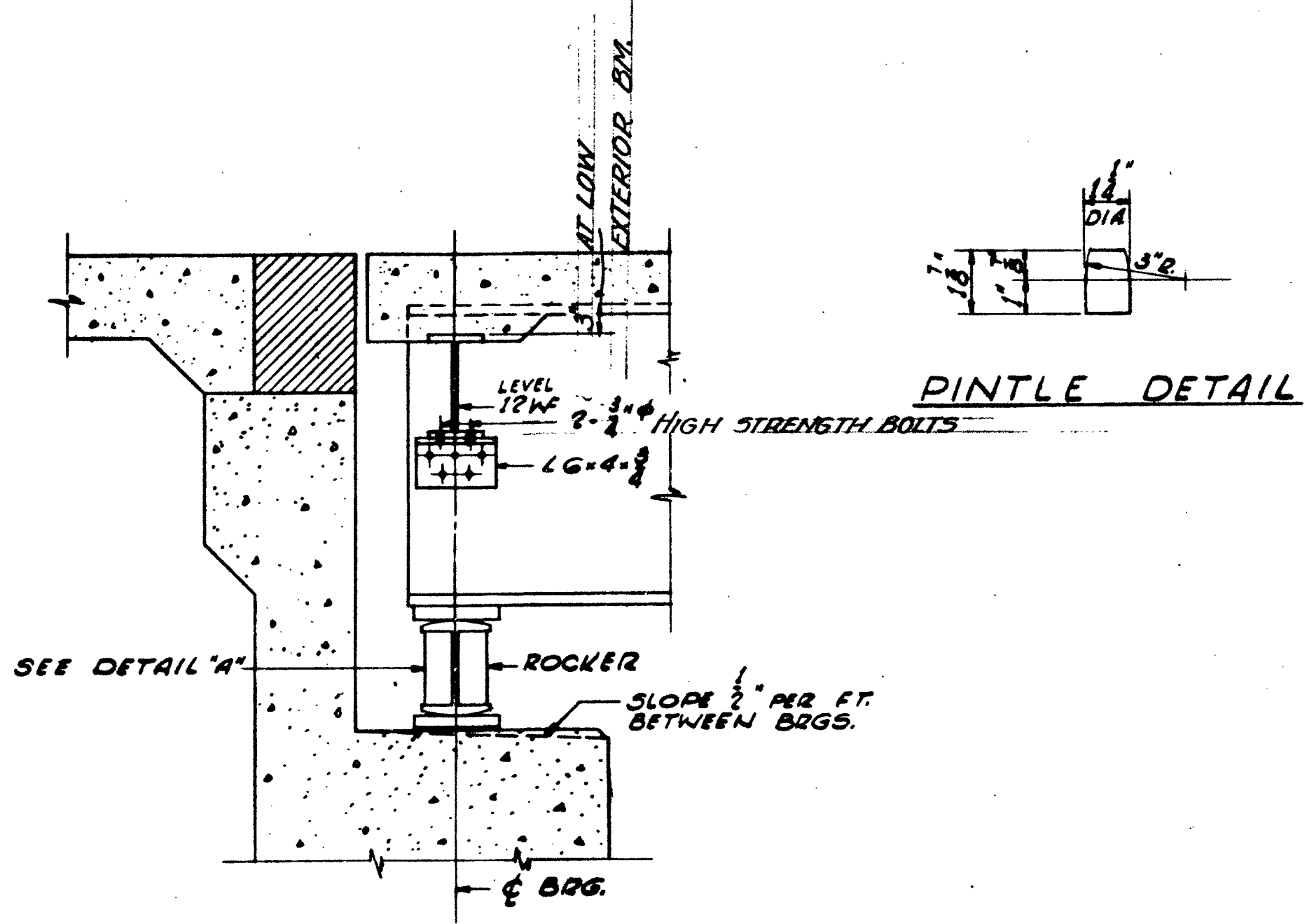
**ILLINOIS DIVISION OF HIGHWAYS**  
**ROCKFORD BYPASS**

F. A. ROUTE 194  
PROJECT SECTION 4VB1  
WINNEBAGO COUNTY

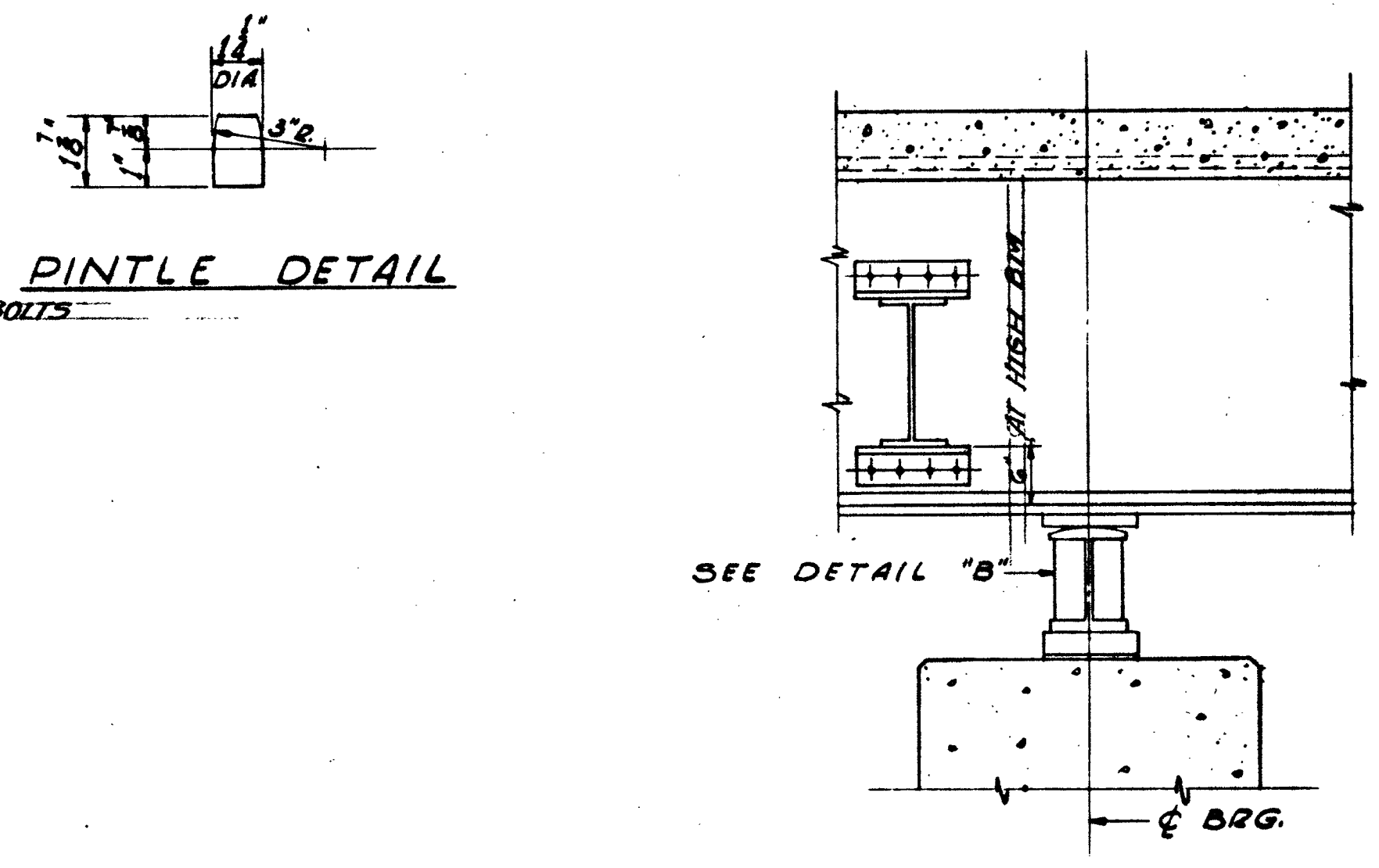
**STEEL FRAMING PLAN**

Designed By: \_\_\_\_\_ Drawn By: J.R.M. Checked By: R.R.

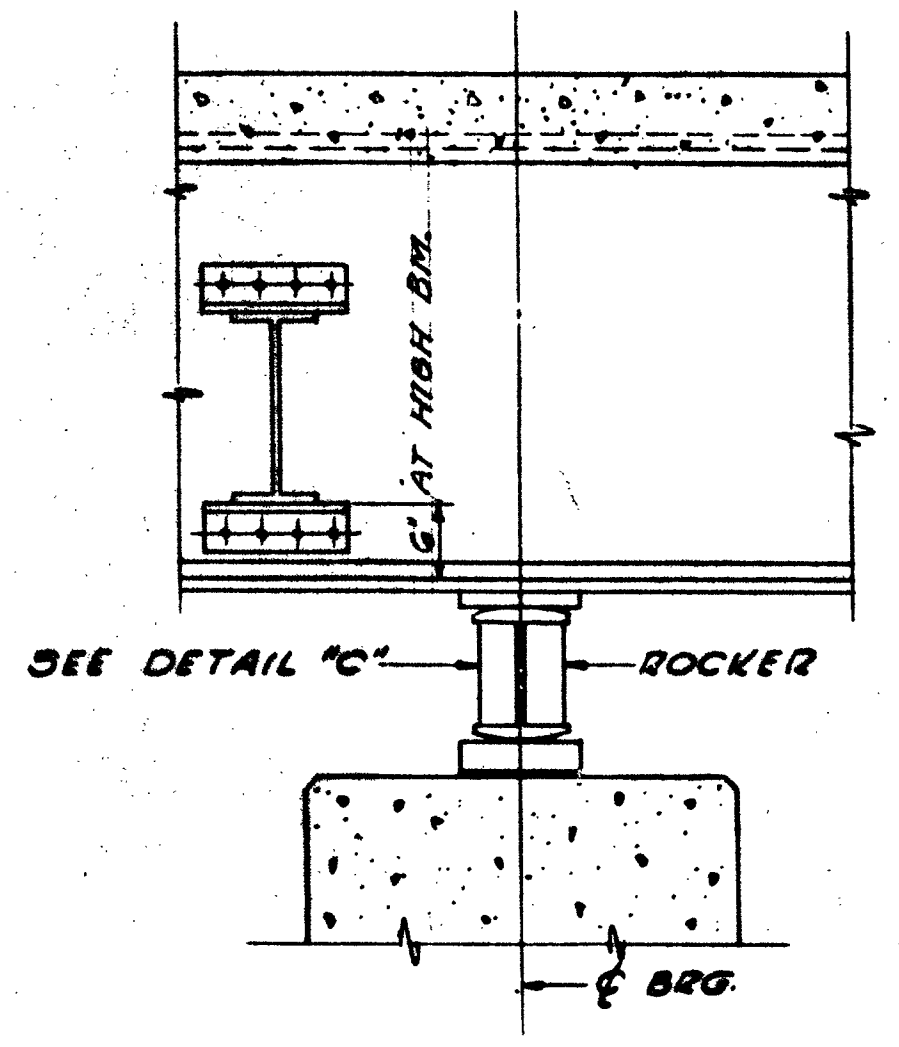
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
194	4VBI	WINNEBAGO	19	10
STA.		TO STA.		PROJ.
FEB. ROAD DIST. NO. 7 ILLINOIS				



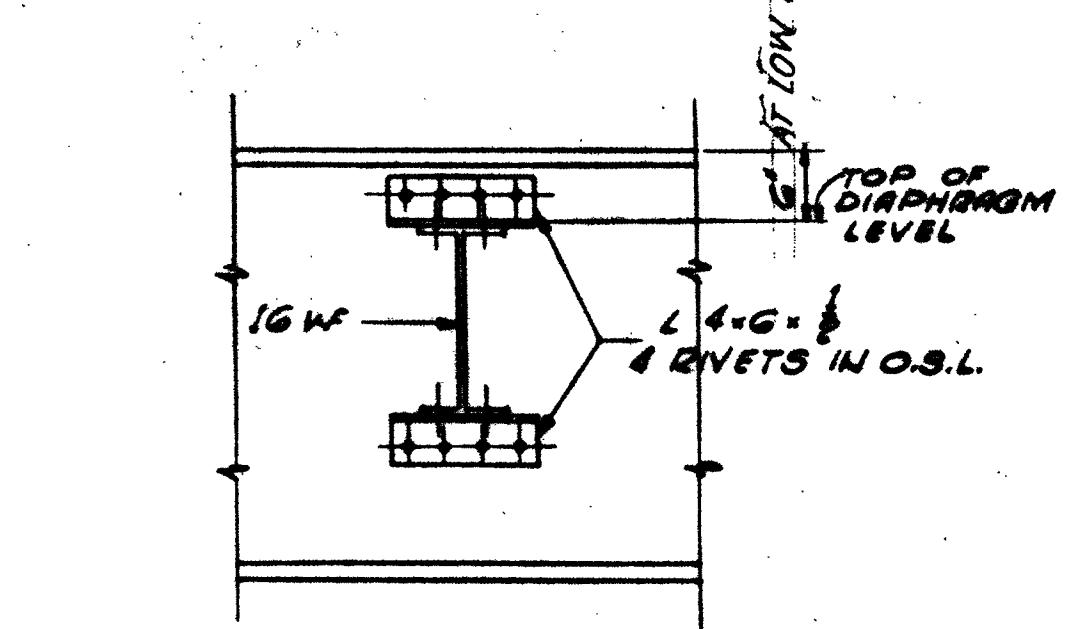
SECTION A, ABUTMENT



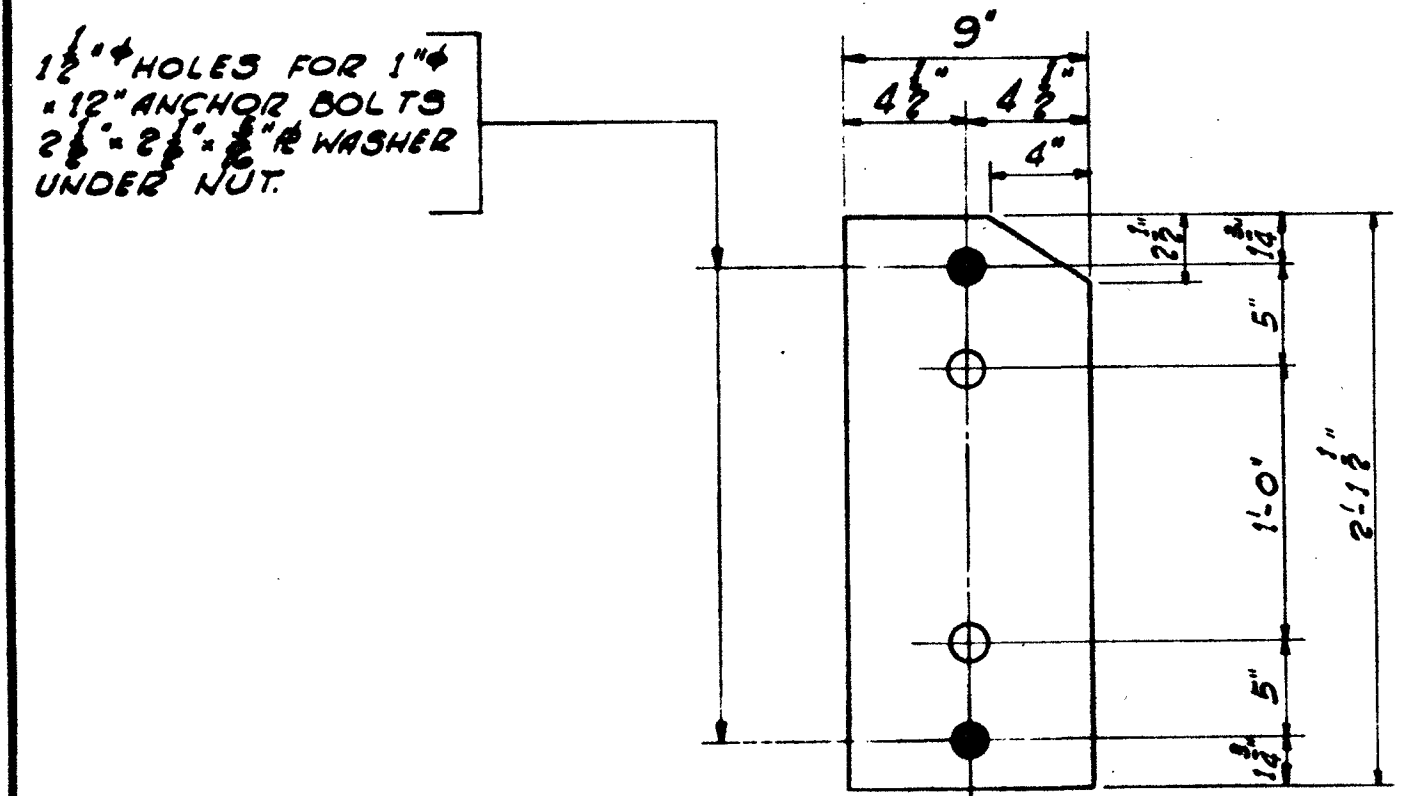
SECTION A, FIXED PIER



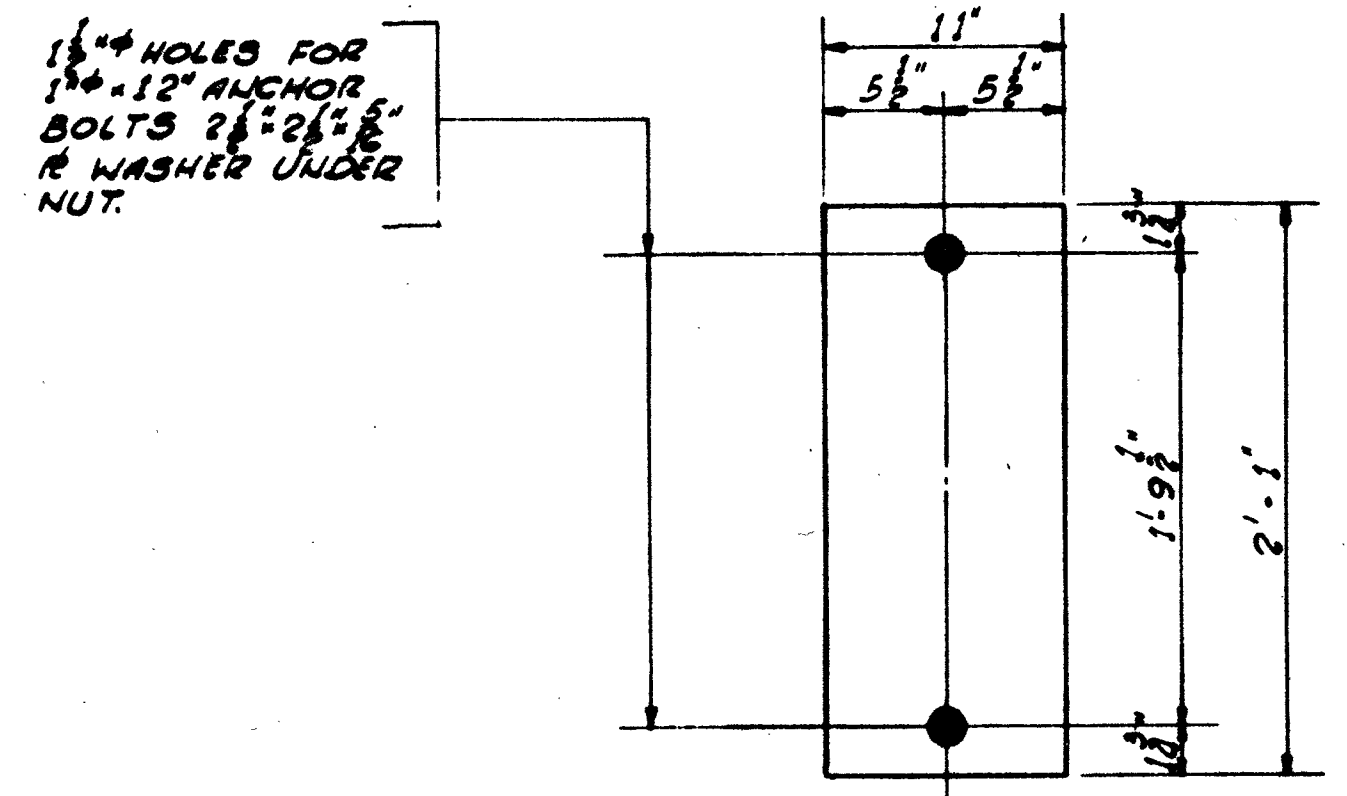
SECTION A, EXPANSION PIER



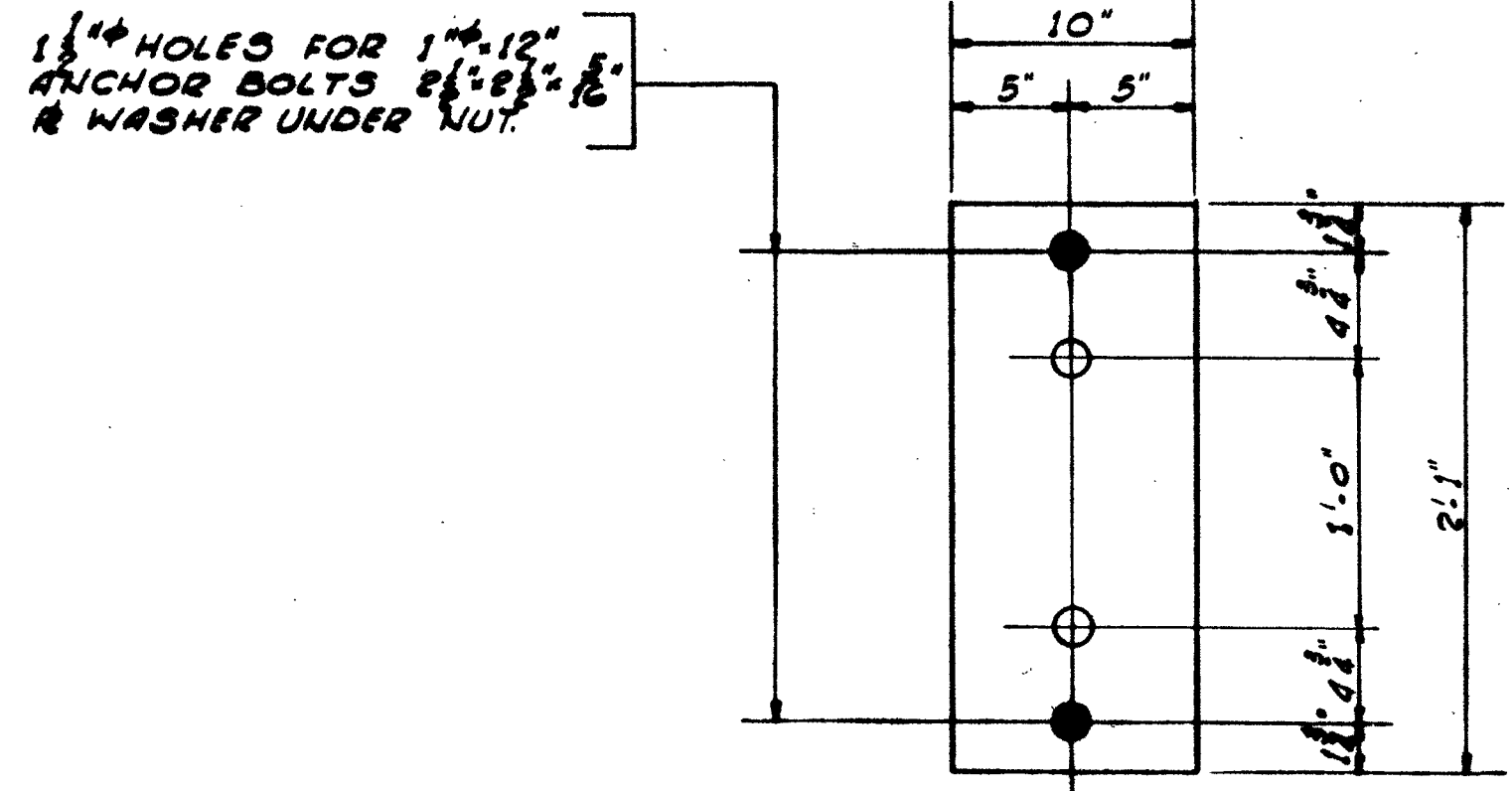
INTERIOR DIAPHRAGM



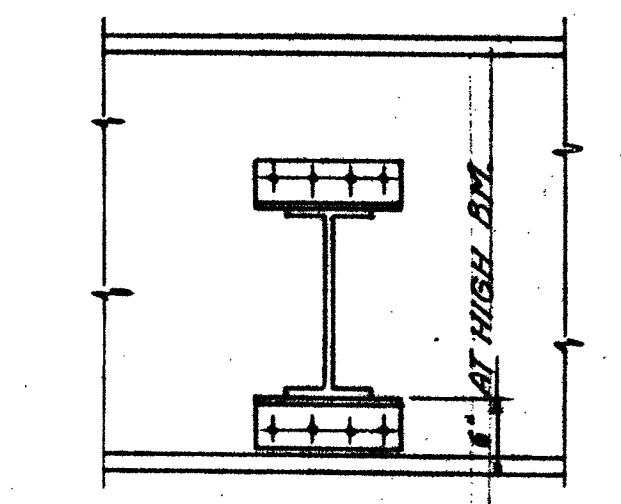
PLAN



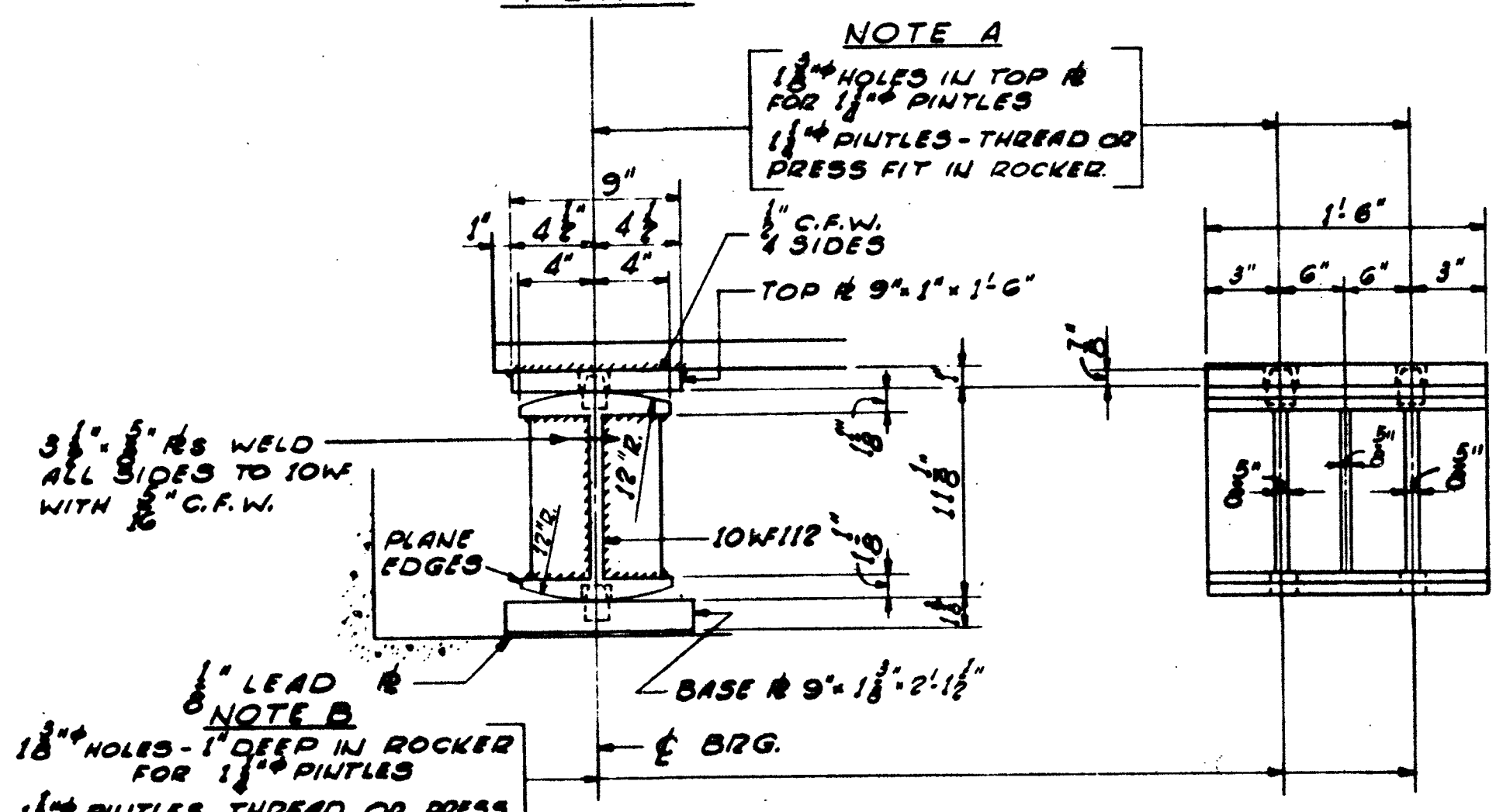
PLAN



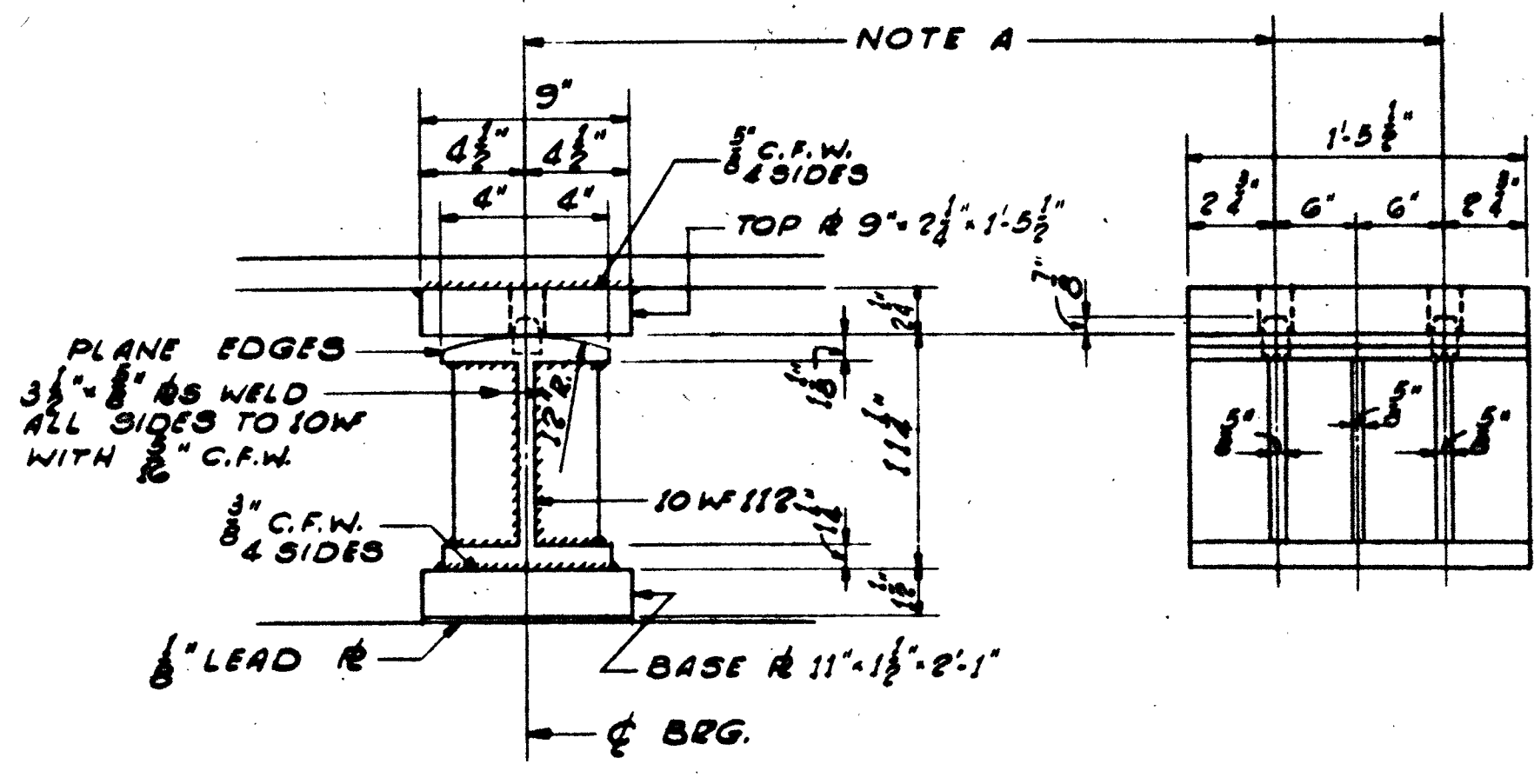
PLAN



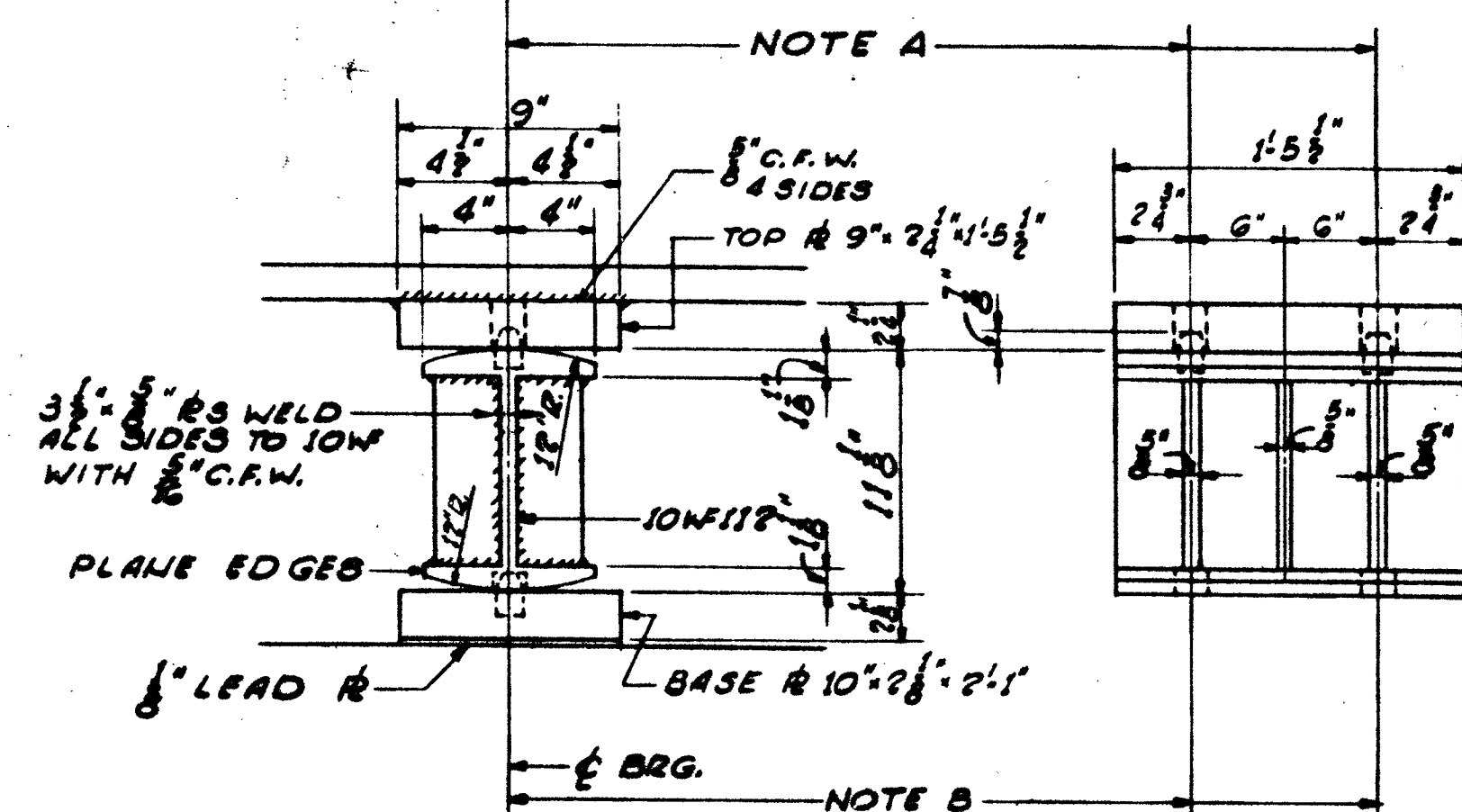
DIAPHRAGM A SPLICE



DETAIL A



DETAIL B

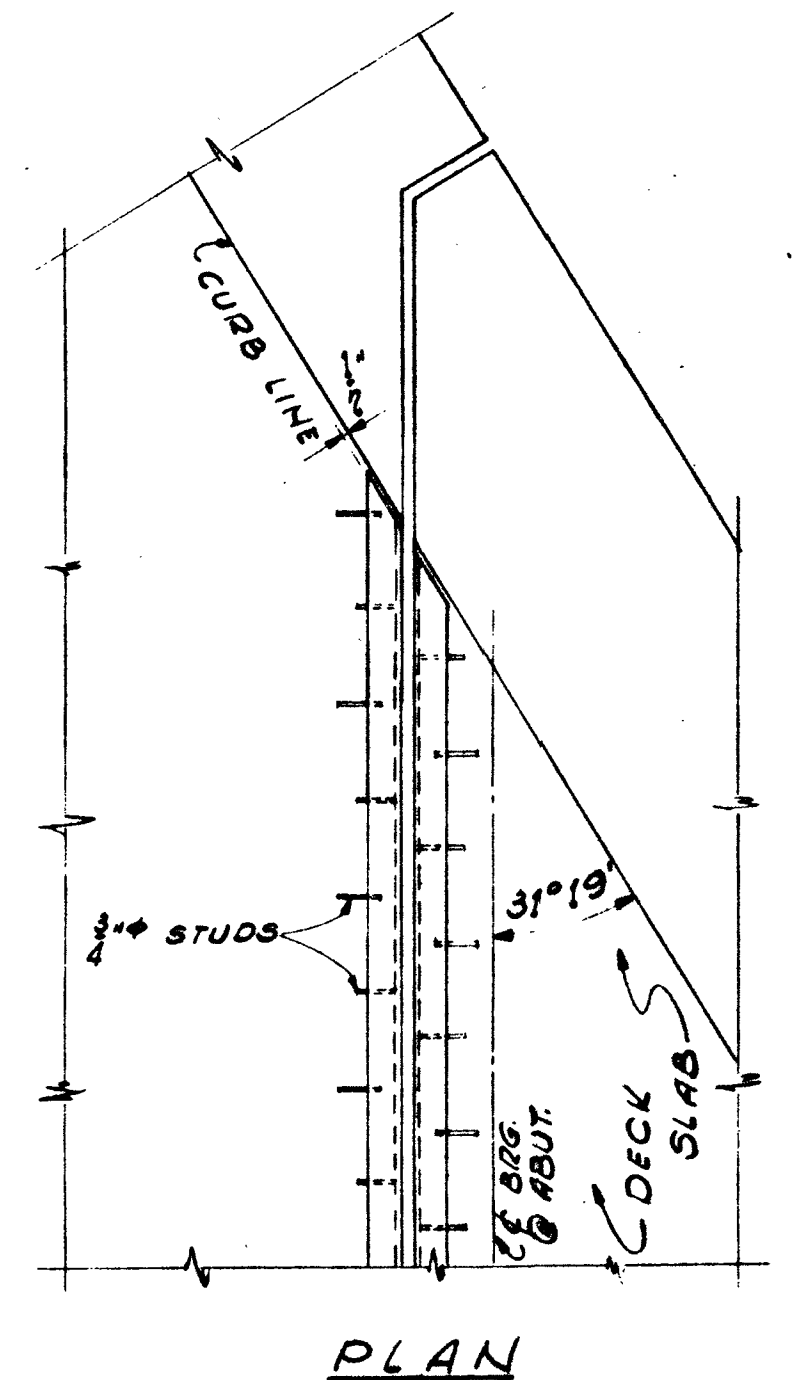


DETAIL C

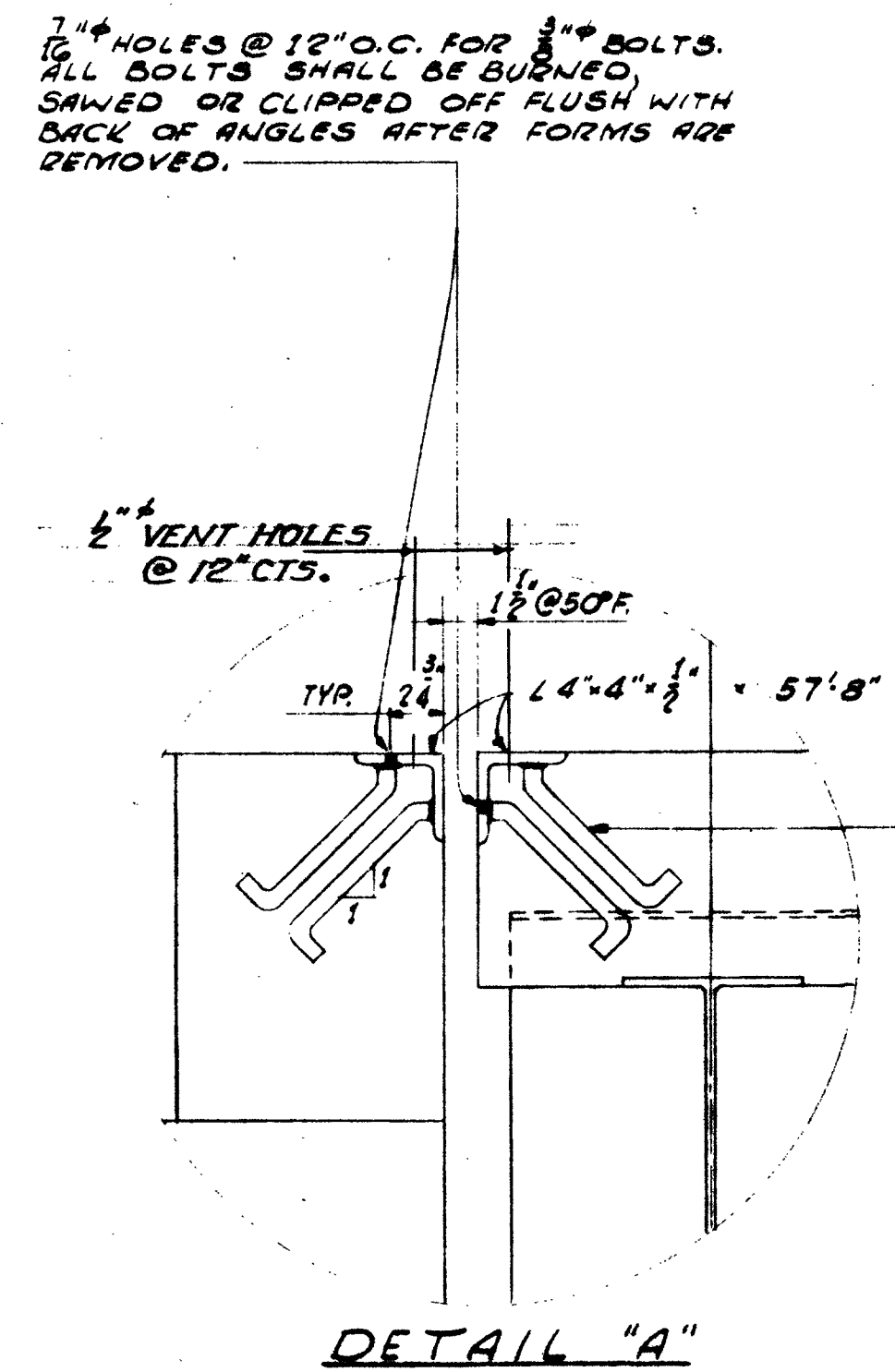
ILLINOIS DIVISION OF HIGHWAYS  
 ROCKFORD BYPASS  
 F. A. ROUTE 194  
 PROJECT \_\_\_\_\_ SECTION 4VBI  
 WINNEBAGO COUNTY  
 STEEL DETAILS PART I  
 Designed By: \_\_\_\_\_ Drawn By: J.R.M. Checked By: B.R.G.

FOR SHIMS SEE SHT. NO. 11.  
 FOR STEEL FRAMING SEE SHT. NO. 9.



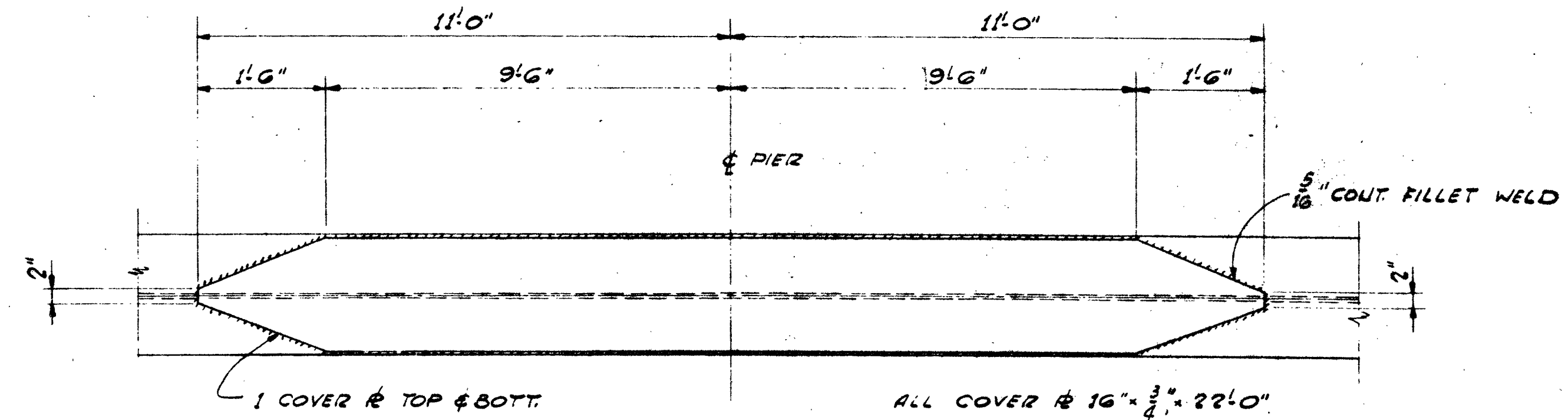


PLAN

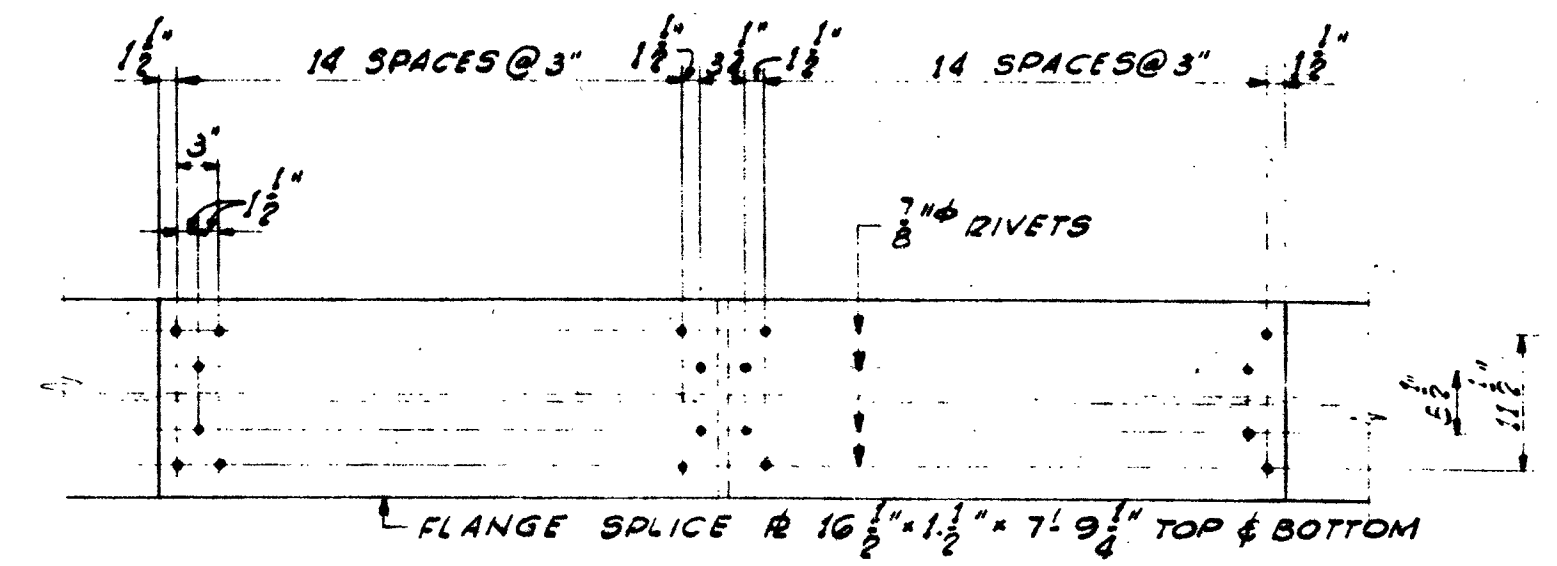


DETAIL "A"

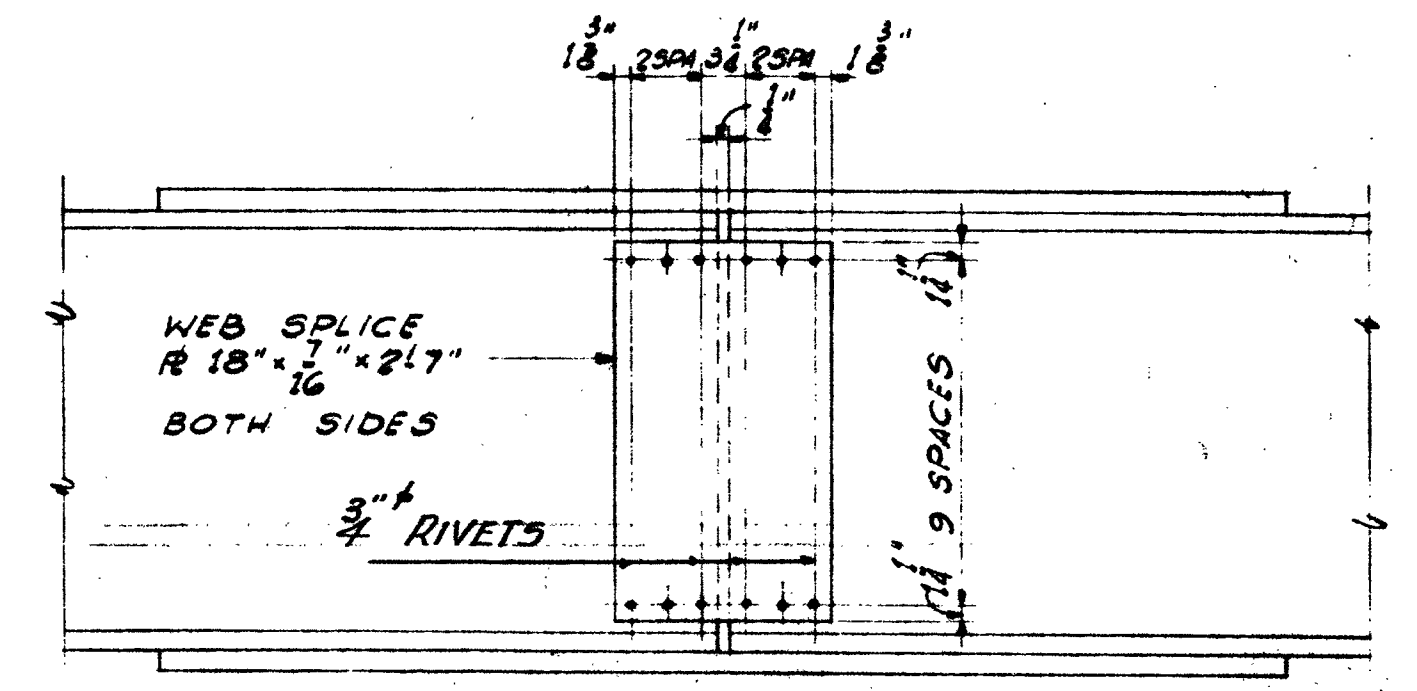
3/4" x 8" CR 1020 STEEL GRANULAR OR SOLID FLUX FILLED STUDS - AUTOMATICALLY END WELDED (ALT. @ 12" O.C.)



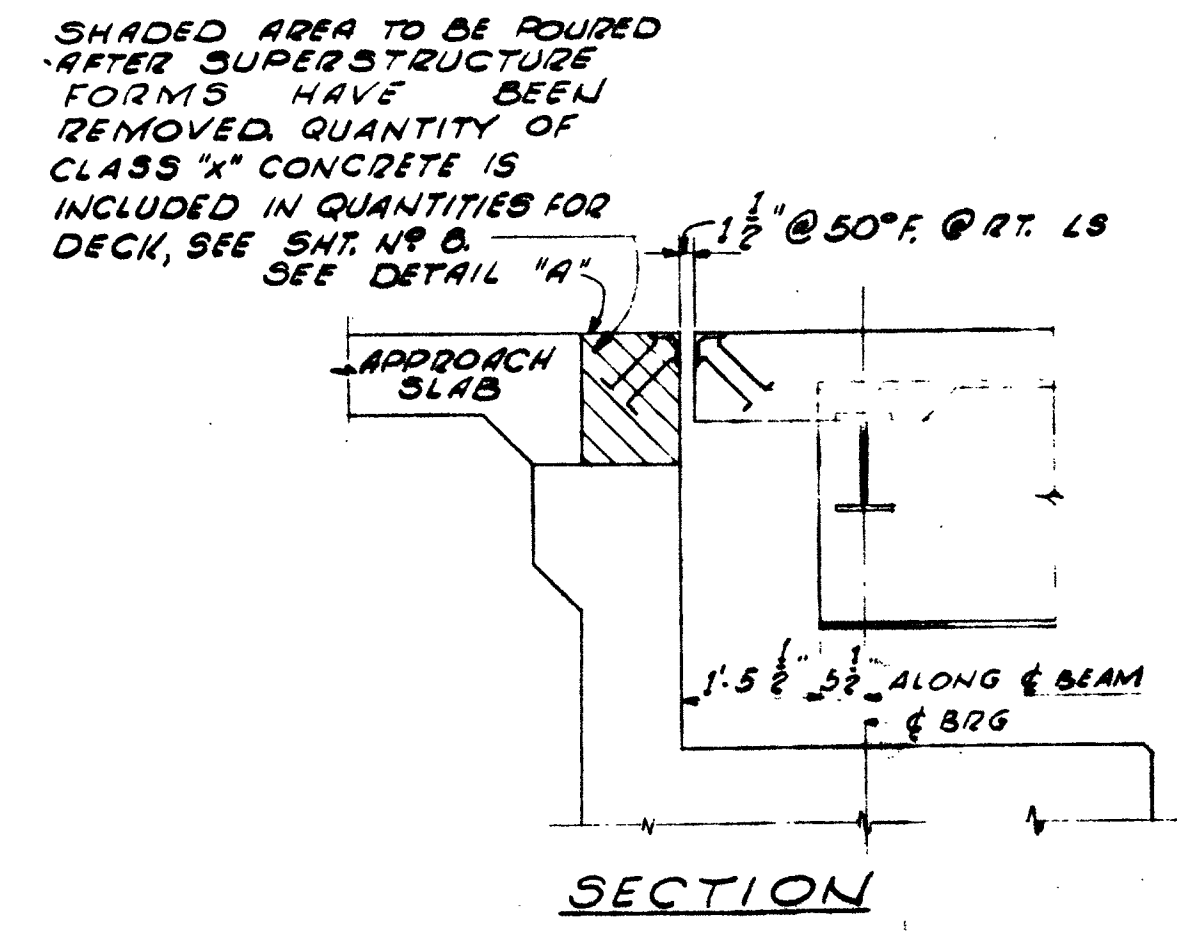
DETAIL OF COVER PLATES



FLANGE SPLICE R 16 1/2" x 1 1/2" x 7' 9 3/4" TOP & BOTTOM



DETAIL OF SPLICE



SECTION

DETAILS OF EXPANSION JOINT AT ABUTMENT

NOTE: SHIM PLATES TO HAVE SAME WIDTH, LENGTH & BOLT HOLE LOCATIONS AS BEARING BASE PLATES. (SEE SHT. NPO)

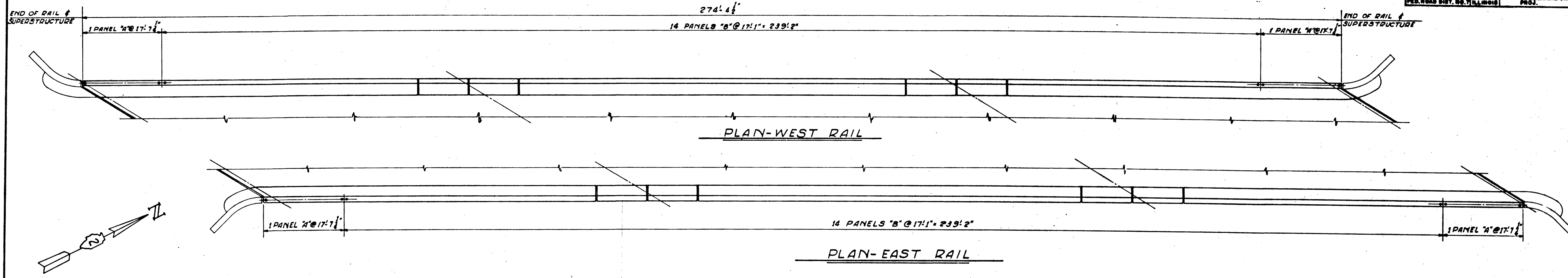
TABLE OF SHIM PLATES

BEAM NO.	ABUT. 1 & 3	PIER 1 & 3	PIER 2 & 4	ABUT. 2 & 4
3	2	-	-	-
4	1	8	18	8
5	-	8	-	-
9	8	4	4	8
10	-	-	8	2

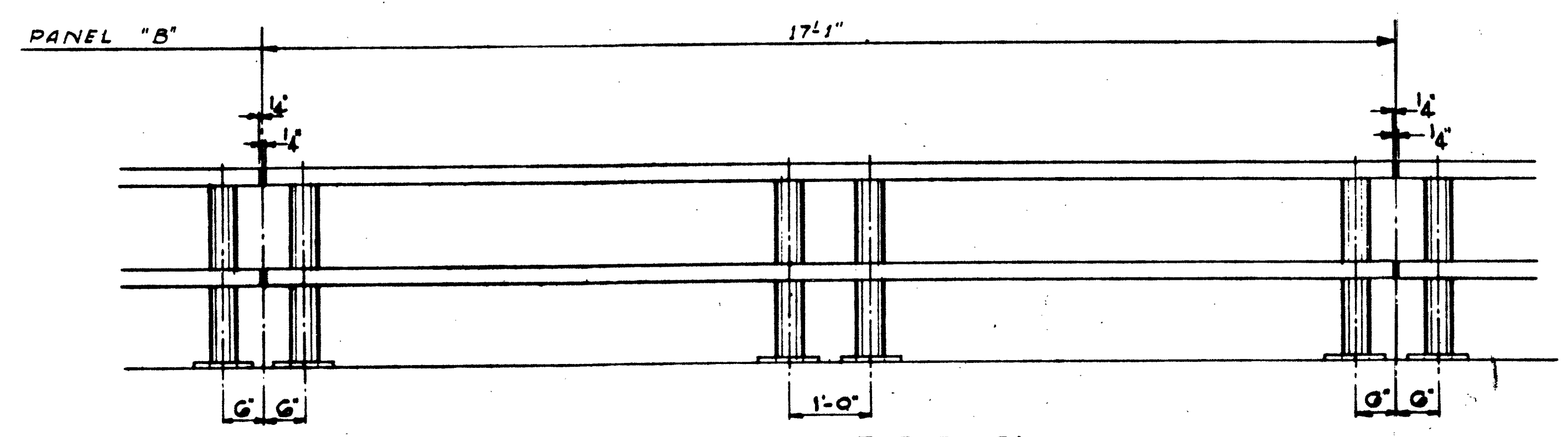
FOR STEEL FRAMING SEE SHT. NPO

ILLINOIS DIVISION OF HIGHWAYS  
 ROCKFORD BYPASS  
 F. A. ROUTE 194  
 PROJECT \_\_\_\_\_ SECTION 4VBI  
 WINNEBAGO COUNTY  
**STEEL DETAILS PART 2**  
 Designed By: \_\_\_\_\_ Drawn By: J.E.M.F. Checked By: P.P.G.

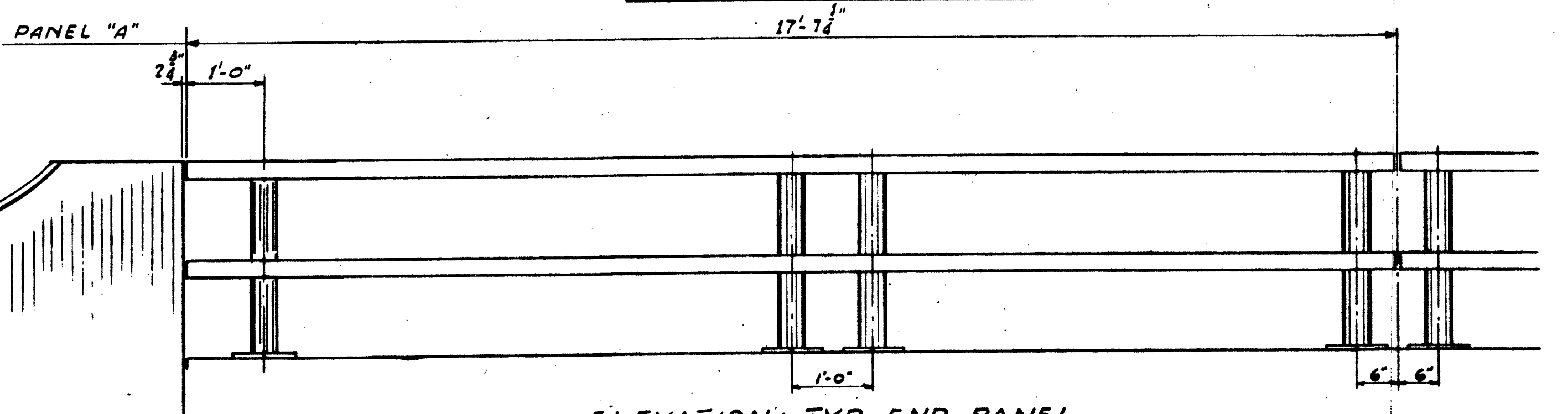
ROUTE NO.	SEC.	COUNTY	SYMBOL	SHEET
F.A. 194	4V.B1	WINNEBAGO	19	12
STA.	TO STA.		PROJ.	
FED. ROAD DIST. NO. ILLINOIS				



NOTE:  
 ALL BOLTS & WASHERS SHALL BE HOT-DIPPED GALVANIZED.  
 PROVIDE 1-1/8" & 3/16" SHIMS FOR 50% OF POSTS.  
 FOR CONNECTION DETAILS SEE SHEET 12A.

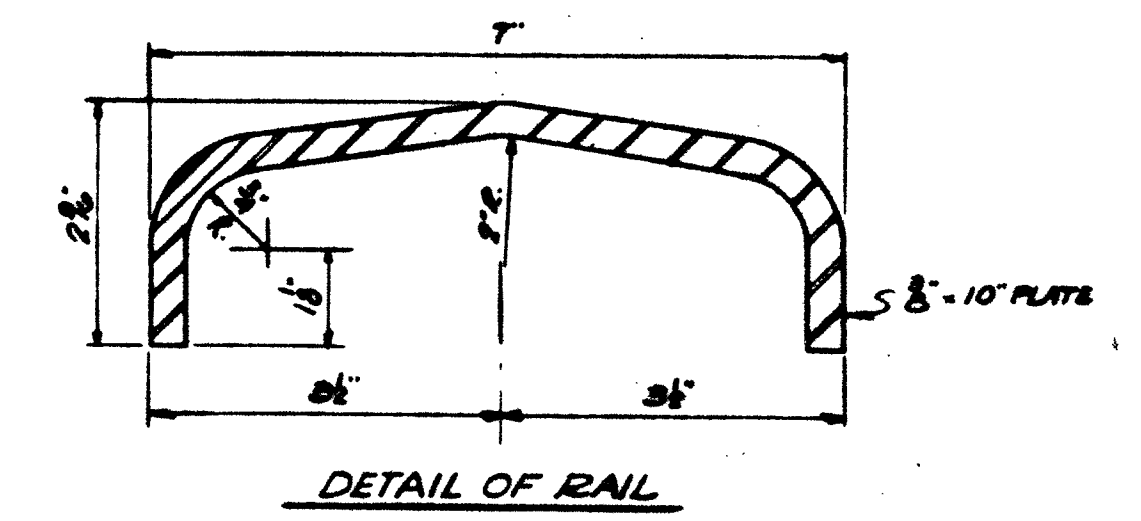


ELEVATION - TYR PANEL

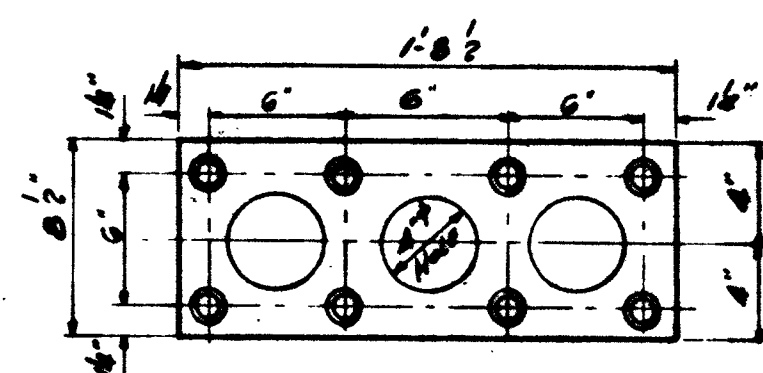


ELEVATION - TYR END PANEL

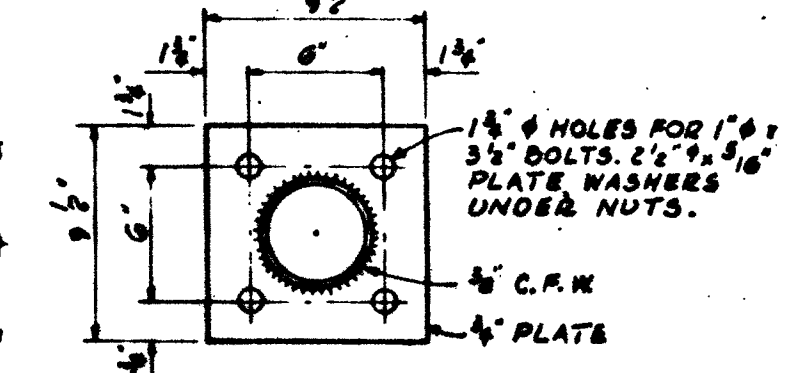
Continuity Device Added 8-25-60



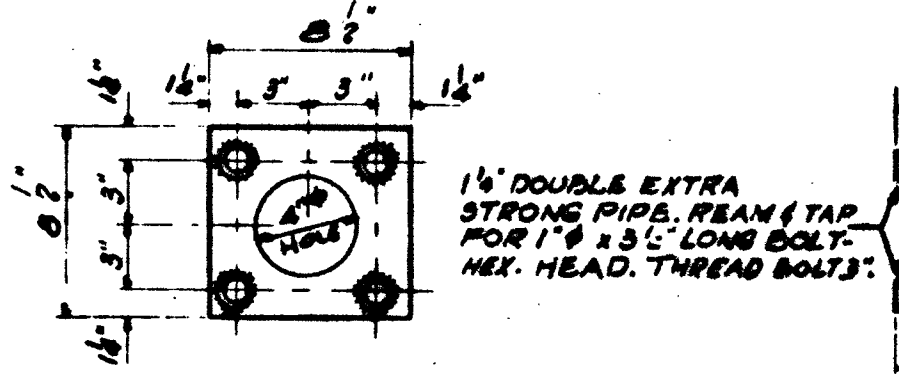
DETAIL OF RAIL



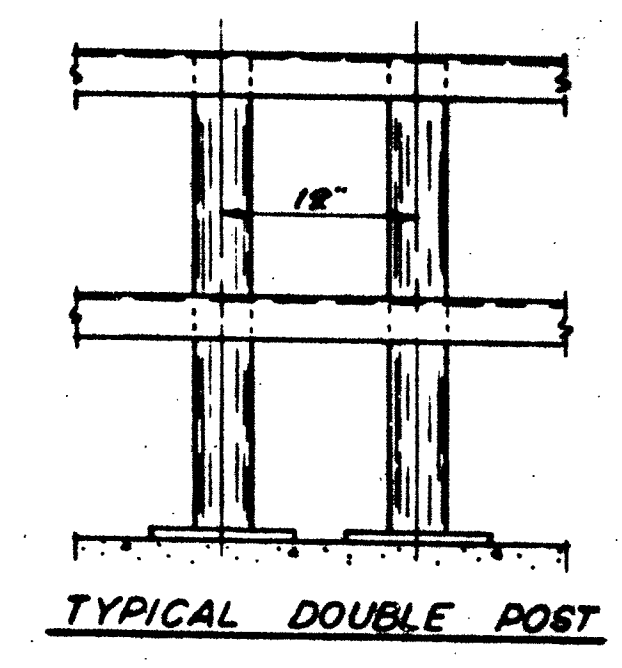
ANCHOR DEVICE AT DOUBLE POSTS



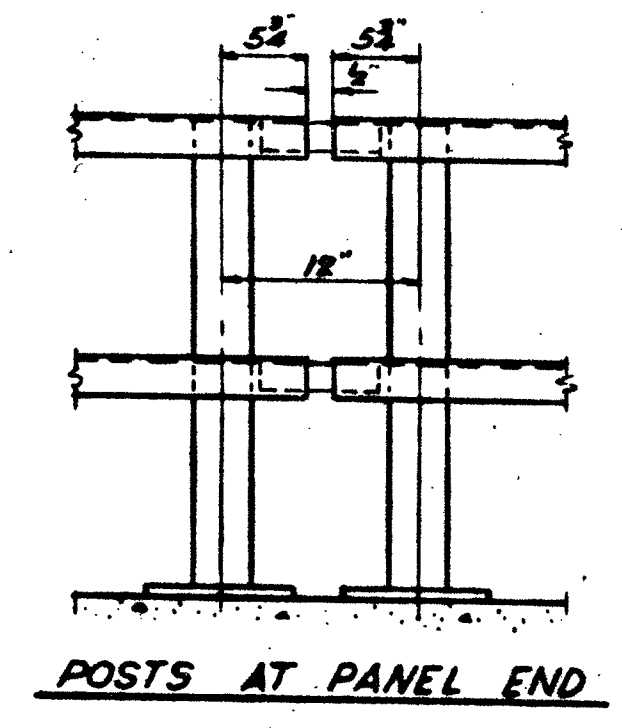
BASE PLATE ALL POSTS - SUPERSTRUCTURE



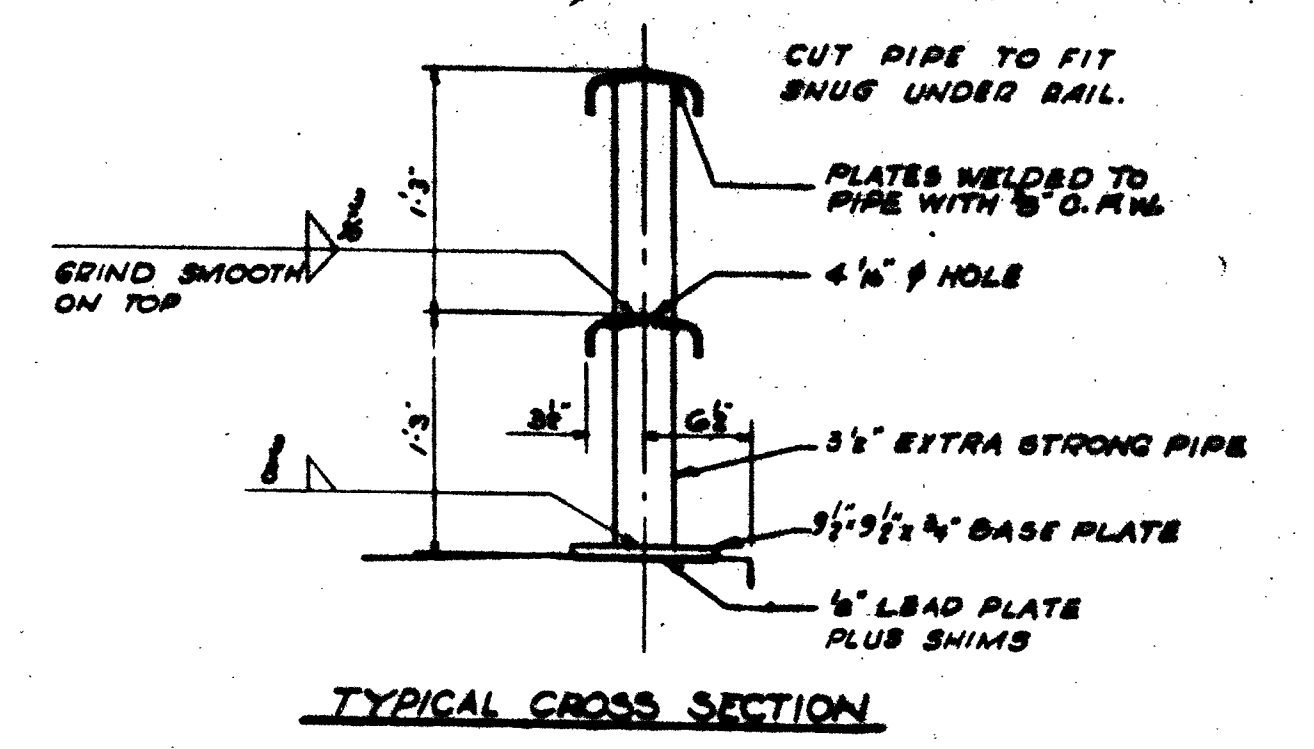
ANCHOR DEVICE AT SINGLE POST



TYPICAL DOUBLE POST



POSTS AT PANEL END



TYPICAL CROSS SECTION

**BILL OF MATERIAL**

METAL HANDRAIL	LINE FT.	1038'
----------------	----------	-------

QUANTITY SHOWN IS TOTAL FOR 2 STRUCTURES

ILLINOIS DIVISION OF HIGHWAYS  
 ROCKFORD BYPASS  
 F. A. ROUTE 194  
 PROJECT SECTION 4V.B1  
 WINNEBAGO COUNTY  
**HANDRAIL DETAILS**

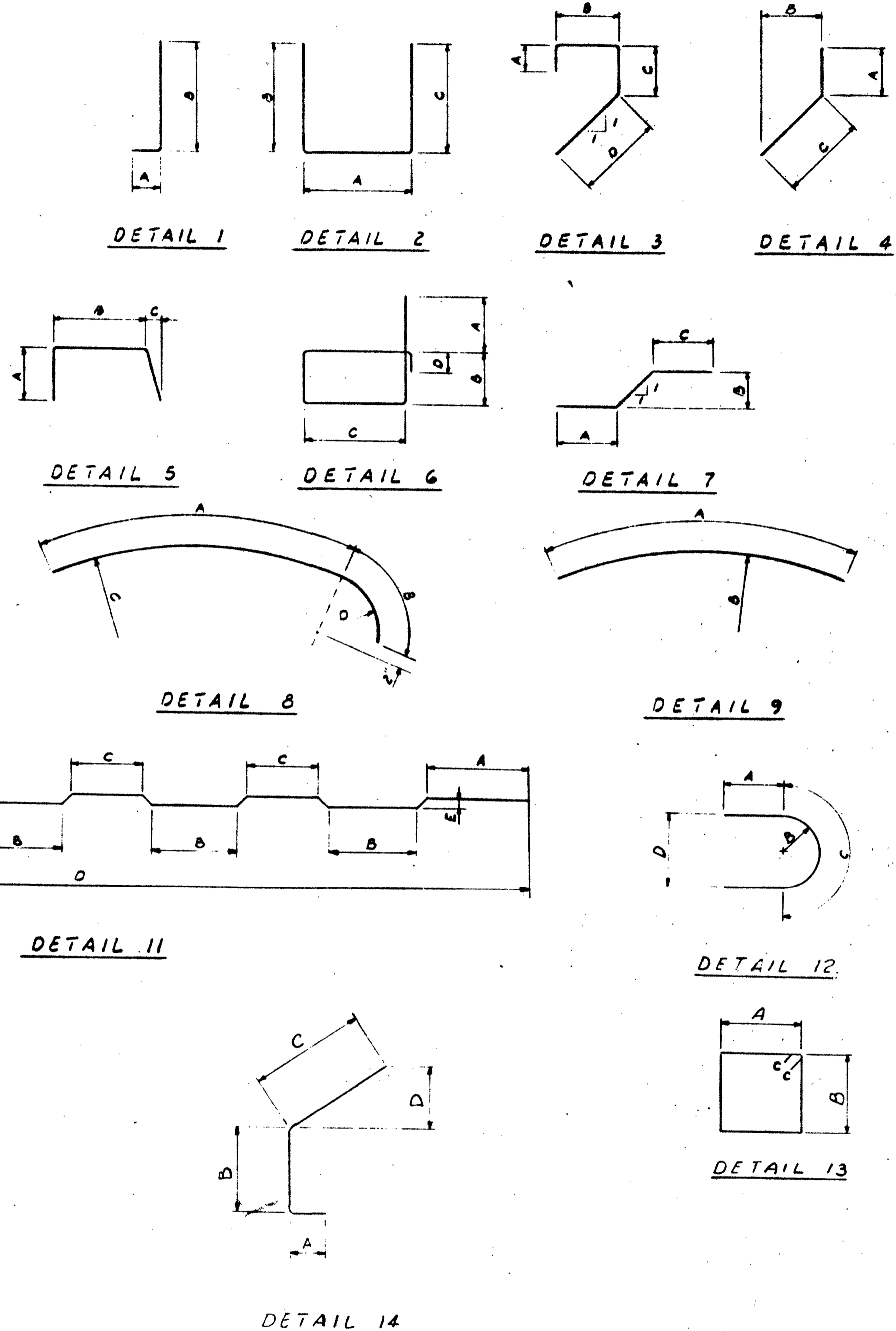
Designed By: \_\_\_\_\_ Drawn By: \_\_\_\_\_ Checked By: R.E.G.



# B A R S C H E D U L E

ROUTE NO. 194	SEC. 4V1	COUNTY WINNEBAGO	TOTAL SHEETS 19	SHEET NO. 13
STA. TO STA.		PROJ.		
FED. ROAD DIST. NO. 7 (ILLINOIS)				

BAR NO.	SIZE	LENGTH	DETAIL	DIMENSIONS					BAR NO.	SIZE	LENGTH	DETAIL	DIMENSIONS					BAR NO.	SIZE	LENGTH	DETAIL	DIMENSIONS														
				A	B	C	D	E					A	B	C	D	E					A	B	C	D	E										
PIERS																																				
h <sub>1</sub>	16	#9	27-6	-						V <sub>1</sub>	260	#4	4-3	-							Q <sub>1</sub>	1032	#6	35-5	-											
h <sub>2</sub>	16	#9	16-3	-						V <sub>2</sub>	18	#4	3-9	-							Q <sub>2</sub>	1100	#4	5-2	5	1-4	2-6	1								
h <sub>3</sub>	8	#9	23-6	-						V <sub>3</sub>	64	#5	8-3	-							Q <sub>3</sub>	344	#8	36-9	11	4-3	3-9	3-0	35-5	9 1/2						
h <sub>4</sub>	20	#9	29-6	-						V <sub>4</sub>	32	#5	6-0	-							Q <sub>4</sub>	32	#5	14-0	-											
h <sub>5</sub>	8	#5	27-6	-						d <sub>1</sub>	142	#4	2-9	-							b <sub>1</sub>	480	#5	29-0	-											
h <sub>6</sub>	8	#5	33-6	-						d <sub>2</sub>	40	#5	4-3	-							b <sub>2</sub>	64	#4	37-0	-											
h <sub>7</sub>	4	#5	25-6	-						d <sub>3</sub>	64	#5	4-6	1	6	4-0					b <sub>3</sub>	48	#4	29-0	-											
h <sub>8</sub>	4	#5	31-6	-						d <sub>4</sub>	6	#4	10-0	14	1-6	3-6	5-0	2-9			b <sub>4</sub>	64	#4	10-9	-											
h <sub>9</sub>	16	#9	8-0	4	4-0	1-6	4-0			t <sub>1</sub>	126	#4	15-9	6	2-3	3-6	3-0	6			b <sub>5</sub>	124	#5	4-6	7	2-6	8	1-0								
h <sub>10</sub>	32	#5	28-6	-						t <sub>2</sub>	298	#4	4-6	2	1-6	1-6	1-6				b <sub>6</sub>	192	#6	29-0	-											
h <sub>11</sub>	20	#10	20-3	-						t <sub>3</sub>	128	#4	4-4	3	6	1-3	11	1-8			b <sub>7</sub>	720	#5	29-0	-											
V <sub>1</sub>	128	#7	14-9	-						t <sub>4</sub>	6	#4	6-0	2	4-6	9	9				PILE CAP (2)															
d <sub>1</sub>	128	#7	6-0	1	6	5-6				t <sub>5</sub>	6	#4	4-6	2	3-0	9	9				32	#8	44-0	-												
d <sub>2</sub>	240	#6	6-6	1	6	6'0"				t <sub>6</sub>	4	#4	5-4	2	6	2-5	2-5				180	#4	5-3	13	1-3	10 1/2	6									
c <sub>1</sub>	40	#4	8-3	2	2-9	2-9	2-9			t <sub>7</sub>	4	#4	7-4	2	6	3-5	3-5																			
c <sub>2</sub>	172	#4	5-3	2	2-9	1-3	1-3			t <sub>8</sub>	8	#4	6-9	3	6	2-6	9	3-0																		
c <sub>3</sub>	352	#4	9-0	2	1-6	3-9	3-9			t <sub>9</sub>	22	#4	3-4	5	11	1-5	1																			
c <sub>4</sub>	176	#4	9-9	13	2-3	2-3	4 1/2			t <sub>10</sub>	4	#4	8-6	2	3-0	2-9	2-9																			
c <sub>5</sub>	20	#5	7-2	12	1-6	1-4	4-2	2-9		t <sub>11</sub>	6	#4	7-0	2	1-6	2-9	2-9																			
c <sub>6</sub>	68	#4	14-9	13	2-9	4-3	4 1/2			t <sub>12</sub>	4	#4	7-10	2	2-4	2-9	2-9																			
f <sub>1</sub>	36	#5	31-6	-						t <sub>13</sub>	14	#4	6-6	2	1-0	2-9	2-9																			
z <sub>1</sub>	124	#6	7-9	-						f <sub>1</sub>	98	#5	13-0	-																						
										f <sub>2</sub>	8	#5	9-9	-																						
										w <sub>1</sub>	44	#5	5-9	-																						
PIERS 2E4				ABUTMENT 2E4																																
h <sub>1</sub>	16	#9	27-6	-						h <sub>1</sub>	16	#6	35-0	-																						
h <sub>2</sub>	16	#9	16-3	-						h <sub>2</sub>	16	#4	35-0	-																						
h <sub>3</sub>	8	#9	23-6	-						h <sub>3</sub>	16	#4	37-0	-																						
h <sub>4</sub>	20	#9	29-6	-						h <sub>4</sub>	24	#6	37-0	-																						
h <sub>5</sub>	8	#5	27-6	-						h <sub>5</sub>	32	#4	33-0	-																						
h <sub>6</sub>	8	#5	33-6	-						h <sub>6</sub>	64	#4	7-9	9	7-9	10-3																				
h <sub>7</sub>	4	#5	25-6	-						h <sub>7</sub>	8	#4	8-0	10	7-9	10-3	11-5 1/2	2-6	1-6																	
h <sub>8</sub>	4	#5	31-6	-						h <sub>8</sub>	8	#4	5-3	9	5-3	10-3																				
h <sub>9</sub>	18	#9	8-0	4	4-0	1-6	4-0			h <sub>9</sub>	56	#4	6-0	-																						
h <sub>10</sub>	32	#5	28-6	-						h <sub>10</sub>	4	#4	11-3	8	8-6	2-9	12-5	1-8																		
h <sub>11</sub>	20	#10	20-3	-						h <sub>11</sub>	4	#4	6-6	9	6-6	10-11																				
V <sub>1</sub>	128	#7	14-9	-						h <sub>12</sub>	4	#4	6-6	8	3-9	2-9	12-5	1-8																		
d <sub>1</sub>	128	#7	6-0	1	6	5-6				h <sub>13</sub>	4	#4	5-0	9	5-0	10-11																				
d <sub>2</sub>	240	#6	6-6	1	6	6'0"				h <sub>14</sub>	16	#4	30-0	-																						
c <sub>1</sub>	40	#4	8-3	2	2-9	2-9	2-9			V <sub>1</sub>	260	#4	4-3	-																						
c <sub>2</sub>	172	#4	5-3	2	2-9	1-3	1-3			V <sub>2</sub>	18	#4	3-9	-																						
c <sub>3</sub>	352	#4	9-0	2	1-6	3-9	3-9			V <sub>3</sub>	64	#5	8-3	-																						
c <sub>4</sub>	176	#4	9-9	13	2-3	2-3	4 1/2			V <sub>4</sub>	32	#5	6-0	-																						
c <sub>5</sub>	20	#5	7-2	12	1-6	1-4	4-2	2-9		V <sub>5</sub>	8	#4	7-3	4	3-9	1-6	3-6																			
c <sub>6</sub>	68	#4	14-9	13	2-9	4-3	4 1/2			d <sub>1</sub>	142	#4	2-9	-																						
f <sub>1</sub>	36	#5	31-6	-						d <sub>2</sub>	40	#5	4-3	-																						
z <sub>1</sub>	124	#6	7-9	-						d <sub>3</sub>	64	#5	4-6	1	6	4-0																				
										d <sub>4</sub>	6	#4	10-0	14	1-6	3-6	5-0	2-9																		
ABUTMENT 1E3				ELEVATION																																
h <sub>1</sub>	16	#6	35-0	-						PLAN																										
h <sub>2</sub>	16	#4	35-0	-						DETAIL 10																										
h <sub>3</sub>	16	#4	37-0	-						DETAIL 11																										
h <sub>4</sub>	24	#6	37-0	-						DETAIL 12																										
h <sub>5</sub>	32	#4	33-0	-						DETAIL 13																										
h <sub>6</sub>	64	#4	7-9	9	7-9	10-3				DETAIL 14																										
h <sub>7</sub>	8	#4	8-0	10	7-9	10-3	11-5 1/2	2-6	1-6																											
h <sub>8</sub>	8	#4	5-3	9	5-3	10-3																														
h <sub>9</sub>	56	#4	6-0	-																																
h <sub>10</sub>	4	#4	11-3	8	8-6	2-9	12-5	1-8																												
h <sub>11</sub>	4	#4	6-6	9	6-6	10-11																														
h <sub>12</sub>	4	#4	6-6	8	3-9	2-9	12-5	1-8																												
h <sub>13</sub>	4	#4	5-0	9	5-0	10-11																														
h <sub>14</sub>	16	#4	30-0	-																																



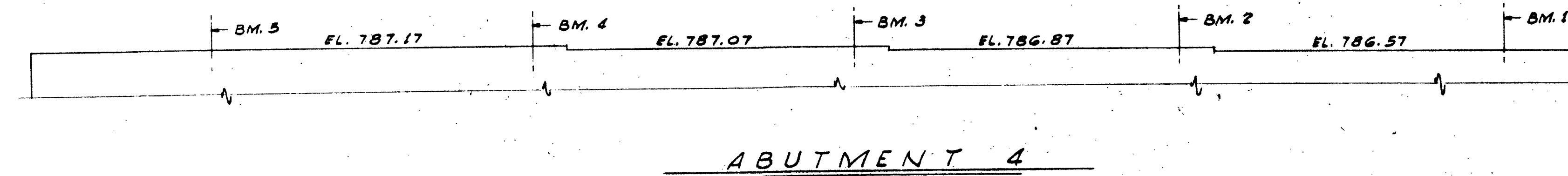
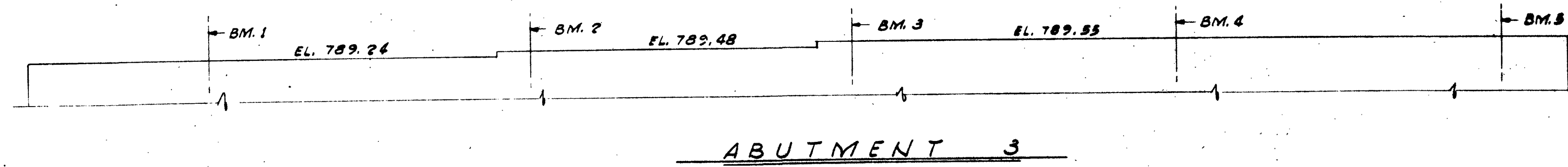
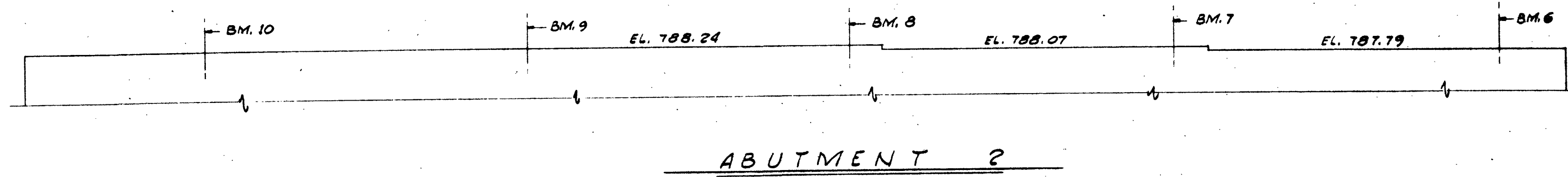
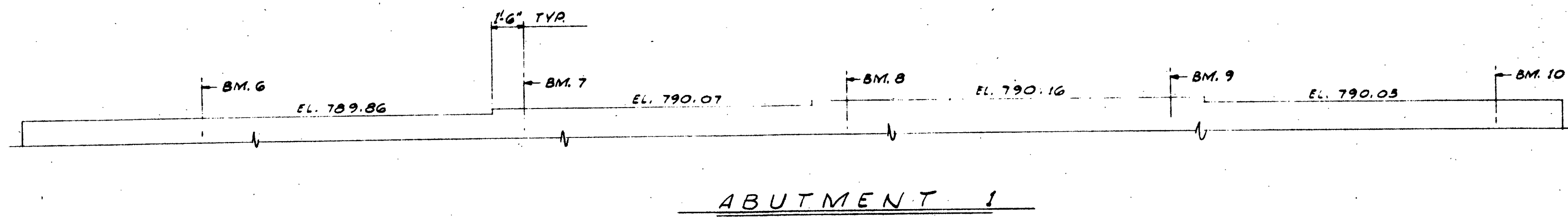
ILLINOIS DIVISION OF HIGHWAYS  
ROCKFORD BYPASS

F. A. ROUTE 194  
PROJECT SECTION 4V1  
WINNEBAGO COUNTY

REINFORCING SCHEDULE

Designed By: \_\_\_\_\_ Drawn By: J.M.G. Checked By: J.P.S.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 194	4VB-1	WINNEBAGO	19	14
STA.		TO STA.		PROJ.
FED. ROAD DIST. NO. 7 ILLINOIS				



ILLINOIS DIVISION OF HIGHWAYS  
 ROCKFORD BYPASS  
 F. A. ROUTE 194  
 PROJECT \_\_\_\_\_ SECTION 4VB1  
 WINNEBAGO COUNTY  
**BRIDGE SEAT DETAILS**  
 Designed By: \_\_\_\_\_ Drawn By: J.D.MF Checked By: RRG

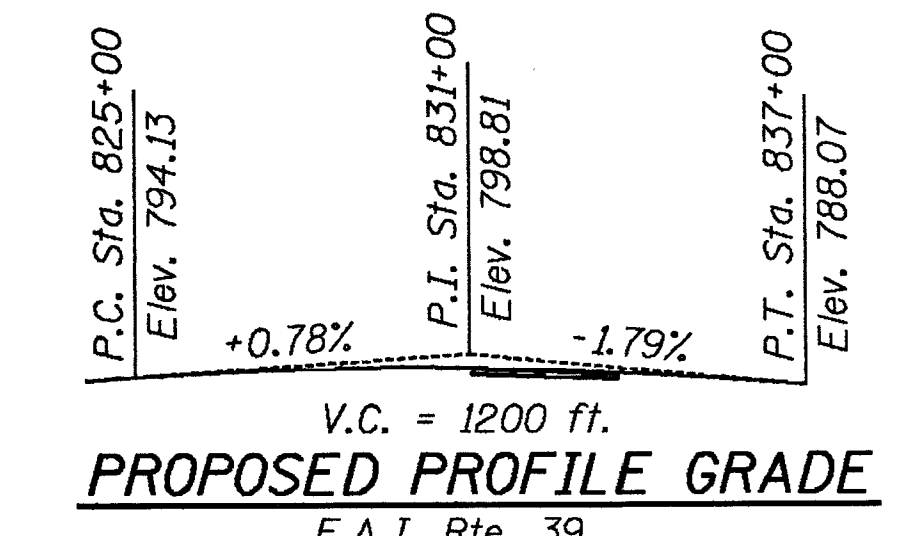
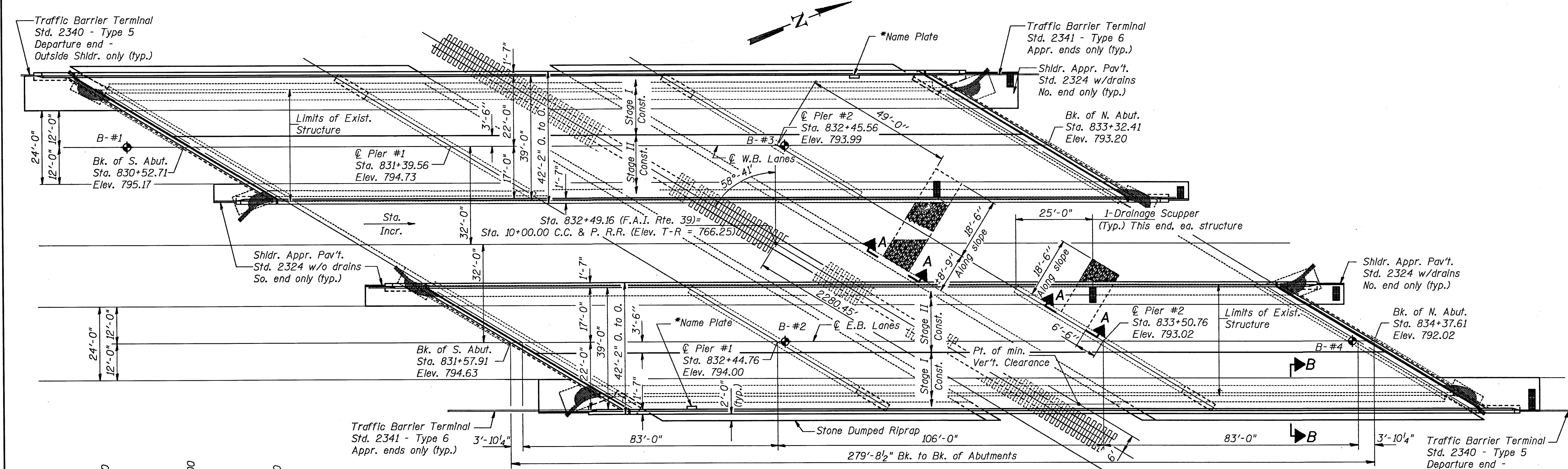
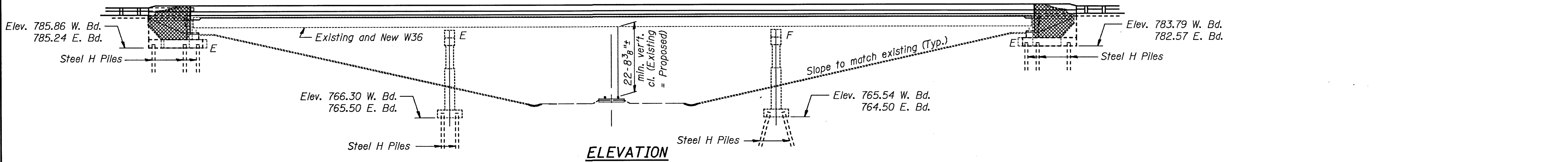


Bench Mark: Chisled "□" in N.E. wingwall W.B. structure #101-0069  
Elev. 792.71

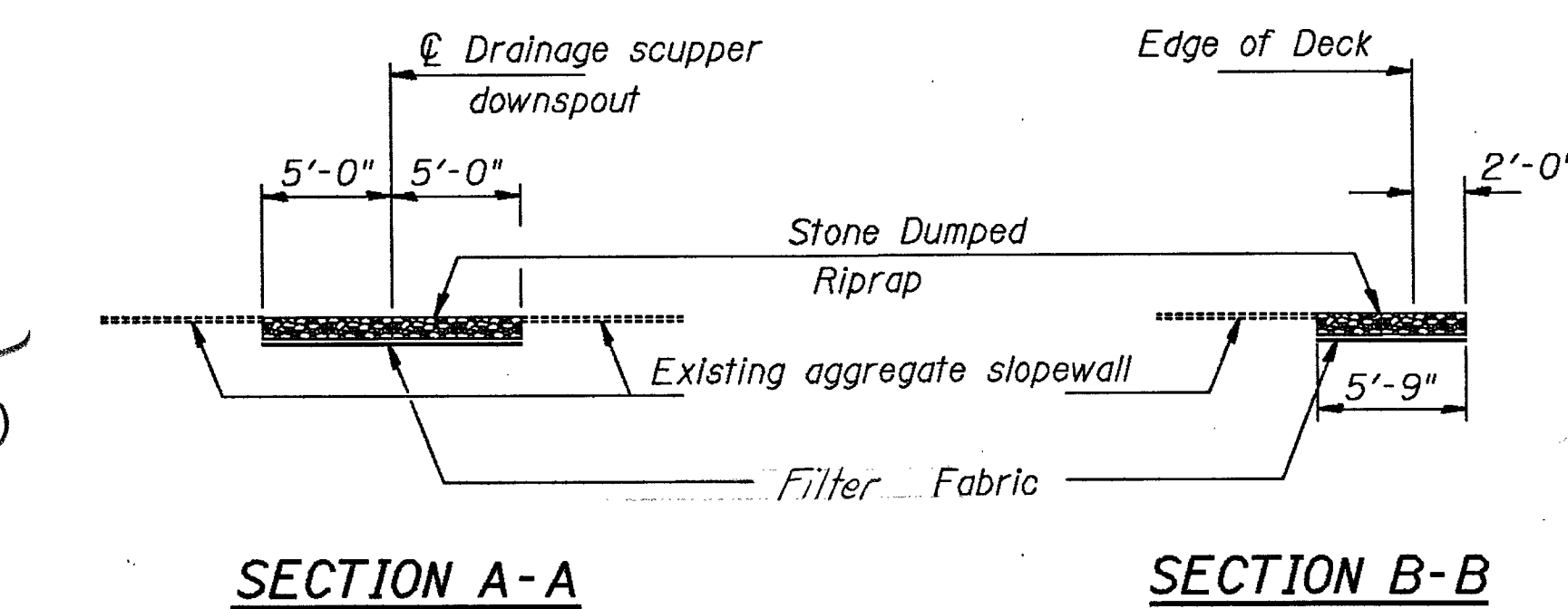
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A.I. 39	4VBY-1	WINNEBAGO	171	80	27 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT-	

Existing Structure: #101-0069 & #101-0070 are 279'-8 1/2" Bk. to Bk. of Abutments with a 35'-8" Out to Out of Deck.  
Built as F.A. Rte. 194, Section 4-VB-1 at Sta. 832+49.16 in 1963. The traffic shall be maintained during the rehabilitation of the existing structures utilizing stage construction.

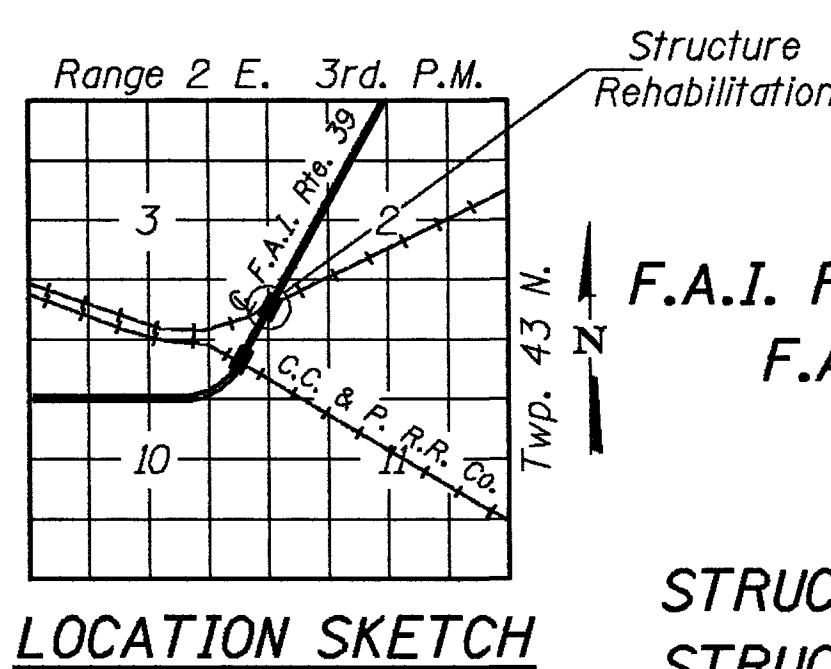


\* Existing name plates shall be removed cleaned and relocated adjacent to new Name Plates. Cost incidental.



PLAN

**DESIGN SPECIFICATIONS**  
AASHTO (1983) and applicable Interims (1984, thru 1988)  
**LOADING HS 20-44 & Alt.**  
**DESIGN STRESSES**  
FIELD UNITS  
f'c = 3,500 psi (Superstr.)  
f'c = 1,400 psi (Substr.)  
fy = 60,000 psi (Reinf. Superstr.)  
fs = 24,000 psi (Reinf. Substr.)  
fs = 20,000 psi (Struct. New)  
fs = 18,000 psi (Struct. Existing)



GENERAL PLAN  
F.A.I. ROUTE 39 OVER C. & N.W. R.R.  
F.A.I.-39 SECTION 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16  
STRUCTURE NUMBER 101-0069 (W.B.)  
STRUCTURE NUMBER 101-0070 (E.B.)

DESIGNED <i>Kath J. Kelly</i>	EXAMINED <i>Greg J. Kaspar</i>	1990
CHECKED <i>P.W.S.</i>	PASSED <i>Ralph E. Anderson</i>	
DRAWN <i>J.T.D.</i>	APPROVED	
CHECKED <i>YQH</i>		

MAY 3 1990

DIRECTOR OF HIGHWAYS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

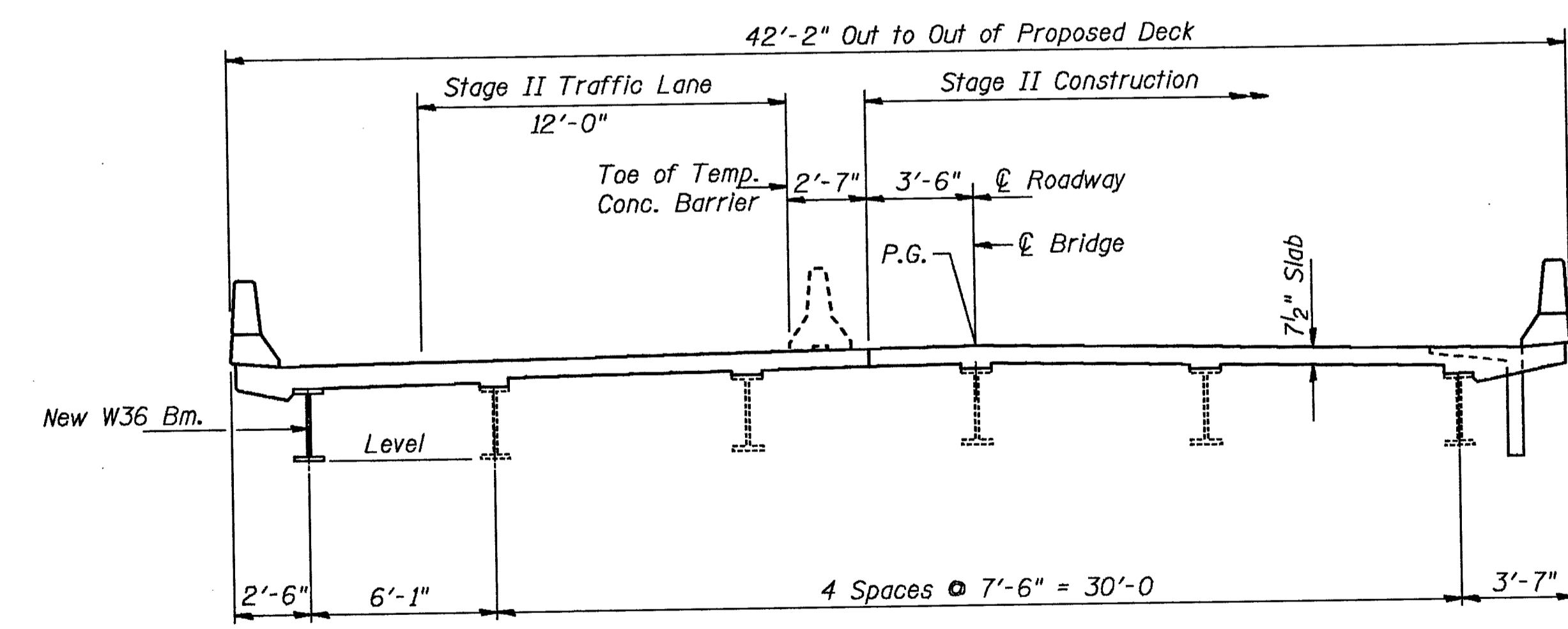
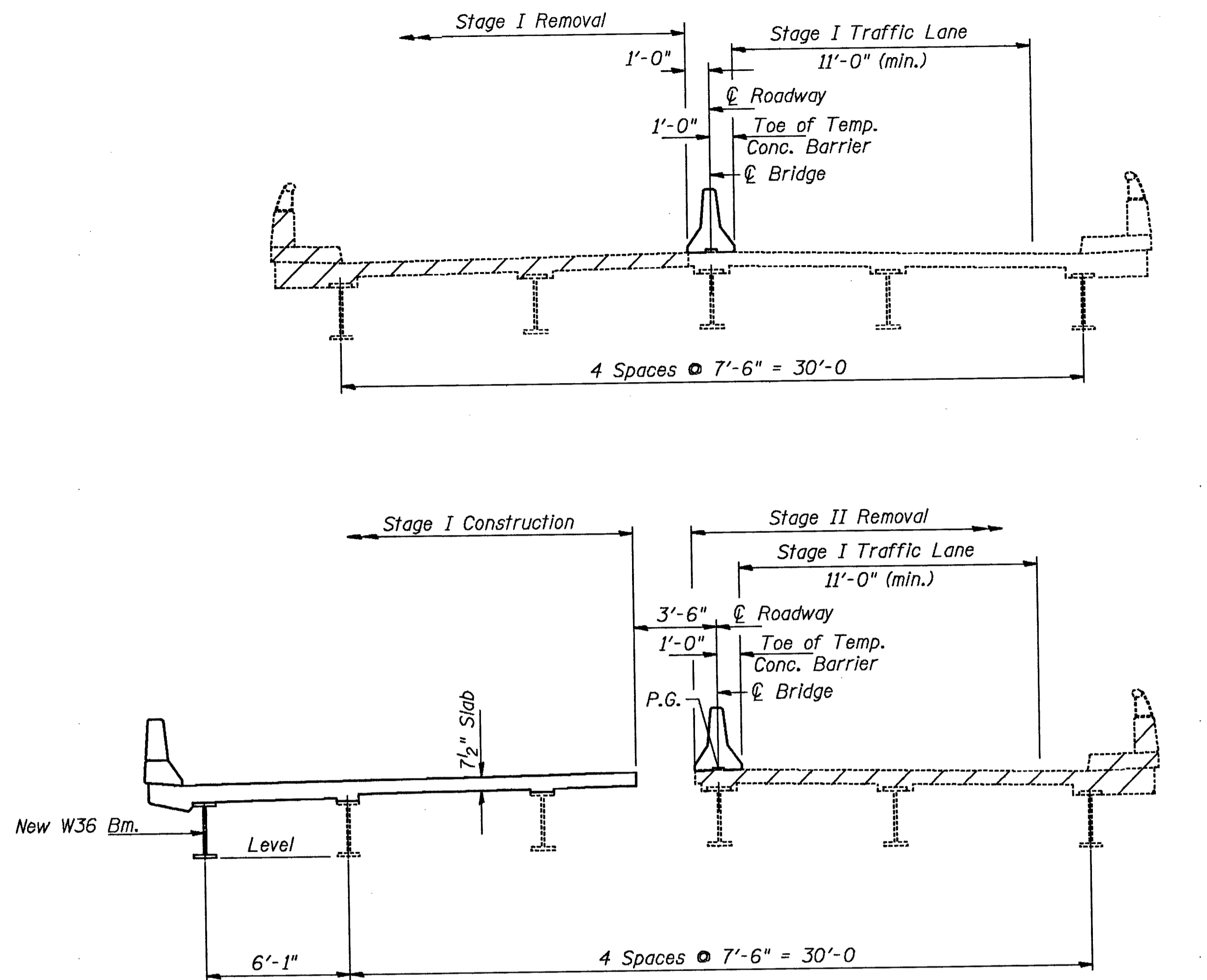
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
39	4VBY-1	WINNEBAGO	171	81
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

27 SHEETS

GENERAL NOTES

See Proposal for Boring Data.  
Fasteners shall be high strength bolts. Bolts  $\frac{7}{8}$ " $\phi$ , open holes  $\frac{15}{16}$ " $\phi$ , unless otherwise noted.  
Calculated weight of Structural Steel = 166,780 Lbs.  
The three coat lead and chromate free alkyd paint system shall be used for shop and field painting of New Structural Steel. The color of the final finish coat shall be Munsell 7.5G 4/8 Interstate Green.  
See Special Provisions for cleaning and painting steel structures. Cleaning shall be by Method I except as otherwise specified. The three coat lead and chromate free alkyd paint system shall be used for field painting of Existing Structural Steel. The color of the final finish coat shall be Munsell 7.5G 4/8 Interstate Green.  
All contact surface areas of new and existing structural steel shall be free of paint or lacquer.  
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.  
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the New wide flange beams and all splice plate material for these wide flange beams.  
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.  
Plan dimensions and details relative to 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 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 the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
Anchor bolts shall be set before bolting diaphragms over supports.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and  $\frac{3}{4}$ " $\phi$  x 12" hooked bolts.  
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of  $\frac{1}{8}$  inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two  $\frac{1}{8}$ " adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.  
The contractor shall drive Two Steel HP 8x36 test piles in a permanent location at So. Abut. E. Bd. and Pier 2 W. Bd. as directed by the Engineer before ordering the remainder of piles.  
The concrete, for bridge floors finished in accordance with Article 503.15 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of the bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screeding the concrete.  
The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted.  
Bridge Seat Sealer shall be applied to the seat area of the abutments. Est. Quantity = 792 Sq. Ft.



STAGE REMOVAL AND CONSTRUCTION  
(Looking North West Bd. Lanes)  
(Looking South East Bd. Lanes)

STATION 832+49.16  
REBUILT BY  
STATE OF ILLINOIS  
F.A.I. RT. 39 SECTION 4 VBY-1  
  
LOADING HS20  
STR. NO. 101-0069 (W.B.)  
STR. NO. 101-0070 (E.B.)  
  
NAME PLATE  
See Std. 2.113

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		60.49.3	60.49.3
Expansion Bolts $\frac{3}{4}$ "	Each		184.256	184.256
Removal of Existing Concrete Deck	Each	2		2
Structure Excavation	Cu. Yd.		327	327
Class X Concrete Superstructure	Cu. Yd.	742.474.4		742.474.4
Protective Coat	Sq. Yd.	486		486
Elastomeric Bearing Assembly Type I	Each	12		12
Elastomeric Bearing Assembly Type II	Each	12		12
Class X Concrete	Cu. Yd.		186.8	186.8
Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	7104		7104
Reinforcement Bars	Pound		1580	1580
Reinforcement Bars, Epoxy Coated	Pound	174340	19300	193640
Steel Piles HP8 x 36	Lin. Ft.		515.271	515.271
Test Pile Steel HP8x36	Each		2	2
Name Plates	Each	2		2
Stone Dumped Riprap Class A3	Sq. Yd.			334.81
Bridge Seat Sealer	L.S.		1	1
Drainage Scuppers	Each	2		2
Neoprene Expansion Joint 2"	Lin. Ft.	163		163
Neoprene Expansion Joint 2 1/2"	Lin. Ft.	163		163
Filter Fabric for use with Riprap	Sq. Yd.			334.81
Cleaning and Painting Steel Bridge	L.S.	1		1
Jack and Remove Existing Bearings	Each		20	20

DESIGNED: *Kurt J. Kelly*  
CHECKED: *L. Carl Meyer*  
DRAWN: J.T. Downing  
CHECKED: *JGH* *DGP*  
  
EXAMINED: *Greg J. Kaspar*  
PASSED: *Ralph E. Anderson*  
APPROVED: \_\_\_\_\_  
MAY 3 1990  
DIRECTOR OF HIGHWAYS

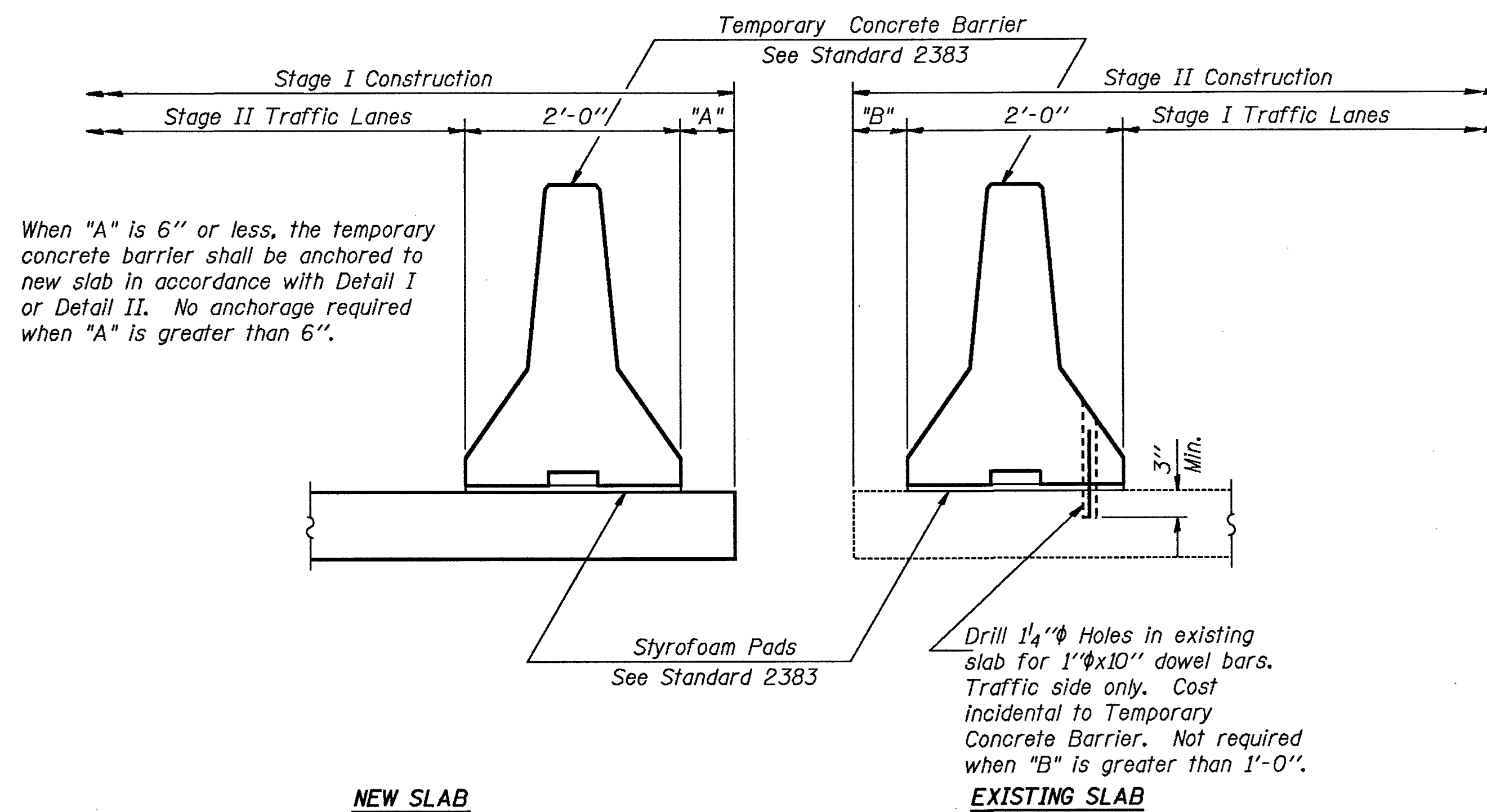
GENERAL DATA  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16



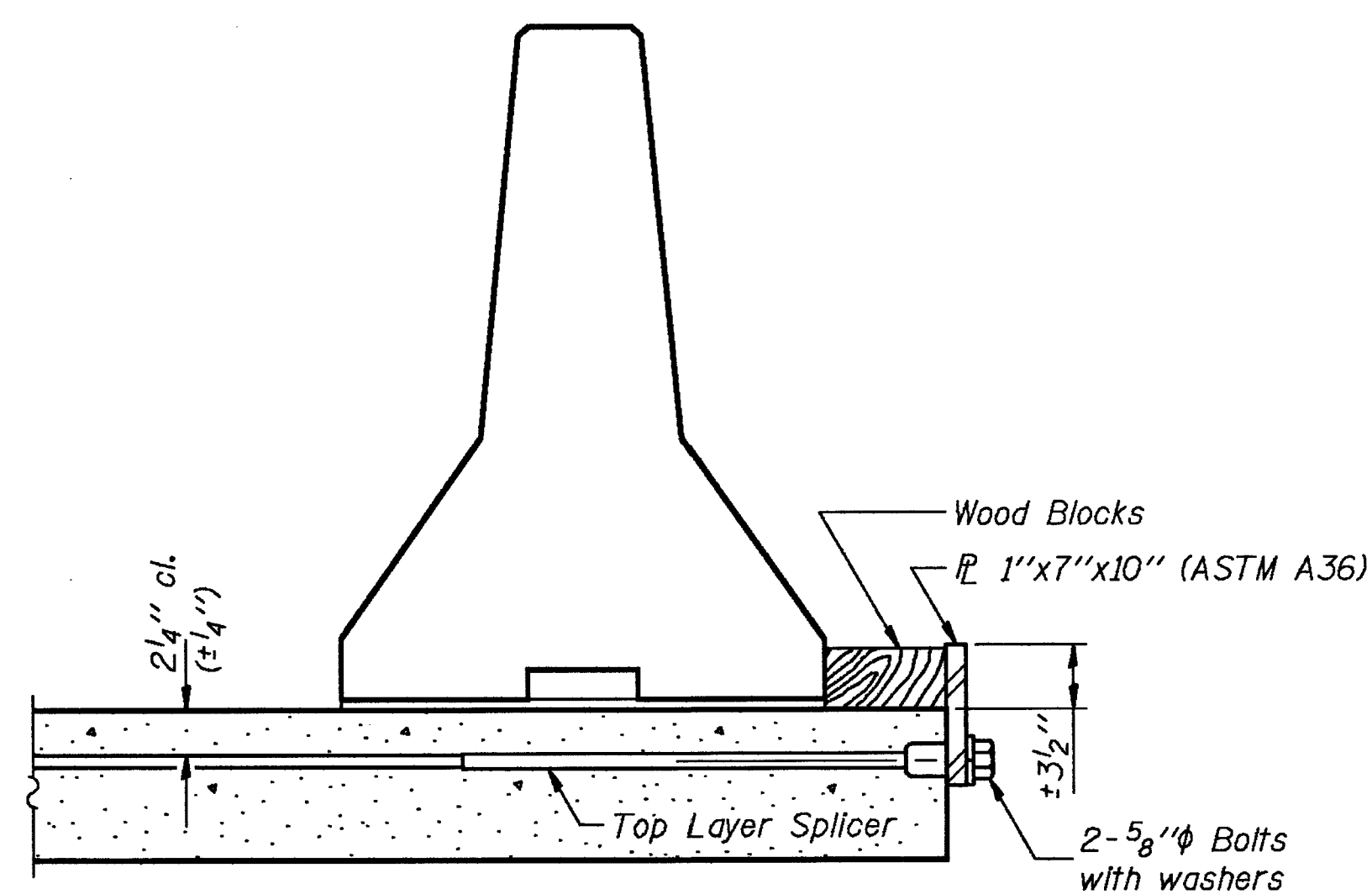
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 39	4VBY-1	WINNEBAGO	171	82
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3  
27 SHEETS

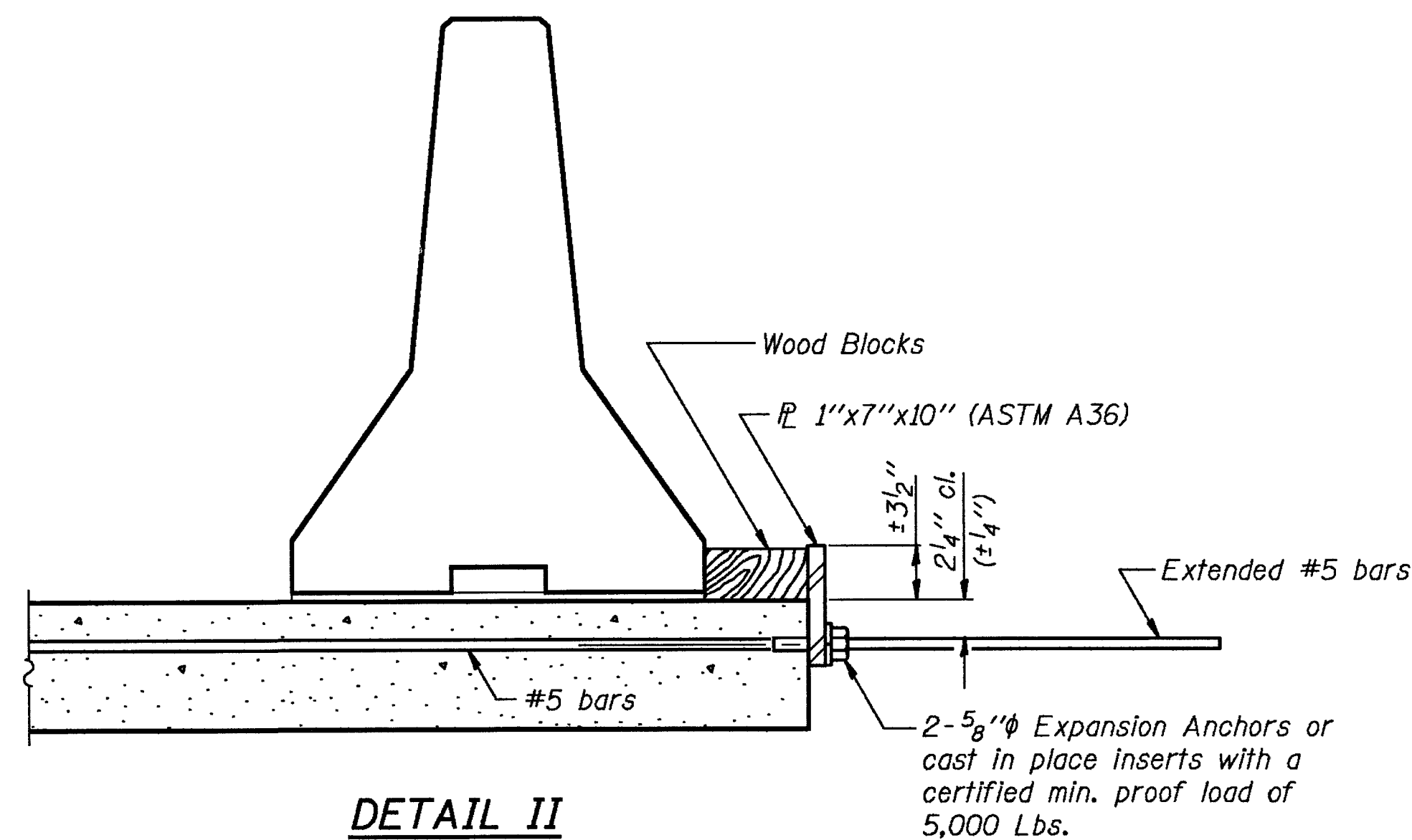


SECTION THRU SLAB



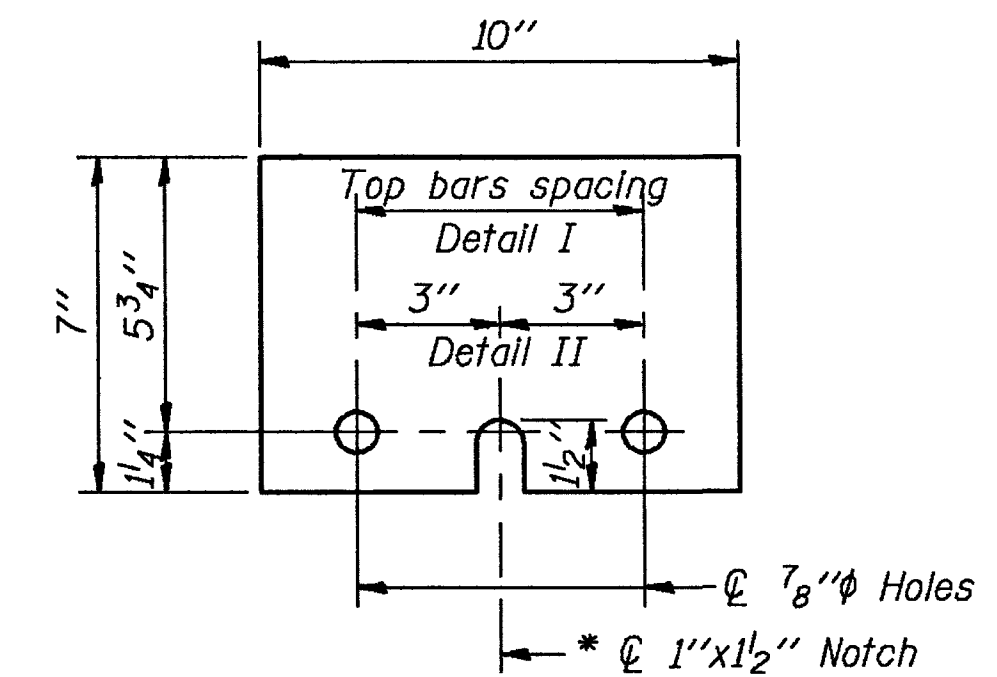
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" 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.



1"x7"x10"

\* Required only with Detail II

- NOTES**
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8"φ bolts screwed to coupler at approximate C of each 10'-0" barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel PL to the concrete slab with 2-5/8"φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each 10'-0" barrier panel.
- Cost of anchorage is incidental to Temporary Concrete Barrier.

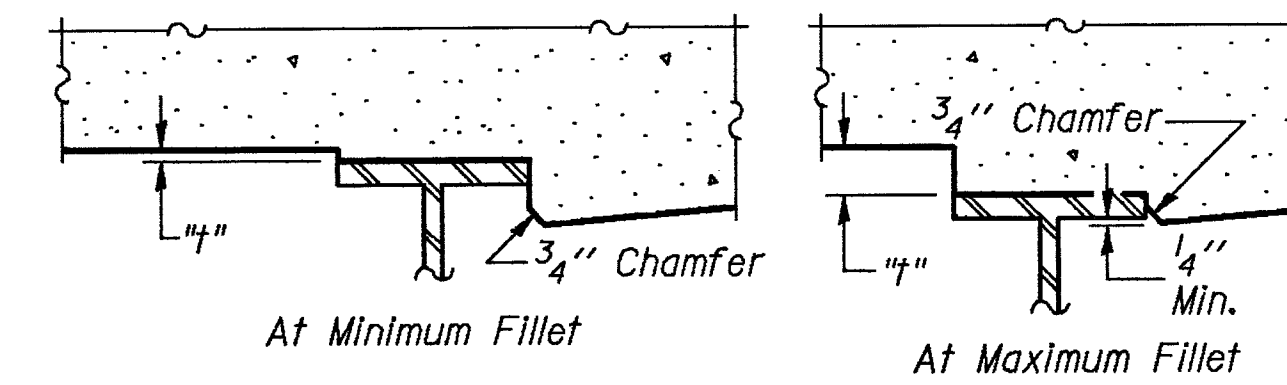
DESIGNED <i>Kath. J. Hill</i>	EXAMINED <i>May 3 1990</i>
CHECKED <i>S. Carl Papp</i>	PASSED <i>Greg J. Kaspar</i> ENGINEER OF BRIDGE DESIGN
DRAWN <i>J.T. Downing</i>	APPROVED <i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
CHECKED <i>M.H. DCP</i>	DIRECTOR OF HIGHWAYS

R-27 6-1-89

TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

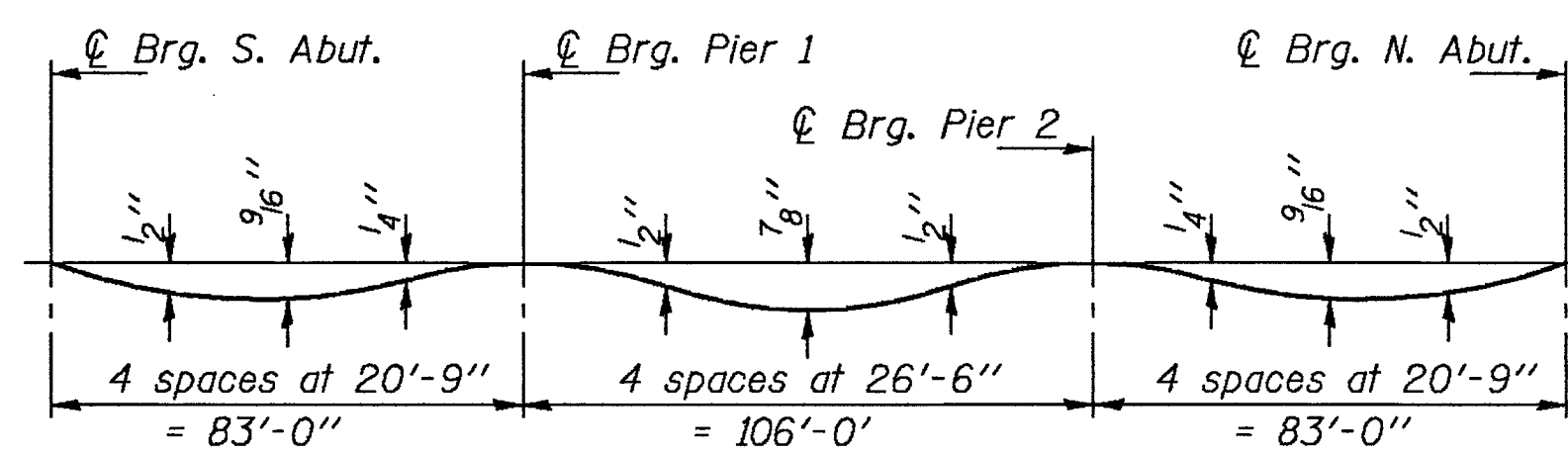
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 4
F.A. 39	4VBY-1	WINNEBAGO	171	83	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

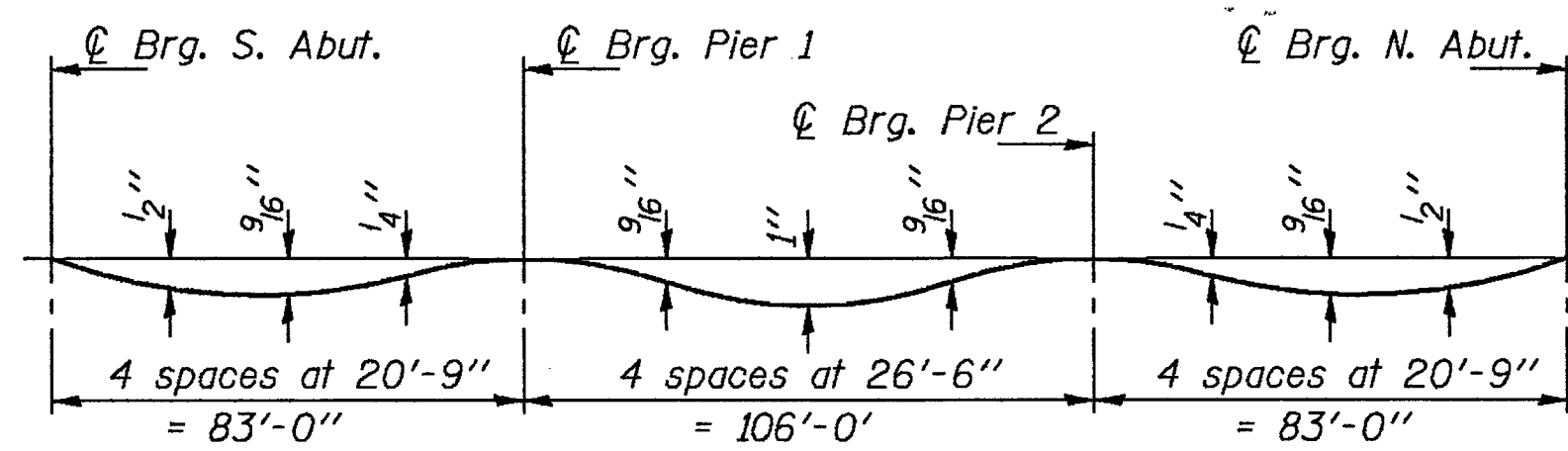


To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



EXISTING BEAMS #2 THRU #6

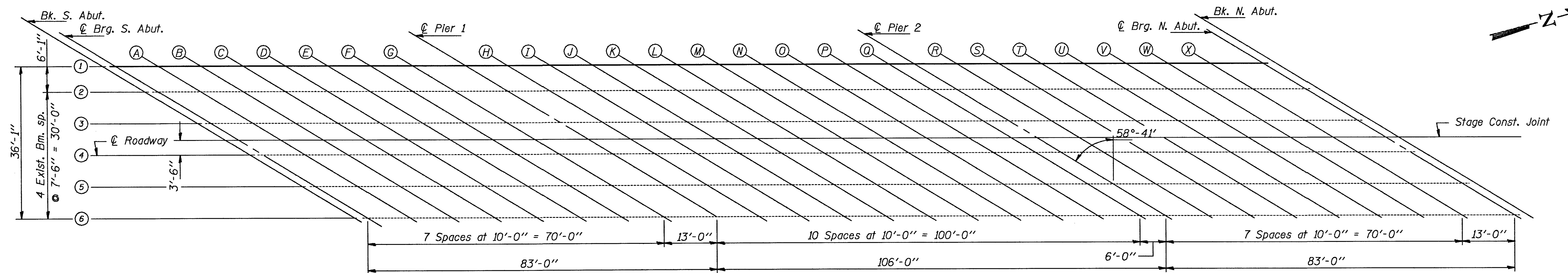


NEW BEAM #1

**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



**WEST BD. LANES**

**BEAM LAYOUT**

DESIGNED	Walter J. Hill
CHECKED	E. Carl Pugh
DRAWN	J.T. Downing
CHECKED	J.P.H. DCP

EXAMINED	May 3 1992 Craig J. Kaspar ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED	DIRECTOR OF HIGHWAYS

WEST BOUND LANES  
TOP OF SLAB ELEVATIONS  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5
F.A. 39	4VBY-1	WINNEBAGO	171	84	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

**BEAM #1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83018.060	-53.083	794.920	794.920
€ Brg. S. Abut.	83021.915	-53.083	794.908	794.908
A	83031.915	-53.083	794.873	794.892
B	83041.915	-53.083	794.836	794.875
C	83051.915	-53.083	794.797	794.841
D	83061.915	-53.083	794.757	794.803
E	83071.915	-53.083	794.712	794.749
F	83081.915	-53.083	794.666	794.690
G	83091.915	-53.083	794.619	794.632
€ Pier 1	83104.915	-53.083	794.553	794.553
H	83114.915	-53.083	794.501	794.519
I	83124.915	-53.083	794.446	794.481
J	83134.915	-53.083	794.389	794.440
K	83144.915	-53.083	794.330	794.394
L	83154.915	-53.083	794.269	794.346
M	83164.915	-53.083	794.206	794.277
N	83174.915	-53.083	794.140	794.199
O	83184.915	-53.083	794.073	794.118
P	83194.915	-53.083	794.003	794.031
Q	83204.915	-53.083	793.931	793.941
€ Pier 2	83210.915	-53.083	793.887	793.887
R	83220.915	-53.083	793.811	793.822
S	83230.915	-53.083	793.734	793.754
T	83240.915	-53.083	793.654	793.688
U	83250.915	-53.083	793.573	793.619
V	83260.915	-53.083	793.489	793.534
W	83270.915	-53.083	793.403	793.444
X	83280.915	-53.083	793.314	793.340
€ Brg. N. Abut.	83293.915	-53.083	793.197	793.197
Bk. N. Abut.	83297.769	-53.083	793.161	793.161

**BEAM #2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83028.059	-47.000	795.013	795.013
€ Brg. S. Abut.	83031.913	-47.000	794.999	794.999
A	83041.913	-47.000	794.962	794.982
B	83051.913	-47.000	794.923	794.963
C	83061.913	-47.000	794.882	794.926
D	83071.913	-47.000	794.838	794.886
E	83081.913	-47.000	794.793	794.829
F	83091.913	-47.000	794.745	794.768
G	83101.913	-47.000	794.695	794.708
€ Pier 1	83114.913	-47.000	794.627	794.627
H	83124.913	-47.000	794.573	794.588
I	83134.913	-47.000	794.516	794.546
J	83144.913	-47.000	794.457	794.501
K	83154.913	-47.000	794.395	794.452
L	83164.913	-47.000	794.332	794.400
M	83174.913	-47.000	794.267	794.330
N	83184.913	-47.000	794.199	794.250
O	83194.913	-47.000	794.129	794.168
P	83204.913	-47.000	794.057	794.081
Q	83214.913	-47.000	793.983	793.992
€ Pier 2	83220.913	-47.000	793.938	793.938
R	83230.913	-47.000	793.860	793.870
S	83240.913	-47.000	793.781	793.800
T	83250.913	-47.000	793.699	793.731
U	83260.913	-47.000	793.615	793.661
V	83270.913	-47.000	793.529	793.574
W	83280.913	-47.000	793.441	793.483
X	83290.913	-47.000	793.351	793.377
€ Brg. N. Abut.	83303.913	-47.000	793.230	793.230
Bk. N. Abut.	83307.768	-47.000	793.194	793.194

**BEAM #3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83040.386	-39.500	795.101	795.101
€ Brg. S. Abut.	83044.241	-39.500	795.086	795.086
A	83054.241	-39.500	795.046	795.066
B	83064.241	-39.500	795.005	795.045
C	83074.241	-39.500	794.961	795.005
D	83084.241	-39.500	794.915	794.962
E	83094.241	-39.500	794.866	794.903
F	83104.241	-39.500	794.816	794.839
G	83114.241	-39.500	794.764	794.776
€ Pier 1	83127.241	-39.500	794.692	794.692
H	83137.241	-39.500	794.635	794.650
I	83147.241	-39.500	794.575	794.605
J	83157.241	-39.500	794.514	794.558
K	83167.241	-39.500	794.450	794.506
L	83177.241	-39.500	794.384	794.452
M	83187.241	-39.500	794.316	794.379
N	83197.241	-39.500	794.247	794.297
O	83207.241	-39.500	794.173	794.212
P	83217.241	-39.500	794.098	794.122
Q	83227.241	-39.500	794.022	794.031
€ Pier 2	83233.241	-39.500	793.975	793.975
R	83243.241	-39.500	793.895	793.904
S	83253.241	-39.500	793.812	793.831
T	83263.241	-39.500	793.728	793.760
U	83273.241	-39.500	793.641	793.687
V	83283.241	-39.500	793.553	793.598
W	83293.241	-39.500	793.462	793.504
X	83303.241	-39.500	793.369	793.395
€ Brg. N. Abut.	83316.241	-39.500	793.245	793.245
Bk. N. Abut.	83320.095	-39.500	793.207	793.207

**STAGE CONSTRUCTION JT.**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83046.961	-35.500	795.138	795.138
€ Brg. S. Abut.	83050.815	-35.500	795.123	795.123
A	83060.815	-35.500	795.082	795.102
B	83070.815	-35.500	795.038	795.079
C	83080.815	-35.500	794.993	795.037
D	83090.815	-35.500	794.946	794.993
E	83100.815	-35.500	794.896	794.932
F	83110.815	-35.500	794.844	794.867
G	83120.815	-35.500	794.790	794.803
€ Pier 1	83133.815	-35.500	794.717	794.717
H	83143.815	-35.500	794.658	794.673
I	83153.815	-35.500	794.597	794.627
J	83163.815	-35.500	794.534	794.578
K	83173.815	-35.500	794.469	794.525
L	83183.815	-35.500	794.402	794.470
M	83193.815	-35.500	794.332	794.395
N	83203.815	-35.500	794.260	794.312
O	83213.815	-35.500	794.187	794.226
P	83223.815	-35.500	794.111	794.135
Q	83233.815	-35.500	794.033	794.042
€ Pier 2	83239.815	-35.500	793.985	793.985
R	83249.815	-35.500	793.903	793.913
S	83259.815	-35.500	793.820	793.839
T	83269.815	-35.500	793.734	793.766
U	83279.815	-35.500	793.646	793.691
V	83289.815	-35.500	793.556	793.601
W	83299.815	-35.500	793.463	793.506
X	83309.815	-35.500	793.369	793.395
€ Brg. N. Abut.	83322.815	-35.500	793.243	793.243
Bk. N. Abut.	83326.669	-35.500	793.205	793.205

**BEAM #4 & € ROADWAY**

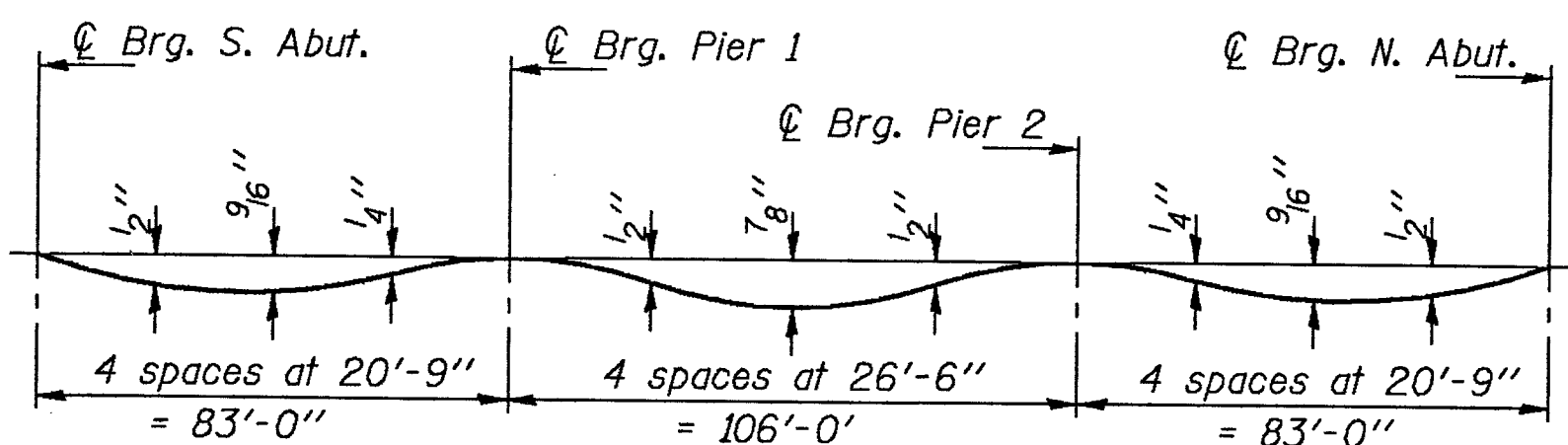
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83052.714	-32.000	795.170	795.170
€ Brg. S. Abut.	83056.568	-32.000	795.154	795.154
A	83066.568	-32.000	795.112	795.132
B	83076.568	-32.000	795.067	795.107
C	83086.568	-32.000	795.021	795.065
D	83096.568	-32.000	794.972	795.019
E	83106.568	-32.000	794.921	794.957
F	83116.568	-32.000	794.868	794.891
G	83126.568	-32.000	794.813	794.825
€ Pier 1	83139.568	-32.000	794.738	794.738
H	83149.568	-32.000	794.678	794.693
I	83159.568	-32.000	794.616	794.646
J	83169.568	-32.000	794.552	794.596
K	83179.568	-32.000	794.485	794.541
L	83189.568	-32.000	794.416	794.485
M	83199.568	-32.000	794.346	794.409
N	83209.568	-32.000	794.273	794.324
O	83219.568	-32.000	794.198	794.237
P	83229.568	-32.000	794.121	794.145
Q	83239.568	-32.000	794.041	794.050
€ Pier 2	83245.568	-32.000	793.993	793.993
R	83255.568	-32.000	793.910	793.919
S	83265.568	-32.000	793.825	793.844
T	83275.568	-32.000	793.738	793.770
U	83285.568	-32.000	793.649	793.694
V	83295.568	-32.000	793.558	793.603
W	83305.568	-32.000	793.464	793.506
X	83315.568	-32.000	793.368	793.395
€ Brg. N. Abut.	83328.568	-32.000	793.241	793.241
Bk. N. Abut.	83332.422	-32.000	793.203	793.203

**BEAM #5**

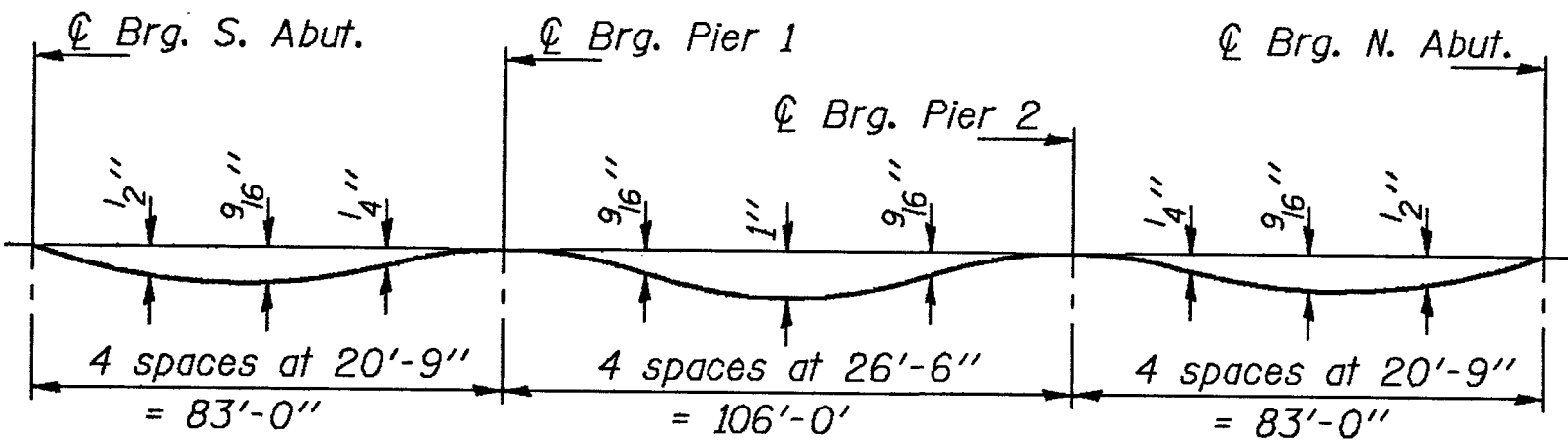
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83065.041	-24.500	795.001	795.001
€ Brg. S. Abut.	83068.895	-24.500	794.984	794.984
A	83078.895	-24.500	794.940	794.960
B	83088.895	-24.500	794.892	794.933
C	83098.895	-24.500	794.843	794.888
D	83108.895	-24.500	794.792	794.839
E	83118.895	-24.500	794.738	794.775
F	83128.895	-24.500	794.683	794.706
G	83138.895	-24.500	794.625	794.638
€ Pier 1	83151.895	-24.500	794.547	794.547
H	83161.895	-24.500	794.484	794.499
I	83171.895	-24.500	794.419	794.449
J	83181.895	-24.500	794.352	794.396
K	83191.895	-24.500	794.283	794.339
L	83201.895	-24.500	794.212	794.280
M	83211.895	-24.500	794.139	794.202
N	83221.895			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	JOB #	SHEET	SHEET NO. 6 27 SHEETS
S.R.L. F.A. 39	4VBY-1	WINNEBAGO	171	85	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



EXISTING BEAMS #7 THRU #11

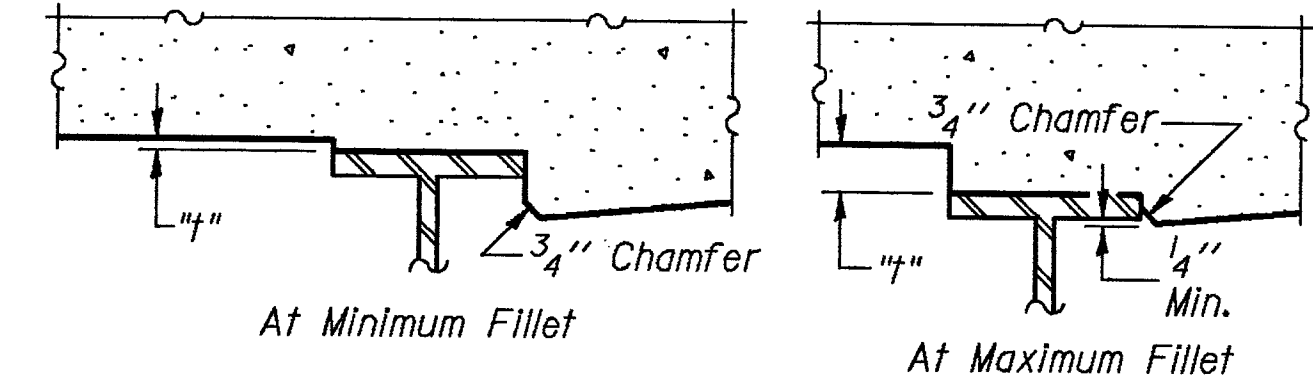


NEW BEAM #12

**DEAD LOAD DEFLECTION DIAGRAM**

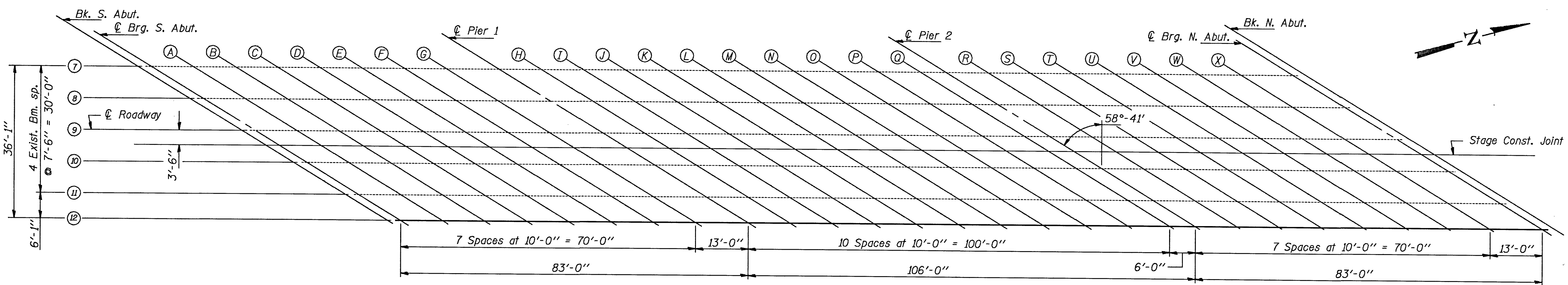
(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



To determine "h": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "h" above top flange of beams.

**FILLET HEIGHTS**



**EAST BD. LANES**

**BEAM LAYOUT**

DESIGNED <i>Walter J. Hilly</i>	EXAMINED <i>May 3 1990</i>
CHECKED <i>D. Carl Ray</i>	PASSED <i>Ralph E. Anderson</i>
DRAWN <i>J.T. Downing</i>	APPROVED _____
CHECKED <i>JGH DCP</i>	DIRECTOR OF HIGHWAYS

**EAST BOUND LANES  
TOP OF SLAB ELEVATIONS  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	4VBY-1	WINNEBAGO	171	86

SHEET NO. 7  
27 SHEETS

BEAM #7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83133.252	17.000	794.525	794.525
€ Brg. S. Abut.	83137.106	17.000	794.503	794.503
A	83147.106	17.000	794.443	794.464
B	83157.106	17.000	794.382	794.422
C	83167.106	17.000	794.318	794.362
D	83177.106	17.000	794.252	794.299
E	83187.106	17.000	794.184	794.220
F	83197.106	17.000	794.114	794.137
G	83207.106	17.000	794.041	794.054
€ Pier 1	83220.106	17.000	793.944	793.944
H	83230.106	17.000	793.867	793.882
I	83240.106	17.000	793.787	793.817
J	83250.106	17.000	793.706	793.750
K	83260.106	17.000	793.622	793.678
L	83270.106	17.000	793.536	793.604
M	83280.106	17.000	793.448	793.512
N	83290.106	17.000	793.358	793.409
O	83300.106	17.000	793.266	793.305
P	83310.106	17.000	793.171	793.195
Q	83320.106	17.000	793.075	793.084
€ Pier 2	83326.106	17.000	793.016	793.016
R	83336.106	17.000	792.916	792.925
S	83346.106	17.000	792.814	792.833
T	83356.106	17.000	792.709	792.742
U	83366.106	17.000	792.603	792.649
V	83376.106	17.000	792.494	792.540
W	83386.106	17.000	792.384	792.426
X	83396.106	17.000	792.271	792.297
€ Brg. N. Abut.	83409.106	17.000	792.121	792.121
Bk. N. Abut.	83412.960	17.000	792.076	792.076

BEAM #8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83145.579	24.500	794.585	794.585
€ Brg. S. Abut.	83149.433	24.500	794.562	794.562
A	83159.433	24.500	794.500	794.520
B	83169.433	24.500	794.435	794.476
C	83179.433	24.500	794.369	794.413
D	83189.433	24.500	794.300	794.348
E	83199.433	24.500	794.230	794.266
F	83209.433	24.500	794.157	794.180
G	83219.433	24.500	794.082	794.094
€ Pier 1	83232.433	24.500	793.981	793.981
H	83242.433	24.500	793.901	793.916
I	83252.433	24.500	793.819	793.849
J	83262.433	24.500	793.735	793.779
K	83272.433	24.500	793.649	793.705
L	83282.433	24.500	793.560	793.628
M	83292.433	24.500	793.468	793.533
N	83302.433	24.500	793.377	793.428
O	83312.433	24.500	793.282	793.321
P	83322.433	24.500	793.185	793.209
Q	83332.433	24.500	793.085	793.094
€ Pier 2	83338.433	24.500	793.025	793.025
R	83348.433	24.500	792.922	792.932
S	83358.433	24.500	792.817	792.837
T	83368.433	24.500	792.711	792.743
U	83378.433	24.500	792.601	792.647
V	83388.433	24.500	792.490	792.535
W	83398.433	24.500	792.377	792.419
X	83408.433	24.500	792.261	792.288
€ Brg. N. Abut.	83421.433	24.500	792.108	792.108
Bk. N. Abut.	83425.287	24.500	792.062	792.062

BEAM #9 & € ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83157.906	32.000	794.626	794.626
€ Brg. S. Abut.	83161.760	32.000	794.602	794.602
A	83171.760	32.000	794.537	794.557
B	83181.760	32.000	794.470	794.510
C	83191.760	32.000	794.401	794.445
D	83201.760	32.000	794.330	794.377
E	83211.760	32.000	794.257	794.293
F	83221.760	32.000	794.181	794.204
G	83231.760	32.000	794.103	794.116
€ Pier 1	83244.760	32.000	793.999	793.999
H	83254.760	32.000	793.917	793.932
I	83264.760	32.000	793.832	793.862
J	83274.760	32.000	793.745	793.789
K	83284.760	32.000	793.656	793.712
L	83294.760	32.000	793.565	793.633
M	83304.760	32.000	793.472	793.535
N	83314.760	32.000	793.376	793.427
O	83324.760	32.000	793.279	793.318
P	83334.760	32.000	793.179	793.203
Q	83344.760	32.000	793.077	793.086
€ Pier 2	83350.760	32.000	793.015	793.015
R	83360.760	32.000	792.910	792.919
S	83370.760	32.000	792.802	792.821
T	83380.760	32.000	792.693	792.725
U	83390.760	32.000	792.581	792.627
V	83400.760	32.000	792.467	792.512
W	83410.760	32.000	792.351	792.394
X	83420.760	32.000	792.233	792.259
€ Brg. N. Abut.	83433.760	32.000	792.076	792.076
Bk. N. Abut.	83437.615	32.000	792.029	792.029

STAGE CONSTRUCTION JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83163.659	35.500	794.535	794.535
€ Brg. S. Abut.	83167.513	35.500	794.510	794.510
A	83177.513	35.500	794.444	794.464
B	83187.513	35.500	794.376	794.416
C	83197.513	35.500	794.306	794.350
D	83207.513	35.500	794.233	794.281
E	83217.513	35.500	794.159	794.195
F	83227.513	35.500	794.082	794.105
G	83237.513	35.500	794.003	794.016
€ Pier 1	83250.513	35.500	793.897	793.897
H	83260.513	35.500	793.814	793.829
I	83270.513	35.500	793.728	793.758
J	83280.513	35.500	793.640	793.684
K	83290.513	35.500	793.549	793.605
L	83300.513	35.500	793.457	793.525
M	83310.513	35.500	793.362	793.426
N	83320.513	35.500	793.266	793.317
O	83330.513	35.500	793.167	793.206
P	83340.513	35.500	793.066	793.090
Q	83350.513	35.500	792.963	792.972
€ Pier 2	83356.513	35.500	792.900	792.900
R	83366.513	35.500	792.794	792.803
S	83376.513	35.500	792.685	792.704
T	83386.513	35.500	792.574	792.606
U	83396.513	35.500	792.461	792.507
V	83406.513	35.500	792.346	792.391
W	83416.513	35.500	792.229	792.271
X	83426.513	35.500	792.110	792.136
€ Brg. N. Abut.	83439.513	35.500	791.951	791.951
Bk. N. Abut.	83443.367	35.500	791.904	791.904

BEAM #10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83170.234	39.500	794.430	794.430
€ Brg. S. Abut.	83174.088	39.500	794.405	794.405
A	83184.088	39.500	794.337	794.357
B	83194.088	39.500	794.268	794.308
C	83204.088	39.500	794.196	794.240
D	83214.088	39.500	794.122	794.169
E	83224.088	39.500	794.046	794.082
F	83234.088	39.500	793.968	793.991
G	83244.088	39.500	793.888	793.900
€ Pier 1	83257.088	39.500	793.780	793.780
H	83267.088	39.500	793.695	793.710
I	83277.088	39.500	793.608	793.638
J	83287.088	39.500	793.518	793.562
K	83297.088	39.500	793.426	793.483
L	83307.088	39.500	793.333	793.401
M	83317.088	39.500	793.237	793.300
N	83327.088	39.500	793.139	793.190
O	83337.088	39.500	793.038	793.077
P	83347.088	39.500	792.936	792.960
Q	83357.088	39.500	792.832	792.841
€ Pier 2	83363.088	39.500	792.768	792.768
R	83373.088	39.500	792.660	792.670
S	83383.088	39.500	792.550	792.569
T	83393.088	39.500	792.438	792.470
U	83403.088	39.500	792.323	792.369
V	83413.088	39.500	792.207	792.252
W	83423.088	39.500	792.088	792.131
X	83433.088	39.500	791.968	791.994
€ Brg. N. Abut.	83446.088	39.500	791.807	791.807
Bk. N. Abut.	83449.942	39.500	791.759	791.759

BEAM #11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83182.561	47.000	794.215	794.215
€ Brg. S. Abut.	83186.415	47.000	794.189	794.189
A	83196.415	47.000	794.119	794.139
B	83206.415	47.000	794.046	794.087
C	83216.415	47.000	793.972	794.016
D	83226.415	47.000	793.896	793.943
E	83236.415	47.000	793.817	793.853
F	83246.415	47.000	793.736	793.759
G	83256.415	47.000	793.653	793.666
€ Pier 1	83269.415	47.000	793.542	793.542
H	83279.415	47.000	793.454	793.469
I	83289.415	47.000	793.364	793.394
J	83299.415	47.000	793.272	793.316
K	83309.415	47.000	793.178	793.234
L	83319.415	47.000	793.082	793.150
M	83329.415	47.000	792.983	793.046
N	83339.415	47.000	792.882	792.933
O	83349.415	47.000	792.779	792.818
P	83359.415	47.000	792.674	792.698
Q	83369.415	47.000	792.567	792.576
€ Pier 2	83375.415	47.000	792.502	792.502
R	83385.415	47.000	792.391	792.401
S	83395.415	47.000	792.279	792.298
T	83405.415	47.000	792.164	792.196
U	83415.415	47.000	792.047	792.093
V	83425.415	47.000	791.928	791.973
W	83435.415	47.000	791.807	791.849
X	83445.415	47.000	791.683	791.709
€ Brg. N. Abut.	83458.415	47.000	791.519	791.519
Bk. N. Abut.	83462.269	47.000	791.470	791.470

BEAM #12

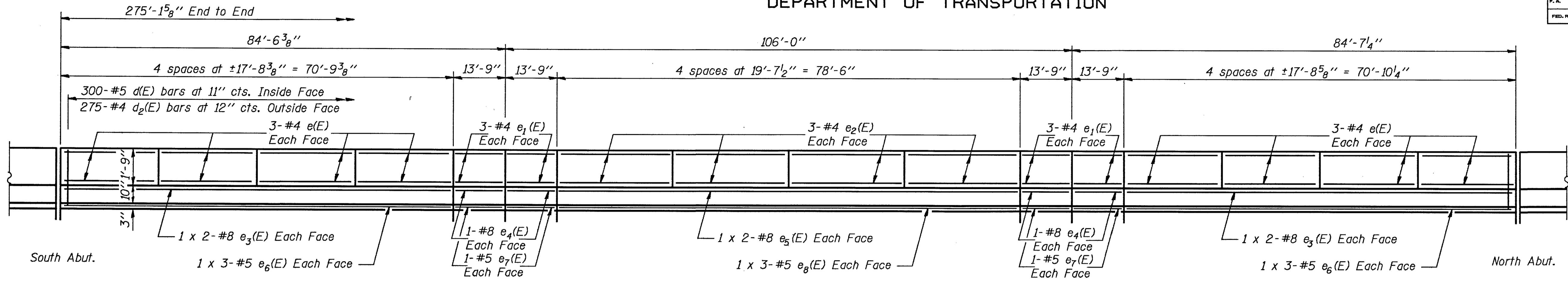
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	83192.560	53.083	794.019	794.019
€ Brg. S. Abut.	83196.414	53.083	793.992	793.992
A	83206.414	53.083	793.920	793.940
B	83216.414	53.083	793.846	793.885
C	83226.4			





STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
P.A. 39	4VBY-1	WINNEBAGO	171	88	27 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		



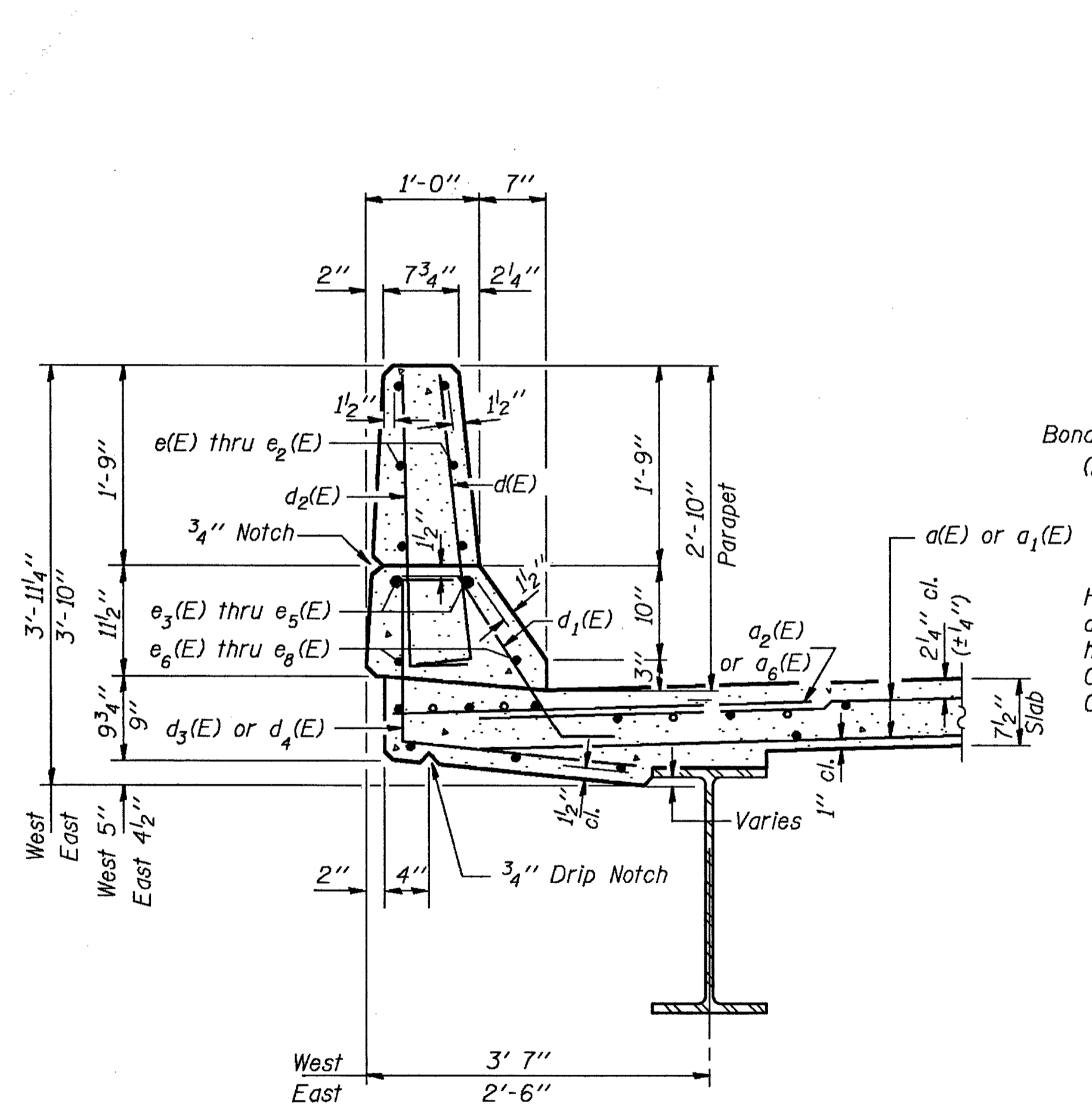
INSIDE ELEVATION OF PARAPET

MIN. BAR LAPS

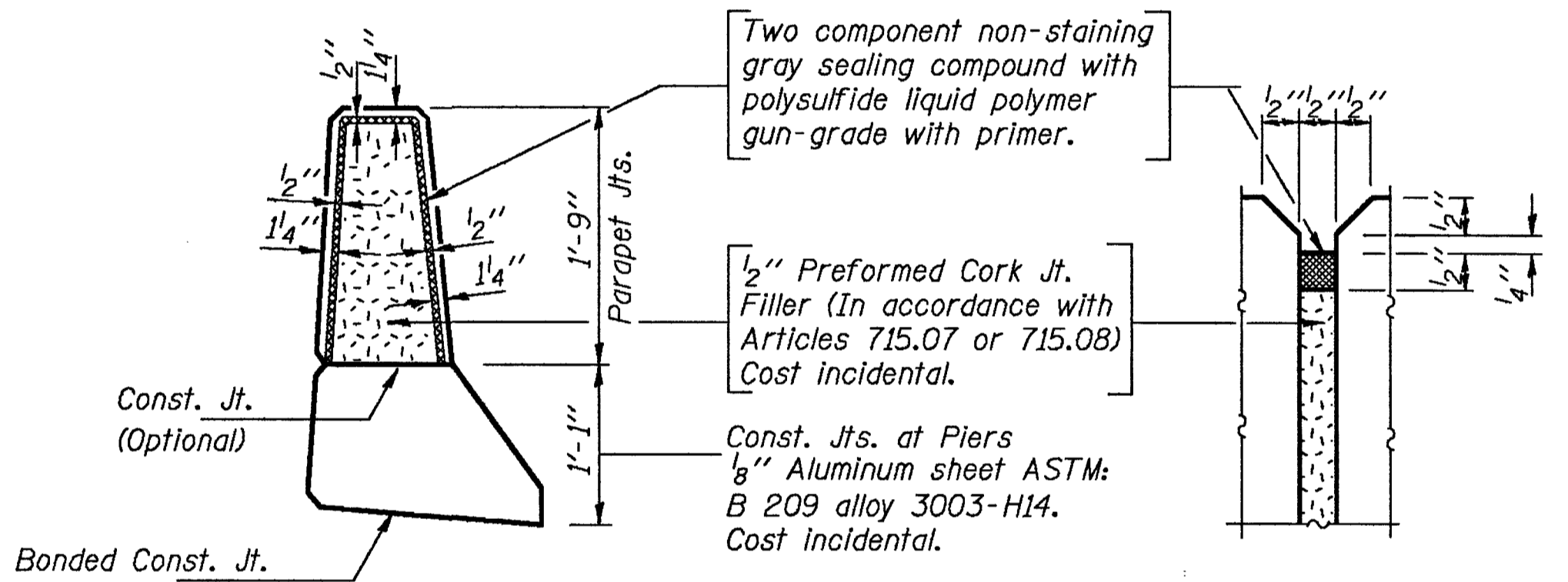
- #5 Bar = 2'-2"
- #8 Bar = 4'-6"

SUPERSTRUCTURE  
BILL OF MATERIAL

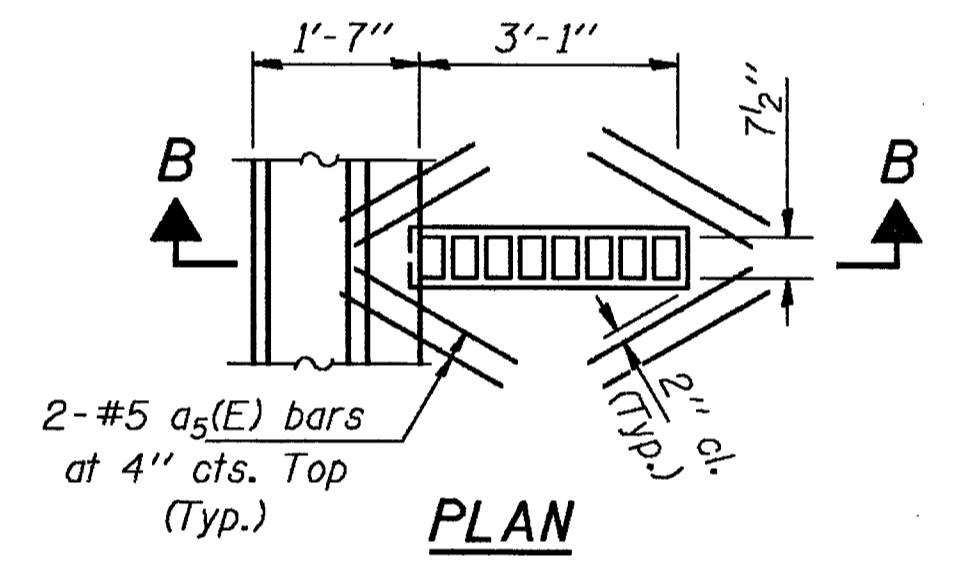
Bar	No.	Size	Length	Shape
a(E)	908	#5	21'-3"	—
a1(E)	915	#5	21'-0"	—
a2(E)	272	#6	5'-0"	—
a3(E)	4	#6	40'-0"	—
a4(E)	4	#6	38'-8"	—
a5(E)	8	#5	2'-0"	—
a6(E)	272	#6	4'-0"	—
b(E)	405	#5	32'-1"	—
b1(E)	252	#6	18'-8"	—
b2(E)	480	#4	28'-9"	—
d(E)	600	#5	3'-0"	—
d1(E)	600	#5	2'-7"	—
d2(E)	550	#4	3'-0"	—
d3(E)	275	#4	3'-3"	—
d4(E)	275	#4	4'-4"	—
e(E)	96	#4	17'-5"	—
e1(E)	48	#4	13'-6"	—
e2(E)	48	#4	19'-4"	—
e3(E)	16	#8	37'-6"	—
e4(E)	16	#8	13'-6"	—
e5(E)	8	#8	41'-5"	—
e6(E)	24	#5	25'-0"	—
e7(E)	16	#5	13'-6"	—
e8(E)	12	#5	27'-7"	—
x(E)	78	#6	5'-0"	—
Reinforcement Bars (Epoxy Coated)		Lbs.	87,170	
Class X Concrete Superstructure		Cu. Yds.	371.2	



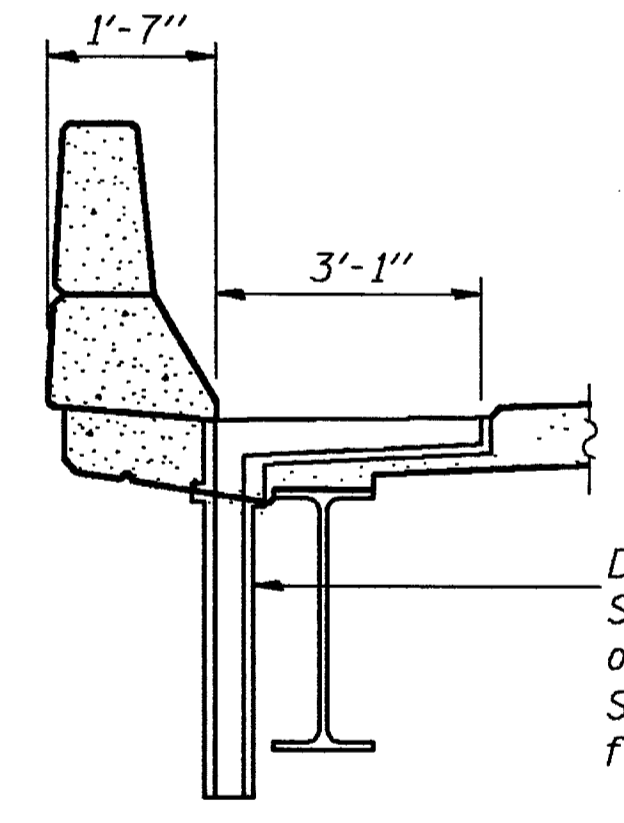
SECTION THRU PARAPET



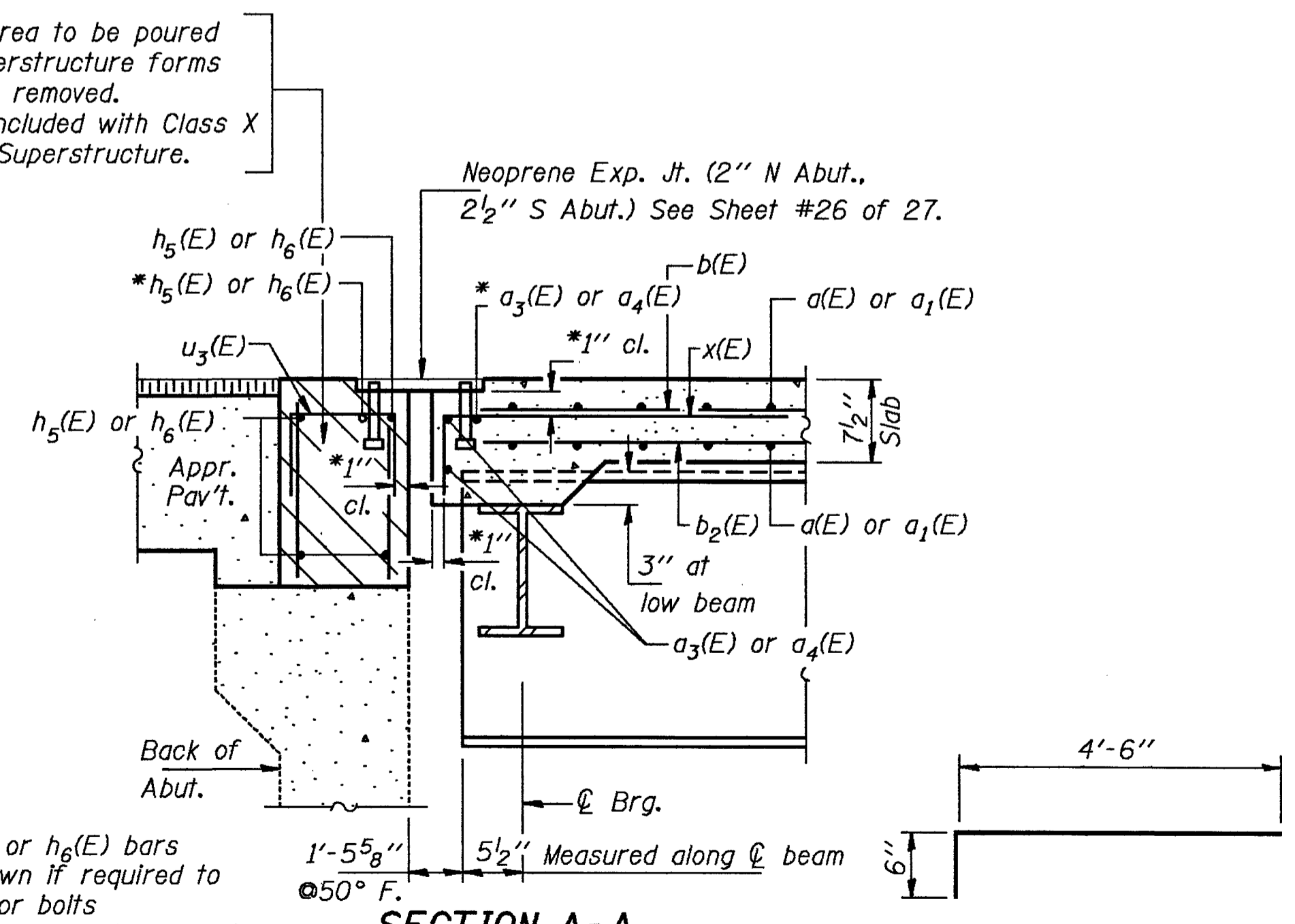
PARAPET JOINT DETAILS



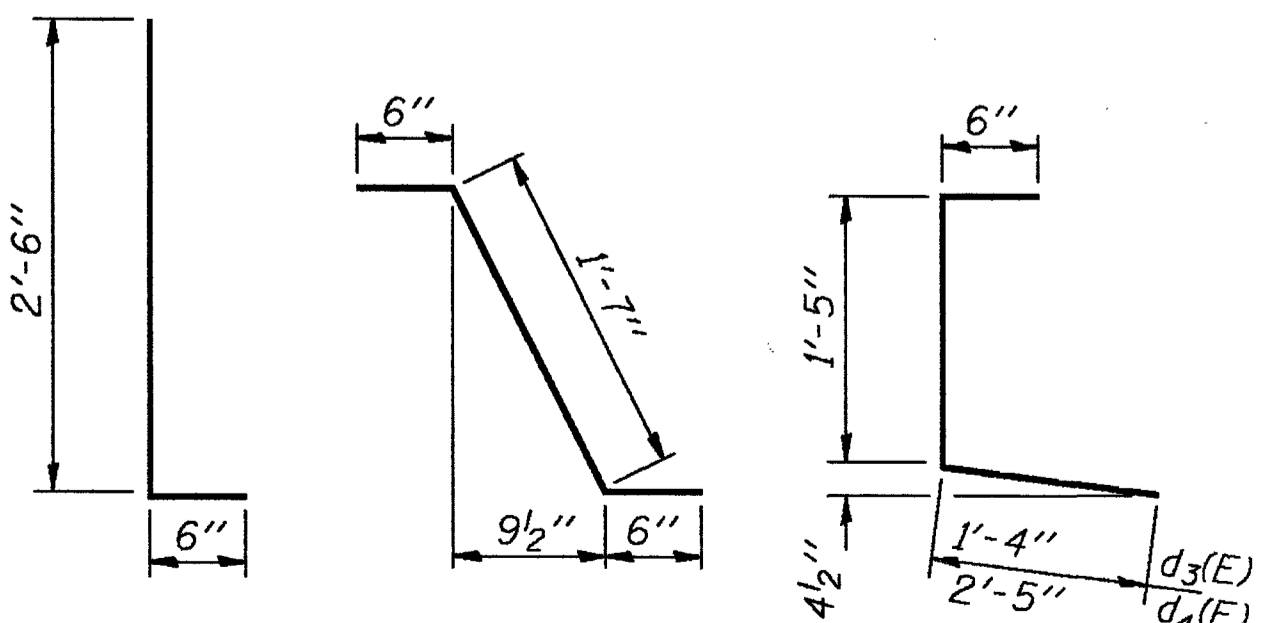
PLAN



SECTION B-B



SECTION A-A



BAR x(E) BARS d(E) & d2(E) BAR d1(E) BARS d3(E) & d4(E)

DESIGNED *Kathleen Hilly* May 3 1970  
 CHECKED *D. Carl Perry* EXAMINED *Greg J. Kasper*  
 DRAWN *J.T. Downing* PASSED *Ralph E. Anderson*  
 CHECKED *WGH DCP* APPROVED \_\_\_\_\_  
 S-1-D 12-31-87 DIRECTOR OF HIGHWAYS

\*Place a3(E) or a4(E) and h5(E) or h6(E) bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-1/8"). Anchor bolts should be tied to a3(E) or a4(E) and h5(E) or h6(E) bars.

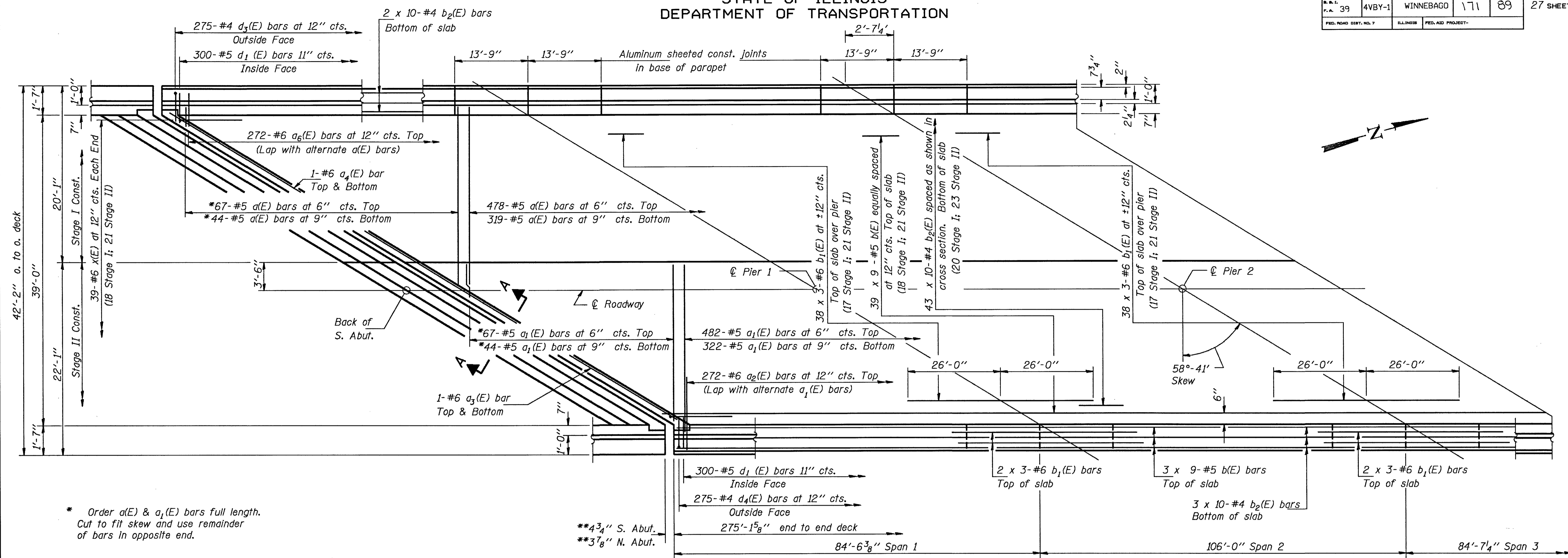
Reinforcement bars designated (E) shall be epoxy coated.  
 Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

SUPERSTRUCTURE DETAILS  
 EAST BOUND LANES  
 F.A.I. RT. 39 SEC. 4 VBY-1  
 WINNEBAGO COUNTY  
 STATION 832+49.16

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 39	4VBY-1	WINNEBAGO	171	89
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 10  
27 SHEETS



\* Order  $a(E)$  &  $a_1(E)$  bars full length. Cut to fit skew and use remainder of bars in opposite end.

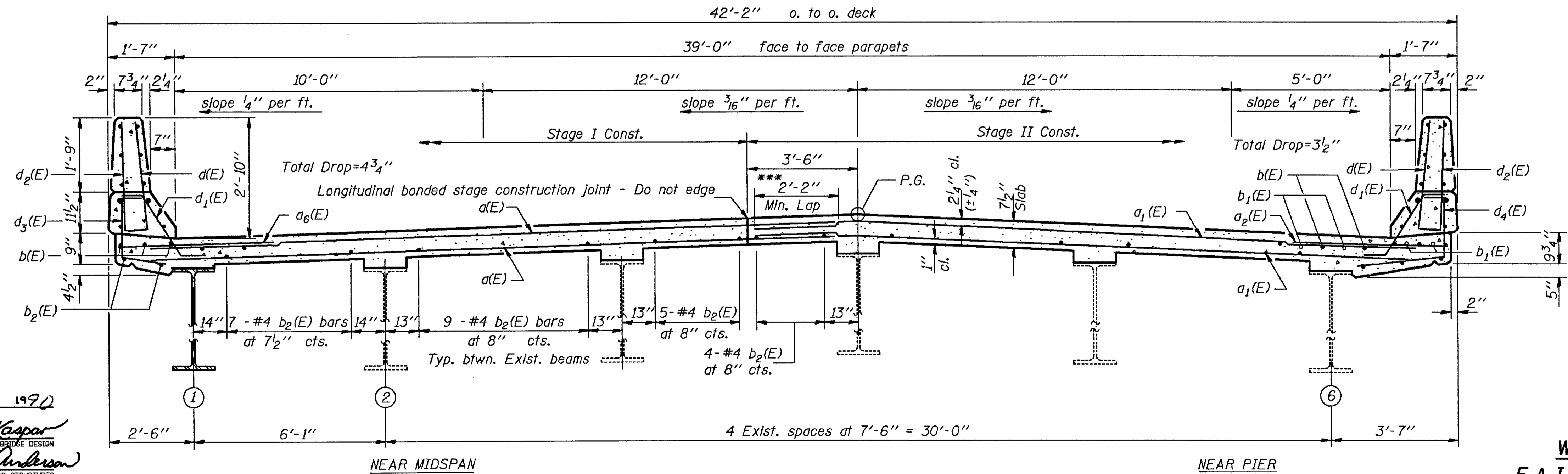
\*\*4 3/4" S. Abut.  
\*\*3 7/8" N. Abut.  
\*\* at 50° F.

PLAN

Notes: See Sheet #11 of 27 for superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet #11 of 27 for parapet reinforcement.

MIN. BAR LAPS

- #4 Bars = 1'-4" Longitudinal
- #5 Bars = 2'-2" Transverse
- #5 Bars = 1'-8" Longitudinal
- #6 Bars = 2'-7" Transverse
- #6 Bars = 2'-0" Longitudinal



CROSS SECTION  
(Looking North)

\*\*\* Bars lapped at this location shall be tied with double the number of ties normally used.

DESIGNED	Walter J. Hilly
CHECKED	J. Paul Ruffly
DRAWN	J. T. Downing
CHECKED	MJH DCP

May 3 1970  
EXAMINED *Greg J. Kaspar*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES  
APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

S-1-R(15°) 12-31-87

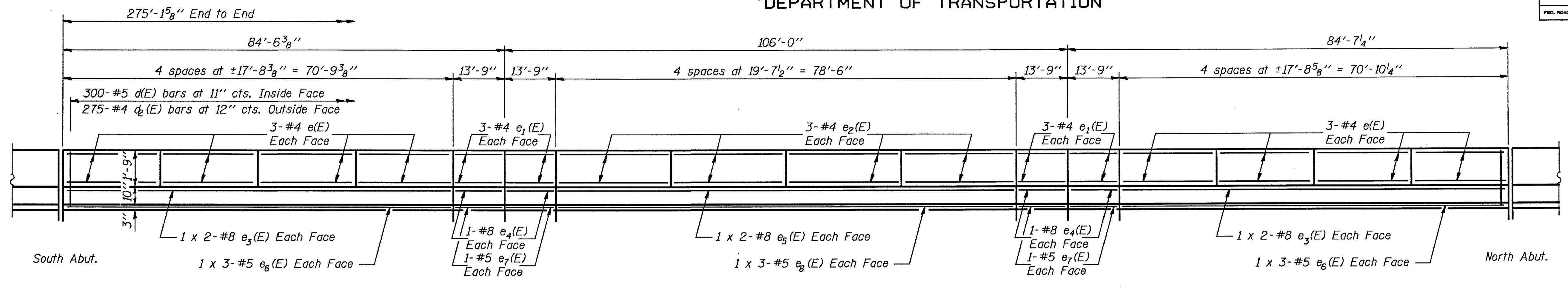
SUPERSTRUCTURE  
WEST BOUND LANES  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO-COUNTY  
STATION 832+49.16



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.R.L. F.A. 39	4VBY-1	WINNEBAGO	171	90
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11  
27 SHEETS



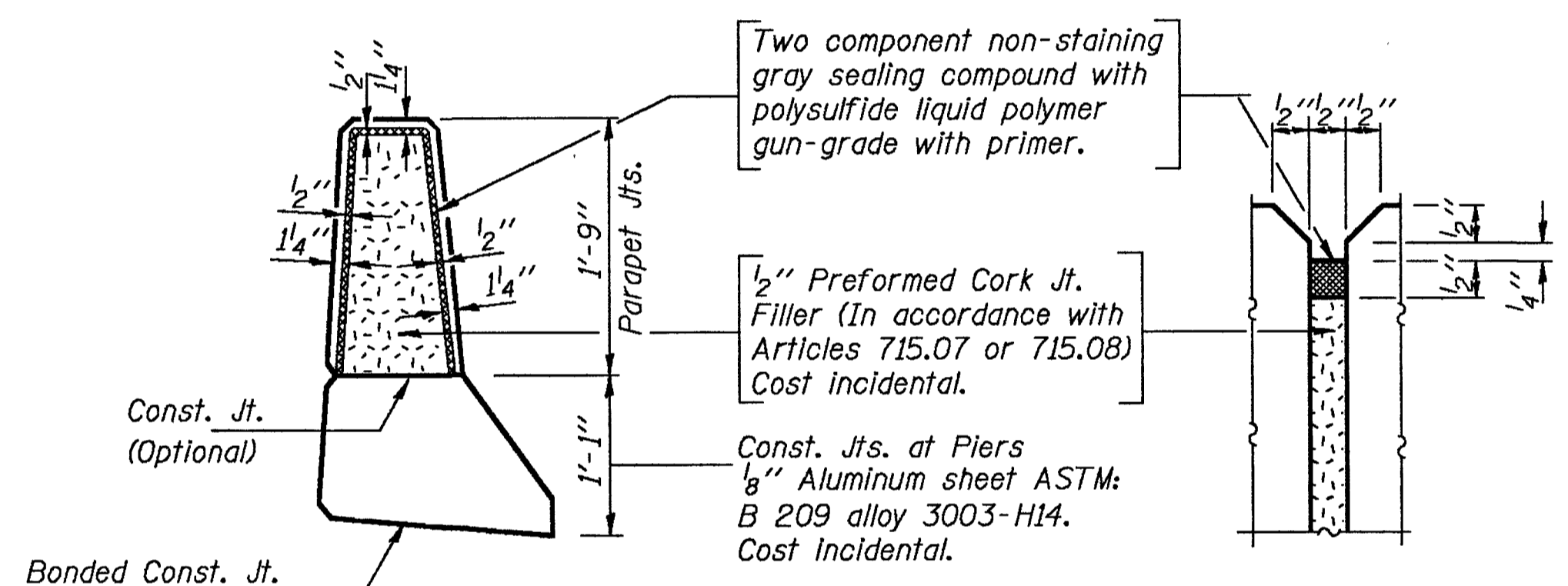
INSIDE ELEVATION OF PARAPET

MIN. BAR LAPS

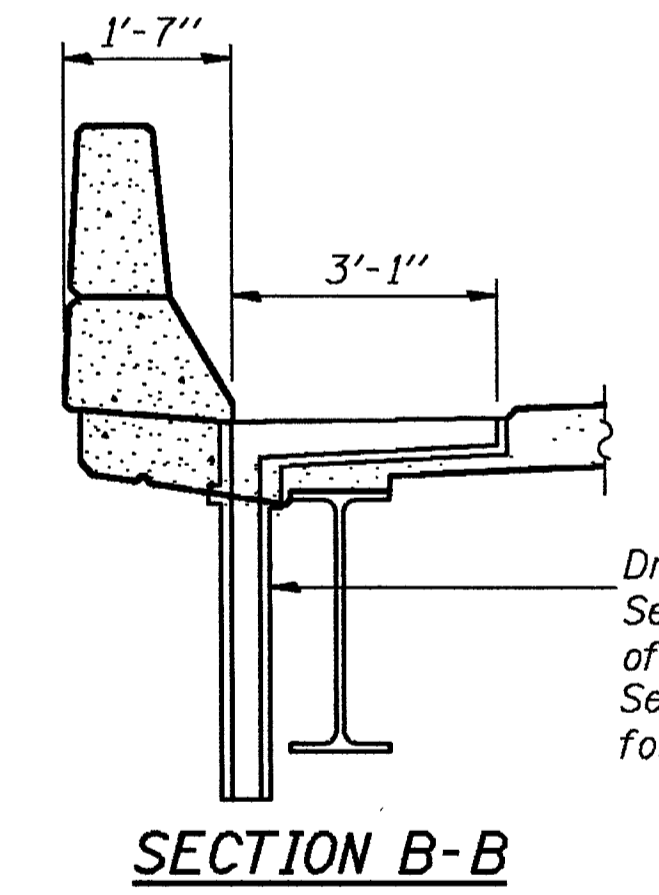
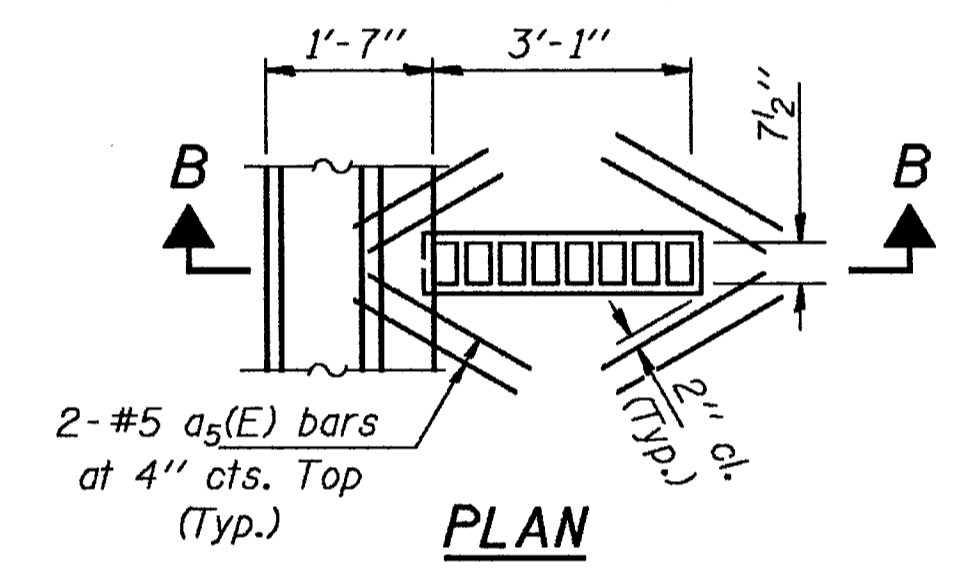
#5 Bar = 2'-2"  
#8 Bar = 4'-6"

SUPERSTRUCTURE  
BILL OF MATERIAL

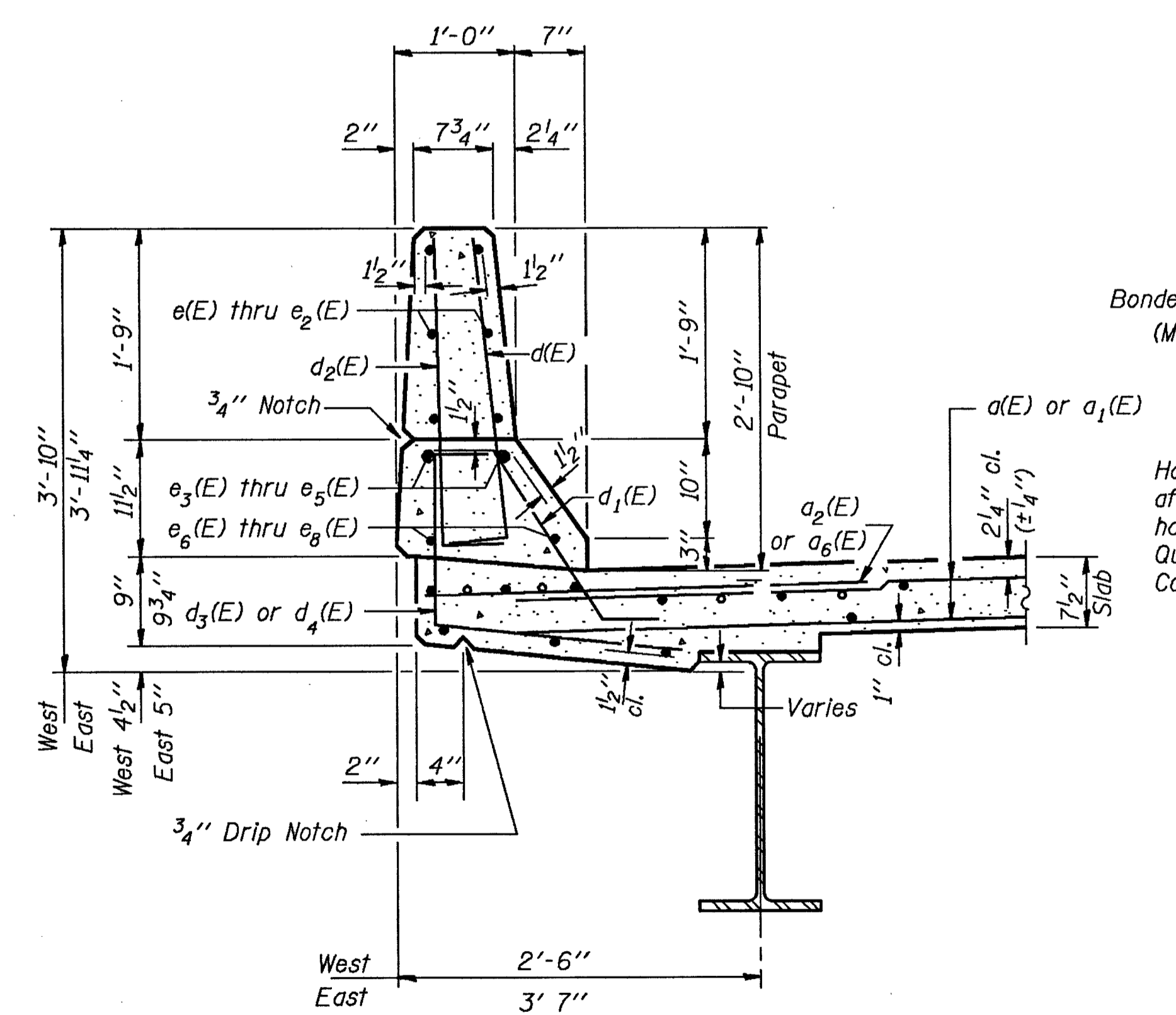
Bar	No.	Size	Length	Shape
a(E)	908	#5	21'-3"	—
a <sub>1</sub> (E)	915	#5	21'-0"	—
a <sub>2</sub> (E)	272	#6	5'-0"	—
a <sub>3</sub> (E)	4	#6	40'-0"	—
a <sub>4</sub> (E)	4	#6	38'-8"	—
a <sub>5</sub> (E)	8	#5	2'-0"	—
a <sub>6</sub> (E)	272	#6	4'-0"	—
b(E)	405	#5	32'-1"	—
b <sub>1</sub> (E)	252	#6	18'-8"	—
b <sub>2</sub> (E)	480	#4	28'-9"	—
c(E)	600	#5	3'-0"	—
c <sub>1</sub> (E)	600	#5	2'-7"	—
c <sub>2</sub> (E)	550	#4	3'-0"	—
c <sub>3</sub> (E)	275	#4	3'-3"	—
c <sub>4</sub> (E)	275	#4	4'-4"	—
d(E)	96	#4	17'-5"	—
d <sub>1</sub> (E)	48	#4	13'-6"	—
d <sub>2</sub> (E)	48	#4	19'-4"	—
d <sub>3</sub> (E)	16	#8	37'-6"	—
d <sub>4</sub> (E)	16	#8	13'-6"	—
d <sub>5</sub> (E)	8	#8	41'-5"	—
d <sub>6</sub> (E)	24	#5	25'-0"	—
d <sub>7</sub> (E)	16	#5	13'-6"	—
d <sub>8</sub> (E)	12	#5	27'-7"	—
e(E)	78	#6	5'-0"	—
Reinforcement Bars (Epoxy Coated)		Lbs.	87,170	
Class X Concrete Superstructure		Cu. Yds.	371.2	



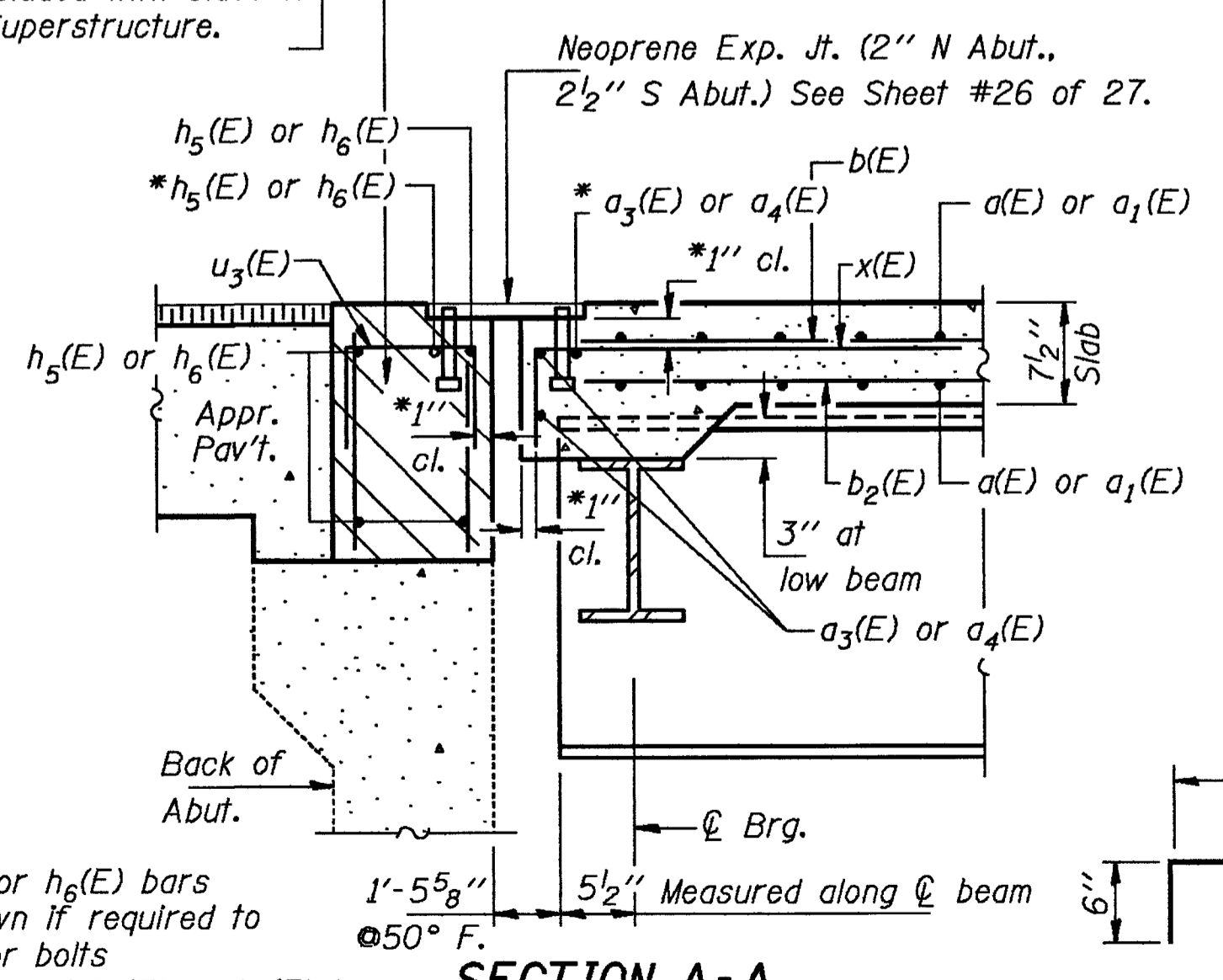
PARAPET JOINT DETAILS



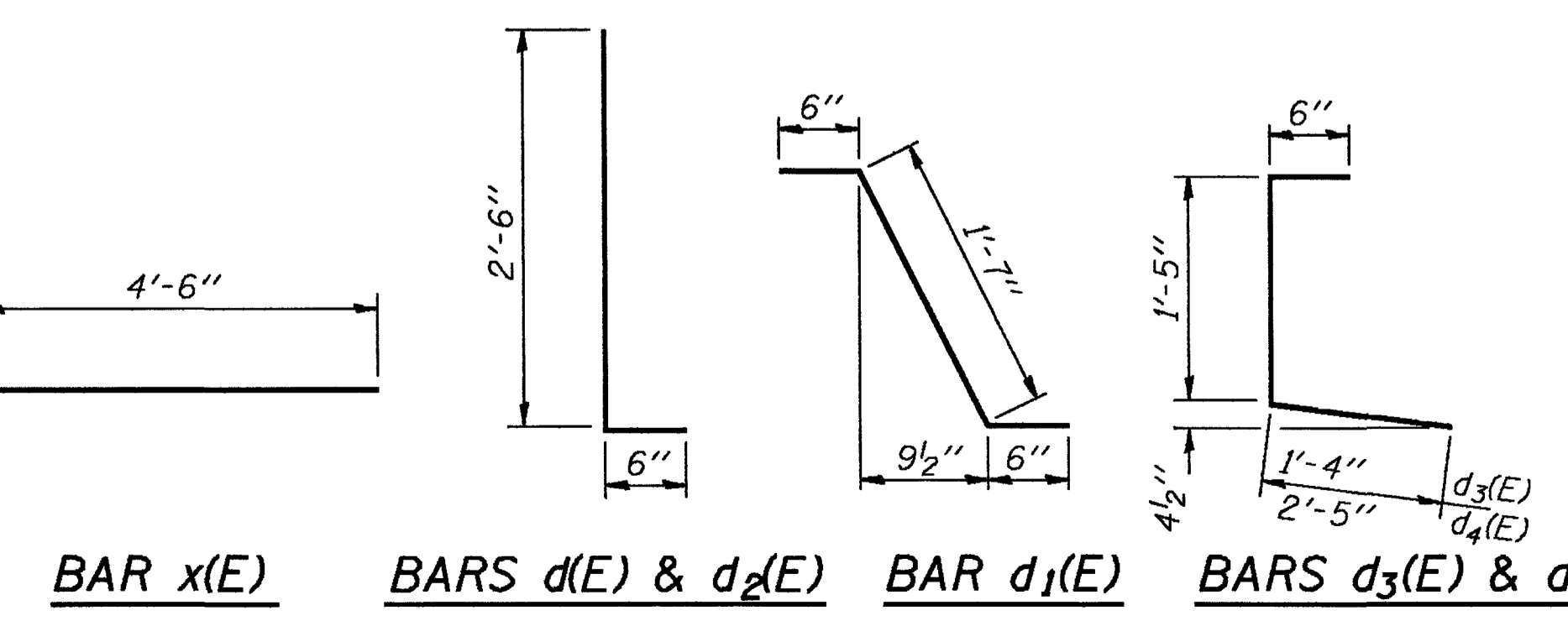
Drainage Scupper  
See shts. #17 & #18 of 27 for details. See sht. #1 of 27 for locations.



Hatched area to be poured after superstructure forms have been removed. Quantity included with Class X Concrete Superstructure.



\*Place a<sub>3</sub>(E) or a<sub>4</sub>(E) and h<sub>5</sub>(E) or h<sub>6</sub>(E) bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-1/8"). Anchor bolts should be tied to a<sub>3</sub>(E) or a<sub>4</sub>(E) and h<sub>5</sub>(E) or h<sub>6</sub>(E) bars.



Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

SUPERSTRUCTURE DETAILS  
WEST BOUND LANES  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

DESIGNED *Walter J. Hill*  
CHECKED *R. Carl Pugh*  
DRAWN J.T. Downing  
CHECKED *JPH DCP*

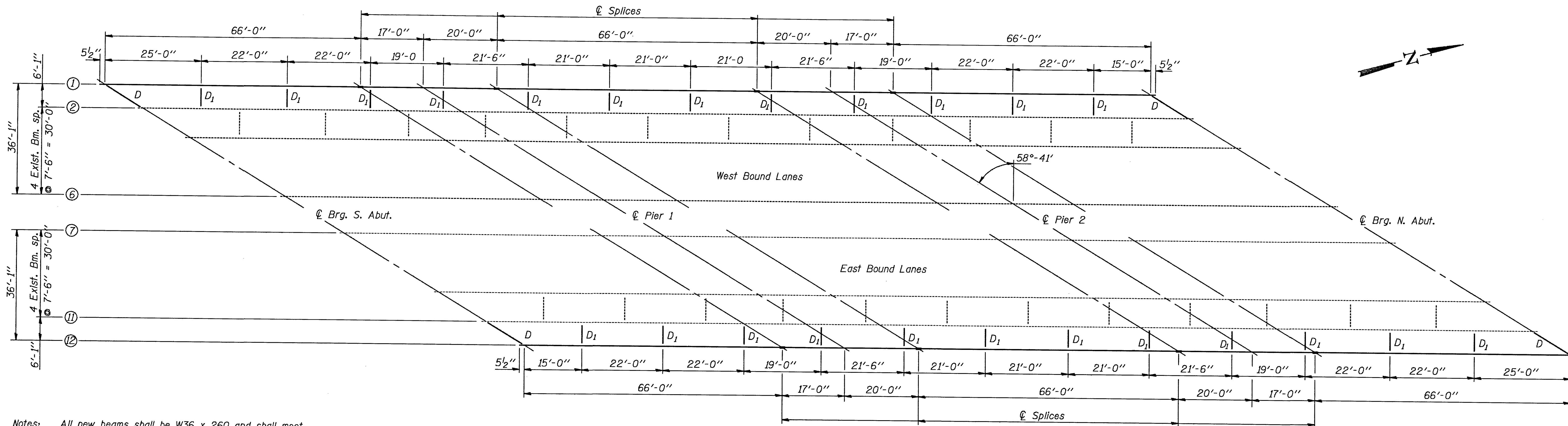
EXAMINED *May 3 1970 Craig O. Kaspar*  
PASSED *Ralph E. Anderson*  
APPROVED

DIRECTOR OF HIGHWAYS

S-1-D 12-31-87

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

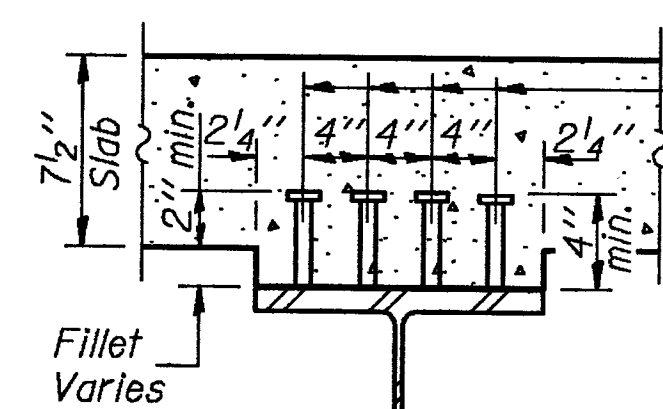
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12 27 SHEETS
S.A.I. F.A. 39	4VBY-1	WINNEBAGO	171	91	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



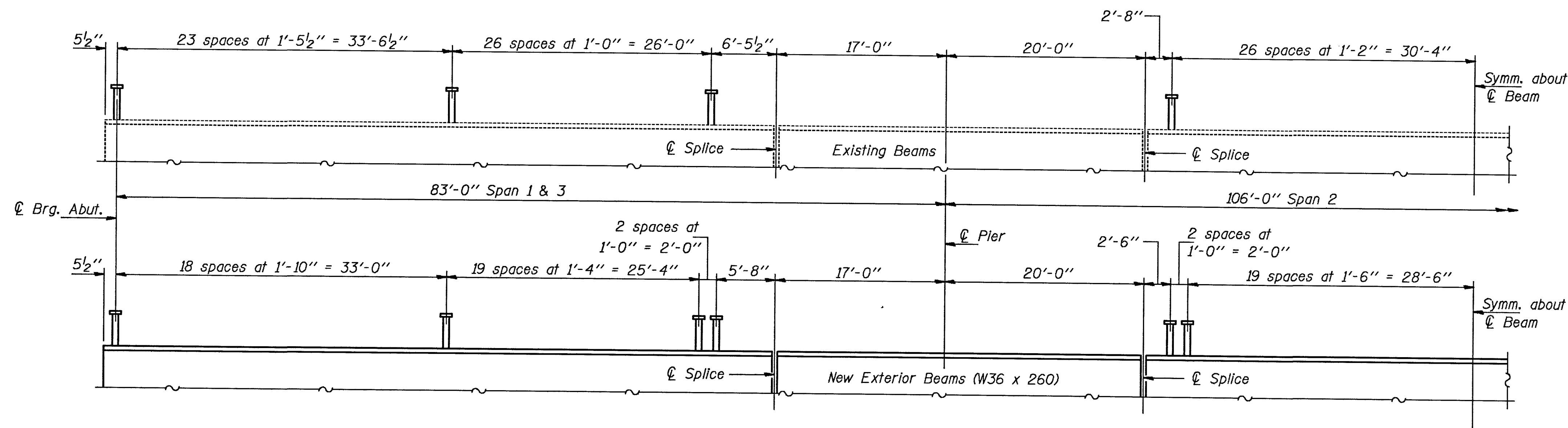
Notes: All new beams shall be W36 x 260 and shall meet Notch Toughness Requirements. For details of diaphragms and splices see sheet #13 of 27.

FRAMING PLAN

$\frac{3}{4}$ "  $\phi$  Granular or solid flux filled headed studs, conforming to the requirements of Art. 710.38 of the Std. Specs. Automatically end welded to flange. (7104 Req'd.)



SECTION A-A



ELEVATION

(Shear stud spacing)

\* TOP OF BEAM ELEVATIONS

	☉ Brg. S. Abut.	☉ Splice #1	☉ Pier #1	☉ Splice #2	☉ Splice #3	☉ Pier #2	☉ Splice #4	☉ Brg. N. Abut.
Beam #1	794.26	793.86	793.76	793.64	793.23	793.10	792.97	792.50
Beam #12	793.30	792.68	792.53	792.35	791.69	791.47	791.29	790.62

\* For fabrication only.

DESIGNED: *Kathleen Hilly*  
 CHECKED: *C. Carl Pugh*  
 DRAWN: J.T. Downing  
 CHECKED: *JPH* *DGP*

EXAMINED: *Greg J. Kaspar*  
 ENGINEER OF BRIDGE DESIGN

PASSED: *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

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

May 3 1990

STRUCTURAL STEEL  
 F.A.I. RT. 39 SEC. 4 VBY-1  
 WINNEBAGO COUNTY  
 STATION 832+49.16



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13
F.A. 39	4VBY-1	WINNEBAGO	171	92	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

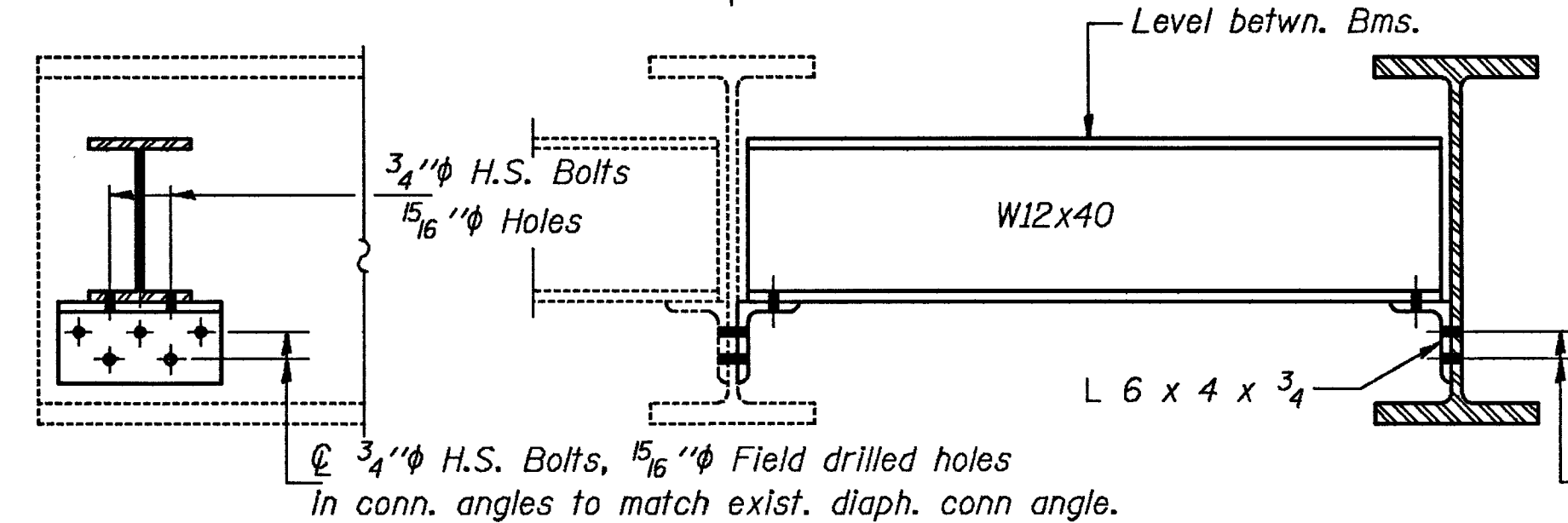
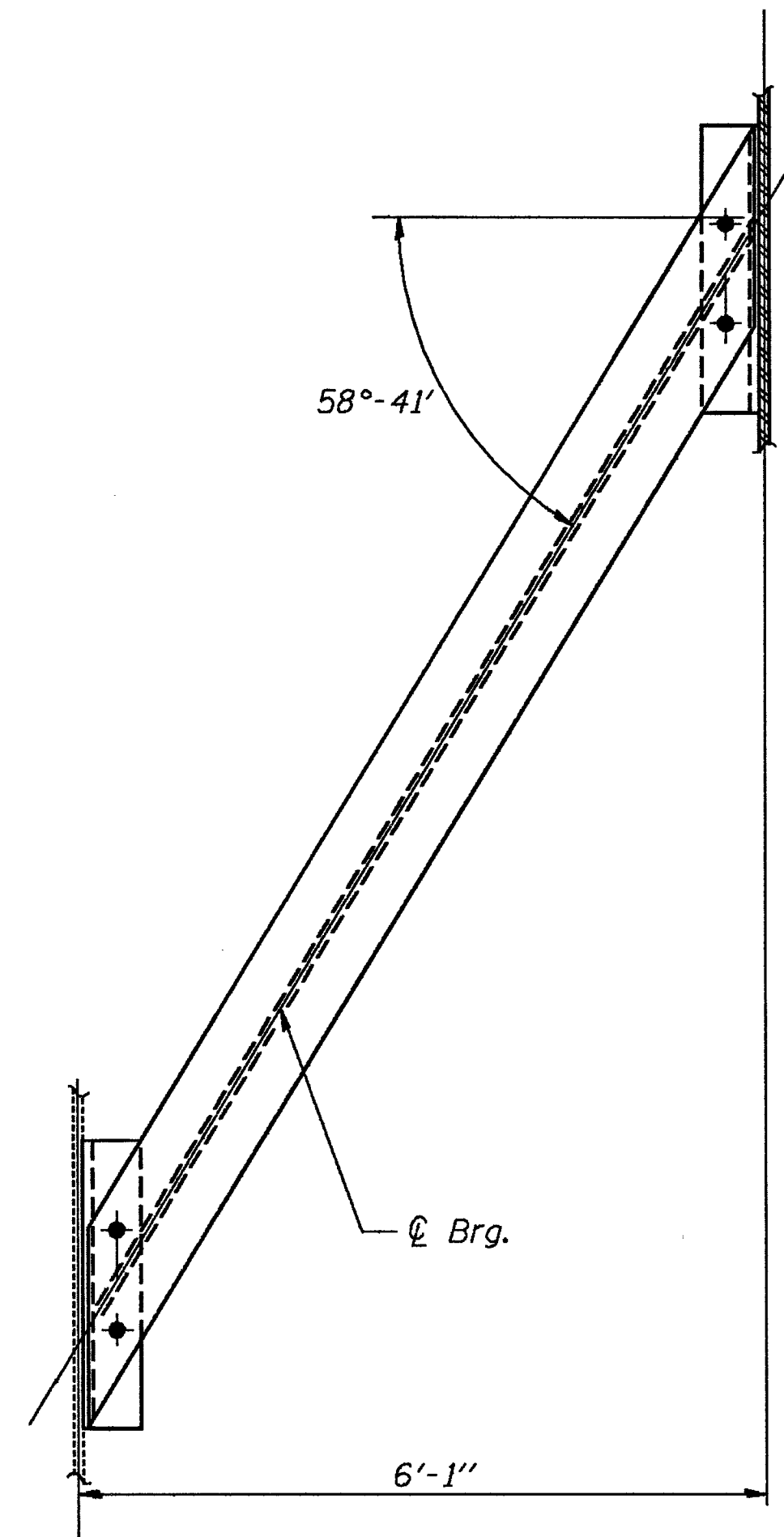
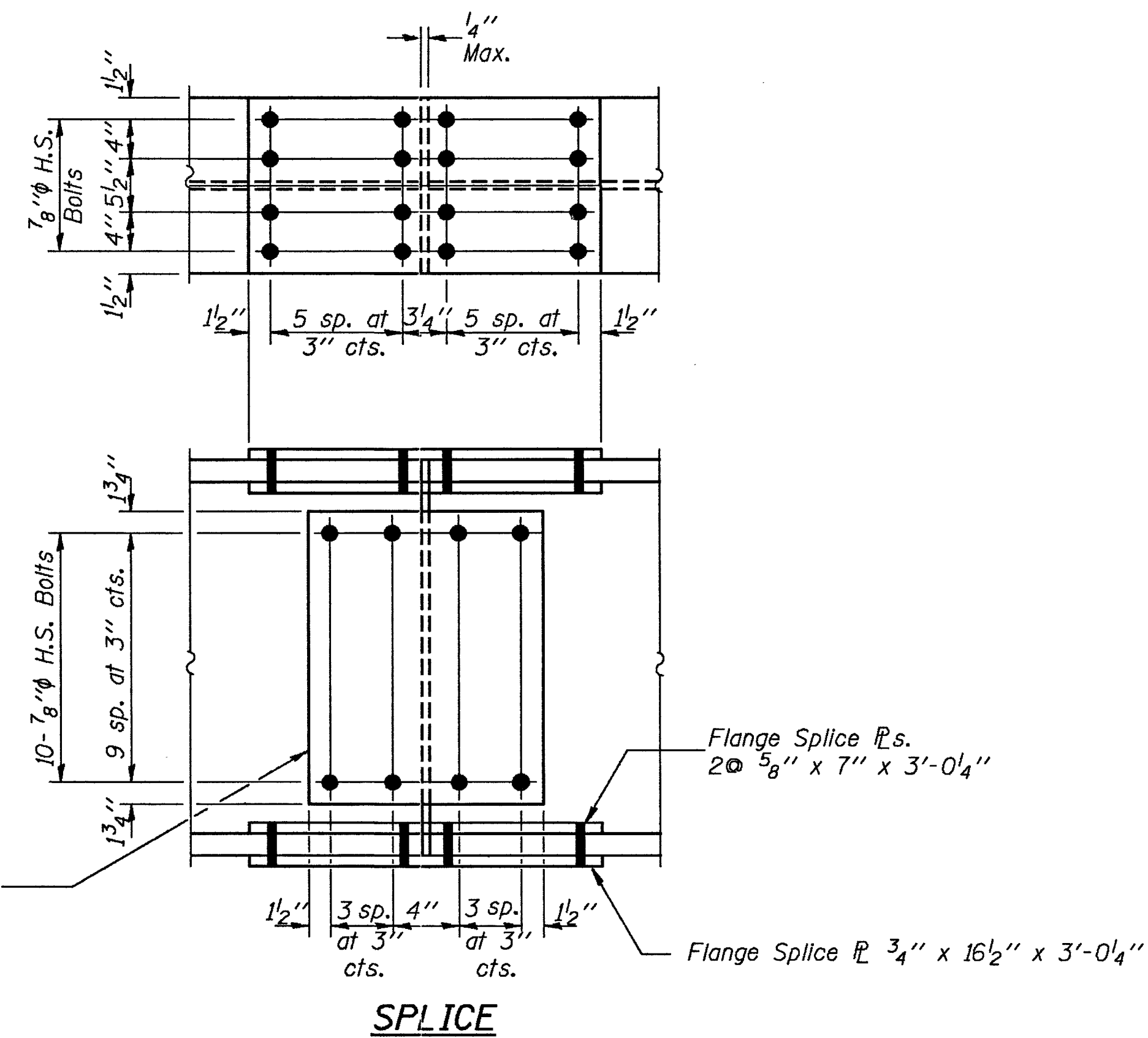
	0.4 Sp. #1 or 0.6 Sp. #3	Piers	0.5 Sp. #2
$I_s$	(in <sup>4</sup> ) 17234	17234	17234
$I_c$	(in <sup>4</sup> ) 34904	34904	34904
$S_s$	(in <sup>3</sup> ) 951	951	951
$S_c$	(in <sup>3</sup> ) 1242	1242	1242
$I_p$	(K/ft.) .976	.976	.976
$M_p$	(K) 451	889	482
$f_s \text{ non-comp. (k.s.i.)}$	5.7	11.2	6.1
$s_p$	(K/ft.) .289	.289	.289
$M_s$	(K) 150	221	185
$M_t$	(K) 574	431	634
$M$ (Imp)	(K) 138	99	139
Total	(K) 862	751	958
$f_s$ (comp)	(k.s.i.) 8.3		9.3
$f_s$ (Total)	(k.s.i.) 14.0	20.0	15.4
VR	(K) 47.2		48.2

	Abuts.	Piers
$R_p$	(K) 39.1	132.9
$R_t$	(K) 34.6	52.7
Imp.	(K) 8.3	12.1
$R$ (Total)	(K) 82.0	197.7

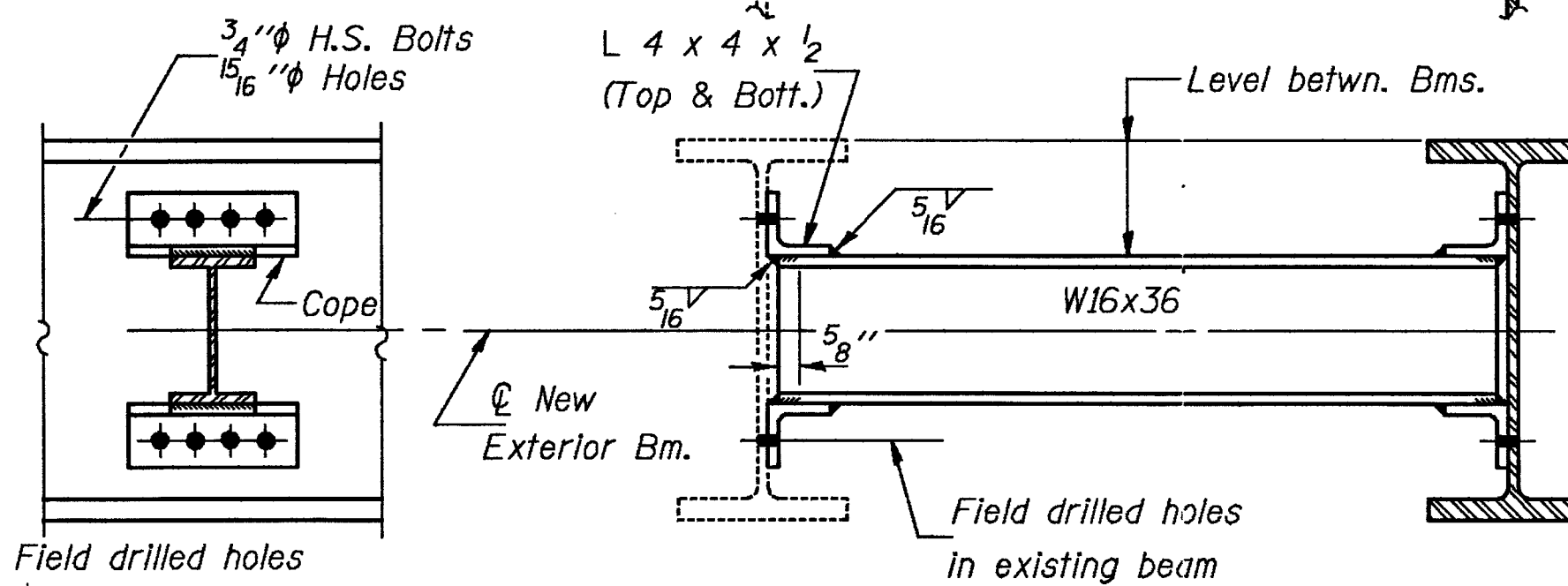
$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total).

$I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total).

VR is the maximum Live Load + Impact shear range in span.



**DIAPHRAGM D**  
4 Required



**DIAPHRAGM D1**  
24 Required

Note: Two hardened washers shall be required over all 1 5/16 inch holes.  
For locations of Splices and diaphragms see sh.#12 of 27.  
All splice plate material shall meet Notch Toughness Requirements.

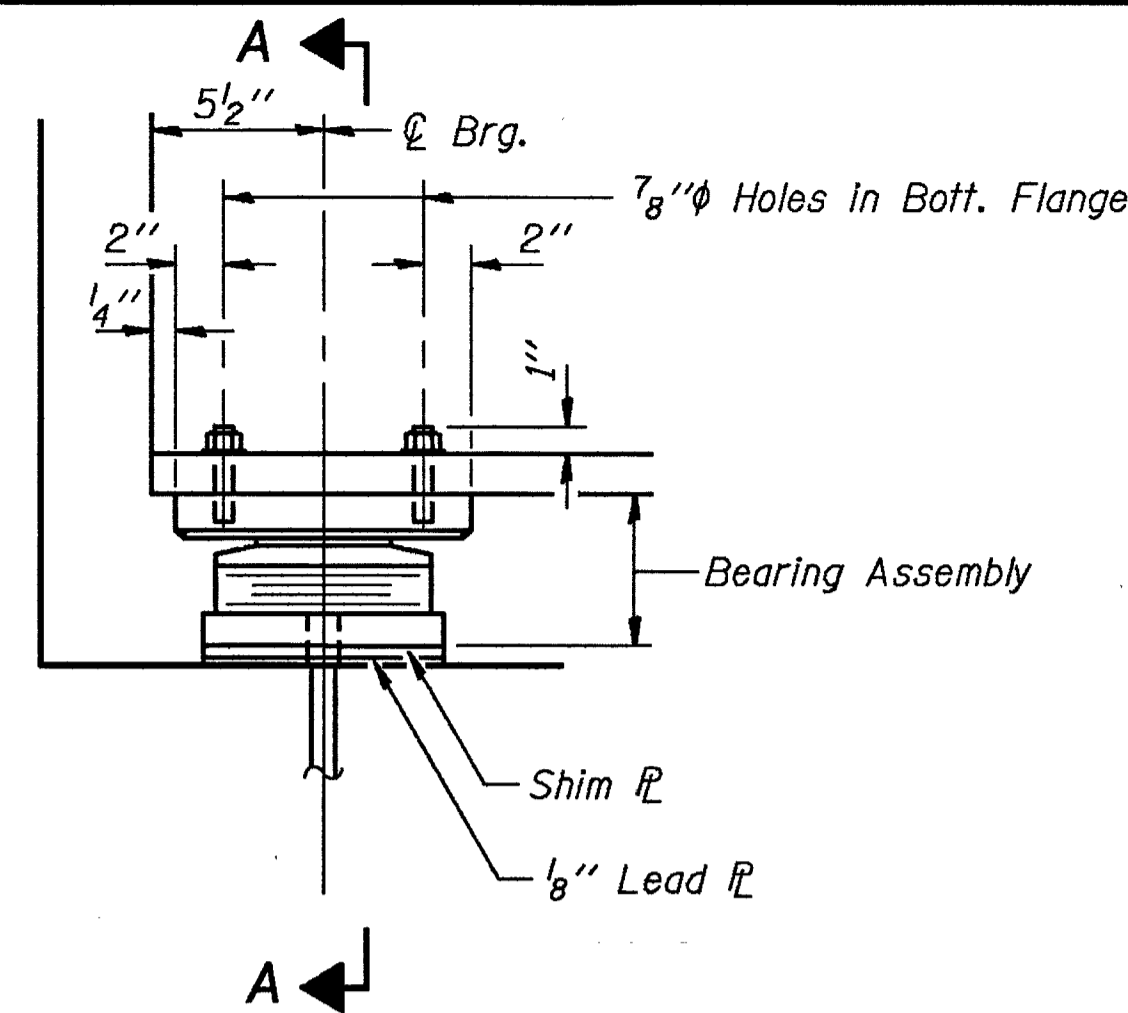
DESIGNED <i>Walter J. Hill</i>	EXAMINED <i>May 3 1920</i>
CHECKED <i>L. Col. Puzey</i>	PASSED <i>Ralph E. Anderson</i>
DRAWN <i>J.T. Downing</i>	APPROVED _____
CHECKED <i>WJH DCP</i>	DIRECTOR OF HIGHWAYS

I-2-D 8-30-80

STRUCTURAL STEEL DETAILS  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

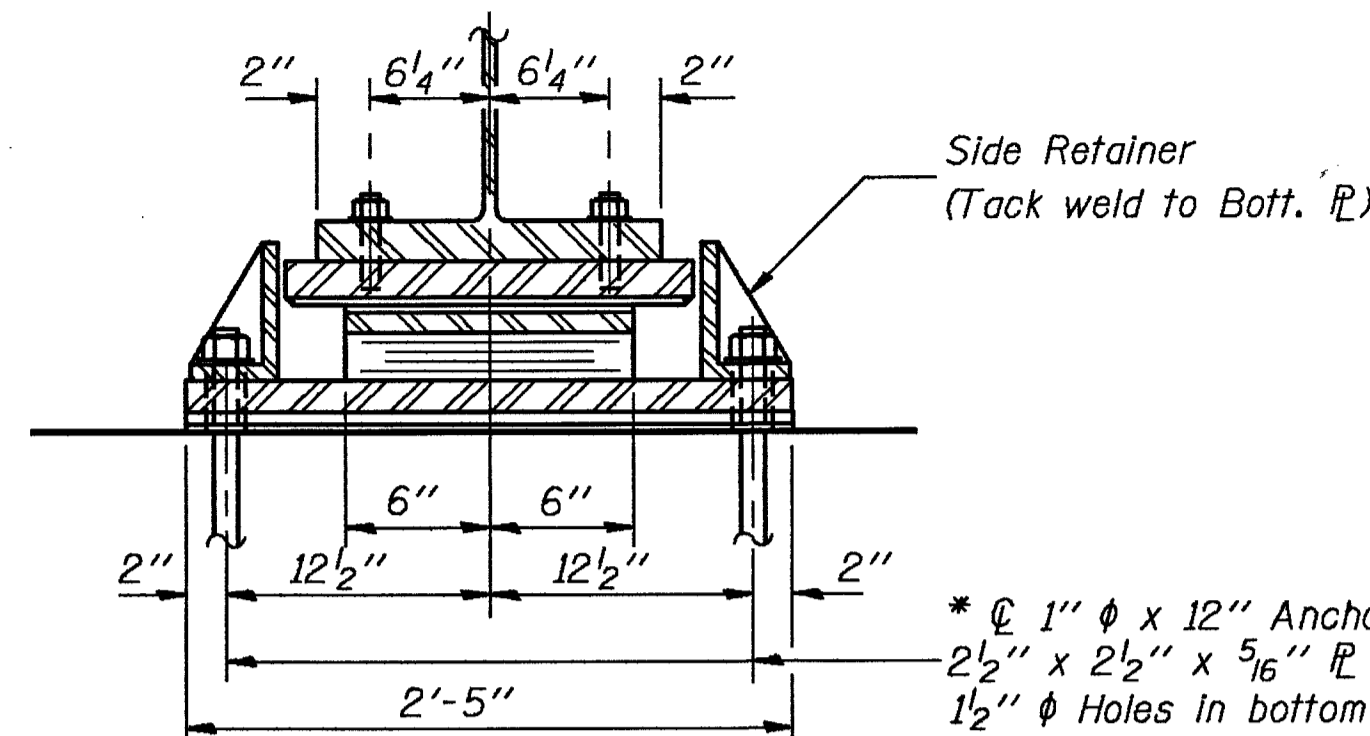
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14
F.A. 39	4VBY-1	WINNEBAGO	171	93	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



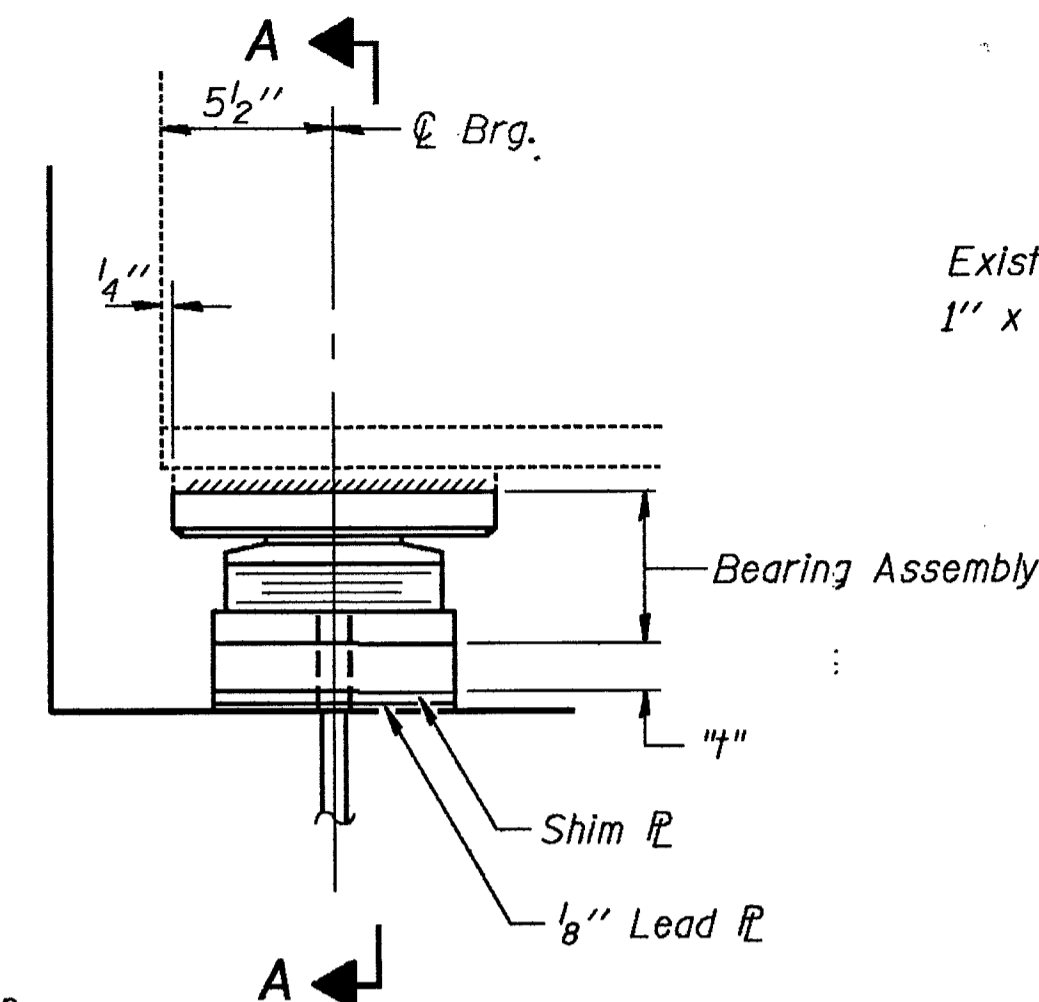
**ELEVATION AT SOUTH ABUT.**  
(At Beams #1 & #12)

**TYPE II TFE ELASTOMERIC EXP. BRG.**



**SECTION A-A**

\*See sheet #27 of 27 for Anchor Bolt installation.



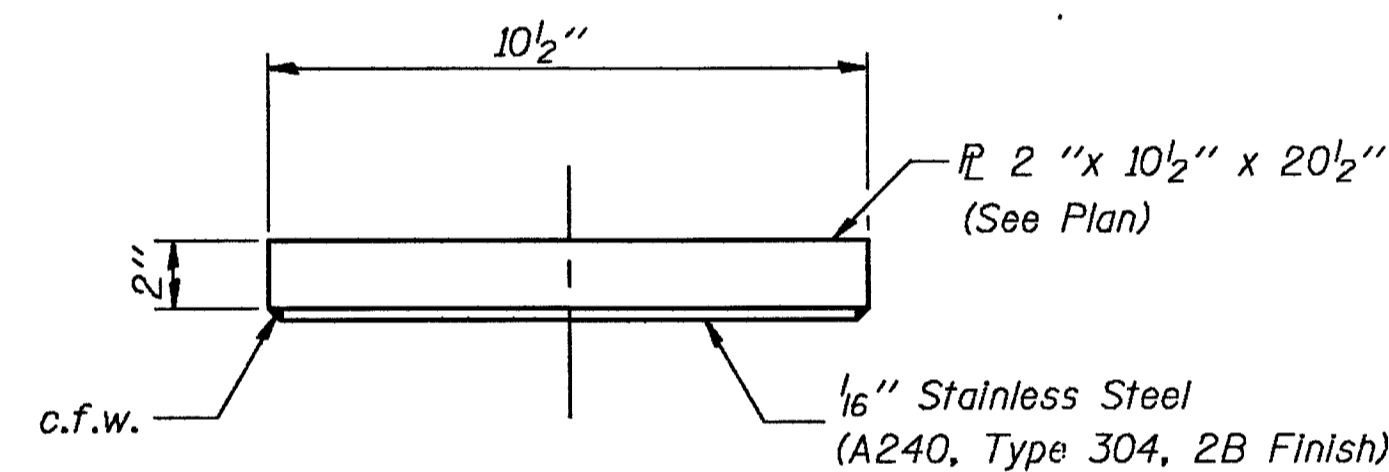
**ELEVATION AT SOUTH ABUT.**  
(At Beams #2 thru #11)

**TYPE II TFE ELASTOMERIC EXP. BRG.**

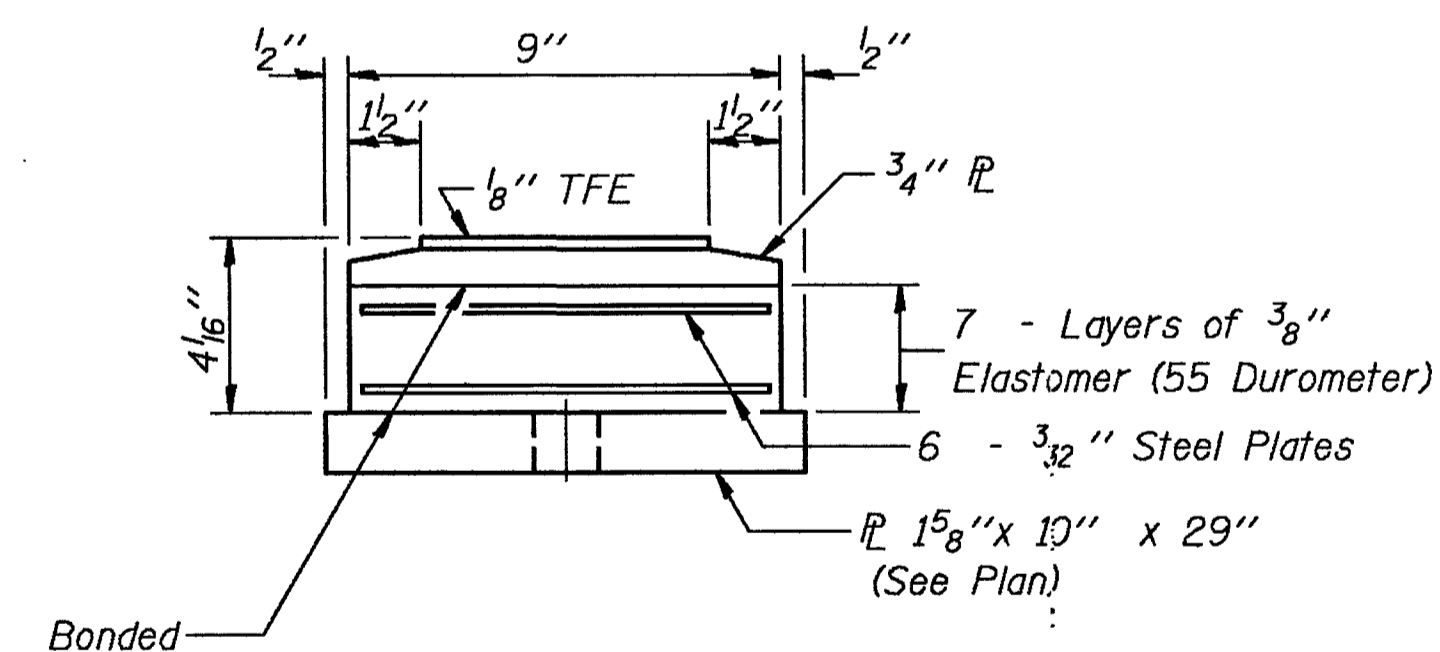
**DIMENSIONS "t" FOR BASE PLATES**

Beam #	1	2	3	4	5	6	7	8	9	10	11	12
t	0	4 7/8"	4 3/4"	4 5/8"	4 5/8"	4 5/8"	4 5/8"	5 5/8"	5 5/8"	4 5/8"	4 5/8"	0

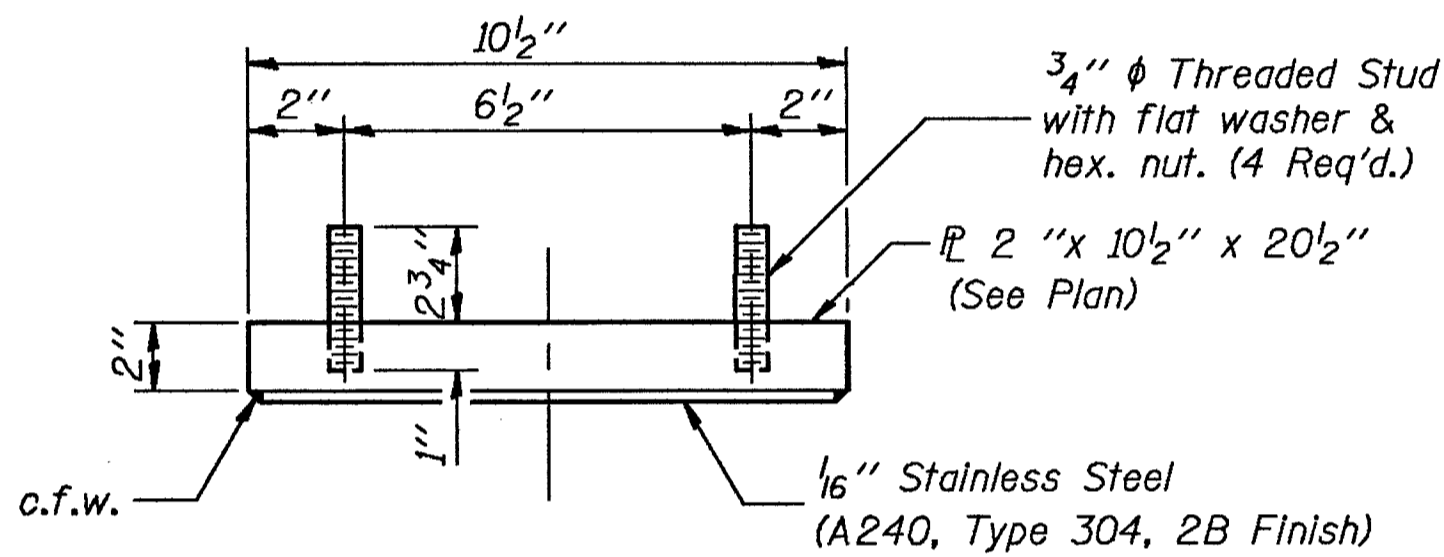
"t" can be made up of plates min.=3/8"; max.=2"



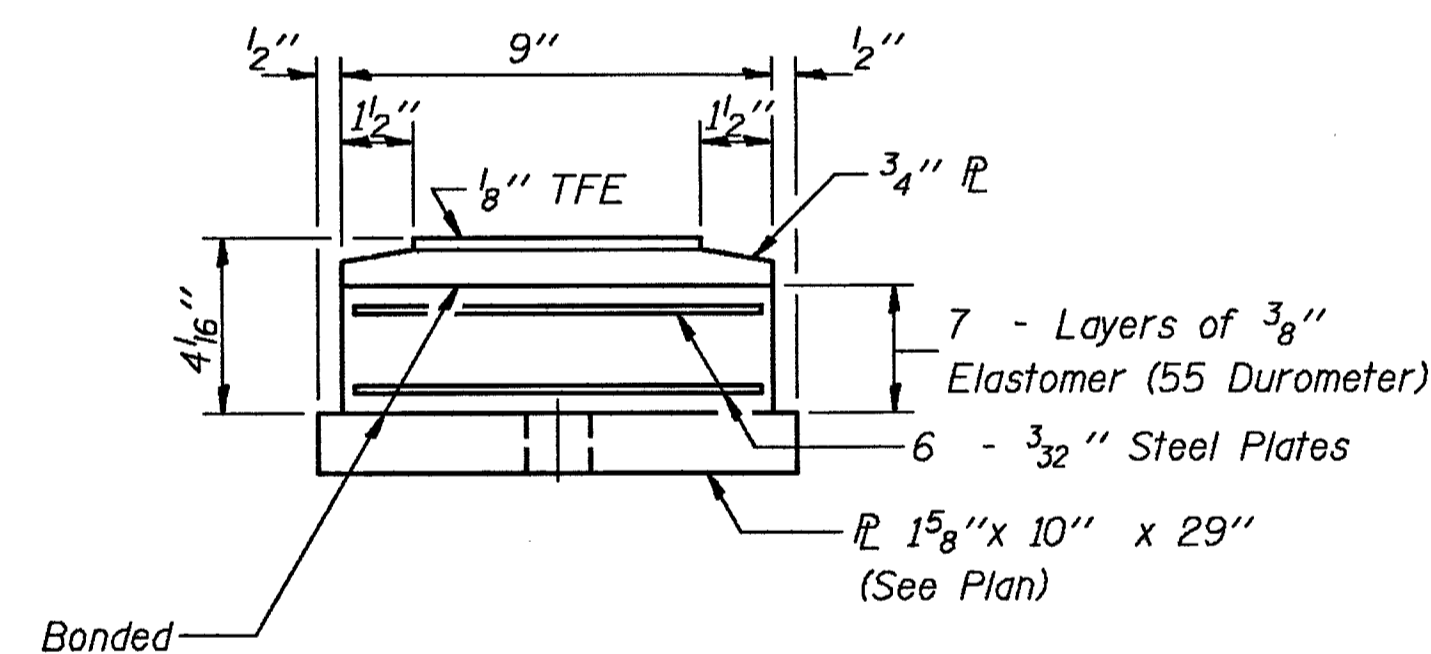
**TOP BEARING ASSEMBLY**



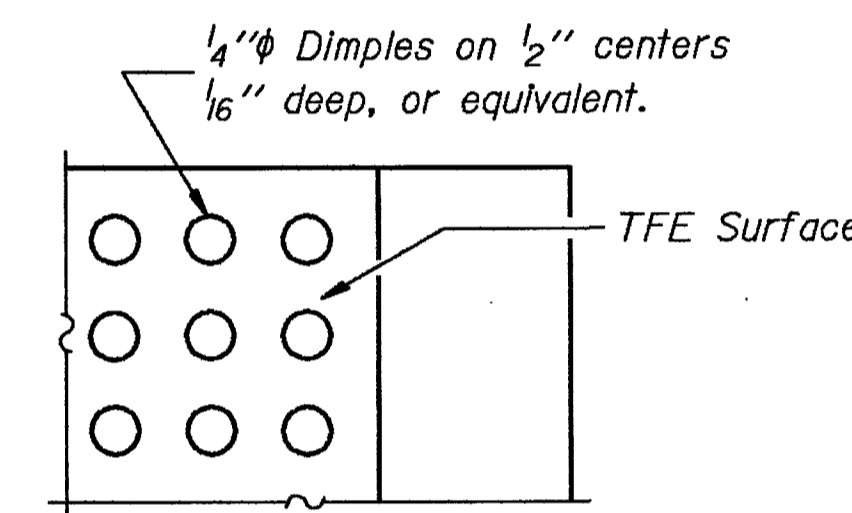
**BOTTOM BEARING ASSEMBLY**



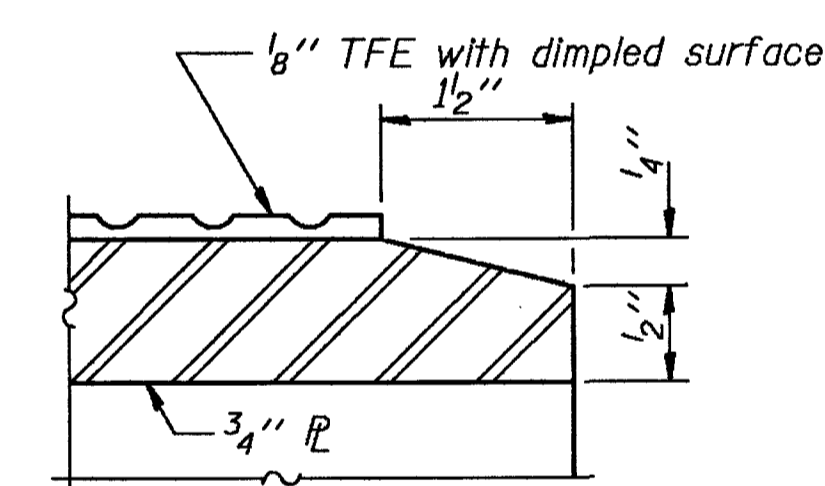
**TOP BEARING ASSEMBLY**



**BOTTOM BEARING ASSEMBLY**



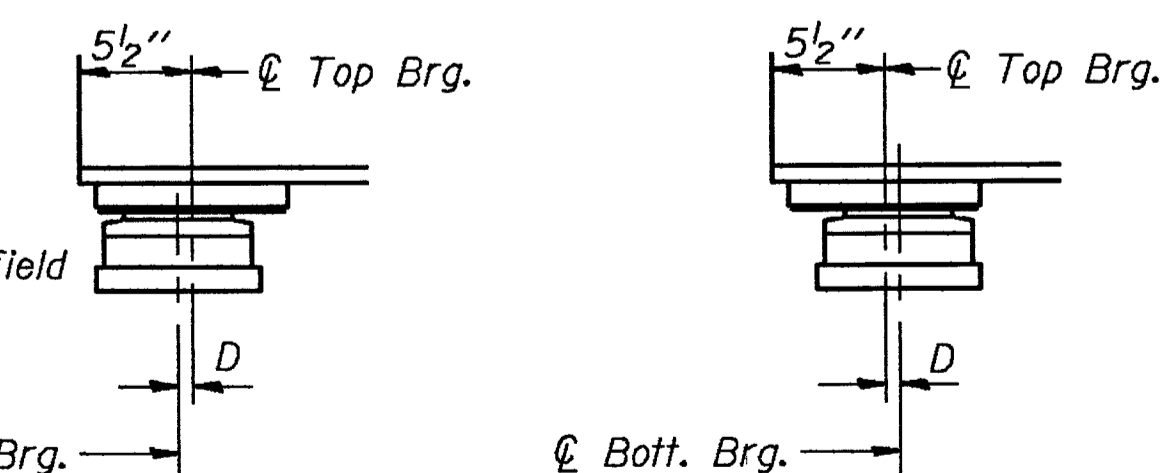
**PLAN-TFE SURFACE**



**SECTION THRU TFE**

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



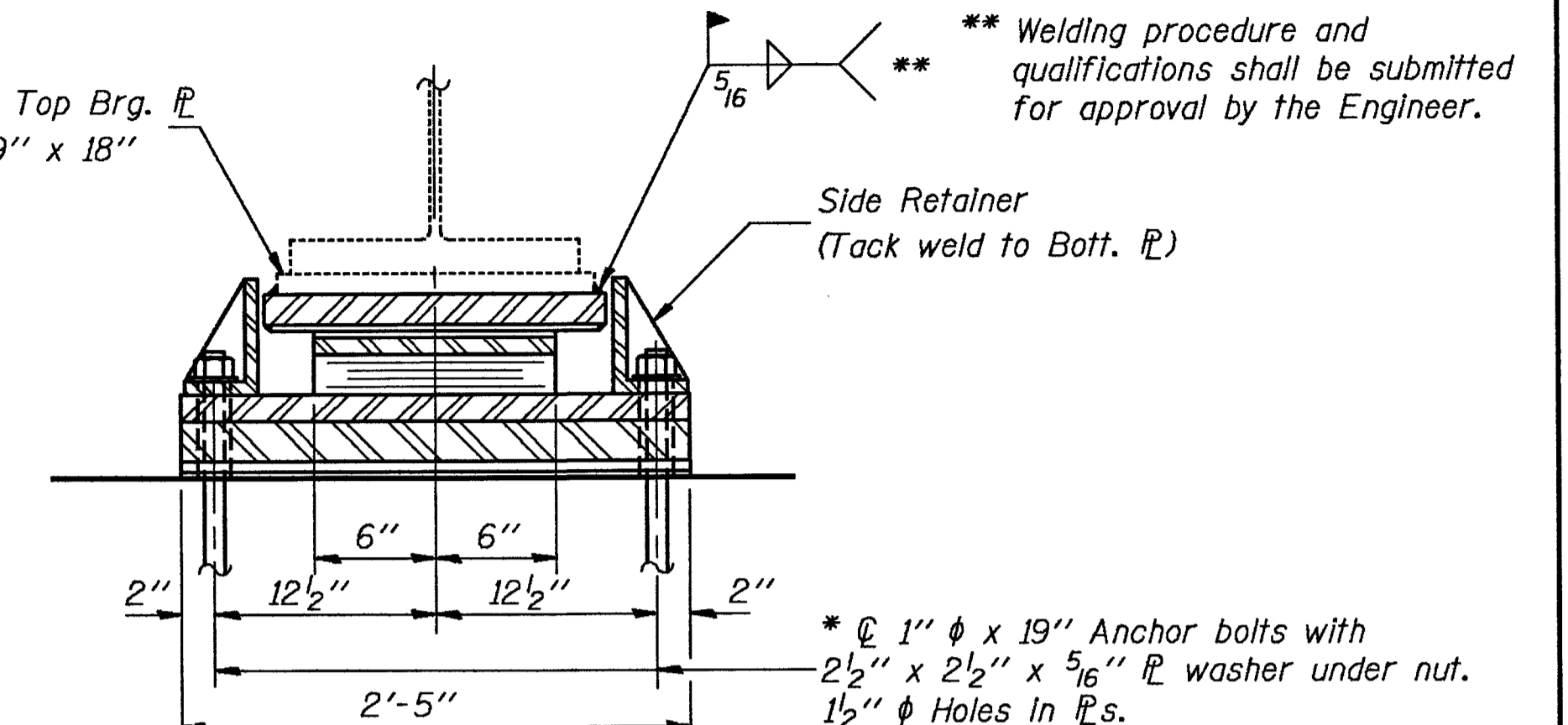
BELOW 50°F.

ABOVE 50°F.

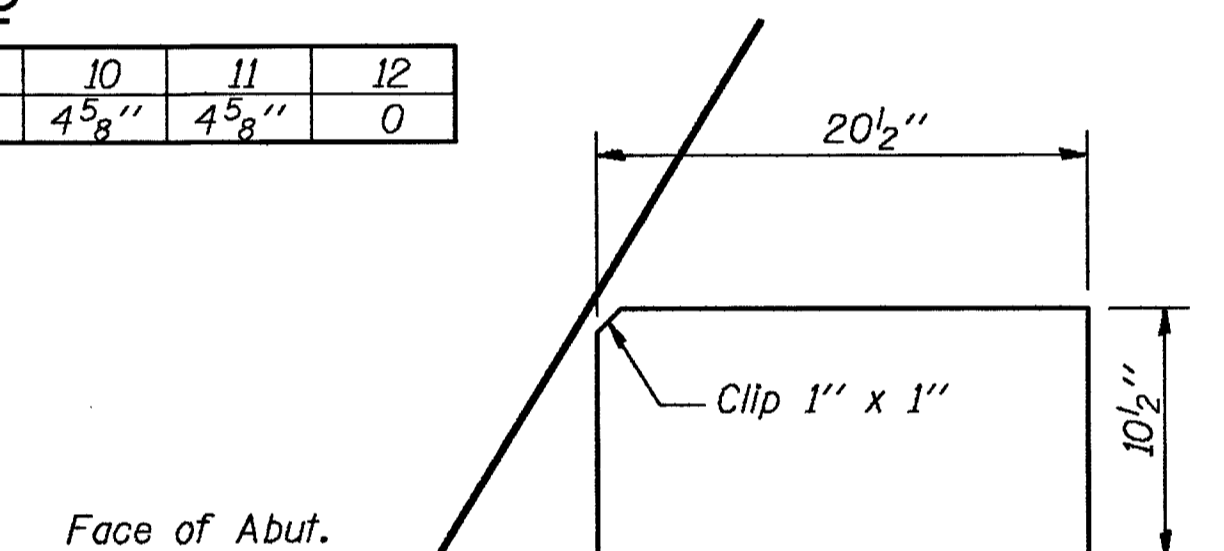
(Move bott. brg. away from fixed brg.) (Move bott. brg. toward fixed brg.)

**SETTING ANCHOR BOLTS AT S. ABUT.**

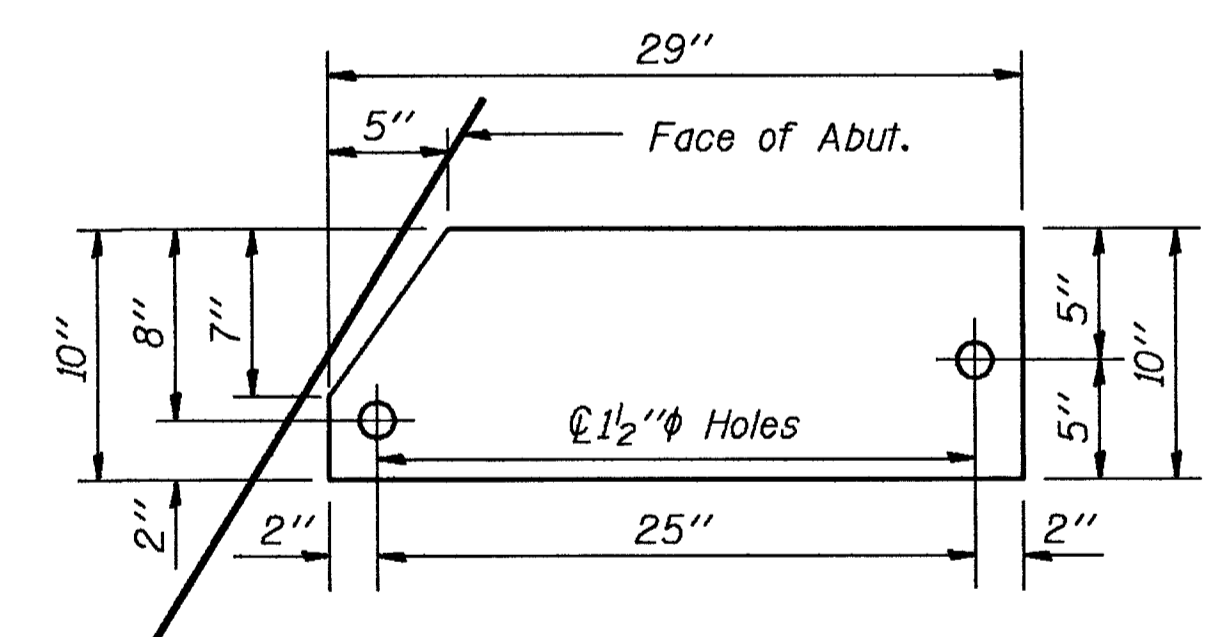
D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



**SECTION A-A**



**PLAN - TOP PLATE**



**PLAN - BOTT. & BASE PLATE**

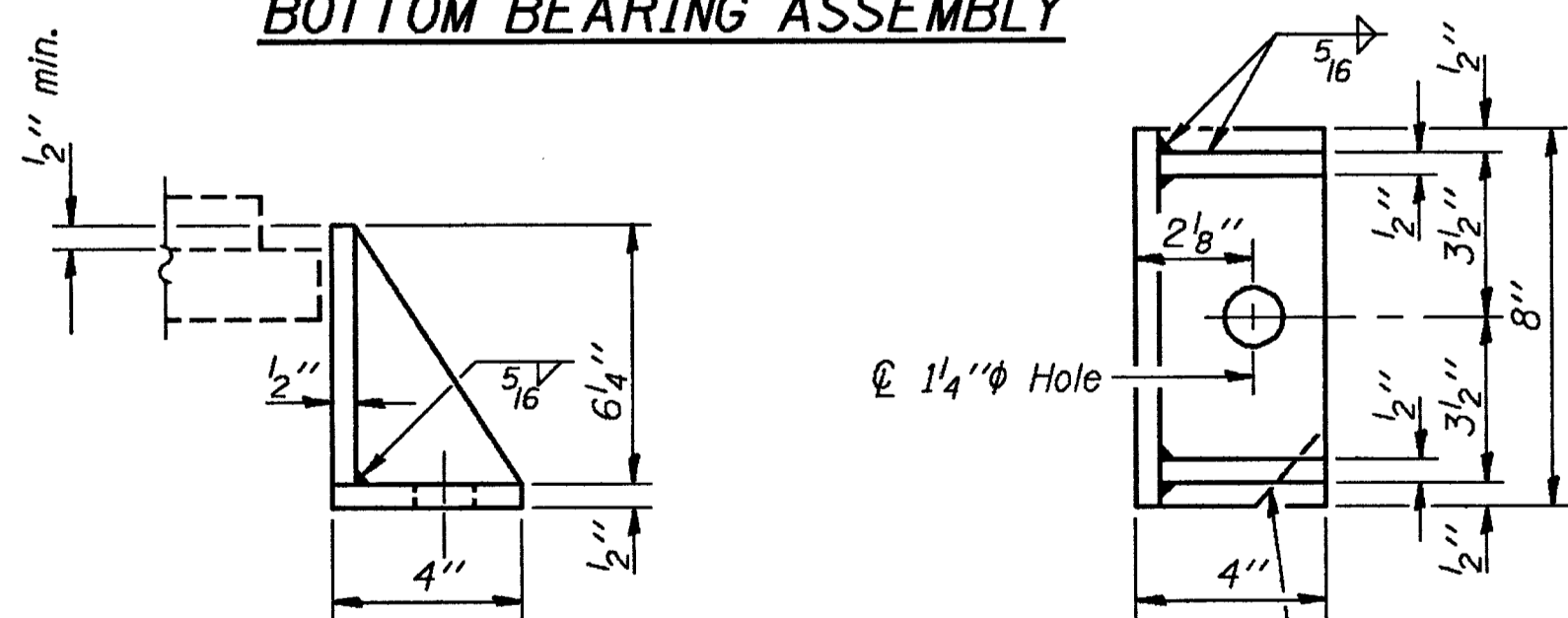
**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12
Jack and Remove Existing Bearings	Each	10

**BEARINGS**  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

**JACK AND REMOVE EXISTING BEARING PROCEDURE**

- The Contractor shall submit for approval by the Engineer, plans for jacking prior to commencing any work at the bearings. Dead Load = 9.5K at each beam without concrete deck.
- During each stage of construction, jacking and removing existing bearings shall be done after deck removal is completed and before the new deck is poured.
- Three beams may be lifted at one time.
- Jacking shall be limited to a maximum of 1" lift.
- The existing anchor bolts shall be removed or cut off flush with the bridge seat, the rockers and bottom plates shall be removed, leaving the existing top plate intact. The existing holes shall be filled with concrete and new holes drilled at locations specified. The bottom flange area of the beam and existing top plate shall be cleaned and painted as required and as specified for structural steel prior to placing the new elastomeric bearings.
- The new elastomeric bearings and base plates shall be placed and the jacks shall be lowered.



**SIDE RETAINER**

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

DESIGNED	Walter J. Holly
CHECKED	D. Carl Pugh
DRAWN	J.T. Downing
CHECKED	JQH DCP

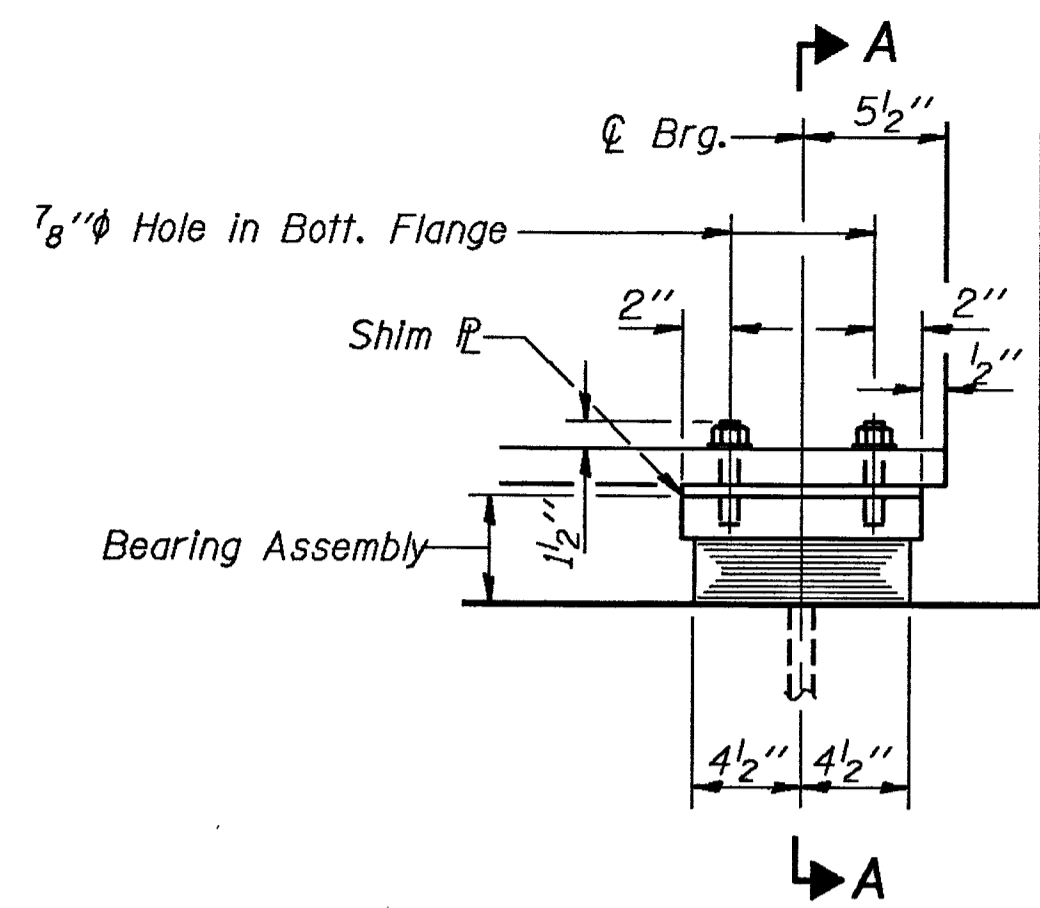
EXAMINED	May 3 1994 D. J. Kaspar ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED	DIRECTOR OF HIGHWAYS



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

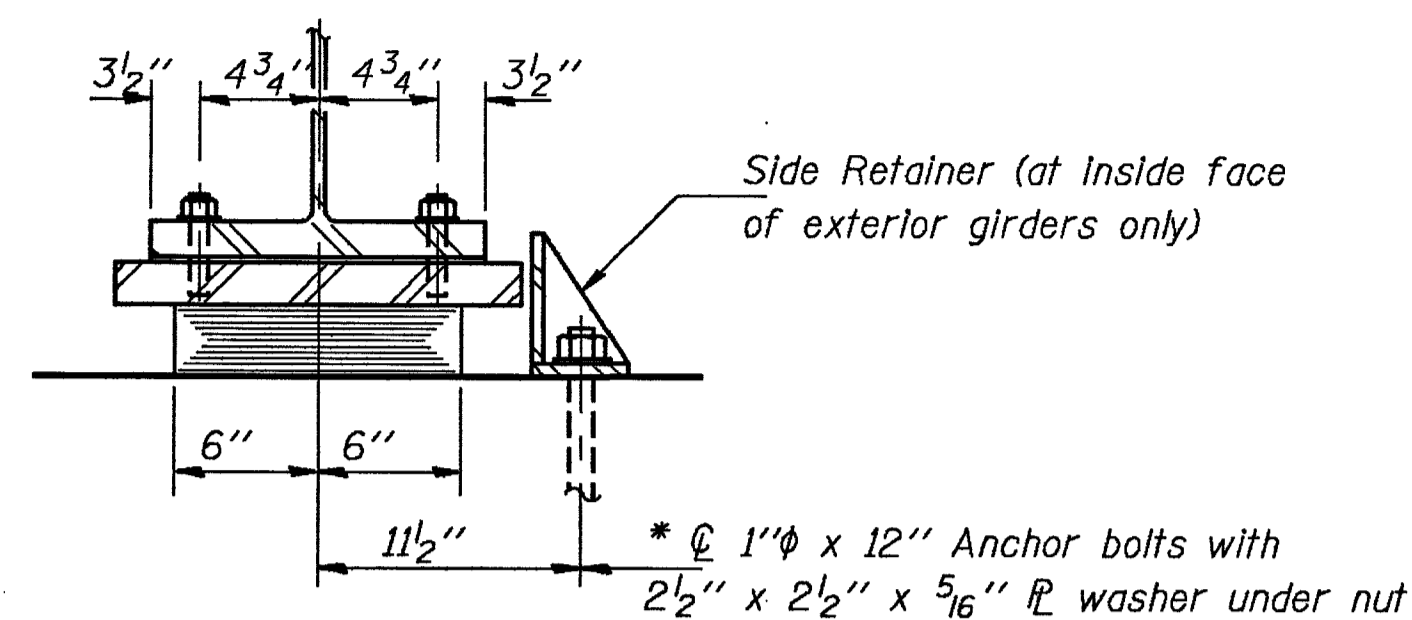
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 39	4VBY-1	WINNEBAGO	171	94
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15  
27 SHEETS



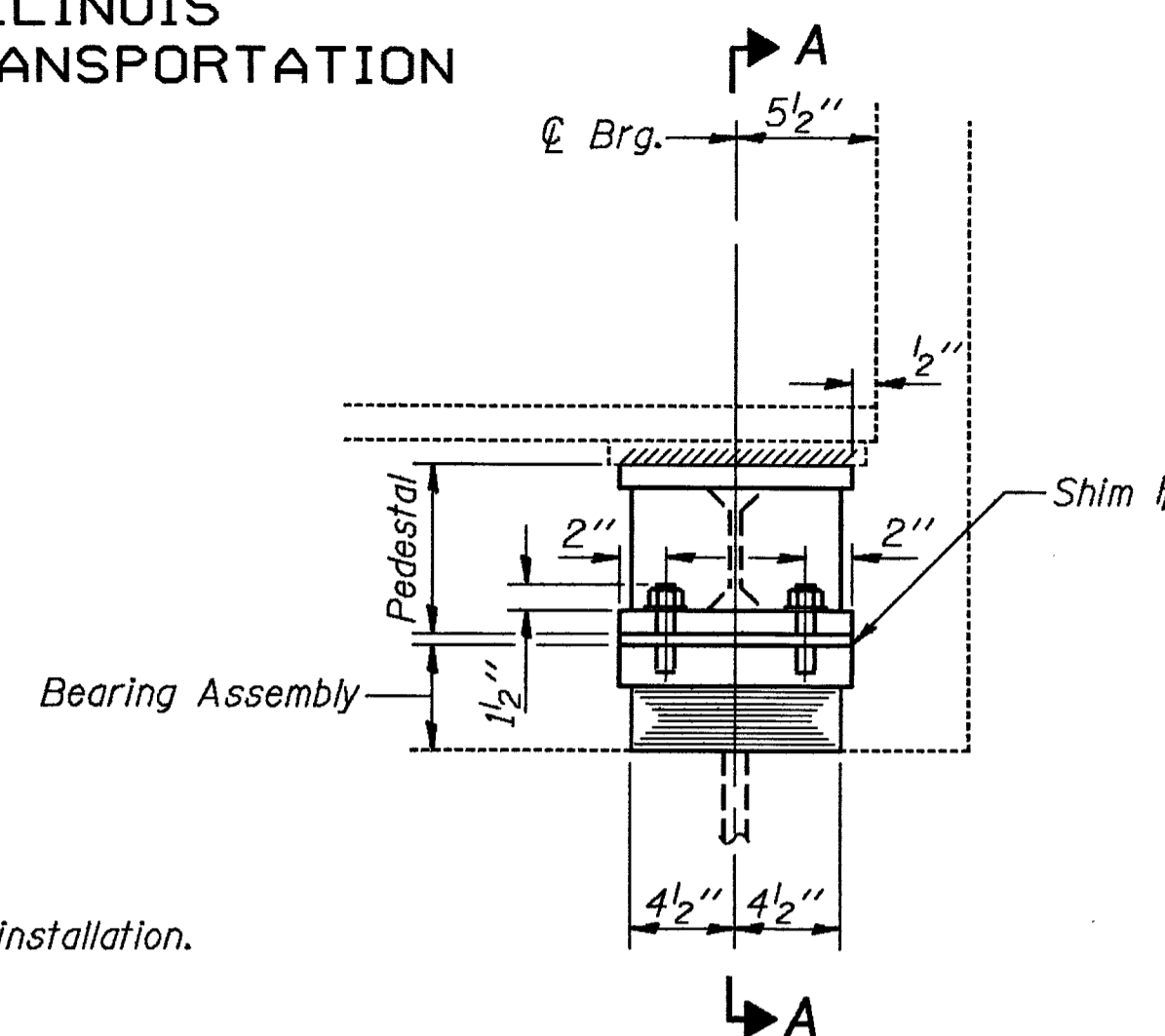
**ELEVATION AT NORTH ABUT.**  
(At Beams #1 & #12)

**TYPE I ELASTOMERIC EXP. BRG.**

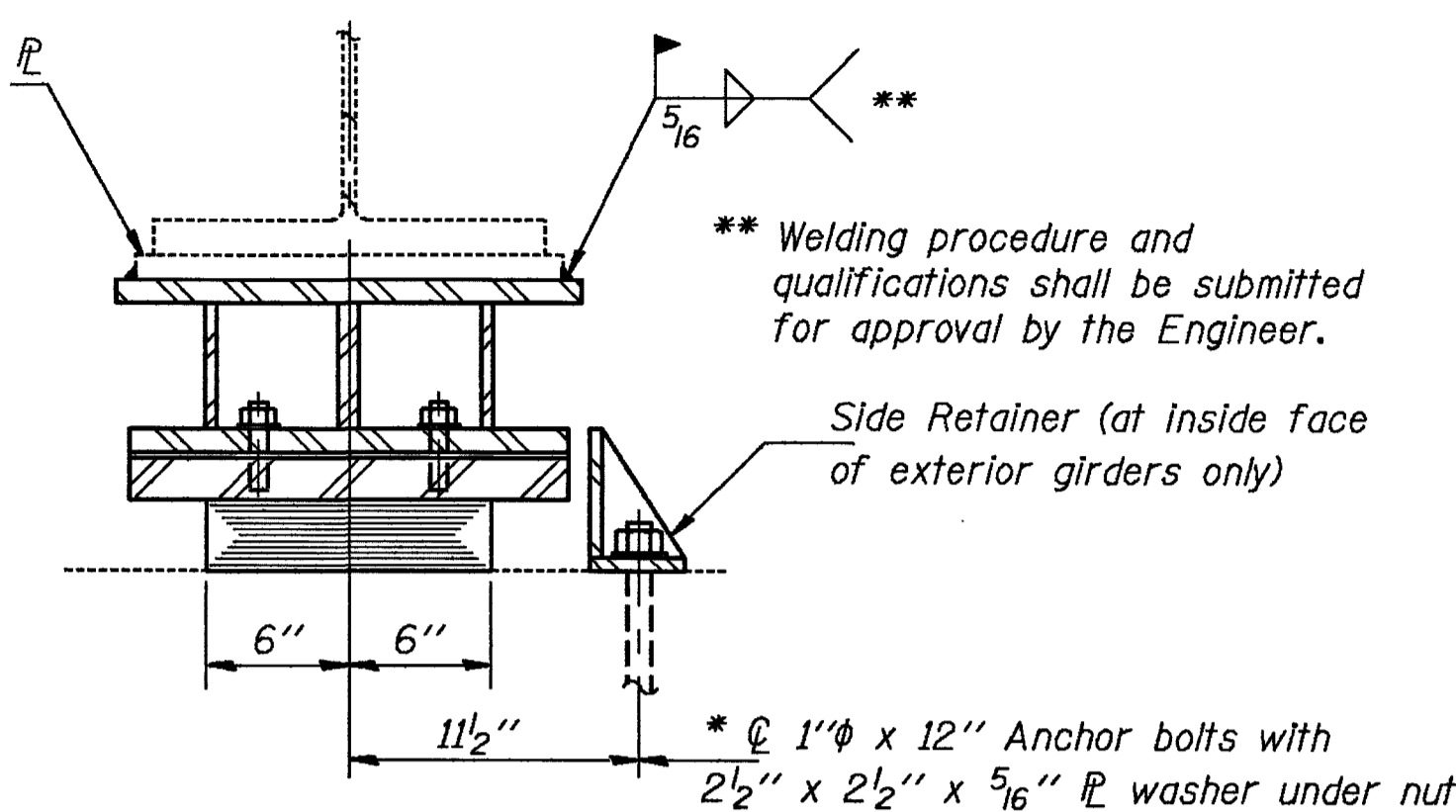


**SECTION A-A**

\*See sheet #27 of 27 for Anchor Bolt Installation.

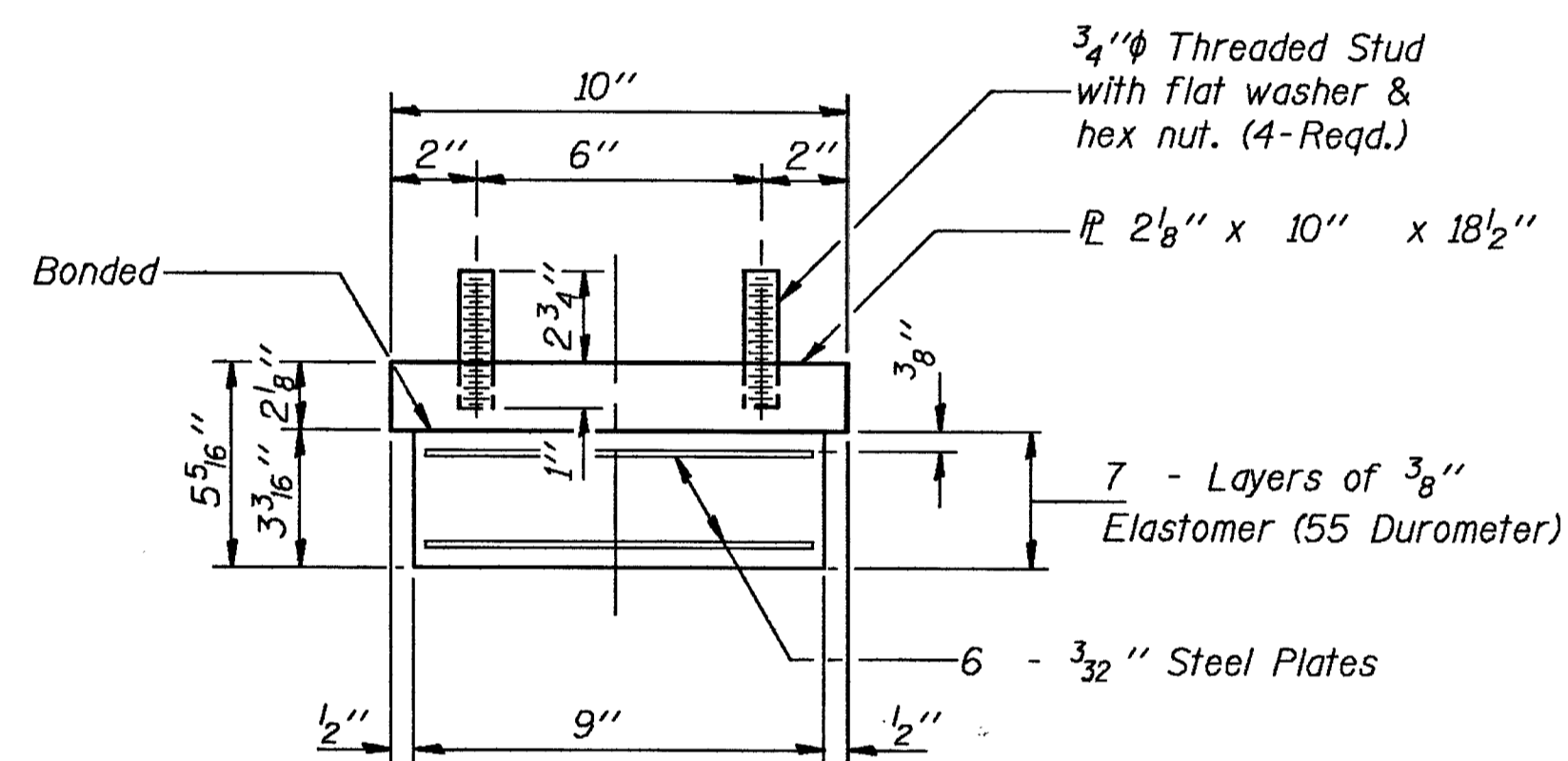


**ELEVATION AT NORTH ABUT.**  
(At Beams #2 thru #11)



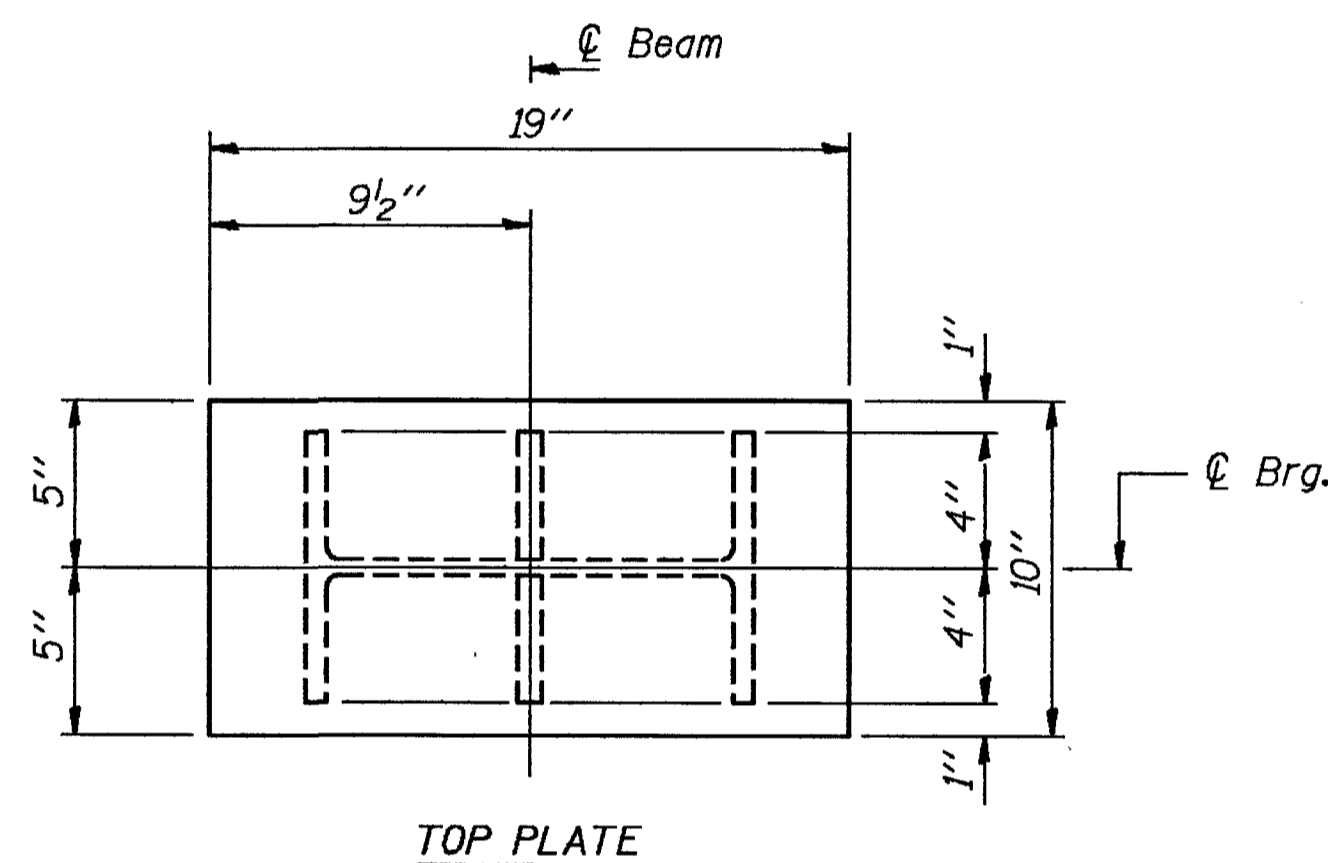
**SECTION A-A**

**TYPE I ELASTOMERIC EXP. BRG.**

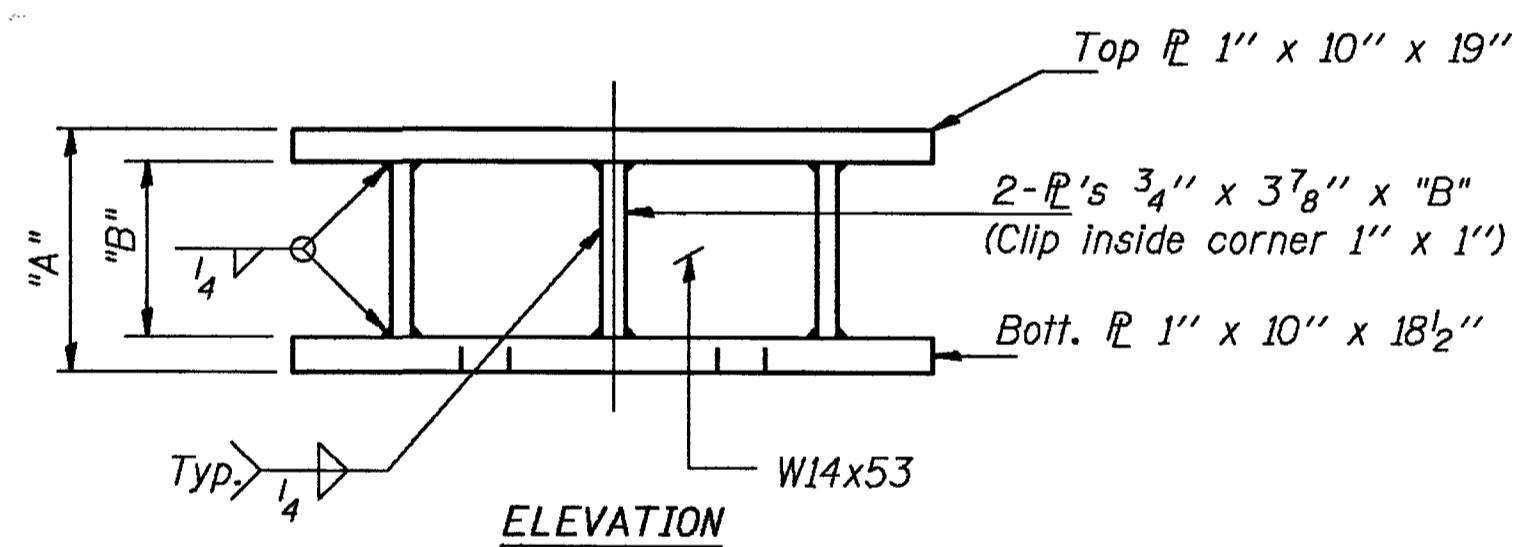


**BEARING ASSEMBLY**

Note: Shim plates shall not be placed under Bearing Assembly.

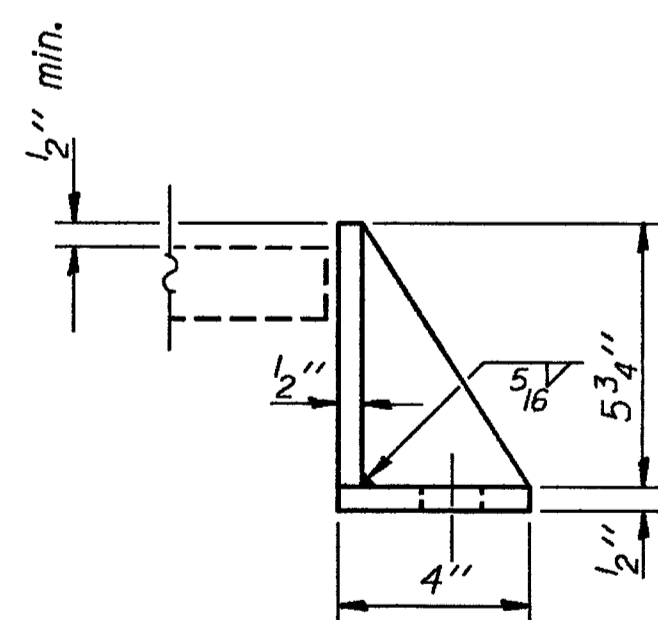


**TOP PLATE**



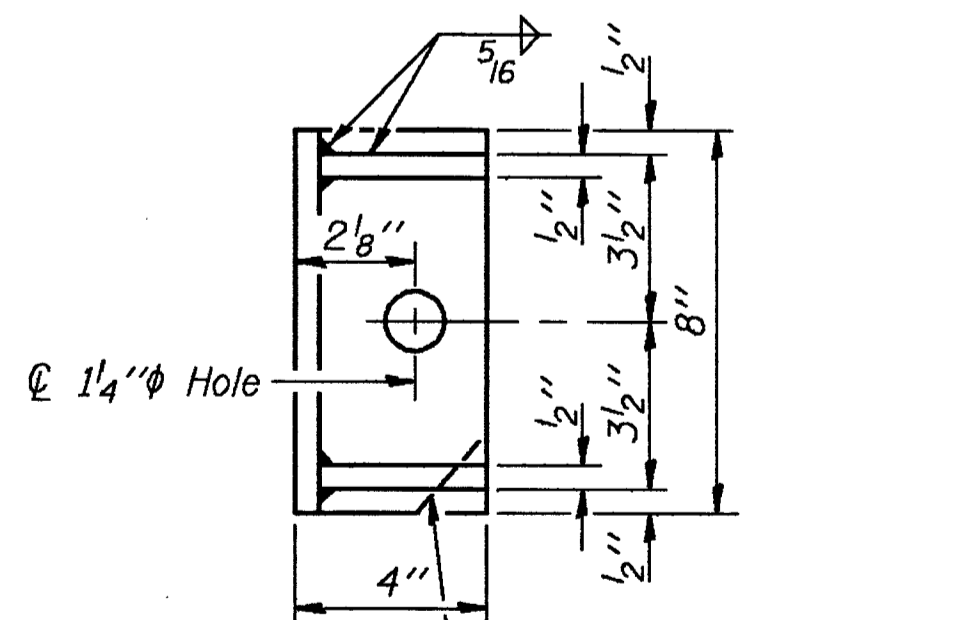
**ELEVATION**

Equivalent welded plates will be allowed in lieu of the W14x53 section.

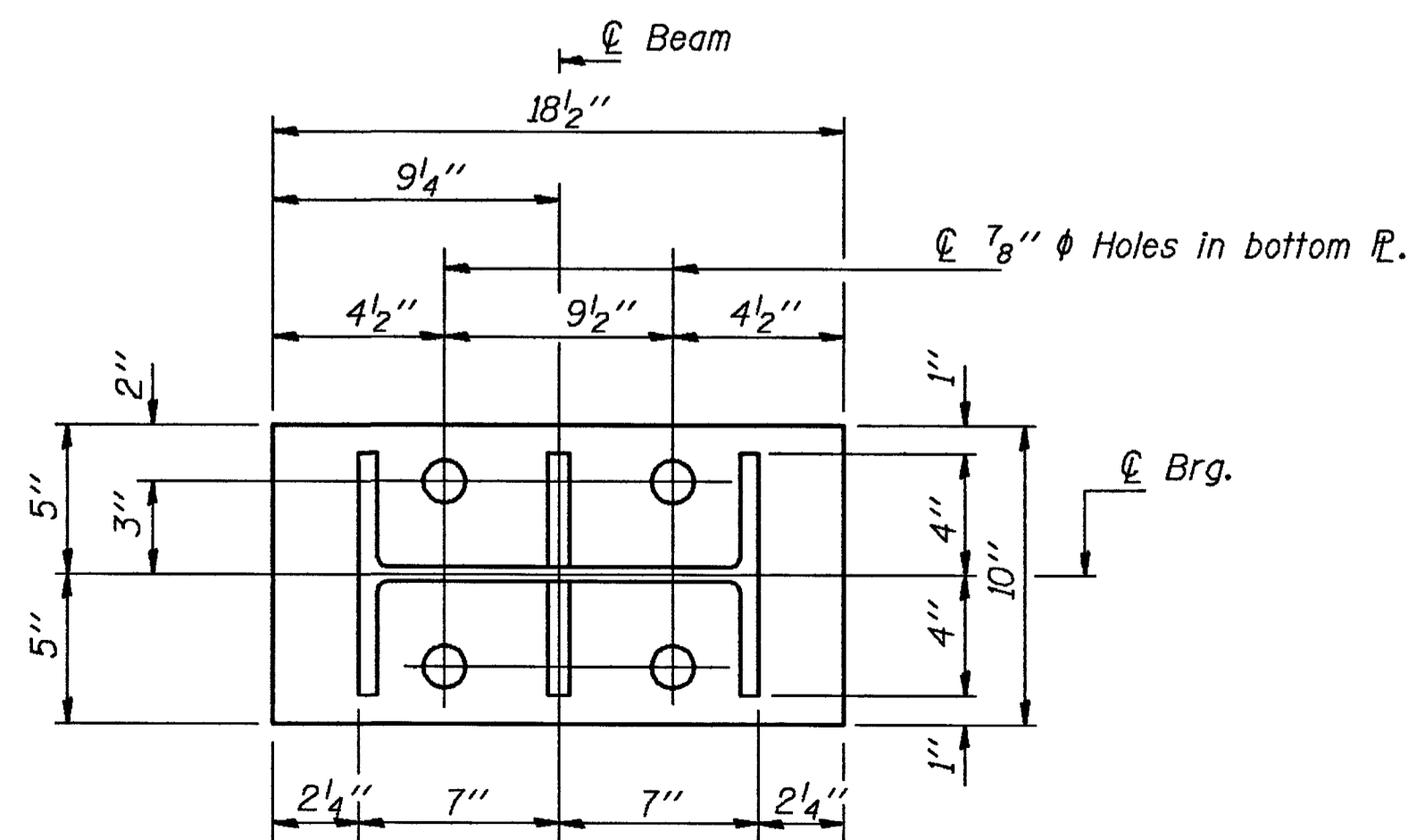


**SIDE RETAINER**

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



Cut as required in field to clear Abut. wall. Cost incidental to Structural Steel.



**BOTTOM PLATE**

**PEDESTAL**

(10 Required)

**DIMENSIONS "A" & "B" FOR PEDESTALS**

Beam #	1	2	3	4	5	6	7	8	9	10	11	12
"A"	0	7 5/8"	8"	7 1/4"	7 1/4"	7 1/4"	7 1/4"	7 3/8"	7 1/4"	7 1/4"	7 1/4"	0
"B"	0	5 5/8"	6"	5 1/4"	5 1/4"	5 1/4"	5 1/4"	5 3/8"	5 1/4"	5 1/4"	5 1/4"	0

**JACK AND REMOVE EXISTING BEARING PROCEDURE**

1. The Contractor shall submit for approval by the Engineer, plans for jacking prior to commencing any work at the bearings. Dead Load = 9.5K at each beam without concrete deck.
2. During each stage of construction, jacking and removing existing bearings shall be done after deck removal is completed and before the new deck is poured.
3. Three beams may be lifted at one time.
4. Jacking shall be limited to a maximum of 1" lift.
5. The existing anchor bolts shall be removed or cut off flush with the bridge seat, the rockers and bottom plates shall be removed, leaving the existing top plate intact. The existing holes shall be filled with concrete and new holes drilled at locations specified. The bottom flange area of the beam and existing top plate shall be cleaned and painted as required and as specified for structural steel prior to placing the new elastomeric bearings.
6. The new elastomeric bearings and pedestals shall be placed and the jacks shall be lowered.

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Jack and Remove Existing Bearings	Each	10

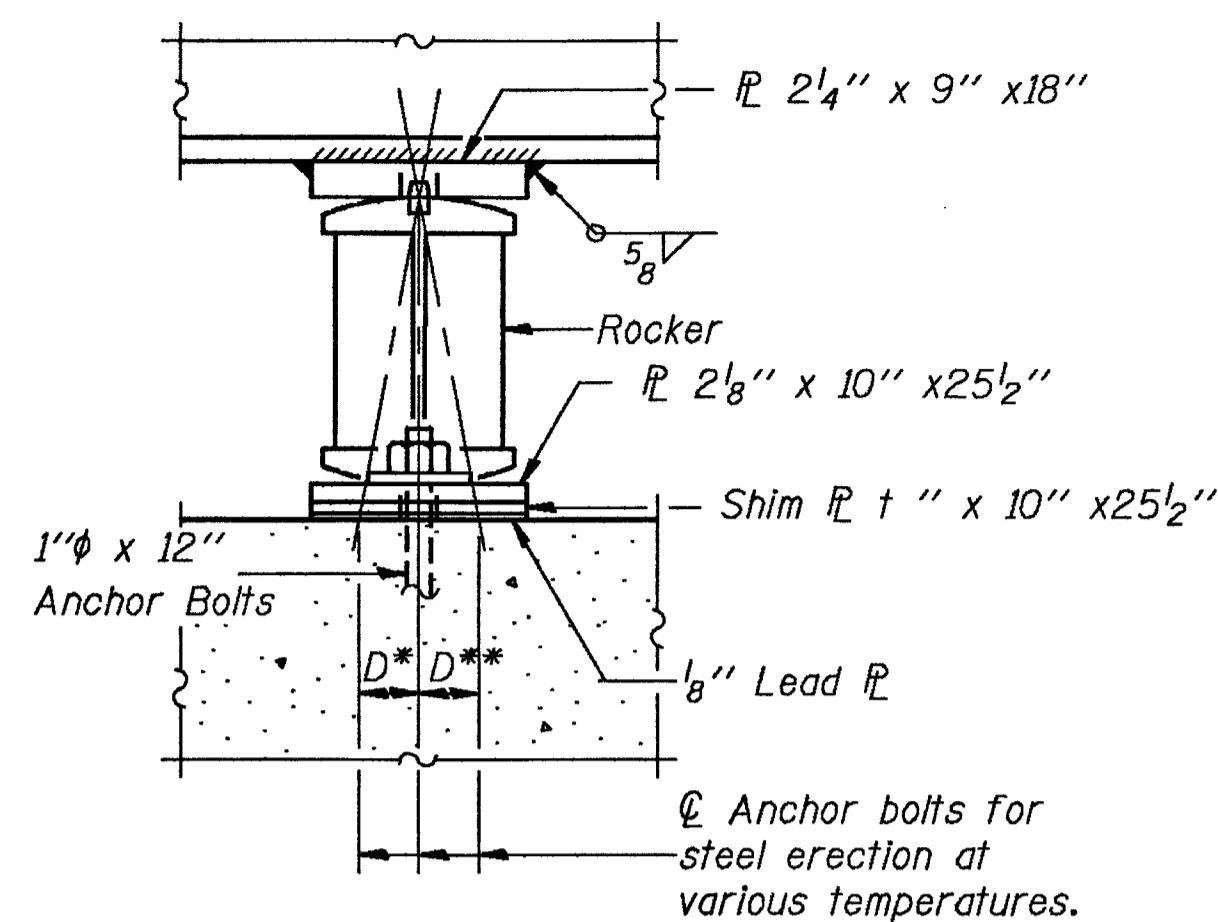
**BEARINGS**  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

DESIGNED	<i>Walter J. Kelly</i>
CHECKED	<i>L. Carl Purdy</i>
DRAWN	J.T. Downing
CHECKED	<i>WJD DCP</i>

EXAMINED	<i>May 3 1970</i>
PASSED	<i>Ralph E. Anderson</i>
APPROVED	DIRECTOR OF HIGHWAYS

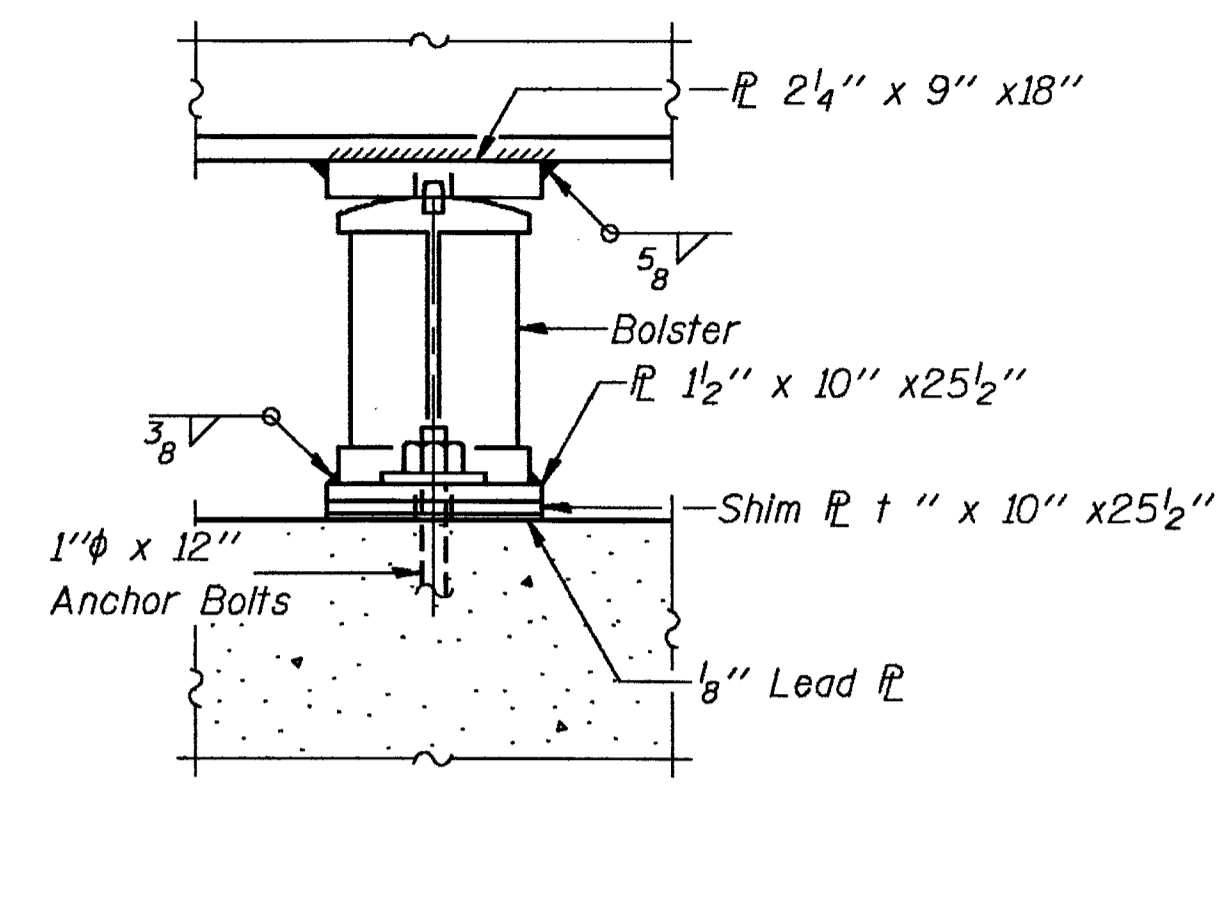
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 16
F.A. 39	4VBY-1	WINNEBAGO	171	95	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			27 SHEETS



**ELEVATION**

(New beams, #1 & #12)

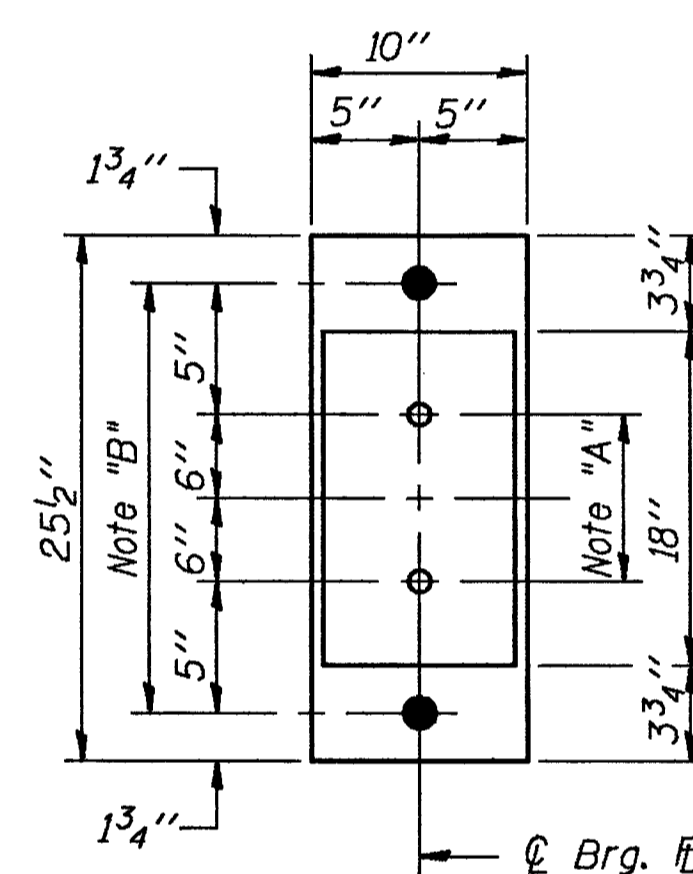


**ELEVATION**

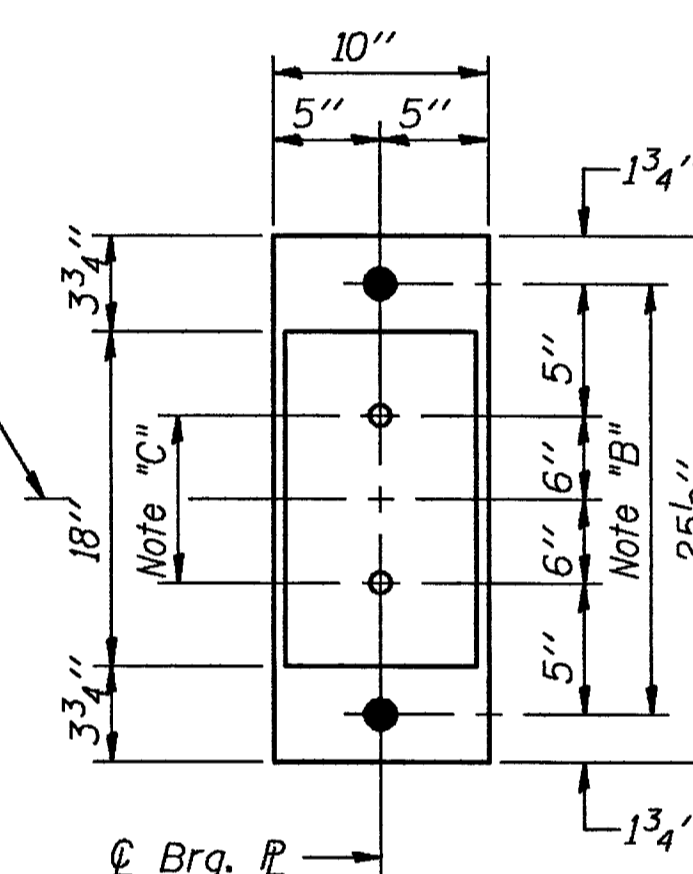
(New beams, #1 & #12)

**NOTES FOR SETTING OF ANCHOR BOLTS  
AT EXPANSION BEARINGS**

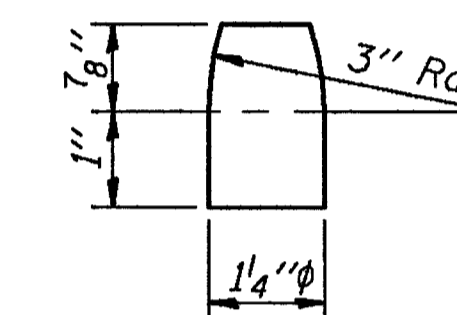
- a.) D\* (Side of brg. away from fixed brg.)  
D\* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.  
D\*\* (Side of brg. toward fixed brg.)  
D\*\* = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.
- b.) After girders have been erected and dimensions D\* & D\*\* determined, holes shall be drilled and anchor bolts shall be installed as shown on Sheet #27 of 27. All fixed anchor bolts may be built into the masonry.



**PLAN  
AT PIER 1**



**PLAN  
AT PIER 2**



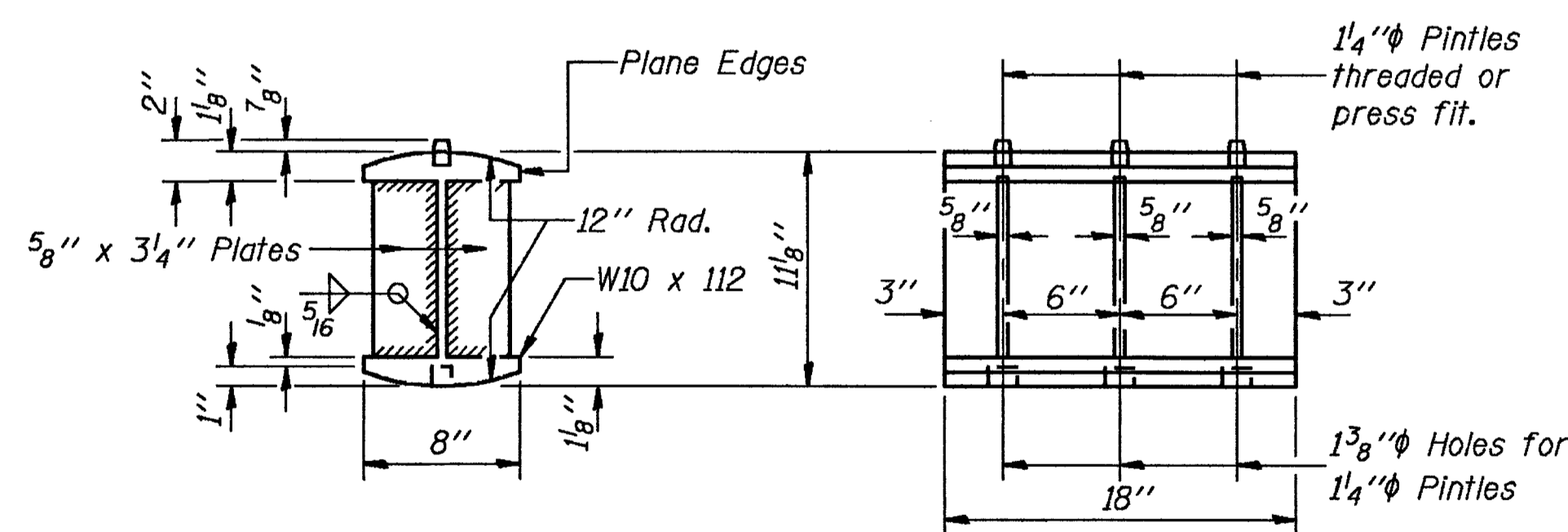
**PINTLE**

Note "A"  
1 3/8"  $\phi$  Holes-1" deep in top flange for 1 1/4"  $\phi$  Pintles. Thread or press fit pintles in bottom flange.

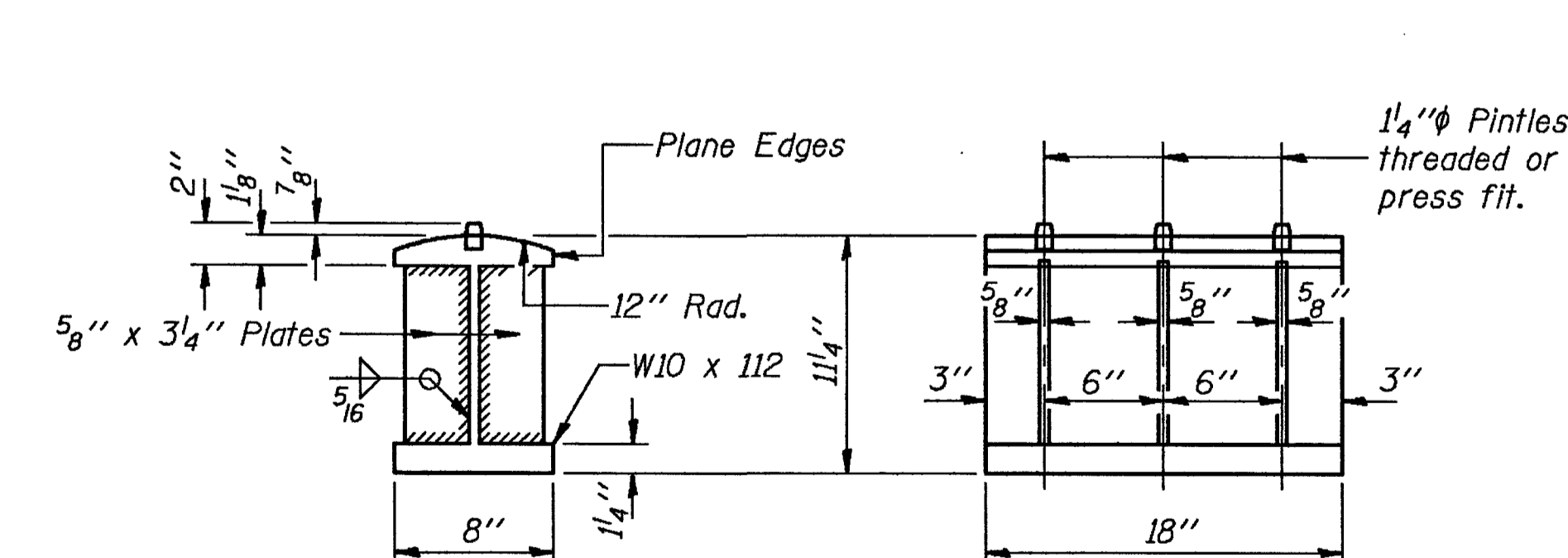
Note "B"  
1 1/2"  $\phi$  Holes for 1"  $\phi$  Anchor Bolts-5/16" x 2 1/2" x 2 1/2" flange washer under nut.

Note "C"  
1 3/8"  $\phi$  Holes-1" deep in top flange only for 1 1/4"  $\phi$  Pintles.

**BEARING ASSEMBLY DETAILS**



**ROCKER**



**BOLSTER**

DESIGNED	<i>Walter J. Wolf</i>
CHECKED	<i>D. Carl Puzos</i>
DRAWN	J.T. Downing
CHECKED	<i>J.T. Downing</i> D.C.P.

May 3 1910

EXAMINED	<i>Ray J. Kaspar</i>
PASSED	<i>Ralph E. Anderson</i>
APPROVED	

DIRECTOR OF HIGHWAYS

**BEARINGS**  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

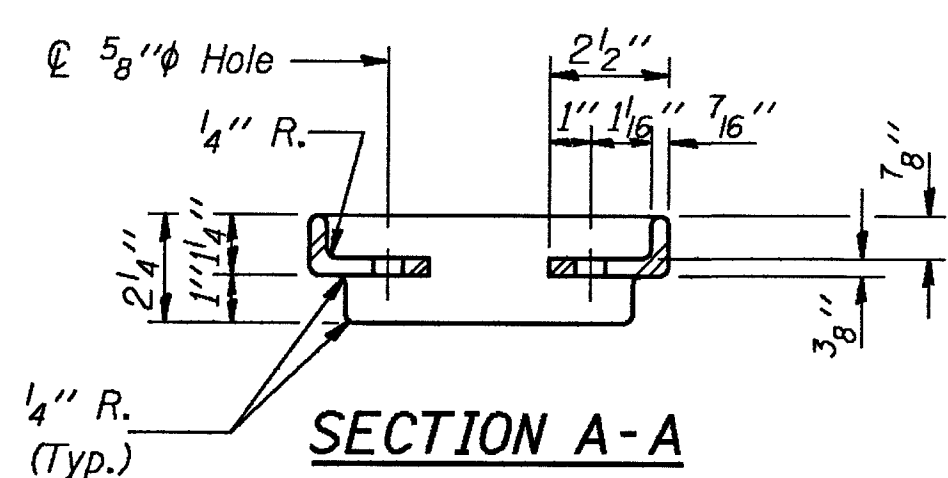




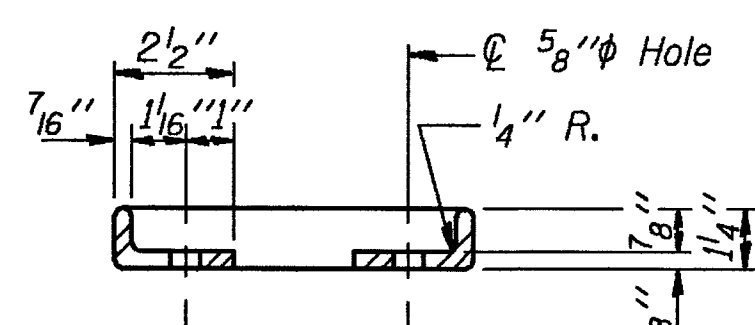
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	4VBY-1	WINNEBAGO	171	97
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

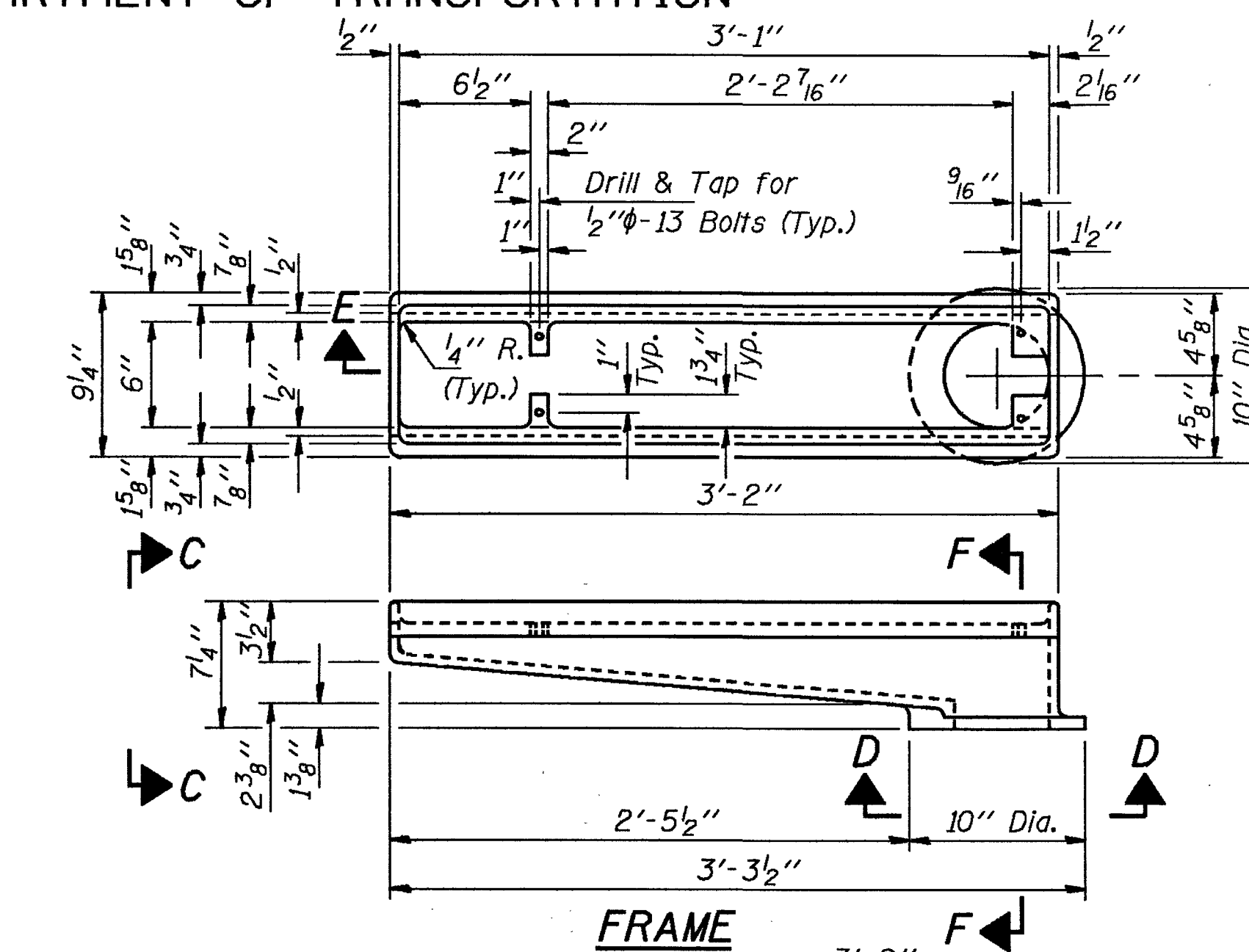
SHEET NO. 18  
27 SHEETS



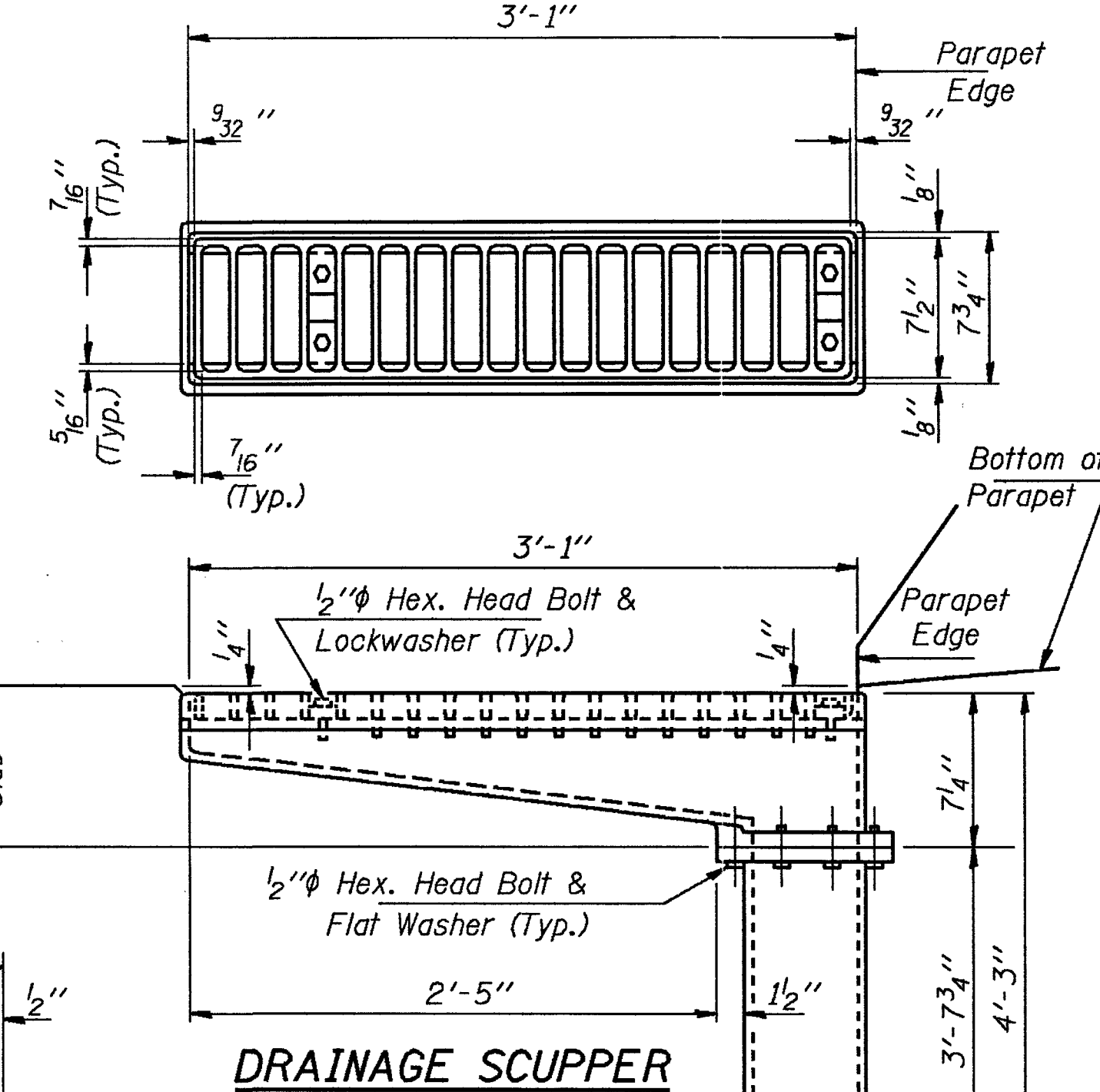
SECTION A-A



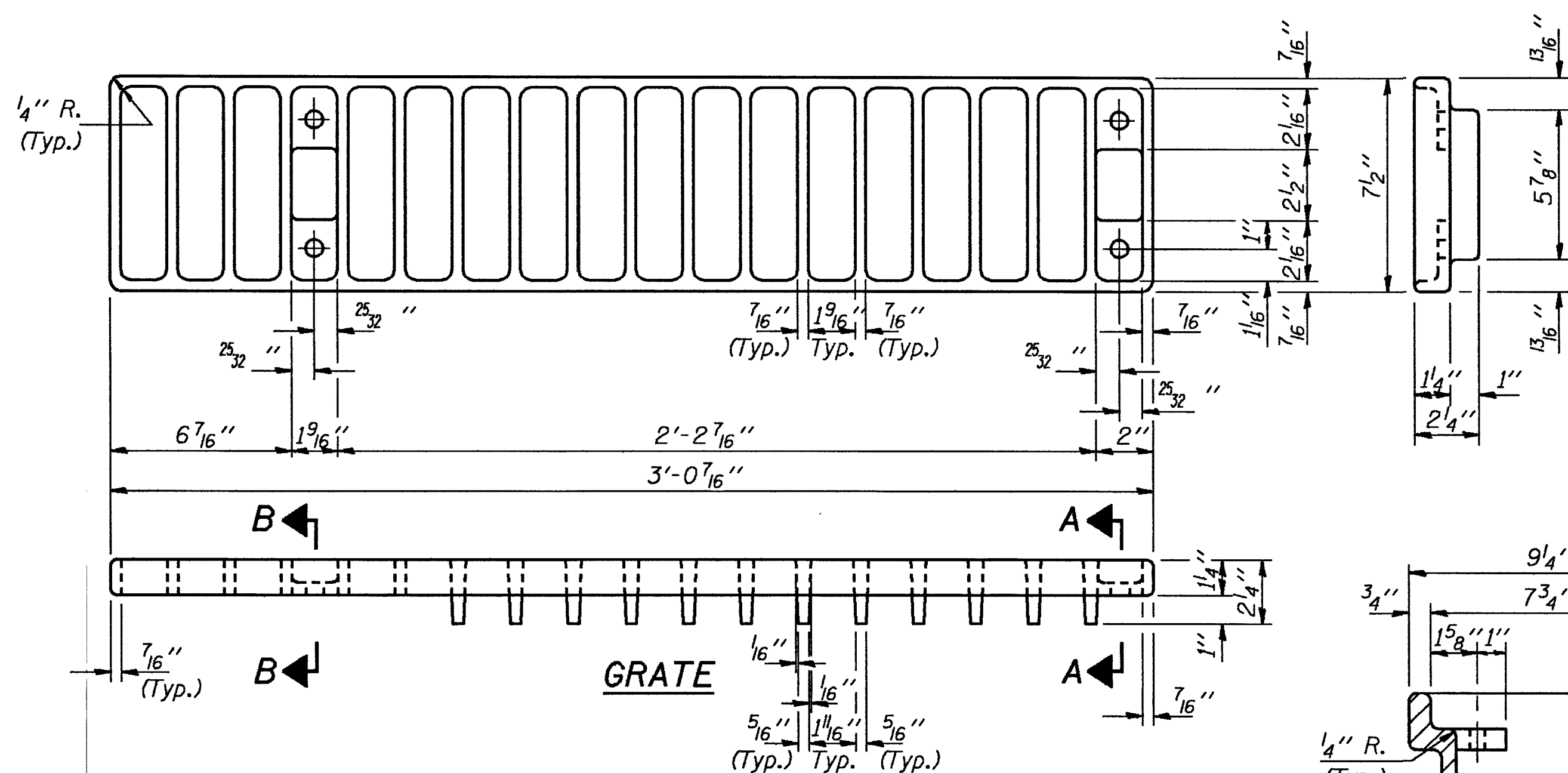
SECTION B-B



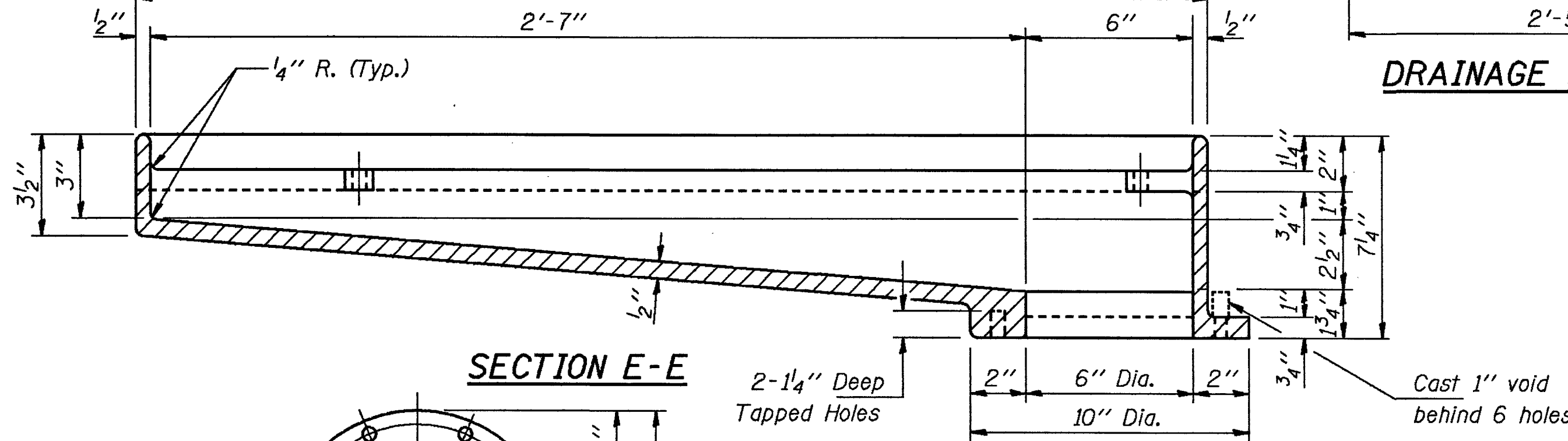
FRAME



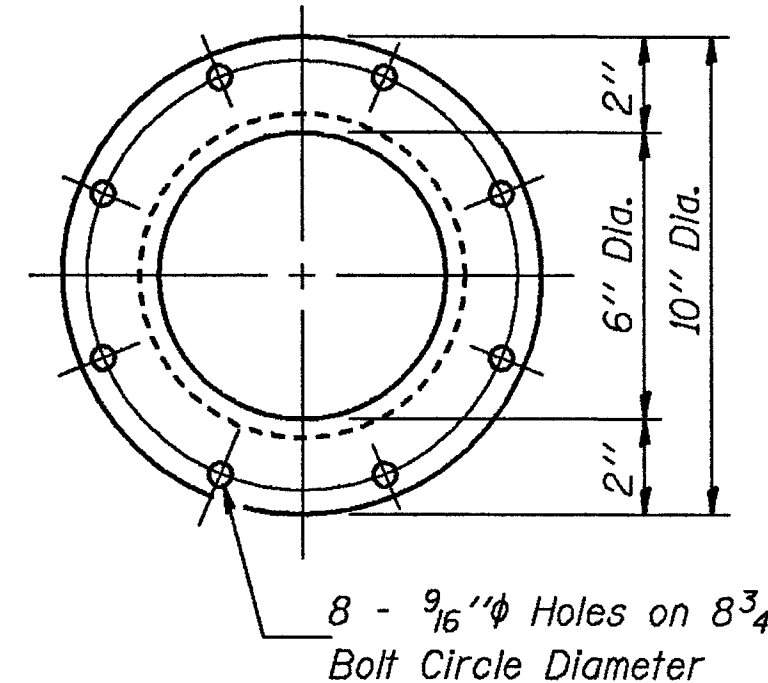
DRAINAGE SCUPPER



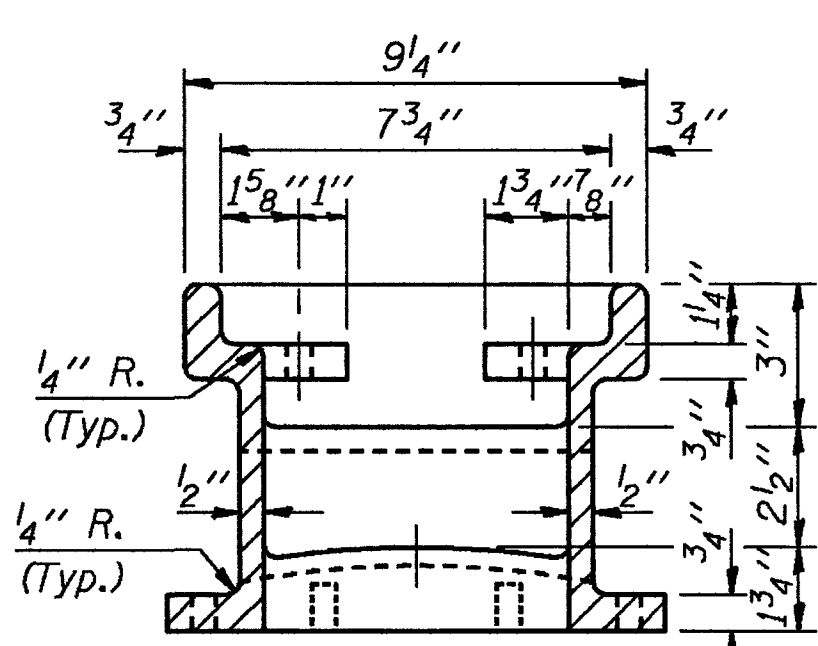
GRATE



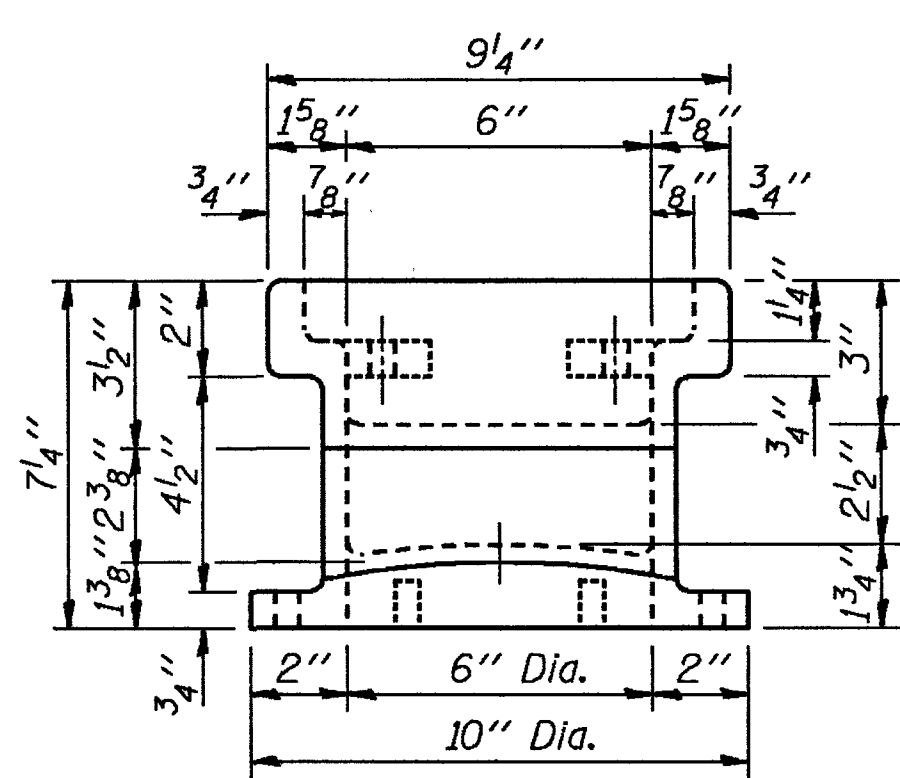
SECTION E-E



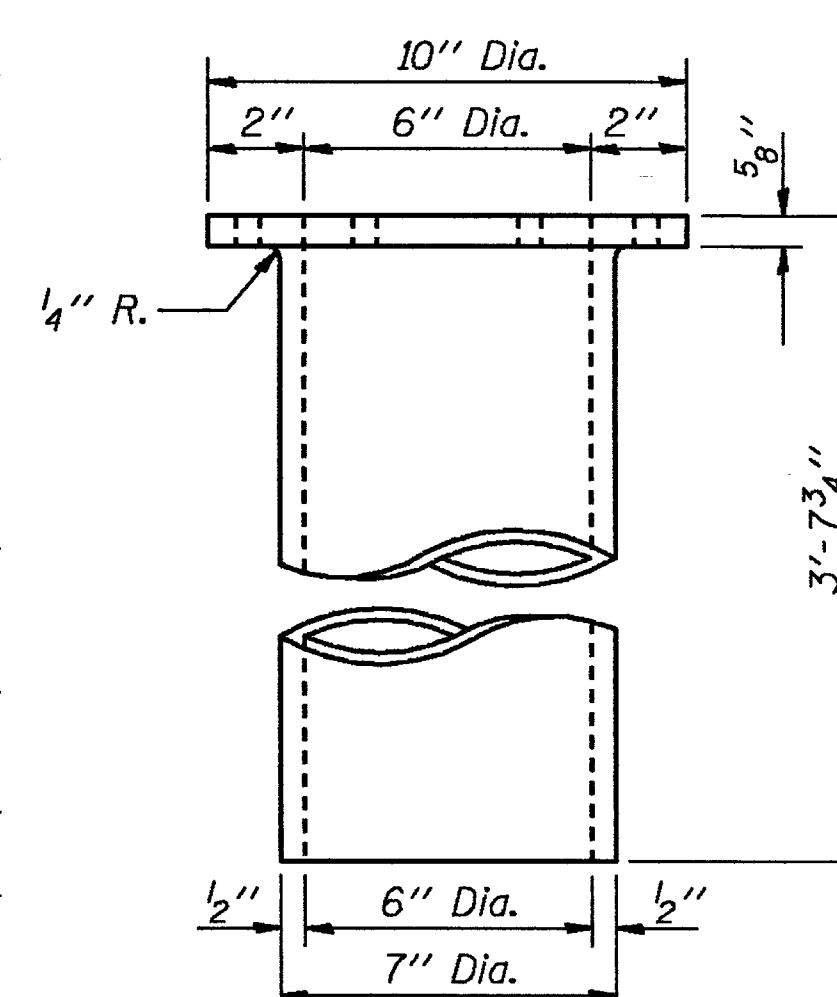
VIEW D-D



SECTION F-F



VIEW C-C



DOWNSPOUT

Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.  
Bolts and washers shall conform to the requirements of ASTM A307.  
All bolts and washers shall be galvanized in accordance with AASHTO M232.  
As an alternate bolts and washers may be stainless steel conforming to the requirements of ASTM A193, Type 304.  
Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper will be paid for at the unit bid price for "DRAINAGE SCUPPERS."  
The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

DESIGNED	<i>John J. Kelly</i>	EXAMINED	<i>May 3 1970</i> <i>Greg J. Kaspar</i>
CHECKED	<i>E. Carl Perry</i>	PASSED	<i>Ralph E. Anderson</i>
DRAWN	J.T. Downing	APPROVED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>		

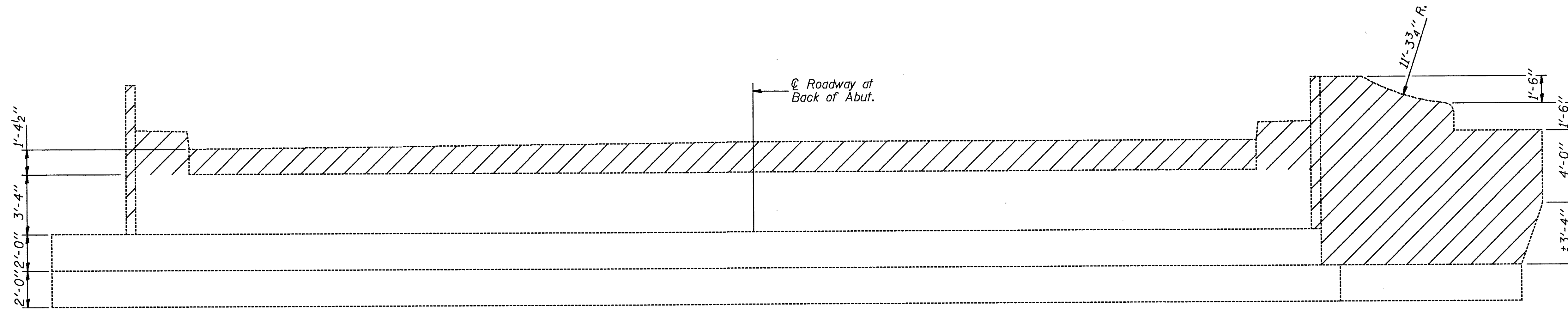
DS-4 12-1-83 (W.T. to inside of exterior stringer flange shall not be >3'-11")

(Sheet 2 of 2)  
**ALTERNATE - CAST IRON  
DRAINAGE SCUPPER**  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16



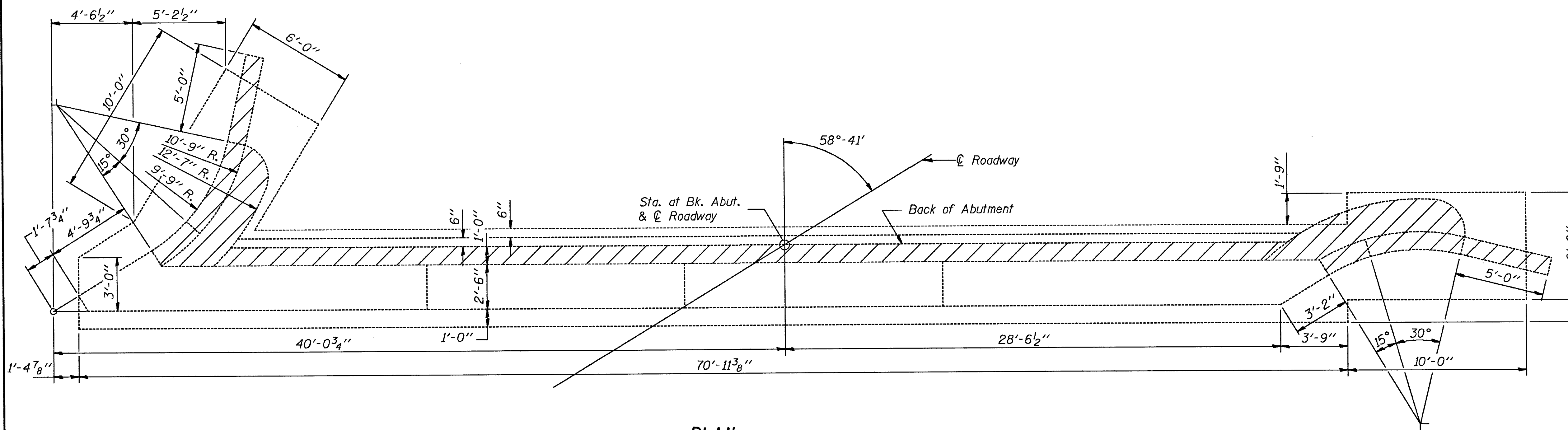
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 19 27 SHEETS
S.A.L. F.A. 39	4VBY-1	WINNEBAGO	171	98	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



**ELEVATION**

Notes: Hatched areas indicate Concrete Removal.  
Existing reinforcement extending into removal areas which can be utilized in new construction shall be cleaned and straightened. Existing reinforcement which cannot be incorporated into new construction shall be cut off flush and covered with a 2" layer of cement mortar. Cost incidental to "Concrete Removal".



**PLAN**

**BILL OF MATERIAL**

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	.60
		493

**CONCRETE REMOVAL  
ABUTMENTS**  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

DESIGNED <i>Walter J. Kelly</i>	EXAMINED <i>Greg J. Kaspar</i>	DATE <i>May 3 1970</i>
CHECKED <i>J. Carl Perry</i>	PASSED <i>Ralph E. Anderson</i>	
DRAWN <i>J.T. Downing</i>	APPROVED _____	
CHECKED <i>WJH DCP</i>	DIRECTOR OF HIGHWAYS	

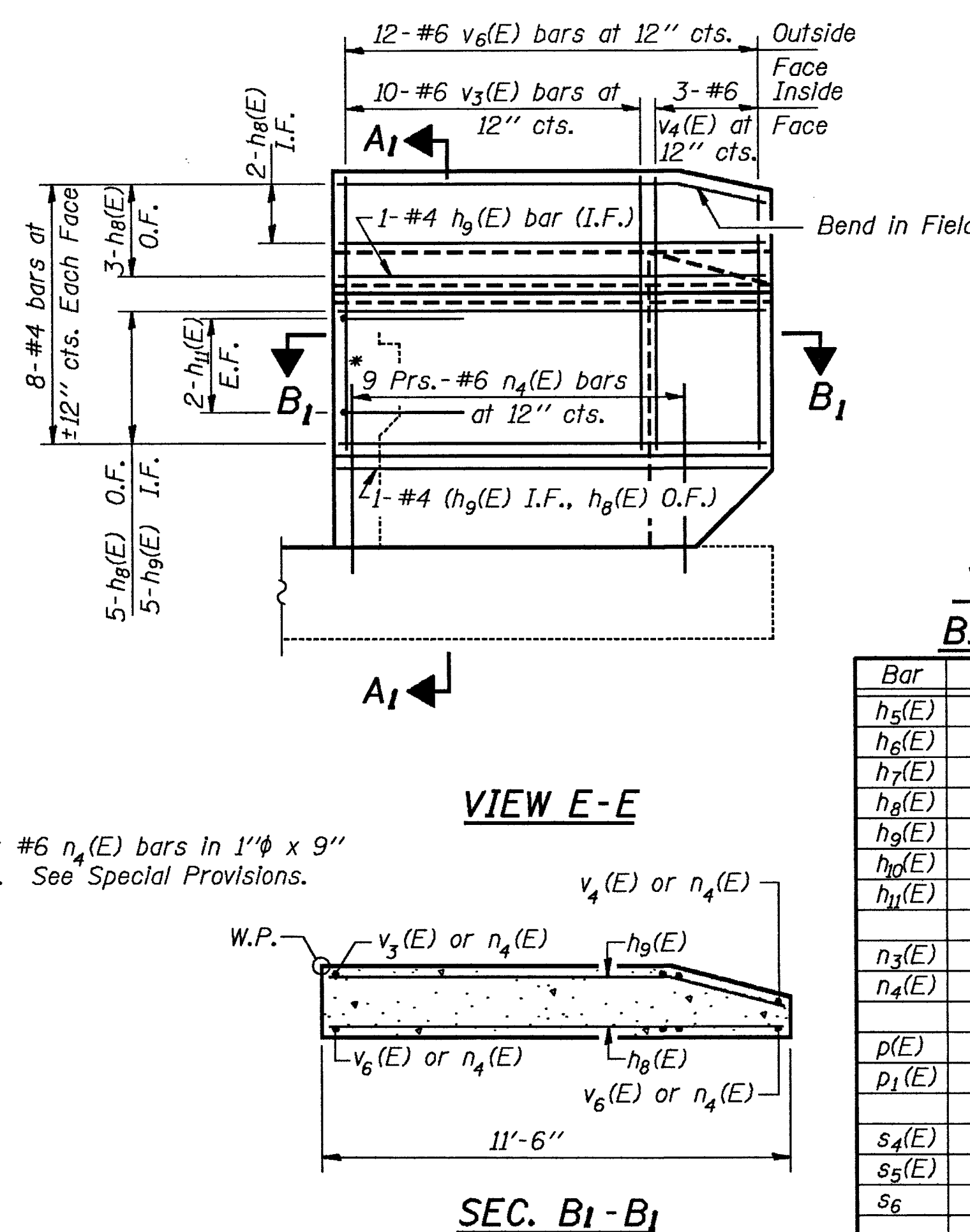
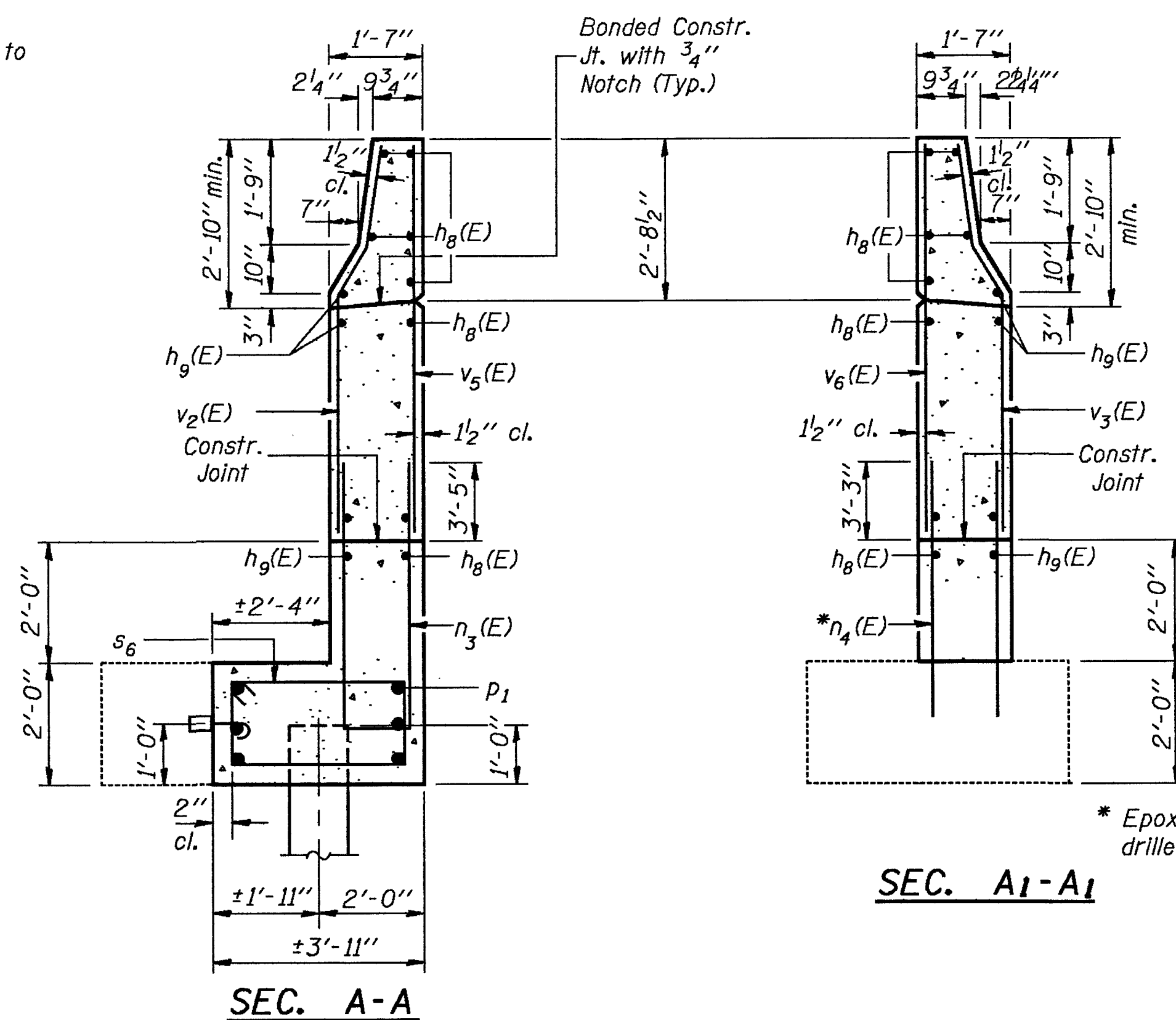
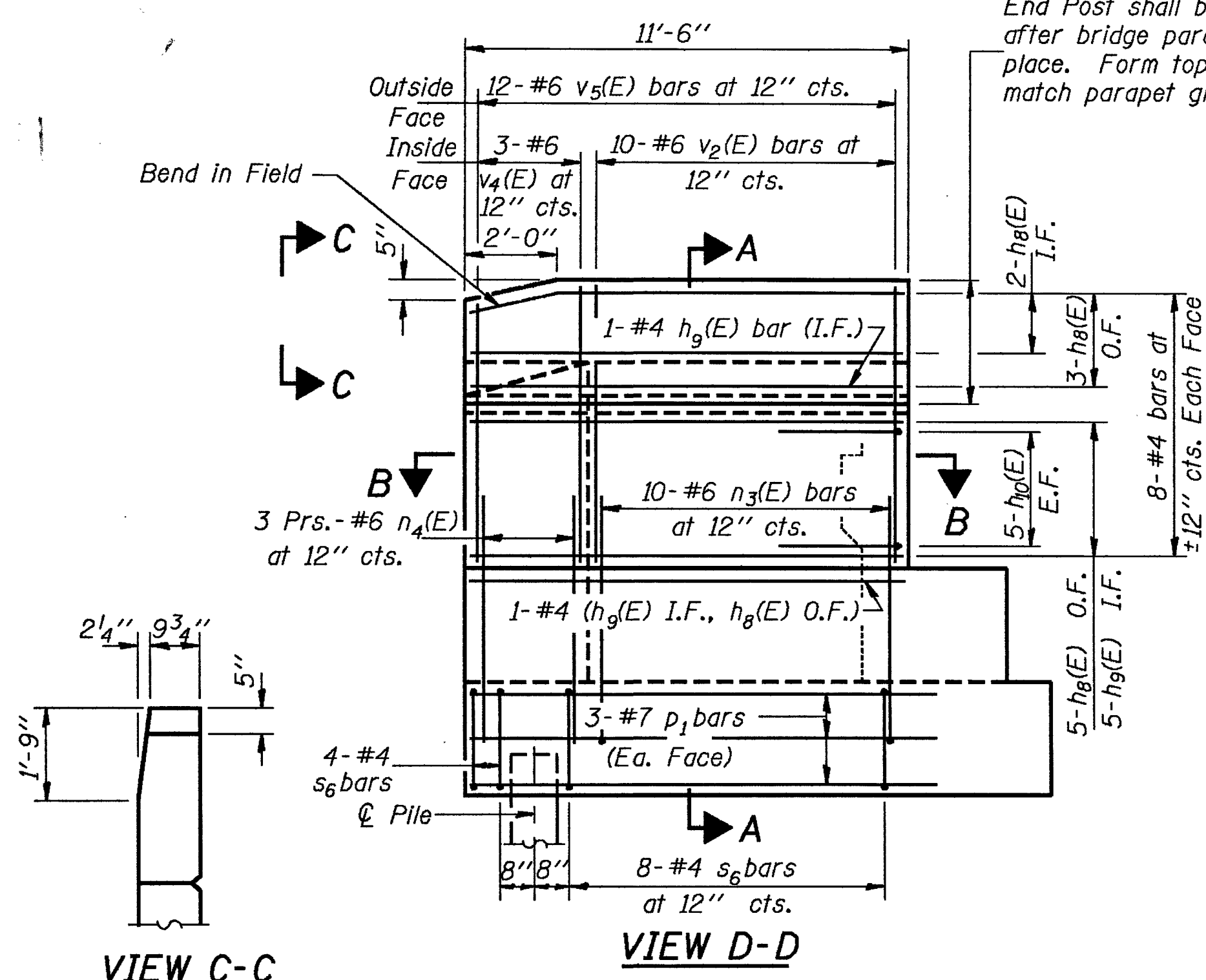




STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 21
F.A. 39	4VBY-1	WINNEBAGO	171	100	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.

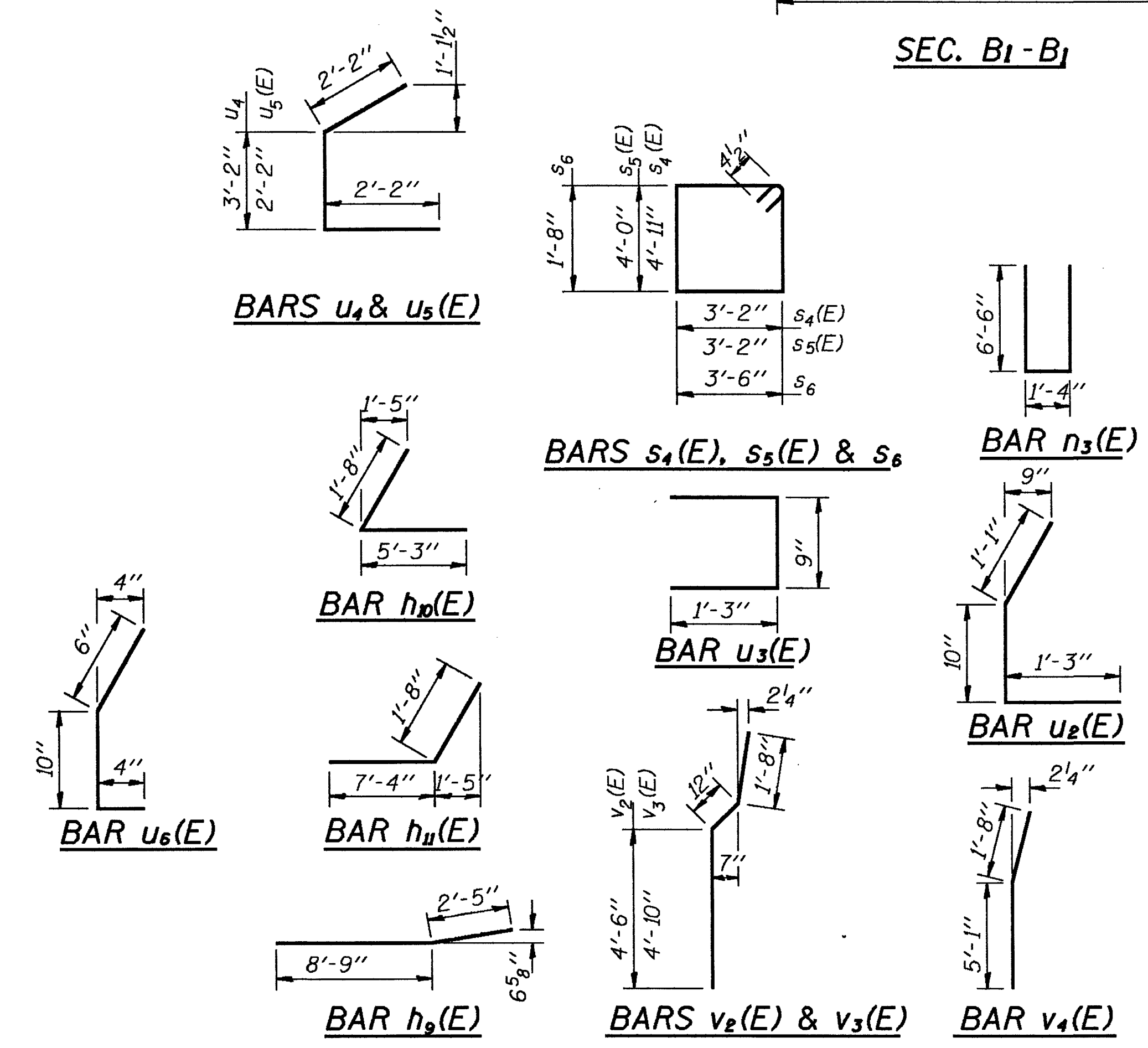
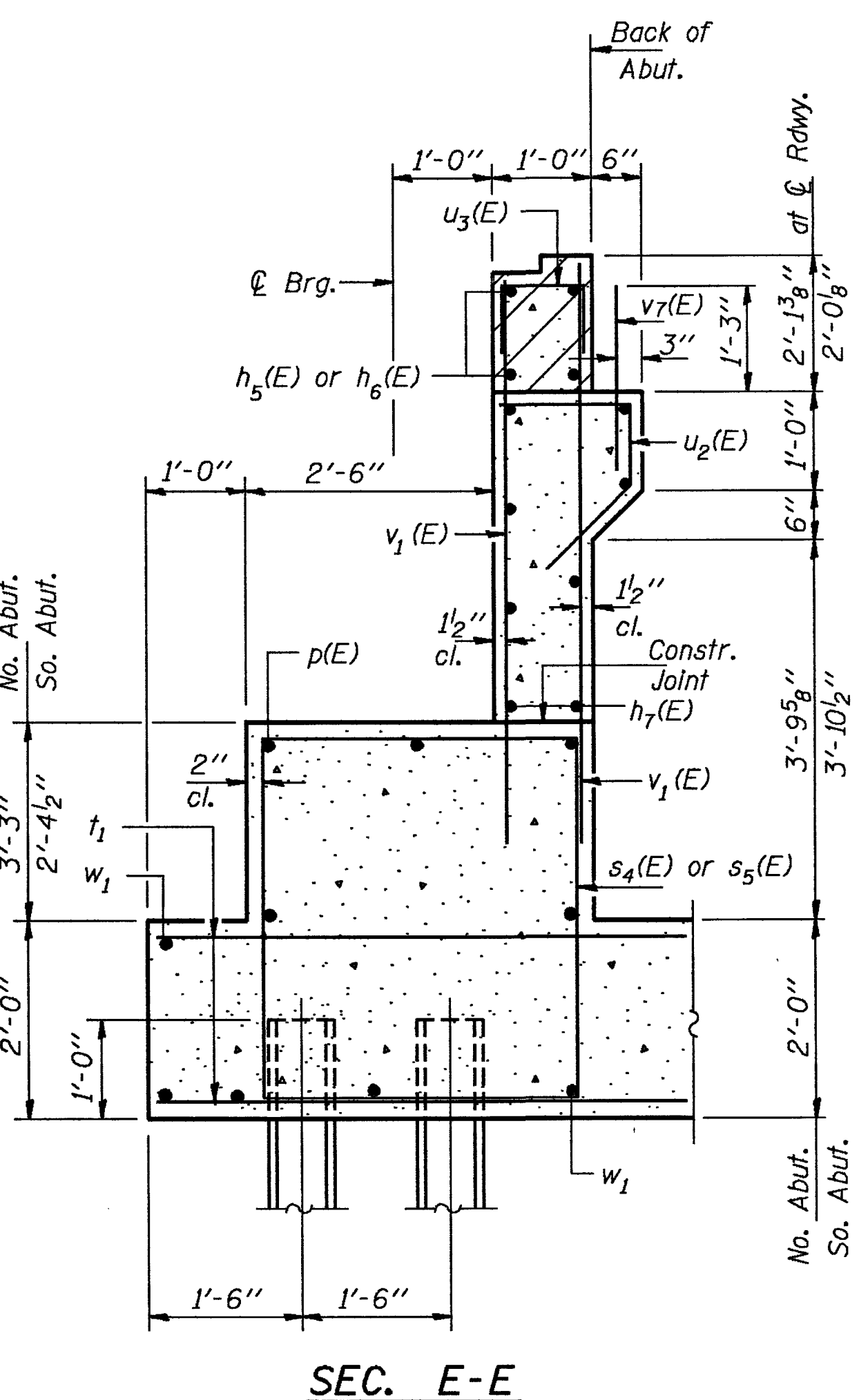
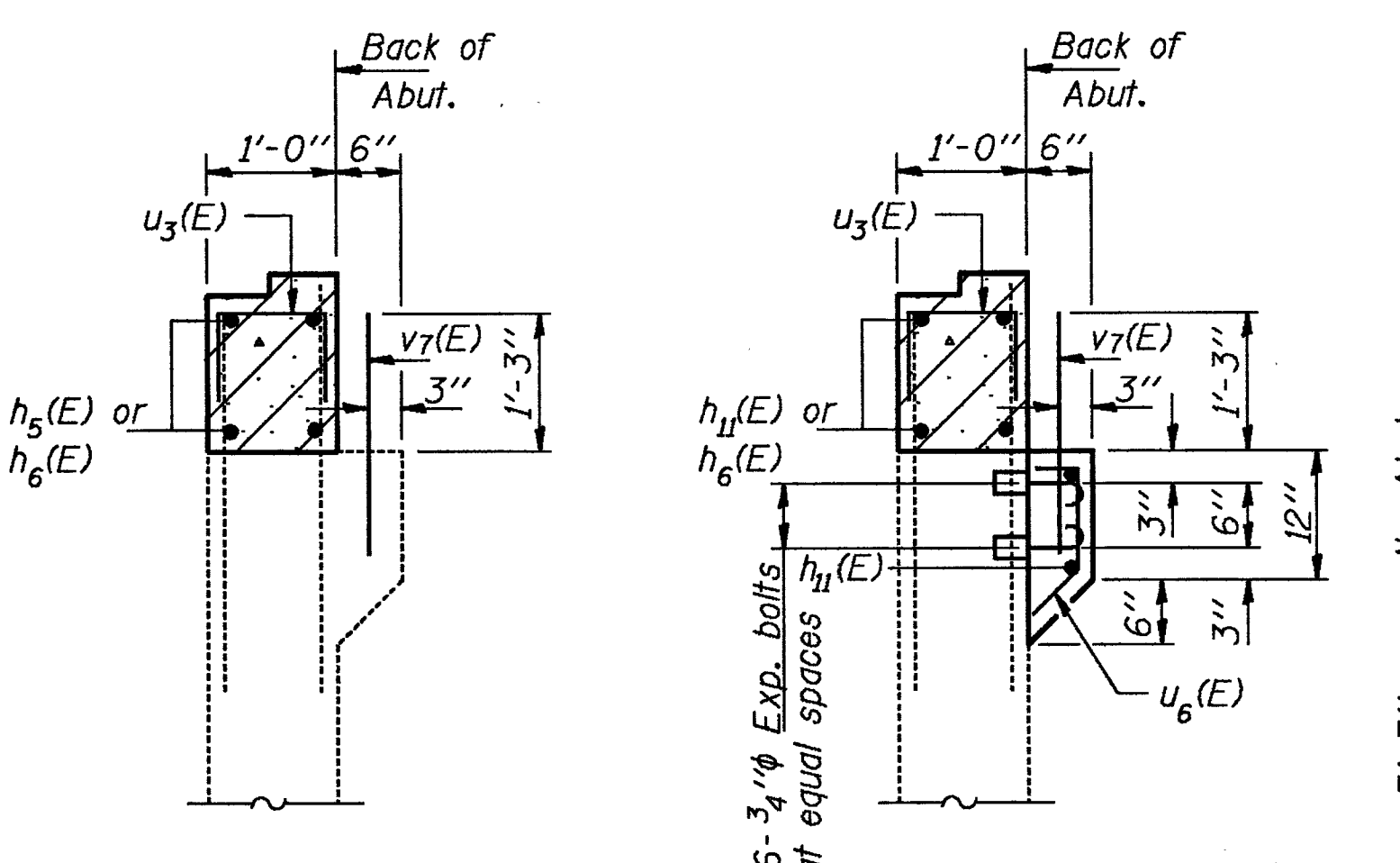
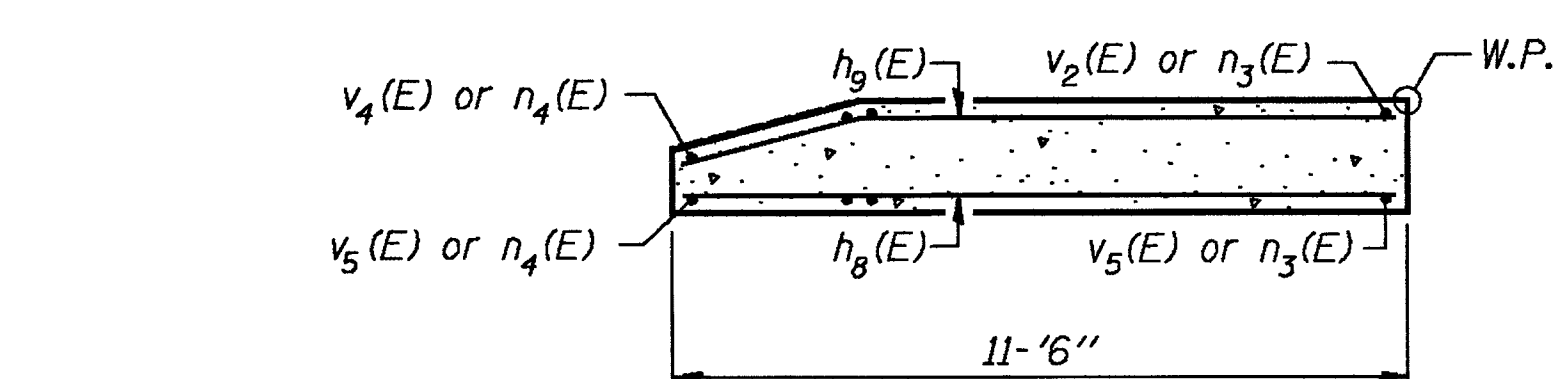


TWO ABUTMENTS  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h <sub>5</sub> (E)	8	#6	39'-9"	
h <sub>6</sub> (E)	8	#6	39'-0"	
h <sub>7</sub> (E)	16	#5	13'-3"	
h <sub>8</sub> (E)	44	#4	11'-2"	
h <sub>9</sub> (E)	28	#4	11'-2"	
h <sub>10</sub> (E)	20	#5	6'-11"	
h <sub>11</sub> (E)	8	#5	9'-0"	
n <sub>3</sub> (E)	20	#6	14'-4"	
n <sub>4</sub> (E)	48	#6	6'-0"	
p(E)	10	#7	8'-0"	
p <sub>1</sub> (E)	12	#7	14'-0"	
s <sub>4</sub> (E)	7	#4	16'-11"	
s <sub>5</sub> (E)	7	#4	15'-1"	
s <sub>6</sub>	24	#4	11'-1"	
t <sub>1</sub>	32	#4	3'-9"	
u <sub>2</sub> (E)	28	#4	3'-2"	
u <sub>3</sub> (E)	150	#5	3'-3"	
u <sub>4</sub>	4	#5	7'-6"	
u <sub>5</sub> (E)	4	#5	6'-6"	
u <sub>6</sub> (E)	10	#4	1'-8"	
v <sub>1</sub> (E)	56	#4	6'-0"	
v <sub>2</sub> (E)	20	#6	7'-2"	
v <sub>3</sub> (E)	20	#6	7'-6"	
v <sub>4</sub> (E)	12	#6	6'-9"	
v <sub>5</sub> (E)	24	#6	7'-3"	
v <sub>6</sub> (E)	24	#6	7'-6"	
v <sub>7</sub> (E)	152	#5	2'-0"	
w <sub>1</sub>	10	#5	8'-0"	
Structure Excavation		Cu. Yd.	98	
Class X Concrete		Cu. Yd.	44.8	
Reinforcement Bars (Epoxy Coated)		Lbs.	5520	
Reinforcement Bars		Lbs.	540	
Steel Piles HP8 x 36		Lin. Ft.	165	
Test Piles Steel HP8 x 36		Each	1	
Expansion Bolts 3/4"φ		Each	40	

Reinforcement bars designated (E) shall be epoxy coated.

NO. ABUT. W. BD. LANES  
SO. ABUT. E. BD. LANES  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16



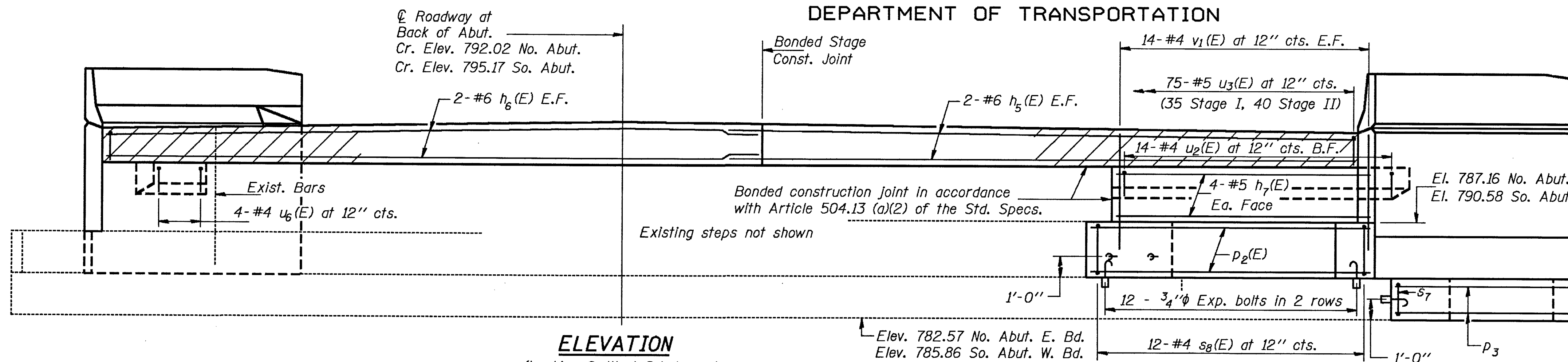
DESIGNED *Walter J. Hilby*  
CHECKED *M. Carl Perry*  
DRAWN *J.T. Downing*  
CHECKED *DPH* *DCP*

EXAMINED *May 3 1970*  
PASSED *Ralph E. Anderson*  
APPROVED *Ralph E. Anderson*  
DIRECTOR OF HIGHWAYS

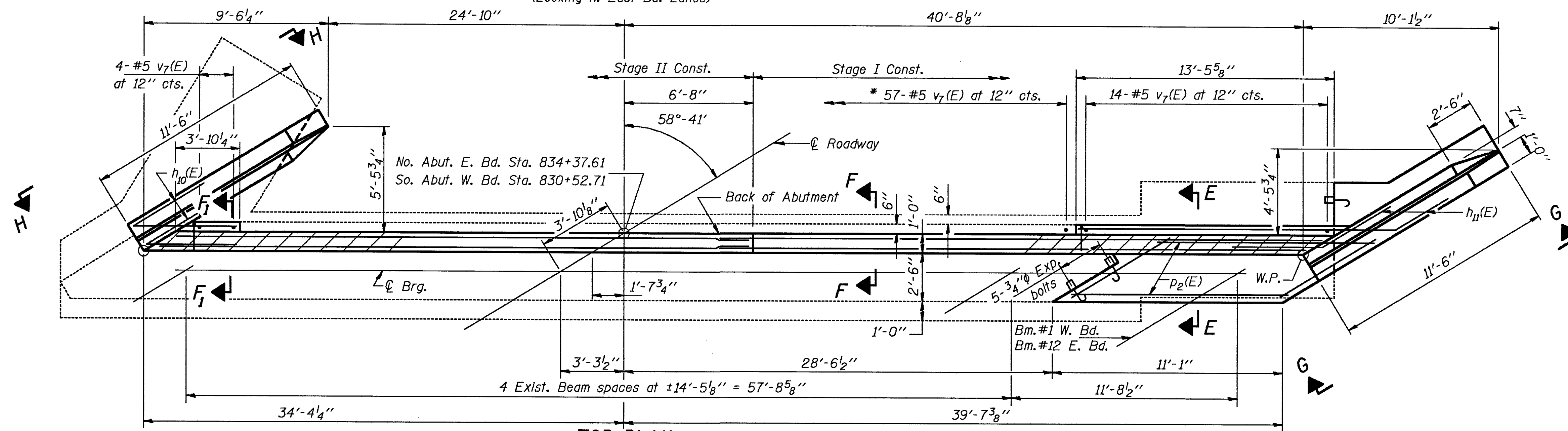
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	4VBY-1	WINNEBAGO	171	101
F.A.I. RT. 39		ILLINOIS	FED. AID PROJECT	

SHEET NO. 22  
27 SHEETS

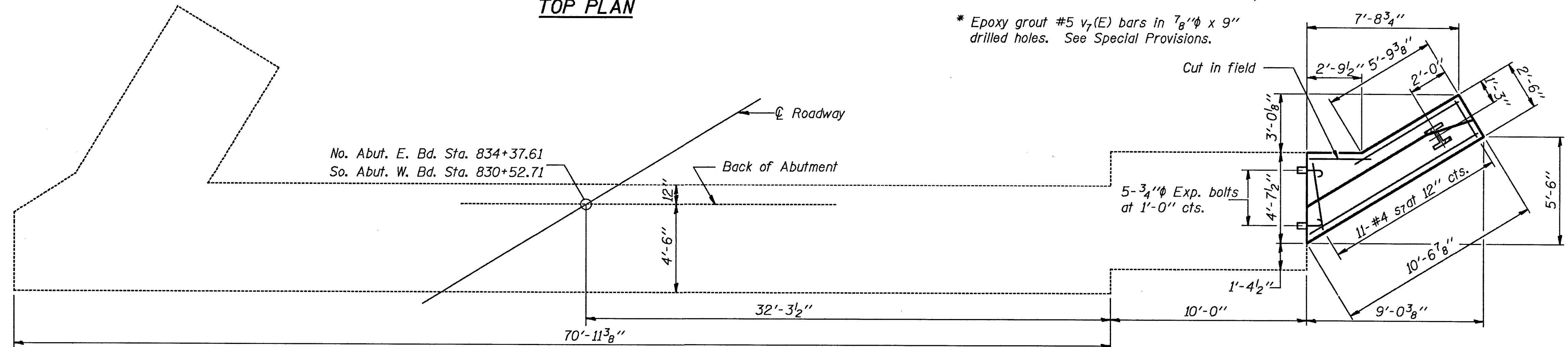


**ELEVATION**  
(Looking S. West Bd. Lanes)  
(Looking N. East Bd. Lanes)

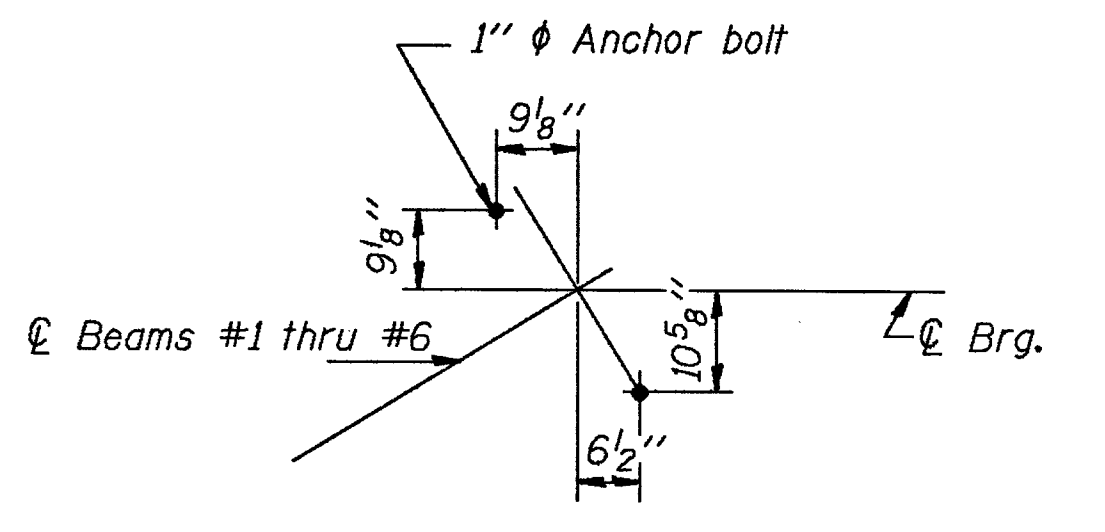


**TOP PLAN**

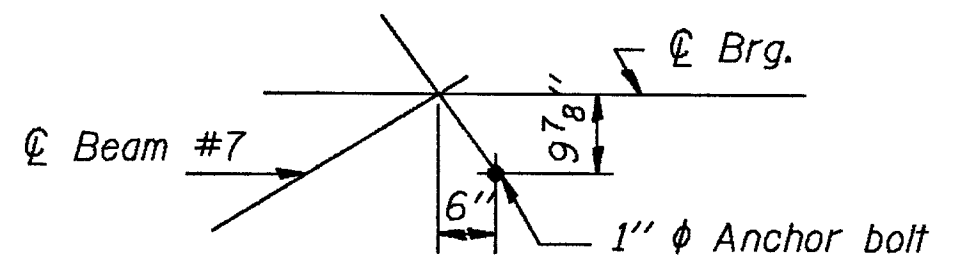
\* Epoxy grout #5 v<sub>7</sub>(E) bars in 7/8"  $\phi$  x 9" drilled holes. See Special Provisions.



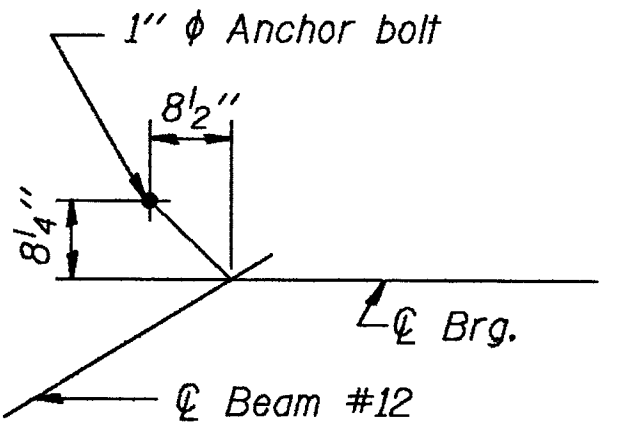
**FOOTING PLAN**



**SOUTH ABUT.**



**NORTH ABUT.**



**NORTH ABUT.**

**PILE DATA**

Type: HP 8x36  
 Capacity: 30 Ton, Drive to 45 Ton Brg.  
 Est. Length: 33 Ft.  
 No. Required: 2

**SO. ABUT. W. BD. LANES**  
**NO. ABUT. E. BD. LANES**  
**F.A.I. RT. 39 SEC. 4 VBY-1**  
**WINNEBAGO COUNTY**  
**STATION 832+49.16**

DESIGNED	<i>Kelley J. Hilly</i>
CHECKED	<i>J. Carl Perry</i>
DRAWN	J.T. Downing
CHECKED	<i>JPH DCP</i>

May 3 1990

EXAMINED	<i>Greg J. Kaspar</i>
PASSED	<i>Ralph E. Anderson</i>
APPROVED	

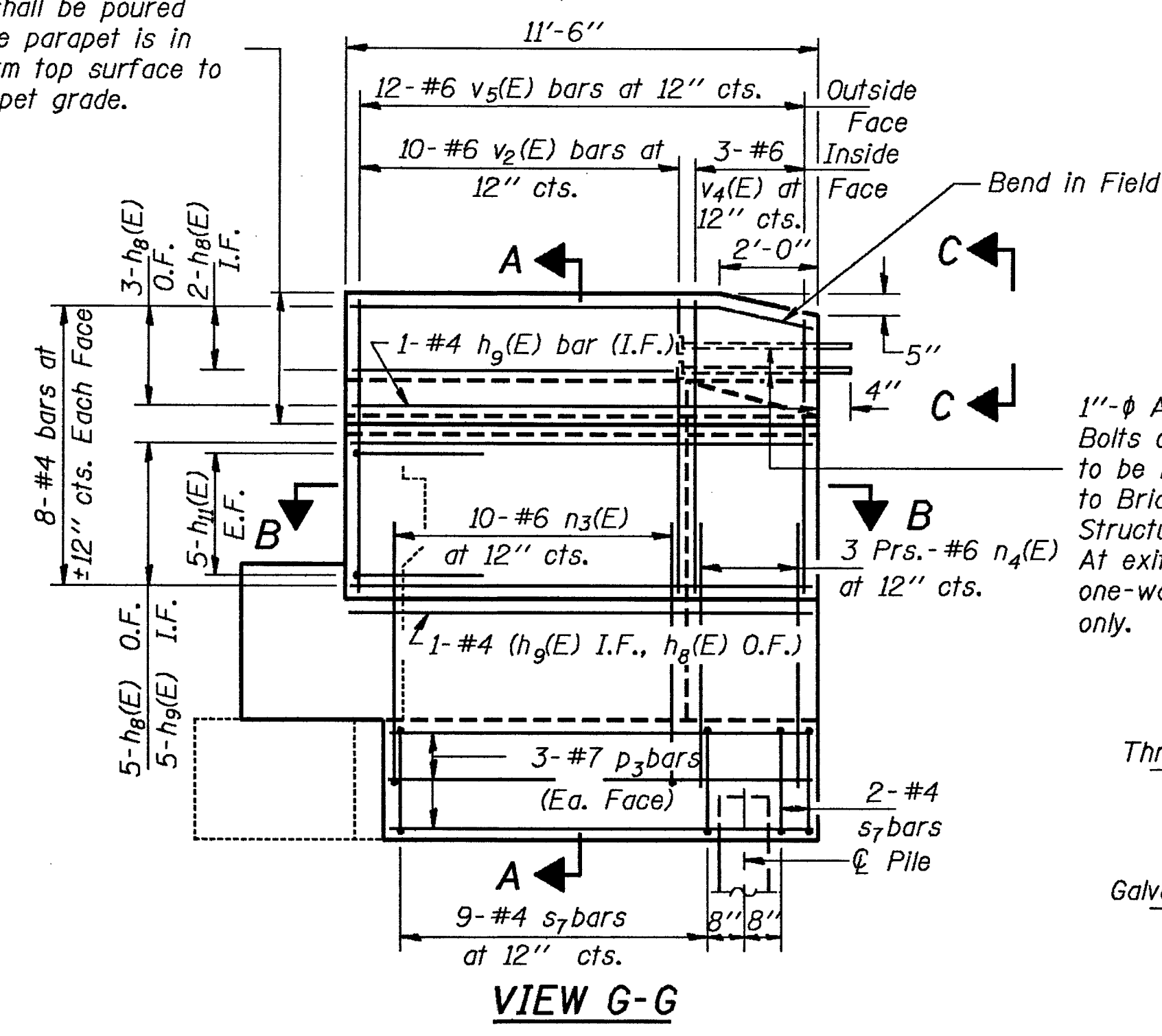
ENGINEER OF BRIDGE DESIGN  
 ENGINEER OF BRIDGES AND STRUCTURES  
 DIRECTOR OF HIGHWAYS



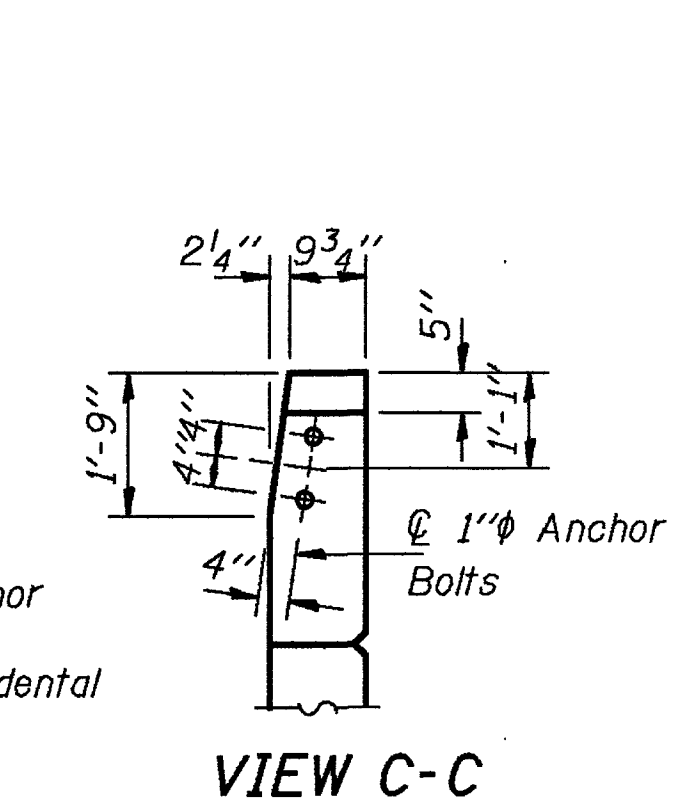
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 23
F.A.I. 39	4VBY-1	WINNEBAGO	171	102	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

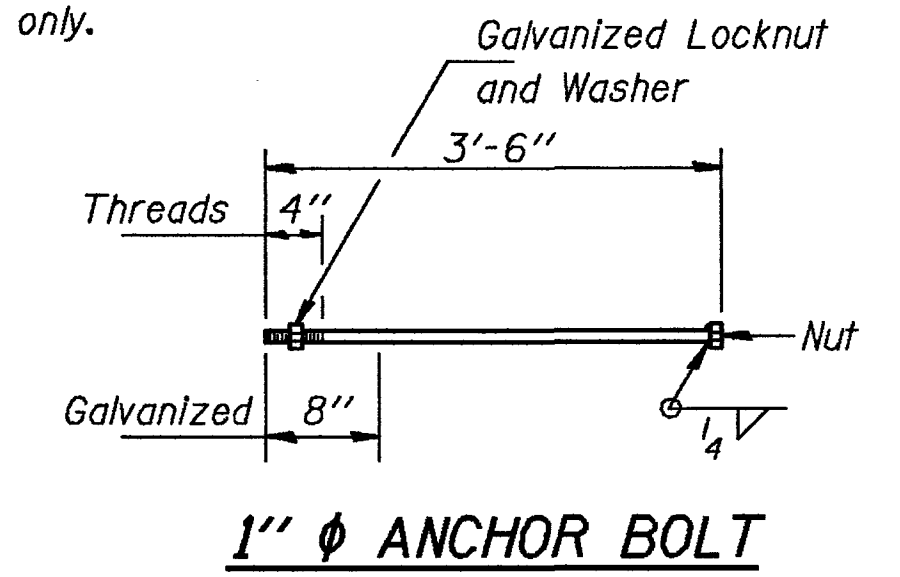
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



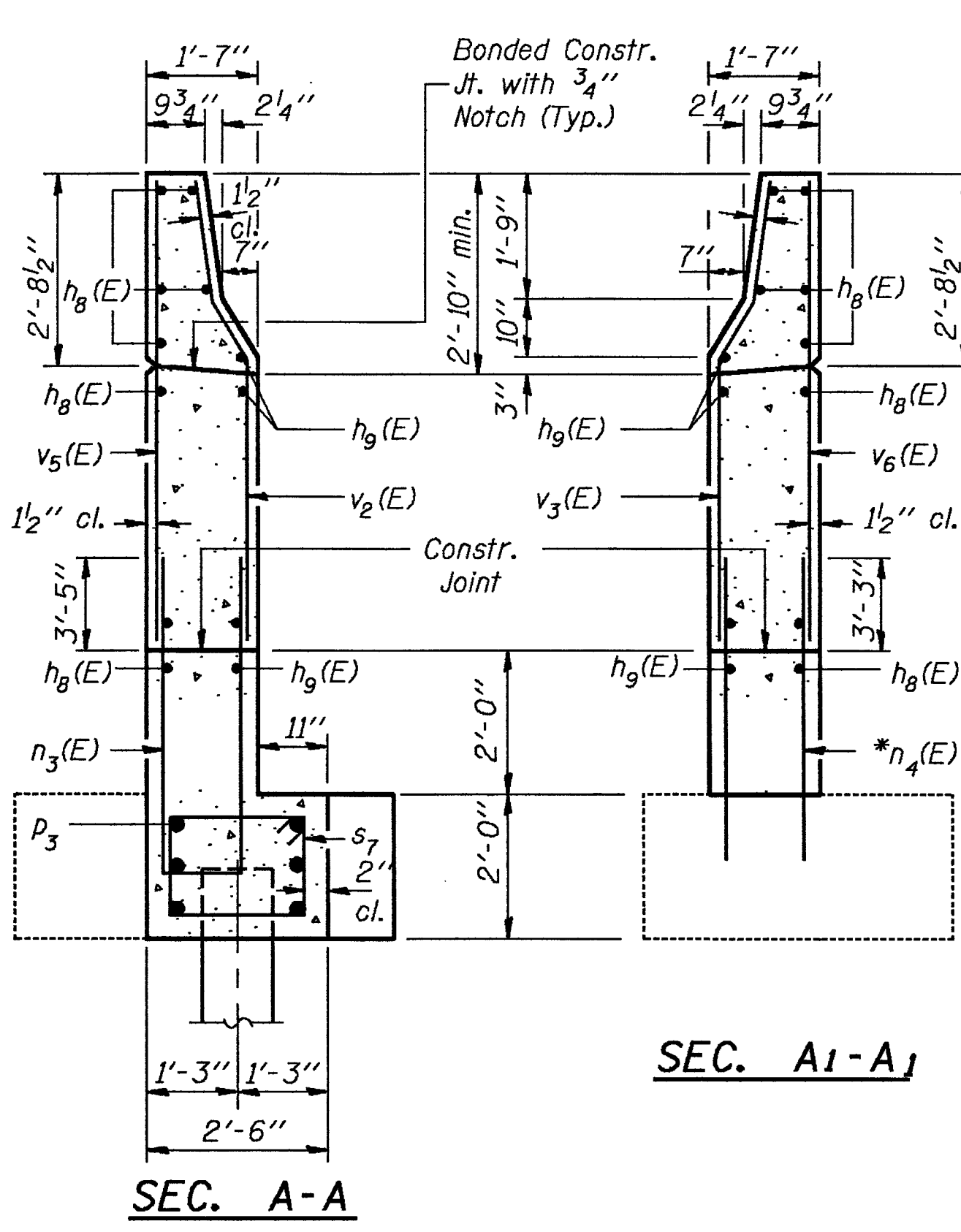
VIEW G-G



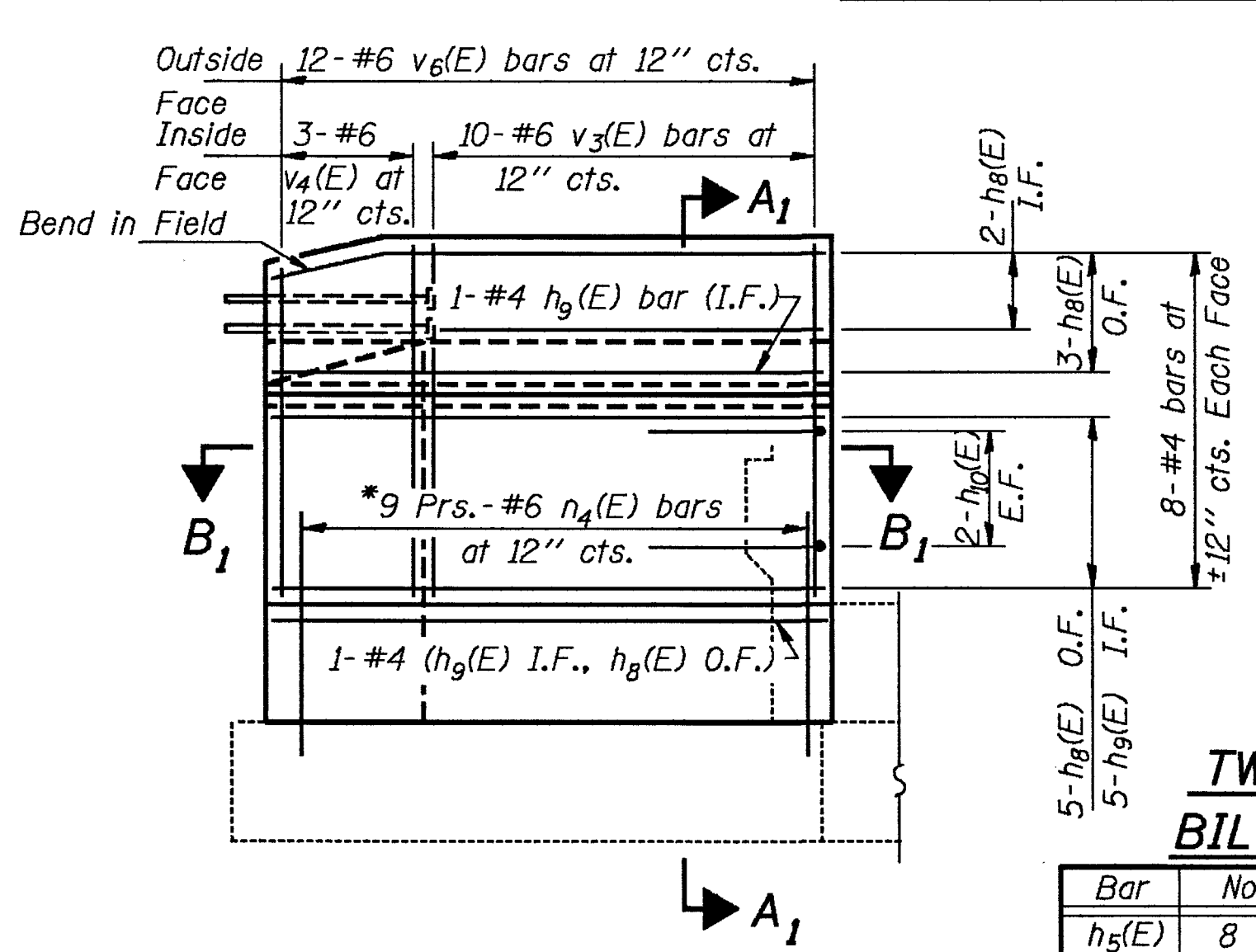
VIEW C-C



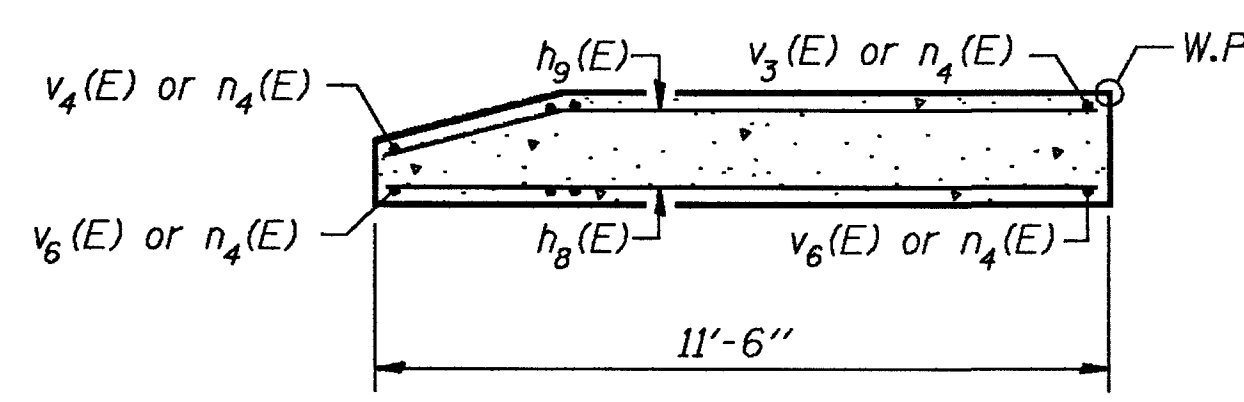
1"  $\phi$  ANCHOR BOLT



SEC. A1-A1



VIEW H-H



SEC. B1-B1

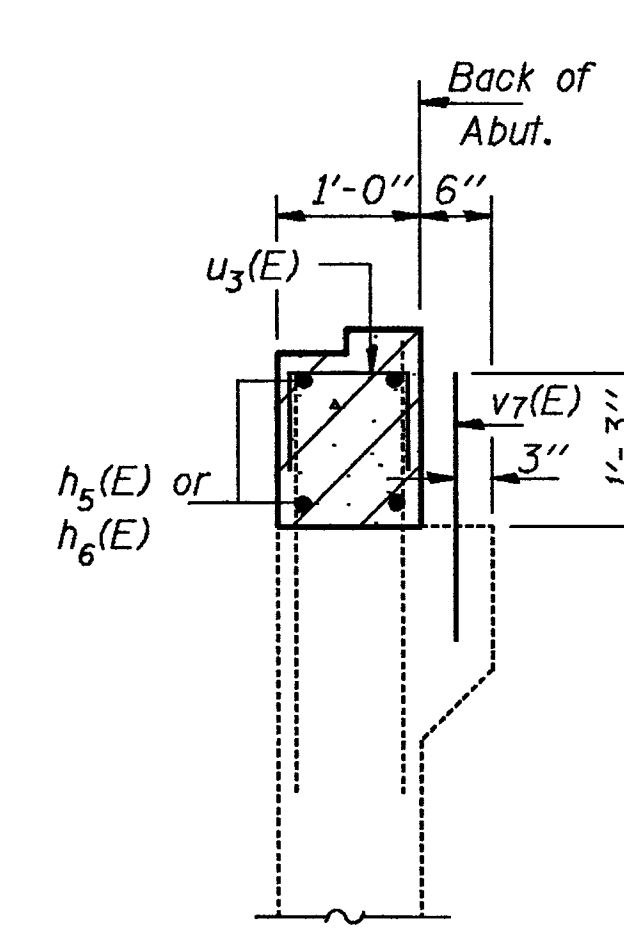
TWO ABUTMENTS  
BILL OF MATERIAL

Bar No.	Size	Length	Shape
$h_5(E)$	#8	39'-9"	
$h_6(E)$	#8	39'-0"	
$h_7(E)$	#5	13'-3"	
$h_8(E)$	#4	11'-2"	
$h_9(E)$	#4	11'-2"	
$h_{10}(E)$	#8	6'-11"	
$h_{11}(E)$	#5	9'-0"	
$n_3(E)$	#20	14'-4"	
$n_4(E)$	#48	6'-0"	
$p_2(E)$	#10	10'-10"	
$p_3$	#12	10'-0"	
$s_7$	#22	8'-7"	
$s_8(E)$	#24	17'-5"	
$u_2(E)$	#28	3'-2"	
$u_3(E)$	#150	3'-3"	
$u_6(E)$	#8	1'-8"	
$v_1(E)$	#56	6'-0"	
$v_2(E)$	#20	7'-2"	
$v_3(E)$	#20	7'-6"	
$v_4(E)$	#12	6'-9"	
$v_5(E)$	#24	7'-3"	
$v_6(E)$	#24	7'-6"	
$v_7(E)$	#150	2'-0"	

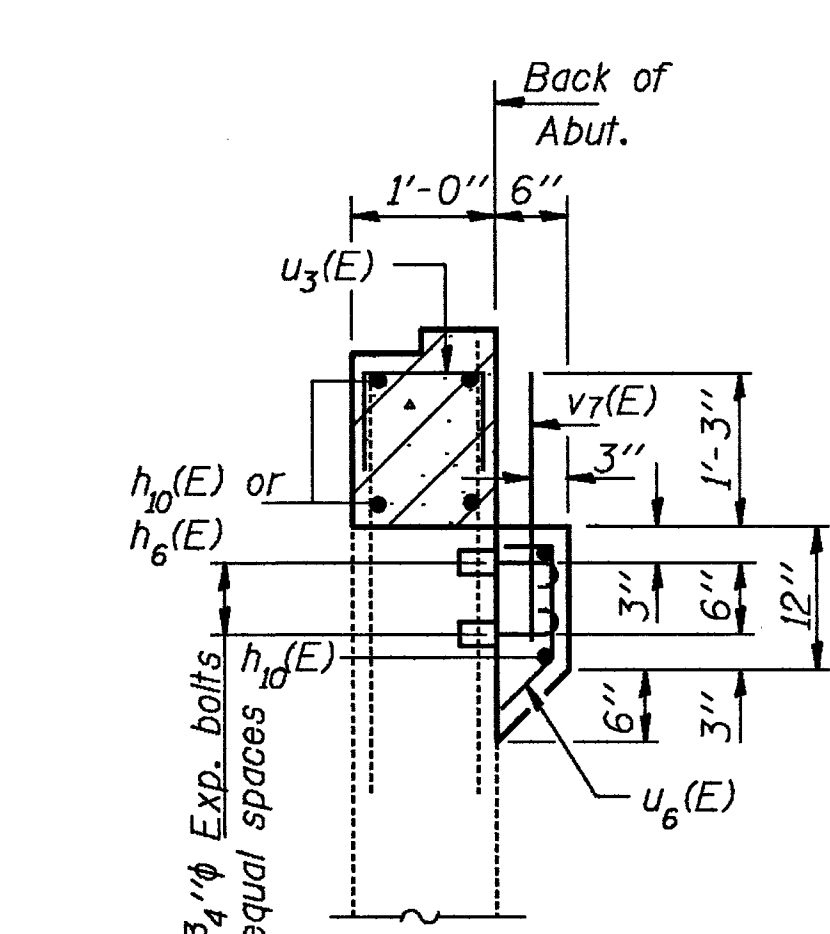
Structure Excavation	Cu. Yd.	105
Class X Concrete	Cu. Yd.	38.6
Reinforcement Bars (Epoxy Coated)	Lbs.	5520
Reinforcement Bars	Lbs.	370
Steel Piles HP8 x 36	Lin. Ft.	66
Expansion Bolts 3/4" $\phi$	Each	56

Reinforcement bars designated (E) shall be epoxy coated.

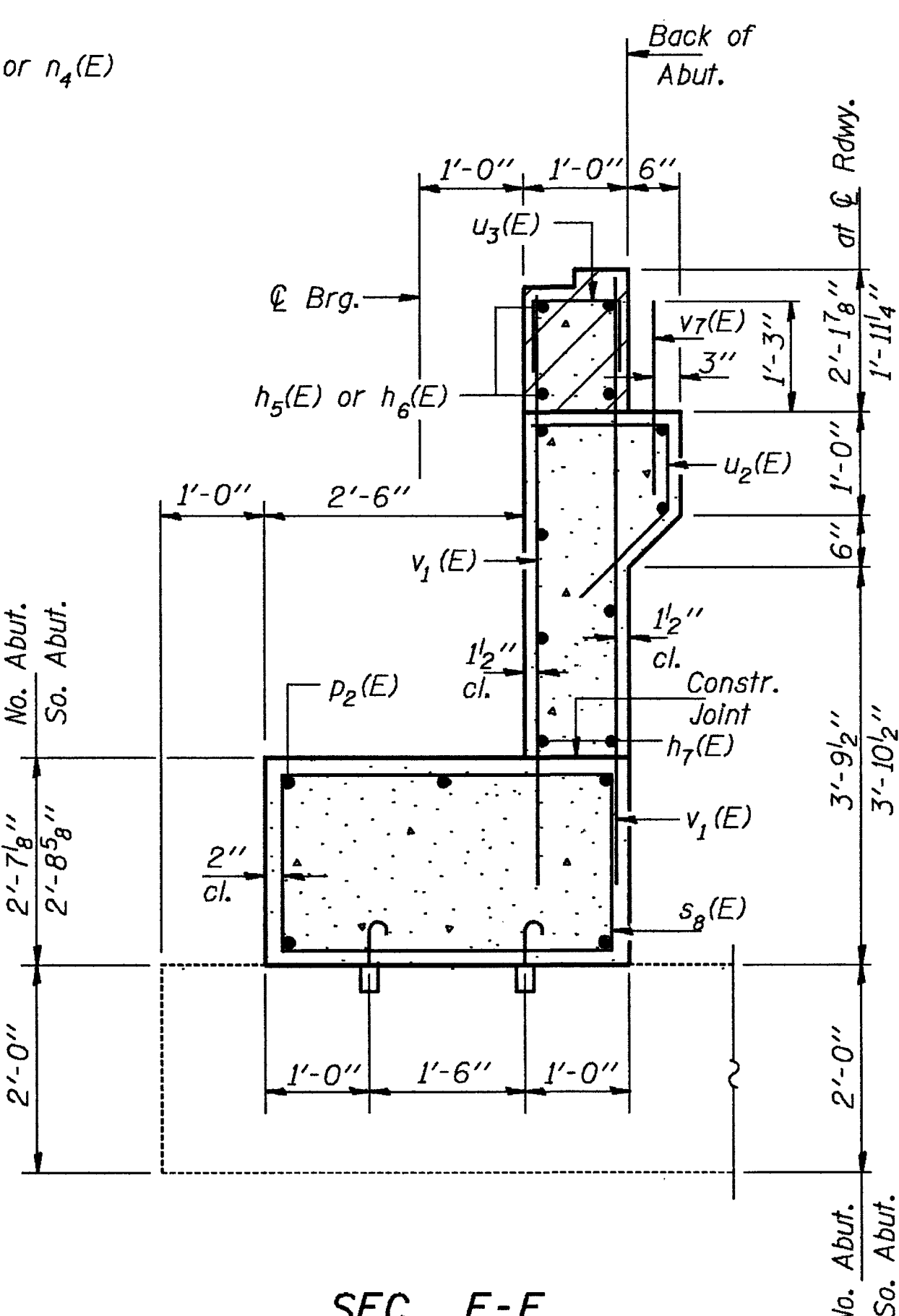
SO. ABUT. W. BD. LANES  
NO. ABUT. E. BD. LANES  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16



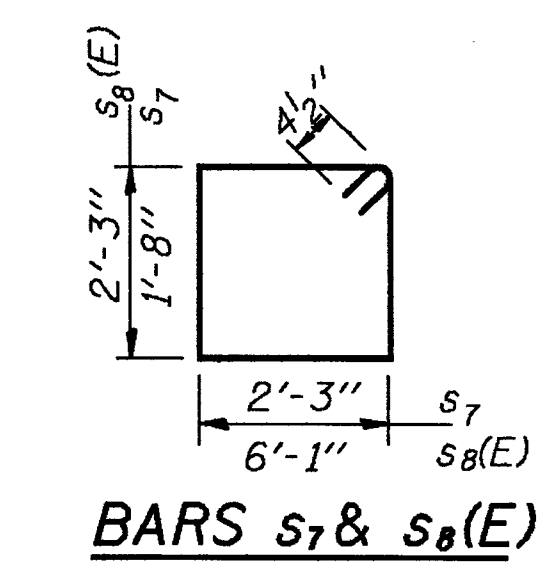
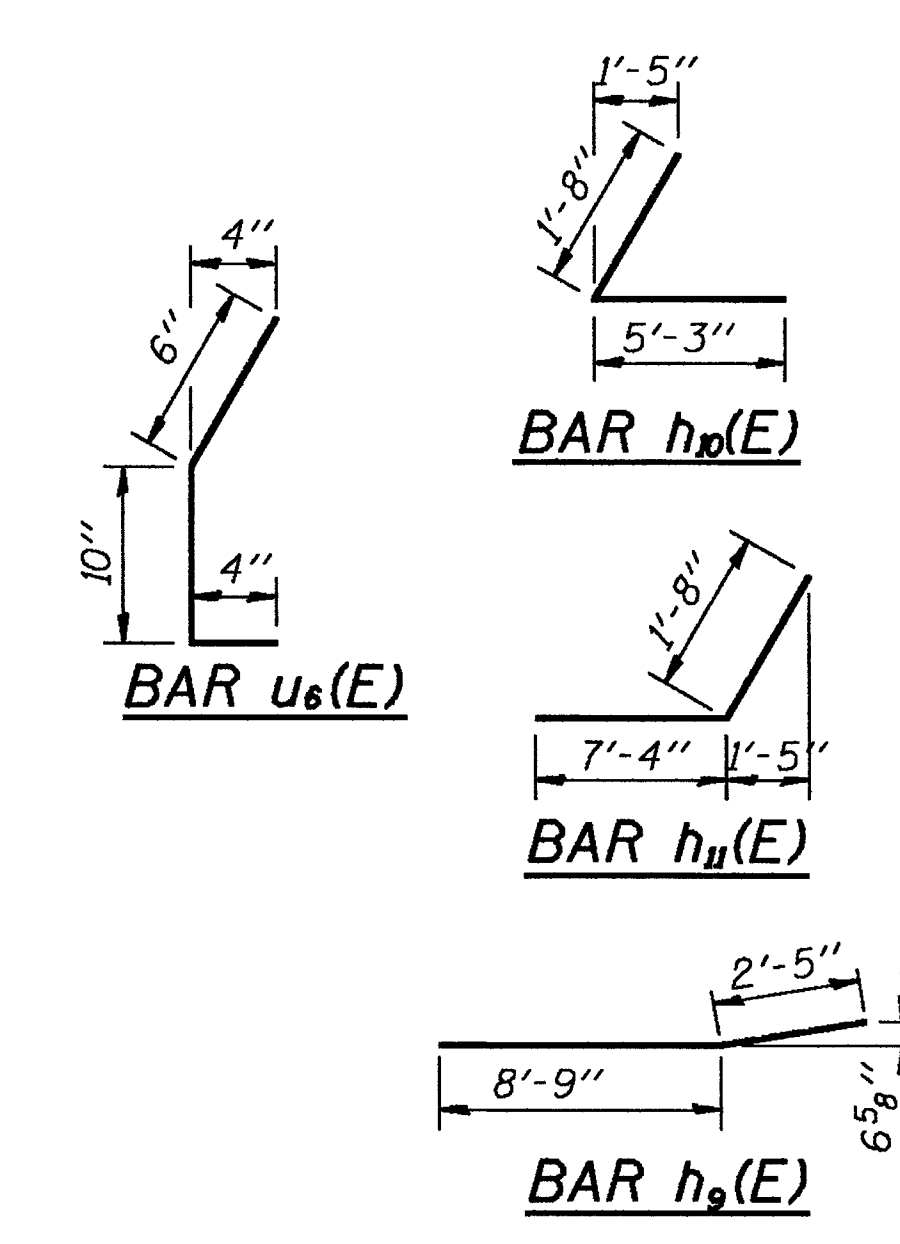
SEC. F-F



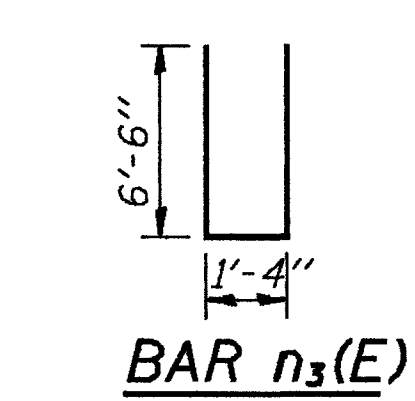
SEC. F1-F1



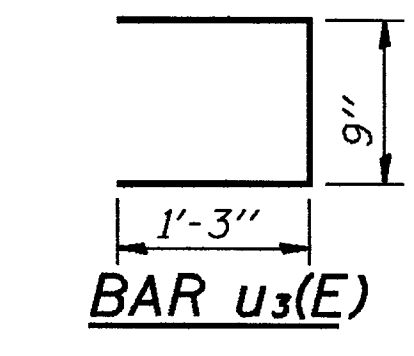
SEC. E-E



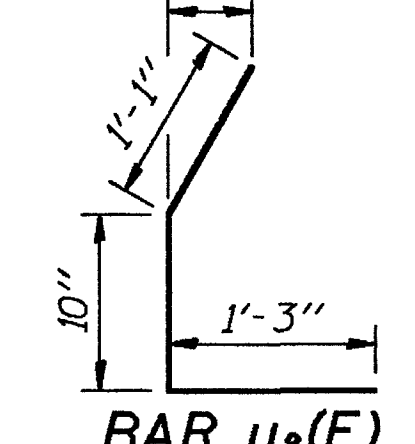
BARS s7 & s8(E)



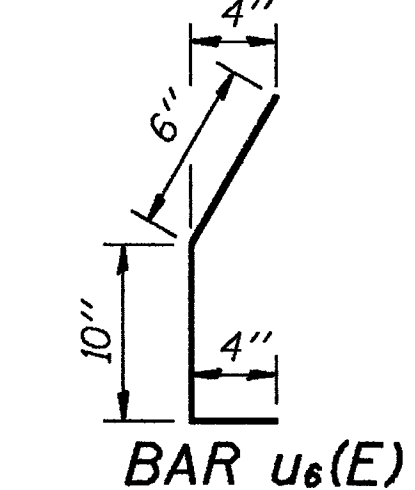
BAR n3(E)



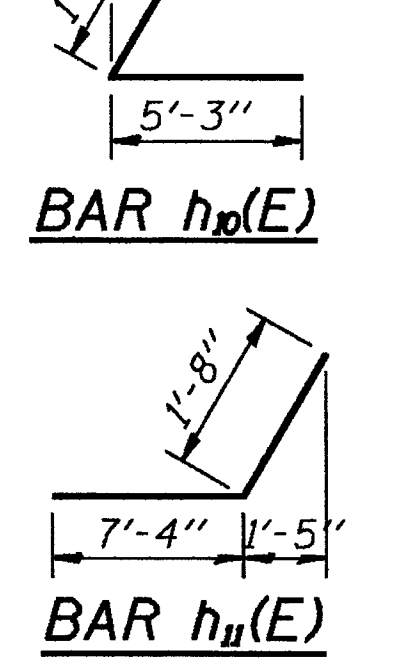
BAR u3(E)



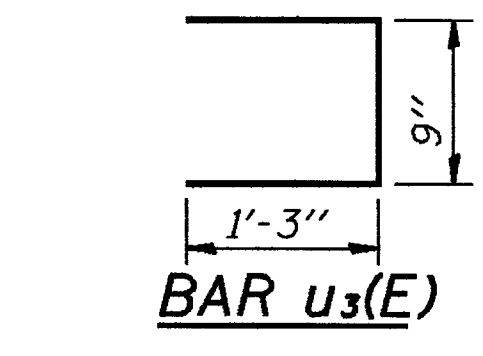
BAR u2(E)



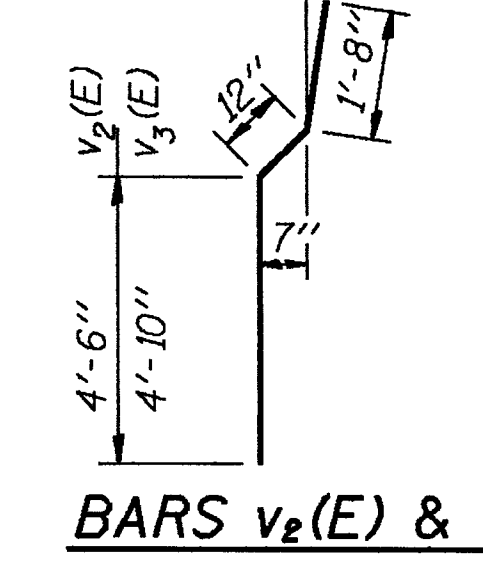
BAR u6(E)



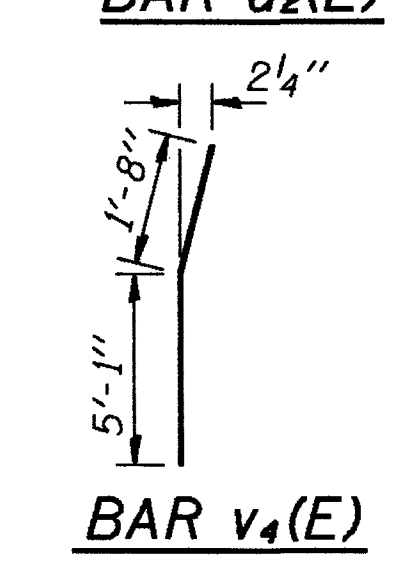
BAR h10(E)



BAR h9(E)



BARS v2(E) & v3(E)



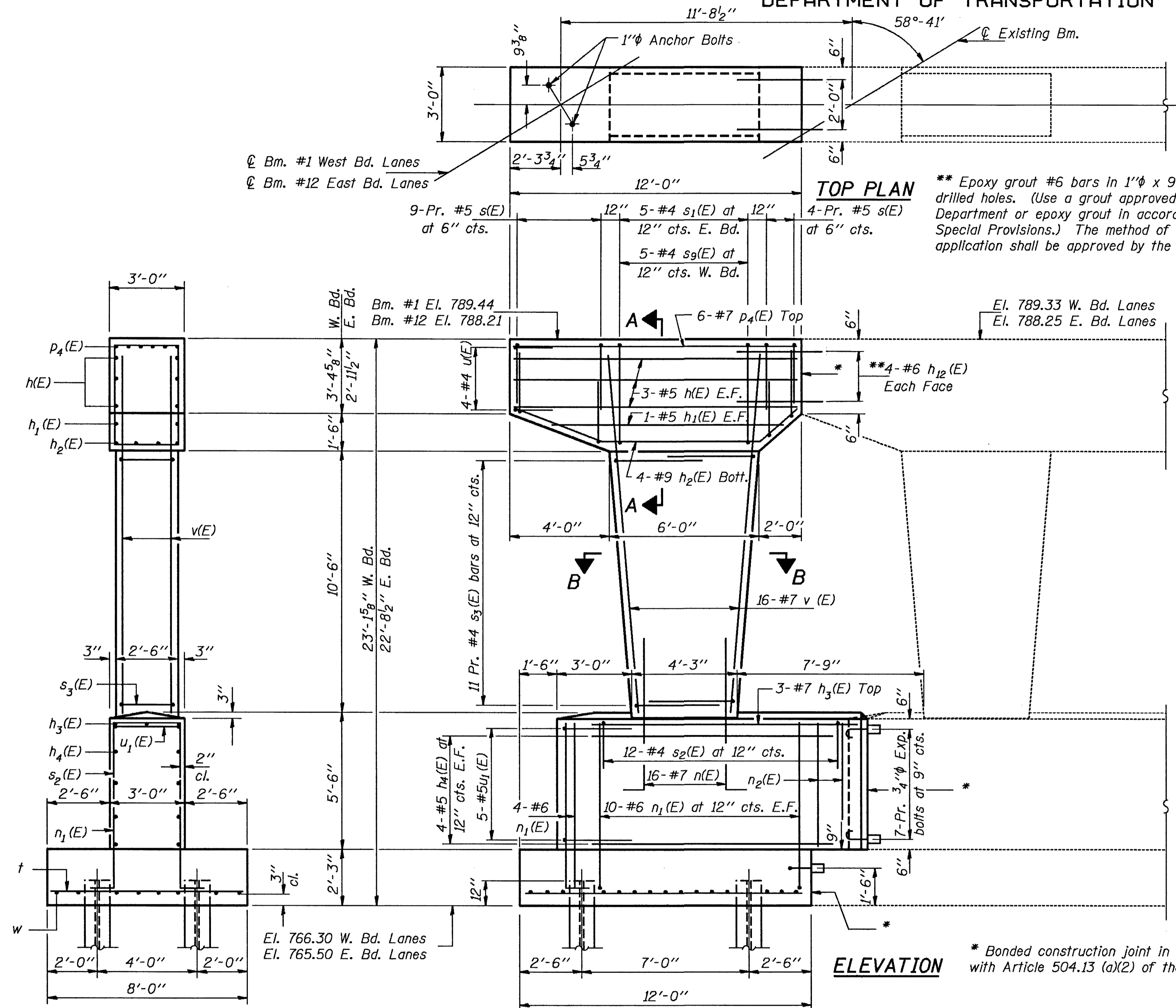
BAR v4(E)

Notes: Space reinforcement in cap to miss anchor bolts.  
All edges shall have Std.  $\frac{3}{4}$ " chamfers

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

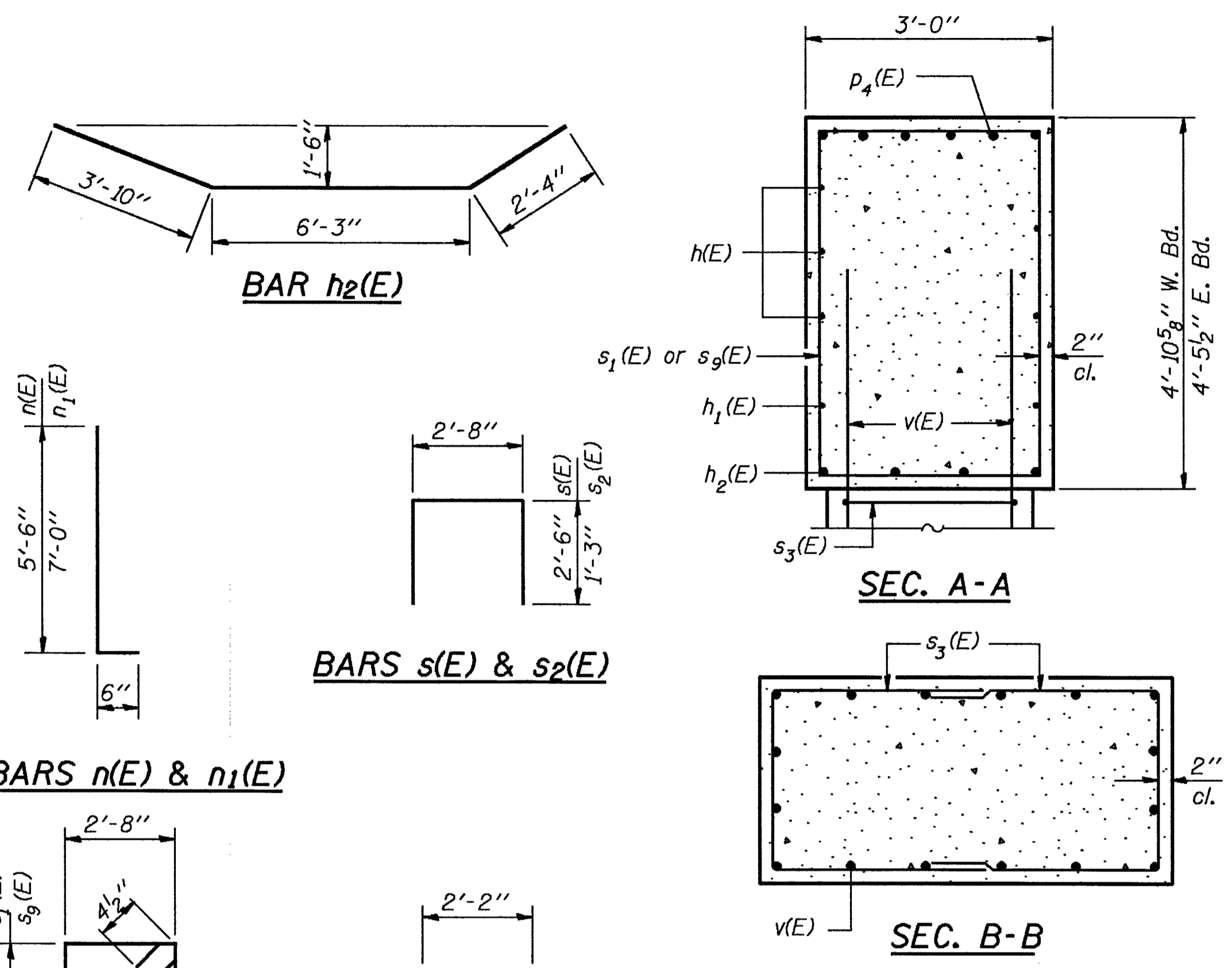
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	4VBY-1	WINNEBAGO	171	103
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 24  
27 SHEETS



\*\* Epoxy grout #6 bars in 1"φ x 9" min drilled holes. (Use a grout approved by the Department or epoxy grout in accordance with Special Provisions.) The method of grout application shall be approved by the Engineer.

\* Bonded construction joint in accordance with Article 504.13 (a)(2) of the Std. Specs.



TWO EXTENSIONS  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	12	#5	11'-8"	—
h1(E)	4	#5	9'-6"	—
h2(E)	8	#9	12'-5"	—
h3(E)	6	#7	11'-8"	—
h4(E)	16	#5	10'-9"	—
h12(E)	8	#6	2'-9"	—
n(E)	32	#7	6'-0"	—
n1(E)	48	#6	7'-6"	—
n2(E)	8	#6	5'-1"	—
p4(E)	12	#7	11'-9"	—
s(E)	52	#5	7'-8"	—
s1(E)	5	#4	14'-3"	—
s2(E)	24	#4	5'-2"	—
s3(E)	44	#4	9'-8"	—
s9(E)	5	#4	15'-1"	—
t	30	#4	7'-9"	—
u(E)	8	#4	8'-8"	—
u1(E)	10	#5	7'-2"	—
v(E)	32	#7	14'-9"	—
w	16	#5	11'-10"	—
Reinforcement Bars (Epoxy Coated)		Pound	4130	
Reinforcement Bars		Pound	350	
Class X Concrete		Cu. Yd.	51.6	
Structure Excavation		Cu. Yd.	75	
Steel Piles HP8 x36		Lin. Ft.	152	
Expansion Bolts $\frac{3}{4}$ "φ		Each	44	

Reinforcement bars designated (E) shall be epoxy coated.

PIER 1  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

PILE DATA

Type: Steel HP 8x36  
Capacity: 24 Ton, Drive to 36 Ton Brg.  
Est. Length: 19 Ft.  
No. Required: 8

DESIGNED	<i>Walter J. Helf</i>	EXAMINED	<i>May 3 1990</i> <i>Raj D. Kaspar</i>
CHECKED	<i>D. Carl Puyg</i>	PASSED	<i>Ralph E. Anderson</i>
DRAWN	J.T. Downing	APPROVED	
CHECKED	<i>MGH DCP</i>		

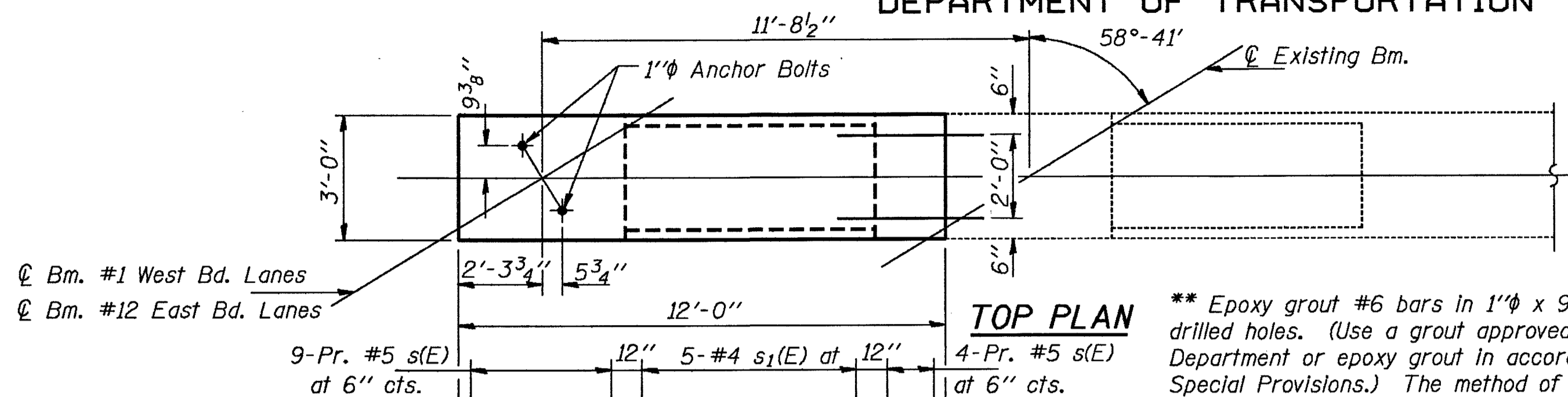
DIRECTOR OF HIGHWAYS



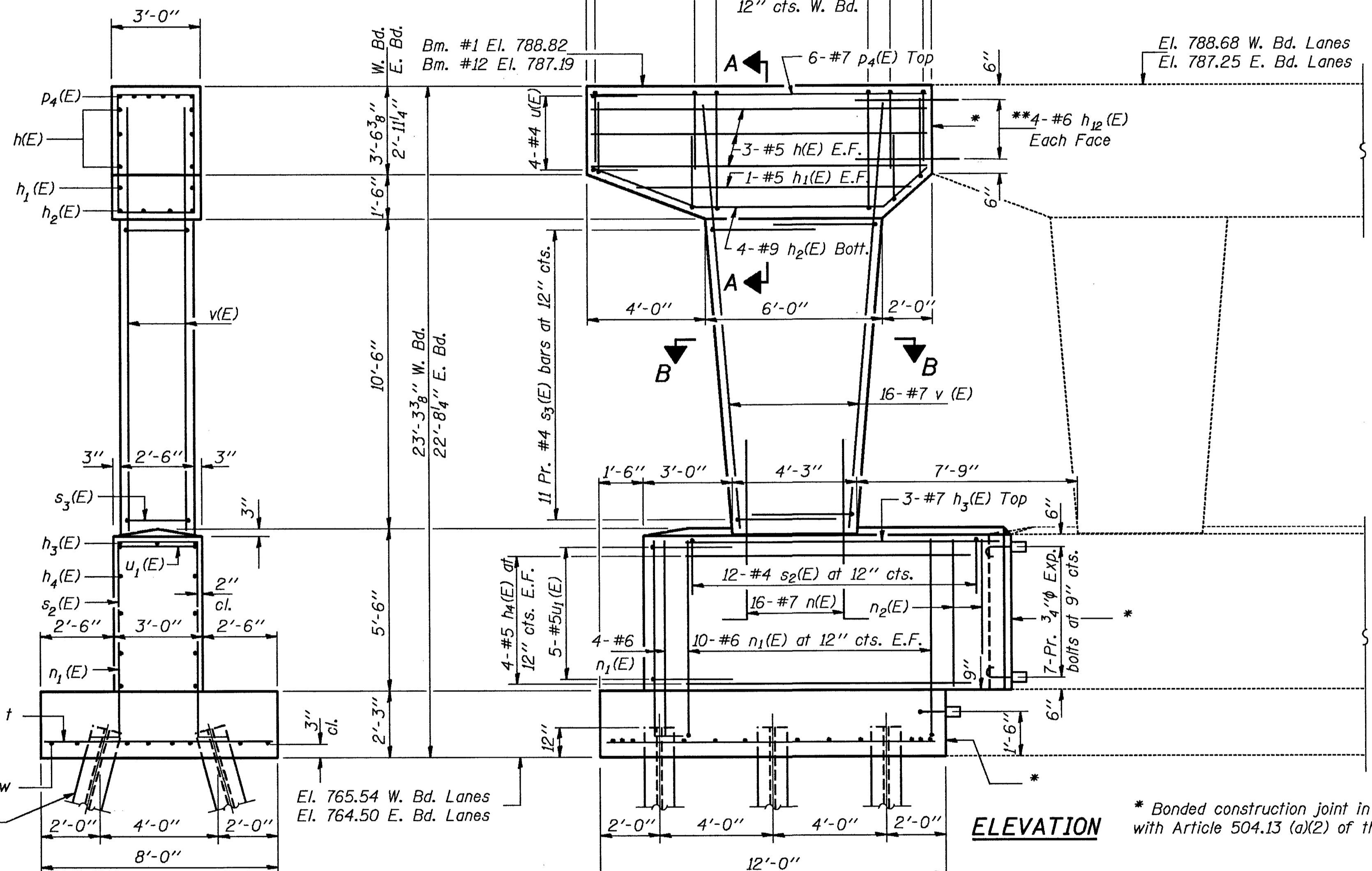
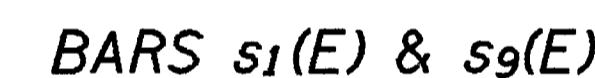
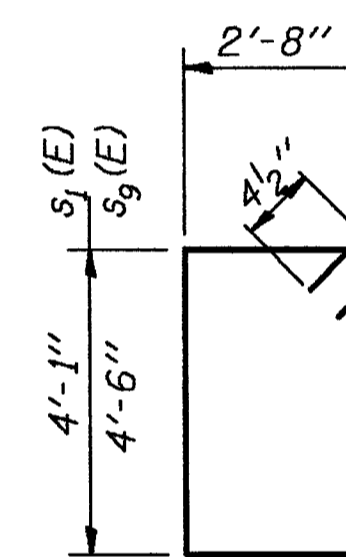
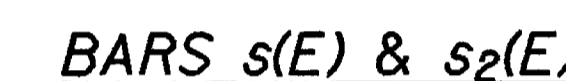
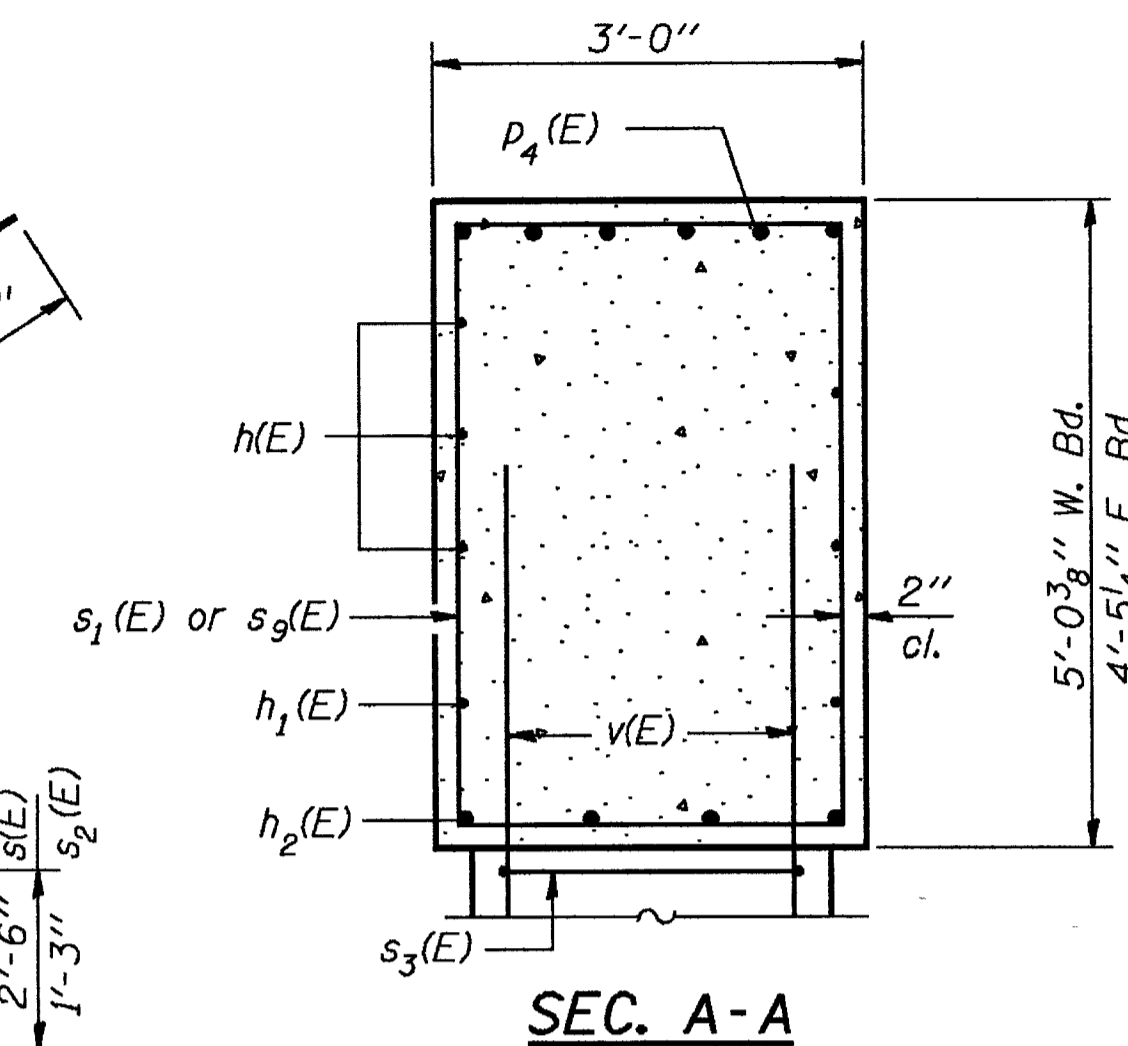
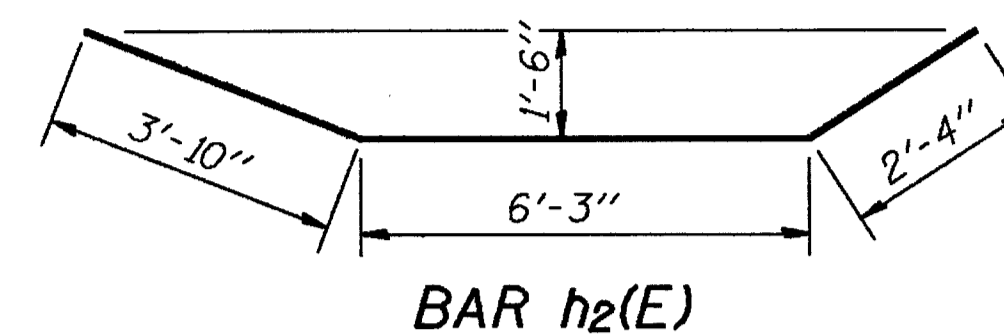
Notes: Space reinforcement in cap to miss anchor bolts.  
All edges shall have Std.  $\frac{3}{4}$ " chamfers  
Anchor bolts may be built into the masonry.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

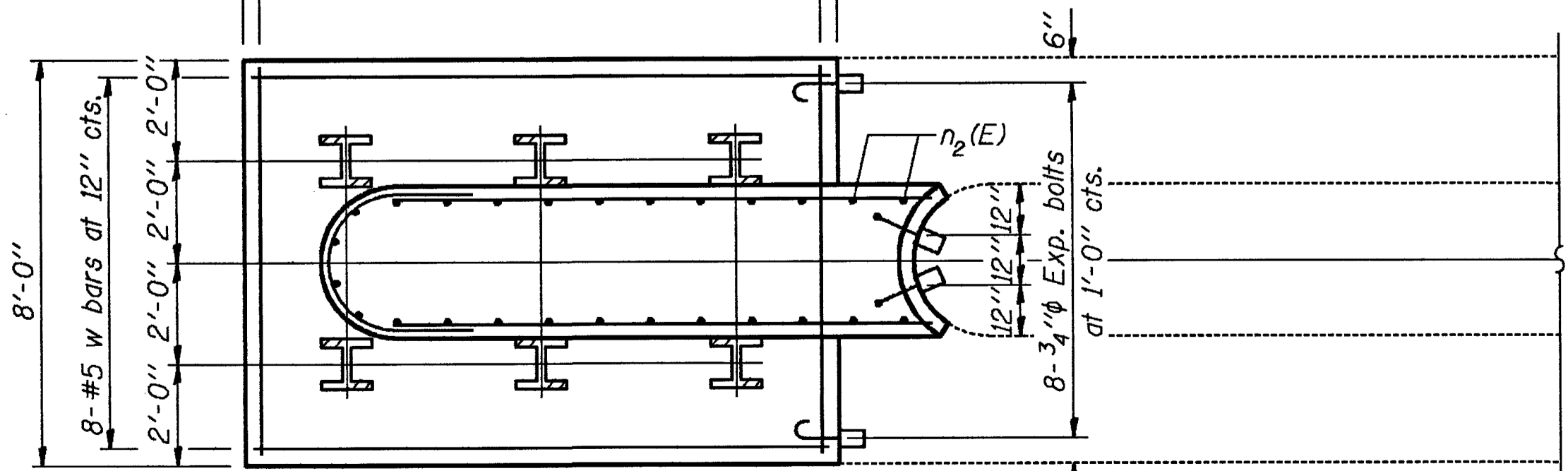
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 25 27 SHEETS
S.A.L. P.A. 39	4VBY-1	WINNEBAGO	171	104	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



\*\* Epoxy grout #6 bars in 1"φ x 9" min drilled holes. (Use a grout approved by the Department or epoxy grout in accordance with Special Provisions.) The method of grout application shall be approved by the Engineer.



\* Bonded construction joint in accordance with Article 504.13 (a)(2) of the Std. Specs.



FOOTING PLAN

TWO EXTENSIONS  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	12	#5	11'-8"	—
h1(E)	4	#5	9'-6"	—
h2(E)	8	#9	12'-5"	—
h3(E)	6	#7	11'-8"	—
h4(E)	16	#5	10'-9"	—
h12(E)	8	#6	2'-9"	—
n(E)	32	#7	6'-0"	—
n1(E)	48	#6	7'-6"	—
n2(E)	8	#6	5'-1"	—
p4(E)	12	#7	11'-9"	—
s(E)	52	#5	7'-8"	—
s1(E)	5	#4	14'-3"	—
s2(E)	24	#4	5'-2"	—
s3(E)	44	#4	9'-8"	—
ss(E)	5	#4	15'-1"	—
t	24	#4	7'-9"	—
u(E)	8	#4	8'-8"	—
u1(E)	10	#5	7'-2"	—
v(E)	32	#7	14'-9"	—
w	16	#5	11'-10"	—

Reinforcement Bars (Epoxy Coated)	Pound	4130
Reinforcement Bars	Pound	320
Class X Concrete	Cu. Yd.	51.8
Structure Excavation	Cu. Yd.	49
Steel Piles HP8 x36	Lin. Ft.	132
Expansion Bolts 3/4"φ	Each	44
Test Pile Steel HP8 x 36	Each	1

Reinforcement bars designated (E) shall be epoxy coated.

PIER 2  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16

PILE DATA

Type: Steel HP 8x36  
Capacity: 24 Ton, Drive to 36 Ton Brg.  
Est. Length: 12 Ft.  
No. Required: 11+1 Test Pile West Bd.

END VIEW

DESIGNED	<i>Walter J. Hill</i>
CHECKED	<i>S. G. Hill</i>
DRAWN	J.T. Downing
CHECKED	<i>M. J. Hill</i>

EXAMINED	<i>Ray J. Kasper</i>
PASSED	<i>Ralph E. Anderson</i>
APPROVED	<i>Ralph E. Anderson</i>

DIRECTOR OF HIGHWAYS

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1½" Min.
2½"	2½"	1¾" Min.
4"	3"	2½" Min.

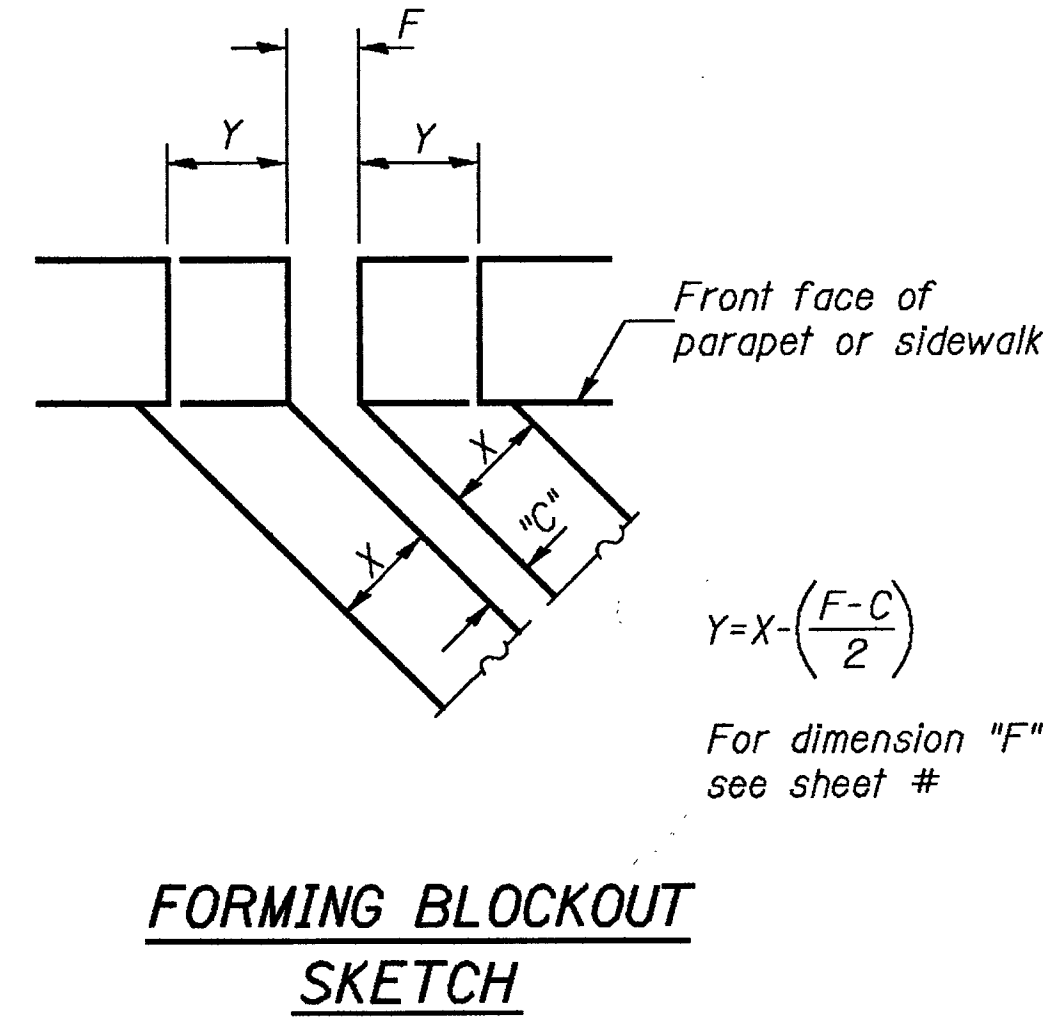
### INSTALLATION NOTES

- Install sponge mandrels into positions shown to form flap convolution.
- Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
- Install continuous seal in roadway.
- Install anchor blocks as indicated.

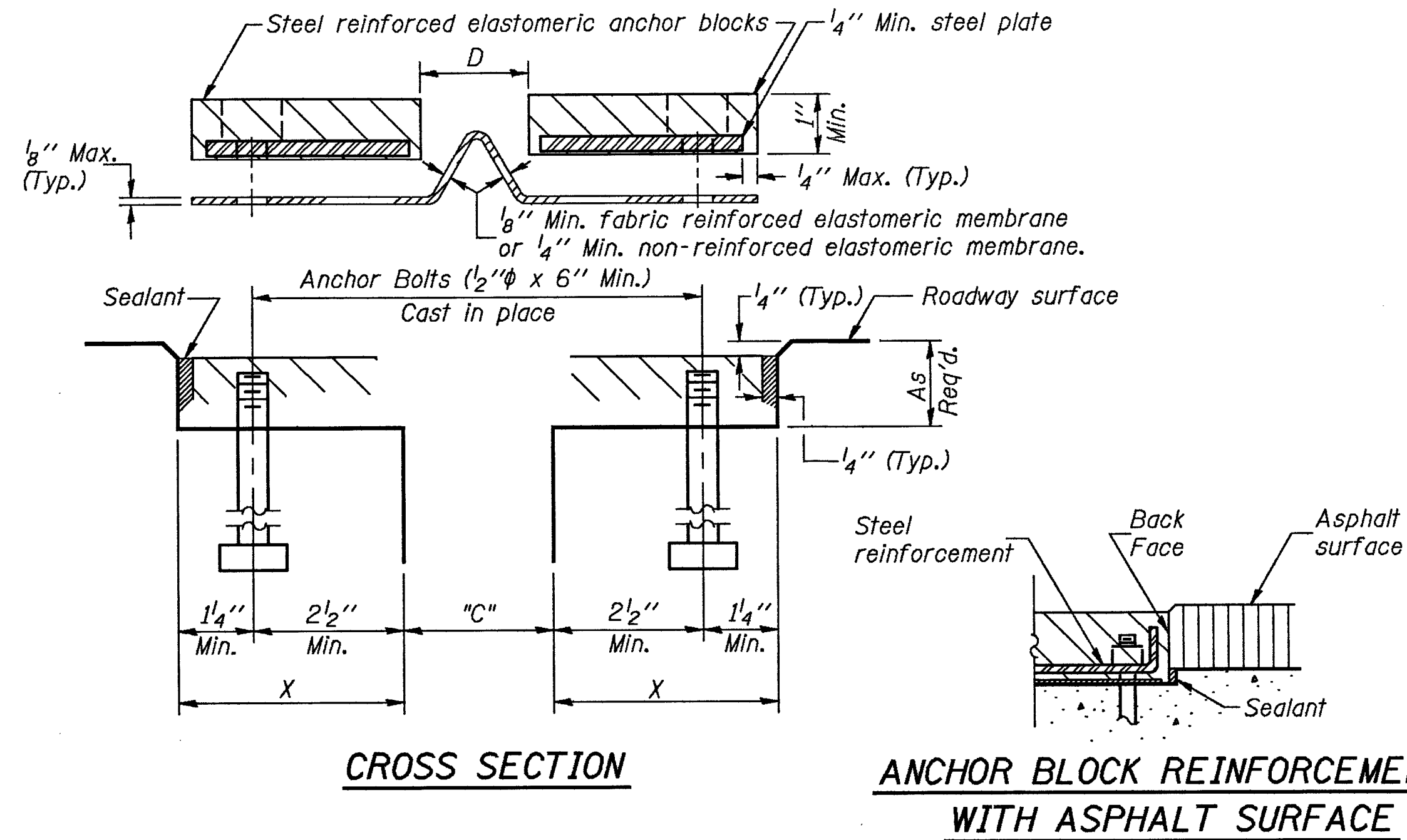
NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

### SKREW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.

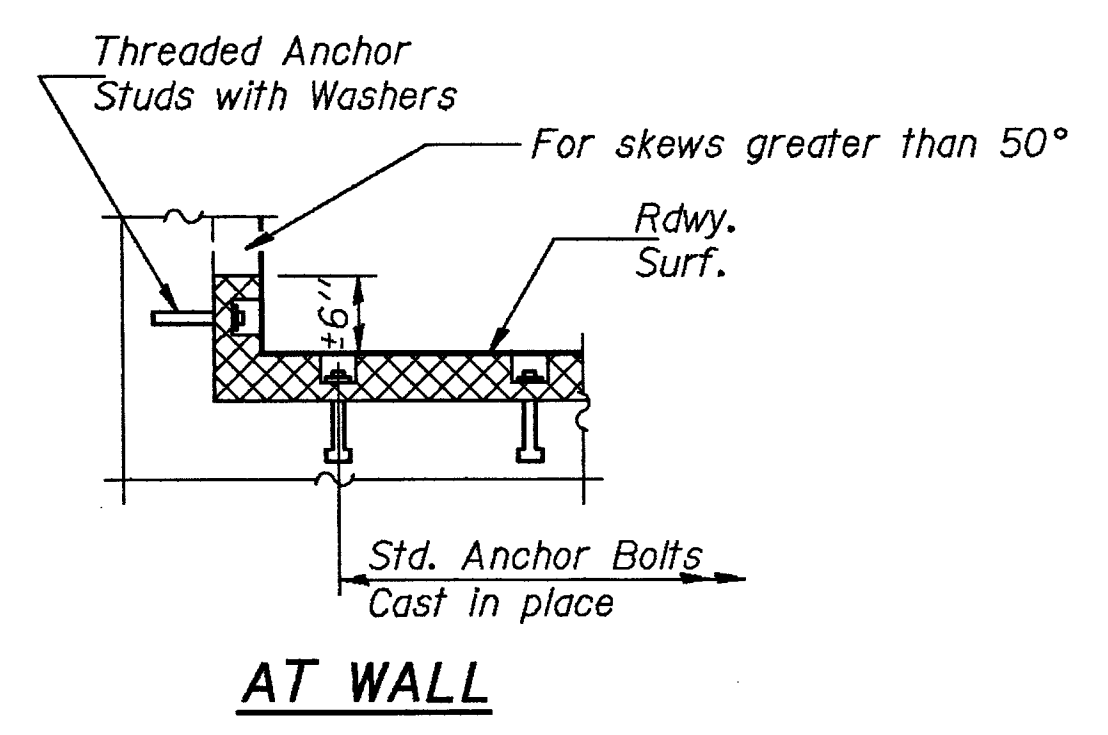
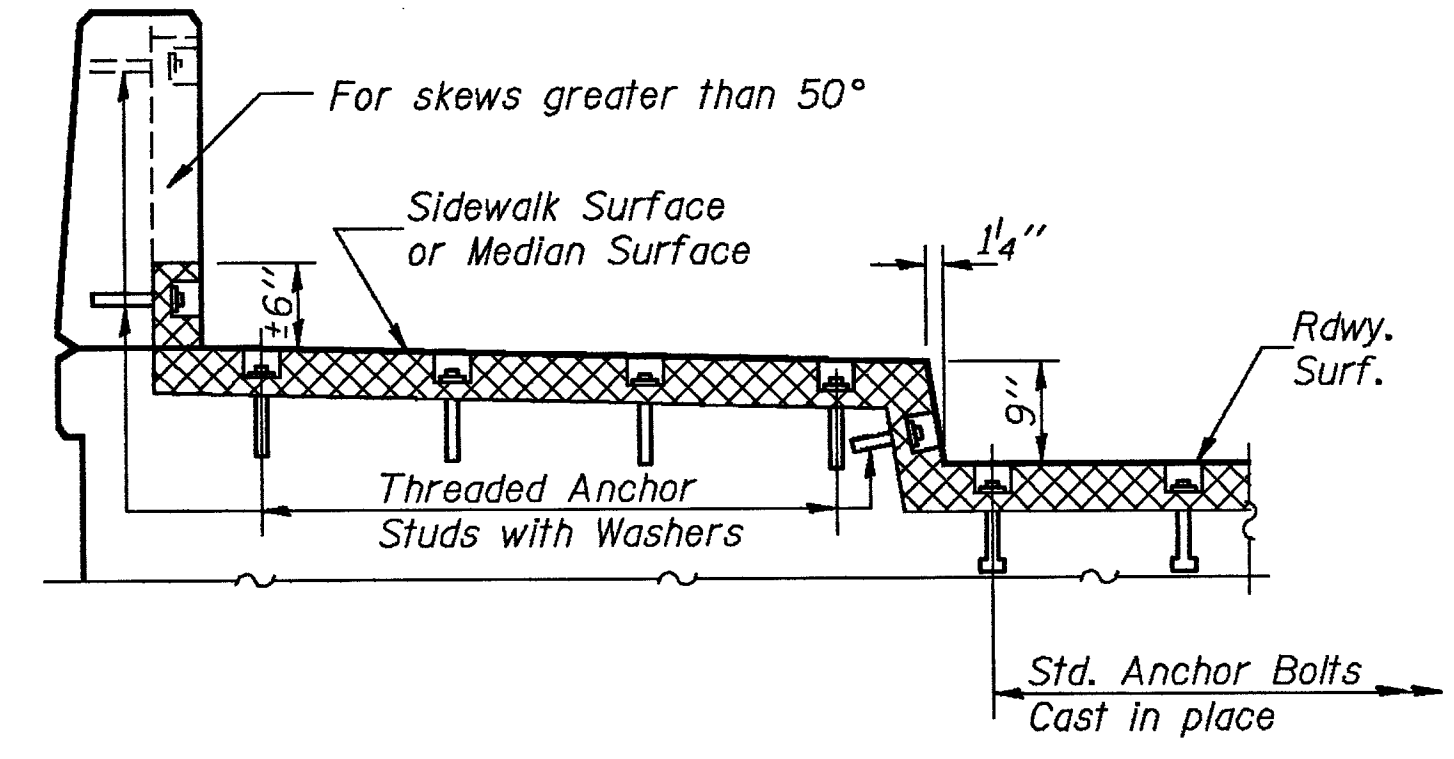
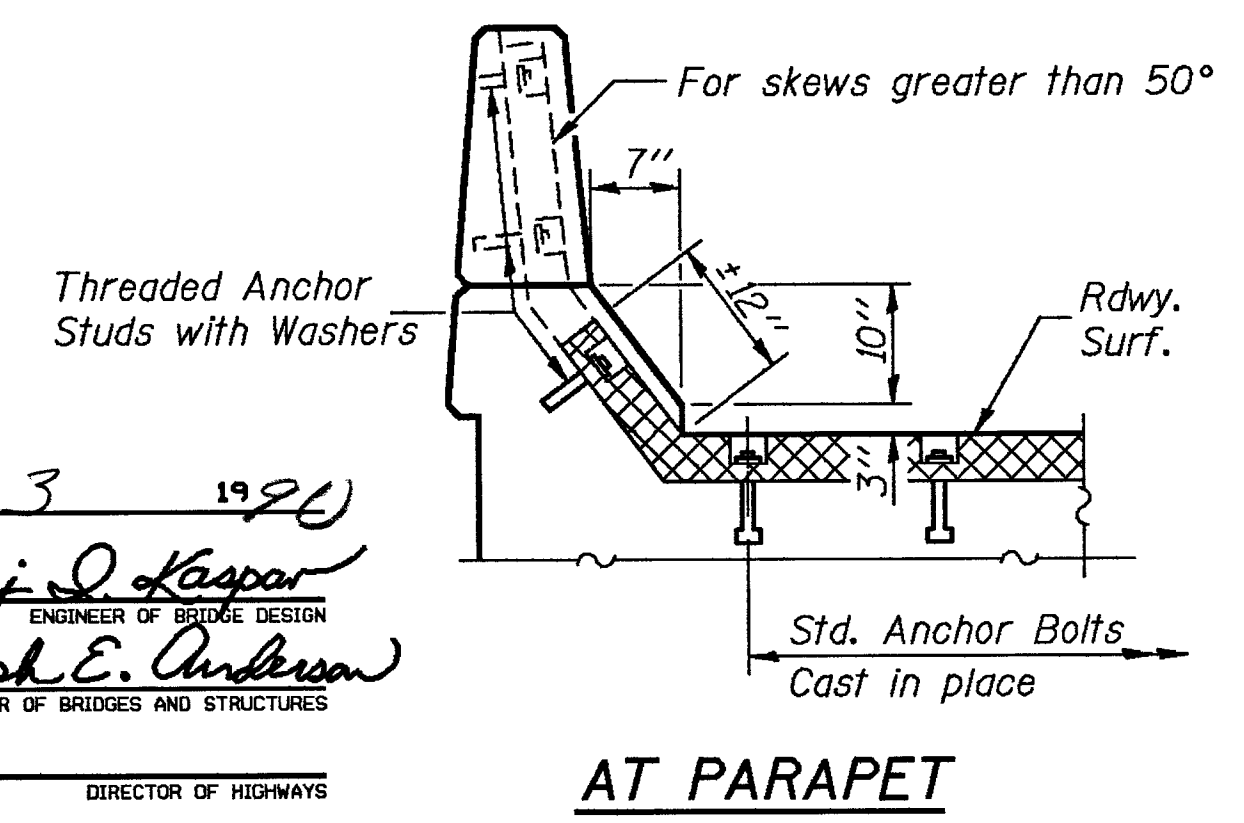
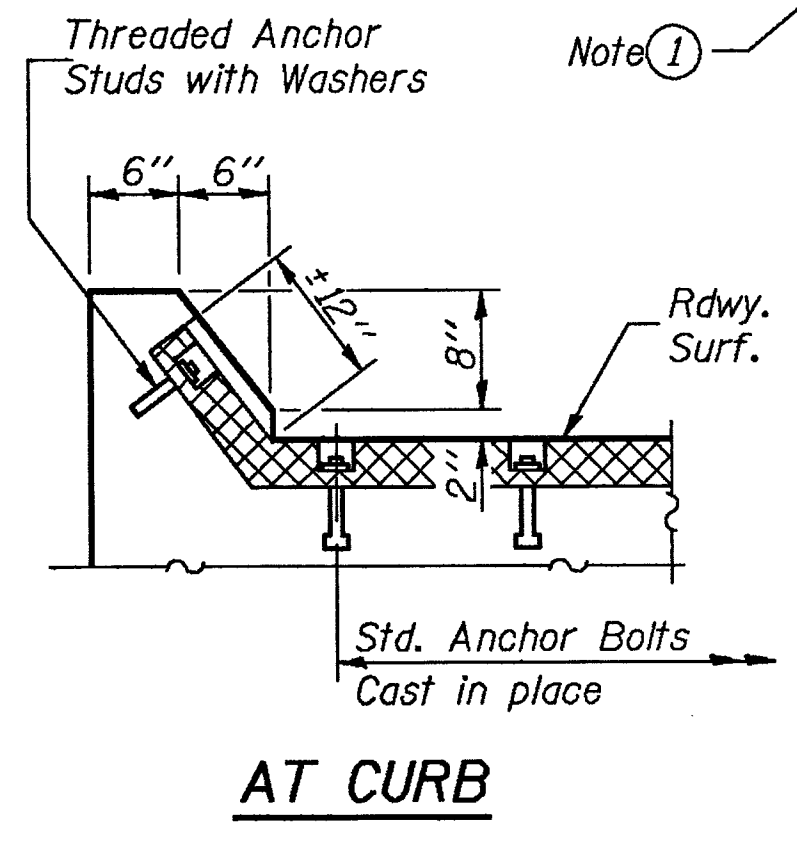
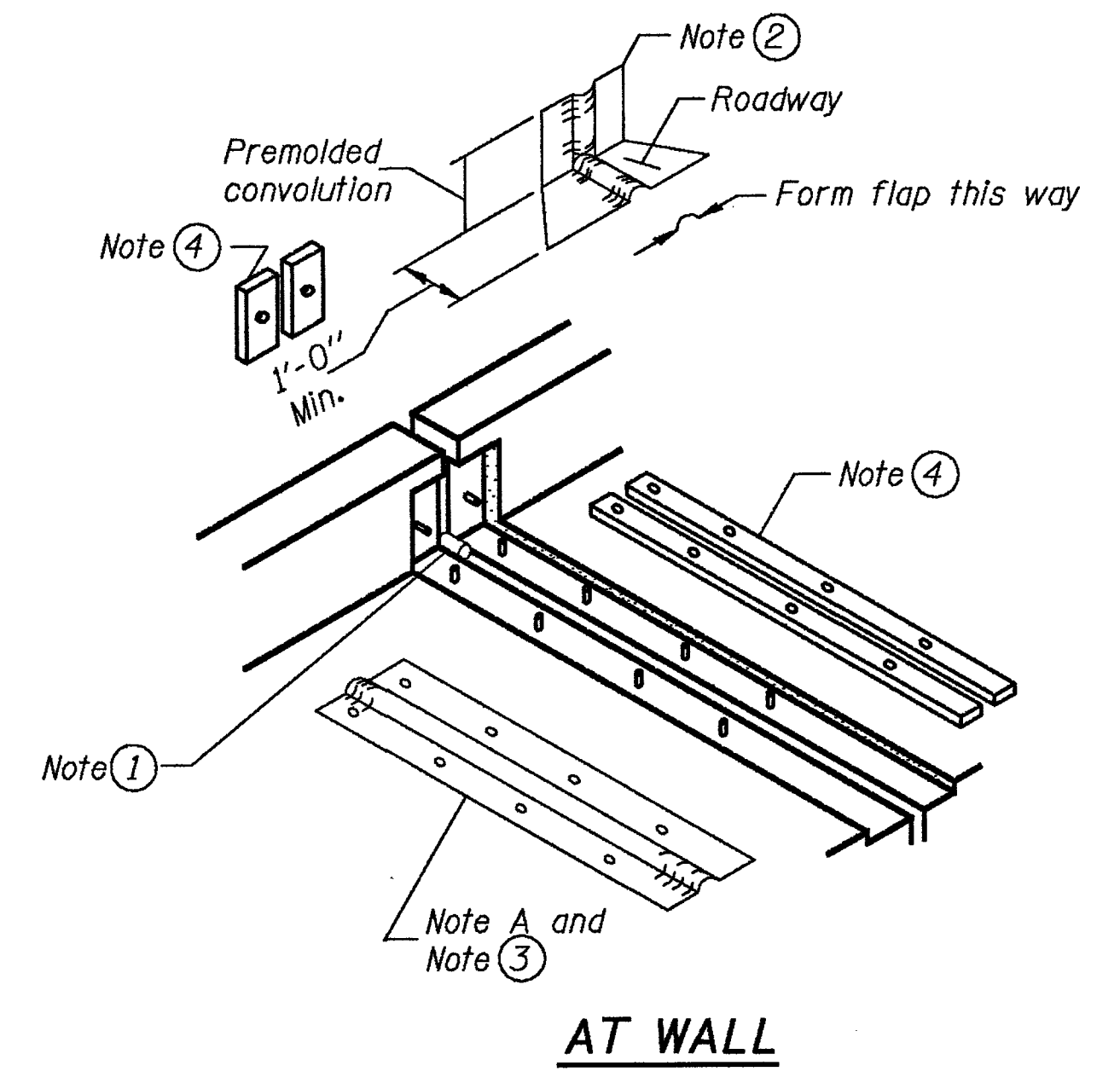
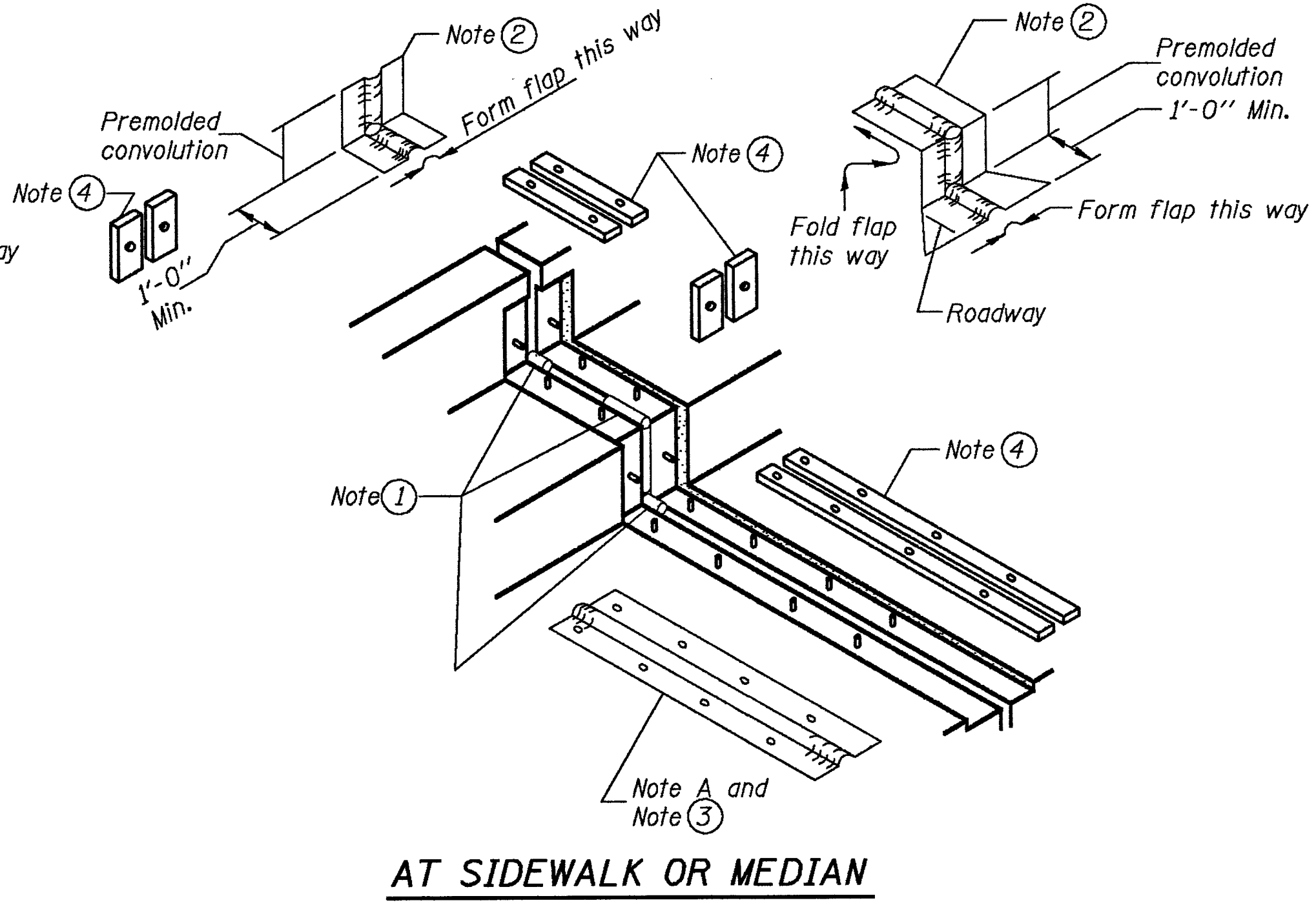
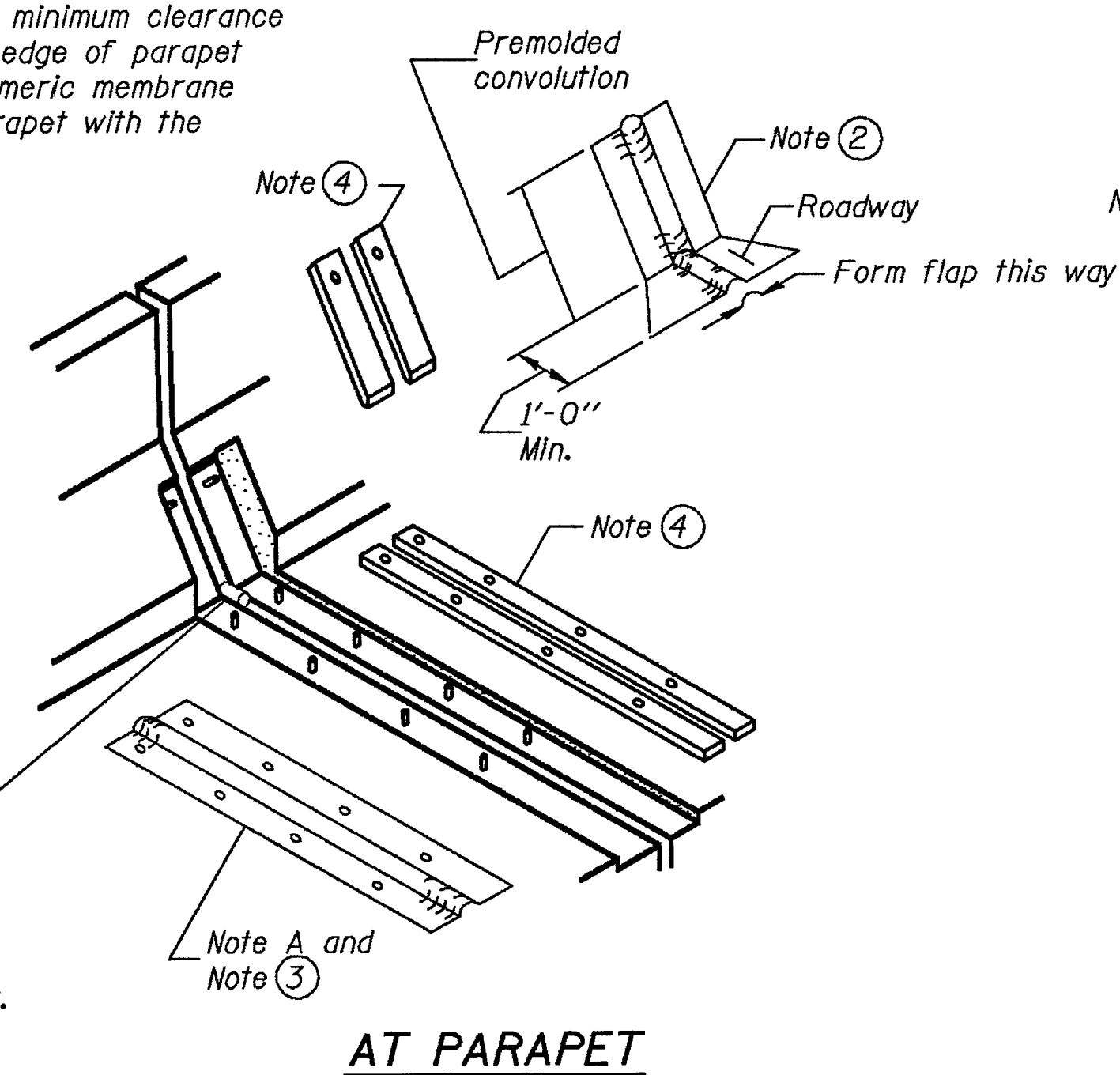


### STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



### GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions. The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure. The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete breakout. The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed. Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F. The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



### TYPICAL END TREATMENTS

DESIGNED: *Kalvin J. Hely*  
 CHECKED: *L. Cook Purdy*  
 DRAWN: *J.T. Downing*  
 CHECKED: *J.H. DCP*  
 EJ-CS 12-31-87

EXAMINED: *May 3 1986*  
*Greg J. Kasper*  
 ENGINEER OF BRIDGE DESIGN

PASSED: *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

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

CONTINUOUS SEAL TYPE  
 NEOPRENE EXPANSION JOINTS  
 For 2", 2½" and 4" Movement

F.A.I. RT. 39 SEC. 4 VBY-1  
 WINNEBAGO COUNTY  
 STATION 832+49.16



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

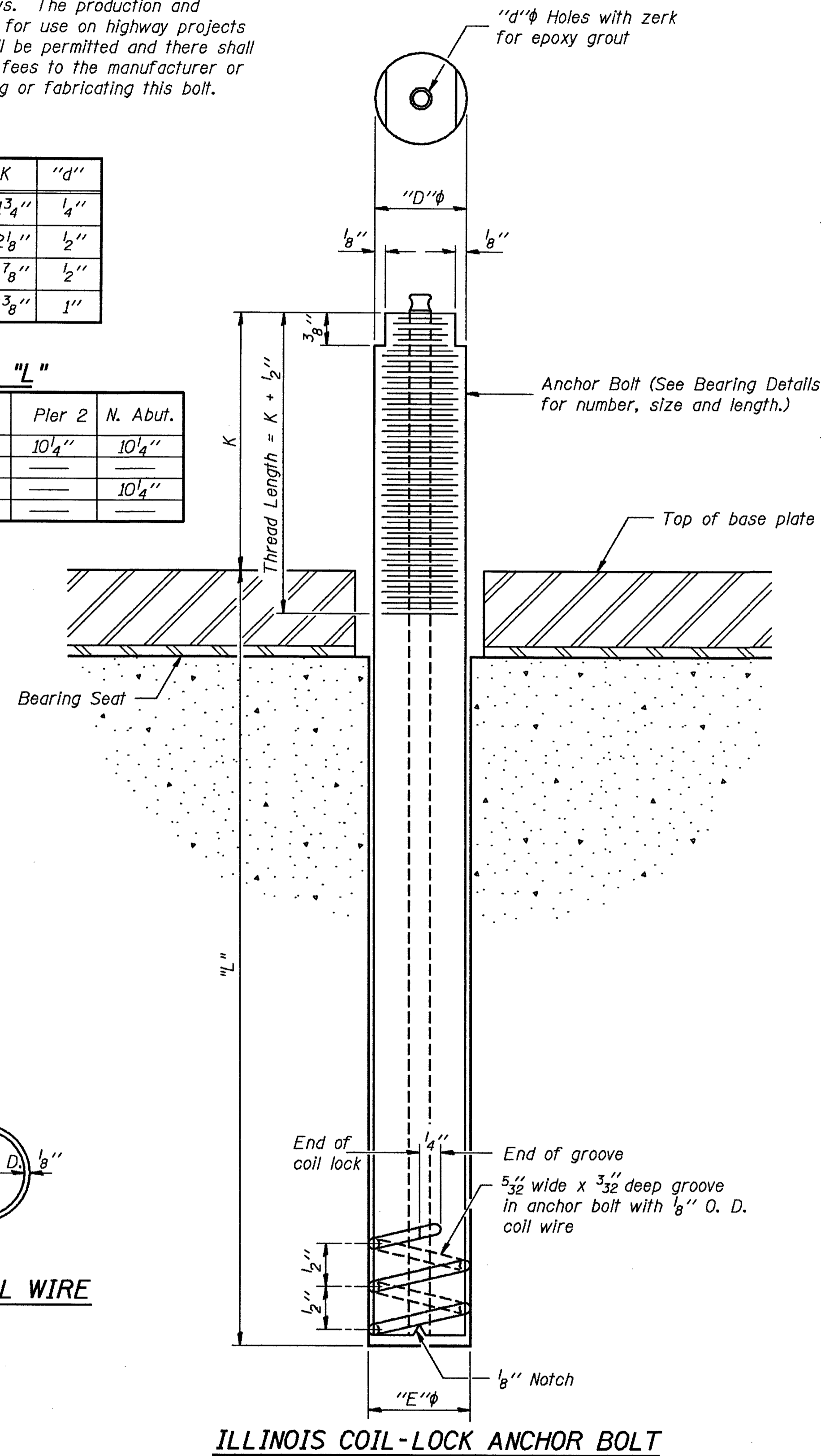
ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 27 27 SHEETS
F.A.I. 39	4VBY-1	WINNEBAGO	171	106	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/8"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"

**DIMENSION "L"**

Bm.	Loc.	S. Abut.	Pier 1	Pier 2	N. Abut.
1 & 12		10 1/4"	10 1/4"	10 1/4"	10 1/4"
2 thru 5		17 1/4"			
6 & 7		17 1/4"			10 1/4"
8 thru 11		17 1/4"			



**ILLINOIS COIL-LOCK ANCHOR BOLT**

**MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT**

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.  
The coil wire shall be made of any suitable soft steel wire.  
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.  
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT**

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.  
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.  
The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

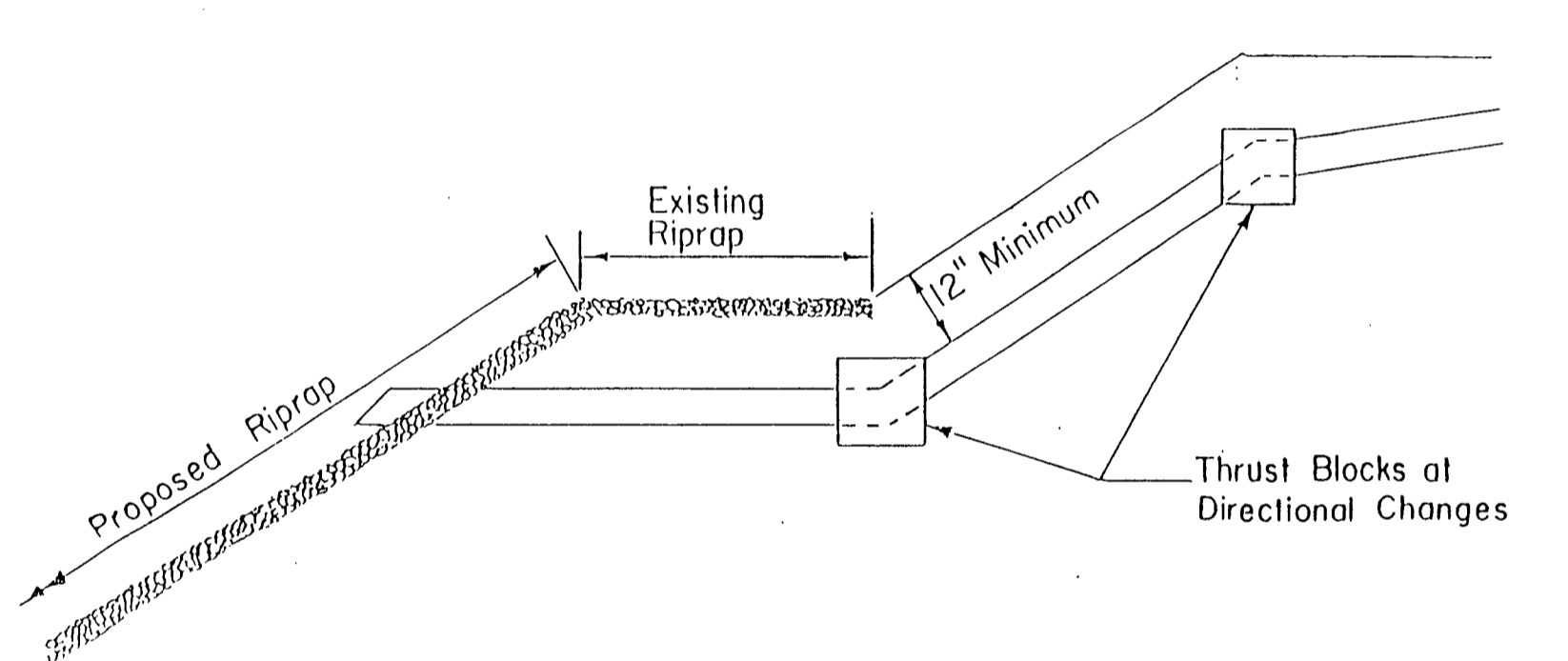
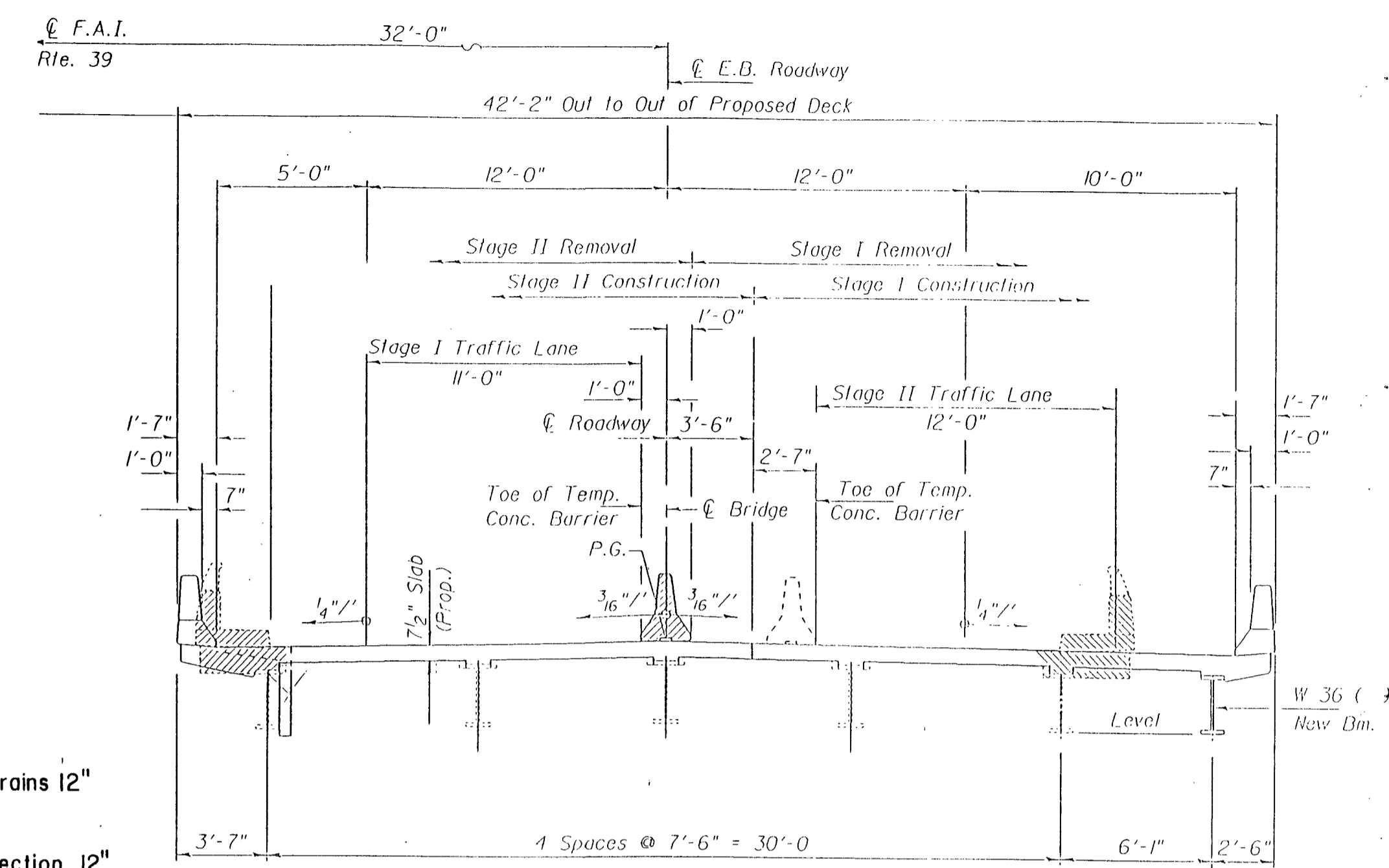
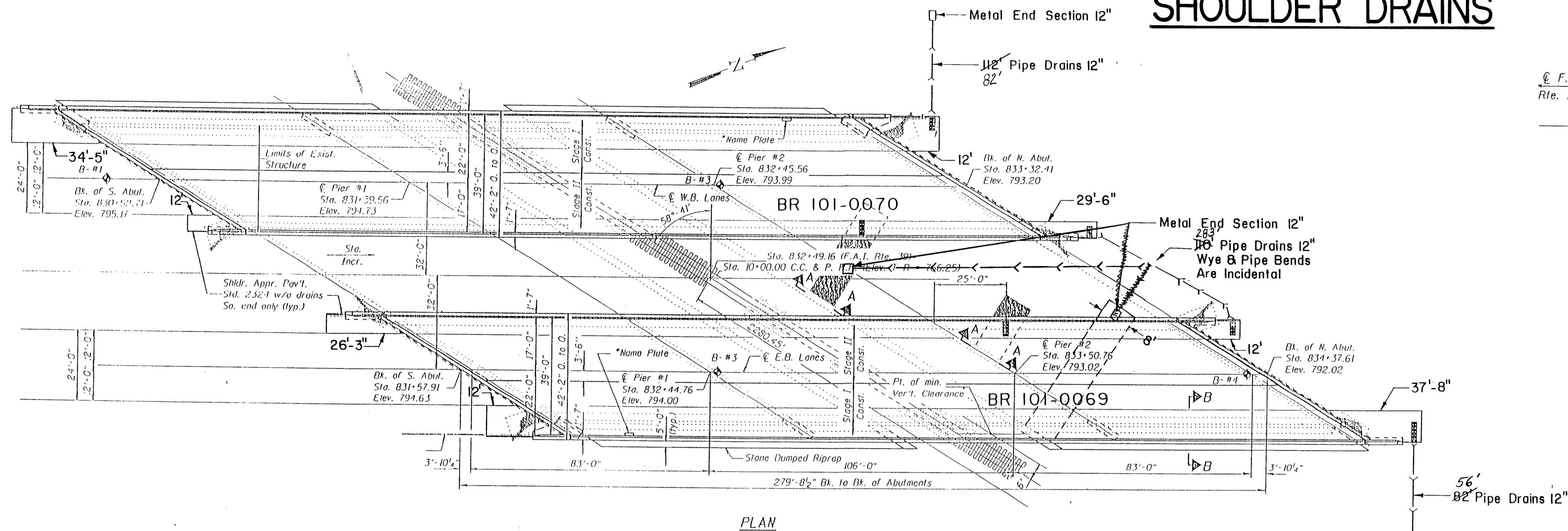
DESIGNED <i>Walter J. Hilly</i>	EXAMINED <i>May 3 1980</i>
CHECKED <i>J. Carl Perry</i>	PASSED <i>Ralph E. Anderson</i>
DRAWN <i>J.T. Downing</i>	APPROVED _____
CHECKED <i>WJH DCP</i>	DIRECTOR OF HIGHWAYS

ABB-1 12-1-83

**ANCHOR BOLT DETAILS  
FOR BEARINGS  
F.A.I. RT. 39 SEC. 4 VBY-1  
WINNEBAGO COUNTY  
STATION 832+49.16**

# SHOULDER DRAINS

*(4,4-1,5)RS			
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS
FAI 39	*	WINNEBAGO	171
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	SHEET NO.
			106A



### PC CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT

LOCATION	SQ YD
Br 69 NE Corner	32.1
Br 69 NW Corner	8.7
Br 69 SE Corner	24.3
Br 69 SW Corner	13.0
Br 70 NE Corner	14.0
Br 70 NW Corner	22.6
Br 70 SE Corner	9.9
Br 70 SW Corner	29.8
	154.4

### TYPE C INLET BOX, STANDARD 2324

LOCATION	EACH
Br 69 NW Corner	1
Br 70 NE Corner	2

### TYPE D INLET BOX, STANDARD 2324

LOCATION	EACH
Br 69 NE Corner	1
Br 70 NW Corner	2

### EXCAVATING AND GRADING EXISTING SHOULDER

LOCATION	SQ YD
Outside EB 825+10 - 831+54 (10' Wide)	716
Outside WB 826+54 - 830+08 (10' Wide)	382
Outside WB 833+34 - 839+82 (10' Wide)	720
Outside EB 834+65 - 838+22 (10' Wide)	397
	2215

### CONCRETE THRUST BLOCKS

LOCATION	EACH
Br 69 NE Corner	1
Br 70 NW Corner	1
N End Between Bridges	3
	5

### METAL END SECTIONS 12"

LOCATION	EACH
Br 69 NE Corner	1
Br 70 NW Corner	1
N End Between Bridges	1
	3

### PIPE DRAINS 12"

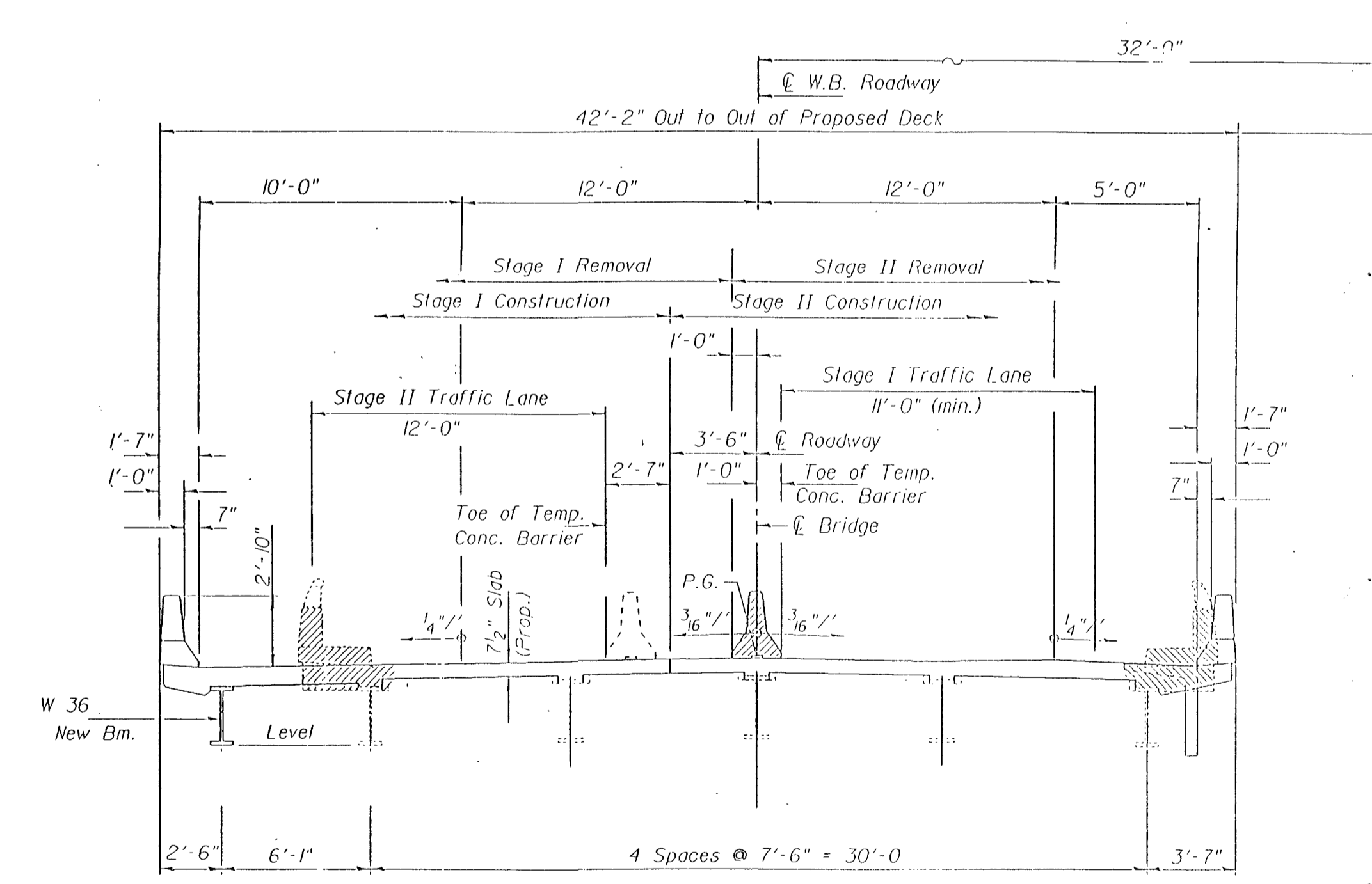
LOCATION	LIN FT
Br 69 NE Corner	82-56
Br 70 NW Corner	142-82
N End Between Bridges	140-283
	364-421

### STONE DUMPED RIPRAP, CLASS A3

LOCATION	SQ YD
N End at Pipe Drain	40-81

### FILTER FABRIC FOR USE WITH RIPRAP

LOCATION	SQ YD
N End at Pipe Drain	40-81



DISTRICT NO. 2 DIXON  
 DESIGNED  
 DRAWN J. HANSEN DATE 3-90  
 CHECKED OUDYN SCALE



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
39	(4VBY, 4VBY-1, 5HB)M	Winnebago	36	1
ILLINOIS			CONTRACT NO. 64G12	

\* 36+1 = 37

D-92-060-10

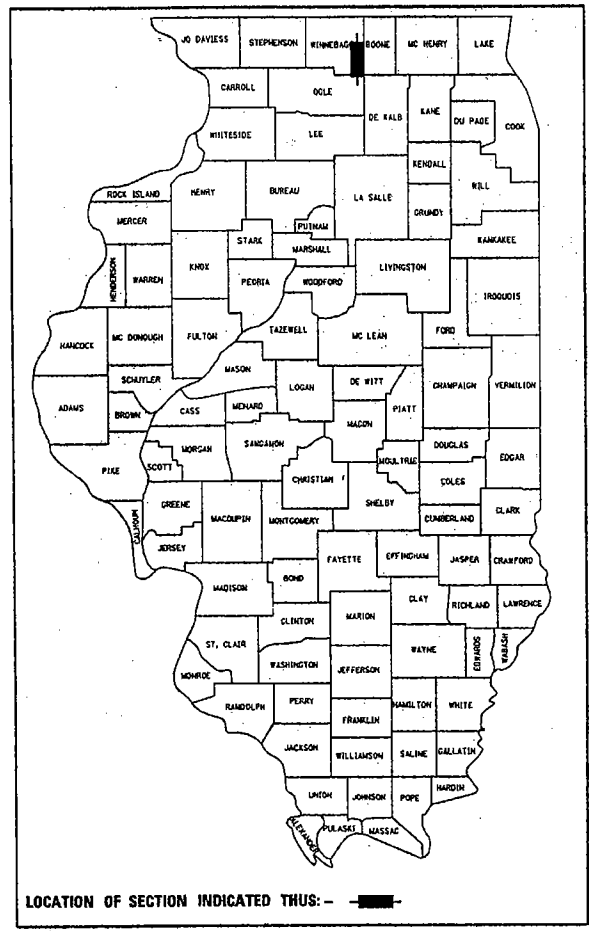
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAI ROUTE 39 (I-39)  
SECTION (4VBY, 4VBY-1, 5HB)M  
BRIDGE MAINTENANCE  
JOINT REPLACEMENT  
WINNEBAGO COUNTY

C-92-120-10

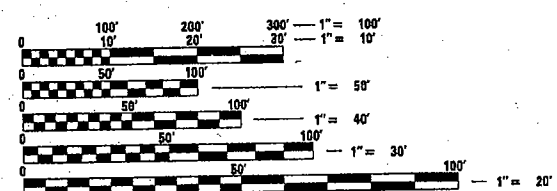
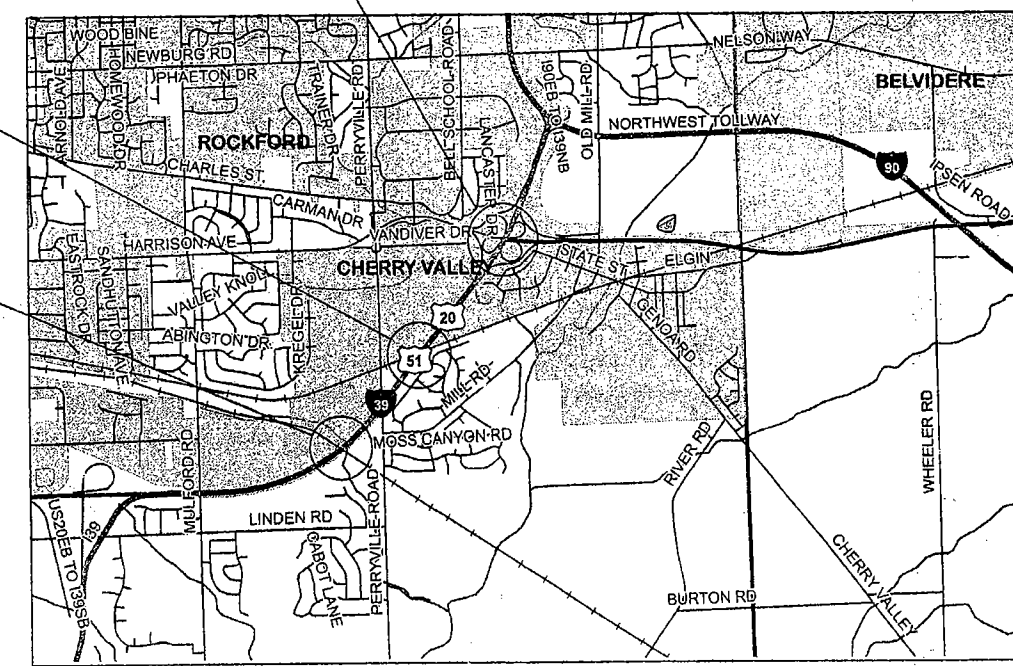
FOR INDEX OF SHEETS, SEE SHEET NO. 3



Structure 101-0071 I-39 NB over Harrison Avenue  
Structure 101-0072 I-39 SB over Harrison Avenue

Structure 101-0069 I-39 SB over UP Railroad  
Structure 101-0070 I-39 NB over UP Railroad

Structure 101-0067 I-39 NB over CC&P Railroad  
Structure 101-0068 I-39 SB over CC&P Railroad



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: MAHMOUD ETEMADI 815/284-5393

GROSS LENGTH = 678 FT. = 0.128 MILE  
NET LENGTH = 678 FT. = 0.128 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Feb. 8<sup>th</sup> 2010  
George F. Ryan  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 19, 2010  
Scott E. Stitt, P.E.  
acting ENGINEER OF DESIGN AND ENVIRONMENT

March 19, 2010  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

CONTRACT NO. 64G12





# GENERAL NOTES

The final top four inches of soil in any right-of-way area disturbed by the Contractor must be capable of supporting vegetation. The soil must be from the A horizon (zero to 2' deep) of soil profiles of local soils.

All Borrow/Waste/Use sites must be approved by the Department prior to removing any material from the project or initiating any earthmoving activities, including temporary stockpiling outside the limits of construction.

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches. This work will be included in the contract unit price per Cubic Yard for Concrete Superstructure.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of Concrete Superstructure.

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the Concrete Superstructure.

The following Mixture Requirements are applicable for this project:

Mixture Uses(s):  
 PG:  
 Design Air Voids  
 Mixture Composition  
 (Gradation Mixture)  
 Friction Aggregate  
 20 Year ESAL

Bituminous and Aggregate prime coat shall be placed in accordance with Section 406 of the Standard Specifications. The cost of the prime coats shall be included in the contract unit price per ton for Polymerized Hot-Mix Asphalt Surface Course, Mix "E", N90.

At bridge expansion joints, if temporary expansion joint bulkheads are attached to adjacent deck slabs or abutments for support, the Contractor shall cut the attachments as soon as the concrete has set to prevent joint damage due to horizontal contraction or expansion.

Pavement Marking shall be done according to Standard 780001, except as follows:

- All words, such as ONLY, shall be 2.4 m (8 feet) high.
- All non-freeway arrows shall be the large size.
- The distance between yellow no-passing lines shall be 200 mm (8"), not 180 mm (7") as shown in the detail of Typical Lane and Edge Lines.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123.

# INDEX OF SHEETS

- Cover Sheet
- Summary of Quantities
- General Notes, Index of Sheets, Standards
- Traffic Control Plan Structures 101-0067 & 0068
- Staging Cross Section Structures 101-0067 & 0068
- Traffic Control Plan Structures 101-0069 & 0070
- Staging Cross Section Structures 101-0069 & 0070
- 10. Traffic Control Plan Stage I Structures 101-0071 & 0072
- 13. Traffic Control Plan Stage II Structures 101-0071 & 0072
- Staging Cross Sections Structures 101-0071 & 0072
- Bridge Approach Resurfacing Structures 101-0067, 0068, 0069 & 0070
- Bridge Approach Resurfacing Structures 101-0071 & 0072
- 23. Bridge Repair Plans Structures 101-0067 & 0068
- 28. Bridge Repair Plans Structures 101-0069 & 0070
- 35A Bridge Repair Plans Structures 101-0071 & 0072
- District Standard for Narrow Width Signing

# STANDARDS

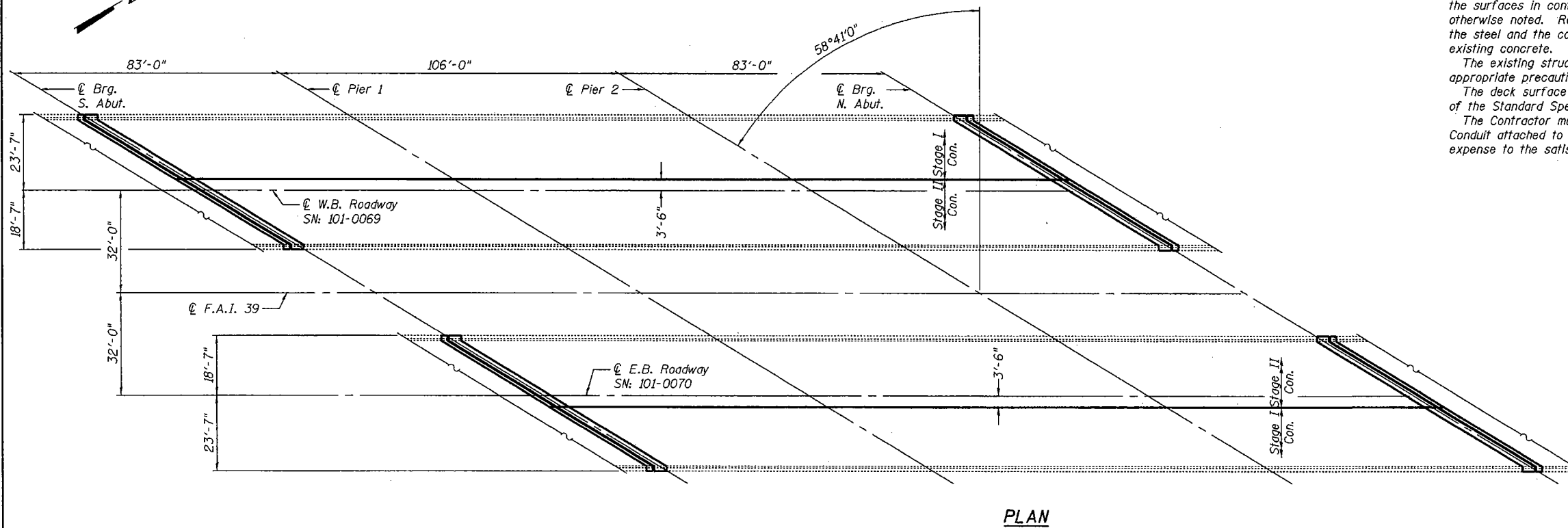
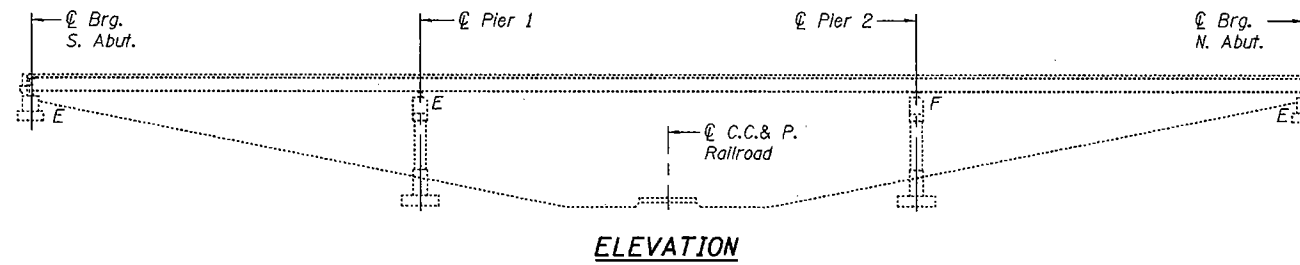
- 701101-02 Off-Road Operations, Multilane, 4.5 m (15') to 600 mm (24") From Pavement Edge
- 701400-04 Approach to Lane Closure, Freeway/Expressway
- 701401-05 Lane Closure, Freeway/Expressway
- 701402-07 Lane Closure, Freeway/Expressway, with Barrier
- 701411-06 Lane Closure, Multilane, at Entrance or Exit Ramp, for Speeds > 45 MPH
- 701426-03 Lane Closure, Multilane, Intermittent or Moving Operation, for Speeds > 45 MPH
- 701901-01 Traffic Control Devices
- 720001-01 Sign Panel Mounting Details
- 720011-01 Metal Posts for Signs, Markers and Delineators
- 728001-01 Telescoping Steel Sign Support
- 729001-01 Applications of Types A and B Metal Posts (For Signs & Markers)

FILE NAME =	USER NAME = jmkd	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>General Notes Index of Sheets, Standards</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
D:\BRYCADD\plans\Winnebago County\64012	US 28 Joint\PLR\Eng.dgn	DRAWN -	REVISED -			39	14VBY, 4VBY-1, 5HBM	Winnebago	36	3	
	PLOT SCALE = 50.0000 / IN.	CHECKED -	REVISED -			CONTRACT NO. 64G12					
	PLOT DATE = Mon Feb 88 13:15:16 2018	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
						SCALE: _____	SHEET NO. _____	OF _____ SHEETS	STA. _____	TO STA. _____	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 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.  
 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 Standard Specifications when the deck is poured at an ambient temperature other than 50° F.  
 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.  
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructures.  
 The Contractor must exercise extreme care as not to damage the Fiber Optic Conduit attached to the structure. Any damage is to be repaired at the Contractor's expense to the satisfaction of the Utility Company.



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	52.9
Concrete Superstructure	Cu. Yd.	53
Reinforcement Bars, Epoxy Coated	Pound	5620
Preformed Joint Strip Seal	Foot	308
Bar Splicers	Each	56
* Protective Coat	Sq. Yd.	110

\*Apply to new concrete only.

DESIGNED *Jim J. Pks*  
 CHECKED *Adrian T. Holloway*  
 DRAWN *[Signature]*  
 CHECKED *ISL ATH*

March 9, 2010  
 EXAMINED *[Signature]*  
 PASSED *[Signature]*  
 ENGINEER OF STRUCTURAL SERVICES  
 ENGINEER OF BRIDGES AND STRUCTURES



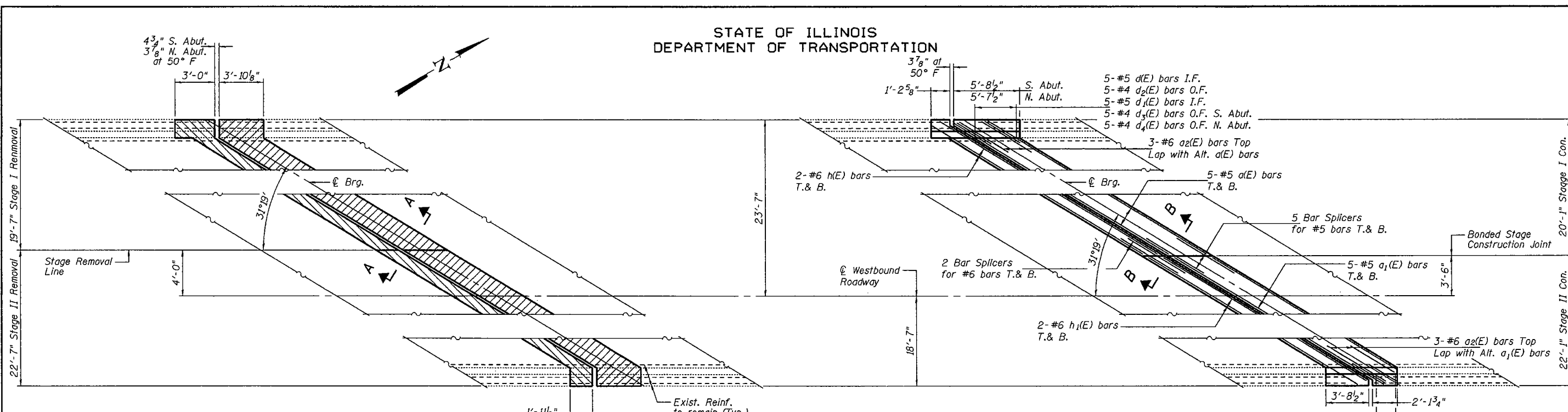
Expires: November 30, 2010

**PLAN AND ELEVATION  
SN 101-0069 & 0070**

SHEET NO. 1 6 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	39	(4VBY, 4VBY-1, 5HB)M	Winnebago	36	24
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO.				64G12	



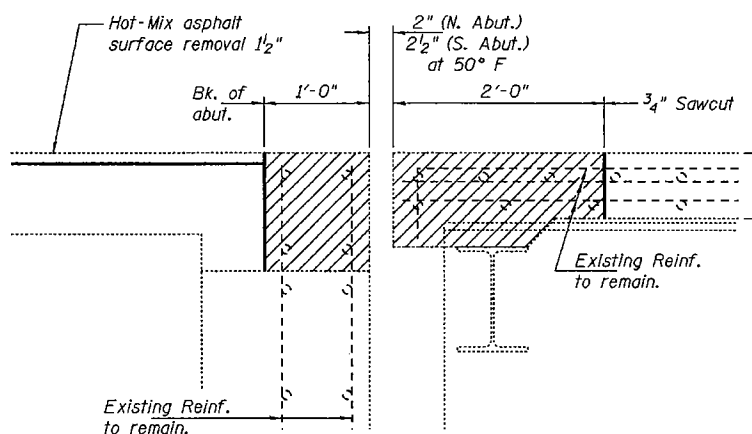
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



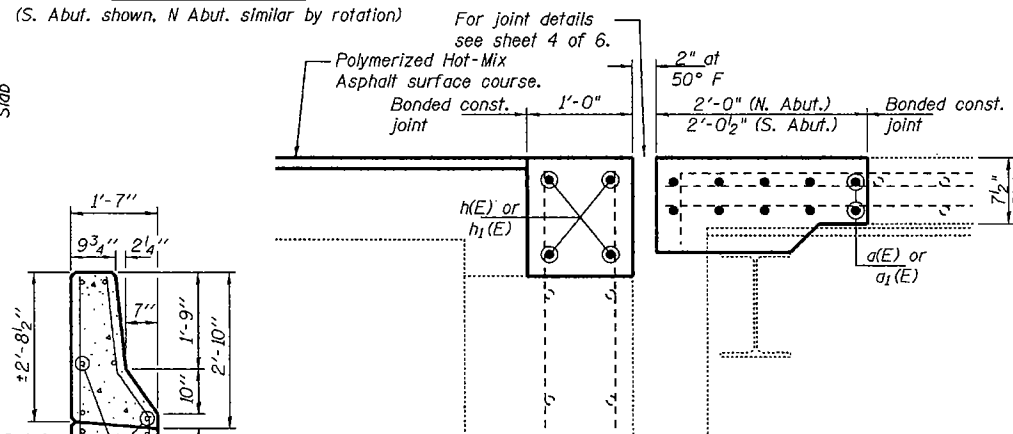
**REPLACEMENT PLAN**  
(S. Abut. shown, N Abut. similar by rotation)

- 3-#5 d(E) bars I.F.
- 3-#4 d<sub>2</sub>(E) bars O.F.
- 3-#5 d<sub>1</sub>(E) bars I.F.
- 3-#4 d<sub>3</sub>(E) bars O.F. S. Abut.
- 3-#4 d<sub>4</sub>(E) bars O.F. N. Abut.

**REMOVAL PLAN**  
(S. Abut. shown, N Abut. similar by rotation)



**SECTION A-A**  
(Near Roadway)  
(Dims at RT L's to end of deck)



**SECTION B-B**  
(Near Roadway)  
(Dims at RT L's to end of deck)

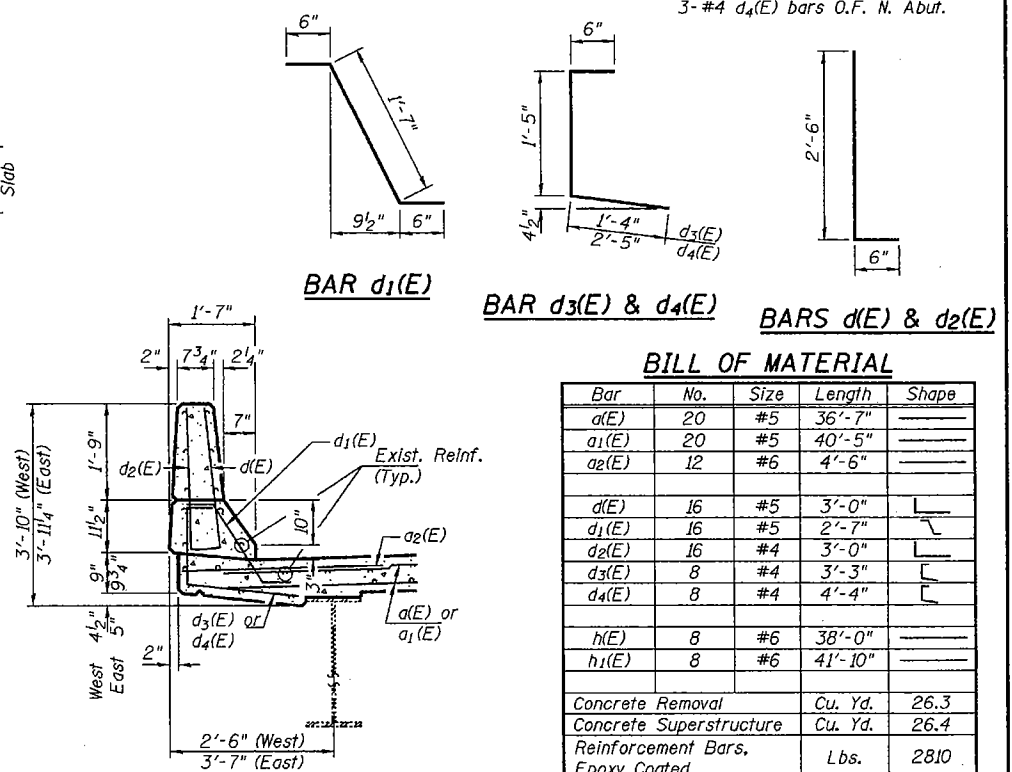
**TYPICAL SECTION AT APPROACH PARAPET**

Remove portion of wingwall as required at corners to allow clearance for new deck overhang. Cut reinf. Flush and seal surface with epoxy. Cost included with Concrete Removal.

**BAR d<sub>1</sub>(E)**

**BAR d<sub>3</sub>(E) & d<sub>4</sub>(E)**

**BARS d(E) & d<sub>2</sub>(E)**



**TYPICAL PARAPET SECTION**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	20	#5	36'-7"	—
a <sub>1</sub> (E)	20	#5	40'-5"	—
a <sub>2</sub> (E)	12	#6	4'-6"	—
d(E)	16	#5	3'-0"	L
d <sub>1</sub> (E)	16	#5	2'-7"	L
d <sub>2</sub> (E)	16	#4	3'-0"	L
d <sub>3</sub> (E)	8	#4	3'-3"	L
d <sub>4</sub> (E)	8	#4	4'-4"	L
h(E)	8	#6	38'-0"	—
h <sub>1</sub> (E)	8	#6	41'-10"	—
Concrete Removal			Cu. Yd.	26.3
Concrete Superstructure			Cu. Yd.	26.4
Reinforcement Bars, Epoxy Coated			Lbs.	2810

**WESTBOUND JOINT DETAILS**  
**SN 101-0069 & 0070**

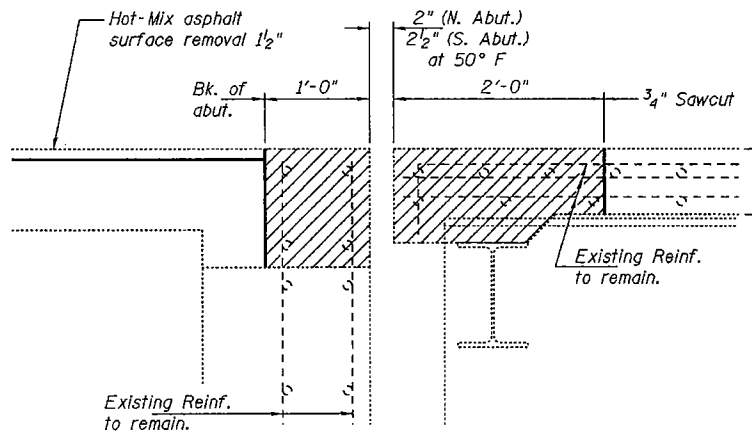
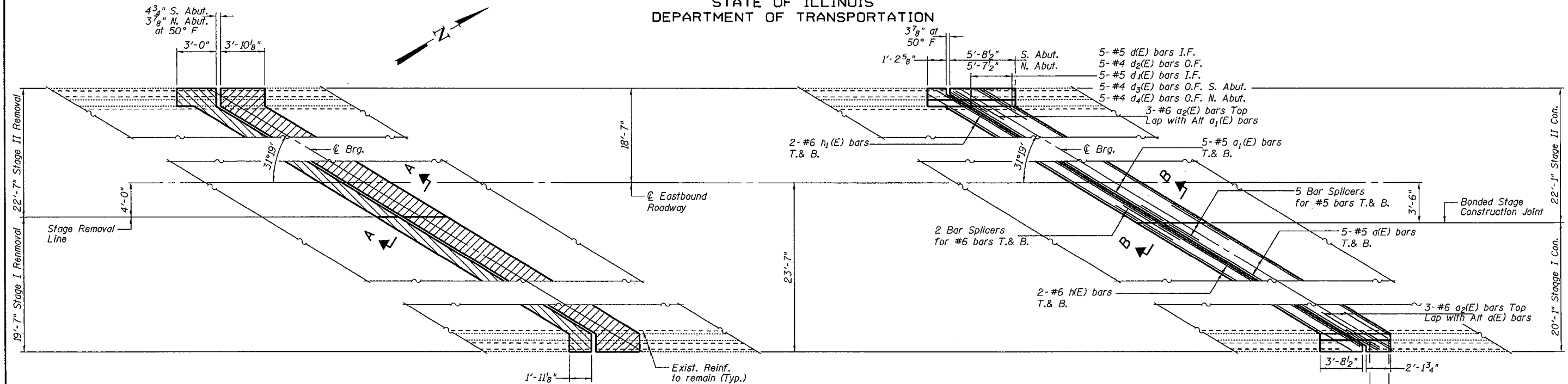
DESIGNED I.J.L.  
 CHECKED ATH  
 DRAWN  
 CHECKED I.J.L. ATH

March 9, 2010  
 EXAMINED *Carl K...*  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF STRUCTURAL SERVICES  
 ENGINEER OF BRIDGES AND STRUCTURES

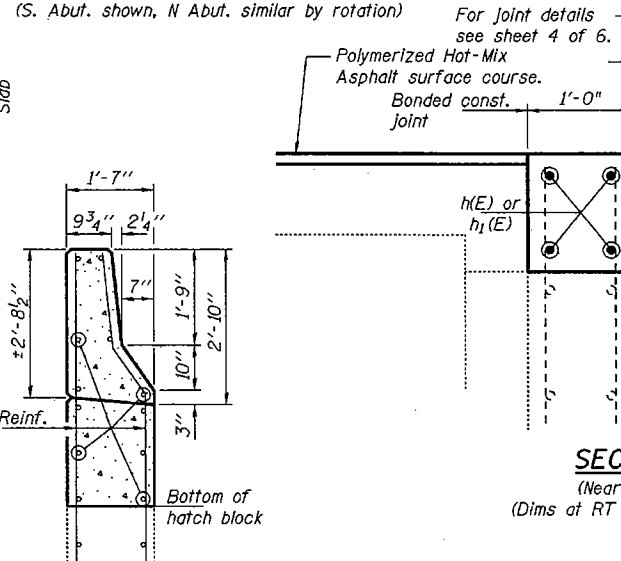
SHEET NO. 2 6 SHEETS	F.A.I. RTE. 39	SECTION (4VBY, 4VBY-1, 5HB)M	COUNTY Winnebago	TOTAL SHEETS 36	SHEET NO. 25
	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT CONTRACT NO. 64G12		

Notes:  
Hatched areas indicate removal.

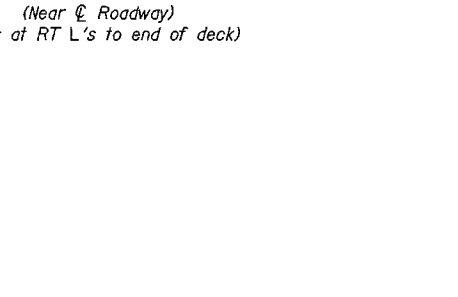
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



REMOVAL PLAN  
(S. Abut. shown, N Abut. similar by rotation)

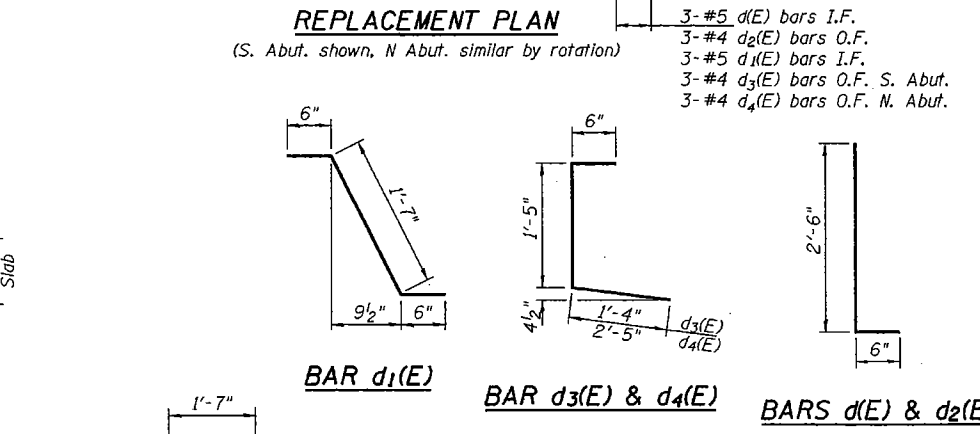


SECTION B-B  
(Near Roadway)  
(Dims at RT L's to end of deck)



TYPICAL SECTION AT APPROACH PARAPET

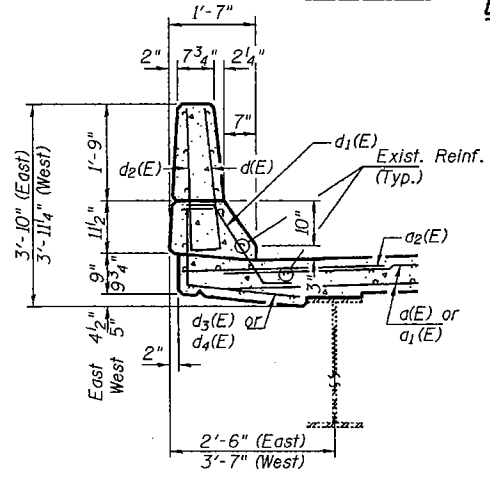
Remove portion of wingwall as required at corners to allow clearance for new deck overhang. Cut reinf. flush and seal surface with epoxy. Cost included with Concrete Removal.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	20	#5	36'-7"	┌
a1(E)	20	#5	40'-5"	┌
a2(E)	12	#6	4'-6"	┌
d(E)	16	#5	3'-0"	┌
d1(E)	16	#5	2'-7"	┌
d2(E)	16	#4	3'-0"	┌
d3(E)	8	#4	3'-3"	┌
d4(E)	8	#4	4'-4"	┌
h(E)	8	#6	38'-0"	┌
h1(E)	8	#6	41'-10"	┌
Concrete Removal			Cu. Yd.	26.6
Concrete Superstructure			Cu. Yd.	26.6
Reinforcement Bars, Epoxy Coated			Lbs.	2810

TYPICAL PARAPET SECTION



EASTBOUND JOINT DETAILS  
SN 101-0069 & 0070

DESIGNED I.J.L.  
CHECKED ATH  
DRAWN  
CHECKED I.J.L. ATH

March 9, 2010  
EXAMINED *A. Carl Perry*  
PASSED *Ralph E. Anderson*  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

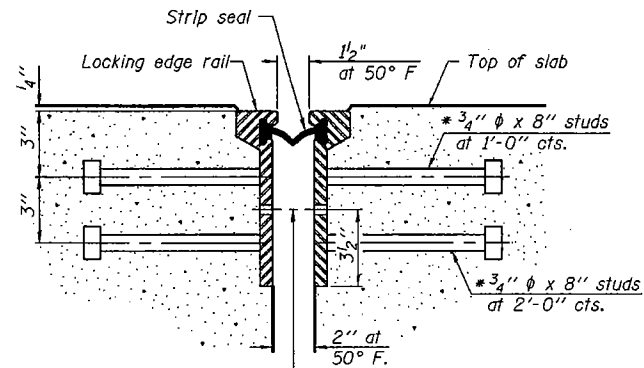
SHEET NO. 3 6 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	39	(4VBY, 4VBY-1, 5HB)M	Winnebago	36	26
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	CONTRACT NO. 64G12	

Notes:  
Hatched areas indicate removal.



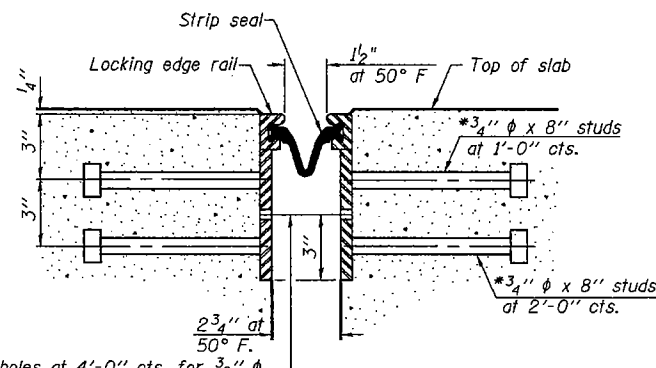
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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



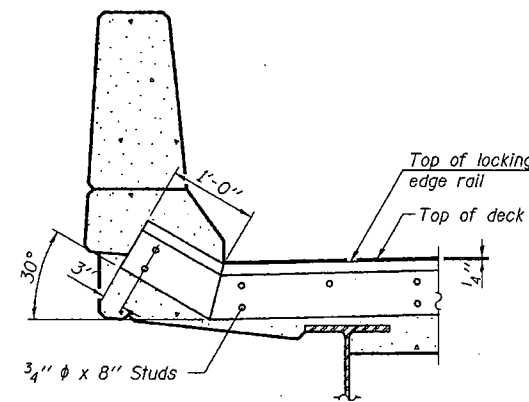
7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
ROLLED RAIL JOINT



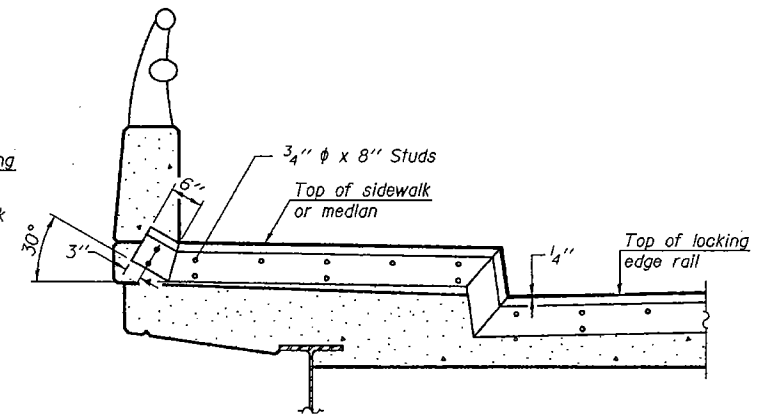
7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
WELDED RAIL JOINT



AT PARAPET

See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

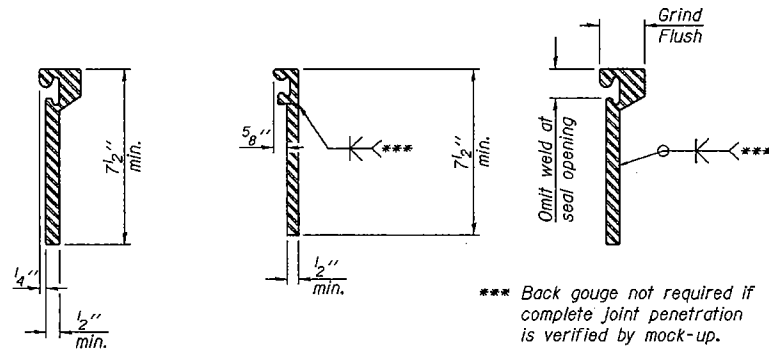
Notes:

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 at stage lines shall be 3/16", sealed with a suitable sealant.

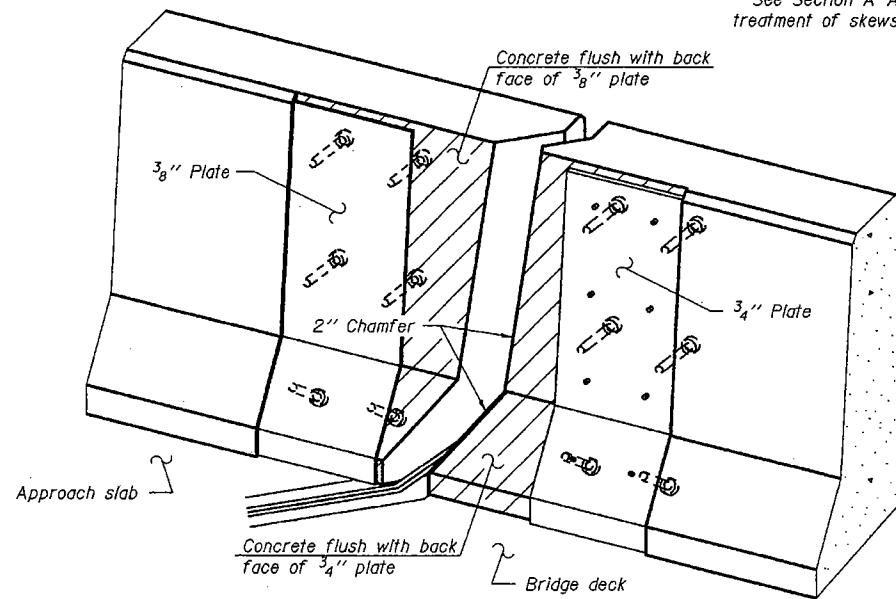


ROLLLED  
EXTRUDED RAIL

WELDED RAIL

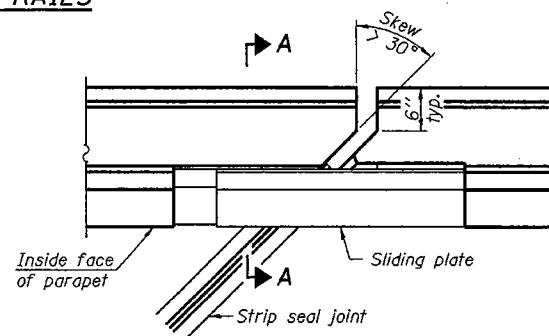
LOCKING EDGE  
RAIL SPLICE

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

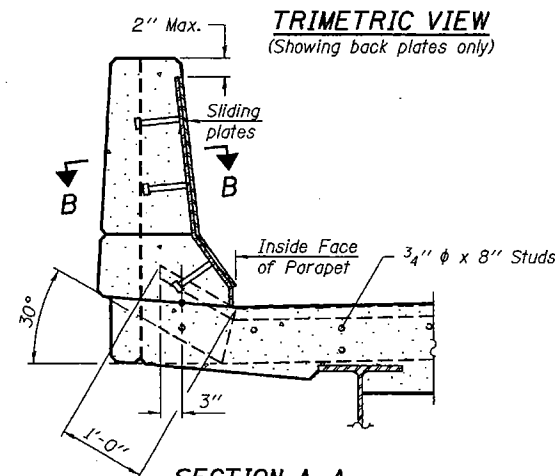


TRIMETRIC VIEW  
(Showing back plates only)

LOCKING EDGE RAILS

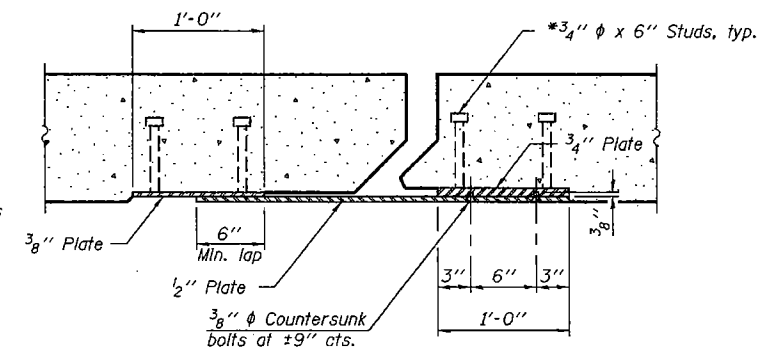


PLAN



SECTION A-A

POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	308

STRIP SEAL DETAILS  
SN 101-0069 & 0070

SHEET NO. 4 6 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	39	(4VBY, 4VBY-1, 5HBM)	Winnebago	36	27
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	CONTRACT NO. 64G12		

DESIGNED	I.J.L.
CHECKED	ATH
DRAWN	Drew Christopher
CHECKED	I.J.L. ATH

March 9, 2010
EXAMINED <i>Carl Prosser</i> ENGINEER OF STRUCTURAL SERVICES
PASSED <i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES

EJ-SSJ 11-1-09