AS BUILT PLANS

CHECKED JPC 3-3-82

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122VBR	VERMILION	39	1
F.HW.A. REG.	ILLINOIS	PROJECT		

P-35-156-70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO. 7

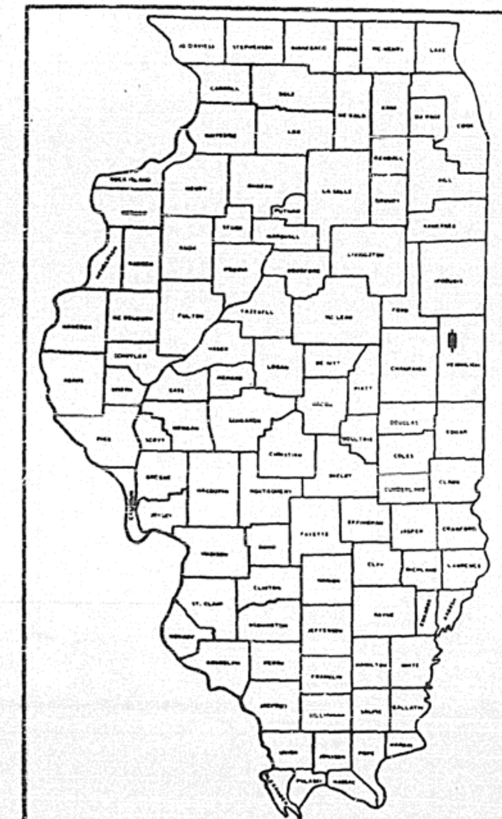
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 8

SCALES
- PLAN 1" = 25'
- PROFILE HORIZ. 1" = 20'
- PROFILE VERT. 1" = 2'
- CROSS SECTIONS HORIZ. 1" = 10', VERT. 1" = 5'

F.A. ROUTE 840, SECTION 122VBR, VERMILION COUNTY
PROJECT BR-F-840(11)

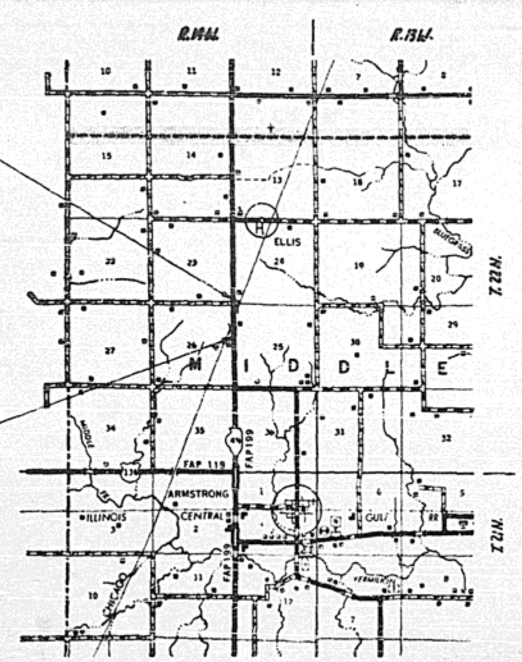
BRIDGE RECONSTRUCTION

C-95-065-79



RESIDENT ENGINEER
JOHN C. MOON

Contractor
ONEIL BROS. CONST.



STRUCTURE 122VBR: A FIVE SPAN STRUCTURE CARRYING F.A.P. ROUTE 840 OVER THE MISSOURI PACIFIC RAILROAD AT STATION 858+17.79 CONSISTING OF A 7½ INCH REINFORCED CONCRETE DECK ON STEEL I-BEAMS ON WIDENED AND RECONSTRUCTED CONCRETE ABUTMENTS AND PIERS. SPANS 1 @ 19'-1½", 1 @ 88'-1½", 1 @ 112'-5¼", 1 @ 88'-1½" & 1 @ 49'-11⅝"; ROADWAY WIDTH 32'-0"; 60° SKEW.

TOTAL LENGTH OF SECTION 122VBR	=	682.00 FEET = 0.129 MILES
TOTAL LENGTH OF PROJECT BR-F-840(11)	=	682.00 FEET = 0.129 MILES
NET LENGTH OF SECTION 122VBR	=	682.00 FEET = 0.129 MILES
NET LENGTH OF PROJECT BR-F-840(11)	=	682.00 FEET = 0.129 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 7-27 19 79
R. E. Frost
DISTRICT ENGINEER

EXAMINED 8-23 19 79
W. H. Wilson
ENGINEER OF PLANS AND CONTRACTS

PASSED 8-23 19 79
Thomas R. Bright
ENGINEER OF DESIGN

APPROVED 8-23 19 79
J. W. Morrow
DIRECTOR, DIVISION OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

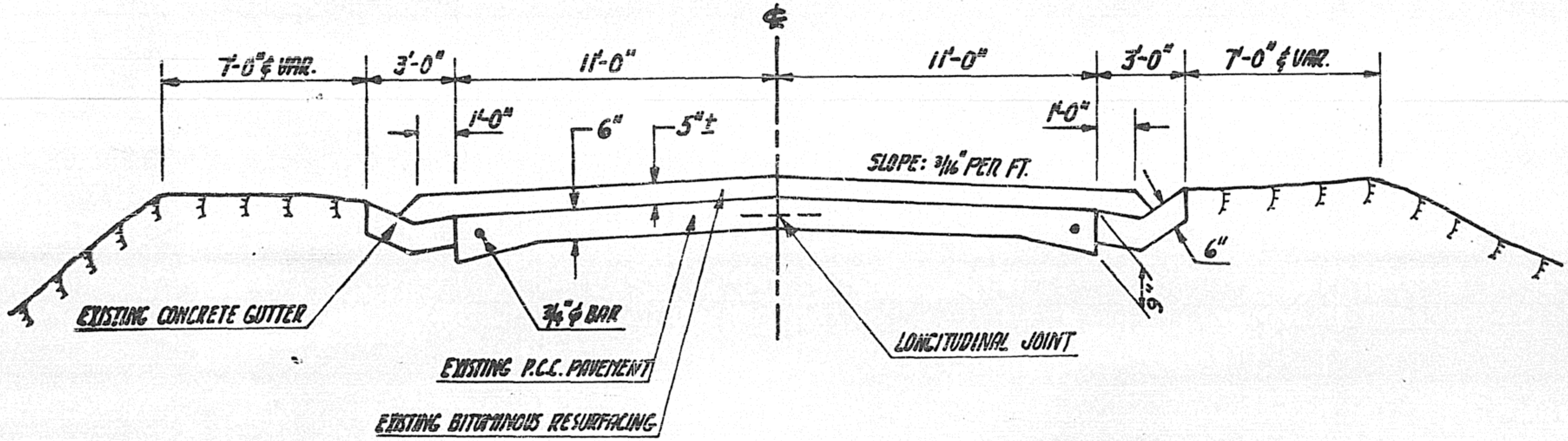
DIVISION ADMINISTRATOR DATE

CONTRACT NO. 34037

Revised 5-13-80 JF

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. / F.A.P. 840	172 VBR	VERMILION	39	2

EXISTING TYPICAL CROSS SECTION



NOTE: RESURFACING RUNDOWN FROM 5" TO 2" FROM STATION 854+78 TO STATION 855+38 AND STATION 861+00 TO STATION 861+60.

F.A.P. ROUTE 840

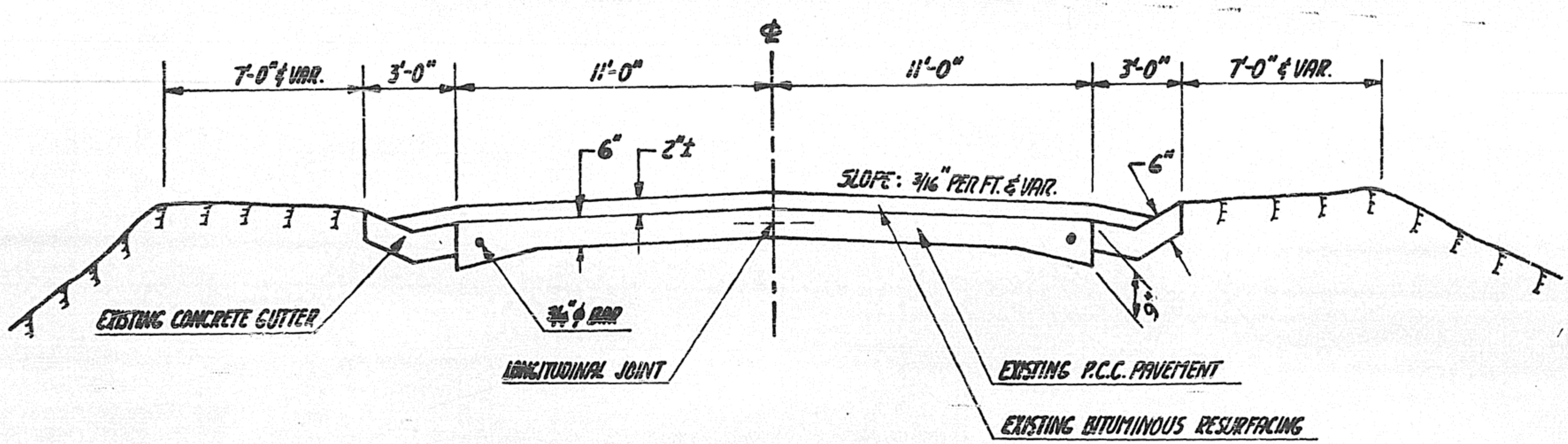
STATION 852+00 TO STATION 855+38
STATION 861+00 TO STATION 864+00

DESIGNED

CHECKED

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 840	122 VBR	VERMILION	39	3

EXISTING TYPICAL CROSS SECTION



F.A.P. ROUTE 840

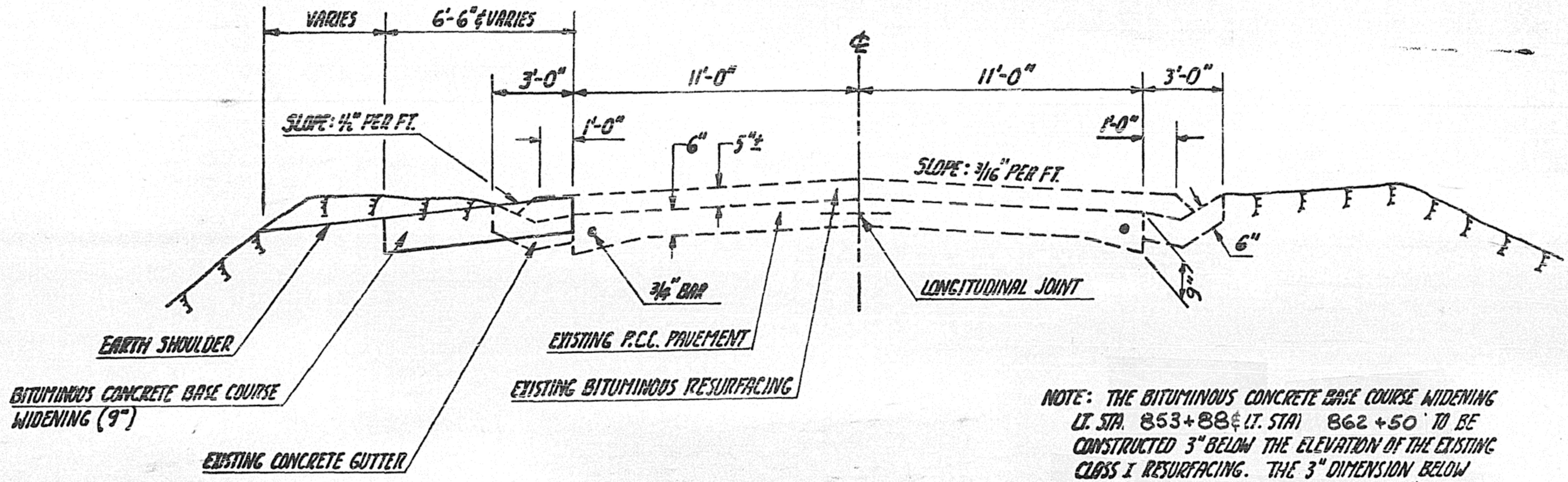
STATION 855+38 TO STATION 856+39.86
STATION 859+95.72 TO STATION 861+00

DESIGNED	
CHECKED	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 840	122 VBR	VERMILION	39	4

PROPOSED TYPICAL CROSS SECTION

STAGE I LEFT SHOULDER DETOUR



NOTE: THE BITUMINOUS CONCRETE BASE COURSE WIDENING LT. STA. 853+88 & LT. STA. 862+50 TO BE CONSTRUCTED 3" BELOW THE ELEVATION OF THE EXISTING CLASS I RESURFACING. THE 3" DIMENSION BELOW THE TOP OF CLASS I SHALL TAPER TO 0" AT STATION 854+33 & STATION 862+05. A BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS I VARYING FROM 3" THICKNESS AT STATIONS 853+88 & 862+50 TO 0" THICKNESS AT STATIONS 854+33 & 862+05 SHALL BE CONSTRUCTED OVER THE BASE COURSE WIDENING.

F.A.P. ROUTE 840

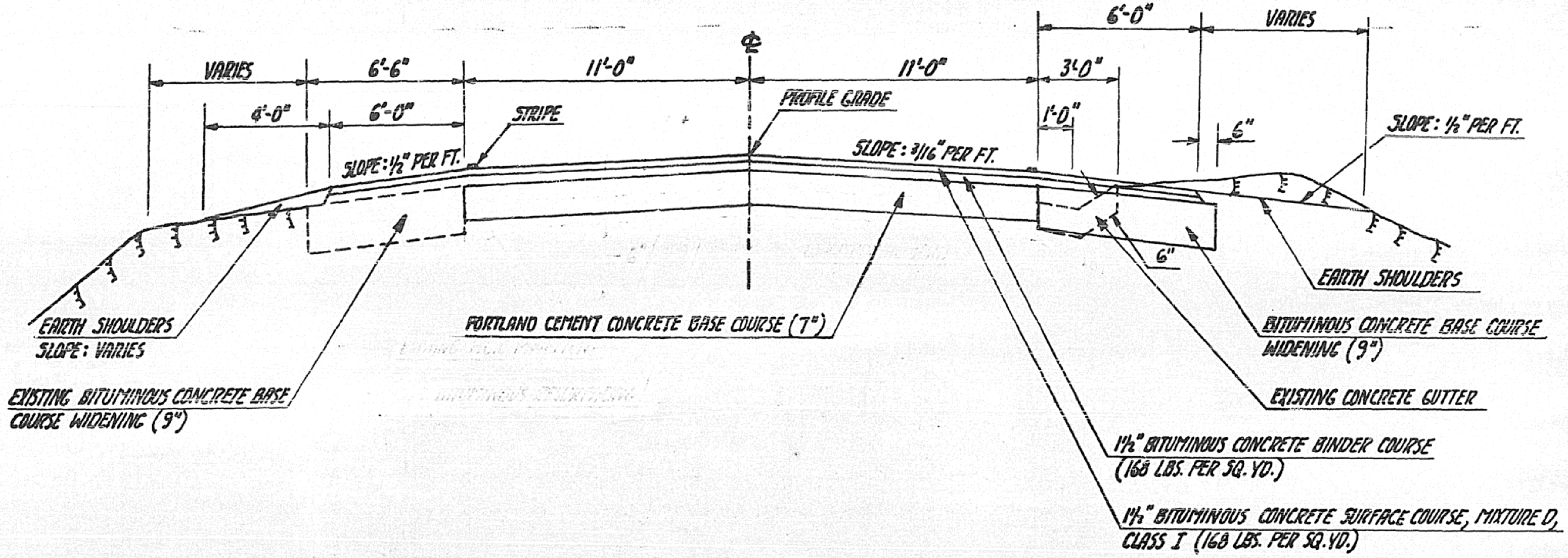
STATION 853+88 TO STATION 856+12.88

STATION 859+70.74 TO STATION 862+50

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 840	122 VBR	VERMILION	39	5

PROPOSED TYPICAL CROSS SECTION

STAGE I CONSTRUCTION RIGHT   STAGE II CONSTRUCTION LEFT

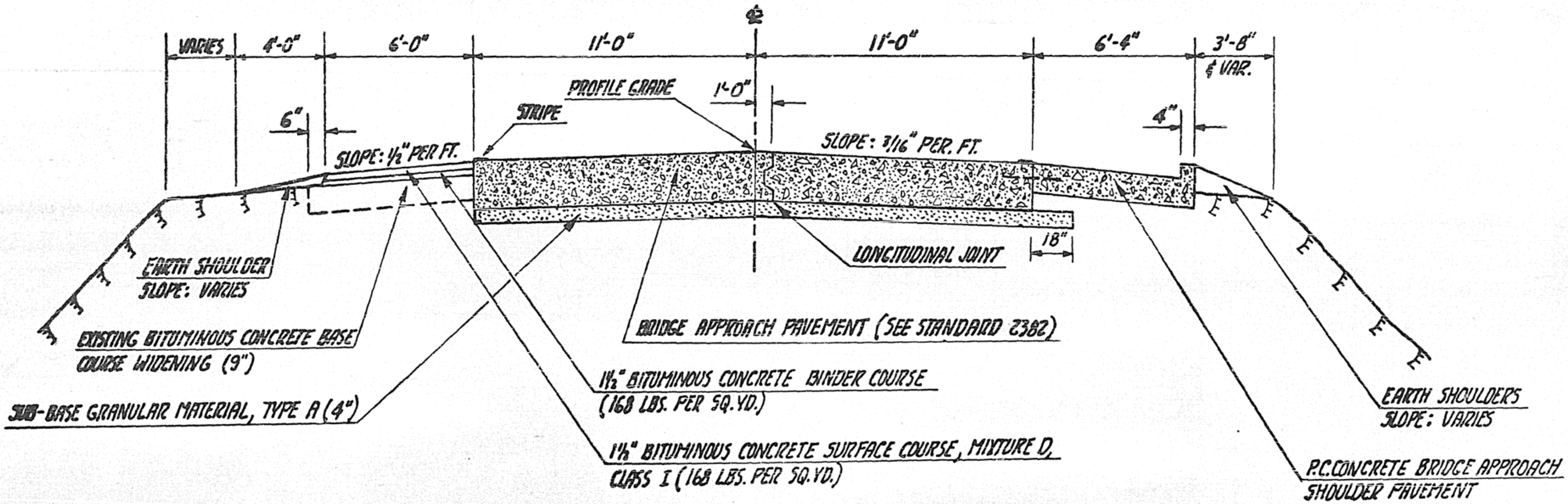


F.A.P. ROUTE 840

STATION 853+73 TO STATION 855+99
STATION 860+36 TO STATION 862+65

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. . 840	122VBR	VERMILION	39	6
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

PROPOSED TYPICAL CROSS SECTION



F.A.P. ROUTE 840

STATION 855+99 TO STATION 856+30.86

STATION 859+96.72 TO STATION 860+36

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 840	122VBR	VERMILION	39	7

INDEX OF SHEETS

*INCLUDES SHEETS 21A, 22A & 24A REVISED

STANDARD NUMBERS:

1686-4	SYMBOLS & ABBREVIATIONS	2303-4	TRAFFIC CONTROL
1766-7	LONGITUDINAL JOINT	2305-3	TRAFFIC CONTROL
2113-1	NAME PLATE	2306-4	TRAFFIC CONTROL
2228-4	METAL PIPE END SECTION	2307-4	TRAFFIC CONTROL
2230-1B	GUARD RAIL	2309-3	TRAFFIC CONTROL
2298-4	TRAFFIC CONTROL	2323-4	PAVEMENT JOINTS
2299-7	TRAFFIC CONTROL	2324-14	BRIDGE APPR. SHLD PAVT.
2300-1	TRAFFIC CONTROL	2340-2	TRAF BARRIER TERM. 5 5A 5B & 5C
2301-3	TRAFFIC CONTROL	2382-1	BRIDGE APPROACH PAVEMENT
2302-3	TRAFFIC CONTROL	2327-4	SUBSURFACE DRAINS
		2362	CONCRETE HEADWALL FOR PIPE DRAIN

GENERAL NOTES

WHERE SECTION OR SUB-SECTION MARKERS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR COVERED UP. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS

PAVEMENT MARKING TAPE SHALL BE APPLIED TO THE BITUMINOUS MATERIALS (PRIME COAT) AND EACH SUBSEQUENT LIFT OF BITUMINOUS CONCRETE RESURFACING AS DIRECTED BY THE ENGINEER.

ESTIMATED QUANTITY:

48 LIN FT. PAVEMENT MARKING TAPE

SHOULDERS, DITCHES, SIDE SLOPES BACK SLOPES AND OTHER PORTIONS OF THE RIGHT OF WAY HAVING INSUFFICIENT VEGETATION SHALL BE SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

SEEDING MIXTURES FROM THE SPECIFIED CLASSES SHALL BE DESIGNATED BY THE ENGINEER BASED ON THE SEASON OF THE YEAR WHEN SEEDING OPERATIONS ARE PERFORMED SPRING SEEDING SHALL BE ACCOMPLISHED BETWEEN JANUARY 1 AND JUNE 30 AND FALL SEEDING SHALL BE ACCOMPLISHED BETWEEN JULY 1 AND DECEMBER 31.

ESTIMATED QUANTITIES:

0.10	ACRES	SEEDING CLASS II
0.10	ACRES	MULCH
10	POUNDS	NITROGEN FERTILIZER NUTRIENT @ 60 POUNDS PER ACRE
25	POUNDS	PHOSPHORUS FERTILIZER NUTRIENT @ 200 POUNDS PER ACRE
10	POUNDS	POTASSIUM FERTILIZER NUTRIENT @ 60 POUNDS PER ACRE
		EMULSIFIED ASPHALT @ 75 GALLON PER TON OF MULCH

SUMMARY OF EARTHWORK

STATION	TO	STATION	EARTH EXCAVATION	EMBANKMENT
853+73 ~~854+78.00~~		856+37 75	~~80~~	0
859+97.79		~~861+60~~ 862+65	~~102~~	0
		TOTAL -	~~182 CU. YDS.~~ 256.8 CU YDS	0 CU. YDS.

F.H.W.A. ORDERED THE USE OF CONCRETE BARRIERS AT EACH END OF THE TEMPORARY BRIDGE RAIL TO PROTECT THE TRAVELING PUBLIC FROM THE OPEN HOLE RESULTING FROM SUPERSTRUCTURE REMOVAL DURING STAGE CONSTRUCTION.

THIS RESULTED IN AN INCREASE OF 90' OF BIT. CONC. BSE. CSE WIDENING PLUS THE 15' TRANSITION FROM SHOULDER TO "V" GUTTER BOTH LT. & RT. ON EACH END OF THE PROJECT.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

REVIEWED BY: [signature]
DISTRICT ENGINEER OF DESIGN

DATE: 7-26-79

EXAMINED BY: Charles D Latham
DISTRICT ENGINEER OF CONST.

D. J. Johnson
DISTRICT ENGINEER OF MAINT.

J. D. Benson
DISTRICT ENGINEER OF PLANNING

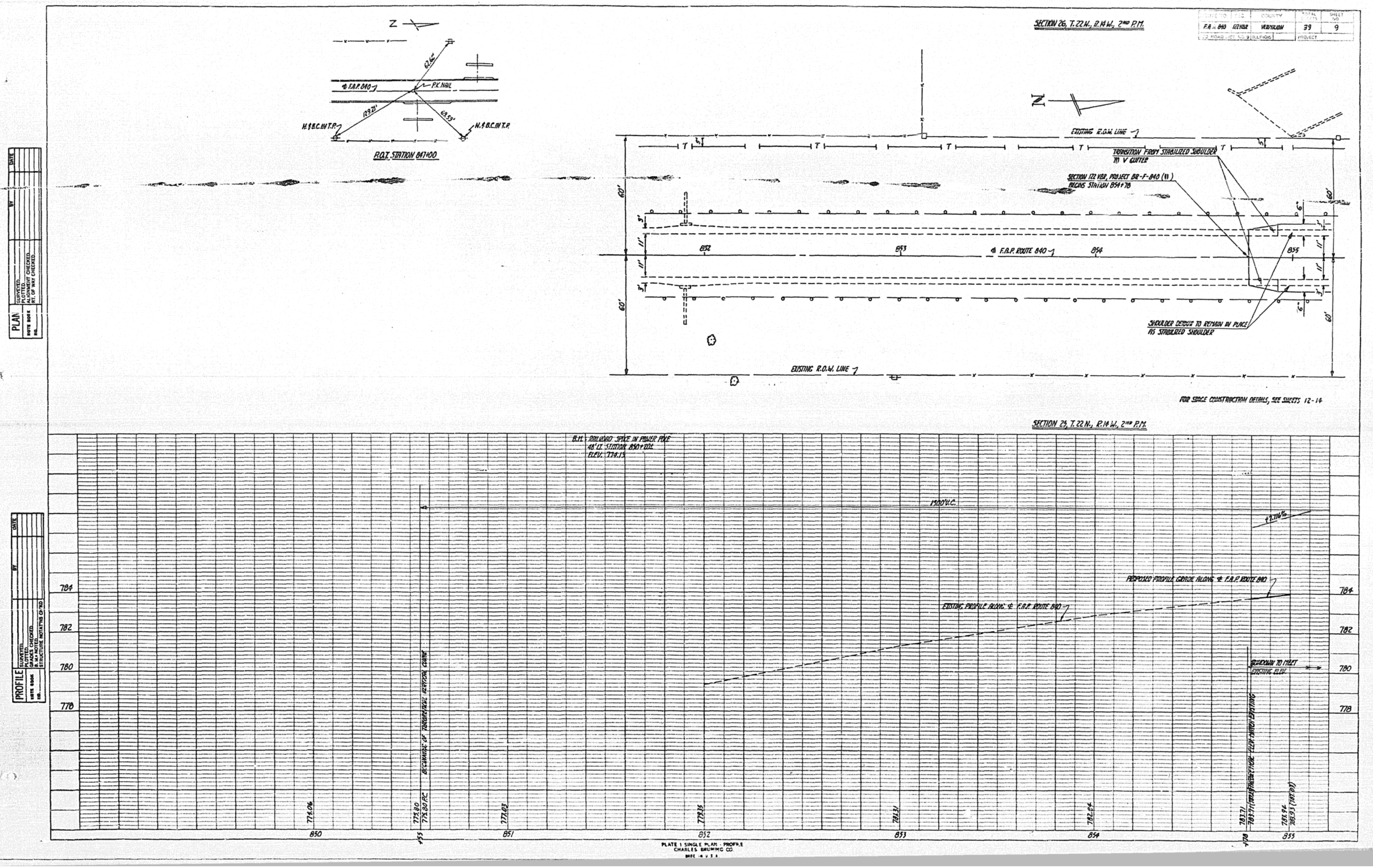
[signature]
DISTRICT ENGINEER OF TRAFFIC

SUMMARY OF QUANTITIES

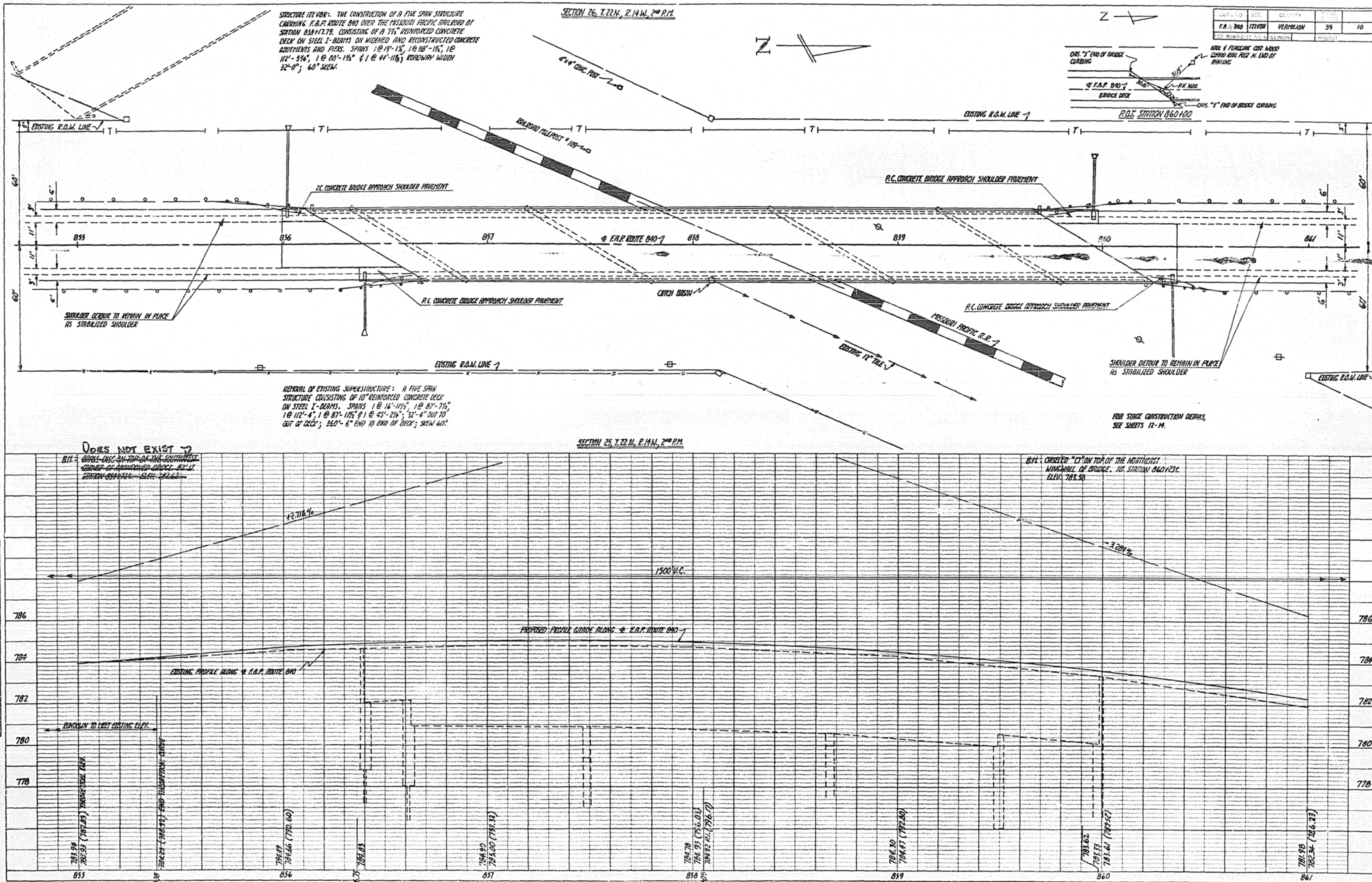
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. ~~840~~	122 VBR	VERMILION	39	8

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	F.A.P. ROUTE 840 STATION 854+78 TO STATION 861+60	STRUCTURE 122VBR	EROSION CONTROL			As Built Quantity
				CONSTRUCTION TYPE CODE					
				6707	X171	Y005	Y080		
					SAFETY CLASSIFICATION CODE S-31				
202001	EARTH EXCAVATION	CU.YD.	182	182					256.8
213003	SUB-BASE GRANULAR MATERIAL, TYPE A (4")	SQ.YD.	200	200					0.0
[illegible]	PORTLAND CEMENT CONCRETE BASE COURSE (7")	SQ.YD.	599	599					599.0
306004	BITUMINOUS CONCRETE BASE COURSE WIDENING (9")	SQ.YD.	390	390					695.4
406001	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	65	65					84.5
416003	AGGREGATE (PRIME COAT)	TON	5	5					0.0
406007	BITUMINOUS CONCRETE BINDER COURSE	TON	85	85					92.0
406013	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS I	TON	90	90					133.9
503003	PROTECTIVE COAT	SQ.YD.	1,624	244	1,380				1654.8
X40012	BRIDGE APPROACH PAVEMENT (STANDARD 2382)	SQ.YD.	188	188					188.0
408015	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SQ.YD.	56	56					56.0
[illegible]	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1		1				1.0
501024	CONCRETE REMOVAL	CU.YD.	59.3		59.3				54.43
501029	EXPANSION BOLTS, 3/4 INCH	EACH	150		150				152.0
502001	STRUCTURE EXCAVATION	CU.YD.	108		108				84.3
[illegible]	CLASS X CONCRETE	CU.YD.	406.4	8.4	398				408.4
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	L.SUM	1		1				1.0
507005	STUD SHEAR CONNECTORS	EACH	2,646		2,646				2646.0
509008	STEEL RAILING, TYPE T	LIN.FT.	712		712				712.0
511759	END SECTIONS, 12"	EACH	4	4					4.0
512001	REINFORCEMENT BARS	POUND	54,264	5,784	48,480				50,022.0
512002	REINFORCEMENT BARS (EPOXY COATED)	POUND	53,410		53,410				57,652.0
514001	NAME PLATES	EACH	1		1				1.0
601014	RIPRAP	SQ.YD.	630			630			484.3
607001	PIPE DRAINS, 4"	LIN.FT.	108	108					138.2
607005	PIPE DRAINS, 12"	LIN.FT.	147	147					146.0
607076	PIPE UNDERDRAINS, 4"	LIN.FT.	564	564					926.1
612470	TYPE C INLET BOX, STANDARD 2324	EACH	4	4					4.0
617001	PAVEMENT REMOVAL	SQ.YD.	792	792					786.7
617004	GUTTER REMOVAL	LIN.FT.	648	648					1053.1
617009	BITUMINOUS CONCRETE REMOVAL	SQ.YD.	26	26					26.0
617010	BITUMINOUS CONCRETE SURFACE REMOVAL	SQ.YD.	60	60					45.1
X62851	TRAFFIC BARRIER TERMINAL, TYPE 5B	EACH	4	4					4.0
633010	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL	LIN.FT.	750	750					1129.5
642002	SEEDING, CLASS II	ACRE	0.10			0.10			0.20
642004	NITROGEN FERTILIZER NUTRIENT	POUND	10			10			12.0
642005	PHOSPHORUS FERTILIZER NUTRIENT	POUND	25			25			37.5
642006	POTASSIUM FERTILIZER NUTRIENT	POUND	10			10			12.0
X64302	MULCH	ACRE	0.10			0.10			0.2
646004	ENGINEER'S FIELD OFFICE, TYPE A	CAL.MO.	10	10					13.0
647001	PAVEMENT MARKING TAPE	LIN.FT.	48	48					48.0
648001	TRAFFIC CONTROL AND PROTECTION, STANDARD 2309	EACH	1		1				1.0
Z10279	NEOPRENE EXPANSION JOINT, 2"	LIN.FT.	196		196				195.45
Z10281	NEOPRENE EXPANSION JOINT, 4"	LIN.FT.	66		66				65.40
Z10375	REPAIR CONCRETE STRUCTURES	SQ.FT.	87		87				81.60
X05728	TEMPORARY BRIDGE RAIL	LIN.FT.	362		362				370.5
503004	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	4	4					0.0
X05740	MOBILIZATION	L.SUM	1	.0.5	0.5				1.0
Z10527	TRAINEES	HOUR	1,000				1,000		1543.00
X95405	INCREASED INSURANCE	DOLLAR	0						1458.00
X95414	TRAFFIC CONTROL & PROT SPL	LUMP SUM	0						1.0
X95468	TEMP CONC BARRIER	LIN FT	0						50.0
X95467	SPL HDWL FOR P DRAINS	EACH	0						6.0

Rev. 9-13-79

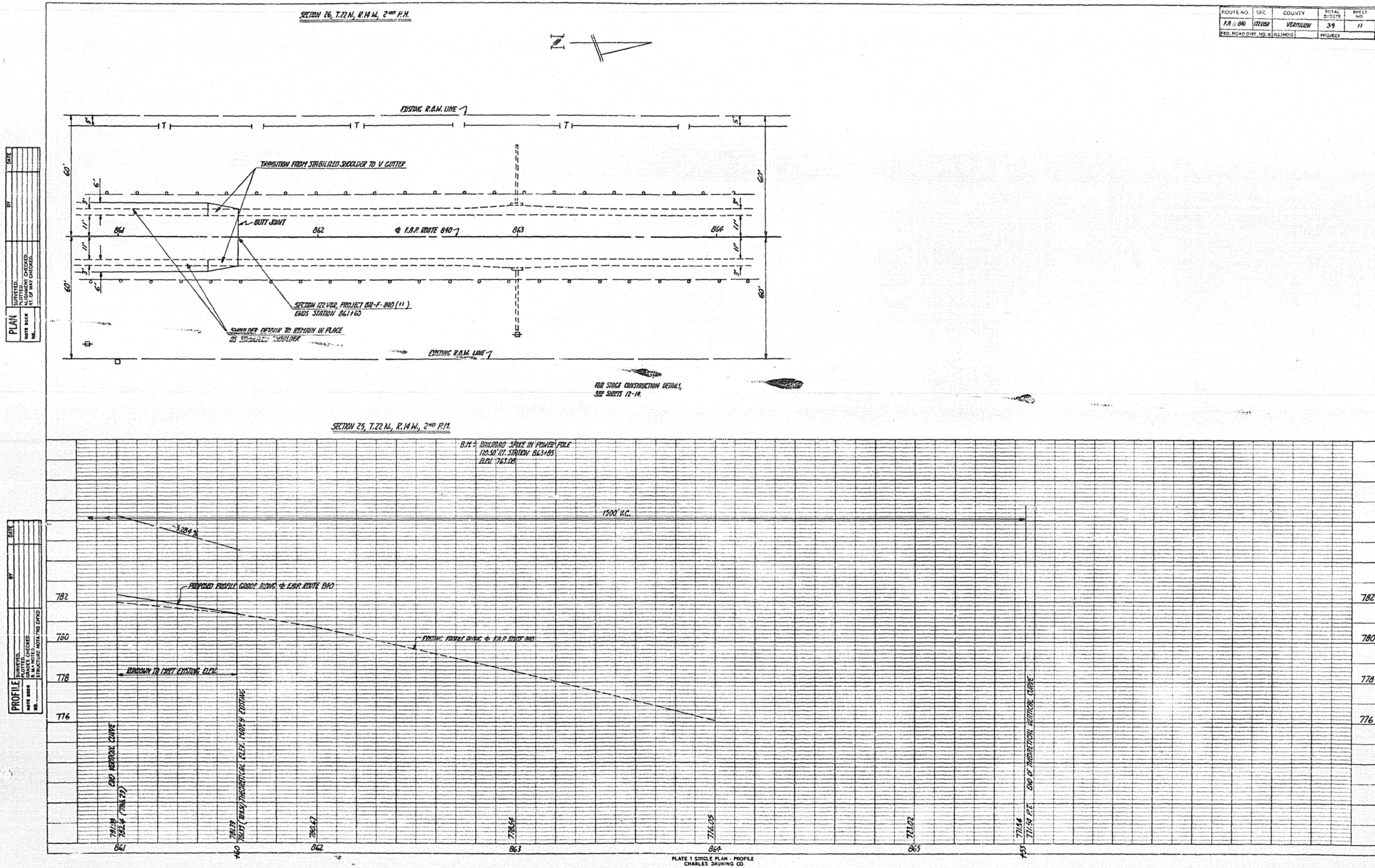


SECTION 26, T. 22 N., R. 14 W., 2ND P.M.
F.A. 840
122 VBR
VERMILION
39
9
ILLINOIS
PROJECT
P.O.T. STATION 847+00
P.K. NAIL
℄ F.A.P. 840
129.21'
67.65'
69.53'
EXISTING R.O.W. LINE
TRANSITION FROM STABILIZED SHOULDER TO V GUTTER
SECTION 122 VBR, PROJECT BR-F-840 (11) BEGINS STATION 854+78
℄ F.A.P. ROUTE 840
852
853
854
855
SHOULDER DETOUR TO REMAIN IN PLACE AS STABILIZED SHOULDER
FOR SPACE CONSTRUCTION DETAILS, SEE SHEETS 12-14
SECTION 25, T. 22 N., R. 14 W., 2ND P.M.
PLAN
PROFILE
B.M. RAILROAD SPIKE IN POWER POLE 48' LT. STATION 850+20± ELEV. 774.15
1200' V.C.
+2.116%
PROPOSED PROFILE GRADE ALONG ℄ F.A.P. ROUTE 840
EXISTING PROFILE ALONG ℄ F.A.P. ROUTE 840
BEGINNING OF THEORETICAL VERTICAL CURVE
RUNDOWN TO MEET EXISTING ELEV.
784
782
780
778
774.06
775.80
775.80 P.C.
777.03
779.35
781.31
782.64
783.71
783.94
783.93 (787.03)
850
851
+55
+78
PLATE 1 SINGLE PLAN - PROFILE
CHARLES BRUNING CO.



STRUCTURE 122 VBR: THE CONSTRUCTION OF A FIVE SPAN STRUCTURE CARRYING F.A.P. ROUTE 840 OVER THE MISSOURI PACIFIC RAILROAD AT STATION 858+17.79. CONSISTING OF A 7½" REINFORCED CONCRETE DECK ON STEEL I-BEAMS ON WIDENED AND RECONSTRUCTED CONCRETE ABUTMENTS AND PIERS. SPANS 1@ 19'-1½", 1@ 88'-1½", 1@ 112'-5¾", 1@ 88'-1½" & 1@ 44'-11⅝"; ROADWAY WIDTH 32'-0"; 60° SKEW.
SECTION 26, T.22N., R.14W., 2ND P.M.
4"x4" CONC. POST
ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO.
F.A. 840 | 122VBR | VERMILION | 39 | 10
FED. ROAD DIST. NO. 9 | ILLINOIS | PROJECT
CHS. "X" END OF BRIDGE CURBING
NAIL & FLAGGING COR. WOOD GUARD RAIL POST N. END OF RAILING
℄ F.A.P. 840
BRIDGE DECK
P.K. NAIL
CHS. "X" END OF BRIDGE CURBING
P.O.T. STATION 860+00
EXISTING R.O.W. LINE
RAILROAD MILEPOST # 118
P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT
℄ F.A.P. ROUTE 840
855
856
857
858
859
860
861
CATCH BASIN
MISSOURI PACIFIC R.R.
EXISTING 12" TILE
SHOULDER DETOUR TO REMAIN IN PLACE AS STABILIZED SHOULDER
REMOVAL OF EXISTING SUPERSTRUCTURE: A FIVE SPAN STRUCTURE CONSISTING OF 10" REINFORCED CONCRETE DECK ON STEEL I-BEAMS. SPANS 1@ 16'-11½", 1@ 87'-7½", 1@ 112'-4", 1@ 87'-11½" & 1@ 45'-2¼"; 32'-4" OUT TO OUT OF DECK; 360'-6" END TO END OF DECK; SKEW 60°.
FOR STAGE CONSTRUCTION DETAILS, SEE SHEETS 12-14.
SECTION 25, T.22N., R.14W., 2ND P.M.
PLAN
PROFILE
DOES NOT EXIST
B.M.: ~~BRASS DISC ON TOP OF THE SOUTHWEST CORNER OF ABANDONED BRIDGE. 82' LT. STATION 854+72±. ELEV. 782.62~~
B.M.: CHISELED "□" ON TOP OF THE NORTHEAST WINGWALL OF BRIDGE. RT. STATION 860+23±. ELEV. 783.58
+2.716%
-3.284%
1500' V.C.
PROPOSED PROFILE GRADE ALONG ℄ F.A.P. ROUTE 840
EXISTING PROFILE ALONG ℄ F.A.P. ROUTE 840
RUNDOUT TO MEET EXISTING ELEV.
786
784
782
780
778
783.94
783.93 (787.81) THEORETICAL ELEV.
784.29 (785.92) END THEORETICAL CURVE
784.69
784.66 (770.60)
785.03
784.90
785.20 (783.32)
784.78
784.93 (786.03)
784.92 (786.11)
784.30
784.47 (782.80)
783.62
783.33
783.61 (783.52)
781.98
782.34 (786.23)
PLATE 1 SINGLE PLAN - PROFILE
CHARLES BRUNING CO.
MADE IN U.S.A.

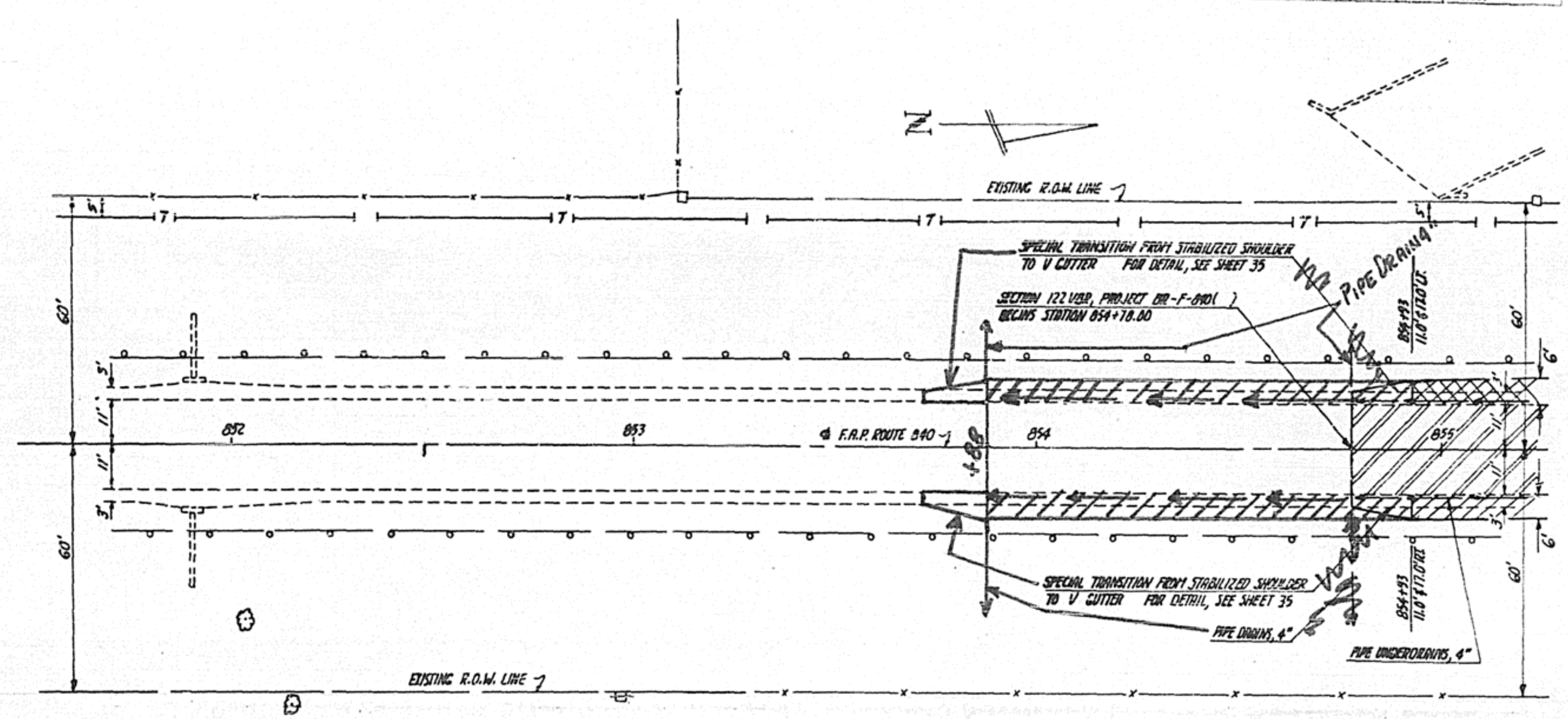
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 840	122VBR	VERMILION	39	11
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	



STAGE CONSTRUCTION DETAILS

SECTION 26, T. 22 N., R. 14 W., 2ND P.M.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 840	122VBR	VERMILION	39	12
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	



SECTION 25, T. 22 N., R. 14 W., 2ND P.M.

PLAN: SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.T. OF WAY CHECKED / NOTE BOOK NO. / BY / DATE

PROFILE: SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHKD. / NOTE BOOK NO. / BY / DATE

STAGE I

BITUMINOUS CONCRETE BASE COURSE WIDENING (9")

STATION	TO	STATION	SQ.YDS.
LT. 854+93		LT. 855+00	5
RT. 854+93		RT. 855+00	5
		TOTAL:	10 SQ.YDS.

PAVEMENT REMOVAL

STATION	TO	STATION	SQ.YDS.
RT. 854+78		RT. 855+00	27

GUTTER REMOVAL

STATION	TO	STATION	LIN.FT.
LT. 854+93		LT. 855+00	7
RT. 854+78		RT. 855+00	22
		TOTAL:	29 LIN.FT.

SPECIAL TRANSITION FROM STABILIZED SHOULDER TO V GUTTER

STATION	TO	STATION	CU.YDS. CLASS X CONCRETE	LBS. RE-BARS
RT. 854+78		RT. 854+93	2.1	60

BITUMINOUS CONCRETE RESURFACING

STATION	TO	STATION	SQ.YDS.
LT. 854+93		LT. 855+00	5
RT. 854+78		RT. 855+00	26
RT. 854+93		RT. 855+00	5
		TOTAL:	36 SQ.YDS.

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL

REMOVE FROM			RE-ERECT AT			
STATION	TO	STATION	STATION	TO	STATION	LIN.FT.
21' LT. 854+75.38		21' LT. 855+00	21' LT. 854+75.38		21' LT. 855+00	25
21' RT. 854+77.94		21' RT. 855+00	21' RT. 854+77.94		21' RT. 855+00	22
					TOTAL:	47 LIN.FT.

PIPE UNDERDRAINS, 4"

STATION	TO	STATION	LIN.FT.
RT. 854+78		RT. 855+00	22

PIPE DRAINS, 4"

STATION	TO	STATION	LIN.FT.
RT. 854+78		RT. 854+78	30

SPL HEADWALL FOR PIPE DRAINS

STATION	EACH
RT. ~~854+78~~	1
RT 853+88	

STAGE II

B.M.: RAILROAD SPIKE IN POWER POLE 48' LT. STATION 850+20± ELEV. 774.13

BITUMINOUS CONCRETE SURFACE REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 854+93		LT. 855+00	5

GUTTER REMOVAL

STATION	TO	STATION	LIN.FT.
LT. 854+78		LT. 854+93	15

SPECIAL TRANSITION FROM STABILIZED SHOULDER TO V GUTTER

STATION	TO	STATION	CU.YDS. CLASS X CONCRETE	LBS. RE-BARS
LT. 854+78		LT. 854+93	2.1	60

BITUMINOUS CONCRETE RESURFACING

STATION	TO	STATION	SQ.YDS.
LT. 854+78		LT. 855+00	27
LT. 854+93		LT. 855+00	5
		TOTAL:	32 SQ.YDS.

PAVEMENT REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 854+78		LT. 855+00	27

PIPE UNDERDRAINS, 4"

STATION	TO	STATION	LIN.FT.
LT. 854+78		855+00	22

PIPE DRAINS, 4"

STATION	TO	STATION	LIN.FT.
LT. 854+78		LT. 854+78	14

SPL HEADWALL FOR PIPE DRAINS (ADDED)

STATION	EACH
LT. 854+78	1
LT 853+88	1.

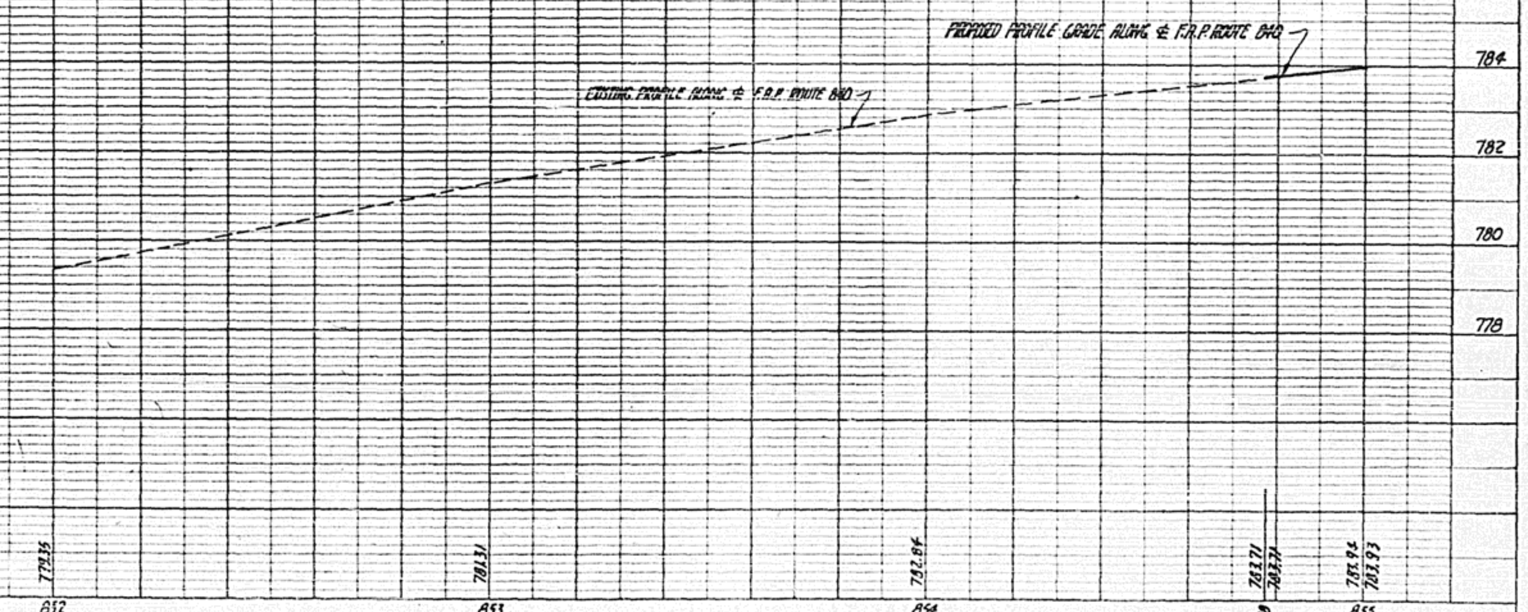
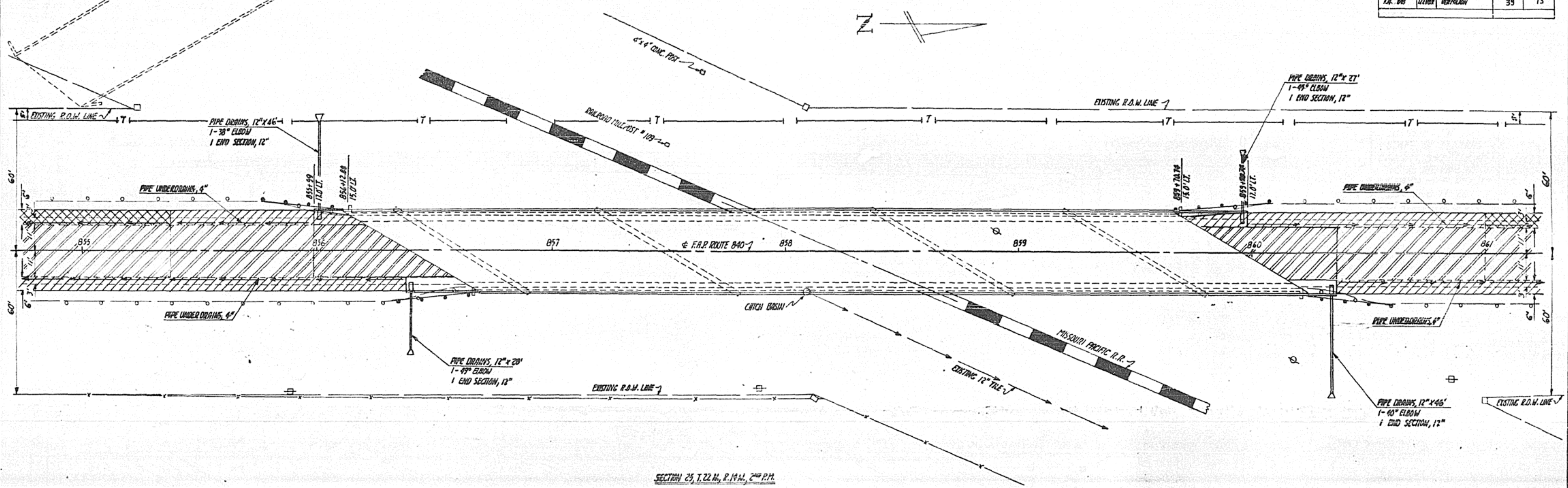


PLATE 1 SINGLE PLAN - PROFILE
CHARLES BRUNING CO.
MADE IN U.S.A.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 840	1122VBR	VERMILION	39	13

SECTION 26, T.22N., R.14W., 2nd P.M.

STAGE CONSTRUCTION DETAILS



SECTION 25, T.22N., R.14W., 2nd P.M.

PLAN — NOTE BOOK NO. — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — BY — DATE

PROFILE — NOTE BOOK NO. — SURVEYED — PLOTTED — GRADES CHECKED — B.M. NOTED — STRUCTURE NOTATIONS CHECKED — BY — DATE

B.M.: BRASS DISC ON TOP OF THE SOUTHWEST CORNER OF ABANDONED BRIDGE. 82' LT. STATION 854+72±. ELEV. 782.62

STAGE I

BITUMINOUS CONCRETE BASE COURSE WIDENING (9")

STATION	TO	STATION	SQ.YDS.
LT. 855+00		LT. 855+99	71
LT. 855+99		LT. 856+12.88	11
LT. 859+70.74		LT. 859+98.74	15
LT. 859+98.74		LT. 861+00	73
RT. 855+00		RT. 856+36.80	99
RT. 860+36		RT. 861+00	46
		TOTAL =	315 SQ.YDS.

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT

STATION	TO	STATION	SQ.YDS.
RT. 856+36.80		RT. 856+67.19	18
RT. 860+16.84		RT. 860+36	10
		TOTAL =	28 SQ.YDS.

TYPE C INLET BOX, STANDARD 2324

STATION	EACH
RT. 856+39.05	1
RT. 860+33.75	1
TOTAL =	2 EACH

PAVEMENT REMOVAL

STATION	TO	STATION	SQ.YDS.
RT. 855+00		RT. 856+57.91	181
RT. 859+96.72		RT. 861+00	115
		TOTAL =	296 SQ.YDS.

BRIDGE APPROACH PAVEMENT, STANDARD 2382, SKEW 60°

STATION	TO	STATION	RE-BARS	BRIDGE APPROACH PAVEMENT
RT. 855+99		RT. 856+56.80	1,555	54
RT. 859+99.52		RT. 860+36	1,555	31
		TOTALS =	3,110 LBS.	85 SQ.YDS.

20 #5 BARS @ 24'-0", 58 #7 BARS @ 19'-0", 6 #4 BARS @ 24'-0" & 20 #4 BARS @ 19'-6"

PROPOSED PROFILE GRADE ALONG ℄ F.A.P. ROUTE 840

EXISTING PROFILE ALONG ℄ F.A.P. ROUTE 840

GUTTER REMOVAL

STATION	TO	STATION	LIN.FT.
LT. 855+00		LT. 856+17.21	117
LT. 859+75.07		LT. 861+00	125
RT. 855+00		RT. 856+60.51	160
RT. 860+18.37		RT. 861+00	82
		TOTAL =	484 LIN.FT.

BITUMINOUS CONCRETE RESURFACING

STATION	TO	STATION	SQ.YDS.
LT. 855+00		LT. 855+78	25
RT. 855+00		RT. 855+99	121
RT. 855+00		RT. 856+36.80	91
RT. 860+36		RT. 861+00	78
RT. 860+36		RT. 861+00	43
		TOTAL =	358 SQ.YDS.

TRAFFIC BARRIER TERMINAL, TYPE 5C

STATION	TO	STATION	EACH
RT. 856+54.98		RT. 856+68.23	1
RT. 860+26.23		RT. 860+39.48	1
		TOTAL =	2 EACH

PIPE UNDERDRAINS, 4"

STATION	TO	STATION	LIN.FT.
RT. 855+00		RT. 856+36	136
RT. 860+36		RT. 861+00	64
		TOTAL =	200 LIN.FT.

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL

REMOVE FROM STATION	TO	STATION	RE-ERECT AT STATION	TO	STATION	LIN.FT.
21' LT. 855+00		15' LT. 856+12.88	21' LT. 855+00		15' LT. 856+12.88	112.5
15' LT. 859+70.74		21' LT. 861+00	15' LT. 859+70.74		21' LT. 861+00	129
21' RT. 855+00		15' RT. 856+69.89	21' RT. 855+00		17.12' RT. 856+54.98	165.5
15' RT. 860+22.70		21' RT. 861+00	17.12' RT. 860+39.48		21' RT. 861+00	77.5
					TOTAL =	484.5 LIN.FT.

B.M.: CHISELED "□" ON TOP OF THE NORTHEAST WINGWALL OF BRIDGE. RT. STATION 860+23±. ELEV. 783.58

STAGE II

BITUMINOUS CONCRETE SURFACE REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 855+00		LT. 855+78	25

BITUMINOUS CONCRETE REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 855+99		LT. 856+12.88	11
LT. 859+70.74		LT. 859+98.74	15
		TOTAL =	26 SQ.YDS.

PIPE UNDERDRAINS, 4"

STATION	TO	STATION	LIN.FT.
LT. 855+00		LT. 855+99	99
LT. 859+99		LT. 861+00	101
		TOTAL =	200 LIN.FT.

BITUMINOUS CONCRETE RESURFACING

STATION	TO	STATION	SQ.YDS.
LT. 855+00		LT. 855+99	121
LT. 855+00		LT. 855+99	66
LT. 859+98.74		LT. 861+00	68
LT. 860+36		LT. 861+00	78
		TOTAL =	333 SQ.YDS.

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT

STATION	TO	STATION	SQ.YDS.
LT. 855+99		LT. 856+18.70	10
LT. 859+68.35		LT. 859+98.74	18
		TOTAL =	28 SQ.YDS.

TYPE C INLET BOX, STANDARD 2324

STATION	EACH
LT. 856+01.25	1
LT. 859+96.99	1
TOTAL =	2 EACH

PAVEMENT REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 855+00		LT. 856+38.86	158
LT. 859+77.67		LT. 861+00	138
		TOTAL =	296 SQ.YDS.

BRIDGE APPROACH PAVEMENT, STANDARD 2382, SKEW 60°

STATION	TO	STATION	RE-BARS	BRIDGE APPROACH PAVEMENT
LT. 855+99		LT. 856+39.48	1,337	40
LT. 859+78.74		LT. 860+36	1,337	63
		TOTALS =	2,674 LBS.	103 SQ.YDS.

20 #5 BARS @ 20'-0", 50 #7 BARS @ 19'-0", 6 #4 BARS @ 20'-0" & 18 #4 BARS @ 19'-6"

TRAFFIC BARRIER TERMINAL, TYPE 5C

STATION	TO	STATION	EACH
LT. 855+96.10		LT. 856+09.35	1
LT. 859+67.35		LT. 859+80.60	1
		TOTAL =	2 EACH

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL

REMOVE FROM STATION	TO	STATION	RE-ERECT AT STATION	TO	STATION	LIN.FT.
21' LT. 855+62.88		15' LT. 856+12.88	21' LT. 855+62.88		17.12' LT. 855+96.10	50
15' LT. 859+70.74		21' LT. 860+20.74	17.12' LT. 859+80.60		21' LT. 860+20.74	50
					TOTAL =	100 LIN.FT.

Elevations	786	784	782	780	778

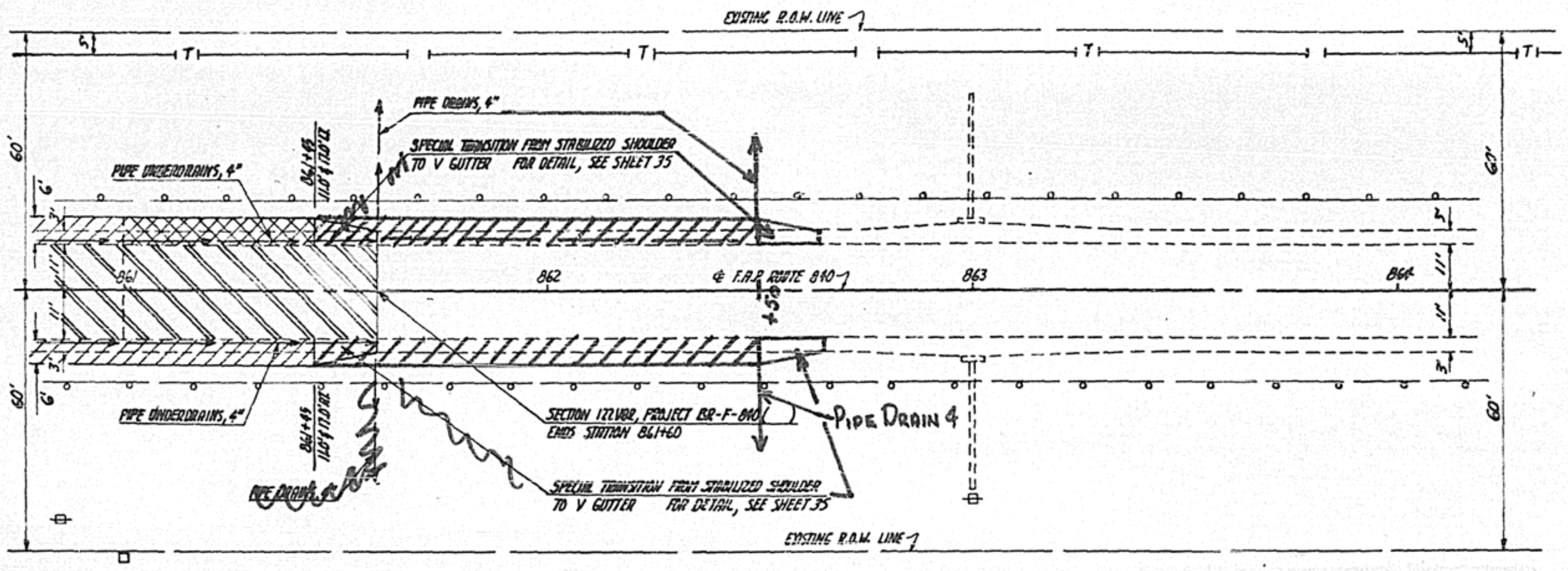
Station	855	856	857	858	859	860	861
Elev.	783.94 / 783.93	784.49 / 784.66	784.90 / 785.00	784.78 / 784.93	784.30 / 783.97	783.33 / 783.61	781.98 / 782.34

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 840	[illegible]	[illegible]	39	14
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

SECTION 26, T.22 N., R.14 W., 2ND P.M.

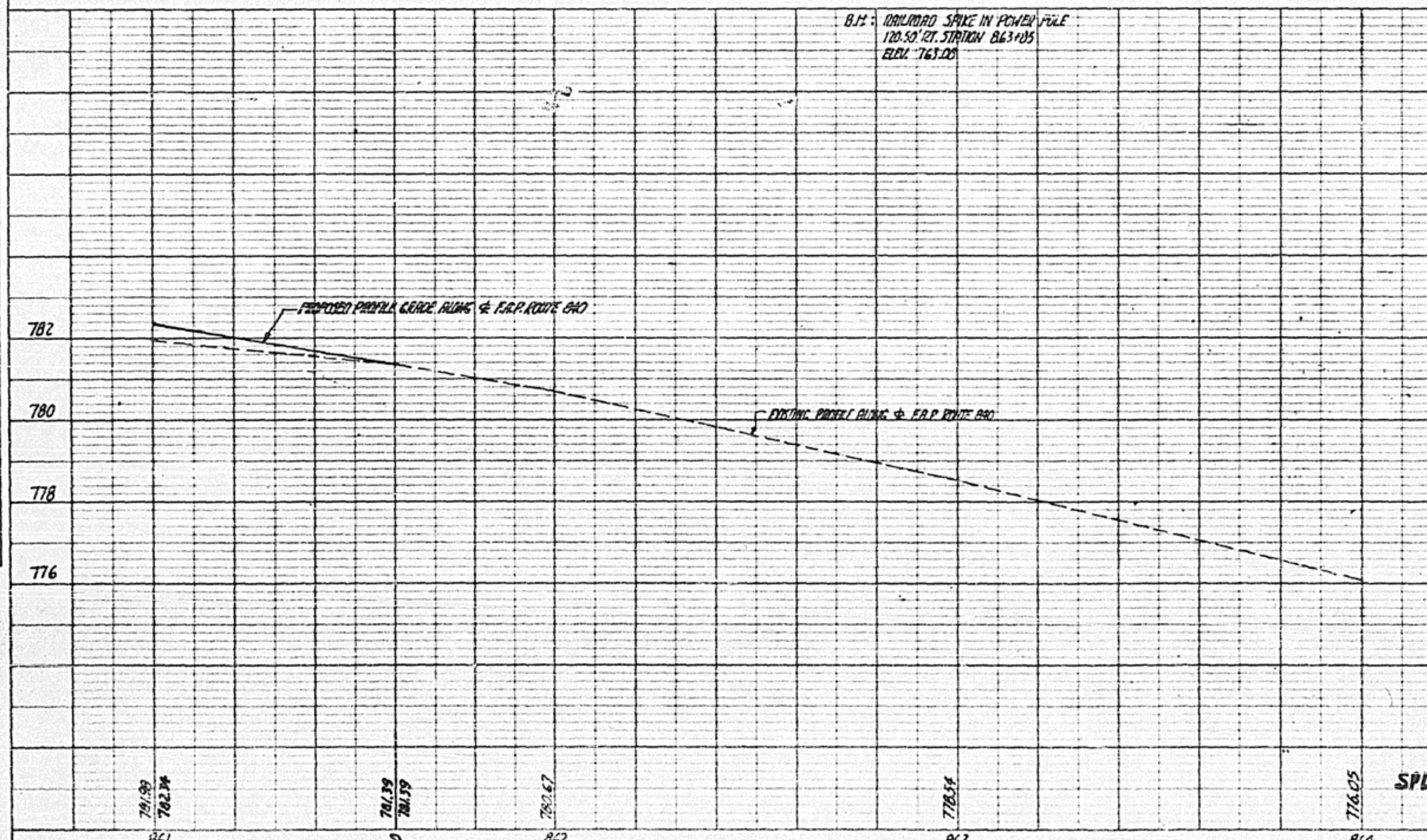
STAGE CONSTRUCTION DETAILS

PLAN



SECTION 25, T.22 N., R.14 W., 2ND P.M.

PROFILE



STAGE I

BITUMINOUS CONCRETE BASE COURSE WIDENING (9")

STATION	TO	STATION	SQ.YDS.
LT. 861+00		LT. 861+45	32
RT. 861+00		RT. 861+45	33
		TOTAL =	65 SQ.YDS.

PAVEMENT REMOVAL

STATION	TO	STATION	SQ.YDS.
RT. 861+00		RT. 861+60	73

GUTTER REMOVAL

STATION	TO	STATION	LIN.FT.
LT. 861+00		LT. 861+45	45
RT. 861+00		RT. 861+60	60
		TOTAL =	105 LIN.FT.

SPECIAL TRANSITION FROM STABILIZED SHOULDER TO V GUTTER

STATION	TO	STATION	CU.YDS. CLASS X CONCRETE	LBS. RE-BARS
RT. 861+45		RT. 861+60	2.1	60

BITUMINOUS CONCRETE RESURFACING

STATION	TO	STATION	SQ.YDS.
LT. 861+00		LT. 861+45	30
RT. 861+00		RT. 861+45	30
RT. 861+00		RT. 861+60	73
		TOTAL =	133 SQ.YDS.

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL

REMOVE FROM			RE-ERECT AT			
STATION	TO	STATION	STATION	TO	STATION	LIN.FT.
21' LT. 861+00		21' LT. 861+58.24	21' LT. 861+00		21' LT. 861+58.24	58.5
21' RT. 861+00		21' RT. 861+60.20	21' RT. 861+00		21' RT. 861+60.20	60
					TOTAL =	118.5 LIN.FT.

PIPE UNDERDRAINS, 4"

STATION	TO	STATION	LIN.FT.
RT. 861+00		RT. 861+60	60

PIPE DRAINS, 4"

STATION	TO	STATION	LIN.FT.
RT. 861+60		RT. 861+60	32

SPL **HEADWALL FOR PIPE DRAINS**

STATION	EACH
RT. ~~861+60~~ 862+50	1

STAGE II

BITUMINOUS CONCRETE SURFACE REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 861+00		LT. 861+45	30

GUTTER REMOVAL

STATION	TO	STATION	LIN.FT.
LT. 861+45		LT. 861+60	15

SPECIAL TRANSITION FROM STABILIZED SHOULDER TO V GUTTER

STATION	TO	STATION	CU.YDS. CLASS X CONCRETE	LBS. RE-BARS
LT. 861+45		LT. 861+60	2.1	60

BITUMINOUS CONCRETE RESURFACING

STATION	TO	STATION	SQ.YDS.
LT. 861+00		LT. 861+45	30
LT. 861+00		LT. 861+60	73
		TOTAL =	103 SQ.YDS.

PAVEMENT REMOVAL

STATION	TO	STATION	SQ.YDS.
LT. 861+00		LT. 861+60	73

PIPE UNDERDRAINS, 4"

STATION	TO	STATION	LIN.FT.
LT. 861+00		LT. 861+60	60

PIPE DRAINS, 4"

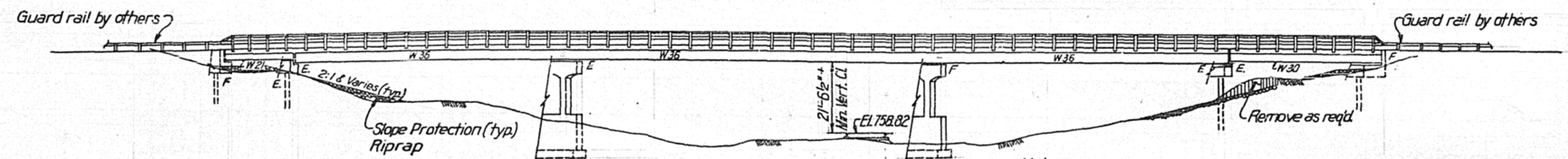
STATION	TO	STATION	LIN.FT.
LT. 861+60		LT. 861+60	32

SPL **HEADWALL FOR PIPE DRAIN (ADDED)**

STATION	EACH
LT. 861+60	1
LT 862+60	1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	15
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bench Mark
Top of rectangular concrete property post marked I.I. on one side. Located at 57'-0" on left of Sta. 858+16
Existing Super-structure to be removed and Sub-structure to be repaired.
No Salvage



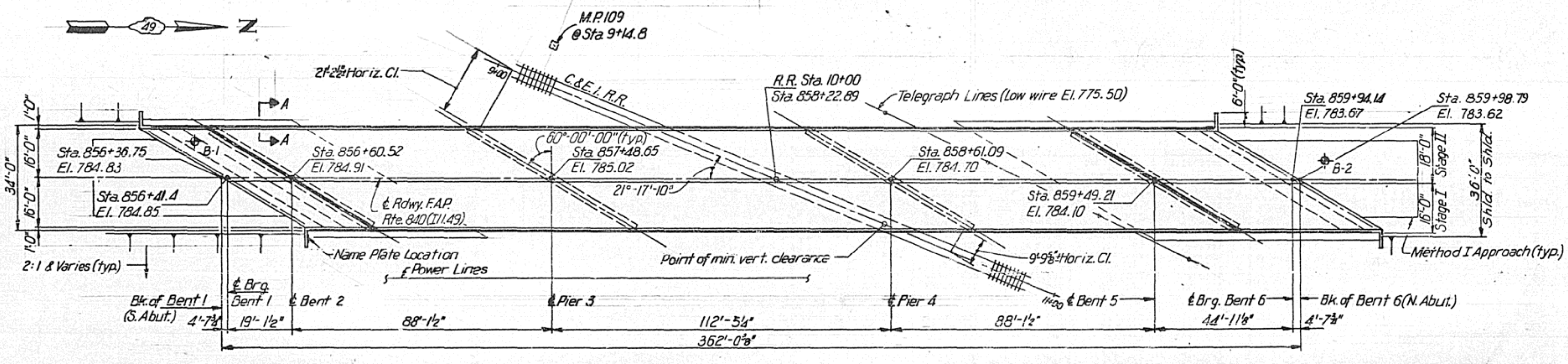
Note:
Spans 2, 3 & 4 are composite in positive moment areas.

ELEVATION
Scale: 1" = 20'-0"

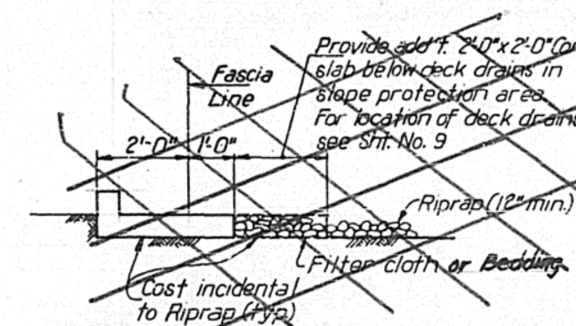
STATION 858+22.89
RE-BUILT 197 BY
STATE OF ILLINOIS
F.A.P. RT. 840 (ILL. 49)
SEC. 122 VBR
F.A. PROJ. BR-F-840(11)
LOADING HS 20
* STR. No. 092 01 01

*Structure Number to be supplied by District

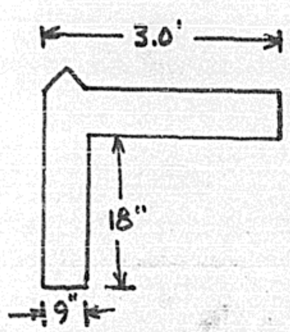
NAME PLATE



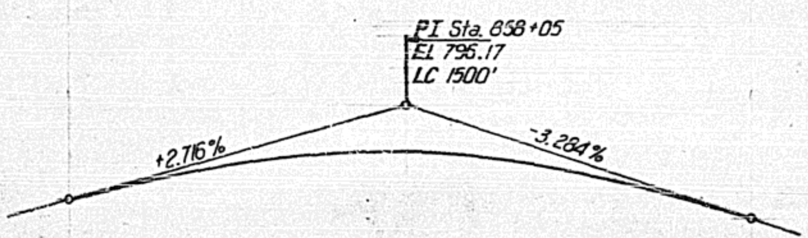
PLAN
Scale: 1" = 20'-0"



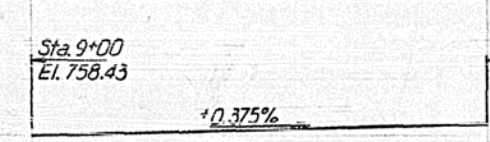
ALTERNATE SECTION A-A



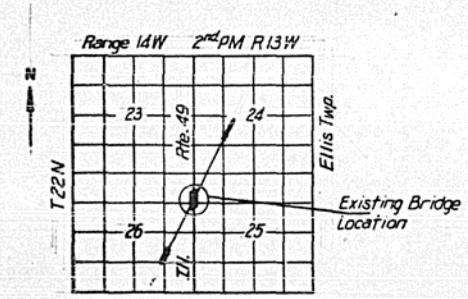
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Engineer of Bridge & Traffic Structures



PROFILE GRADE F.A.P. RTE. 840
(Proposed Profile)



PROFILE GRADE C.&E.I. R.R.



LOCATION MAP

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
GENERAL PLAN AND ELEVATION
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE VERT. HORIZ. — DRAWN BY K.C.
DATE — CHECKED BY J.P.

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
840	122 VBR	VERMILION	39	16
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

DESIGN SPECIFICATIONS:
A.A.S.H.T.O. 1977 & Interim 1978 Standard Specifications for Highway Bridges.
Standard Specifications for Road and Bridge Construction State of Illinois dated July 1, 1976.

DESIGN CRITERIA:
Load Factor Design (For Super-structure only)
Live Load: HS 20-44

Lateral Load: 40 p.c.f. equivalent fluid pressure with 2 ft. height of surchage
Allow 25 p.s.f. for future wearing surface
Allowable live load deflection (Assuming entire deck to act as unit) $= \frac{\text{Span length}}{800}$

DESIGN STRESSES:
Reinforced Concrete
$f'c = 3500$ psi Deck Slab
$fc = 1400$ psi Sub Structure
$f'c = 1000$ psi with earth presure
$fv = 118$ psi
$n = 9$

REINFORCEMENT:
$fs = 24{,}000$ psi Sub Structure
$fy = 60{,}000$ psi Super Structure

STRUCTURAL STEEL:
$fy = 50{,}000$ psi (M 222 Steel)

CONSTRUCTION:
Fasteners shall be high strength bolts. Bolts ¾"ϕ, open holes 13/16"ϕ, unless otherwise noted.
Calculated weight of Structural Steel = 406,660
All structural steel shall be AASHTO M222 unpainted.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

Reinforcement bars shall conform to A.A.S.H.T.O. M-31 or M-53 Grade 60.

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

Expansion bolts shall consist of self drilling expansion anchors and ¾" x 12" hooked bolts.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ⅛ inch. Adjustments shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the tension flanges, webs and all splice plate material of the steel wide flange beams.

TRAFFIC:
All barricades, signs and other traffic control devices and their placement installed for the purpose of temporarily maintaining traffic during construction shall be in full conformance with the Illinois State Manual on Uniform Traffic Control Devices, unless otherwise noted.

The Contractor shall procure, install and remove all temporary pavement markings as per the traffic phasing shown on the plans or as directed by the Engineer.

BILL OF MATERIAL

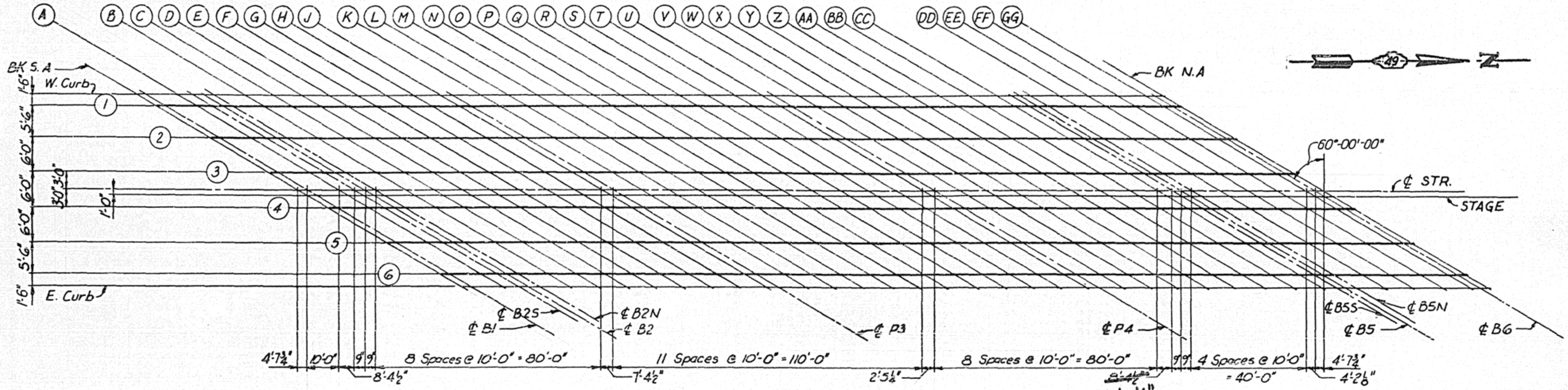
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructure	Each	1	—	1
Concrete Removal	Cu. Yds.	—	59.3	59.3
Expansion Bolts ¾ inch ϕ	Each	—	150	150
Structure Excavation	Cu. Yds.	—	108	108
Protective Coat	Sq. Yds.	1380	—	1380
Class X Concrete	Cu. Yds.	317.6	80.4	398
Structural Steel	Lump Sum	1	—	1
Stud Shear Connector	Each	2646	—	2646
Steel Railing, Type T	Lin. Ft.	712	—	712
Reinforcement Bars	Lbs.	39,150	9330	48,480
Reinforcement Bars (Epoxy Coated)	Lbs.	53,410	—	53,410
Name Plates	Each	1	—	1
Temporary Bridge Rail	Lin. Ft.	362	—	362
Neoprene Expansion Joint 2"	Lin. Ft.	196	—	196
Neoprene Expansion Joint 4"	Lin. Ft.	66	—	66
Repair Concrete Structures	Sq. Ft.	—	87	87
Riprap	Sq. Yd.	—	630	630

REVISIONS	
NAME	DATE

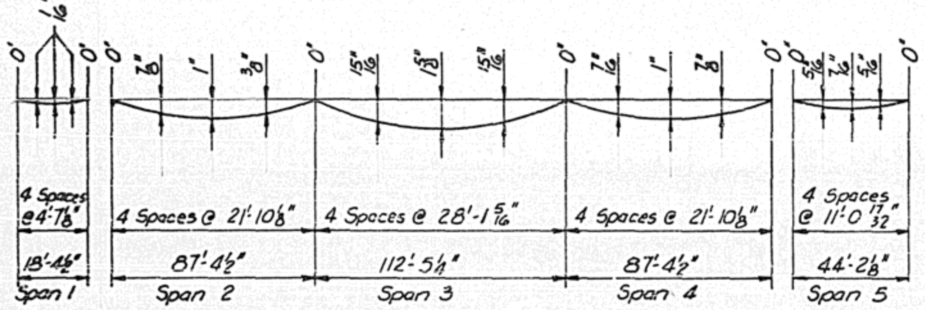
ILLINOIS DIVISION OF HIGHWAYS
GENERAL NOTES AND QUANTITIES
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. NONE
DATE
DRAWN BY K.C.
CHECKED BY J.P.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	17
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



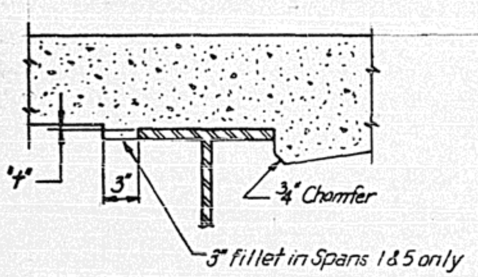
LOCATION DIAGRAM



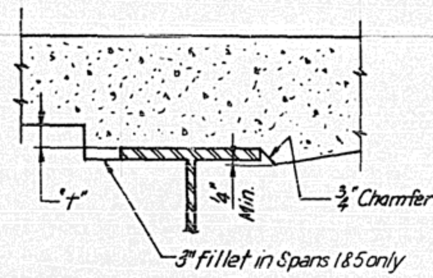
DEAD LOAD DEFLECTION DIAGRAM

(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.



At Minimum Fillet



At Maximum Fillet

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

FILLET HEIGHTS

SPAN I

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BK S.A	W CURB	85609.037	16.000	784.438	784.438
	BM 1	85611.635	14.500	784.482	784.482
	BM 2	85621.162	9.000	784.626	784.626
	BM 3	85631.554	3.000	784.764	784.764
	CL STR	85636.750	0.000	784.832	784.832
	STAGE	85638.482	-1.000	784.823	784.823
	BM 4	85641.946	-3.000	784.904	784.804
	BM 5	85652.338	-9.000	784.747	784.747
	BM 6	85661.865	-14.500	784.677	784.677
	E CURB	85664.463	-16.000	784.653	784.653
CL B 1	W CURB	85613.687	16.000	784.460	784.460
	BM 1	85616.285	14.500	784.504	784.504
	BM 2	85625.812	9.000	784.646	784.646
	BM 3	85636.204	3.000	784.783	784.783
	CL STR	85641.400	0.000	784.849	784.849
	STAGE	85643.132	-1.000	784.840	784.840
	BM 4	85646.596	-3.000	784.821	784.821
	BM 5	85656.988	-9.000	784.762	784.762
	BM 6	85666.515	-14.500	784.690	784.690
	E CURB	85669.113	-16.000	784.666	784.666
A	W CURB	85623.687	16.000	784.507	784.507
	BM 1	85626.285	14.500	784.549	784.549
	BM 2	85635.812	9.000	784.687	784.687
	BM 3	85646.204	3.000	784.820	784.820
	CL STR	85651.400	0.000	784.884	784.884
	STAGE	85653.132	-1.000	784.874	784.874
	BM 4	85656.596	-3.000	784.854	784.854
	BM 5	85666.988	-9.000	784.790	784.790
	BM 6	85676.515	-14.500	784.715	784.715
	E CURB	85679.113	-16.000	784.690	784.690
CL B2S	W CURB	85632.057	16.000	784.542	784.542
	BM 1	85634.655	14.500	784.584	784.584
	BM 2	85644.182	9.000	784.719	784.719
	BM 3	85654.574	3.000	784.848	784.848
	CL STR	85659.770	0.000	784.911	784.911
	STAGE	85661.502	-1.000	784.900	784.900
	BM 4	85664.966	-3.000	784.879	784.879
	BM 5	85675.358	-9.000	784.811	784.811
	BM 6	85684.865	-14.500	784.733	784.733
	E CURB	85687.483	-16.000	784.707	784.707

LEGEND

- BK S.A - Back of South Abutment (Bent 1)
- CL B1 - ℄ Bent 1
- CL B2S - ℄ Bearing - Bent 2 (South)
- CL B2 - ℄ Bent 2
- CL B2N - ℄ Bearing - Bent 2 (North)
- P3 - Pier 3
- P4 - Pier 4
- CL B5S - ℄ Bearing - Bent 5 (South)
- CL B5 - ℄ Bent 5
- CL B5N - ℄ Bearing - Bent 5 (North)
- CL B6 - ℄ Bent 6
- BK N.A - Back of North Abutment (Bent 6)
- CL STR - ℄ Structure
- STAGE - Stage Line

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

TOP OF SLAB ELEVATIONS I

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

SCALE: VERT. HORIZ. NONE

DATE

DRAWN BY E.T.

CHECKED BY J.P.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	18
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SPAN 2

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL B 2	W CURB	85632.807	16.000	784.545	784.545
	BM 1	85635.405	14.500	784.587	784.587
	BM 2	85644.932	9.000	784.722	784.722
	BM 3	85655.324	3.000	784.850	784.850
	CL STR	85660.520	0.000	784.913	784.913
	STAGE	85662.252	-1.000	784.902	784.902
	BM 4	85665.716	-3.000	784.881	784.881
	BM 5	85676.108	-9.000	784.813	784.813
	BM 6	85685.635	-14.500	784.734	784.734
	E CURB	85688.233	-16.000	784.708	784.708
CL B2E	W CURB	85633.557	16.000	784.548	784.551
	BM 1	85636.155	14.500	784.590	784.593
	BM 2	85645.682	9.000	784.724	784.727
	BM 3	85656.074	3.000	784.852	784.855
	CL STR	85661.270	0.000	784.915	784.918
	STAGE	85663.002	-1.000	784.904	784.907
	BM 4	85666.466	-3.000	784.883	784.886
	BM 5	85676.858	-9.000	784.815	784.818
	BM 6	85686.385	-14.500	784.736	784.739
	E CURB	85688.983	-16.000	784.709	784.712
B	W CURB	85643.557	16.000	784.586	784.627
	BM 1	85646.155	14.500	784.627	784.667
	BM 2	85655.682	9.000	784.758	784.798
	BM 3	85666.074	3.000	784.882	784.922
	CL STR	85671.270	0.000	784.942	784.983
	STAGE	85673.002	-1.000	784.931	784.971
	BM 4	85676.466	-3.000	784.908	784.948
	BM 5	85686.858	-9.000	784.836	784.876
	BM 6	85696.385	-14.500	784.753	784.793
	E CURB	85698.983	-16.000	784.725	784.766
C	W CURB	85653.557	16.000	784.621	784.690
	BM 1	85656.155	14.500	784.660	784.730
	BM 2	85665.682	9.000	784.787	784.856
	BM 3	85676.074	3.000	784.907	784.976
	CL STR	85681.270	0.000	784.965	785.035
	STAGE	85683.002	-1.000	784.953	785.023
	BM 4	85686.466	-3.000	784.929	784.998
	BM 5	85696.858	-9.000	784.853	784.922
	BM 6	85706.385	-14.500	784.766	784.835
	E CURB	85708.983	-16.000	784.737	784.807
D	W CURB	85663.557	16.000	784.651	784.735
	BM 1	85666.155	14.500	784.689	784.774
	BM 2	85675.682	9.000	784.812	784.897
	BM 3	85686.074	3.000	784.928	785.013
	CL STR	85691.270	0.000	784.984	785.069
	STAGE	85693.002	-1.000	784.972	785.056
	BM 4	85696.466	-3.000	784.946	785.030
	BM 5	85706.858	-9.000	784.865	784.950
	BM 6	85716.385	-14.500	784.775	784.860
	E CURB	85718.983	-16.000	784.745	784.830

SPAN 2

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
E	W CURB	85673.557	16.000	784.677	784.761
	BM 1	85676.155	14.500	784.714	784.798
	BM 2	85685.682	9.000	784.834	784.917
	BM 3	85696.074	3.000	784.945	785.029
	CL STR	85701.270	0.000	784.999	785.083
	STAGE	85703.002	-1.000	784.986	785.070
	BM 4	85706.466	-3.000	784.959	785.043
	BM 5	85716.858	-9.000	784.874	784.958
	BM 6	85726.385	-14.500	784.780	784.864
	E CURB	85728.983	-16.000	784.749	784.833
F	W CURB	85683.557	16.000	784.699	784.768
	BM 1	85686.155	14.500	784.735	784.805
	BM 2	85695.682	9.000	784.851	784.920
	BM 3	85706.074	3.000	784.958	785.027
	CL STR	85711.270	0.000	785.010	785.080
	STAGE	85713.002	-1.000	784.996	785.065
	BM 4	85716.466	-3.000	784.968	785.037
	BM 5	85726.858	-9.000	784.879	784.948
	BM 6	85736.385	-14.500	784.781	784.850
	E CURB	85738.983	-16.000	784.749	784.819
G	W CURB	85693.557	16.000	784.717	784.762
	BM 1	85696.155	14.500	784.753	784.798
	BM 2	85705.682	9.000	784.864	784.909
	BM 3	85716.074	3.000	784.968	785.013
	CL STR	85721.270	0.000	785.018	785.063
	STAGE	85723.002	-1.000	785.003	785.048
	BM 4	85726.466	-3.000	784.973	785.018
	BM 5	85736.858	-9.000	784.880	784.925
	BM 6	85746.385	-14.500	784.778	784.823
	E CURB	85748.983	-16.000	784.745	784.791
H	W CURB	85703.557	16.000	784.731	784.751
	BM 1	85706.155	14.500	784.766	784.785
	BM 2	85715.682	9.000	784.873	784.893
	BM 3	85726.074	3.000	784.973	784.992
	CL STR	85731.270	0.000	785.021	785.040
	STAGE	85733.002	-1.000	785.005	785.025
	BM 4	85736.466	-3.000	784.974	784.993
	BM 5	85746.858	-9.000	784.877	784.896
	BM 6	85756.385	-14.500	784.771	784.791
	E CURB	85758.983	-16.000	784.737	784.757
J	W CURB	85713.557	16.000	784.742	784.744
	BM 1	85716.155	14.500	784.775	784.777
	BM 2	85725.682	9.000	784.879	784.881
	BM 3	85736.074	3.000	784.974	784.976
	CL STR	85741.270	0.000	785.020	785.022
	STAGE	85743.002	-1.000	785.004	785.006
	BM 4	85746.466	-3.000	784.971	784.973
	BM 5	85756.858	-9.000	784.870	784.872
	BM 6	85766.385	-14.500	784.760	784.762
	E CURB	85768.983	-16.000	784.725	784.727

SPAN 3

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL P 3	W CURB	85720.937	16.000	784.747	784.747
	BM 1	85723.535	14.500	784.779	784.779
	BM 2	85733.062	9.000	784.880	784.880
	BM 3	85743.454	3.000	784.972	784.972
	CL STR	85748.650	0.000	785.017	785.017
	STAGE	85750.382	-1.000	785.000	785.000
	BM 4	85753.846	-3.000	784.966	784.966
	BM 5	85764.238	-9.000	784.862	784.862
	BM 6	85773.765	-14.500	784.750	784.750
	E CURB	85776.363	-16.000	784.714	784.714
K	W CURB	85730.937	16.000	784.750	784.767
	BM 1	85733.535	14.500	784.781	784.799
	BM 2	85743.062	9.000	784.879	784.896
	BM 3	85753.454	3.000	784.966	784.984
	CL STR	85758.650	0.000	785.009	785.026
	STAGE	85760.382	-1.000	784.991	785.009
	BM 4	85763.846	-3.000	784.956	784.974
	BM 5	85774.238	-9.000	784.848	784.865
	BM 6	85783.765	-14.500	784.732	784.749
	E CURB	85786.363	-16.000	784.695	784.713
L	W CURB	85740.937	16.000	784.749	784.799
	BM 1	85743.535	14.500	784.779	784.829
	BM 2	85753.062	9.000	784.873	784.922
	BM 3	85763.454	3.000	784.957	785.006
	CL STR	85768.650	0.000	784.997	785.046
	STAGE	85770.382	-1.000	784.979	785.028
	BM 4	85773.846	-3.000	784.942	784.992
	BM 5	85784.238	-9.000	784.830	784.879
	BM 6	85793.765	-14.500	784.710	784.759
	E CURB	85796.363	-16.000	784.672	784.722
M	W CURB	85750.937	16.000	784.744	784.830
	BM 1	85753.535	14.500	784.774	784.859
	BM 2	85763.062	9.000	784.863	784.949
	BM 3	85773.454	3.000	784.943	785.028
	CL STR	85778.650	0.000	784.981	785.066
	STAGE	85780.382	-1.000	784.962	785.048
	BM 4	85783.846	-3.000	784.924	785.010
	BM 5	85794.238	-9.000	784.808	784.893
	BM 6	85803.765	-14.500	784.684	784.769
	E CURB	85806.363	-16.000	784.645	784.731
N	W CURB	85760.937	16.000	784.735	784.852
	BM 1	85763.535	14.500	784.764	784.880
	BM 2	85773.062	9.000	784.850	784.966
	BM 3	85783.454	3.000	784.925	785.041
	CL STR	85788.650	0.000	784.961	785.077
	STAGE	85790.382	-1.000	784.942	785.058
	BM 4	85793.846	-3.000	784.902	785.018
	BM 5	85804.238	-9.000	784.782	784.898
	BM 6	85813.765	-14.500	784.654	784.770
	E CURB	85816.363	-16.000	784.614	784.730
O	W CURB	85770.937	16.000	784.723	784.857
	BM 1	85773.535	14.500	784.750	784.884
	BM 2	85783.062	9.000	784.832	784.966
	BM 3	85793.454	3.000	784.903	785.038
	CL STR	85798.650	0.000	784.937	785.072
	STAGE	85800.382	-1.000	784.917	785.051
	BM 4	85803.846	-3.000	784.876	785.011
	BM 5	85814.238	-9.000	784.751	784.866
	BM 6	85823.765	-14.500	784.620	784.754
	E CURB	85826.363	-16.000	784.579	784.714

SPAN 3

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
P	W CURB	85780.937	16.000	784.706	784.842
	BM 1	85783.535	14.500	784.732	784.868
	BM 2	85793.062	9.000	784.810	784.947
	BM 3	85803.454	3.000	784.877	785.014
	CL STR	85808.650	0.000	784.909	785.046
	STAGE	85810.382	-1.000	784.889	785.025
	BM 4	85813.846	-3.000	784.846	784.983
	BM 5	85824.238	-9.000	784.717	784.853
	BM 6	85833.765	-14.500	784.582	784.718
	E CURB	85836.363	-16.000	784.540	784.677
Q	W CURB	85790.937	16.000	784.685	784.807
	BM 1	85793.535	14.500	784.710	784.832
	BM 2	85803.062	9.000	784.785	784.907
	BM 3	85813.454	3.000	784.840	784.969
	CL STR	85818.650	0.000	784.878	784.999
	STAGE	85820.382	-1.000	784.856	784.978
	BM 4	85823.846	-3.000	784.812	784.934
	BM 5	85834.238	-9.000	784.679	784.801
	BM 6	85843.765	-14.500	784.540	784.662
	E CURB	85846.363	-16.000	784.497	784.619
R	W CURB	85800.937	16.000	784.660	784.754
	BM 1	85803.535	14.500	784.685	784.779
	BM 2	85813.062	9.000	784.755	784.849
	BM 3	85823.454	3.000	784.814	784.908
	CL STR	85828.650	0.000	784.842	784.936
	STAGE	85830.382	-1.000	784.819	784.913
	BM 4	85833.846	-3.000	784.775	784.869
	BM 5	85844.238	-9.000	784.637	784.731
	BM 6	85853.765	-14.500	784.494	784.588
	E CURB	85856.363	-16.000	784.451	784.545
S	W CURB	85810.937	16.000	784.632	784.690
	BM 1	85813.535	14.500	784.655	784.713
	BM 2	85823.062	9.000	784.722	784.780
	BM 3	85833.454	3.000	784.776	784.835
	CL STR	85838.650	0.000	784.802	784.860
	STAGE	85840.382	-1.000	784.779	784.837
	BM 4	85843.846	-3.000	784.733	784.791
	BM 5	85854.238	-9.000	784.591	784.650
	BM 6	85863.765	-14.500	784.444	784.503
	E CURB	85866.363	-16.000	784.400	784.458
T	W CURB	85820.937	16.000	784.599	784.623
	BM 1	85823.535	14.500	784.621	784.646
	BM 2	85833.062	9.000	784.684	784.709
	BM 3	85843.454	3.000	784.734	784.759
	CL STR	85848.650	0.000	784.758	784.783
	STAGE	85850.382	-1.000	784.734	784.759
	BM 4	85853.846	-3.000	784.687	784.711
	BM 5	85864.238	-9.000	784.541	784.566
	BM 6	85873.765	-14.500	784.391	784.415
	E CURB	85876.363	-16.000	784.345	784.369
U	W CURB	85830.937	16.000	784.562	784.565
	BM 1	85833.535	14.500	784.583	784.586
	BM 2	85843.062	9.000	784.642	784.645
	BM 3	85853.454	3.000	784.689	784.692
	CL STR	85858.650	0.000	784.710	784.713
	STAGE	85860.382	-1.000	784.686	784.689
	BM 4	85863.846	-3.000	784.637	784.640
	BM 5	85874.238	-9.000	784.487	784.490
	BM 6	85883.765	-14.500	784.333	784.336
	E CURB	85886.363	-16.000	784.286	784.289

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

TOP OF SLAB ELEVATIONS II

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

SCALE: VERT. NONE HORIZ.

DATE

DRAWN BY E.T.

CHECKED BY J.P.

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	19
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SPAN 4

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL P 4	W CURB	85833.377	16.000	784.552	784.552
	BM 1	85835.975	14.500	784.573	784.573
	BM 2	85845.502	9.000	784.632	784.632
	BM 3	85855.894	3.000	784.677	784.677
	CL STR	85861.090	0.000	784.698	784.698
	STAGE	85862.822	-1.000	784.673	784.673
	BM 4	85866.286	-3.000	784.624	784.624
	BM 5	85876.678	-9.000	784.473	784.473
	BM 6	85886.205	-14.500	784.318	784.318
	E CURB	85888.803	-16.000	784.271	784.271
V	W CURB	85843.377	16.000	784.511	784.518
	BM 1	85845.975	14.500	784.530	784.536
	BM 2	85855.502	9.000	784.585	784.593
	BM 3	85865.894	3.000	784.626	784.634
	CL STR	85871.090	0.000	784.645	784.653
	STAGE	85872.822	-1.000	784.620	784.627
	BM 4	85876.286	-3.000	784.569	784.577
	BM 5	85886.678	-9.000	784.414	784.422
	BM 6	85896.205	-14.500	784.255	784.263
	E CURB	85898.803	-16.000	784.207	784.214
W	W CURB	85853.377	16.000	784.465	784.495
	BM 1	85855.975	14.500	784.484	784.514
	BM 2	85865.502	9.000	784.534	784.565
	BM 3	85875.894	3.000	784.571	784.602
	CL STR	85881.090	0.000	784.588	784.618
	STAGE	85882.822	-1.000	784.562	784.593
	BM 4	85886.286	-3.000	784.510	784.541
	BM 5	85896.678	-9.000	784.351	784.381
	BM 6	85906.205	-14.500	784.188	784.219
	E CURB	85908.803	-16.000	784.139	784.169
X	W CURB	85863.377	16.000	784.415	784.472
	BM 1	85865.975	14.500	784.433	784.490
	BM 2	85875.502	9.000	784.480	784.537
	BM 3	85885.894	3.000	784.513	784.570
	CL STR	85891.090	0.000	784.527	784.585
	STAGE	85892.822	-1.000	784.501	784.558
	BM 4	85896.286	-3.000	784.447	784.504
	BM 5	85906.678	-9.000	784.284	784.341
	BM 6	85916.205	-14.500	784.117	784.174
	E CURB	85918.803	-16.000	784.067	784.124
Y	W CURB	85873.377	16.000	784.361	784.441
	BM 1	85875.975	14.500	784.378	784.457
	BM 2	85885.502	9.000	784.421	784.500
	BM 3	85895.894	3.000	784.450	784.529
	CL STR	85901.090	0.000	784.462	784.542
	STAGE	85902.822	-1.000	784.435	784.514
	BM 4	85906.286	-3.000	784.380	784.459
	BM 5	85916.678	-9.000	784.213	784.292
	BM 6	85926.205	-14.500	784.042	784.121
	E CURB	85928.803	-16.000	783.991	784.070

SPAN 4

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
Z	W CURB	85883.377	16.000	784.304	784.393
	BM 1	85885.975	14.500	784.319	784.408
	BM 2	85895.502	9.000	784.359	784.448
	BM 3	85905.894	3.000	784.383	784.472
	CL STR	85911.090	0.000	784.394	784.483
	STAGE	85912.822	-1.000	784.366	784.455
	BM 4	85916.286	-3.000	784.309	784.398
	BM 5	85926.678	-9.000	784.138	784.227
	BM 6	85936.205	-14.500	783.963	784.053
	E CURB	85938.803	-16.000	783.911	784.000
AA	W CURB	85893.377	16.000	784.242	784.326
	BM 1	85895.975	14.500	784.257	784.340
	BM 2	85905.502	9.000	784.292	784.376
	BM 3	85915.894	3.000	784.312	784.396
	CL STR	85921.090	0.000	784.321	784.405
	STAGE	85922.822	-1.000	784.292	784.376
	BM 4	85926.286	-3.000	784.234	784.318
	BM 5	85936.678	-9.000	784.059	784.143
	BM 6	85946.205	-14.500	783.881	783.965
	E CURB	85948.803	-16.000	783.827	783.911
BB	W CURB	85903.377	16.000	784.176	784.239
	BM 1	85905.975	14.500	784.190	784.253
	BM 2	85915.502	9.000	784.221	784.285
	BM 3	85925.894	3.000	784.237	784.301
	CL STR	85931.090	0.000	784.244	784.307
	STAGE	85932.822	-1.000	784.215	784.278
	BM 4	85936.286	-3.000	784.156	784.219
	BM 5	85946.678	-9.000	783.976	784.039
	BM 6	85956.205	-14.500	783.794	783.857
	E CURB	85958.803	-16.000	783.739	783.802
CC	W CURB	85913.377	16.000	784.106	784.136
	BM 1	85915.975	14.500	784.119	784.148
	BM 2	85925.502	9.000	784.147	784.176
	BM 3	85935.894	3.000	784.159	784.188
	CL STR	85941.090	0.000	784.163	784.193
	STAGE	85942.822	-1.000	784.133	784.162
	BM 4	85946.286	-3.000	784.073	784.102
	BM 5	85956.678	-9.000	783.888	783.918
	BM 6	85966.205	-14.500	783.703	783.732
	E CURB	85968.803	-16.000	783.647	783.677
CL B5S	W CURB	85921.497	16.000	784.047	784.049
	BM 1	85924.095	14.500	784.059	784.061
	BM 2	85933.622	9.000	784.083	784.085
	BM 3	85944.014	3.000	784.092	784.094
	CL STR	85949.210	0.000	784.095	784.097
	STAGE	85950.942	-1.000	784.064	784.066
	BM 4	85954.406	-3.000	784.002	784.004
	BM 5	85964.798	-9.000	783.815	783.817
	BM 6	85974.325	-14.500	783.626	783.628
	E CURB	85976.923	-16.000	783.570	783.572

SPAN 5

LINE	BEAM OR GIRDER	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL B 5	W CURB	85921.497	16.000	784.047	784.047
	BM 1	85924.095	14.500	784.059	784.059
	BM 2	85933.622	9.000	784.083	784.083
	BM 3	85944.014	3.000	784.092	784.092
	CL STR	85949.210	0.000	784.095	784.095
	STAGE	85950.942	-1.000	784.064	784.064
	BM 4	85954.406	-3.000	784.002	784.002
	BM 5	85964.798	-9.000	783.815	783.815
	BM 6	85974.325	-14.500	783.626	783.626
	E CURB	85976.923	-16.000	783.570	783.570
CL B5N	W CURB	85922.247	16.000	784.041	784.043
	BM 1	85924.845	14.500	784.053	784.055
	BM 2	85934.372	9.000	784.077	784.079
	BM 3	85944.764	3.000	784.086	784.087
	CL STR	85949.960	0.000	784.088	784.090
	STAGE	85951.692	-1.000	784.057	784.059
	BM 4	85955.156	-3.000	783.996	783.997
	BM 5	85965.548	-9.000	783.808	783.810
	BM 6	85975.075	-14.500	783.619	783.621
	E CURB	85977.673	-16.000	783.562	783.564
DD	W CURB	85932.247	16.000	783.964	783.988
	BM 1	85934.845	14.500	783.974	783.998
	BM 2	85944.372	9.000	783.995	784.019
	BM 3	85954.764	3.000	783.999	784.023
	CL STR	85959.960	0.000	784.000	784.024
	STAGE	85961.692	-1.000	783.968	783.992
	BM 4	85965.156	-3.000	783.905	783.929
	BM 5	85975.548	-9.000	783.713	783.737
	BM 6	85985.075	-14.500	783.520	783.544
	E CURB	85987.673	-16.000	783.463	783.487
EE	W CURB	85942.247	16.000	783.883	783.917
	BM 1	85944.845	14.500	783.892	783.926
	BM 2	85954.372	9.000	783.909	783.943
	BM 3	85964.764	3.000	783.909	783.943
	CL STR	85969.960	0.000	783.907	783.942
	STAGE	85971.692	-1.000	783.875	783.910
	BM 4	85975.156	-3.000	783.811	783.845
	BM 5	85985.548	-9.000	783.615	783.649
	BM 6	85995.075	-14.500	783.418	783.452
	E CURB	85997.673	-16.000	783.360	783.394
FF	W CURB	85952.247	16.000	783.797	783.826
	BM 1	85954.845	14.500	783.806	783.834
	BM 2	85964.372	9.000	783.819	783.847
	BM 3	85974.764	3.000	783.815	783.843
	CL STR	85979.960	0.000	783.811	783.839
	STAGE	85981.692	-1.000	783.778	783.806
	BM 4	85985.156	-3.000	783.712	783.741
	BM 5	85995.548	-9.000	783.512	783.540
	BM 6	86005.075	-14.500	783.312	783.340
	E CURB	86007.673	-16.000	783.252	783.280
GG	W CURB	85962.247	16.000	783.708	783.717
	BM 1	85964.845	14.500	783.715	783.724
	BM 2	85974.372	9.000	783.725	783.733
	BM 3	85984.764	3.000	783.716	783.725
	CL STR	85989.960	0.000	783.711	783.719
	STAGE	85991.692	-1.000	783.677	783.686
	BM 4	85995.156	-3.000	783.610	783.619
	BM 5	86005.548	-9.000	783.405	783.414
	BM 6	86015.075	-14.500	783.201	783.210
	E CURB	86017.673	-16.000	783.141	783.149
CL B 6	W CURB	85966.427	16.000	783.670	783.670
	BM 1	85969.025	14.500	783.676	783.676
	BM 2	85978.552	9.000	783.684	783.684
	BM 3	85988.944	3.000	783.674	783.674
	CL STR	85994.140	0.000	783.667	783.667
	STAGE	85995.872	-1.000	783.634	783.634
	BM 4	85999.336	-3.000	783.566	783.566
	BM 5	86009.728	-9.000	783.360	783.360
	BM 6	86019.255	-14.500	783.154	783.154
	E CURB	86021.853	-16.000	783.093	783.093
BK N A	W CURB	85971.077	16.000	783.626	783.626
	BM 1	85973.675	14.500	783.632	783.632
	BM 2	85983.201	9.000	783.638	783.638
	BM 3	85993.594	3.000	783.626	783.626
	CL STR	85998.790	0.000	783.619	783.619
	STAGE	86000.522	-1.000	783.585	783.585
	BM 4	86003.986	-3.000	783.516	783.516
	BM 5	86014.378	-9.000	783.308	783.308
	BM 6	86023.905	-14.500	783.100	783.100
	E CURB	86026.503	-16.000	783.039	783.039

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

TOP OF SLAB ELEVATIONS III

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

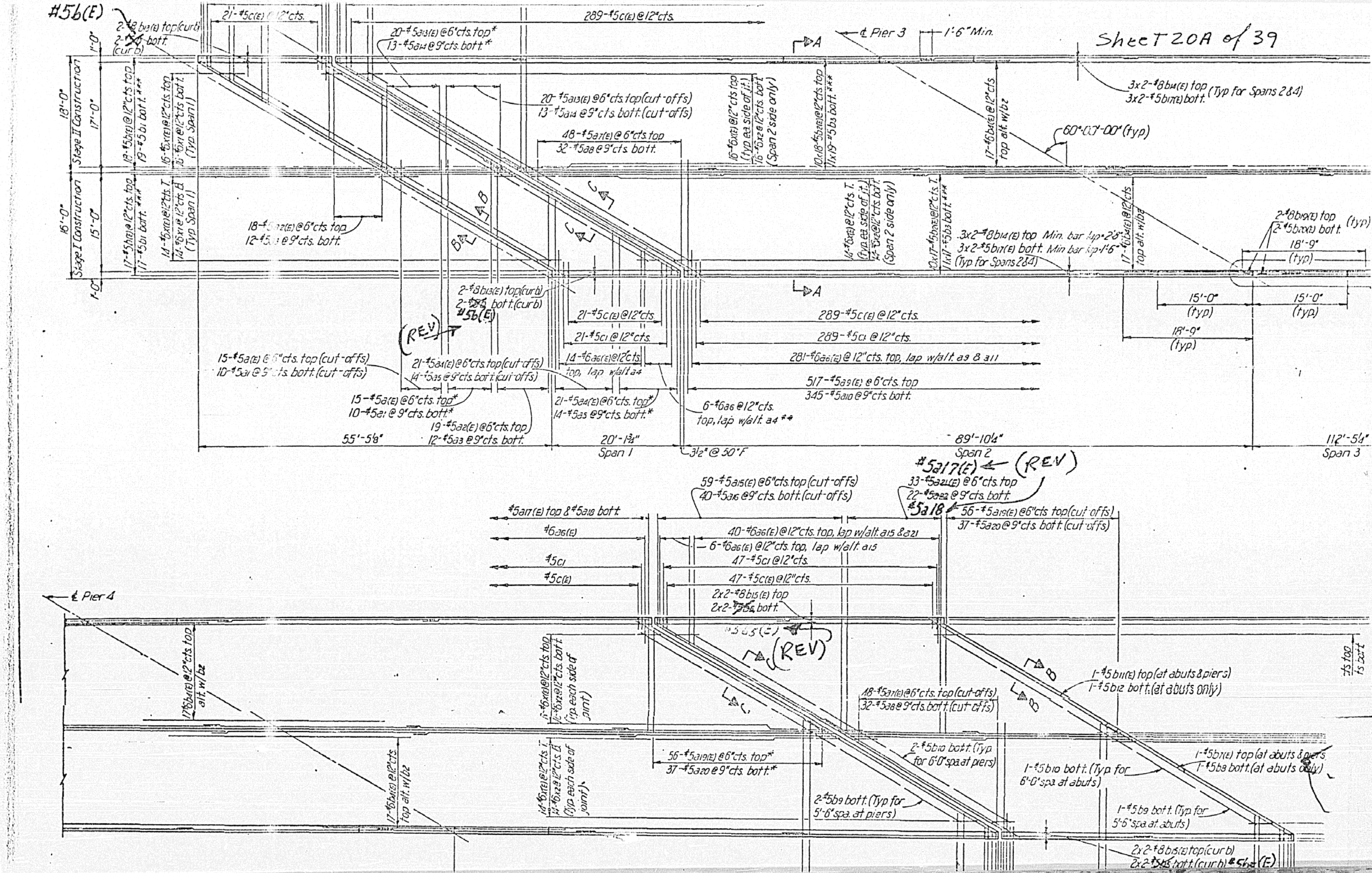
VERMILION COUNTY

SCALE: VERT. / HORIZ NONE

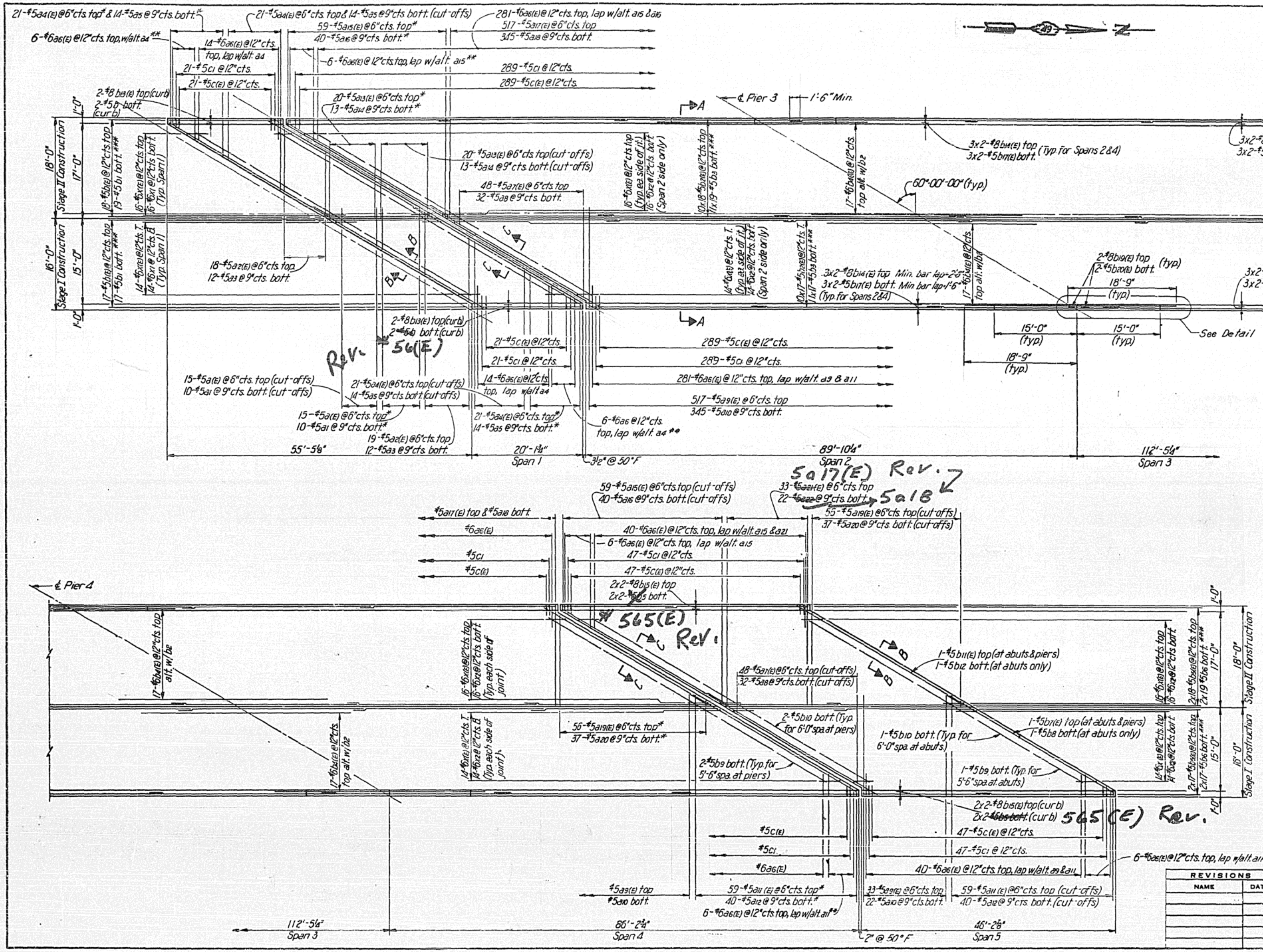
DRAWN BY E.M.T.

DATE

CHECKED BY J.P.


#5b(E)
2-#8 b13(E) top(curb)
2-#5b bott.(curb)
21-#5c(E) @ 12"cts.
289-#5c(E) @ 12"cts.
20-#5a13(E) @ 6"cts. top*
13-#5a14 @ 9"cts. bott.*
℄ Pier 3
1'-6" Min.
A
3x2-#8b14(E) top (Typ for Spans 2&4)
3x2-#5b17(E) bott.
20-#5a13(E) @ 6"cts. top (cut-offs)
13-#5a14 @ 9"cts. bott. (cut-offs)
48-#5a7(E) @ 6"cts. top
32-#5a8 @ 9"cts. bott.
60°-00'-00" (typ)
1'-0"
18'-0"
Stage II Construction
17'-0"
16'-0"
Stage I Construction
15'-0"
1'-0"
18-#5b1(E) @ 12"cts. top
19-#5b1 bott.***
16-#5x1(E) @ 12"cts. top
16-#6x1 @ 12"cts. bott.
(Typ Span 1)
17-#5b1(E) @ 12"cts. top
17-#5b1 bott.***
14-#5x1(E) @ 12"cts. T.
14-#6x1 @ 12"cts. B.
(Typ Span 1)
16-#6x1(E) @ 12"cts. top
(typ. ea. side of jt.)
16-#6x2 @ 12"cts. bott.
(Span 2 side only)
10x18-#5b3(E) @ 12"cts. top
11x19-#5b3 bott.***
17-#6b4(E) @ 12"cts.
top alt. w/b2
14-#6x1(E) @ 12"cts. T.
(typ. ea. side of jt.)
14-#6x2 @ 12"cts. bott.
(Span 2 side only)
10x17-#5b3(E) @ 12"cts. T.
11x17-#5b3 bott.***
17-#6b4(E) @ 12"cts.
top alt. w/b2
18-#5a2(E) @ 6"cts. top
12-#5a3 @ 9"cts. bott.
B
C
3x2-#8b14(E) top Min. bar lap 2'-8"
3x2-#5b17(E) bott. Min bar lap 1'-6"
(Typ for Spans 2&4)
2-#8b19(E) top
2-#5b20(E) bott.
(typ)
18'-9"
(typ)
15'-0"
(typ)
15'-0"
(typ)
18'-9"
(typ)
2-#8b13(E) top(curb)
2-#5b bott.(curb)
#5b(E)
(REV)
21-#5c(E) @ 12"cts.
289-#5c(E) @ 12"cts.
21-#5c1 @ 12"cts.
289-#5c1 @ 12"cts.
14-#6a6(E) @ 12"cts.
top, lap w/alt a4
281-#6a6(E) @ 12"cts. top, lap w/alt. a9 & a11
15-#5a(E) @ 6"cts. top (cut-offs)
10-#5a1 @ 9"cts. bott. (cut-offs)
21-#5a4(E) @ 6"cts. top (cut-offs)
14-#5a5 @ 9"cts. bott. (cut-offs)
517-#5a9(E) @ 6"cts. top
345-#5a10 @ 9"cts. bott.
15-#5a(E) @ 6"cts. top*
10-#5a1 @ 9"cts. bott.*
21-#5a4(E) @ 6"cts. top*
14-#5a5 @ 9"cts. bott.*
6-#6a6 @ 12"cts.
top, lap w/alt. a4 **
19-#5a2(E) @ 6"cts. top
12-#5a3 @ 9"cts. bott.
55'-5⅛"
20'-1¾"
Span 1
3½" @ 50°F
89'-10¼"
Span 2
112'-5¼"
Span 3
#5a17(E) (REV)
59-#5a15(E) @ 6"cts. top (cut-offs)
40-#5a16 @ 9"cts. bott. (cut-offs)
33-#5a21(E) @ 6"cts. top
22-#5a22 @ 9"cts. bott.
#5a18
56-#5a19(E) @ 6"cts. top (cut-offs)
37-#5a20 @ 9"cts. bott. (cut-offs)
#5a17(E) top & #5a18 bott.
#6a6(E)
40-#6a6(E) @ 12"cts. top, lap w/alt. a15 & a21
6-#6a6(E) @ 12"cts. top, lap w/alt. a15
#5c1
47-#5c1 @ 12"cts.
#5c(E)
47-#5c(E) @ 12"cts.
℄ Pier 4
2x2-#8b15(E) top
2x2-#5b5 bott.
(REV)
C
B
17-#6b4(E) @ 12"cts. top
alt. w/b2
15-#6x1(E) @ 12"cts. top
15-#6x2 @ 12"cts. bott.
(typ. each side of joint)
1-#5b11(E) top (at abuts & piers)
1-#5b12 bott. (at abuts only)
48-#5a7(E) @ 6"cts. top (cut-offs)
32-#5a8 @ 9"cts. bott. (cut-offs)
56-#5a19(E) @ 6"cts. top*
37-#5a20 @ 9"cts. bott.*
2-#5b10 bott. (Typ for 6'-0" spa. at piers)
1-#5b10 bott. (Typ for 6'-0" spa. at abuts)
1-#5b7(E) top (at abuts & piers)
1-#5b8 bott. (at abuts only)
17-#6b4(E) @ 12"cts.
top alt. w/b2
14-#6x1(E) @ 12"cts. T.
14-#6x2 @ 12"cts. B.
(typ. each side of joint)
2-#5b9 bott. (Typ for 5'-6" spa. at piers)
1-#5b9 bott. (Typ for 5'-6" spa. at abuts)
2x2-#8b15(E) top (curb)
2x2-#5b5 bott. (curb) #5b(E)

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	20
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



NOTES:

For Sections A-A, B-B, C-C and Bill of Materials see Sht. No. 8

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

Bars indicated thus 3x20-#5 etc. indicates 3 lengths with 20 lines of bars

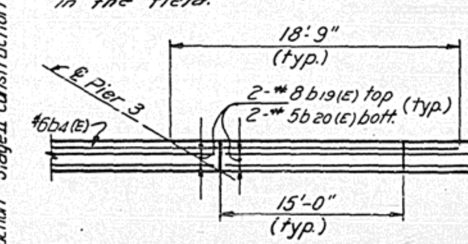
*Use remainder of cut-offs where indicated

**Cut or bend in field to fit

***For spacing see Section A-A Sht. No. 8

Bars b11(E), b16(E), b17(E), b18(E), b19(E) & b20(E) do not pass thru joints in curb.

See Special Provisions for procedure on epoxy coated bars to be cut in the field.



DETAIL
(NOT TO SCALE)

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

DECK REINFORCEMENT

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

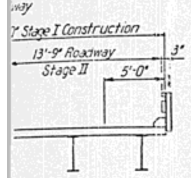
SCALE: VERT. HORIZ.

DATE

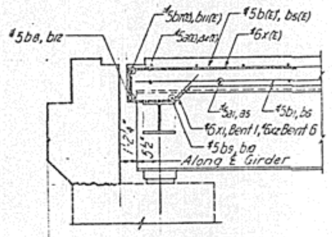
DRAWN BY K.C.

CHECKED BY J.P.

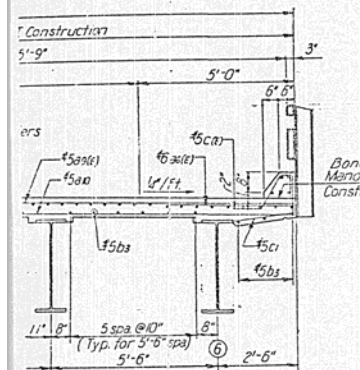
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	21 A (REV.)
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	

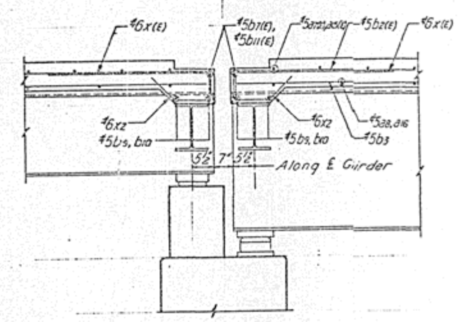


TAKE OUT
REMOVED UNDER STAGE I
(Rev)

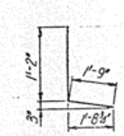


SECTION B-B

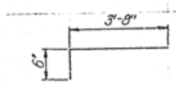




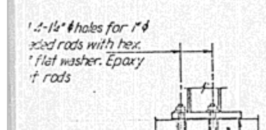
SECTION C-C



BAR c1

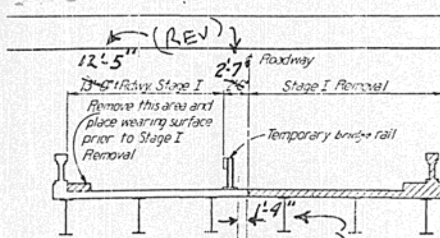


BAR x

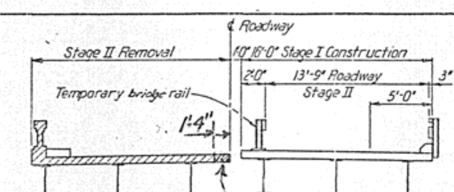


(REV) →

BILL OF MATERIALS				
BAR	No.	SIZE	LENGTH	SHAPE
a(E)	15	#5	13'-9"	—
a1	10	#5	13'-9"	—
a2(E)	37	#5	11'-4"	—
a3	24	#5	11'-4"	—
a4(E)	42	#5	13'-6"	—
a5	28	#5	13'-6"	—
a6(E)	706	#6	4'-0"	—
a7(E)	48	#5	19'-1"	—
a8	32	#5	19'-1"	—
a9(E)	550	#5	18'-0"	—
a10	367	#5	18'-0"	—
a11(E)	59	#5	19'-0"	—
a12	40	#5	19'-0"	—
a13(E)	20	#5	12'-5"	—
a14	13	#5	12'-5"	—
a15(E)	59	#5	16'-9"	—
a16	40	#5	16'-9"	—
a17(E)	550	#5	17'-9"	—
a18	367	#5	17'-9"	—
a19(E)	56	#5	17'-9"	—
a20	37	#5	17'-9"	—
a21(E)	128	#5	2'-0"	—
b(E)	39	#5	20'-1"	—
b1	36	#5	20'-1"	—
b2(E)	350	#5	29'-11"	—
b3	396	#5	27'-4"	—
b4(E)	68	#6	37'-6"	—
b5(E)	78	#5	23'-9"	—
b6	72	#5	23'-9"	—
b7(E)	6	#5	34'-0"	—
b8	2	#5	34'-0"	—
b9	20	#5	10'-6"	—
b10	30	#5	11'-6"	—
b11(E)	6	#5	35'-6"	—
b12	2	#5	35'-6"	—
b13(E)	4	#8	20'-1"	—
b14(E)	24	#8	26'-3"	—
b15(E)	8	#8	21'-2"	—
b16(E)	12	#8	25'-9"	—
b17(E)	24	#5	25'-9"	—
b18(E)	12	#5	28'-3"	—
b19(E)	16	#8	14'-9"	
b20(E)	16	#5	14'-9"	
c(E)	714	#5	3'-5"	
c1	714	#5	2'-11"	
x(E)	180	#6	[illegible]	—

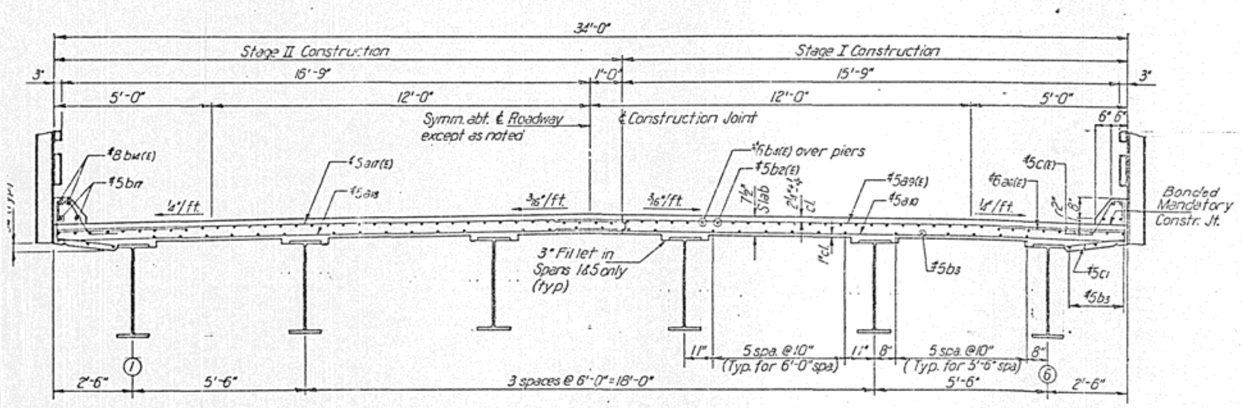


STAGE I (REV)

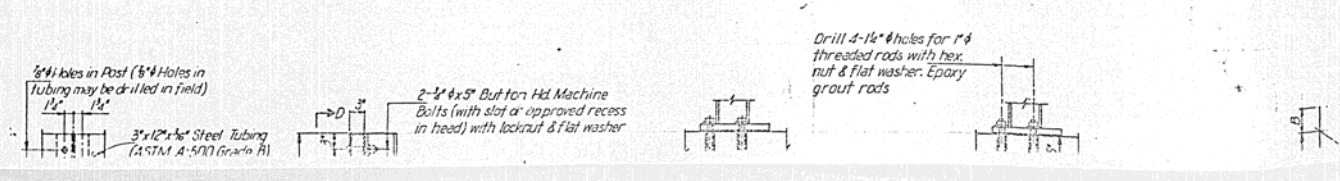


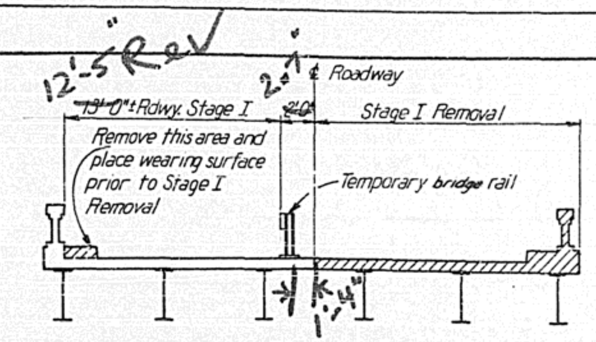
STAGE II

TAKE OUT
REMOVED UNDER STAGE I
(Rev)



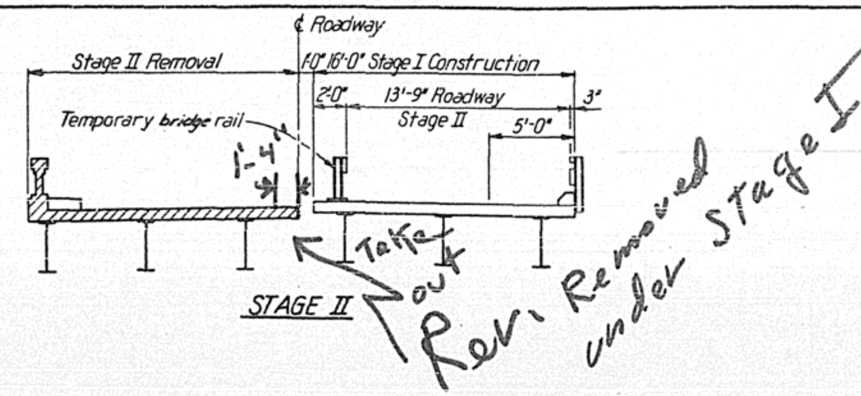
SECTION A-A



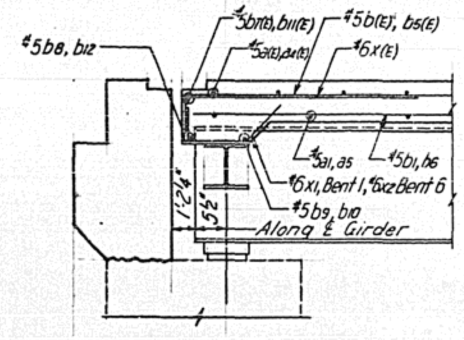


STAGE I

Rev.

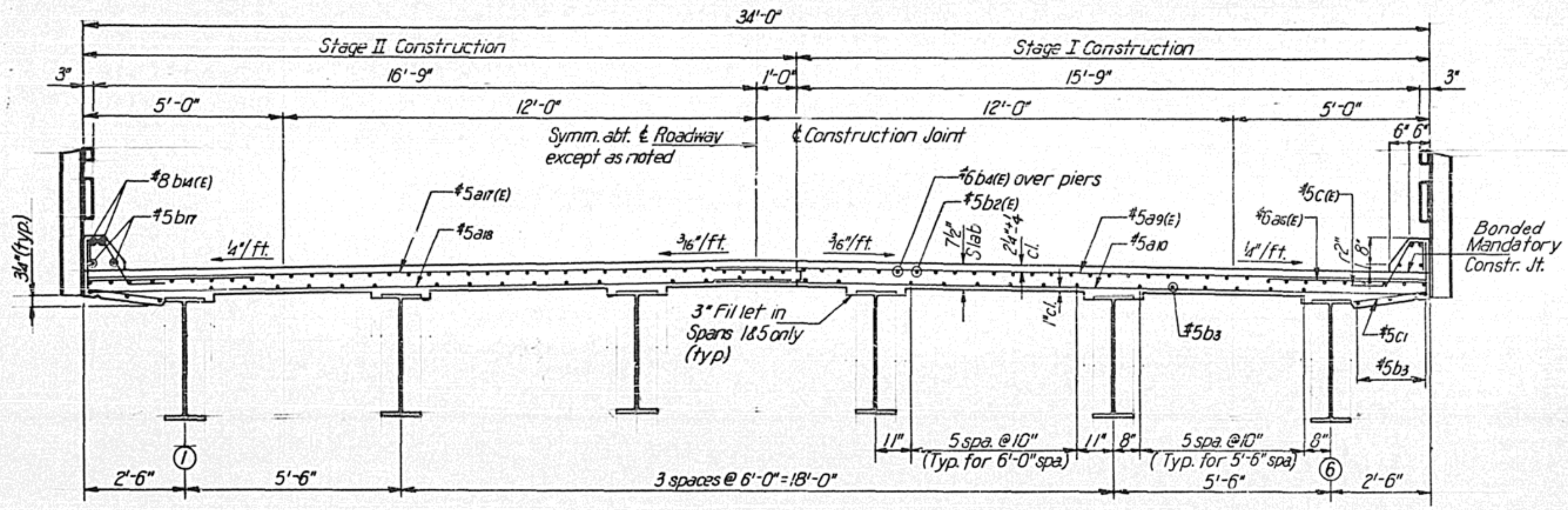


STAGE II

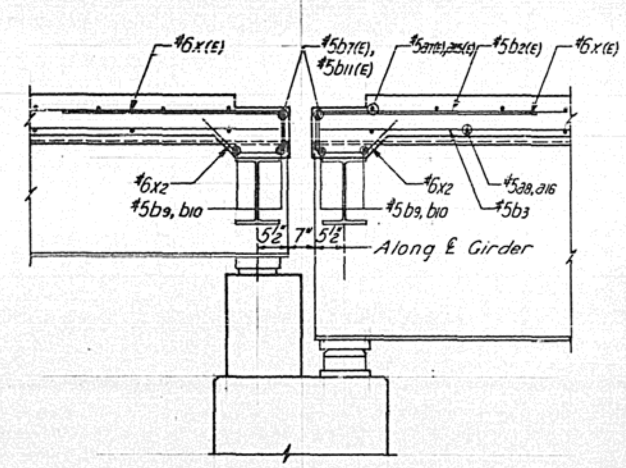


SECTION B-B

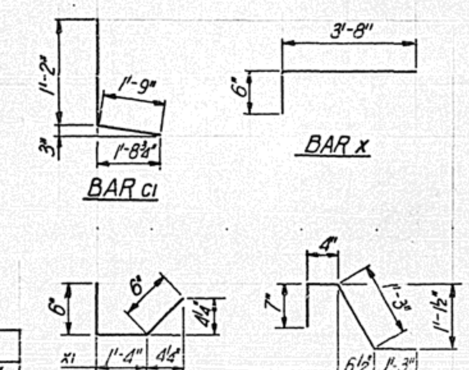
Rev: →



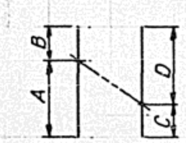
SECTION A-A



SECTION C-C



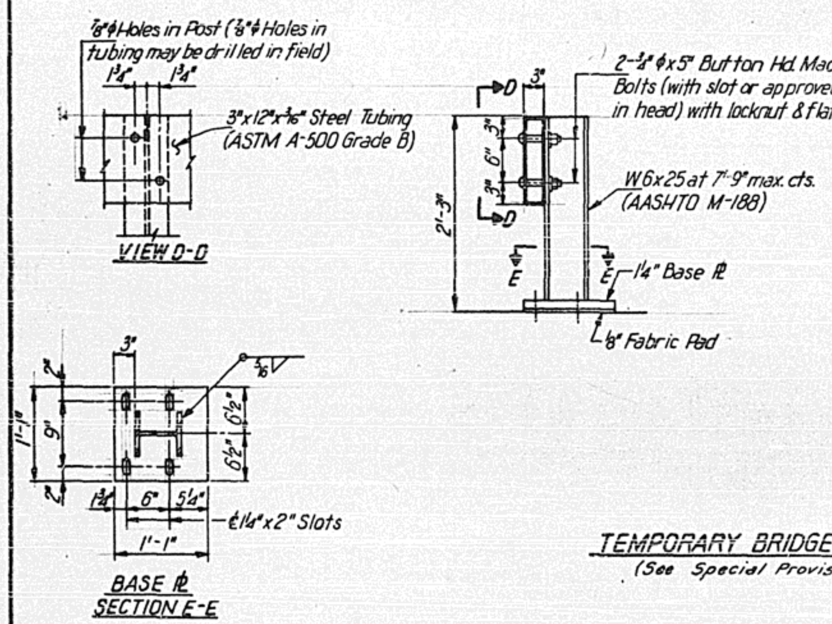
BAR C1 BAR X BARS X1 & X2 BAR c



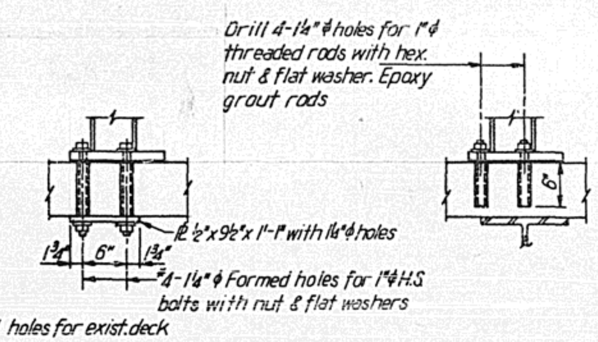
CUT DIAGRAM

BAR	A	B	C	D
a(E)	11'-5"	2'-4"	7'-1"	6'-8"
a1	11'-5"	2'-4"	7'-1"	6'-8"
a4(E)	12'-6"	1'-0"	6'-11"	6'-7"
a5	12'-6"	1'-0"	6'-11"	6'-7"
a7(E)	16'-9"	2'-4"	2'-4"	16'-9"
a8	16'-9"	2'-4"	2'-4"	16'-9"
a11(E)	18'-0"	1'-0"	1'-0"	18'-0"
a12	18'-0"	1'-0"	1'-0"	18'-0"
a13(E)	11'-5"	1'-0"	6'-5"	6'-0"
a14	11'-5"	1'-0"	6'-5"	6'-0"
a15(E)	17'-9"	1'-0"	1'-0"	17'-9"
a16	17'-9"	1'-0"	1'-0"	17'-9"
a19(E)	16'-9"	1'-0"	1'-0"	16'-9"
a20	16'-9"	1'-0"	1'-0"	16'-9"

Order bars full length, cut to fit as shown and use remainder of bars as indicated on the plans.



TEMPORARY BRIDGE RAIL DETAILS
(See Special Provisions)



ANCHORAGE DETAILS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	21
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

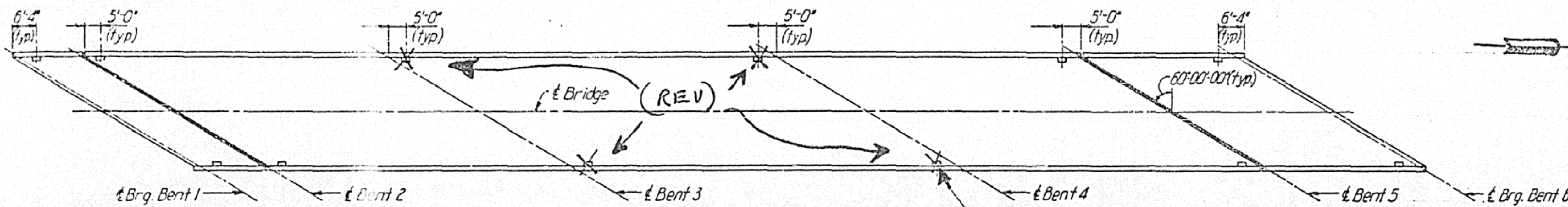
BILL OF MATERIALS

BAR	No.	SIZE	LENGTH	SHAPE
a(E)	15	#5	13'-9"	—
a1	10	#5	13'-9"	—
a2(E)	37	#5	11'-4"	—
a3	24	#5	11'-4"	—
a4(E)	42	#5	13'-6"	—
a5	28	#5	13'-6"	—
a6 E	706	#6	4'-0"	—
a7(E)	48	#5	19'-1"	—
a8	32	#5	19'-1"	—
a9(E)	550	#5	18'-0"	—
a10	367	#5	18'-0"	—
a11(E)	59	#5	19'-0"	—
a12	40	#5	19'-0"	—
a13(E)	20	#5	12'-5"	—
a14	13	#5	12'-5"	—
a15(E)	59	#5	18'-9"	—
a16	40	#5	18'-9"	—
a17(E)	550	#5	17'-9"	—
a18	367	#5	17'-9"	—
a19(E)	56	#5	17'-9"	—
a20	37	#5	17'-9"	—
a21(E)	128	#5	2'-0"	—
b(E)	39	#5	20'-1"	—
b1	36	#5	20'-1"	—
b2(E)	350	#5	29'-11"	—
b3	396	#5	27'-4"	—
b4(E)	68	#6	37'-6"	—
b5(E)	78	#5	23'-9"	—
b6	72	#5	23'-9"	—
b7(E)	6	#5	34'-0"	—
b8	2	#5	34'-0"	—
b9	20	#5	10'-6"	—
b10	30	#5	11'-6"	—
b11(E)	6	#5	35'-6"	—
b12	2	#5	35'-6"	—
b13(E)	4	#8	20'-1"	—
b14(E)	24	#8	26'-3"	—
b15(E)	8	#8	21'-2"	—
b16(E)	12	#8	28'-9"	—
b17(E)	24	#5	25'-9"	—
b18(E)	12	#5	28'-3"	—
b19(E)	16	#8	14'-9"	
b20(E)	16	#5	14'-9"	
c(E)	714	#5	3'-5"	⌐_
c1	714	#5	2'-11"	L
x(E)	180	#6	4'-2"	⌐
x1	60	#6	2'-2"	⊔
x2	120	#6	2'-4"	⊔
Superstructure Removal			Each	1
Class X Concrete			Cu. Yds.	317.6
Reinf. Bars Epoxy coated			Lbs.	53,410
Reinforcement Bars			Lbs.	39,150

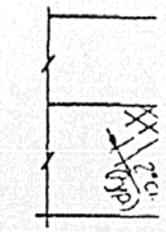
REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
DECK DETAILS I
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

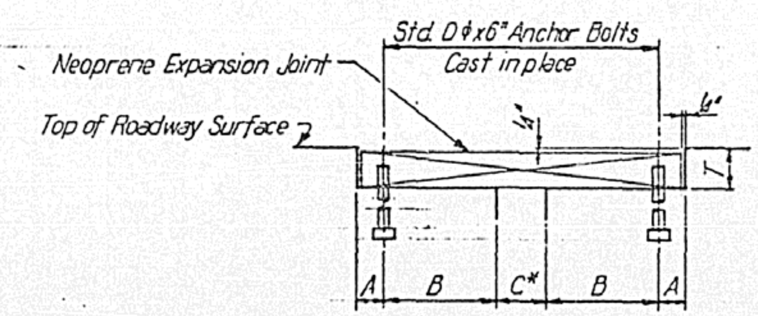
SCALE: VERT. HORIZ. NONE
DRAWN BY K.C.
DATE
CHECKED BY J.P.



DECK DRAIN LOCATION PLAN



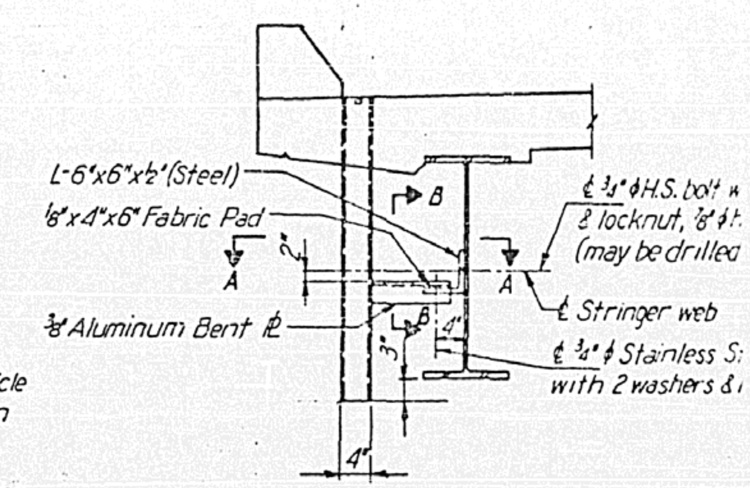
NEOPRENE EXPANSION JOINTS (See Special Provisions) *#02*												
SUPPLIER	2" JOINT (~~[illegible]~~ BENTS 1, 5, 6						4" JOINT (BENTS ~~[illegible]~~					
	MODEL	A	B	C	D	T	MODEL	A	B	C	D	T
GENERAL TIRE COMPANY	TRANSFLEX 200 A	1⅛"	3⅛"	2"	½"	1¹³⁄₁₆"	TRANSFLEX 400-A	1¹³⁄₁₆"	8¹⁄₁₆"	3½"	¾"	2⅜"
WATSON BOWMAN ASSOC., INC.	WABOFLEX SR 2	1¼"	3⅛"	2"	½"	1¹³⁄₁₆"	WABOFLEX SR-4	1¹³⁄₁₆"	8¹⁄₁₆"	3½"	¾"	2⅜"



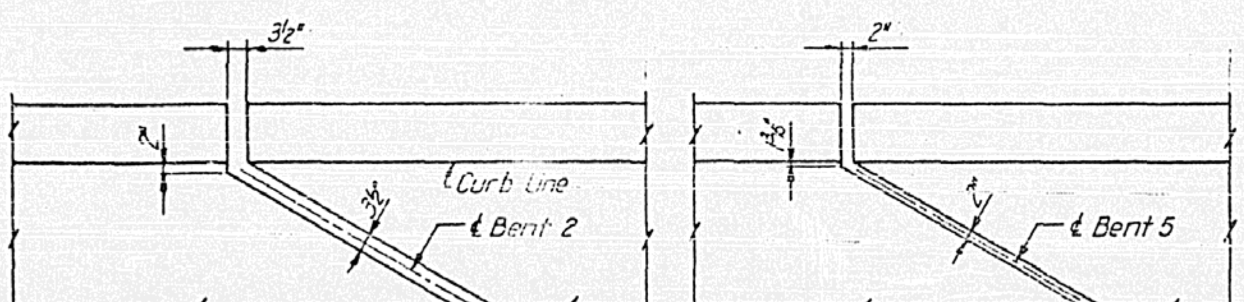
CROSS SECTION

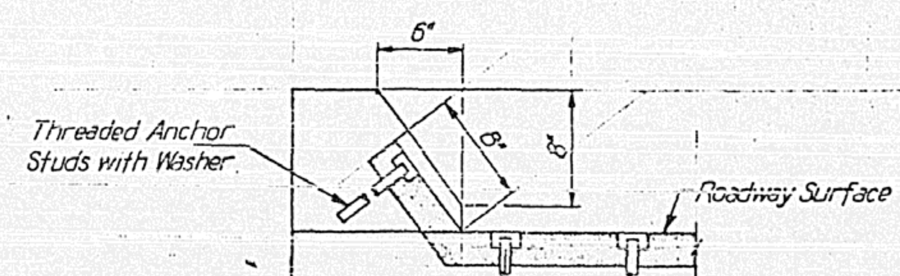
*At 50° F.
Dimensions are at right angles

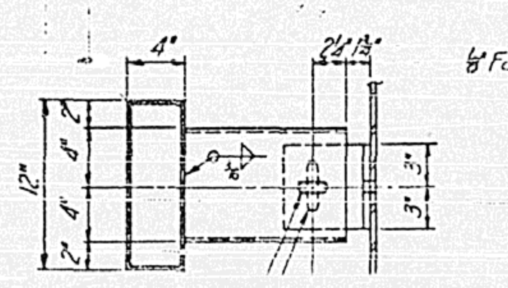
Note:
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Std. Spec's. when the deck is poured at an ambient temperature other than 50°



SECTION AT CURB



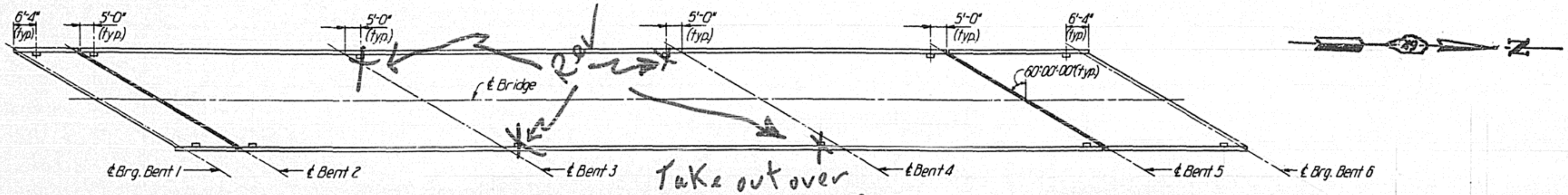




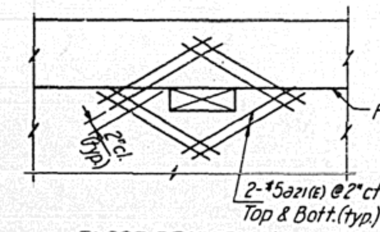
F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
840	122 VBR	VERMILION	39	22

STA. 850+55 TO STA. 865+55

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT



DECK DRAIN LOCATION PLAN

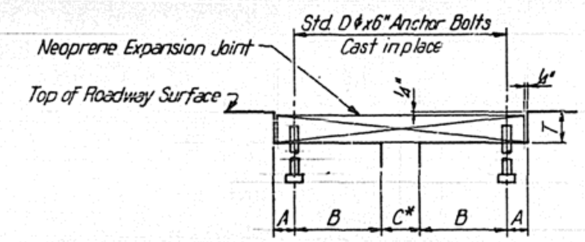


FLOOR DRAIN PLAN

Showing additional reinforcing

SUPPLIER	2" JOINT (BENT 5) $ 1 & 6						4" JOINT (BENTS 2 & 6)					
	MODEL	A	B	C	D	T	MODEL	A	B	C	D	T
GENERAL TIRE COMPANY	TRANSFLEX 200 A	1⅛"	3 5/16"	2"	½"	1 13/16"	TRANSFLEX 400-A	1 13/16"	8 1/16"	3½"	¾"	2⅜"
WATSON BOWMAN ASSOC., INC.	WABOFLEX SR 2	1¼"	3 3/16"	2"	½"	1 13/16"	WABOFLEX SR-4	1 13/16"	8 1/16"	3½"	¾"	2⅜"

NEOPRENE EXPANSION JOINTS (See Special Provisions)

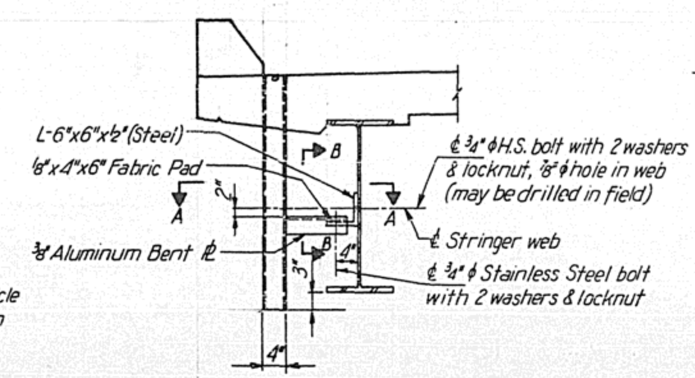


CROSS SECTION

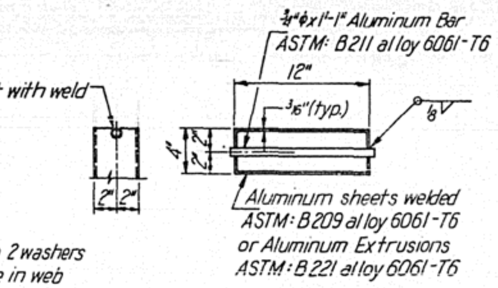
*At 50° F.

Dimensions are at right angles

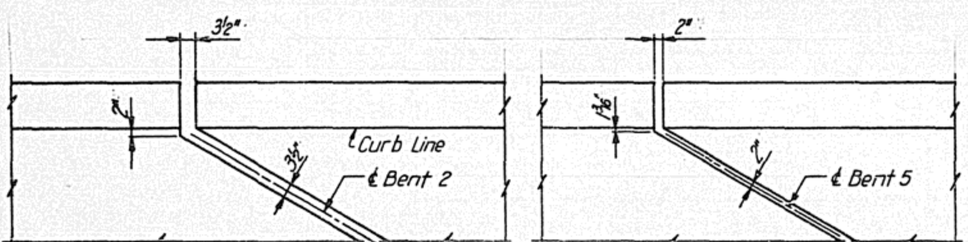
Note: Joint openings shall be adjusted in accordance with Article 503.07(c) of the Std. Spec's when the deck is poured at an ambient temperature other than 50°



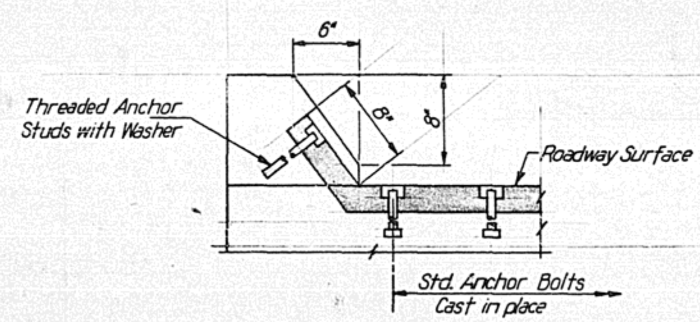
SECTION AT CURB



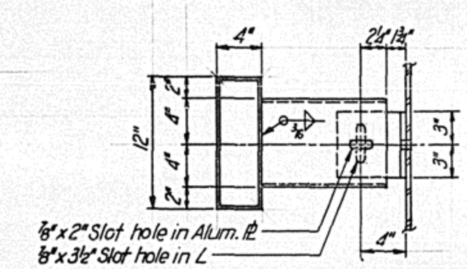
TOP PLAN



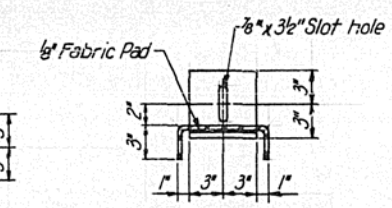
JOINT DETAILS



CURB END TREATMENT



SECTION A-A



SECTION B-B

DECK DRAIN DETAILS

Note: The exterior surface of the aluminum drains shall be cleaned and given a washcoat pretreatment in accordance with the Steel Struct. Painting Council's Spec. SSPC-SP1 & SSPC-PT3 followed by painting with the Basic Lead Silico Chromate paint system specified in Art. 712.28 of the Standard Specifications, except the final field coat shall be maroon. See Special Provisions.

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

DECK DETAILS II

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

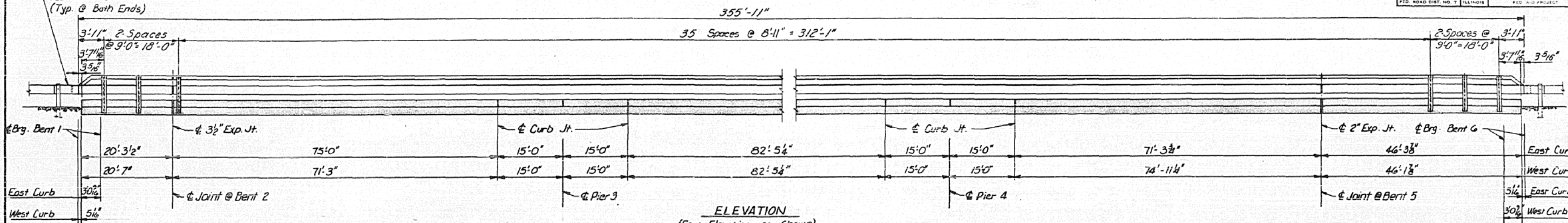
SCALE: VERT. HORIZ. NONE

DATE

DRAWN BY K.C.

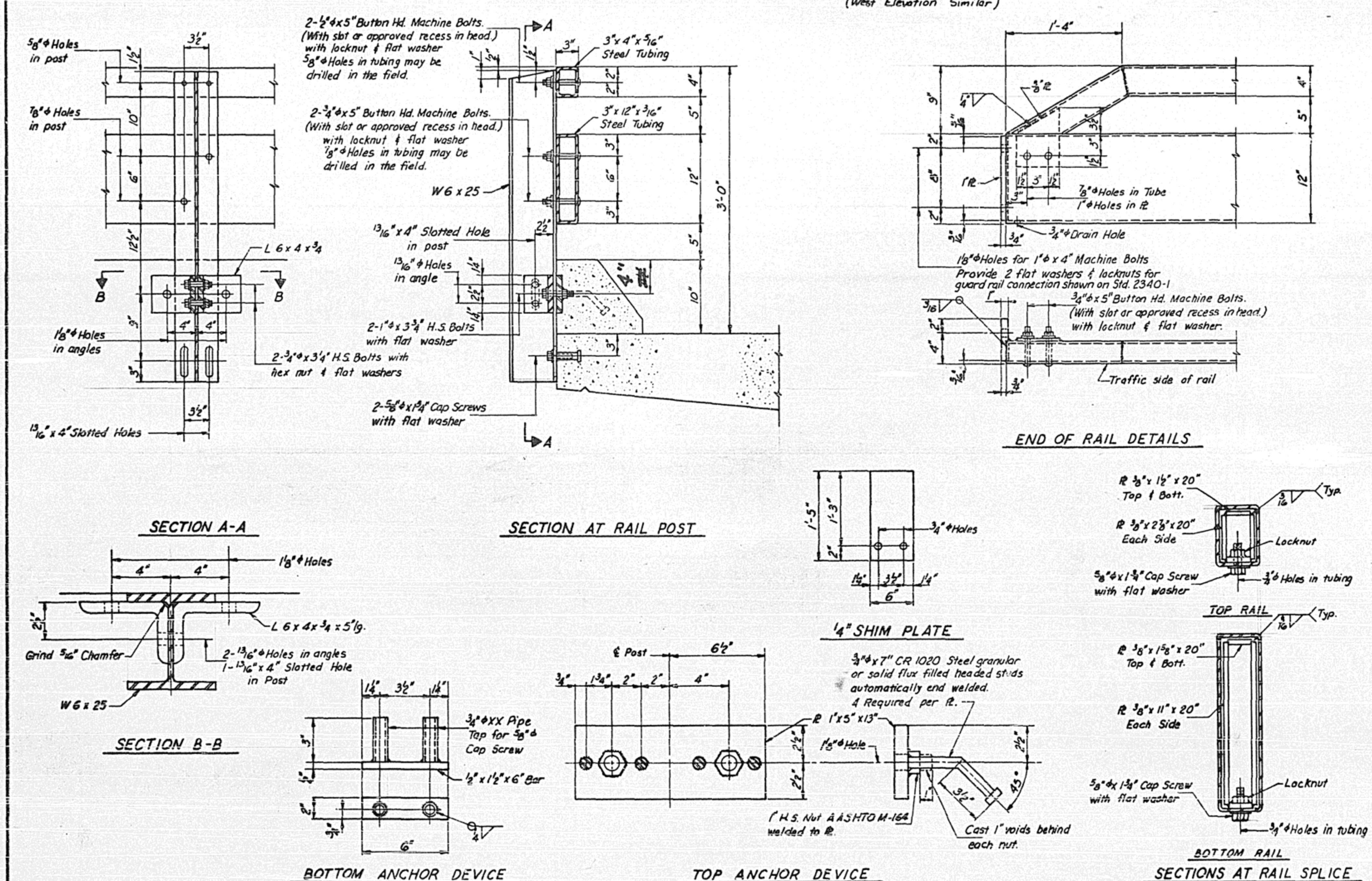
CHECKED BY J.P.

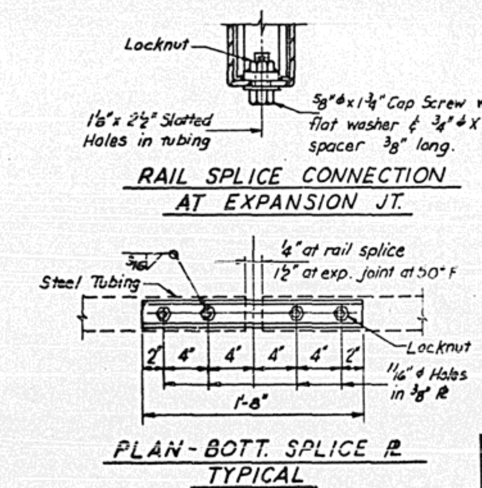
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	31	23
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



ELEVATION

(East Elevation as Shown)
(West Elevation Similar)





NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B or A-501 Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. M-183 except posts & angles shall conform to A.A.S.H.T.O. M-223 Grade 50

Bolts, cap screws, and nuts shall conform to the requirement of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE T.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place ⅛" fabric bearing pad between the post and concrete.

The ¾"φ high strength bolts used to connect the 6 x 4 x ¾ angles to the post shall be tightened in accordance with Article 507.04(g)(3) of the Standard Specifications. The 1"φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional ⅛ turn.

For multi-span bridges, sufficient ¼" x 6" x 1'-5" galvanized steel shims shall be provided to align rail between adjacent spans Cost incidental to Steel Railing.

For reinforcement in curb see Sheet No.7

BILL OF MATERIAL

Item	Unit	
Steel Railing, Type T	Lin.Ft.	712

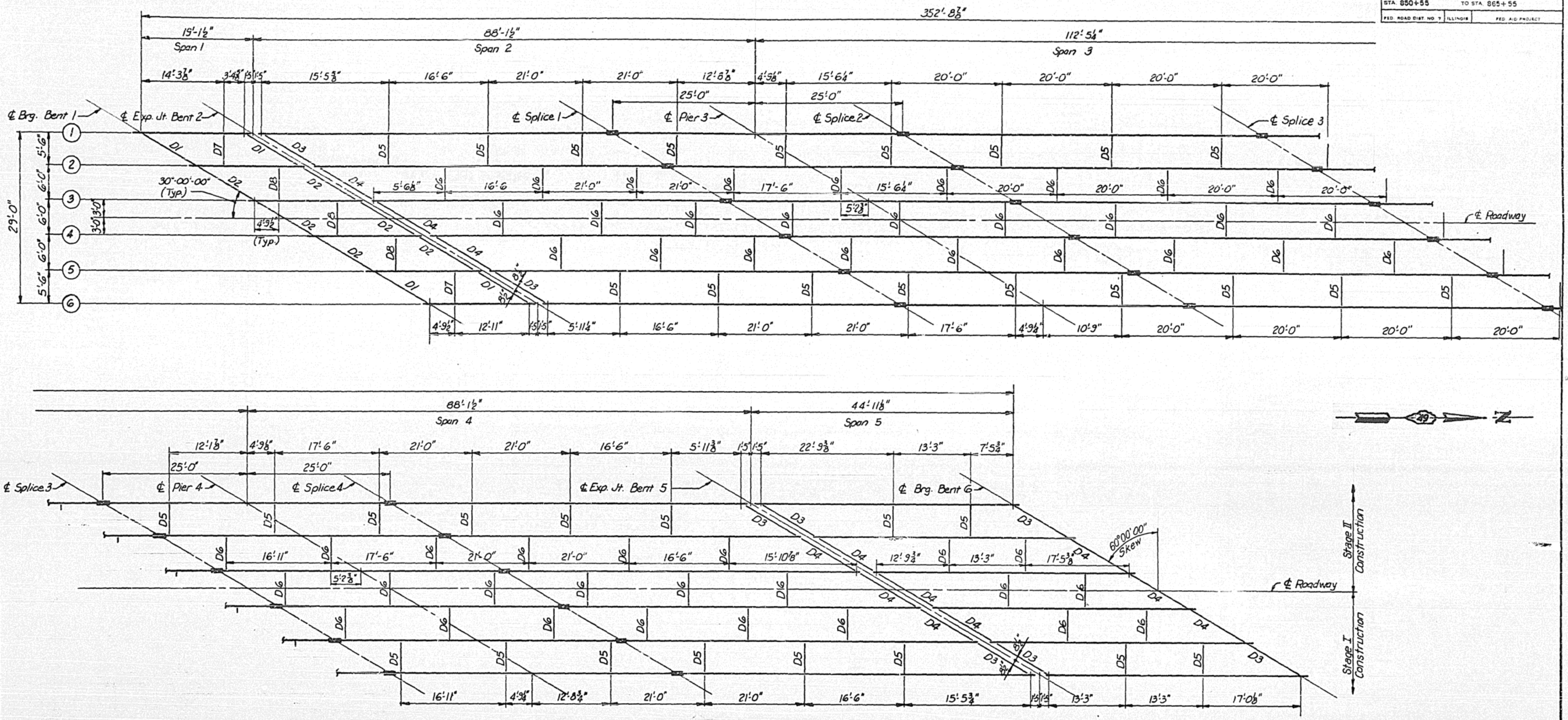
REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

HANDRAIL DETAILS
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. NONE
DATE
DRAWN BY E.M.T.
CHECKED BY J.P.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	24
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



NOTE: THE CONNECTION OF ALL DIAPHRAMS BETWEEN BEAMS 3 & 4 SHALL NOT BE TIGHTENED UNTIL THE DECK SLAB HAS BEEN COMPLETED FOR BOTH STAGES.

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

FRAMING PLAN

F.A.P. ROUTE 840 (ILL. 49)

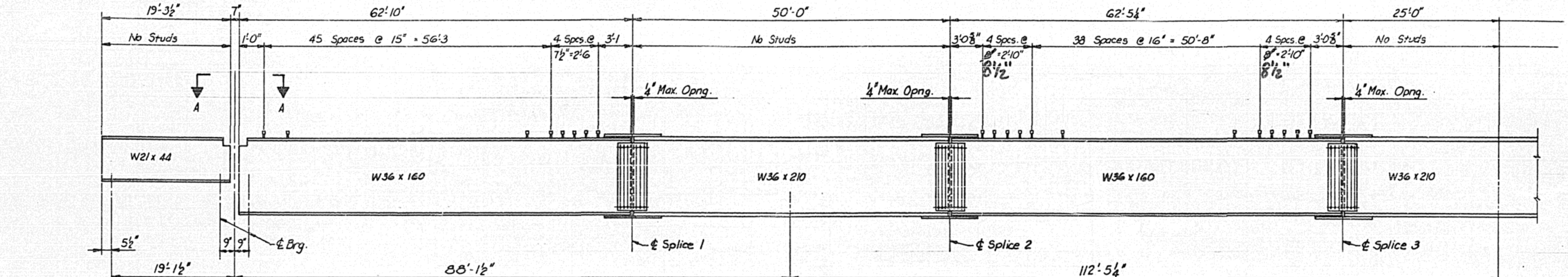
SECTION 122 VBR

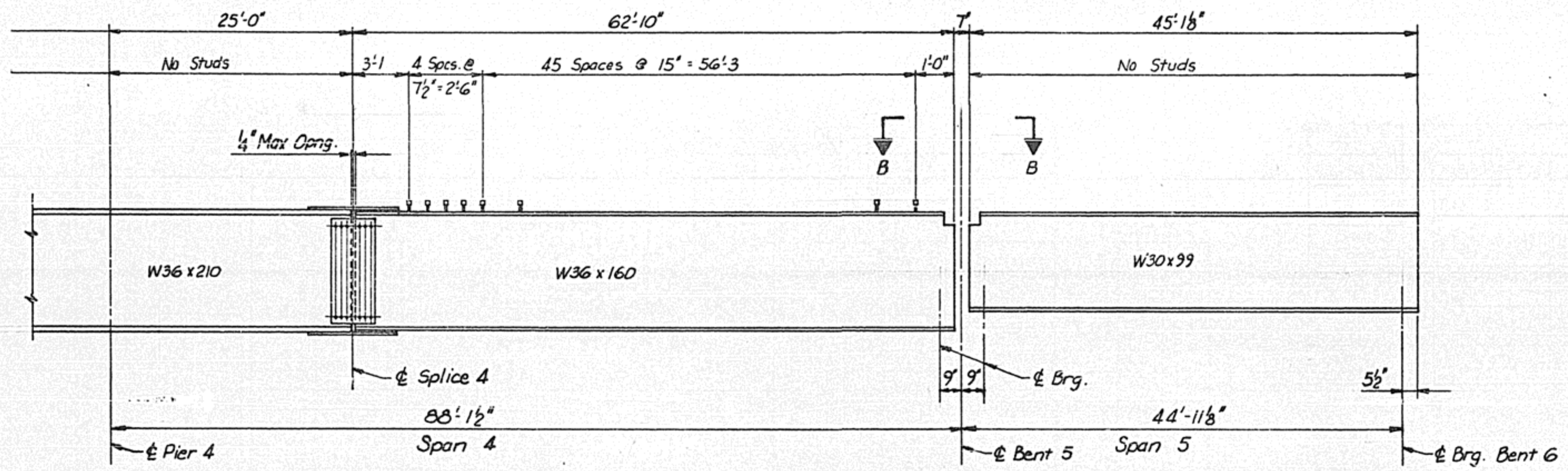
VERMILION COUNTY

SCALE: VERT. HORIZ. ⅛"=1'-0" DRAWN BY E.M.T.

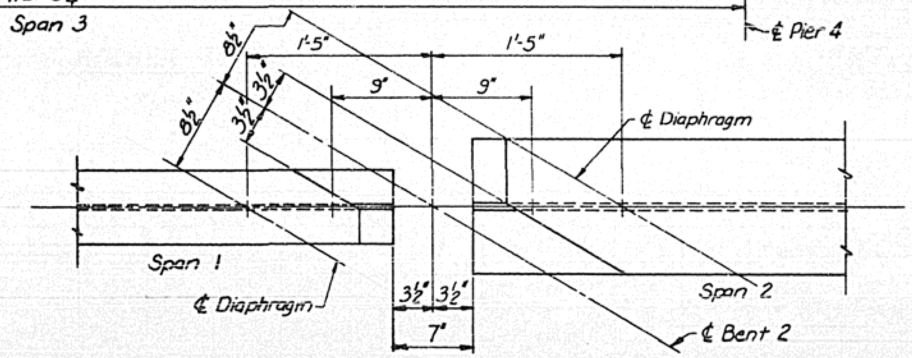
DATE CHECKED BY J.P.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	25
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

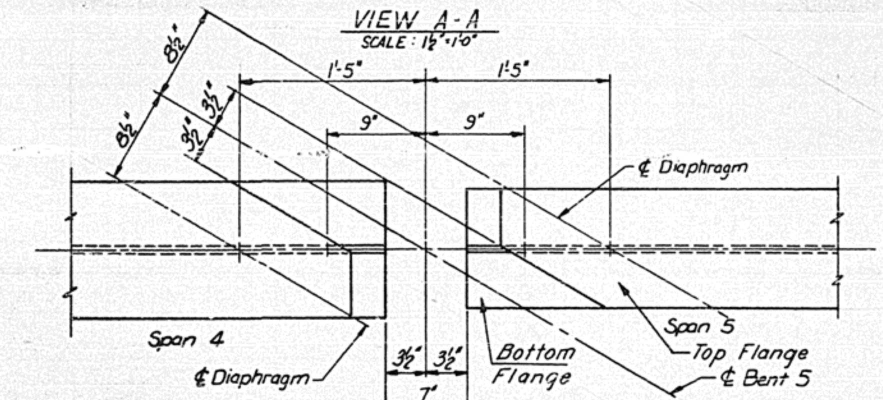




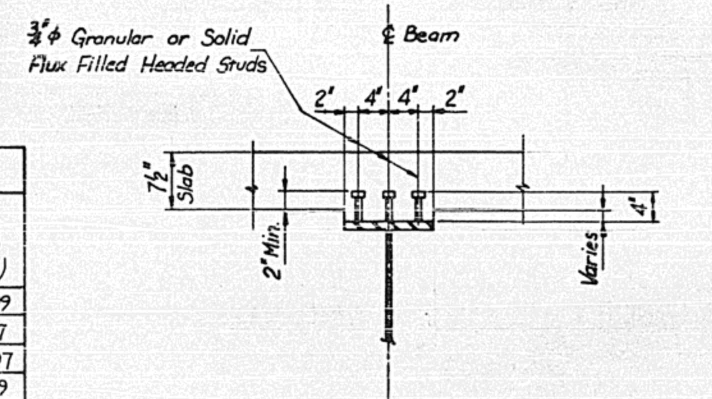
TYPICAL BEAM ELEVATION
SCALE: NONE



VIEW A-A
SCALE: 1½" = 1'-0"



VIEW B-B



STUD SHEAR CONNECTOR DETAILS

TOP OF FLANGE ELEVATIONS												
Beam	℄ Brg. Bent 1 (S. Abut.)	℄ Brg. Bent 2 Span 1	℄ Brg. Bent 2 Span 2	℄ Splice 1	℄ Brg. Pier 3	℄ Splice 2	℄ Splice 3	℄ Brg. Pier 4	℄ Splice 4	℄ Brg. Bent 5 Span 4	℄ Brg. Bent 5 Span 5	℄ Brg. Bent 6 (N. Abut.)
1	783.837	783.917	783.923	784.011	784.022	784.032	784.129	783.906	783.685	783.392	783.386	783.009
2	783.979	784.052	784.057	784.121	784.123	784.123	783.985	783.875	783.762	783.416	783.410	783.017
3	784.116	784.181	784.185	784.224	784.214	784.206	784.041	783.920	783.798	783.425	783.419	783.007
4	784.154	784.212	784.216	784.228	784.209	784.189	783.999	783.867	783.735	783.335	783.329	782.899
5	784.095	784.144	784.148	784.134	784.104	784.074	783.858	783.715	783.572	783.148	783.141	782.693
6	784.023	784.066	784.069	784.031	783.993	783.952	783.712	783.561	783.408	782.959	782.952	782.487

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

FRAMING DETAILS I

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

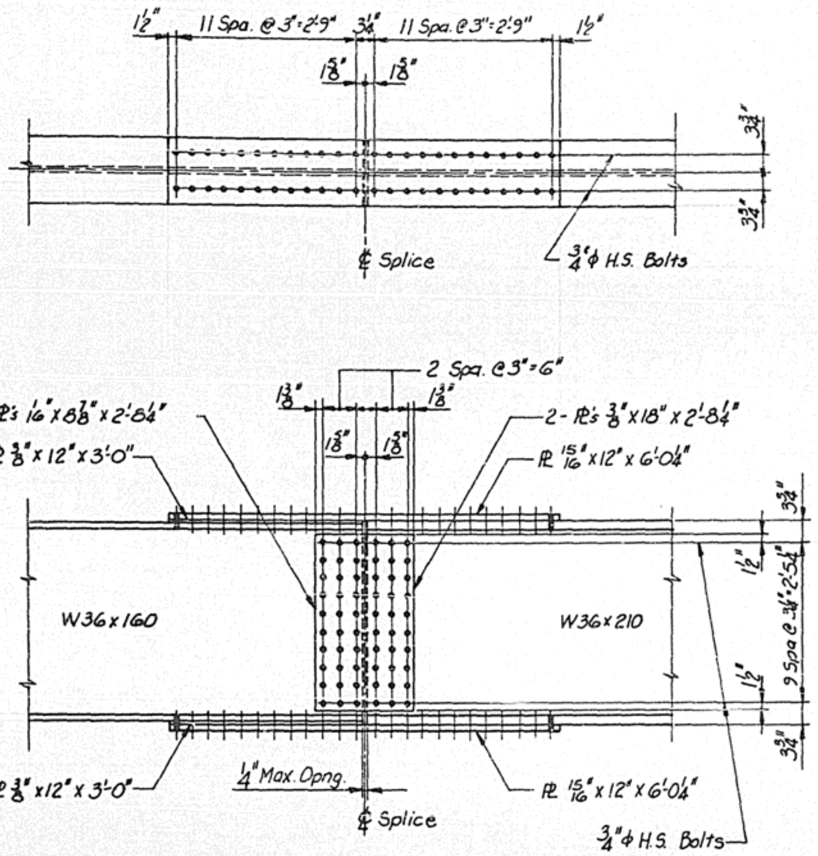
SCALE: VERT. HORIZ. AS SHOWN

DRAWN BY E.M.T.

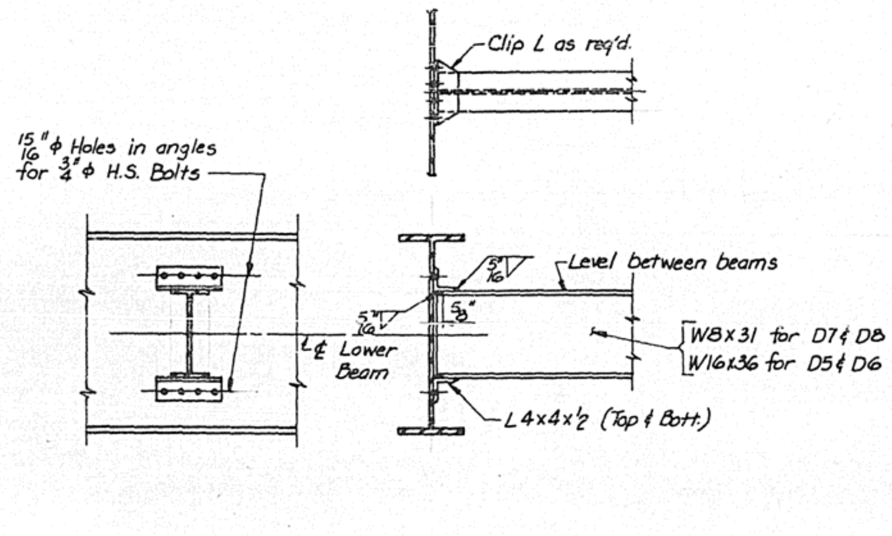
DATE

CHECKED BY J.P.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	26
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

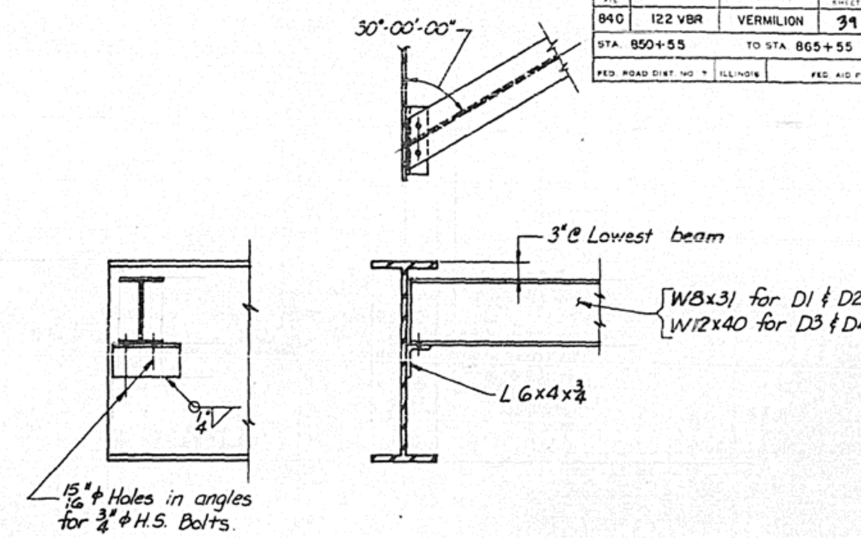


TYPICAL SPLICE DETAIL



TYPICAL INTERIOR DIAPHRAGM DETAIL

34	D5	Required
51	D6	Required
2	D7	Required
3	D8	Required



TYPICAL END DIAPHRAGM DETAIL

4	D1	Required
6	D2	Required
8	D3	Required
12	D4	Required

Note:
Hardened washers shall be required over 15/16" φ holes in the angles.

INTERIOR BEAM MOMENT TABLE

	0.5 Sp. 1	0.4 Sp. 2	PIER 3	0.5 Sp. 3	PIER 4	0.6 Sp. 4	0.5 Sp. 5
Is (in^4)	843	9750	13200	9750	13200	9750	3990
Ic (in^4)		23107		23107		23107	
Ss (in^3)	81.6	542	719	542	719	542	269
[illegible] (in^3)		757		757		757	
D (k/l)	0.817	0.772	0.772	0.772	0.772	0.772	0.880
M D ('k)	46.05	474.14	1093.09	501.68	1101.75	483.30	277.94
Fs non comp. (ksi)	6.77	10.49	18.24	11.10	18.38	10.70	12.40
S. D (k/l)		0.193	0.193	0.193	0.193	0.193	
Ms D ('k)		138.55	220.73	176.53	222.26	141.08	
M LL ('k)	176.09	1282.62	1049.14	1436.67	1052.68	1291.94	617.39
M Imp ('k)	52.82	301.43	233.96	303.16	234.76	303.59	182.11
TOTAL M comp ('k)	228.91	1722.60	1503.83	1916.36	1509.28	1736.61	799.11
fs comp (ksi)	33.66	27.31	25.10	30.38	25.19	27.53	35.65
fs TOTAL (ksi)	40.43	37.80	43.34	41.48	43.57	38.23	48.05
VR (k)		42.30		40.0		42.3	

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs TOTAL

Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs TOTAL

VR is the maximum LL + Impact shear range in span used to determine shear connector spacing.

Load factors 1.3 [D.L. + 5/3 L.L.] have been used to compute moments.

INTERIOR BEAM REACTION TABLE

	BENT 1	BENT 2			PIER 3	PIER 4	BENT 5			BENT 6
		SPAN 1	SPAP 2	TOTAL MAX			SPAN 4	SPAN 5	TOTAL MAX.	
R D	5.81	5.81	23.96	29.77	86.94	87.29	24.18	15.14	39.32	15.14
R S. D	1.80	1.80	6.42	8.22	21.19	21.27	6.47	4.25	10.72	4.25
R LL	21.75	21.75	38.11	38.11	57.40	57.48	37.94	30.92	37.94	30.92
R Imp	6.53	6.53	8.99	8.99	12.80	12.82	8.96	9.15	8.96	9.15
R TOTAL	35.89	35.89	77.48	85.09	178.33	178.86	77.55	59.46	96.94	59.46

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

FRAMING DETAILS II

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

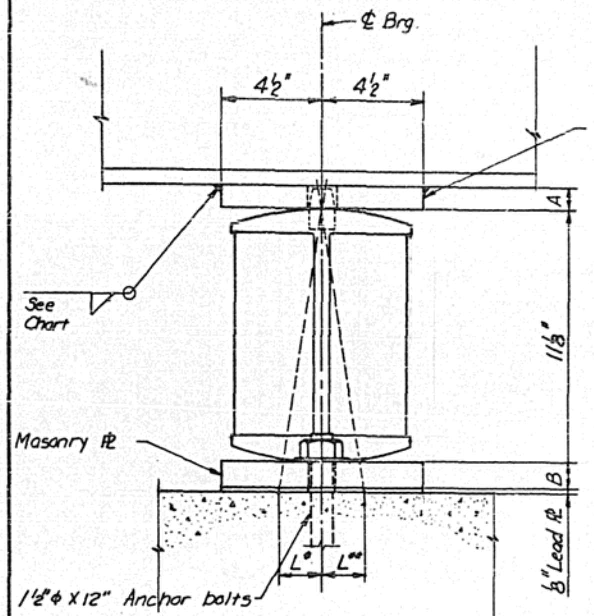
SCALE: VERT. HORIZ. NONE

DATE

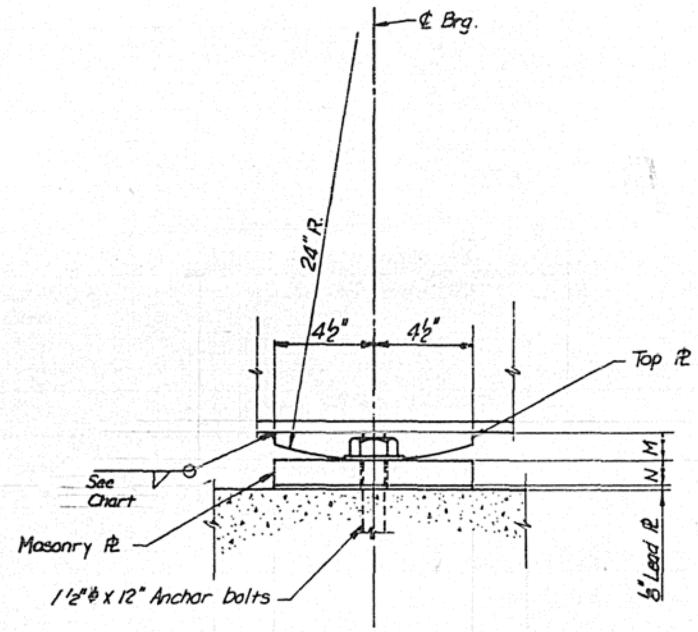
DRAWN BY E.M.T.

CHECKED BY J.P.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	27
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



ELEVATION



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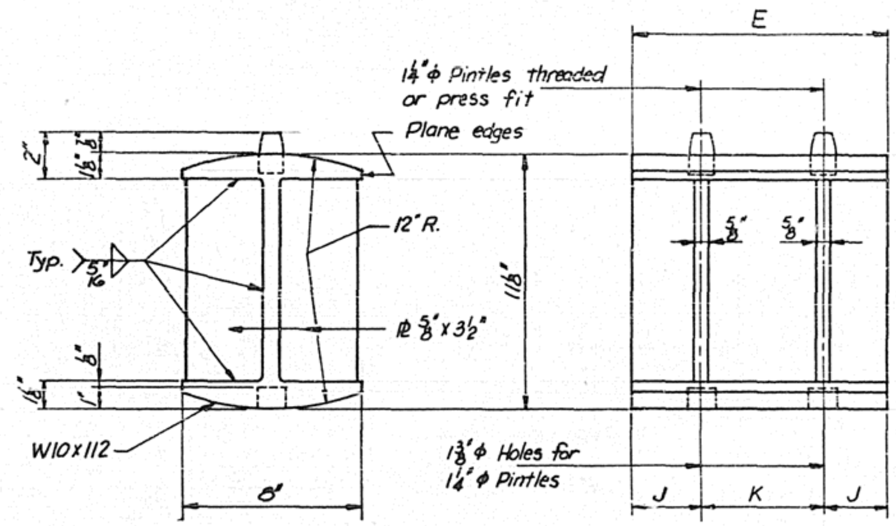
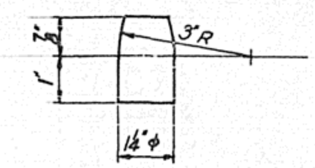
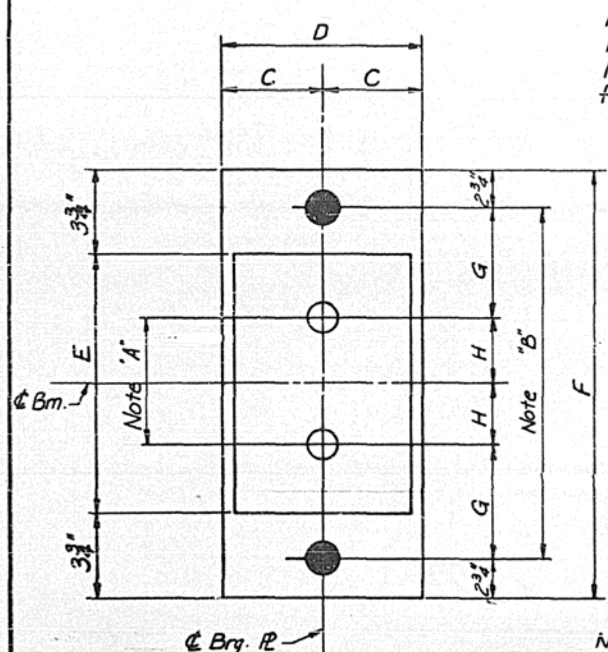


ROCKER DETAIL



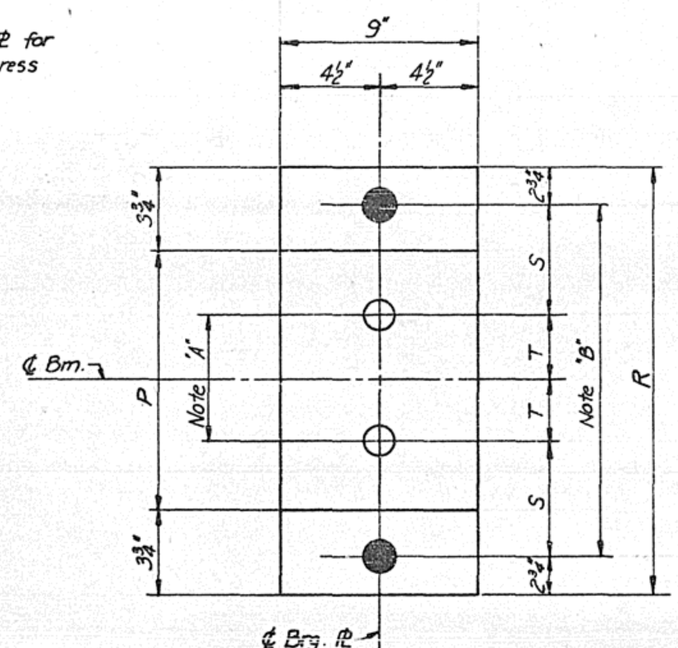
PINTLE



PLAN

Note "A"
1⅜"φ Holes - 1" deep in top PL for 1¼"φ Pintles. Thread or press fit pintles in bottom PL.

Note "B"
2"φ Holes for 1½"φ Anchor Bolts.
⅝" x 3" x 3" PL Washers under nut



PLAN

EXPANSION BEARING

FIXED BEARING

EXPANSION BEARINGS													
LOCATION	MASONRY PL	TOP PL	A	B	C	D	E	F	G	H	J	K	WELD
Bent 2 Span 1	PL 1¼" x 9" x 15"	PL 1" x 9" x 7½"	1"	1¼"	4½"	9"	7½"	17"	4"	1¾"	2"	3½"	⅜"
Bent 2 Span 2	PL 1⅜" x 10" x 21"	PL 1" x 9" x 13½"	1"	1⅜"	5"	10"	13½"	23"	5½"	3¼"	3½"	6½"	⅝"
Pier 3	PL 2⅛" x 10" x 21"	PL 1⅞" x 9" x 13½"	1⅞"	2⅛"	5"	10"	13½"	23"	5½"	3¼"	3½"	6½"	⅝"
Bent 5 Span 4	PL 1⅜" x 10 x 21"	PL 1" x 9" x 13½"	1"	1⅜"	5"	10"	13½"	23"	5½"	3¼"	3½"	6½"	⅝"
Bent 5 Span 5	PL 1¼" x 9" x 19"	PL 1" x 9" x 11½"	1"	1¼"	4½"	9"	11½"	21"	5"	2¾"	3"	5½"	½"

FIXED BEARINGS									
LOCATION	MASONRY PL	TOP PL	M	N	P	R	S	T	WELD
Bent 1	PL 1¼" x 9" x 15"	PL 1" x 9" x 7½"	1"	1¼"	7½"	17"	4"	1¾"	⅜"
Pier 4	PL 2⅛" x 9" x 21"	PL 1⅞" x 9" x 13½"	1⅞"	2⅛"	13½"	23"	5½"	3¼"	⅝"
Bent 6	PL 1¼" x 9" x 19"	PL 1" x 9" x 11½"	1"	1¼"	11½"	21"	5"	2¾"	½"

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

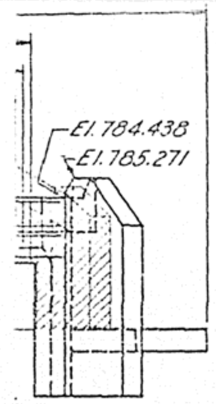
a) L* (Side of brg. away from fixed brg.) L* = ⅛" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.
L** (Side of brg. toward fixed brg.) L** = ⅛" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.

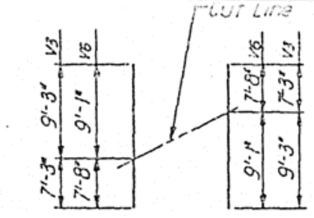
b) After beams have been erected and dimensions L* or L** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

REVISIONS	
NAME	DATE

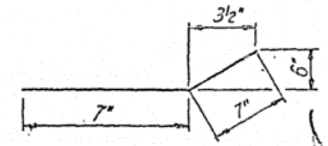
ILLINOIS DIVISION OF HIGHWAYS
BEARING DETAILS
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. NONE
DATE
DRAWN BY E.M.T.
CHECKED BY J.P.



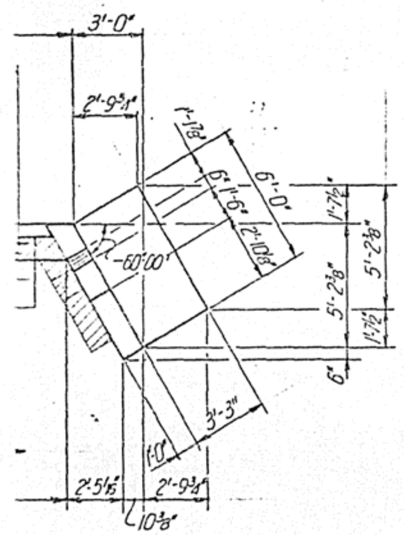


BARS V3 & V5



BAR V1

(REV.)



(REV.) V19

crete removal vertical Reinforcement extending
area shall be cleaned and incorporated
onstruction.

to be poured after superstructure form
removed.

ts shall be anchored in sound concrete.
ges shall have standard ¾" chamfers.
l Details see Sht. No.17

STA. 850+55	TO STA. 665+55
FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT

Sheet 28 A

BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
h	8	#5	30'-6"	—
h1	8	#5	35'-6"	—
h2	6	#4	4'-6"	—
h3	6	#4	5'-1"	—
h4	~~8~~ 4	#4	7'-3"	—
h5	~~8~~ 4	#4	6'-0"	—
h6	1	#4	5'-2"	—
h7	1	#4	3'-6"	—
h8	2	#4	5'-5"	—
h9	6	#4	7'-3"	⌋
h10	6	#4	5'-9"	—
h11	1	#4	6'-3"	⌋
h12	1	#4	4'-9"	—
h13	2	#4	4'-3"	—
h14	12	#4	2'-11"	—
h15	12	#4	3'-11"	—
h18	30	#4	1'-8"	—
h19	2	#4	2'-8"	⌝
h20	2	#4	2'-3"	⌝
u	65	#5	2'-8"	⊓
u1	65	#5	2'-6"	⊓
v	126	#5	2'-3"	—
v1	65	#5	1'-2"	—
v2	63	#5	2'-6"	—
v3	5	#4	16'-6"	—
v4	2	#4	9'-3"	—
~~v5~~	2	#4	2'-7"	—
v6	4	#4	16'-9"	—
v7	4	#4	9'-1"	—
v8	8	#4	8'-3"	—
v17	2	#4	3'-6"	—
w	4	#4	5'-9"	—
w1	4	#4	6'-10"	—
z	15	#4	6'-9"	⌝
Class X Concrete			Cu. Yds.	13.7
Reinforcement Bars			Lbs.	1990
Expansion Bolts ¾"φ			Each	70
Concrete Removal			Cu. Yds.	5.6

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

BENT 1

F.A.P. ROUTE 840 (ILL. 49)

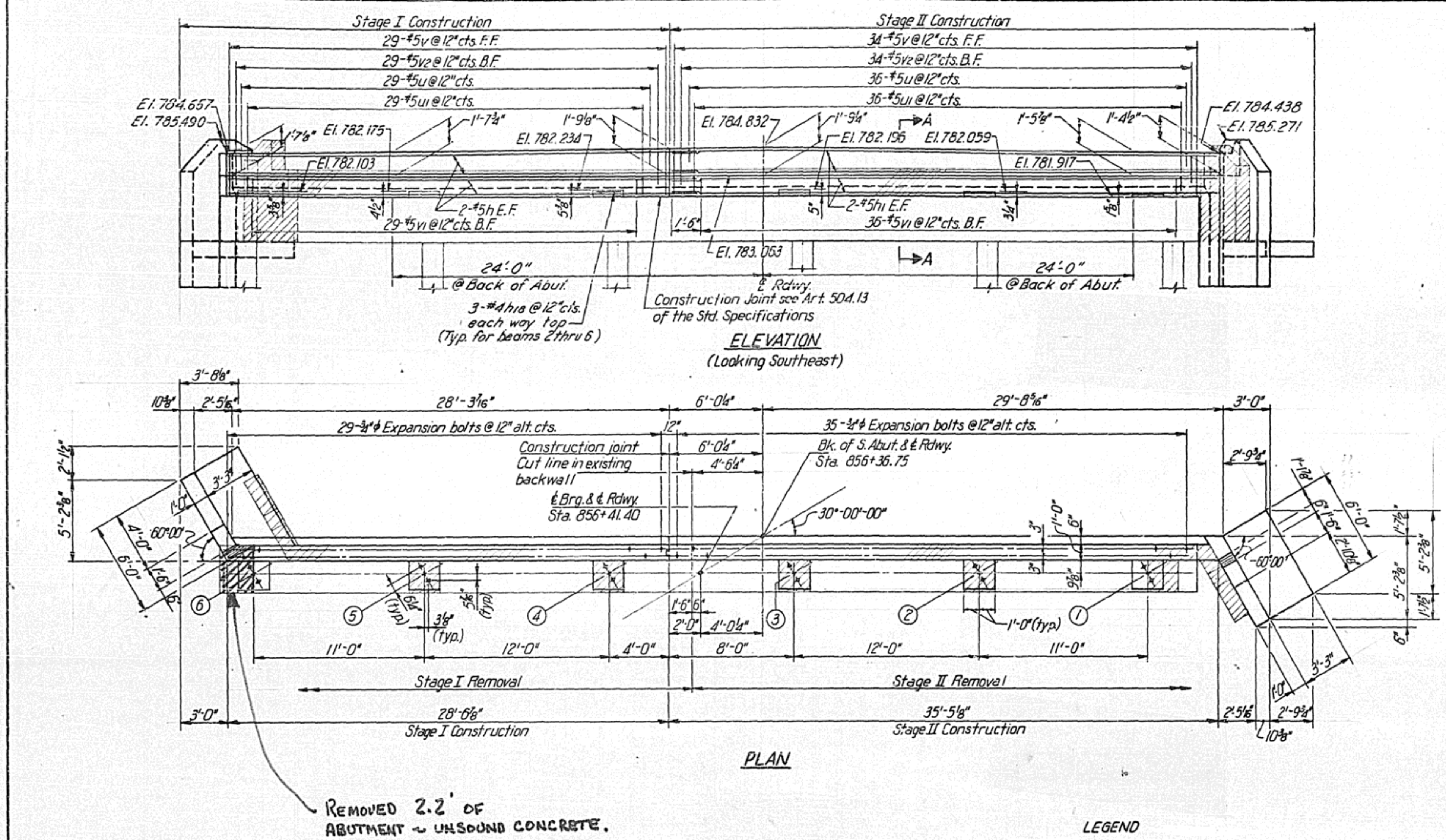
SECTION 122 VBR

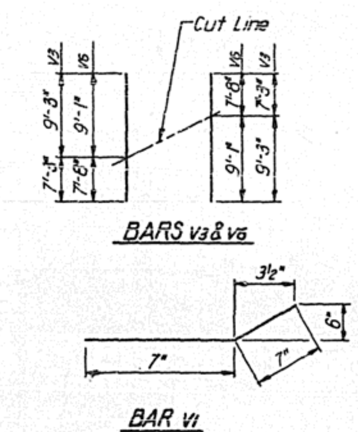
VERMILION COUNTY

SCALE: VERT. HORIZ. ¼" = 1'-0", U.N. DRAWN BY K.C.

DATE CHECKED BY J.P.

F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	28
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



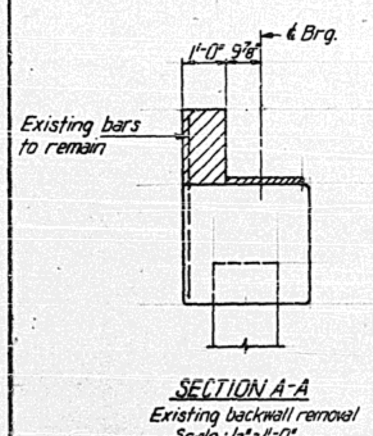


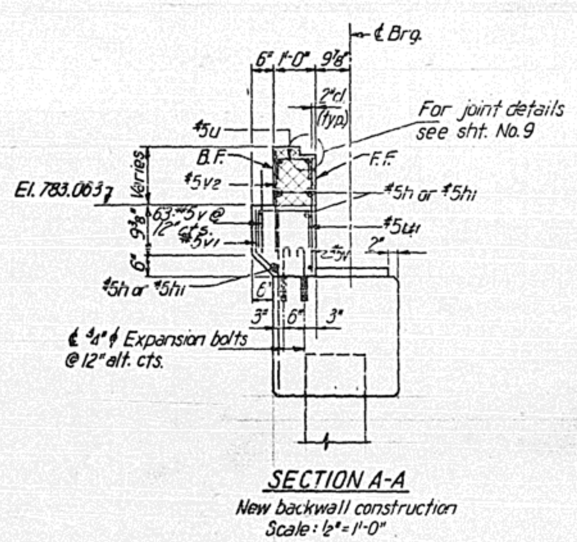
Rev. →

BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
h	8	#5	30'-6"	—
h1	8	#5	35'-6"	—
h2	6	#4	4'-6"	—
h3	6	#4	5'-1"	—
h4	~~5~~ 4	#4	7'-3"	—
h5	~~5~~ 4	#4	6'-0"	—
h6	1	#4	5'-2"	—
h7	1	#4	3'-6"	—
h8	2	#4	5'-5"	—
h9	6	#4	7'-3"	⌐
h10	6	#4	5'-9"	—
h11	1	#4	6'-3"	⌐
h12	1	#4	4'-9"	—
h13	2	#4	4'-3"	—
h14	12	#4	2'-11"	—
h15	12	#4	3'-11"	—
h18	30	#4	1'-8"	—
h19	2	#4	2'-8"	⌐
h20	2	#4	2'-3"	⌐
u	65	#5	2'-8"	⊓
u1	65	#5	2'-6"	⊓
v	126	#5	2'-3"	—
v1	65	#5	1'-2"	—
v2	63	#5	2'-6"	—
v3	5	#4	16'-6"	—
v4	2	#4	9'-3"	—
~~v5~~	2	#4	2'-7"	—
v6	4	#4	15'-9"	—
v7	4	#4	9'-1"	—
v8	8	#4	8'-3"	—
v17	2	#4	3'-6"	—
w	4	#4	5'-9"	—
w1	4	#4	6'-10"	—
z	15	#4	6'-9"	⌐
Class X Concrete			Cu. Yds.	13.7
Reinforcement Bars			Lbs.	1990
Expansion Bolts ¾"φ			Each	70
Concrete Removal			Cu. Yds.	5.6

Rev. V19 →





LEGEND

Indicates concrete removal vertical Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

Indicates area to be poured after superstructure form work has been removed.

NOTES:

Expansion bolts shall be anchored in sound concrete.
All exposed edges shall have standard ¾" chamfers.
For Wing Wall Details see Sht. No. 17

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

BENT 1

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

VERMILION COUNTY

SCALE: VERT. ¼"=1'-0", U.N. HORIZ.

DATE

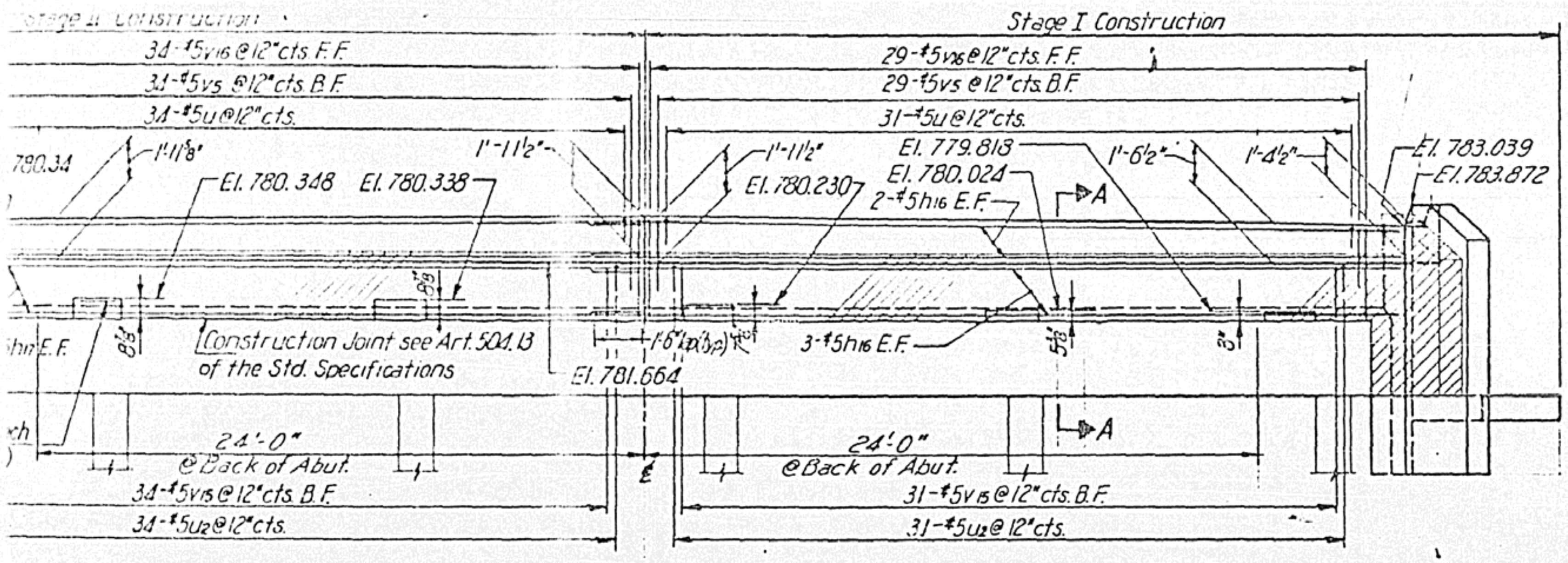
DRAWN BY K.C.

CHECKED BY J.P.

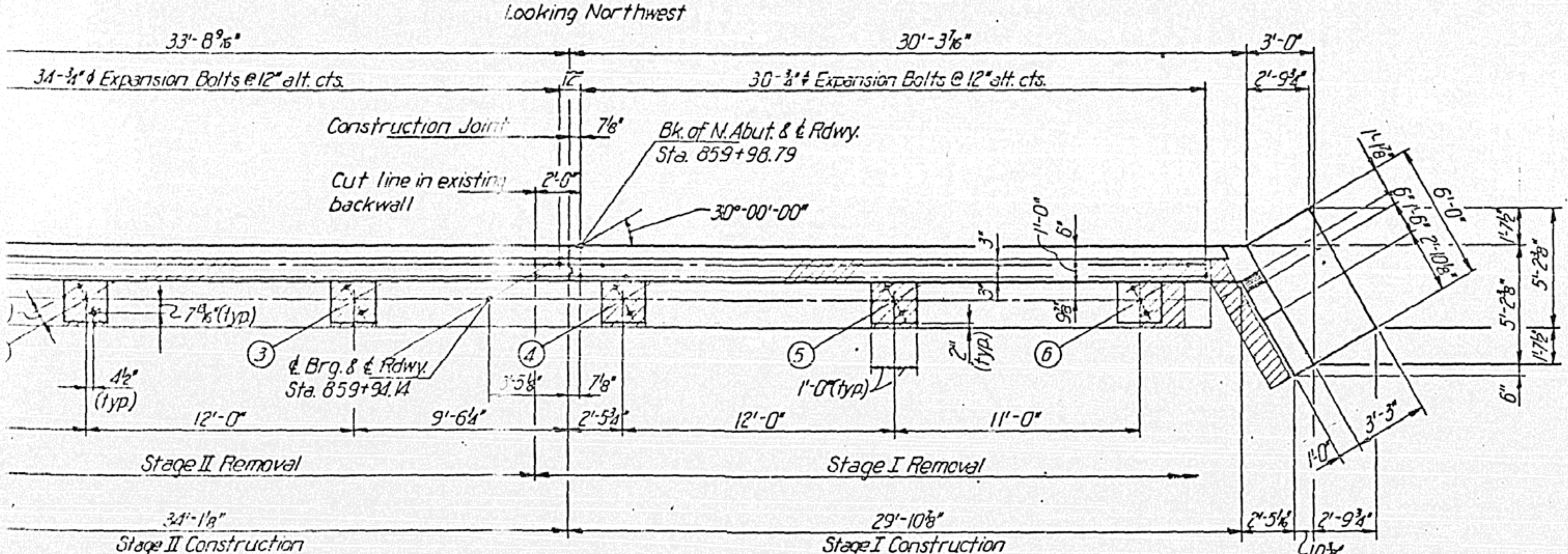
F.A. RTE	SECTION	COUNTY
840	122 VBR	VERMILION

STA. 850+55 TO STA. 865+5

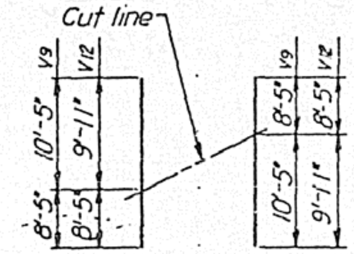
FED. ROAD DIST. NO. 7 | ILLINOIS | FED. A



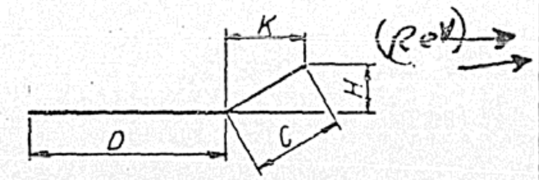
ELEVATION
Looking Northwest



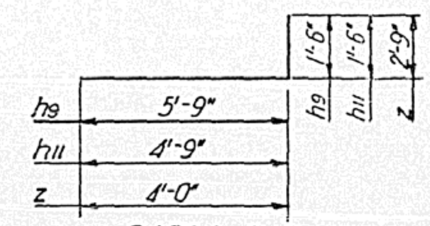
PLAN



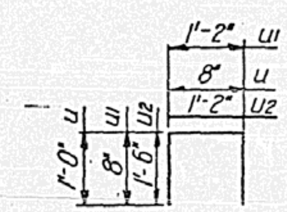
BARS v9 & v12



BAR	C	D	H	K
h4	1'-6"	5'-9"	1'-1½"	9"
h5	1'-6"	3'-8"	1'-1½"	9"
h18	1'-3"	4'-2"	5½"	11"
h13	1'-3"	3'-0"	5½"	11"
h14	1'-6"	1'-5"	1'-1½"	9"
h15	2'-6"	1'-6"	1'-1½"	9"
V15	7"	1'-5"	6"	3½"



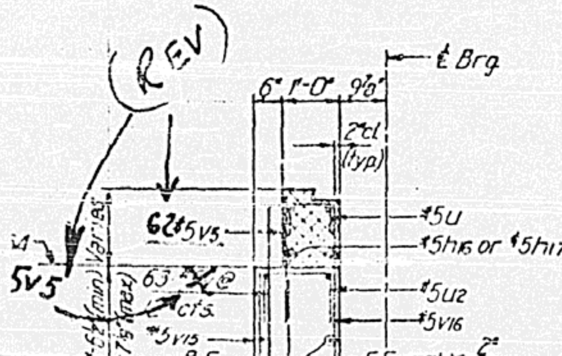
BARS h9, h11 & z



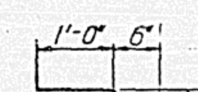
BARS u, u1 & u2

BILL OF MATERIAL

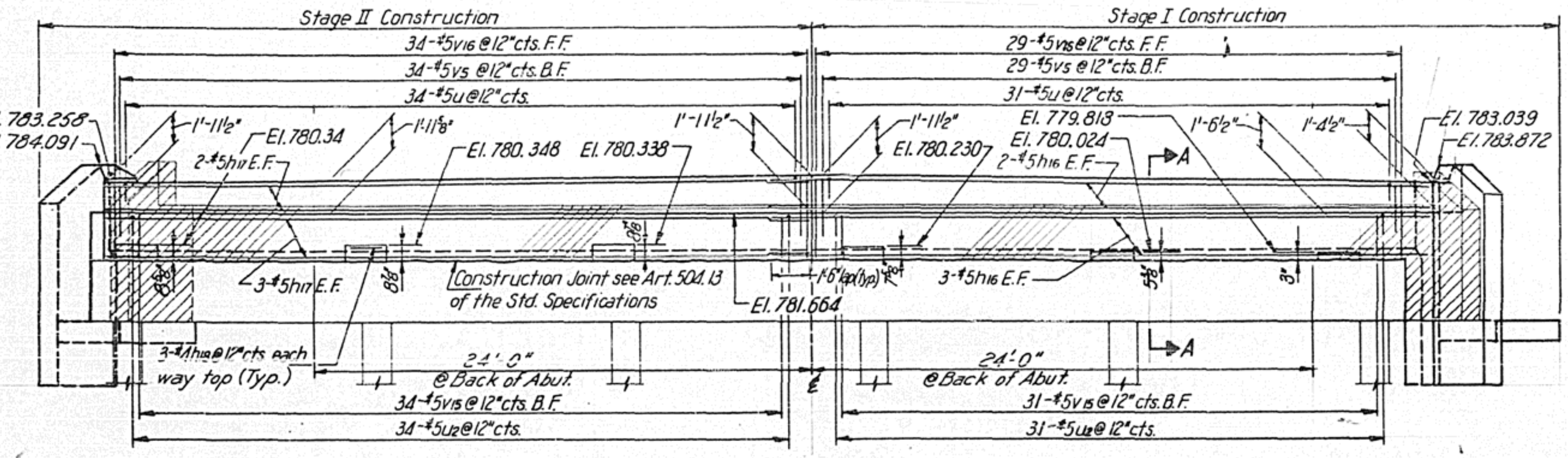
BAR	No.	SIZE	LENGTH
h2	6	#4	4'-6"
h3	6	#4	5'-1"
h4	~~5~~ 6	#4	7'-3"
h5	~~8~~ 6	#4	6'-0"
h6	1	#4	5'-2"
h7	1	#4	3'-6"
h8	2	#4	5'-5"
h9	6	#4	7'-3"
h10	6	#4	5'-9"
h11	1	#4	6'-3"
h12	1	#4	4'-9"
h13	2	#4	4'-3"
h14	14	#4	2'-11"
h15	14	#4	3'-11"
h16	10	#5	31'-11"
h17	10	#5	33'-9"
h18	35	#4	1'-8"
h19	2	#4	2'-8"
h20	2	#4	2'-3"
u	65	#5	2'-8"
u2	65	#5	4'-2"
v5	125	#5	2'-10"
v9	5	#4	18'-10"
v10	2	#4	10'-5"
v11	2	#4	3'-9"
v12	4	#4	18'-4"
v13	4	#4	9'-11"
v14	8	#4	9'-1"
v15	65	#5	2'-0"
v16	63	#5	3'-1"
v18	2	#4	4'-7"
w	4	#4	5'-9"
w1	4	#4	6'-10"
z	15	#4	6'-9"
Class X Concrete			Cu. Yds.
Reinforcement Bars			Lbs.
Expansion Bolts ¾" ϕ			Each
Concrete Removal			Cu. Yds.



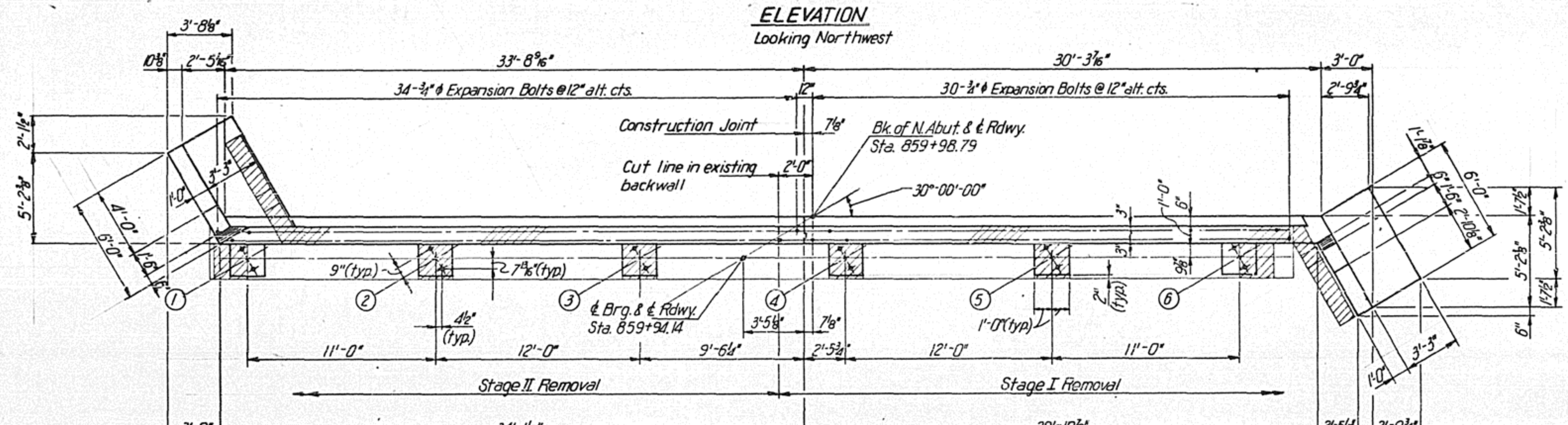
Notes:
For Notes and Legend see Sht. No. 15



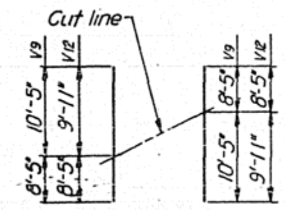
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122VBR	VERMILION	39	29
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



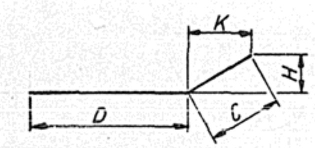
ELEVATION
Looking Northwest



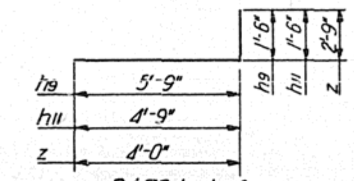
PLAN



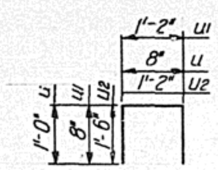
BARS v9 & v12



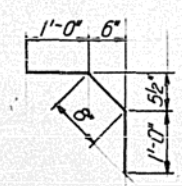
BAR	C	D	H	K
h4	1'-6"	5'-9"	1'-1½"	9"
h6	1'-6"	3'-8"	1'-1½"	9"
h8	1'-3"	4'-2"	5½"	11"
h13	1'-3"	3'-0"	5½"	11"
h14	1'-6"	1'-5"	1'-1½"	9"
h15	2'-6"	1'-6"	1'-1½"	9"
v15	7"	1'-5"	6"	3½"



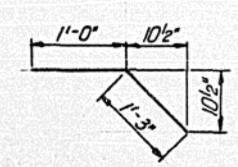
BARS h9, h11 & z



BARS u, u1 & u2



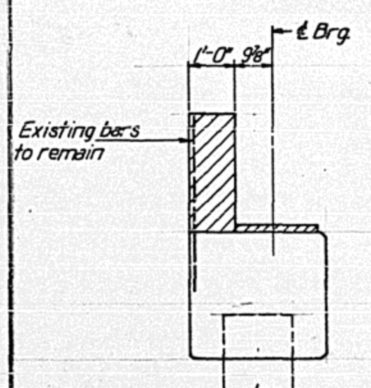
BAR h19



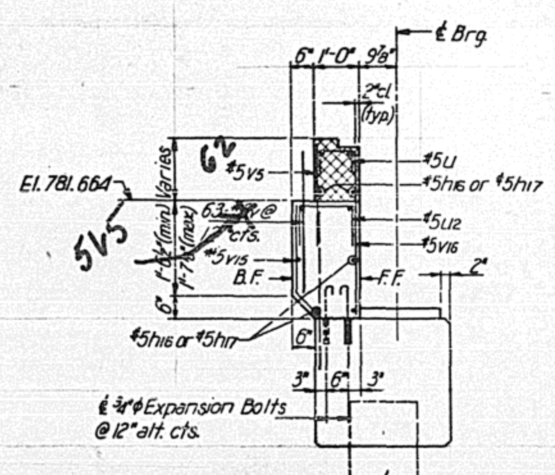
BAR h20

BILL OF MATERIAL				
BAR	No.	SIZE	LENGTH	SHAPE
h2	6	#4	4'-6"	—
h3	6	#4	5'-1"	—
h4	~~5~~ 6	#4	7'-3"	—
h5	~~8~~ 6	#4	6'-0"	—
h6	1	#4	5'-2"	—
h7	1	#4	3'-6"	—
h8	2	#4	5'-5"	—
h9	6	#4	7'-3"	⌐
h10	6	#4	5'-9"	—
h11	1	#4	6'-3"	⌐
h12	1	#4	4'-9"	—
h13	2	#4	4'-3"	—
h14	14	#4	2'-11"	—
h15	14	#4	3'-11"	—
h16	10	#5	31'-11"	—
h17	10	#5	33'-9"	—
h18	36	#4	1'-8"	—
h19	2	#4	2'-8"	⌐
h20	2	#4	2'-3"	⌐
u	65	#5	2'-8"	⊓
u2	65	#5	4'-2"	⊓
v5	125	#5	2'-10"	—
v9	5	#4	18'-10"	—
v10	2	#4	10'-5"	—
v11	2	#4	3'-9"	—
v12	4	#4	18'-4"	—
v13	4	#4	9'-11"	—
v14	8	#4	9'-1"	—
v15	65	#5	2'-0"	—
v16	63	#5	3'-1"	—
v18	2	#4	4'-7"	—
w	4	#4	5'-9"	—
w1	4	#4	6'-10"	—
z	1	#4	6'-9"	⌐
Class X Concrete			Cu. Yds.	17.6
Reinforcement Bars			Lbs.	2430
Expansion Bolts ¾"ϕ			Each	70
Concrete Removal			Cu. Yds.	8.4

Rev.



SECTION A-A
Existing backwall removal
Scale: ½" = 1'-0"



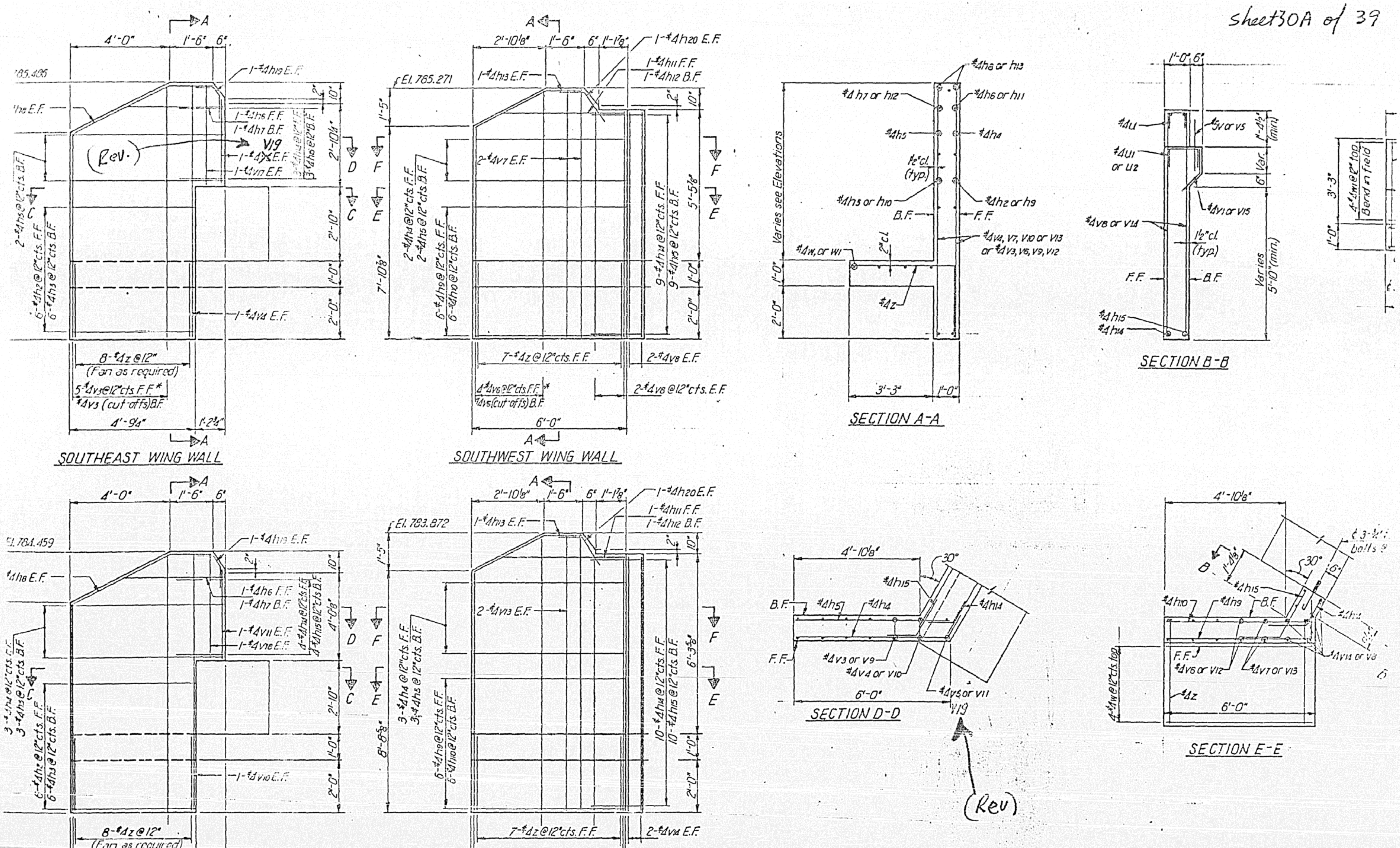
SECTION A-A
New backwall construction
Scale: ½" = 1'-0"

Notes:
For Notes and Legend see Sht. No. 15
For Wing Wall Details see Sht. No. 17

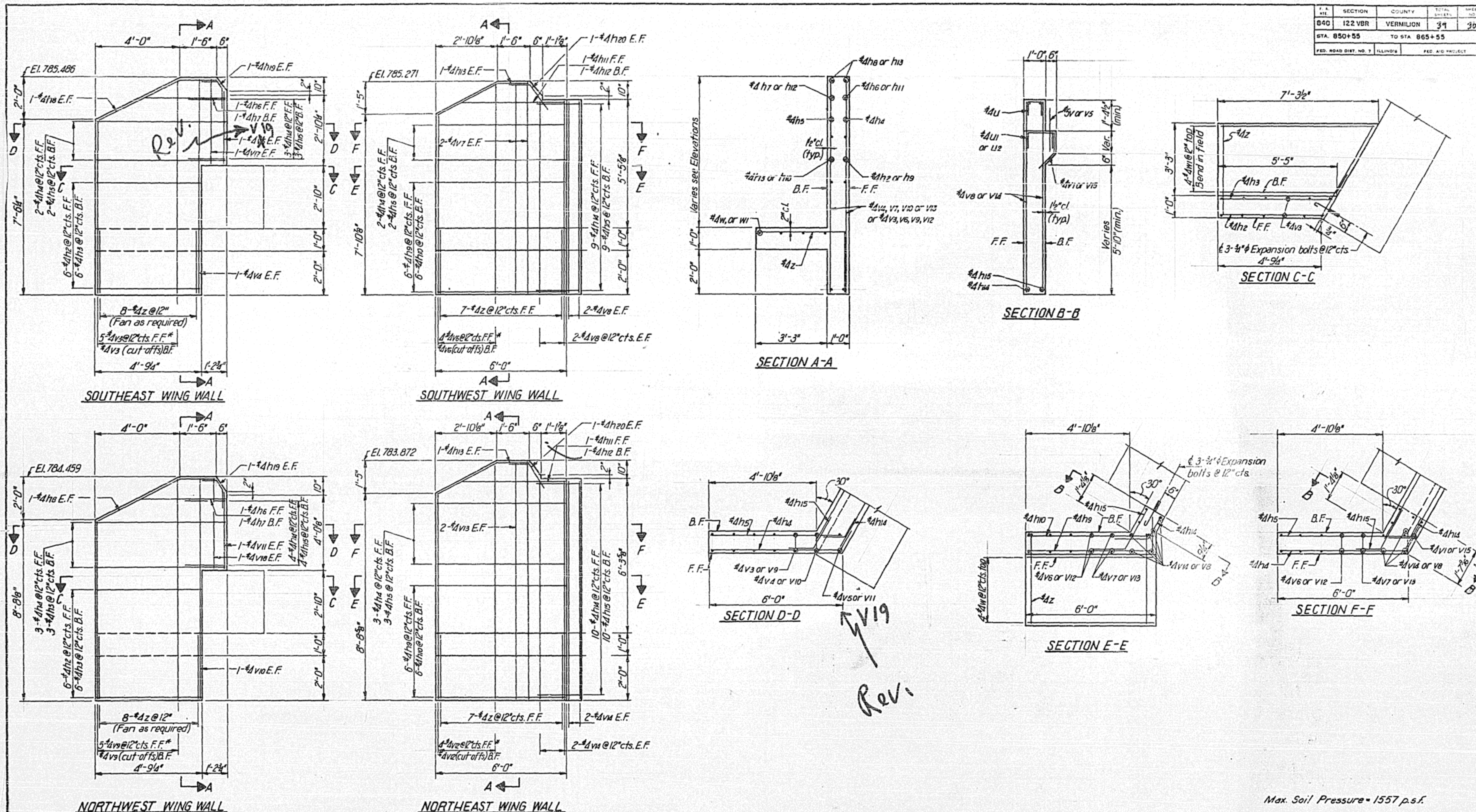
REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
BENT 6
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. ¼" = 1'-0", U.N.
DRAWN BY K.C.
CHECKED BY J.P.
DATE


SOUTHEAST WING WALL
SOUTHWEST WING WALL
SECTION A-A
SECTION B-B
SECTION D-D
SECTION E-E
El. 765.271
El. 783.872
El. 784.459
(Rev.)
V19
(Rev)
8-#4z @12"
(Fan as required)
5-#4v3 @12"cts. F.F.*
#4v3 (cut-offs) B.F.
7-#4z @12"cts. F.F.
2-#4v8 E.F.
2-#4v8 @12"cts. E.F.
2-#4v14 E.F.
Varies see Elevations
Varies 5'-10" (min.)
4-#4w @12" top. Bend in field

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	30
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



Max. Soil Pressure = 1557 p.s.f.

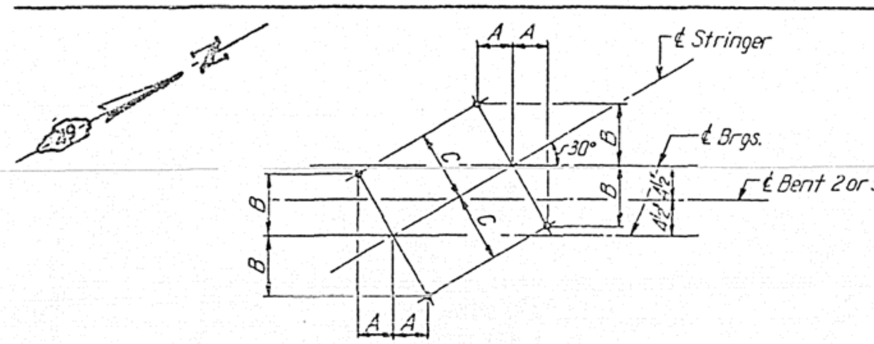
REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
WINGWALL DETAILS
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. 1/2" = 1'-0"
DATE
DRAWN BY K.C.
CHECKED BY J.P.

Rev

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	31
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



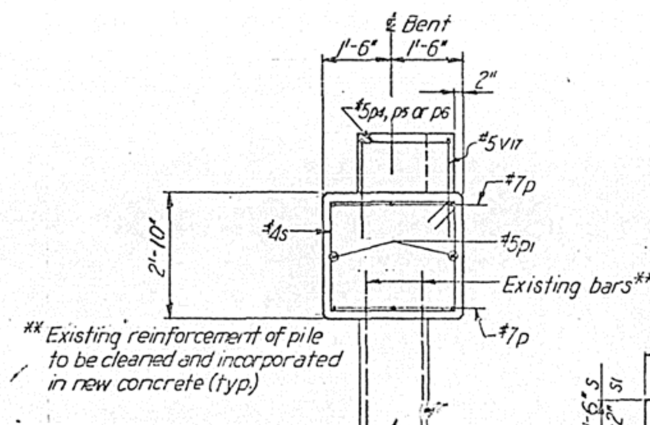
DETAIL "A"

...al reinforcement for
...greater then 3" in height

	A	B	C
Span 1 Stringers 1-6	2⅞"	5"	5¾"
Span 2 Stringers 1-6	4⅜"	7 9/16"	8¾"
Span 4 Stringers 1-6	4 3/16"	7 9/16"	8¾"
Span 5 Stringers 1-6	3⅞"	6¾"	7¾"

...3

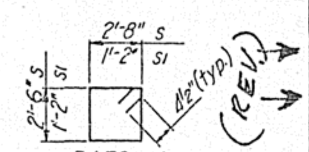
...U3
...end



** Existing reinforcement of pile to be cleaned and incorporated in new concrete (typ.)

SECTION B-B

Scale: ½" = 1'-0"

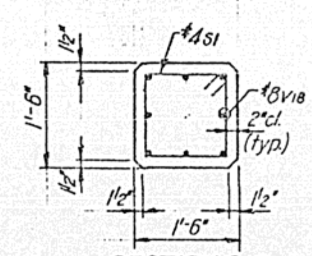


BARS s & s1

...3.82

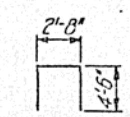
...U3
...end

...ion Joint see Art. 504.13
...l. Specifications (typ.)

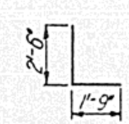


SECTION C-C

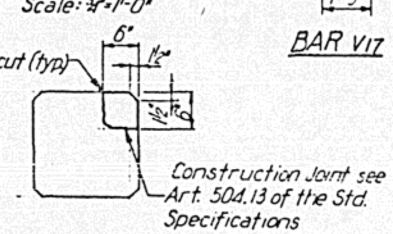
Scale: ¾" = 1'-0"



BAR U3



BAR V17



SECTION D-D

Scale: ¾" = 1'-0"

BENT 2				
BAR	No.	SIZE	LENGTH	SHAPE
p	6	#7	32'-0"	—
p1	2	#5	31'-0"	—
p2	6	#7	34'-9"	—
p3	2	#5	34'-9"	—
p4	6	#5	3'-9"	—
p5	8	#5	1'-0"	—
p6	2	#5	2'-0"	—
s	39	#4	11'-1"	◻
U3	6	#5	11'-8"	⊓
V17	48	#5	4'-3"	⏋
Class X Concrete			Cu. Yds.	22.0
Reinforcement Bars			Lbs.	1570
Concrete Removal			Cu. Yds.	20.4
Repair Conc. Structure			Sq. Ft.	3.0

BENT 5				
BAR	No.	SIZE	LENGTH	SHAPE
p	6	#7	32'-0"	—
p1	2	#5	31'-0"	—
p2	6	#7	34'-9"	—
p3	2	#5	34'-9"	—
p4	X 7	#5	3'-9"	—
p5	10	#5	1'-0"	—
p6	X 3	#5	2'-0"	—
s	39	#4	11'-1"	◻
s1	135	#4	5'-5"	◻
U3	6	#5	11'-8"	⊓
V17	60	#5	4'-3"	⏋
V18	24	#8	11'-0"	—
Class X Concrete			Cu. Yds.	24.0
Reinforcement Bars			Lbs.	2820
Concrete Removal			Cu. Yds.	22.2

Note:
For Legend see Sht. No. 19

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS

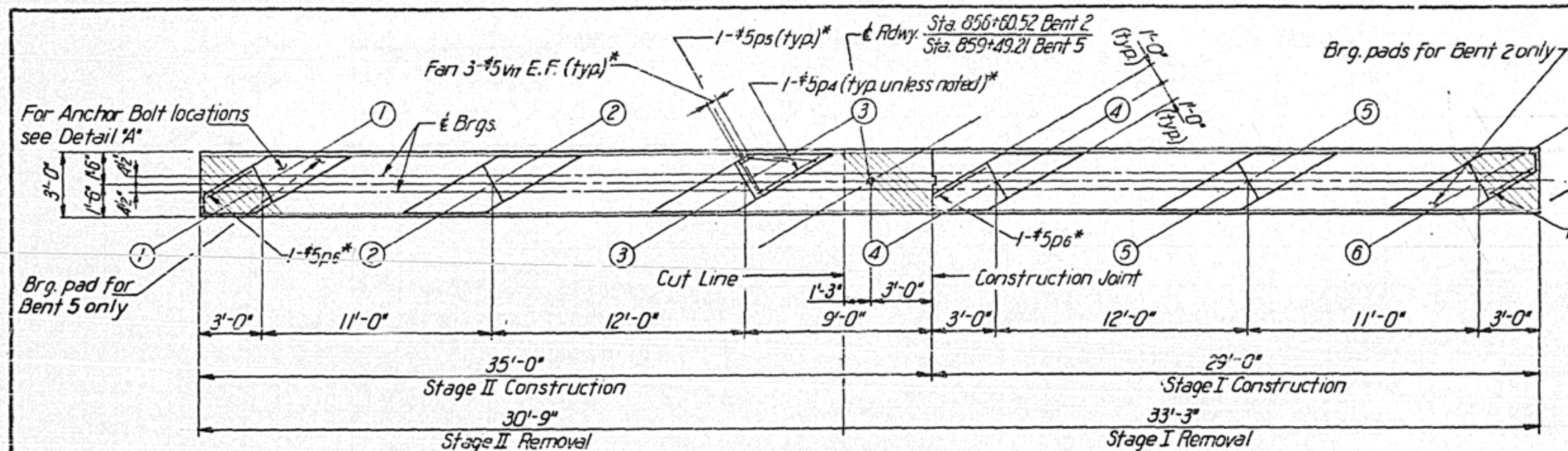
BENTS 2 AND 5

F.A.P. ROUTE 840 (ILL. 49)

SECTION 122 VBR

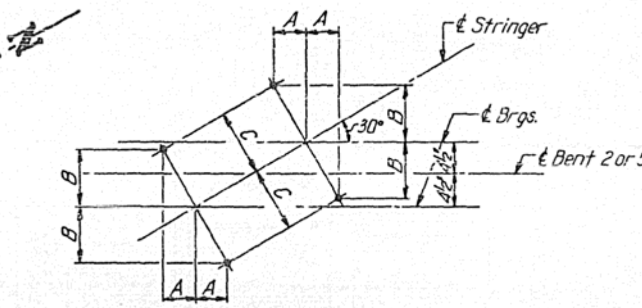
VERMILION COUNTY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	31
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



PLAN - BENTS 2 & 5

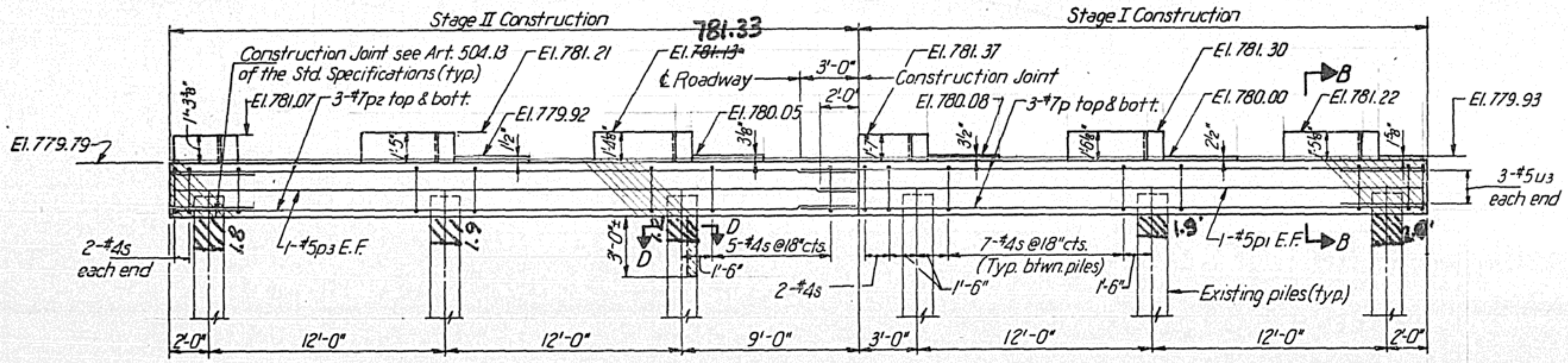
* Typical reinforcement for steps greater than 3" in height



DETAIL "A"

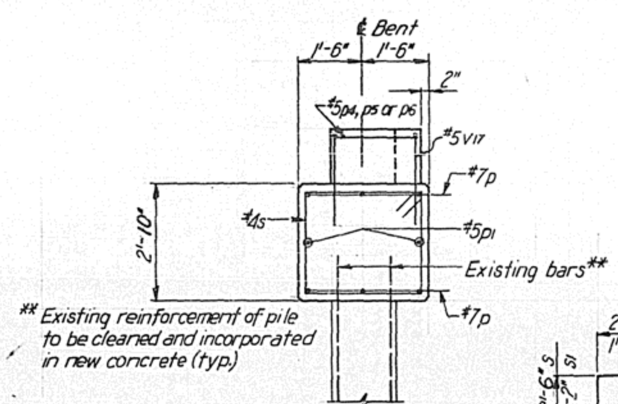
	A	B	C
Span 1 Stringers 1-6	2⅞"	5"	5¾"
Span 2 Stringers 1-6	4⅜"	7 9/16"	8¾"
Span 4 Stringers 1-6	4⅜"	7 9/16"	8¾"
Span 5 Stringers 1-6	3⅞"	6¾"	7¾"

BENT 2				
BAR	No.	SIZE	LENGTH	SHAPE
p	6	#7	32'-0"	—
p1	2	#5	31'-0"	—
p2	6	#7	34'-9"	—
p3	2	#5	34'-9"	—
p4	6	#5	3'-9"	—
p5	8	#5	1'-0"	—
p6	2	#5	2'-0"	—
s	39	#4	11'-1"	◘
u3	6	#5	11'-8"	⊓
v17	48	#5	4'-3"	⌝
Class X Concrete			Cu. Yds.	22.0
Reinforcement Bars			Lbs.	1570
Concrete Removal			Cu. Yds.	20.4
Repair Conc. Structure			Sq. Ft.	3.0



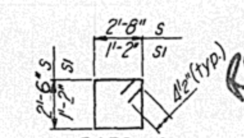
ELEVATION - BENT 2
(Looking Northwest)

ADDITIONAL CONC. REMOVAL
UNSOUND CONCRETE



** Existing reinforcement of pile to be cleaned and incorporated in new concrete (typ.)

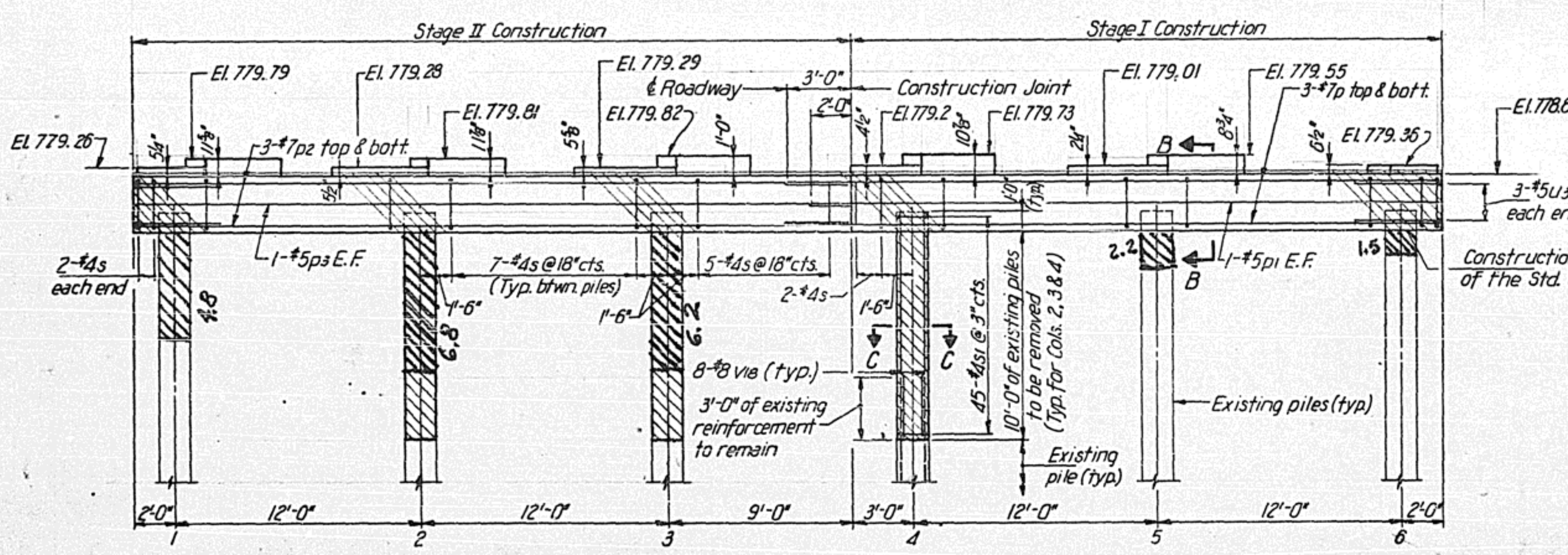
SECTION B-B
Scale: ½" = 1'-0"



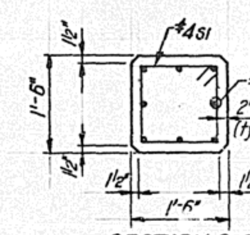
BARS s & s1

BENT 5				
BAR	No.	SIZE	LENGTH	SHAPE
p	6	#7	32'-0"	—
p1	2	#5	31'-0"	—
p2	6	#7	34'-9"	—
p3	2	#5	34'-9"	—
p4	~~6~~ 7	#5	3'-9"	—
p5	10	#5	1'-0"	—
p6	~~2~~ 3	#5	2'-0"	—
s	39	#4	11'-1"	◘
s1	135	#4	5'-5"	◘
u3	6	#5	11'-8"	⊓
v17	60	#5	4'-3"	⌝
v18	24	#8	11'-0"	—
Class X Concrete			Cu. Yds.	24.0
Reinforcement Bars			Lbs.	2820
Concrete Removal			Cu. Yds.	22.2

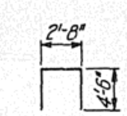
Rev.



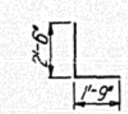
ELEVATION - BENT 5
(Looking Northwest)



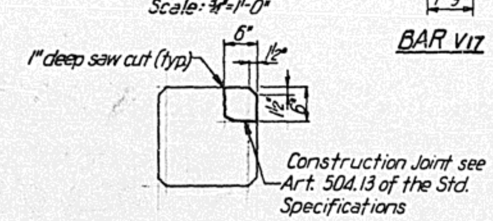
SECTION C-C
Scale: ¾" = 1'-0"



BAR u3



BAR v17



SECTION D-D
Scale: ¾" = 1'-0"

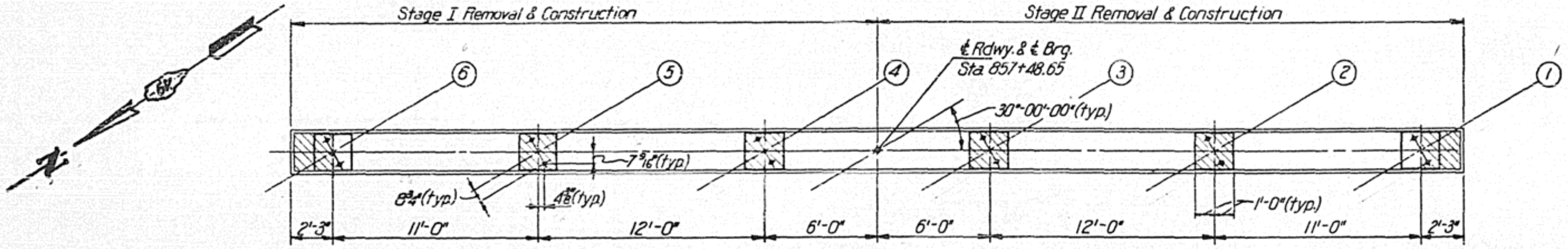
Note:
For Legend see Sht. No. 19

REVISIONS	
NAME	DATE

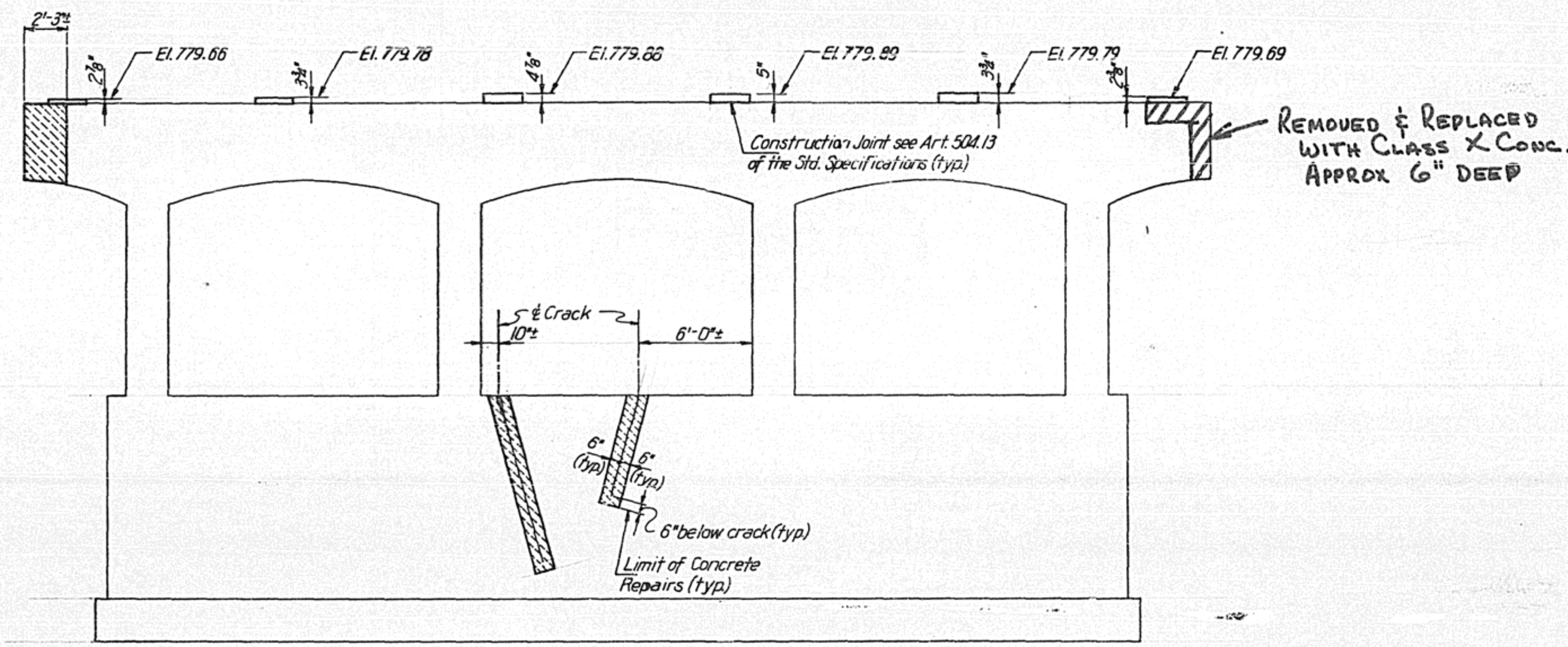
ILLINOIS DIVISION OF HIGHWAYS
BENTS 2 AND 5
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. ¼" = 1'-0", U.N.
DRAWN BY K.C.
DATE
CHECKED BY J.P.

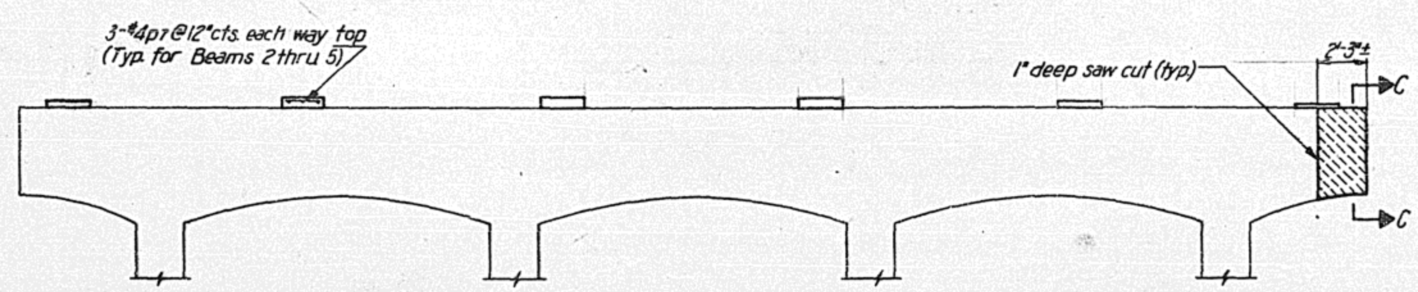
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	32
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



PLAN



ELEVATION
(Looking South)



PARTIAL ELEVATION
(Looking North)

BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
p7	24	#4	1'-9"	—
Class X Concrete		Cu. Yds.	0.3	
Reinforcement Bars		Lbs.	30	
Repair Conc. Structure		Sq. Ft.	35	

LEGEND

- Indicates concrete removal. Reinforcement extending into removed area shall be cleaned and incorporated in the New Construction.
- Indicates Repair Concrete Structure (See Special Provisions)

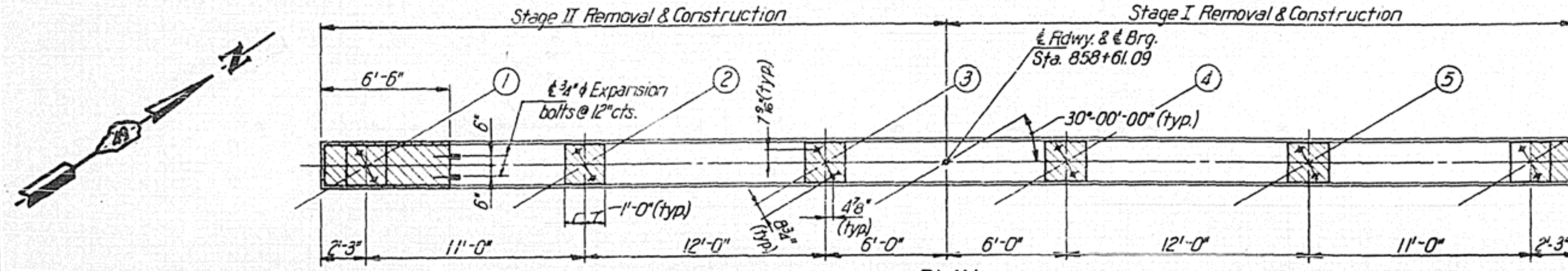
NOTES:

Expansion bolts shall be anchored into sound concrete
For Section C-C see Sht. No. 20

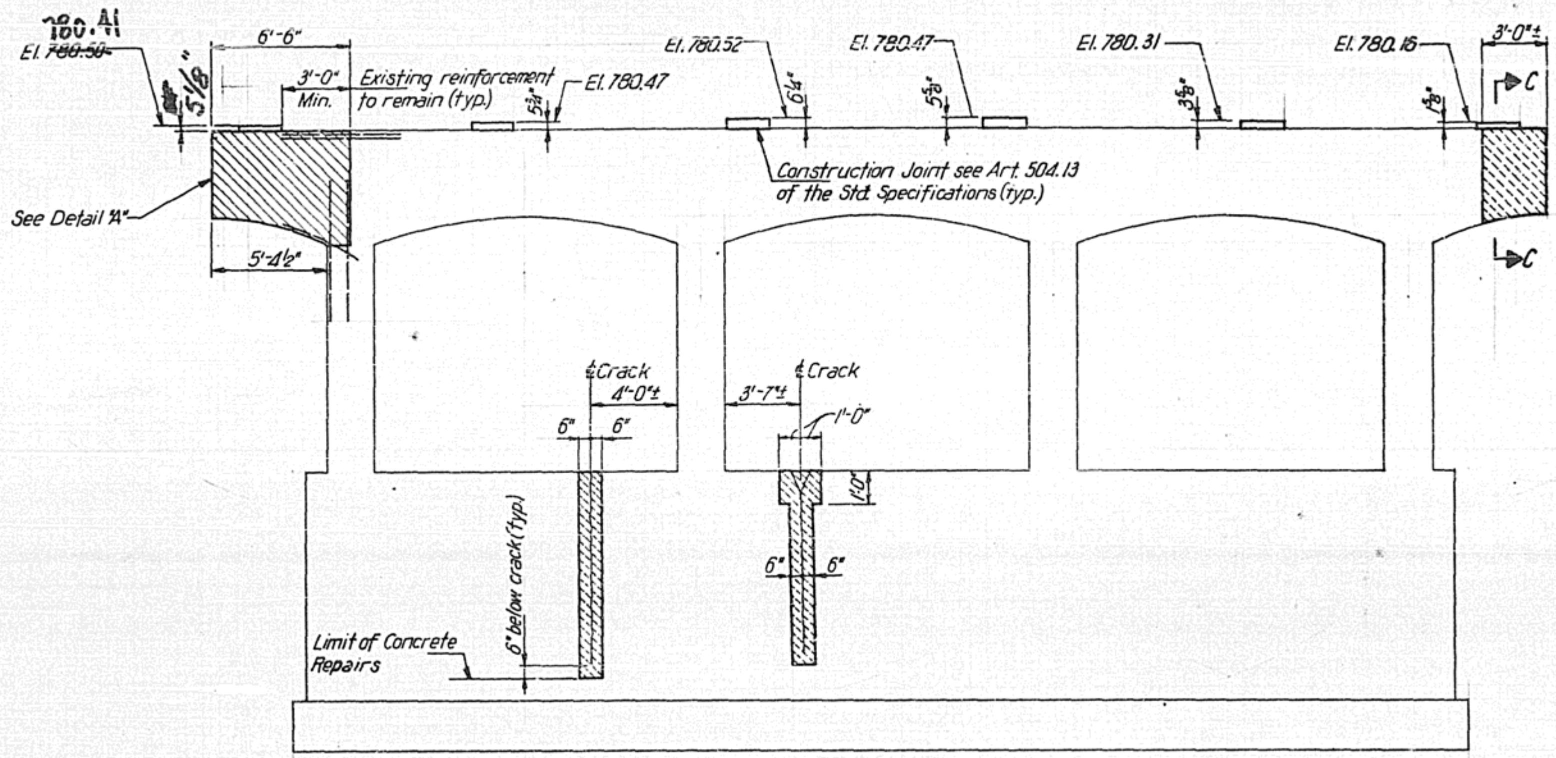
REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
PIER 3
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

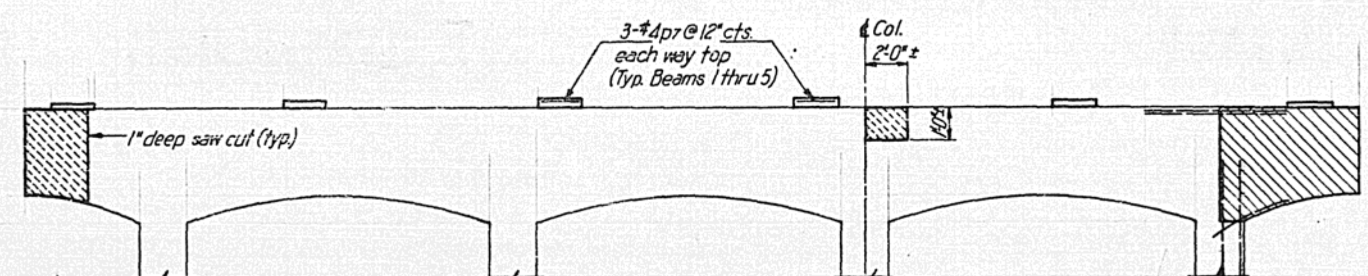
SCALE: VERT. HORIZ. 1/4"=1'-0"
DRAWN BY K.C.
CHECKED BY J.P.
DATE



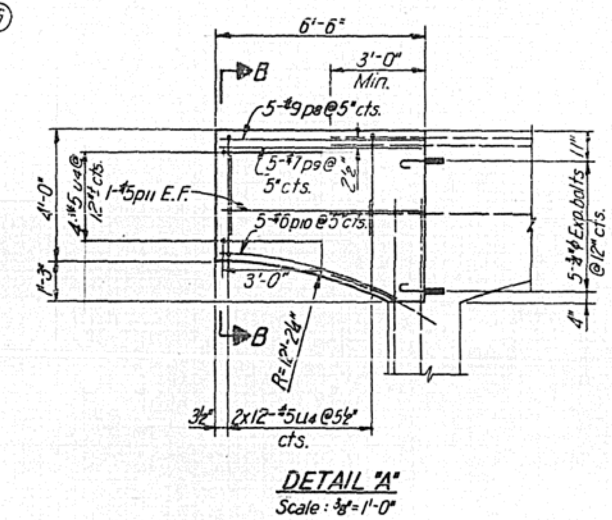
PLAN



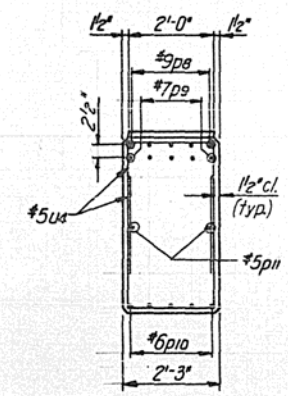
ELEVATION
(Looking North)



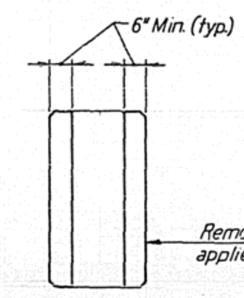
PARTIAL ELEVATION
(Looking South)



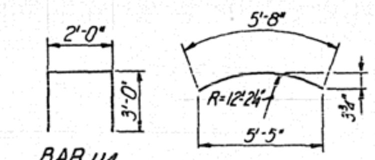
DETAIL "A"
Scale: ⅜" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"



SECTION C-C
Scale: ½" = 1'-0"



BAR u4 BAR p10

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	39	33
STA. 850+55		TO STA. 865+55		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
p7	30	#4	1'-9"	—
p8	5	#9	6'-3"	—
p9	5	#7	6'-3"	—
p10	5	#6	5'-8"	—
p11	2	#5	6'-3"	—
u4	28	#5	8'-0"	⊓

Class X Concrete	Cu. Yds.	2.8
Reinforcement Bars	Lbs.	490
Expansion Bolts ¾" ϕ	Each	10
Concrete Removal	Cu. Yds.	2.7
Repair Conc. Structure	Sq. Ft.	49

NOTES:
For Legend see Sht. No. 19

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
PIER 4
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. / HORIZ. ¼" = 1'-0", U.N. DRAWN BY K.C.
DATE CHECKED BY J.P.

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
840	122 VBR	VERMILION	34	34

STA. 850+55 TO STA. 865+55

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT

Boring No. 1 S-ABT.
Station 856+28
Offset 12' LT

Surface Water El. —
Groundwater El. at Completion DRY
After — Hours —

Elevation	Description	N	Qu t/s.f.	w (%)
0	Ground Surface 784.7			
	STIFF BROWN CLAY LOAM -SILTY CLAY MIXED FILL 781.7			
-5	VERY STIFF BLACK-BROWN SILTY CLAY MIXED FILL	10	2.3B	24
		11	2.1B	28
	775.7			
-10	STIFF BLACK-BROWN SILTY CLAY MIXED FILL 773.2	7	1.4B	25
	MEDIUM BLACK-BROWN SILTY CLAY MIXED FILL 770.7	5	0.9B	27
-15	VERY STIFF BLACK SILTY CLAY LOAM TOPSOIL 768.7	15	2.9S	27
	VERY STIFF BROWN-GRAY MOT. SILTY CLAY 765.7	14	3.1B	24
-20	STIFF BROWN-GRAY MOT. SILTY CLAY 763.2	10	1.4B	24
	HARD BROWN CLAY LOAM TILL 760.7	22	6.5S	16
-25	HARD BROWN-GRAY MOT. CLAY LOAM TILL 758.2	28	7.8S	17
	HARD GRAY CLAY LOAM TILL	24	7.4B	15
-30		17	5.6B	16
		14	5.0B	16
-35		17	5.4B	16
		21	4.7B	16
-40	742.2	14	4.5B	17
	VERY STIFF GRAY CLAY LOAM TILL			
-45	LIMIT OF BORING 739.2	14	3.9B	17

N-Standard Penetration Test-Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".

Qu-Unconfined Compressive Strength - t/sf

w - Water Content - percentage of oven dry weight-%.

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

Boring No. 2 N-ABT.
Station 860+07
Offset 6' LT

Surface Water El. —
Groundwater El. at Completion —
After — Hours —

Elevation	Description	N	Qu t/s.f.	w (%)
0	Ground Surface 783.3			
-5	STIFF BLACK-BROWN SILTY CLAY MIXED FILL 776.8	10	1.5B	28
	STIFF GRAY-BROWN CLAY LOAM MIXED FILL	6	1.4B	19
-10	771.8	7	1.5B	20
	VERY STIFF BROWN-GRAY CLAY LOAM MIXED FILL	9	2.3B	21
-15	766.8	11	3.7S	22
	VERY STIFF BROWN MOT. SILTY CLAY	13	2.7S	23
-20	761.8	10	2.3B	23
	VERY STIFF BROWN MOT. CLAY LOAM TILL 759.3	11	3.1B	19
-25	HARD BROWN CLAY LOAM TILL 756.8	22	8.8B	16
	HARD GRAY CLAY LOAM TILL	25	8.1B	14
-30		18	5.2B	16
		16	4.1B	14
-35	746.8	18	4.5B	17
	VERY STIFF GRAY CLAY LOAM TILL	16	3.7B	17
-40		15	3.1B	16
-45		15	2.9B	18
-50	732.8 LIMIT OF BORING	13	3.1B	17

NOTE:
The soil borings & boring logs were furnished by Illinois Department of Transportation.

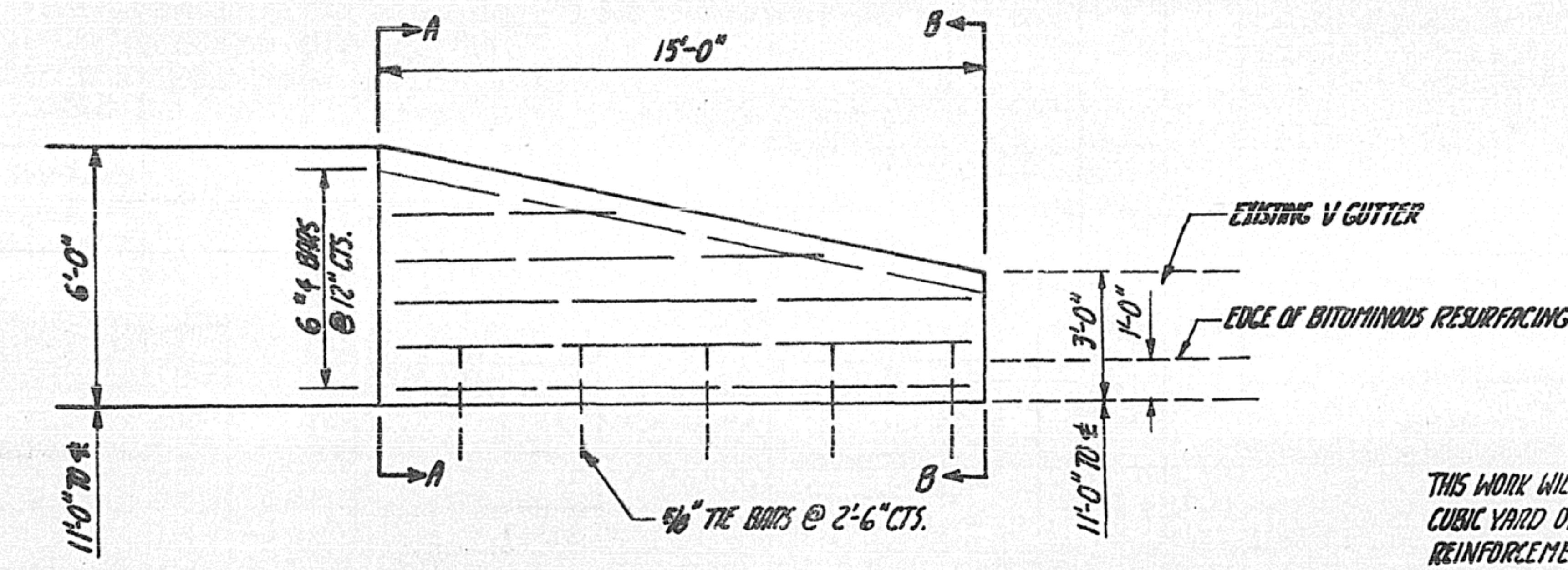
REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS
SOIL BORINGS
F.A.P. ROUTE 840 (ILL. 49)
SECTION 122 VBR
VERMILION COUNTY

SCALE: VERT. HORIZ. NONE
DRAWN BY E.T.
DATE
CHECKED BY J.P.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 840	122VBR	VERMILION	39	35

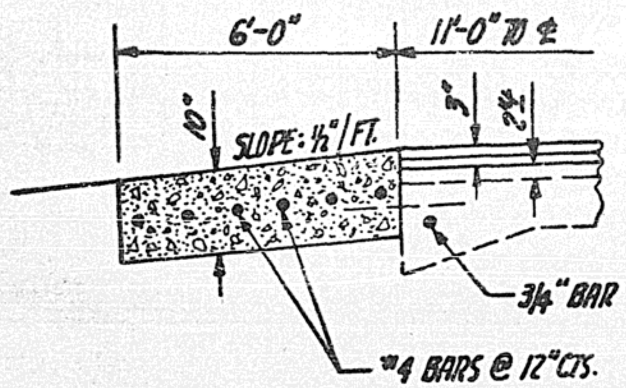
SPECIAL TRANSITION FROM STABILIZED SHOULDER TO V GUTTER



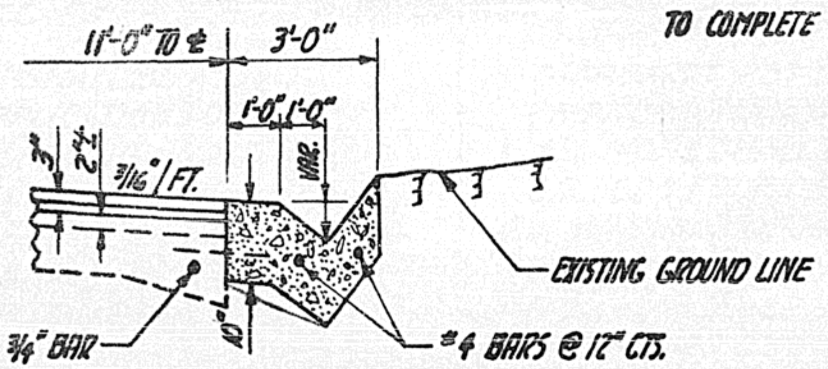
BILL OF MATERIALS

NO.	SIZE	LENGTH
6	#4	14'-6"
60 LBS. REINFORCEMENT BARS		
2.1 CU.YDS. CLASS X CONCRETE		

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD OF CLASS X CONCRETE AND PER POUND OF REINFORCEMENT BARS WHICH PRICES SHALL BE PAYMENT IN FULL FOR ALL MATERIALS, LABOR, AND EXCAVATION NECESSARY TO COMPLETE THE WORK AS SHOWN.



SECTION A-A

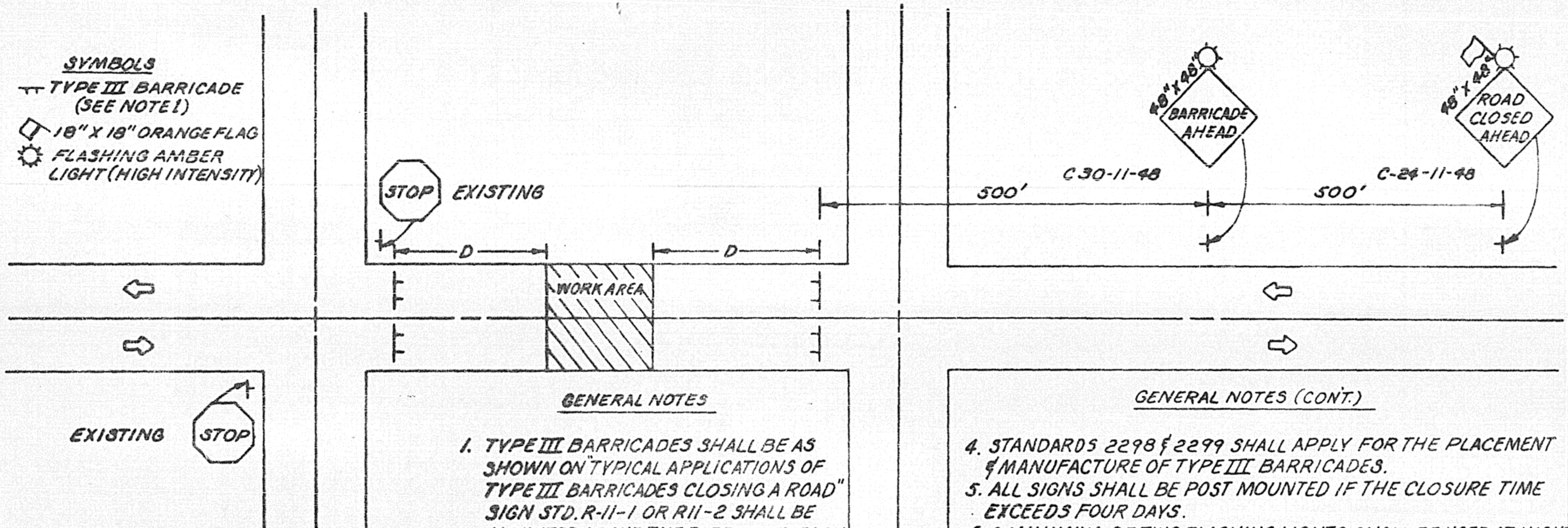


SECTION B-B

F-5.04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A. 840	122VBR	VERMILION	39	35A

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR ROAD CLOSURE



GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD" SIGN STD. R-11-1 OR R11-2 SHALL BE MOUNTED ABOVE THE BARRICADE. EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR "D" EXCEEDS 1000,' ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
3. WHEN A STOP CONDITION EXISTS, AS SHOWN ABOVE, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' OF THE INTERSECTION.

GENERAL NOTES (CONT.)

4. STANDARDS 2298 & 2299 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
5. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
6. A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES OR, IF LESS THAN TWO SIGNS ARE PRESENT, MAY BE INSTALLED ON BARRICADES.
7. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
8. ALL WARNING SIGNS SHALL HAVE MINIMUM DIMENSIONS OF 48 IN. BY 48 IN. AND HAVE BLACK LEGEND AND BORDER ON AN ORANGE REFLECTORIZED BACKGROUND.
9. FORMS BT 725 AND BT 726 ARE REQUIRED.
10. WHEN A SIDE ROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED: May 23 1977

Robert E. Kronst
DISTRICT ENGINEER

REVISED:	
G.H.H.	7-1-74
BGR.	5-20-77

Master
DO NOT USE

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 840	122VBR	VERMILION	39	36
FED. ROAD DIST. NO. 8	ILLINOIS		PROJECT	

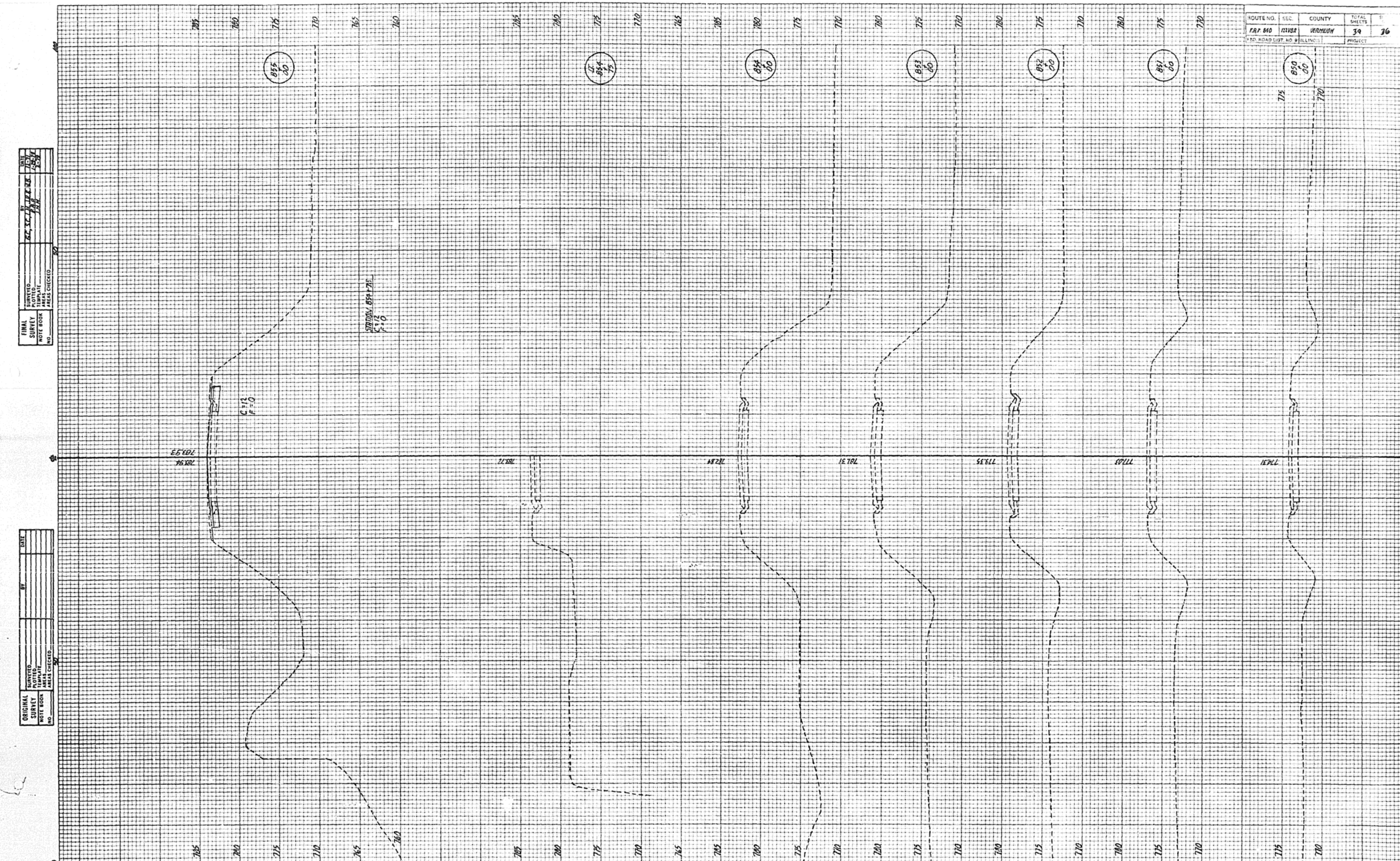


PLATE 3 FULL CROSS SECTION
CHARLES BRUNING COMPANY
MADE IN U.S.A.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 860	22VBR	VERMILION	39	37
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

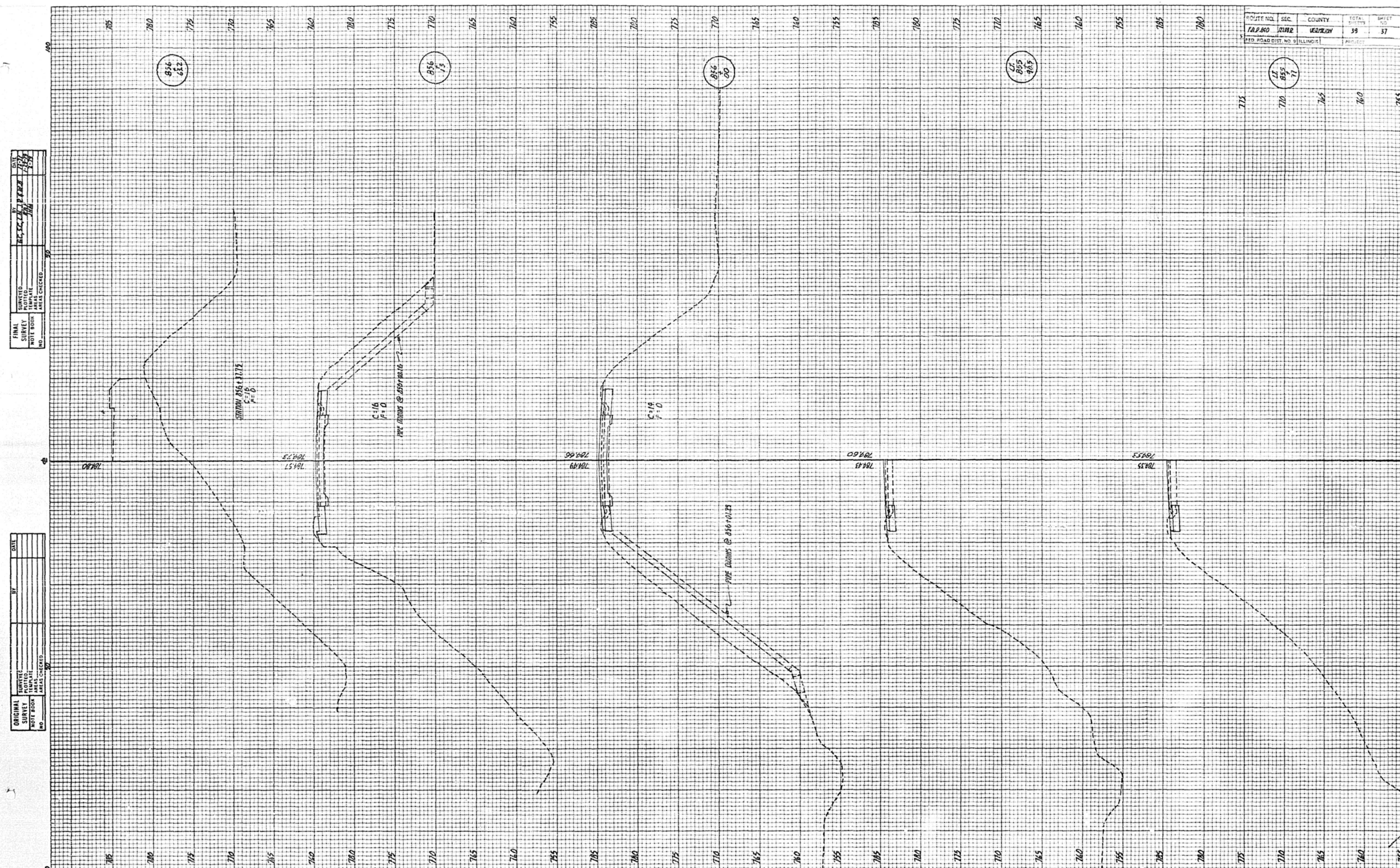


PLATE 3 FULL CROSS SECTION
CHARLES BRUNING COMPANY
MADE IN U.S.A.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 640	122VBR	VERMILION	39	38
FED. ROAD DIST. NO. 4 ILLINOIS			PROJECT	

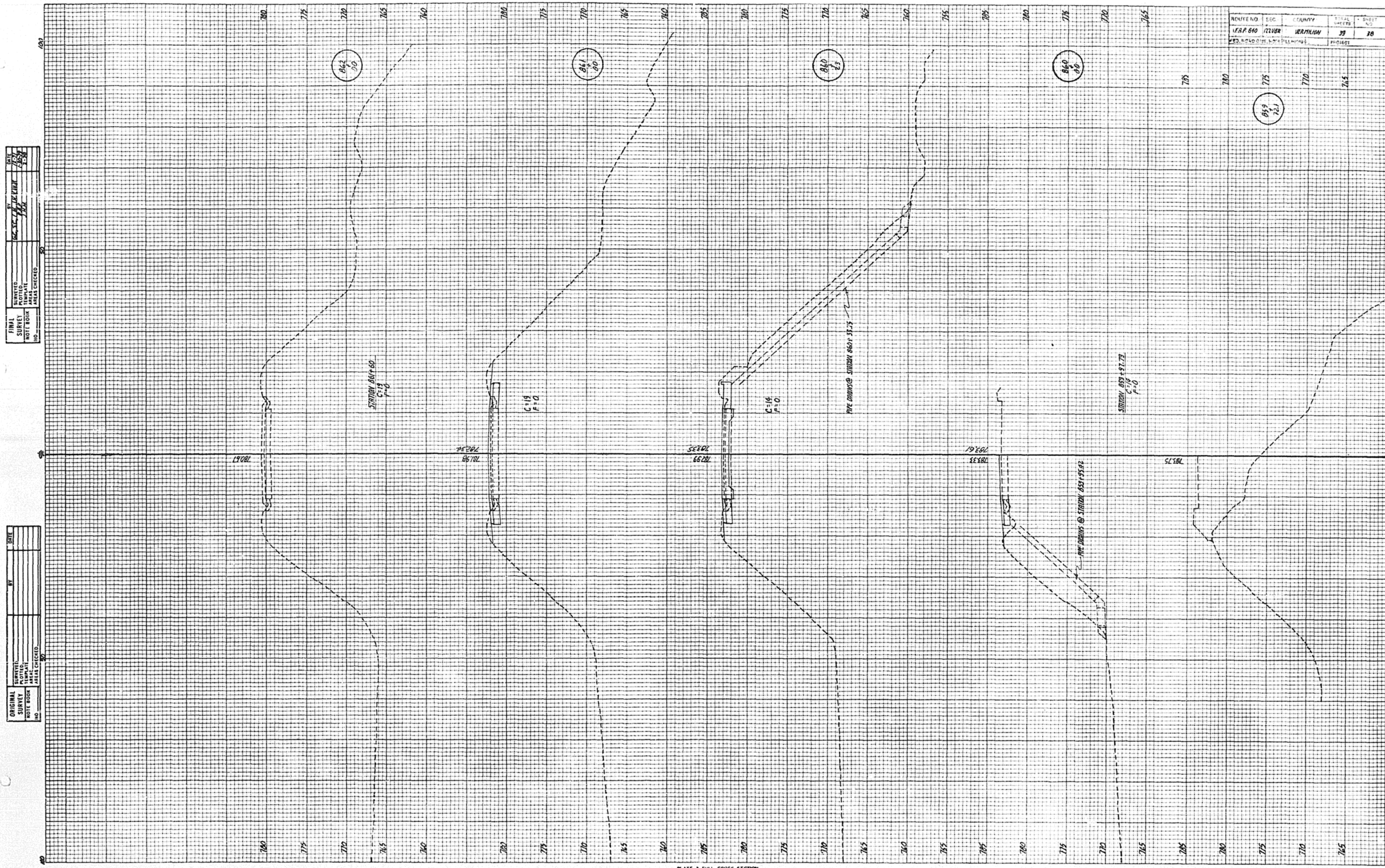


PLATE 3 FULL CROSS SECTION
CHARLES BRUNING COMPANY
MADE IN U.S.A.

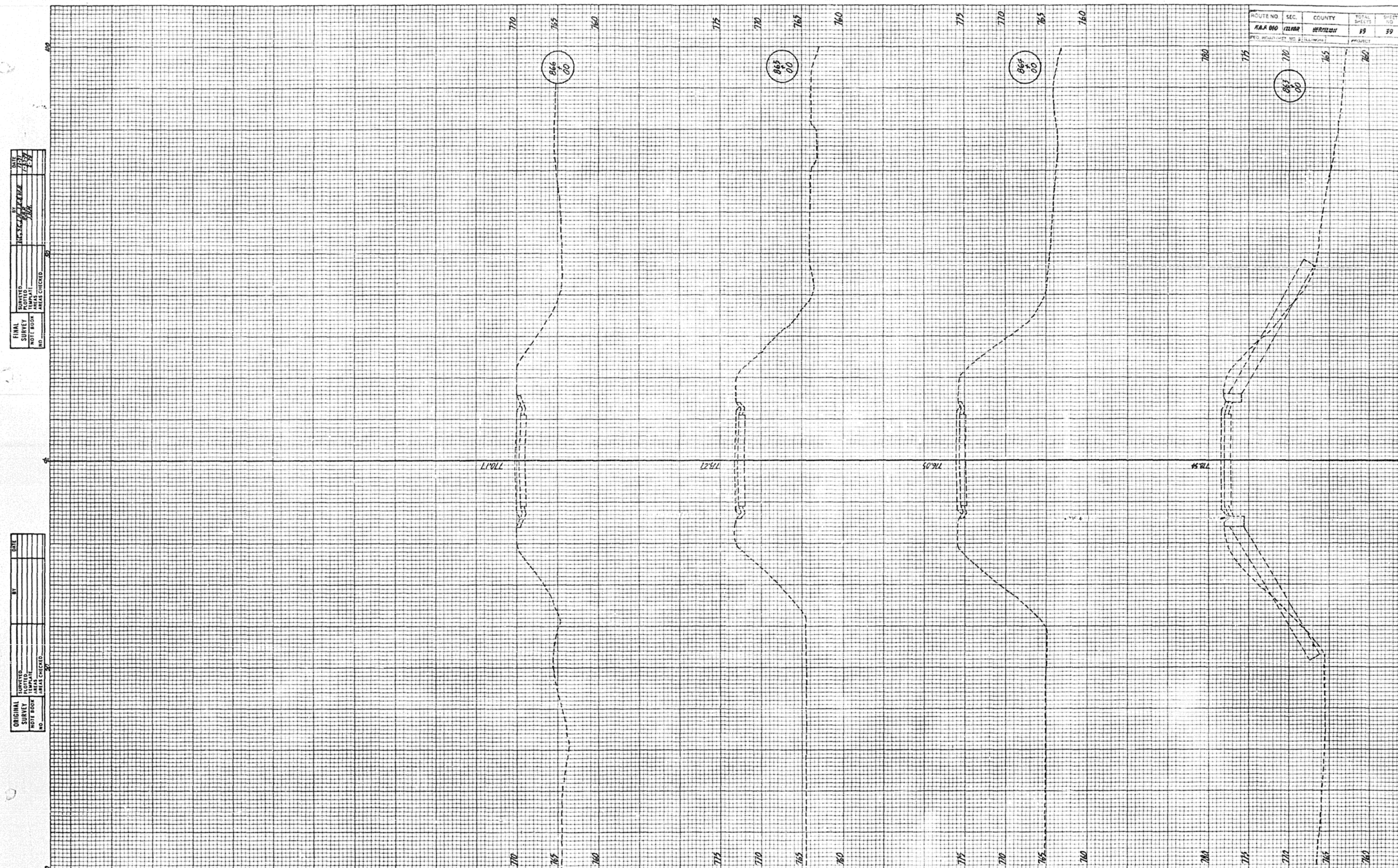


PLATE 3 FULL CROSS SECTION
CHARLES BRUNING COMPANY
MADE IN U.S.A.

STANDARD SYMBOLS AND ABBREVIATIONS

THESE SYMBOLS AND ABBREVIATIONS ARE USED THROUGHOUT THESE PLANS UNLESS OTHERWISE NOTED

SYMBOLS

- North Arrow
- State Line
- Shelby Co. / Fayette Co. — County Line
- Township Line
- City, Village or Town Limits
- Section or Grant Line
- Section Corner
- Quarter Corner
- Same Ownership
- PL — Unfenced Property Line
- PL — Fenced Property Line
- Fence Line
- Std. No. — Construction Identification Sign
- Right of Way Marker
- R.O.W. — Existing Right of Way Line
- R.O.W. — Existing Fenced Right of Way Line
- Proposed Right of Way Line
- A-C — Proposed Right of Way Line coincident with access control line
- A-C — Access Control Line (Not coincident with Right of Way Line)
- 150' — Proposed Right of Way Dimension
- Construction Limits
- Base or Survey Line
- Channel Change Easement
- Temporary Easement (Detour, Grading etc.)
- Stream
- NAME — Lake or Pond
- Marsh
- Levee
- Summit
- Deciduous Trees
- Evergreen Trees
- Hedge
- Centerline

- SS or SANS — Existing Storm or Sanitary Sewer
- Railroad or Utility Tracks
- Curb Wall
- Retaining Wall
- Existing Drive or Traveled Way
- Pipe Lines: Gas (G), Water (W), Oil (O)
- Longitudinal Joint with Tie Bars (Sawed or Poly.)
- Longitudinal Joint with Tie Bars and Keyway
- Longitudinal Joint with Keyway only
- Contraction Joint with Dowels
- Contraction Joint without Dowels
- Expansion Joint with capped Dowels
- Expansion Joint without Dowels
- Wide Flange Beam Terminal Joint
- Guard Rail
- Existing Pavement, Curb & Gutter, Driveway Pavement & Sidewalk to be removed
- Existing Culvert
- Culvert to be Constructed
- Culvert with Drop Inlet
- P 936.25 — Elevation of Surface of Finished Pavement at Point Indicated
- C 936.50 — Elevation of Top of Curb at Point Indicated
- G 936.00 — Elevation of Flow Line of Gutter at Point Indicated
- SS 519.46 — Storm Sewer (Direction of Flow & Invert Elevation Indicated)
- TD 531.9 — Tile Drain (Direction of Flow & Invert Elevation Indicated)
- • Existing Inlet, Inlet to be Adjusted, or Inlet to be Reconstructed
- •• Inlet to be Constructed
- Inlet to be filled with Sand & Connection Sealed
- • Existing Catch Basin, Catch Basin to be Adjusted, or Catch Basin to be Reconstructed
- •• Catch Basin to be Constructed
- E — Underground Electric Cable
- T — Underground Telephone Cable

- Catch Basin to be filled with Sand & Connection Sealed
- • Existing Manhole, Manhole to be Adjusted, or Manhole to be Reconstructed
- •• Manhole to be Constructed
- Manhole to be filled with Sand & Connection Sealed
- • Existing Valve Vault, Valve Vault to be Adjusted, or Valve Vault to be Reconstructed
- •• Valve Vault to be Constructed
- Valve Vault to be filled with Sand & Connection Sealed
- • Existing Fire Hydrant, or Fire Hydrant to be Adjusted
- M — Fire Hydrant & Auxiliary Valve to be Moved (Symbol with Letter indicates New Location)
- • Existing Light Standard, or Light Standard to be Adjusted
- M — Light Standard to be Moved (Symbol with Letter Indicates New Location)
- • Existing Traffic Signal, or Traffic Signal to be Adjusted
- M — Traffic Signal to be Moved (Symbol with Letter Indicates New Location)
- • Existing Traffic Sign, or Traffic Sign to be Adjusted
- M — Traffic Sign to be Moved (Symbol with Letter Indicates New Location)
- • Existing House Service Box or House Meter Vault, or House Service Box or House Meter Vault to be Adjusted
- M — House Service Box or House Meter Vault to be Moved (Symbol with Letter Indicates New Location)
- • Existing Main Service Box or Main Meter Vault, or Main Service Box or Main Meter Vault to be Adjusted
- M — Main Service Box or Main Meter Vault to be Moved (Symbol with Letter Indicates New Location)
- Trolley Pole
- Telephone or Telegraph Pole
- Power Line Pole
- H — House
- † — Church
- S — Shed
- Storage 258 — Commerical Building
- B — Barn
- P — School
- TH — Town Hall
- Roadway
- Traffic Direction Arrow

ABBREVIATIONS

T.D.	Tile Drain	℄-B.	Centerline to Back of Curb	R.P.S.	Reference Point Stake	Sec.	Section
S.S.	Storm Sewer (Existing)	Δ	Central Angle	I.P.	Iron Pipe	Sta.	Station
S.S. 18"x24" TYPE I	Storm Sewer (Size, Length and Type)	D.	Degree of Curve	N&W	Nail & Washer	P.L.	Property Line
S.S. 18"x24" TYPE I RCP	Storm Sewer (Size, Length, Type and Material)	T.	Tangent Length	T.P.	Telephone Pole	F.E.	Field Entrance
		L.	Curve Length	P.P.	Power Pole	P.E.	Private Entrance
		R.	Radius of Curve	F.P.	Fence Post	F.A.I.	Federal-aid Interstate
C.M.P.	Corrugated Metal Pipe	E.	External Distance	F.H.	Fire Hydrant	F.A.	Federal-aid
C.I.P.	Cast Iron Pipe	S.	Superelevation (ft. per ft. of width)	B.M.	Bench Mark	F.A.S.	Federal-aid Secondary
P.C.	Pipe Culvert (Existing)	P.C.	Point of Curvature	R.R.S.	Railroad Spike	S.B.I.	State Bond Issue
P. 18"x24" TYPE I	Pipe Culvert (Size, Length and Type)	P.I.	Point of Intersection	R.O.W.	Right of Way	M.F.T.	Motor Fuel Tax
		P.T.	Point of Tangency	Inv.	Invert	S.R.	State-Route
P. 18"x24" TYPE IA CMCP	Pipe Culvert (Size, Length, Type and Material)	P.O.T.	Point on Tangent	F.L.	Flow Line	C.H.	County Highway
		P.C.C.	Point of Compound Curvature	S.M.	State of Illinois Survey Marker	T.R.	Township Road
P.C.C.	Portland Cement Concrete	P.R.C.	Point of Reverse Curvature	U.S.C.&G.S.	U.S. Coast & Geodetic Survey	C.S.	City Street
F.-F.	Face to Face of Curb	V.C.	Vertical Curve	U.S.G.S.	U.S. Geological Survey	Proj.	Project
B.-B.	Back to Back of Curb	X.	External Distance of Vertical Curve	Elev.	Elevation	A.C.	Access Control
℄-F.	Centerline to Face of Curb	SAN. S	Sanitary Sewer	Rt.	Route	F.A.U.S.	Federal-aid Urban System

Illinois Department of Transportation

PASSED July 15 1977
Engineer of Design Operations

APPROVED July 15 1977
Engineer of Design

REVISIONS BY	DATE
J.F.L.	11-18-58
W.F.	9-9-59
W.F.	11-19-62
W.F.	5-12-66
D.W.W.	7-15-77

• If it is definitely known that adjustment or reconstruction is required, place A or R inside the symbol. If a new casting is required, show the casting number. Use P for open, C for closed lid. Example – Catch Basin to be reconstructed with new type 5 frame, open lid = Ⓡ 5P.

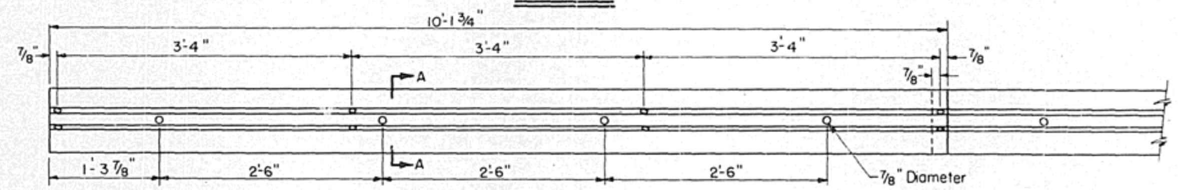
•• First character denotes type of structure. Use Sp. for special design. Second character denotes number of frame or grate. Example – Type A manhole with type 1 frame and closed lid = A-1C

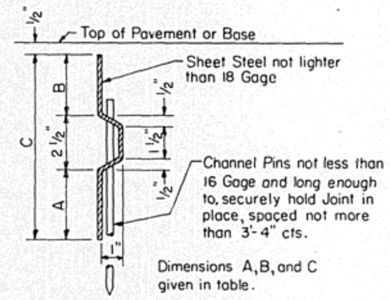
STANDARD 1686-4

Drawn 3-17-53 Redrawn 11-19-62 (Half Size) W.F.

ALTERNATE DESIGNS FOR LONGITUDINAL METAL JOINT

TYPE A



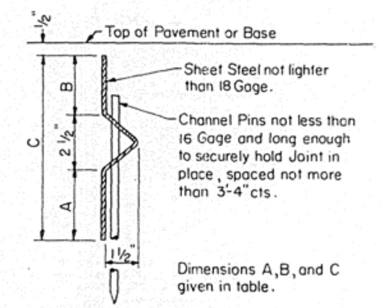


SECTION A-A

Dimensions for TYPE A Metal Joint

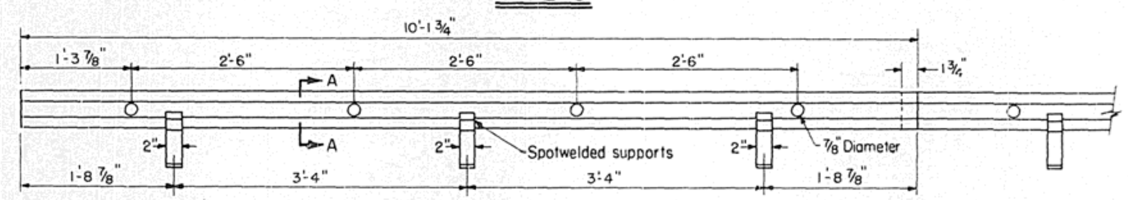
TYPE	A	B	C
P.C. Concrete (9")	3 1/4"	2 3/4"	8 1/2"
Bituminous (8" P.C. Conc. Base)	2 3/4"	2 1/4"	7 1/2"
P.C. Concrete (10")	3 3/4"	3 1/4"	9 1/2"
Bituminous (9" P.C. Conc. Base)	3 1/4"	2 3/4"	8 1/2"

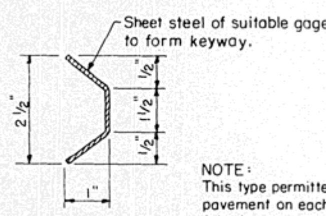
NOTE:
This type permitted where pavement on each side of the joint is constructed either in one or separate operations. Metal joints shall remain in place in all cases.



ALTERNATE SECTION

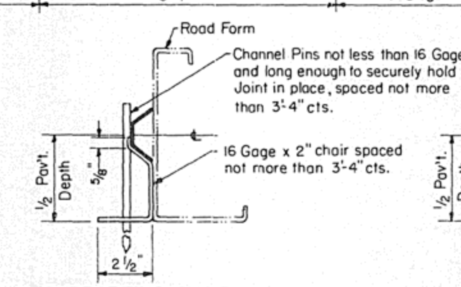
TYPE C



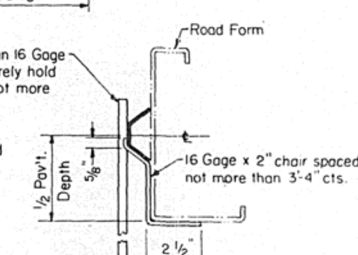


SECTION A-A

NOTE:
This type permitted only where pavement on each side of the joint is constructed in separate operations. The metal joint may be left in place.

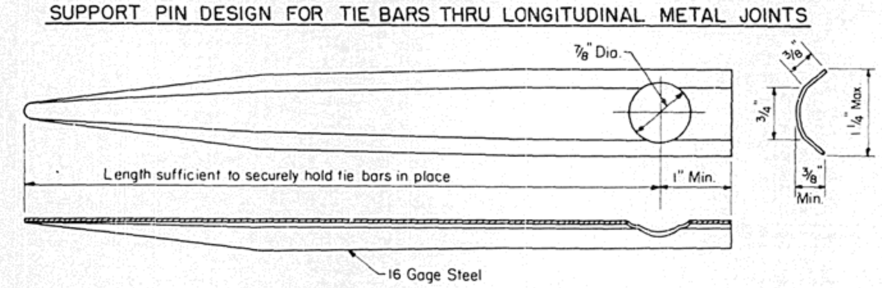


SUPPORTING CHAIR ALTERNATE



SUPPORTING CHAIR ALTERNATE

SUPPORT PIN DESIGN FOR TIE BARS THRU LONGITUDINAL METAL JOINTS



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PASSED July 6, 1971
A. V. VanAusdall
Engineer of Road Plans And Contracts

APPROVED July 6, 1971
W. E. Baumann
Engineer of Design

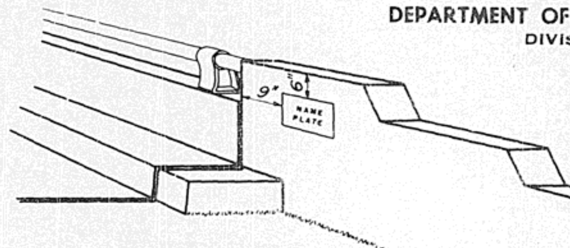
ISSUED 7-26-37	
REVISIONS	
W.H.F.	11-9-59
W.H.F.	11-21-61
W.F.	4-1-65
W.F.	10-15-69
W.F.	3-18-70
W.F.	7-6-71

Redrawn 11-9-59

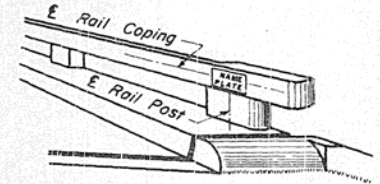
NOTE:
Except as otherwise noted on plans, tie bars, with support pins, shall be used with the longitudinal metal joint. The following sizes of tie bars will be required:
For P.C.C. Pavement and P.C.C. Base Course less than 10" thick, use 1/2" ϕ bars.
For P.C.C. Pavement 10" thick, use 5/8" ϕ bars.

STANDARD 1766-7

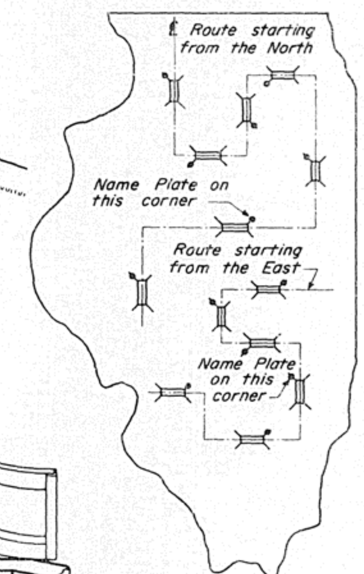
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

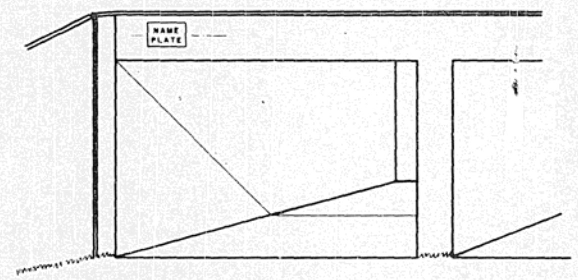


FOR END POST MOUNTED



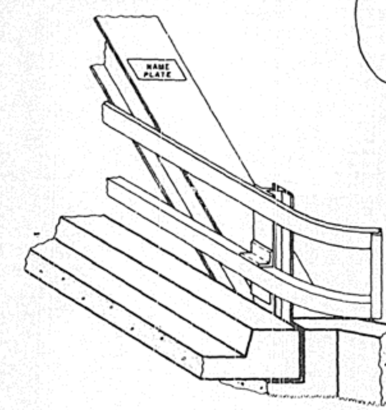
FOR CONCRETE RAILS



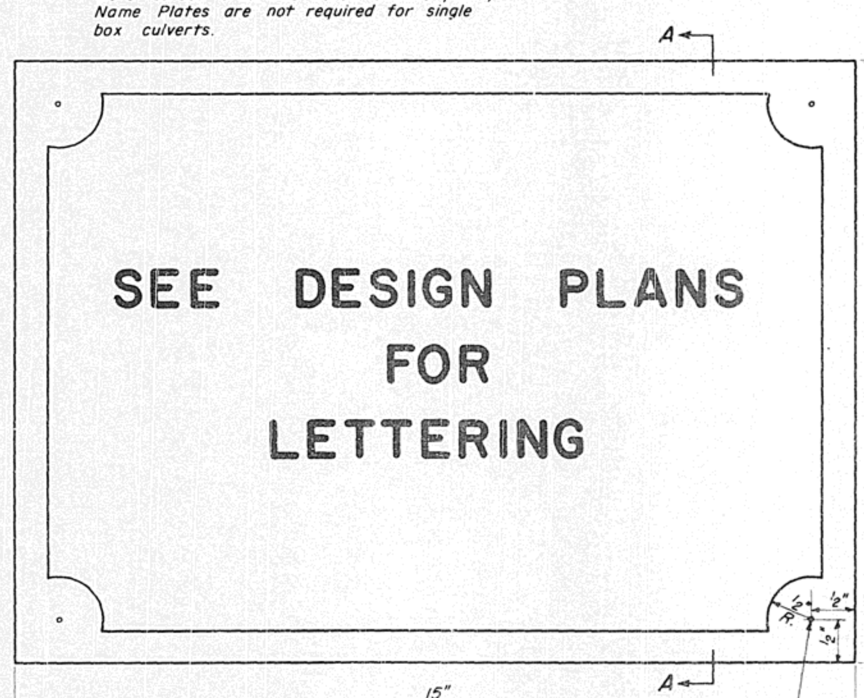


FOR MULTI-SPAN CULVERTS

Note: Unless otherwise noted on the plans, Name Plates are not required for single box culverts.

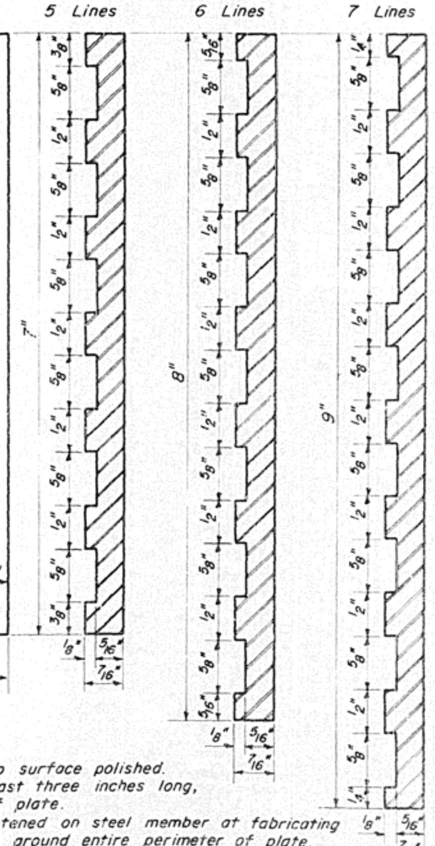


FOR TRUSSES



Center of 7/16"ø countersunk holes for bolts when required

Lettering For



Material: Best quality brass or bronze.
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.

Fastenings:
- For Concrete Rails, Culvert Headwalls & Subways — Four lugs at least three inches long, cast on back of plate.
- For Steel Truss Span — Plate to be fastened on steel member at fabricating shop by brazing around entire perimeter of plate.
- For Steel Rails — Plate to be bolted on with 4 - 3/8"ø brass or bronze machine bolts with countersunk head.

Placings:
- For Concrete Rails — Plate to be centered on ℄ of rail post and ℄ of handrail coping.
- For Steel Truss Span — Braze to end post about five feet above roadway.
- For Steel Rails — Place midway between horizontal rail members.
- For Subways — See design plans for location.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PASSED NOVEMBER 15, 1963
A V Van Ausdall
Engineer of Road Plans And Contracts

APPROVED NOVEMBER 15, 1963
[signature]
Engineer of Design

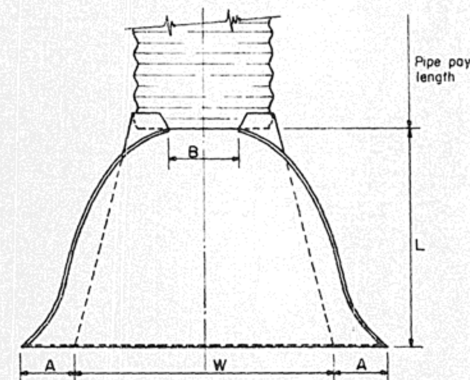
DETAIL OF NAME PLATE FOR BRIDGES

(Half size)

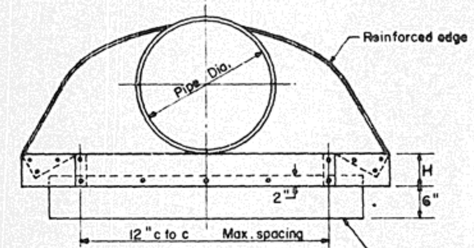
Rev. 11-15-63

STD. 2113-1

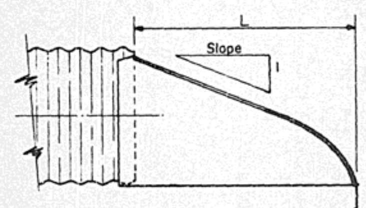
STANDARD DESIGN
METAL END SECTION FOR PIPE CULVERTS



PLAN VIEW



END VIEW



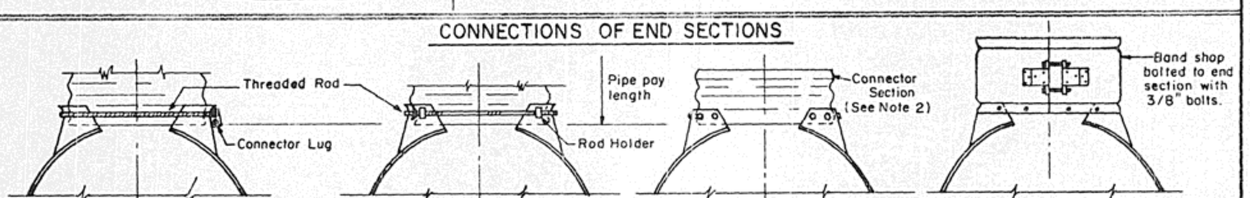
SIDE VIEW

PIPE DIA.	THICKNESS, INCHES	DIMENSIONS A (1"±)	B (Max)	H (1"±)	L (1½"±)	W (2"±)	SLOPE (Approx)	BODY
12	0.064	6	6	6	21	24	2½	1 Pc.
15	0.064	7	8	6	26	30	2½	1 Pc.
18	0.064	8	10	6	31	36	2½	1 Pc.
21	0.064	9	12	6	36	42	2½	1 Pc.
24	0.064	10	13	6	41	48	2½	1 Pc.
30	0.079	12	16	8	51	60	2½	1 Pc.
36	0.079	14	19	9	60	72	2½	2 Pc.
42	0.109	16	22	11	69	84	2½	2 Pc.
48	0.109	18	27	12	78	90	2¼	2 Pc.
54	0.109	18	30	12	84	102	2	2 Pc.
60	0.109	18	33	12	87	114	1¾	3 Pc.
66	0.109	18	36	12	87	120	1½	3 Pc.
72	0.109	18	39	12	87	126	1⅓	3 Pc.
78	0.109	18	42	12	87	132	1¼	3 Pc.
84	0.109	18	45	12	87	138	1⅙	3 Pc.

NOTES:

1. All 3 piece bodies shall have .109 inch sides and .138 inch center panels. Width of center panels shall be greater than 20 % of the pipe periphery. Multiple panel bodies shall have lap seams which shall be tightly jointed with 3/8" φ rivets or bolts.
2. For 60" thru 84" sizes, reinforced edges shall be supplemented with stiffener angles. The angles shall be 2" x 2" x 1/4" for 60" thru 72" diameter and 2½" x 2½" x ¼" for 78" and 84" diameter. The angles shall be attached by 3/8" φ rivets or bolts.
3. The toe plate shall be the same thickness metal as the end section.

CONNECTIONS OF END SECTIONS

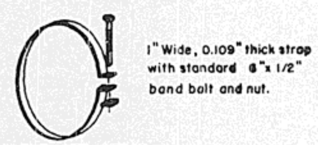


TYPE #1
For 12" thru 24" only
(See Note 1)

TYPE #2
For 30" & 36" only
(See Note 1)

TYPE #3
(See Note 2)

TYPE #4
(See Note 3)



ALTERNATE STRAP CONNECTOR
(For TYPE 1 only)

NOTE:

1. Types #1 and #2 for pipes with annular ends only.
2. Type # 3 connection can be used for all pipe sizes and includes 1 foot of the pipe length. The connector section shall be attached to the end section by rivets or bolts and shall be the same metal thickness as the end section. Stub to be either 2-2/3" pitch x 1/2" depth or 3" pitch x 1" depth annular corrugated pipe.
3. Type # 4 connection can be used for all pipe sizes. Coupler shall be 2-2/3" x 1/2" dimple, hugger or annular band or 3" x 1" annular band. The dimple, hugger, or annular band may be used with corrugated metal pipes having annular ends. For corrugated metal pipes having helical ends, only the dimple band will be allowed.
4. When the pipe is bituminous coated, it will not be necessary to coat end sections or connector sections.

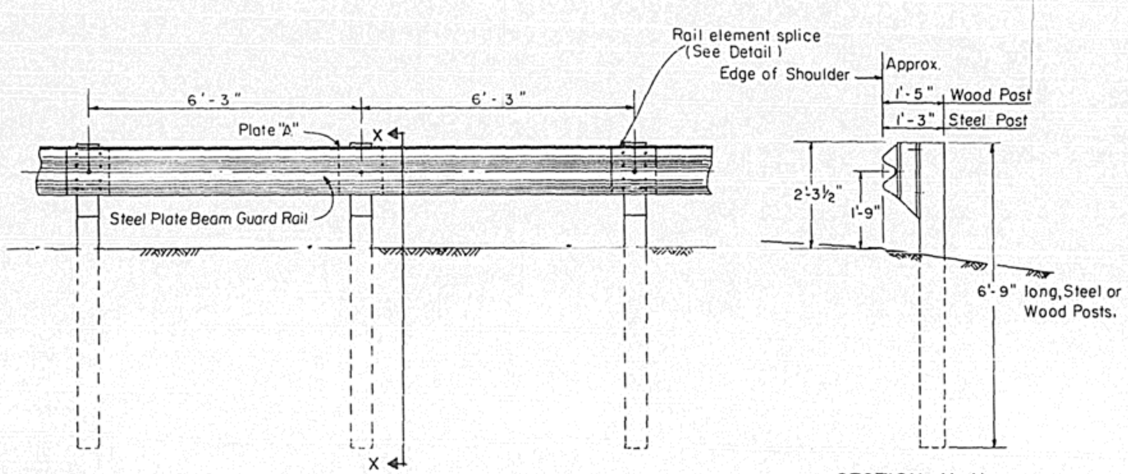
Illinois Department of Transportation

PASSED June 1 1977
D. E. Henning
Engineer of Design Operations

APPROVED June 1 1977
Thomas B. Bright
Engineer of Design

ISSUED 12-9-65	
REVISIONS	
G.R.	8-1-68
W.F.	1-17-72
DW.W.Sr.	8-25-76
DW.W.Sr.	6-1-77

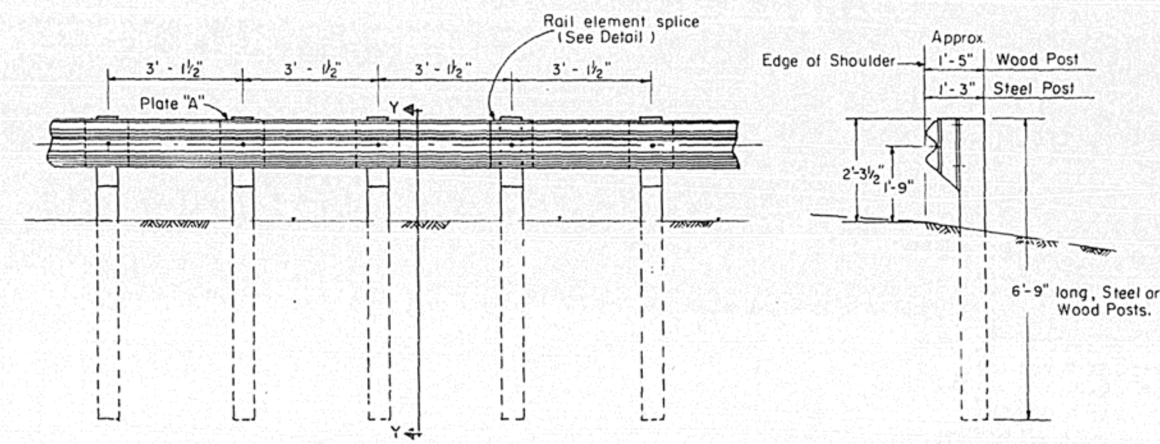
STANDARD 2228-4
(Half Size) W.F.



SECTION X-X

TYPE A

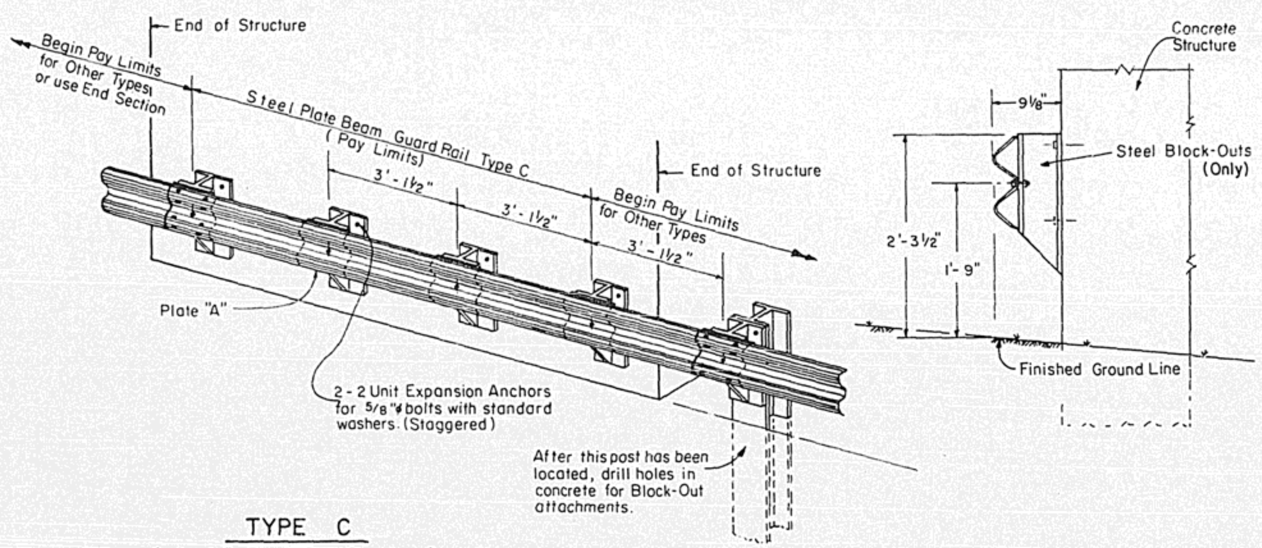
(6'-3" Typical Post Spacing)



SECTION Y-Y

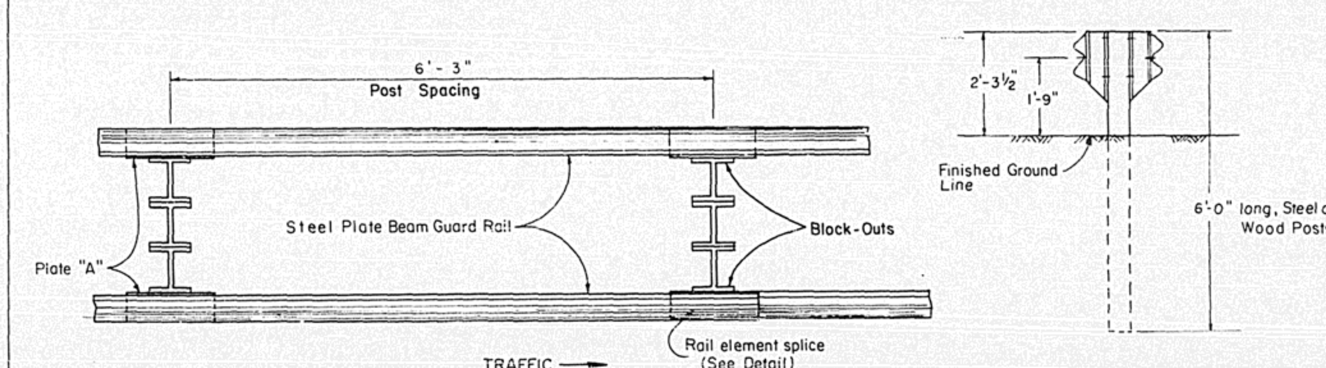
TYPE B

(3'-1½" Closed Post Spacing)



TYPE C

(3'-1½" Block-Out Spacing)



TYPE D

(Double Steel Plate Beam Guard Rail, with 6'-3" Typical Post Spacing)

Illinois Department of Transportation

PASSED July 25, 1979
Engineer of Design Operations

APPROVED July 25, 1979
Engineer of Design

ISSUED 2-1-66

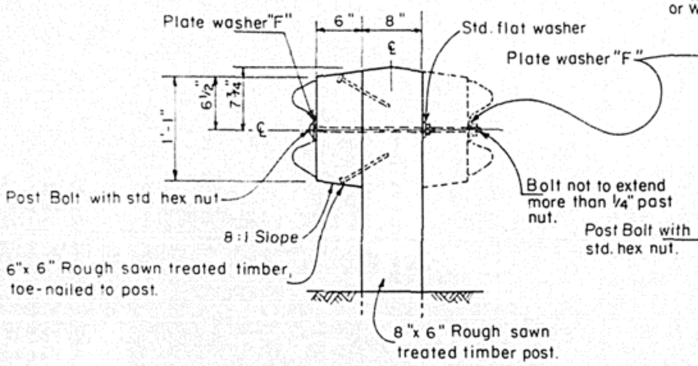
STEEL PLATE BEAM GUARD RAIL
TYPES A, B, C & D

Sheet 1 of 2 Sheets

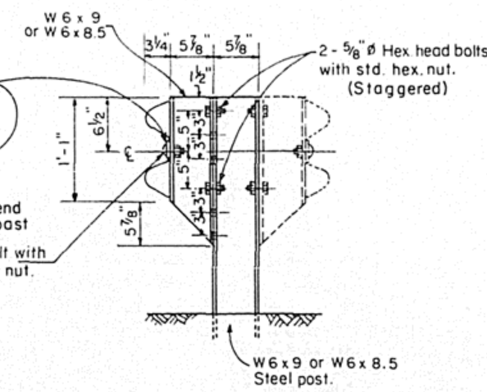
STANDARD 2230-13

F-3.1k

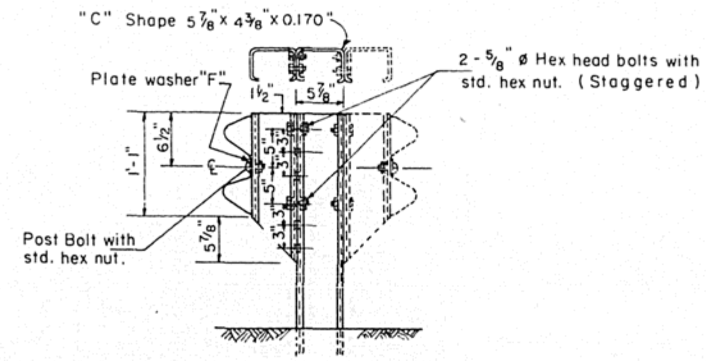
Full Size   DWW S



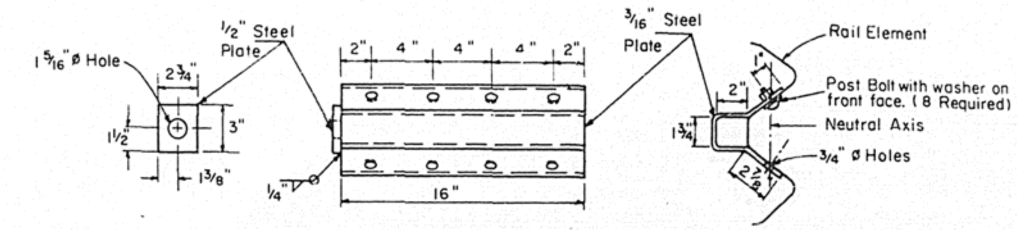
TYPICAL DETAIL OF WOOD POST CONSTRUCTION



TYPICAL DETAIL OF STEEL POST CONSTRUCTION

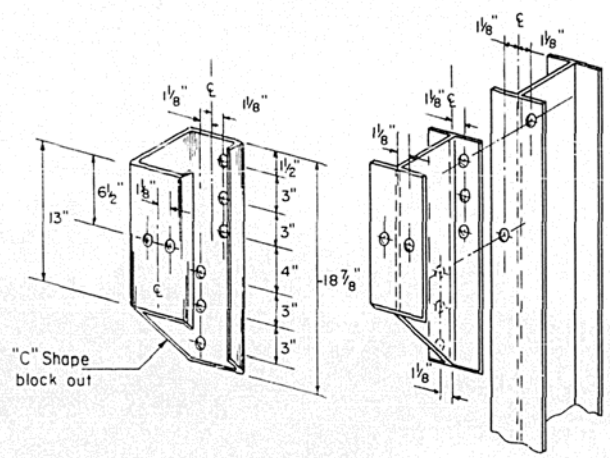


TYPICAL DETAIL OF STEEL POST CONSTRUCTION (ALTERNATE "C" SHAPE)

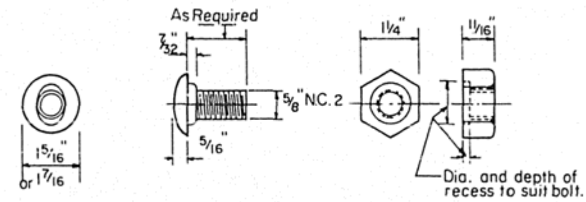


ANCHOR PLATE "T" DETAILS

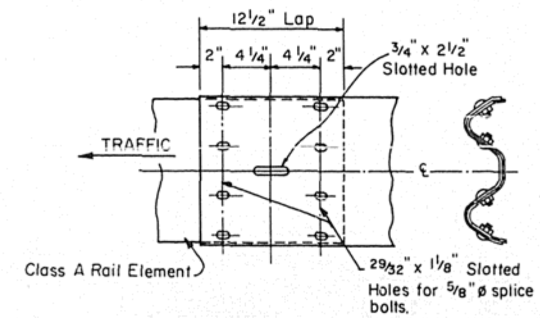
Anchor Plate "T" shall be used to attach cable assembly to guard rail when required on Traffic Barrier Terminals.



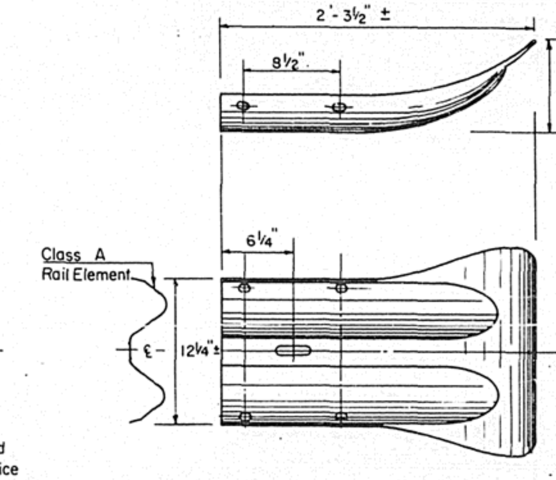
BLOCK-OUT DETAILS



POST OR SPLICE BOLT & NUT



RAIL ELEMENT SPLICE

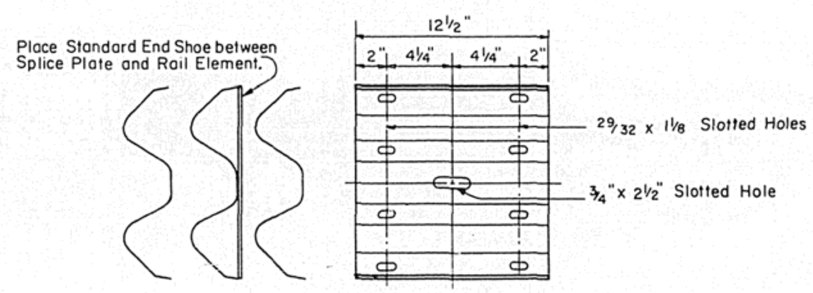


END SECTION

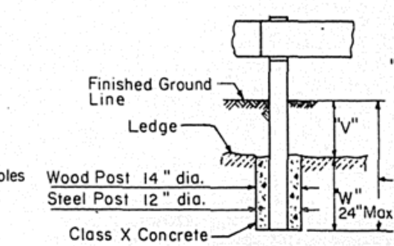
NOTE:

End Section shall be used only when specified on the contract plans.

Cost included in the bid unit price for Guard Rail.



SPLICE PLATE



When "V" is 0" to 20½", W = 24". When "V" is greater than 20½", "W" = 44½" - "V". When "V" is 6" or less, post hole shall be filled to ground line with concrete.

Ledge line is top of rock ledge or hard slag fill.

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

GENERAL NOTES

All rail element shall be Class A unless otherwise noted.

All holes in posts and block-outs shall be ¾" ø.

All concrete, and accessories used in the placing of the guard rail shall be included in the bid unit price for guard rail.

Rail element may be furnished in nominal lengths of either 12'-6" or 25'-0".

All rail elements and accessories shall conform to AASHTO M-180 unless otherwise noted.

For steel block-outs attached to wood posts, use 2-⅝" ø lag bolts (staggered) in pre-drilled post holes.

The Contractor shall load test 10% of all expansion anchor bolts in guard rail installations in the presence of the Engineer. The equipment and method used shall meet the approval of the Engineer. The minimum test load shall be 8,000 pounds for ⅞" ø bolts and 3,000 pounds for ⅝" ø bolts in direct pull. For each anchor that fails the test requirements, two (2) more anchor bolts, picked by the Engineer shall be tested. Each anchor bolt that fails to meet the test requirement shall be reset or removed and the hole drilled deeper. All reset anchor bolts shall meet minimum test requirements.

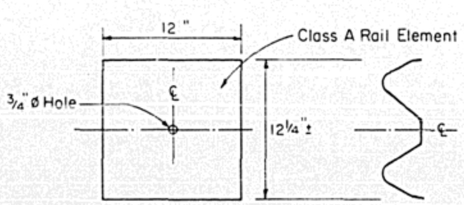
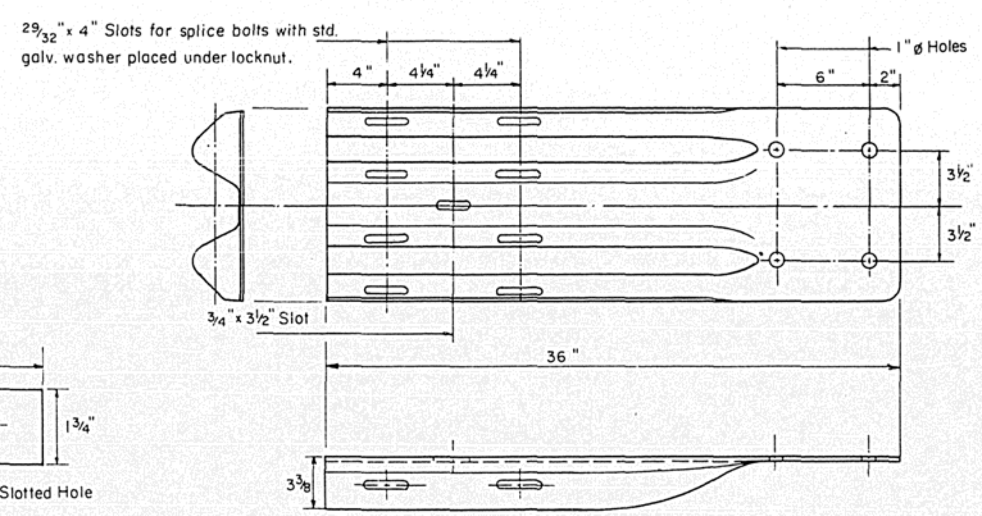


PLATE "A"

NOTE:

"Plate A" shall be placed between rail element and block-out at all non-splice mounting points.



STANDARD END SHOE

When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guard rail movement.

The Standard End Shoe shall be attached to the concrete with Pre-drilled or Self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

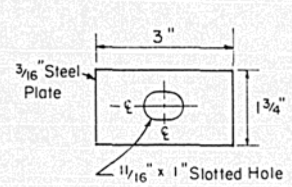


PLATE WASHER "F"

Plate Washer "F" shall be used at all locations where rail element is bolted to a block-out unless otherwise noted.

Illinois Department of Transportation

PASSED July 25, 1979

Engineer of Design Operations

APPROVED July 25, 1979

Engineer of Design

ISSUED 2-11-66

STEEL PLATE BEAM GUARD RAIL

(Sheet 2 of 2 Sheets)

STANDARD 2230-13

F-3.2 d

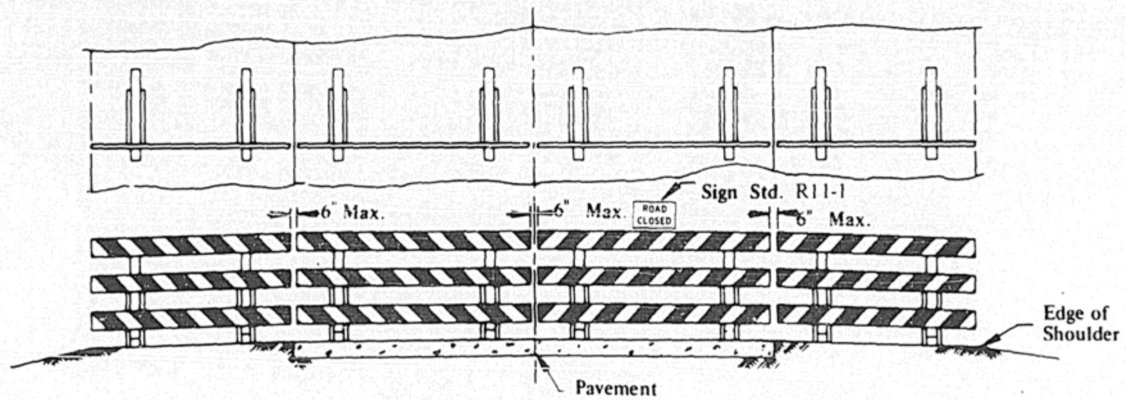
Full Size

D.W.W. Sr

STANDARD DESIGN

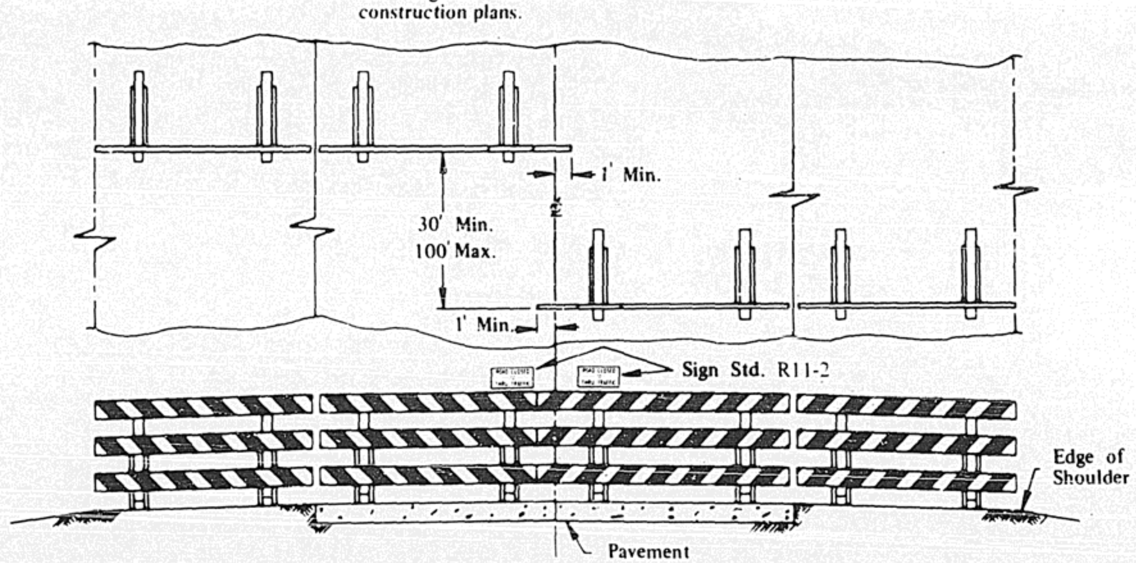
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD



ROAD CLOSED TO ALL TRAFFIC

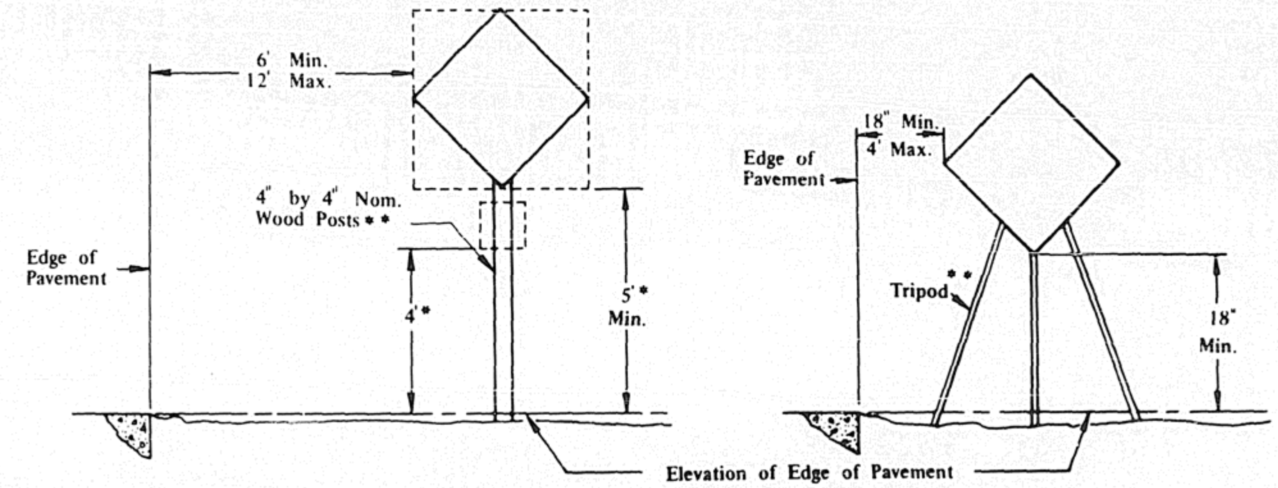
The barricades shall be to the edge of the shoulders except when otherwise directed by the Engineer or shown on the detailed construction plans.

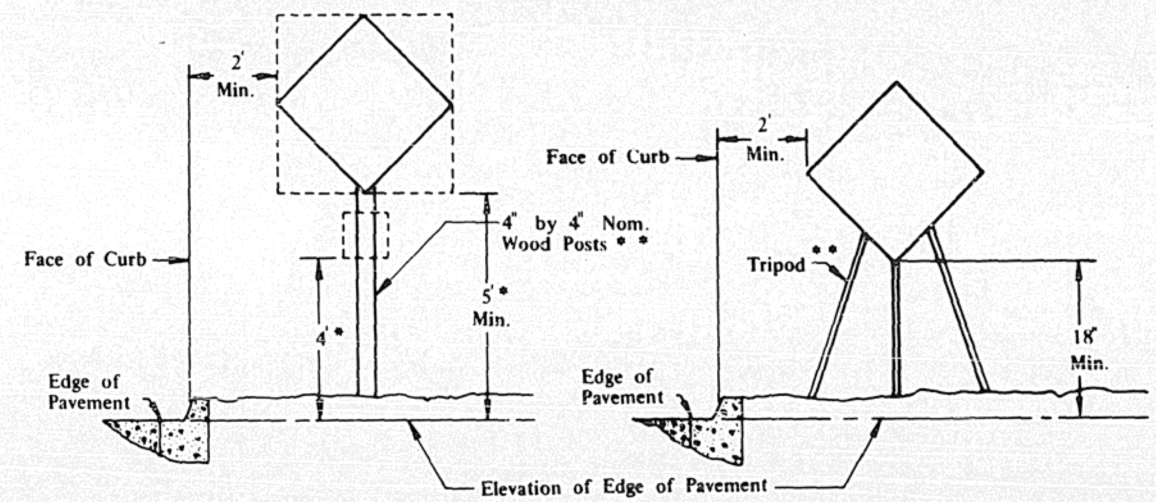


ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of barricades. The barricades shall be to the edge of the shoulders, except when otherwise directed by the Engineer or shown on the detailed construction plans.

TYPICAL SIGN INSTALLATIONS





*Add 2 ft. if parking exists within 200 ft. in advance of the sign location at any time during the project.

**Alternate designs and/or materials may be permitted when authorized by the Engineer. All materials shall be substantial and durable.

Signs on temporary supports shall be within 20^{o} of a vertical position.

Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize signs other than sandbags must be rigidly attached to the sign support as close to the ground as possible.

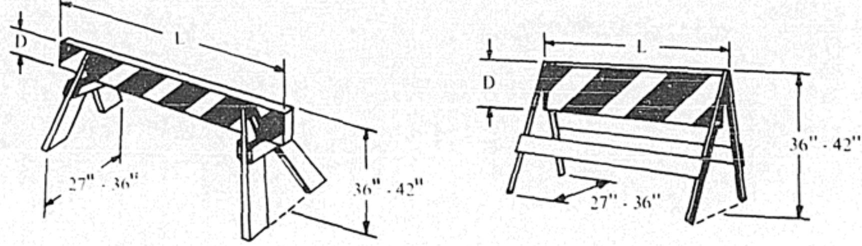
F-6.01 c

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69	
	REVISED	
	BY	DATE
APPROVED ____ 1973		
G. E. McBerly, Engineer of Traffic		

STANDARD 2298-4

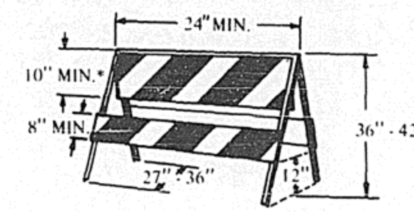
STANDARD DESIGN
DESIGN OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

TYPE I BARRICADES



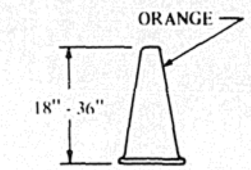
LENGTH (L)	DEPTH (D)
48" MIN.	8" MIN. (10" SLOPING RAIL)
36" MIN.	10" MIN. (12" SLOPING RAIL)

TYPE II BARRICADES

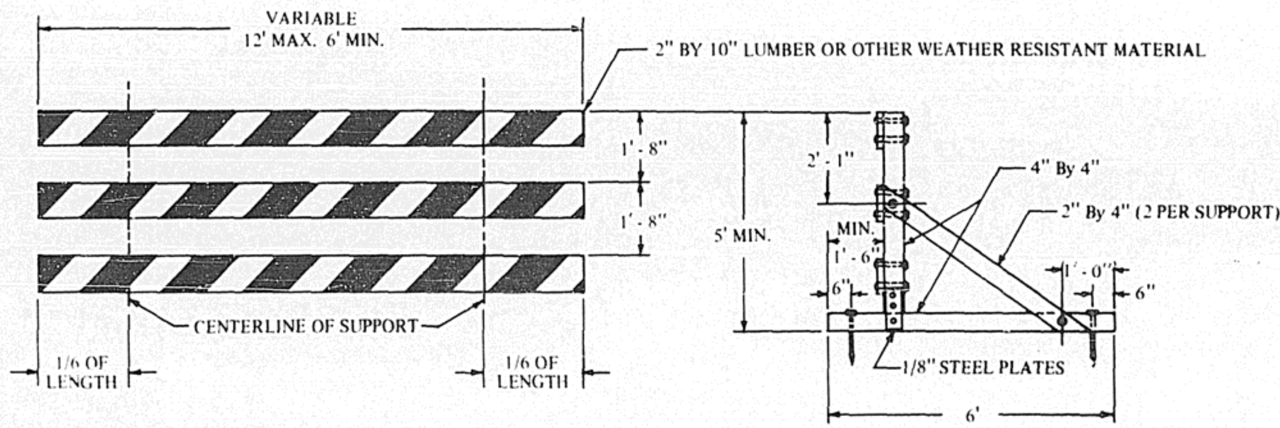


*12" SLOPING

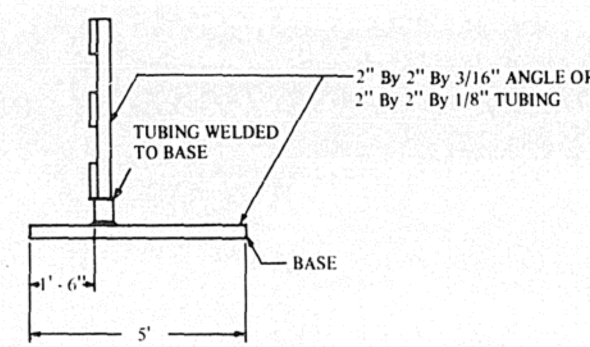
CONES



TYPE III BARRICADES

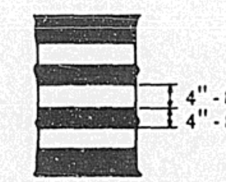


TYPICAL WOOD SUPPORTS



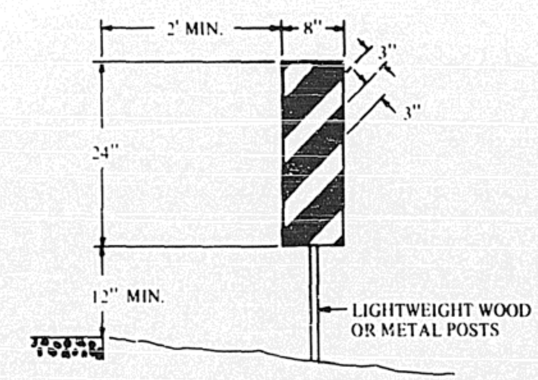
TYPICAL STEEL SUPPORTS

DRUMS



"55 GALLON"
OR
"30 GALLON"

VERTICAL PANELS



GENERAL NOTES

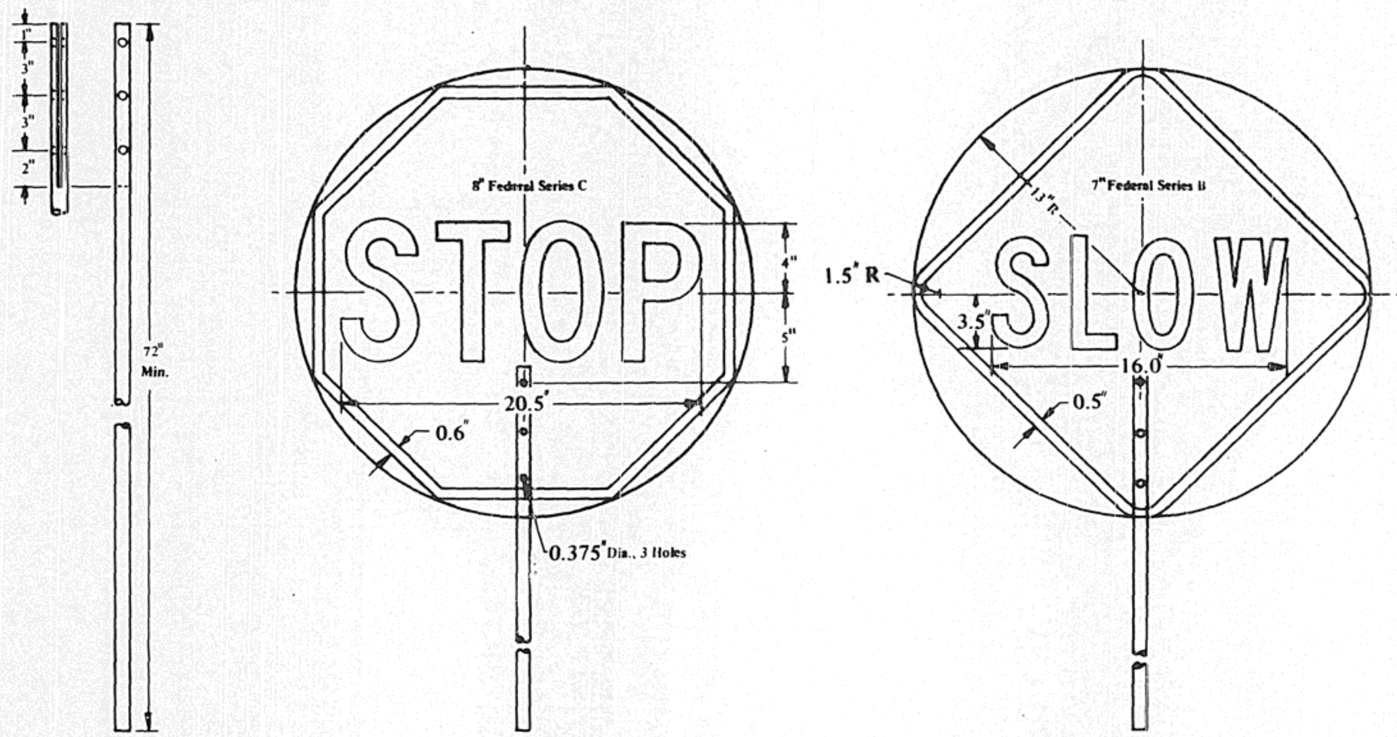
1. Barricade legs or supports shall be orange, white or silver in color.
2. All reflectorized material, shall meet the latest reflective sheeting requirements of the Department to be used in construction and maintenance areas.
3. All barricades and vertical panels shall have alternating reflectorized white and reflectorized orange stripes at 45° from the vertical. Barricade stripes shall be 6 inches in width on barricades 36 inches or greater in length and 4 inches in width on barricades less than 36 inches in length. Stripes on vertical panels shall be 3 inches in width.
4. Type I and Type II Barricades shall be striped on both sides. Type III Barricades shall be striped on both sides where traffic approaches from either direction.
5. Diagonal stripes shall slope downward at 45° toward the side on which traffic will pass.
6. Vertical panels placed on the outside of curves shall be reflectorized on both sides.
7. The top rail on Type I and Type II Barricades may be vertical as shown or sloping at no greater than a 30 degree angle.
8. Drums shall have alternating reflectorized orange and reflectorized white horizontal, circumferential stripes. Stripes shall be 4 inches to 8 inches in width. If non reflective spaces are left between the orange and white stripes or at the top and bottom of the drum, they shall be no more than 2 inches in width and shall be painted orange or white. Other than for these 2-inch spaces, the entire drum shall be striped.
9. Frames shown are typical. Alternate designs and/or materials may be permitted when authorized by the Engineer. All materials shall be substantial and durable. Nominal lumber sizes are acceptable to satisfy dimensions.
10. Barricades may be identified with a legend that does not exceed one inch in height at a location not visible to traffic.
11. Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize barricades other than sandbags must be rigidly attached to the barricades as close to the ground as possible. No weights or sandbags will be allowed on the top rail of barricades. Drums may be weighted internally with just enough sand, water, or other material to provide stability.
12. When used, warning lights on Type I and Type II Barricades shall be mounted above the top rail to the side on which traffic will pass and shall not obscure any reflectorized portion of the rail.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69	
	REVISED	
	By	DATE
APPROVED 12-27-74	R.Y.	6-1-76
G.E. Mouau — Engineer of Traffic		

STANDARD 2299-7

F-602 d

STANDARD DESIGN FOR FLAGMAN TRAFFIC CONTROL SIGN



STAFF   FRONT SIDE   REVERSE SIDE

GENERAL NOTES

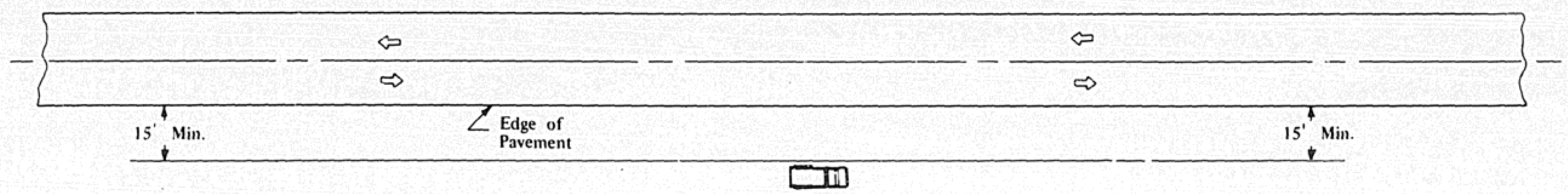
1. The "STOP" face shall consist of white letters and border on a red reflectorized background.
2. The "SLOW" face shall consist of black letters and border on a orange reflectorized background.
3. Areas outside sign borders shall be light blue.
4. The portion of the staff within the sign face shall match the sign colors.
5. All colors and letters shall meet applicable federal standards.
6. The sign shall be attached to the staff with rust resistant hardware.
7. The staff shall consist of two sections joined by a coupling located 60 in. from the bottom of the staff. Alternate designs may be used when approved by the Engineer. All materials shall be substantial and durable.
8. This sign shall be furnished by the contractor and shall be used by the flagman in lieu of flags or other signaling devices. The cost of furnishing and maintaining the sign shall be considered incidental to the contract and no additional compensation will be allowed.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69
APPROVED 6-12 1973	REVISED BY DATE
G. E. Moberly, Engineer of Traffic	

STANDARD 2300-1

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE



CASE I

TWO-LANE, TWO WAY TRAFFIC, RURAL DAY OR NIGHT OPERATIONS

Where, at all times, all vehicles, equipment, men and their activities are more than 15 ft. from the edge of pavement.

F-6.06 b

TYPICAL APPLICATIONS

- Landscaping Work
- Utility Operations
- Fencing Contracts and Maintenance
- Cleaning Culverts

GENERAL NOTES

1. No special signing is required.
2. If the work operation requires that two or more work vehicles cross the 15 ft. clear zone in any one hour, traffic control will be in conformance with Case II.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 6-12 1973
G. E. Moberly
Engineer of Traffic

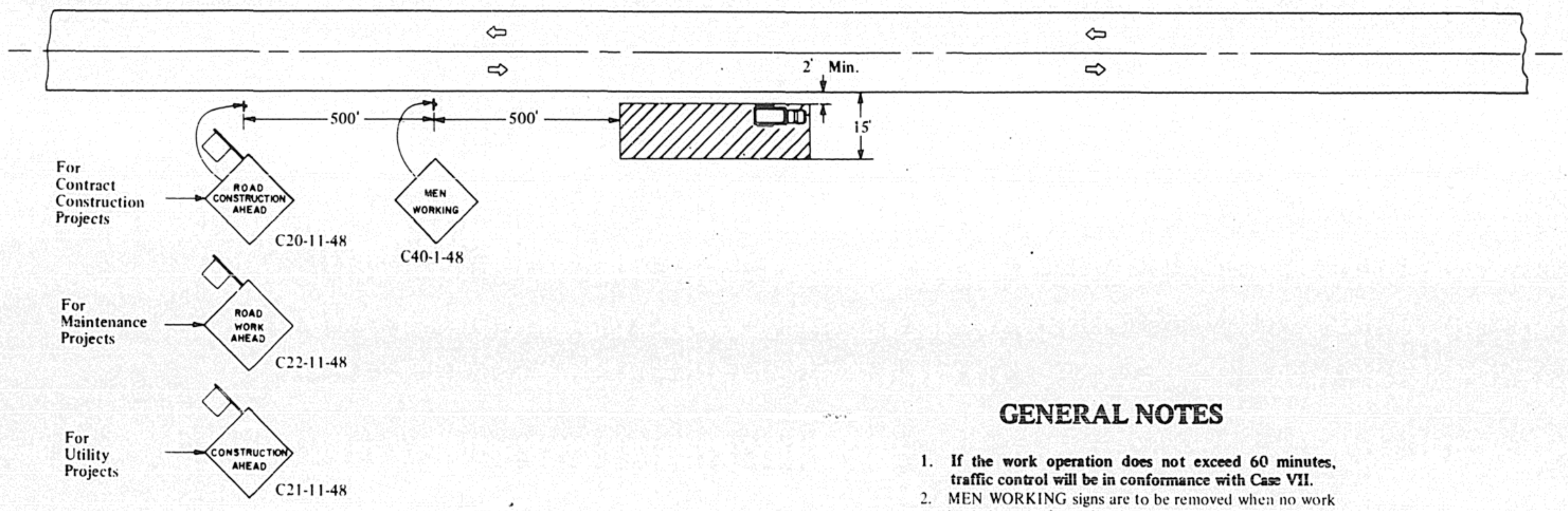
ISSUED 4-3-69
REVISED

BY	DATE

STANDARD 2301-3

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE



GENERAL NOTES

1. **If the work operation does not exceed 60 minutes, traffic control will be in conformance with Case VII.**
2. MEN WORKING signs are to be removed when no work is being performed. Any unattended obstacle or excavation in the work area, which in the opinion of the engineer constitutes a hazard, shall be protected by Type I or Type II Barricades at 50-foot centers with flashing lights or torches at night. When used, torches must be placed on the ground. If the hazard exceeds 100 feet in length, steady burning lights shall be substituted for flashing lights or torches. When the distance is greater than 250 feet, barricade spacing may be increased to 100 feet.
3. **If the work operation requires that four or more work vehicles enter the through traffic lanes in a one–hour period, a flagman shall be provided and the FLAGMAN 500 FT sign shall be substituted for the MEN WORKING sign.**
4. **Longitudinal dimensions may be adjusted slightly to fit field conditions.**
5. **All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.**
6. All vehicles, equipment, men and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

TYPICAL APPLICATIONS

- Utility Operations
- Culvert Extensions
- Side Slope Changes
- Guard Rail Installation and Maintenance
- Delineator Installation and Maintenance
- Landscaping Operations
- Cleaning Ditches and Drainage Structures
- Sign Installation and Maintenance
- Shoulder Repair

SYMBOLS

Work Area.

Sign with 18 in. by 18 in. (minimum) orange flag attached.

Sign on portable or permanent support.

CASE II

TWO-LANE, TWO WAY TRAFFIC, RURAL DAY OR NIGHT OPERATIONS

Where, at any time, any vehicle, equipment, men or their activities will encroach in the area closer than 15 ft. but not closer than 2 ft. to the edge of pavement.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 6-12 1973
G. E. Moberly
Engineer of Traffic

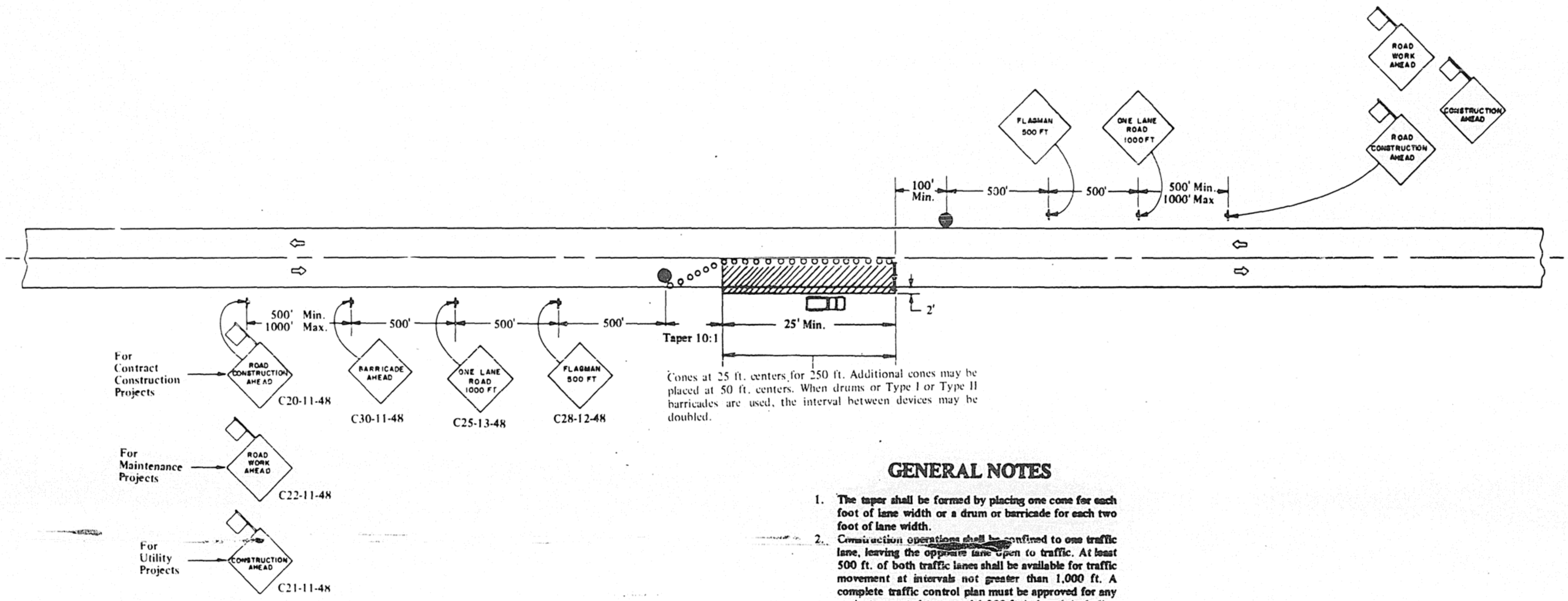
ISSUED 4-3-69	
REVISED	
BY	DATE

STANDARD 2302-3

F-6.07 b

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE



GENERAL NOTES

1. The taper shall be formed by placing one cone for each foot of lane width or a drum or barricade for each two foot of lane width.
2. Construction operations shall be confined to one traffic lane, leaving the opposite lane open to traffic. At least 500 ft. of both traffic lanes shall be available for traffic movement at intervals not greater than 1,000 ft. A complete traffic control plan must be approved for any project expected to exceed 1,000 ft. in length including both taper and work areas.
3. If the work operation does not exceed 60 minutes, traffic control will be in conformance with Case VII.
4. The flagmen shall be in sight of each other or in direct communication at all times.
5. When there is no work being performed, the FLAGMAN 500 FT sign(s) and the flagmen will not be required. A ONE LANE ROAD 500 FT sign(s) shall be installed in place of the FLAGMAN 500 FT sign(s).
6. All signs, cones, barricades and drums are to be removed at completion of the day's operations and the work area opened to traffic.
7. When a side road intersects the highway on which work is being performed, additional traffic control devices shall be erected and flagmen provided as directed by the Engineer.
8. Longitudinal dimensions may be adjusted slightly to fit field conditions. The lateral placement of the flagmen may be varied from that shown.
9. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.
10. All vehicles, equipment, men (except flagmen) and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

CASE III

TWO-LANE, TWO WAY TRAFFIC, RURAL DAY OPERATIONS ONLY

Where, at any time, any vehicle, equipment, men or their activities will encroach in the area between the center line and a line 2 ft. outside the edge of pavement.

SYMBOLS

- Work Area.
- Sign with 18 in. by 18 in. (minimum) orange flag attached.
- Cone, Drum (55 or 30 gallon), Type I or Type II Barricade.
- Sign on portable or permanent support.
- Flagman with Traffic Control sign.
- Type I or Type II Barricade

TYPICAL APPLICATIONS

Pavement Patch
Utility Operations

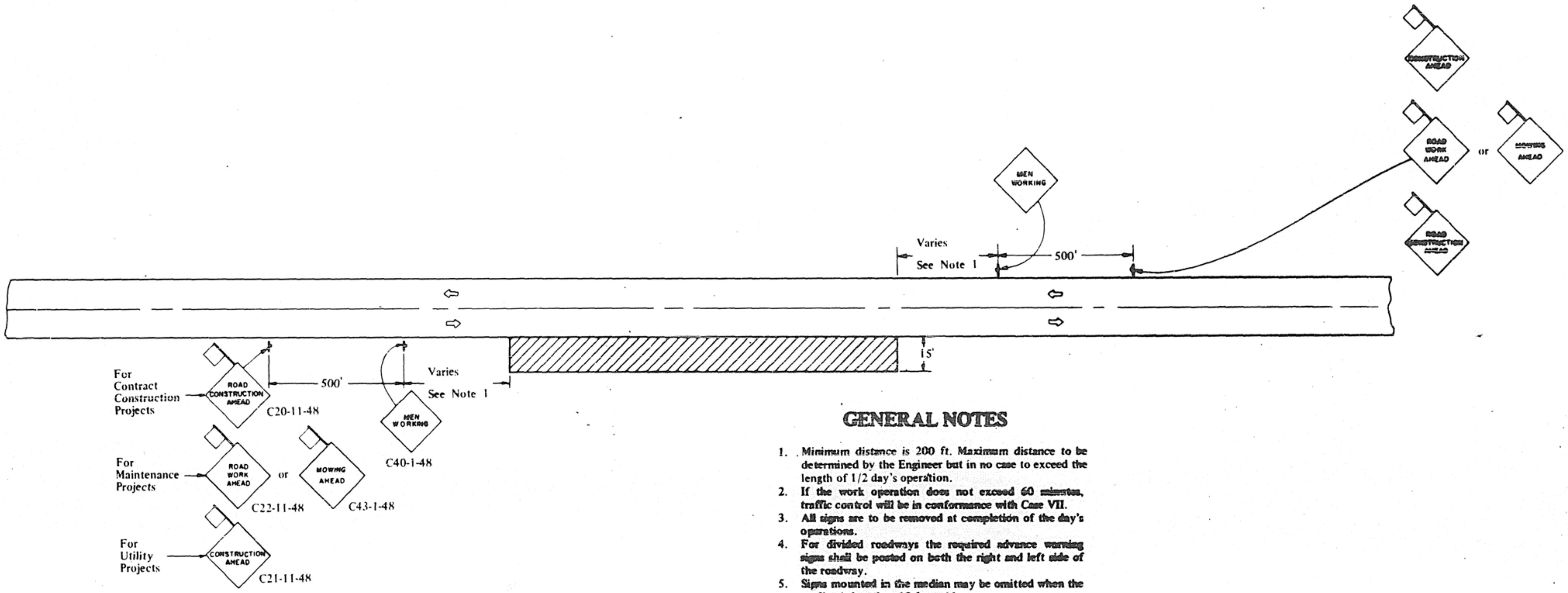
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69	
	REVISED	
	BY	DATE
APPROVED 6-12 1973		
G. E. Moberly, Engineer of Traffic		

STANDARD 2303-4

F-6.08 b

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE



GENERAL NOTES

1. Minimum distance is 200 ft. Maximum distance to be determined by the Engineer but in no case to exceed the length of 1/2 day's operation.
2. If the work operation does not exceed 60 minutes, traffic control will be in conformance with Case VII.
3. All signs are to be removed at completion of the day's operations.
4. For divided roadways the required advance warning signs shall be posted on both the right and left side of the roadway.
5. Signs mounted in the median may be omitted when the median is less than 10 feet wide.
6. For multilane roadways the advance warning signs for traffic approaching from the opposite direction will be omitted.
7. MEN WORKING signs are to be removed when no work is being performed. Any unattended obstacle or excavation in the work area, which in the opinion of the engineer constitutes a hazard, shall be protected by Type I or Type II Barricades at 50-foot centers with flashing lights or torches at night. When used, torches must be placed on the ground. If the hazard exceeds 100 feet in length, steady burning lights shall be substituted for flashing lights or torches. When the distance is greater than 250 feet, barricade spacing may be increased to 100 feet.
8. If the work operation requires that four or more work vehicles enter the through traffic lanes in a one-hour period, a flagman shall be provided and the FLAGMAN AHEAD sign shall be substituted for the MEN WORKING sign.
9. Longitudinal dimensions may be adjusted slightly to fit field conditions.
10. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.
11. All vehicles, equipment, men and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

CASE V

RURAL MOVING OPERATIONS
DAY OPERATIONS ONLY

Where, at any time, any vehicle, equipment, men or their activities require an intermittent or continuous moving operation on the shoulder.

TYPICAL APPLICATIONS

Shoulder Work
Mowing
Utility Operations

SYMBOLS

Work Area.

Sign with 18 in. by 18 in. (minimum) orange flag attached.

Sign on portable or permanent support.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ISSUED 4-3-69	
REVISED	
BY	DATE

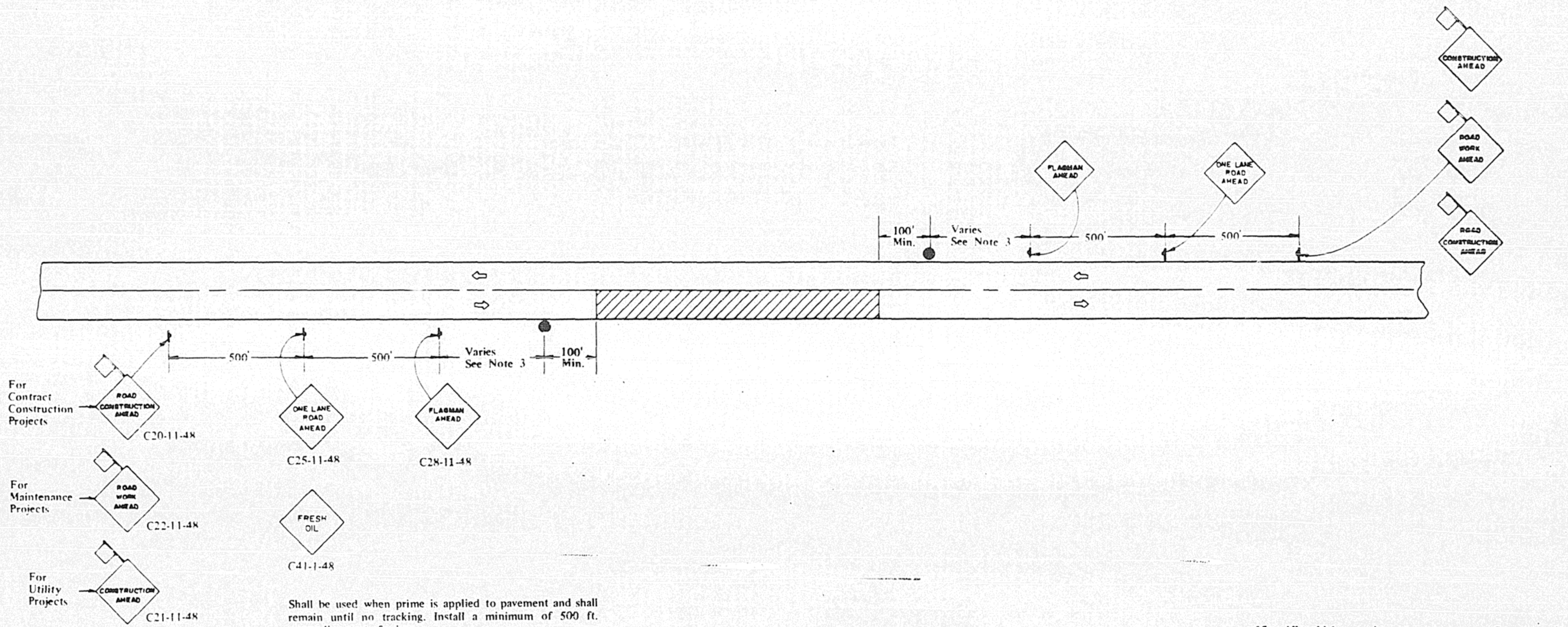
APPROVED 6-12 1973
G. E. Moberly
Engineer of Traffic

STANDARD 2305-3

F-6.10 b

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE



Shall be used when prime is applied to pavement and shall remain until no tracking. Install a minimum of 500 ft. preceeding start of prime.

GENERAL NOTES

1. Construction operations shall be confined to one traffic lane. On two–lane roads, at least 500 ft. of both traffic lanes shall be available for traffic movement at intervals not greater than 1,000 ft. and a complete traffic control plan must be approved for any project expected to exceed 1,000 ft. in length.
2. The flagmen shall be in sight of each other or in direct communication at all times.
3. Minimum distance is 200 ft. Maximum distance to be determined by the Engineer but in no case to exceed the length of 1/2 day's operation or four miles, whichever is less.
4. If the work operation does not exceed 60 minutes, traffic control will be in conformance with Case VII.
5. All signs are to be removed at completion of the day's operations.
6. For divided roadways the required advance warning signs shall be posted on both the right and left side of the roadway.
7. Signs mounted in the median may be omitted when the median is less than 10 feet wide.
8. For multilane roadways the flagman shown for traffic approaching from the opposite direction will be positioned as directed by the Engineer and the advance warning signs for traffic approaching from the opposite direction omitted.
9. For multilane roadways the advance warning signs for traffic approaching from the opposite direction will be omitted and RIGHT LANE CLOSED AHEAD signs shall be substituted for the ONE LANE ROAD AHEAD signs.
10. This case also applies when work is being performed in lanes adjacent to the centerline of an undivided multilane highway or adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED AHEAD signs shall be substituted for RIGHT LANE CLOSED AHEAD signs.
11. This case does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans approved by the Engineer will be required.
12. ONE LANE ROAD AHEAD and FLAGMAN AHEAD signs are to be removed or covered when no work is being performed.
13. Longitudinal dimensions may be adjusted slightly to fit field conditions. The lateral placement of the flagmen may be varied from that shown.
14. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.
15. All vehicles, equipment, men (except flagmen) and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

CASE VI

RURAL MOVING OPERATIONS
DAY OPERATIONS ONLY

Where, at any time, any vehicle, equipment, men or their activities require an intermittent or continuous moving operation on the pavement where the average speed of movement is less than four miles per hour.

TYPICAL APPLICATIONS

Bituminous Resurfacing
Crack Pouring
Utility Operations

SYMBOLS

- Work Area.
- Sign with 18 in. by 18 in. (minimum) orange flag attached.
- Sign on portable or permanent support.
- Flagman with Traffic Control sign.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ISSUED 4-3-69	
REVISED	
BY	DATE

APPROVED 6-12 1973
G. E. Moberly
Engineer of Traffic

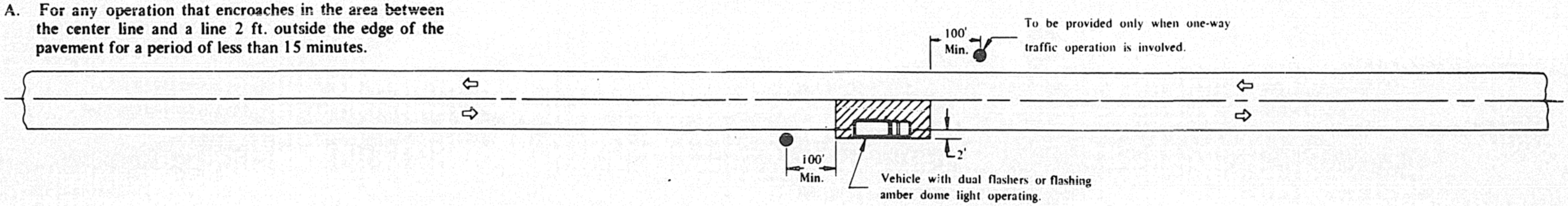
F-6.11 b

STANDARD 2306-4

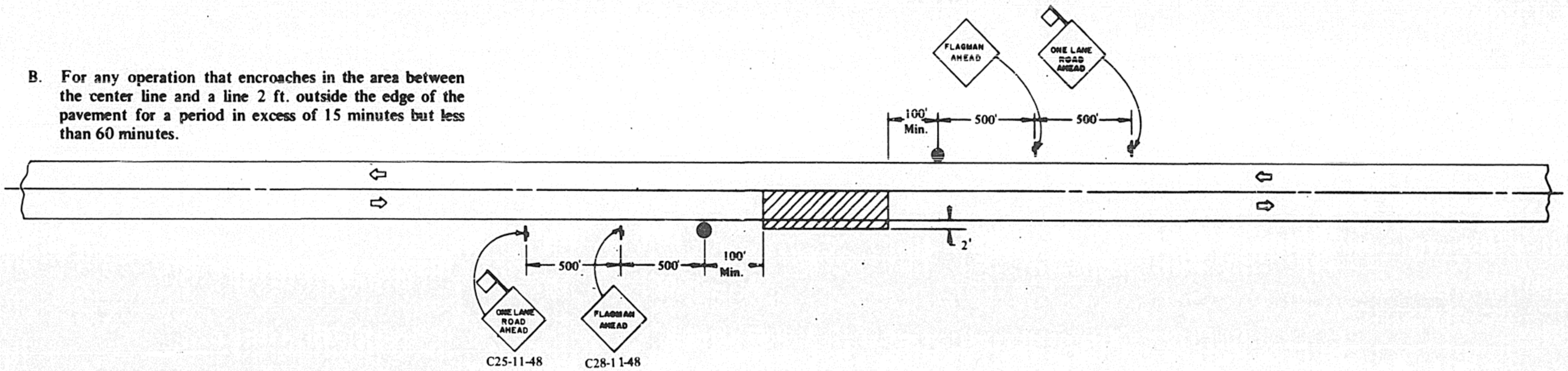
STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

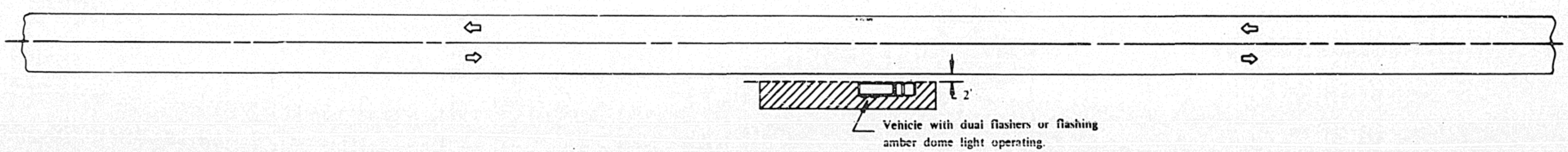
A. For any operation that encroaches in the area between the center line and a line 2 ft. outside the edge of the pavement for a period of less than 15 minutes.



B. For any operation that encroaches in the area between the center line and a line 2 ft. outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.



C. For any operation that is more than 2 ft. outside the edge of the pavement for a period of less than 60 minutes.



TYPICAL APPLICATIONS

Marking Patches
Field Survey
String Line
Utility Operation
Cleaning Up Debris on Pavement

SYMBOLS

Work Area.

Sign with 18 in. by 18 in. (minimum) orange flag attached.

Sign on portable or permanent support.

Flagman with Traffic Control sign.

GENERAL NOTES

1. Construction operations shall be confined to one traffic lane. On two–lane roads, at least 500 ft. of both traffic lanes shall be available for traffic movement at intervals not greater than 1,000 ft. and a complete traffic control plan must be approved for any project expected to exceed 1,000 ft. in length.
2. The flagmen shall be in sight of each other or in direct communication at all times.
3. All signs are to be removed at completion of each operation.
4. For multilane roadways the flagman shown for traffic approaching from the opposite direction will be positioned as directed by the Engineer and the advance warning signs for traffic approaching from the opposite direction omitted.
5. Longitudinal dimensions may be adjusted slightly to fit field conditions. The lateral placement of the flagmen may be varied from that shown.
6. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.
7. All vehicles, equipment, men (except flagmen) and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

CASE VII

SHORTTIME OPERATIONS
DAY OR NIGHT OPERATIONS

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69	
	REVISED	
	BY	DATE
APPROVED 6-12 1973		
L. E. Moberly Engineer of Traffic		

STANDARD 2307-4

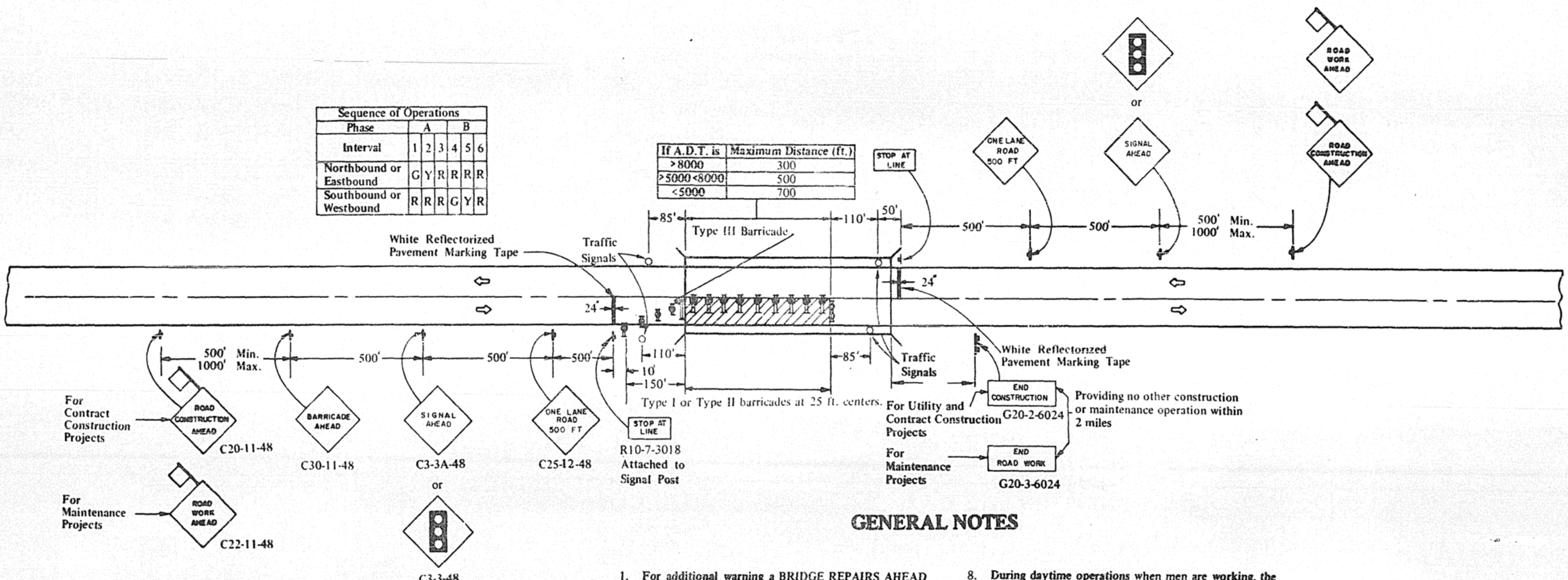
F-6.12.b

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

Sequence of Operations						
Phase	A			B		
Interval	1	2	3	4	5	6
Northbound or Eastbound	G	Y	R	R	R	R
Southbound or Westbound	R	R	R	G	Y	R

If A.D.T. is	Maximum Distance (ft.)
>8000	300
>5000<8000	500
<5000	700



GENERAL NOTES

1. For additional warning a BRIDGE REPAIRS AHEAD sign may be installed ahead of the ROAD CONSTRUCTION AHEAD or ROAD WORK AHEAD sign. The distance between successive signs shall be 500 ft.
2. The Engineer must be notified at least 72 hours prior to placing the temporary signals in operation so that arrangements can be made to inspect the installation and set the timing of the signals. The Contractor must furnish timing cycle gears of 60, 65, 70, 80, 90, 100, and 110 seconds for the controller.
3. At any time that the signals are not operating the signal head shall be hooded and the SIGNAL AHEAD sign covered or removed.
4. The left signal head shall normally be mounted at a height of 10 feet above the road surface measured to the bottom of the signal head. The right head shall normally be mounted at a height of 14 feet above the road surface. Baffle plates will be required on all signals.
5. All red lenses shall normally be 12 inch nominal diameter. The right signal head shall be aimed so the the centers of the light beams of the indications are directed toward a point in the center of the approach lane 500 feet in advance of the signal. The left indication shall be aimed at a point in the center of the approach lane 100 feet in advance of the stop line.
6. If flagmen are used instead of traffic signals, the traffic control devices shall conform to Case III or Case IV.
7. Cones may be substituted for barricades with steady burning lights at half the spacing during daytime operations.
8. During daytime operations when men are working, the Engineer may allow the barricades to be placed parallel to the center line.
9. Steady burning lights will not be required for day operations.
10. The taper shall be formed by placing one barricade for each two foot of lane width.
11. Bidirectional lights shall be used at night along the center line whether the work area is separated from the travelled lane using barricades or by using other devices. Monodirectional lights shall be used at night on all other barricades.
12. The Engineer may require drums, either 55 gallon or 30 gallon, to be used to supplement the barricades if the closure time exceeds four days.
13. All signs shall be post mounted if the closure time exceeds four days.
14. High intensity flashing lights shall be used on each approach in advance of the work area during hours of darkness and installed above the first two signs in each series.
15. Longitudinal dimensions may be adjusted slightly to fit field conditions.
16. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background. All signs other than warning signs shall have as a minimum the dimensions shown and shall have a black legend and border on a white reflectorized background.
17. All vehicles, equipment, men and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.
18. Form BT 725 is required.

SYMBOLS

- Work Area.
- Sign with 18 in. by 18 in. (minimum) orange flag attached.
- Sign on portable or permanent support.
- Type I or Type II Barricade with flashing lights.
- Type I or Type II Barricade with steady burning light.

TYPICAL APPLICATION

Bridge Deck Repair

CASE IX

TWO-LANE, TWO WAY TRAFFIC, RURAL ONE LANE CLOSURE ON A BRIDGE DECK DAY OR NIGHT OPERATIONS

Where, at any time, any vehicle, equipment, men or their activities will encroach on one lane of a bridge deck and traffic signals are required.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

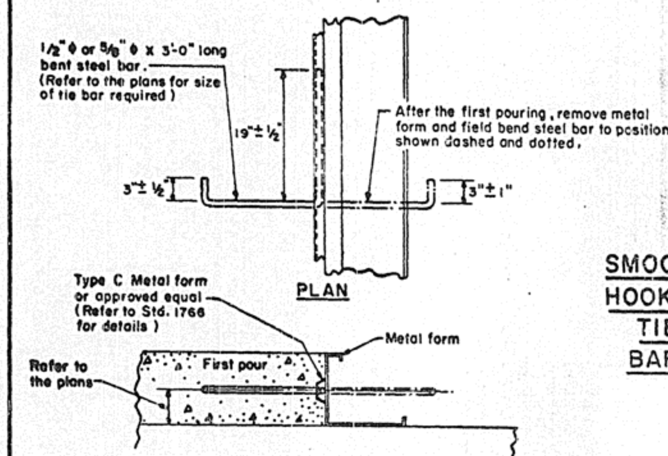
ISSUED 4-3-69	
REVISED	
BY	DATE

APPROVED 6-12 1973
A. E. Moberly
Engineer of Traffic

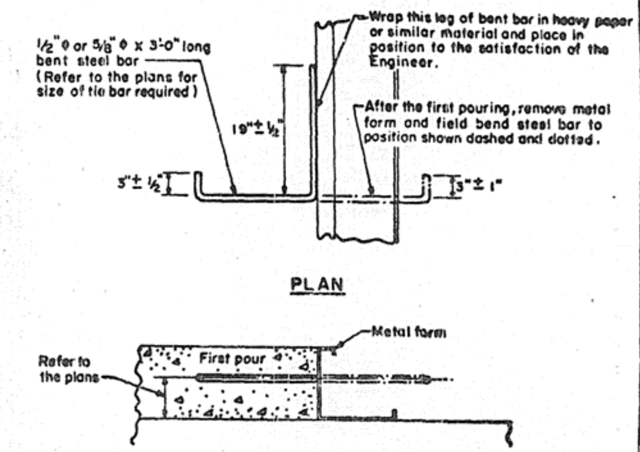
STANDARD 2309-3

F-6.14 b

SMOOTH HOOKED TIE BARS

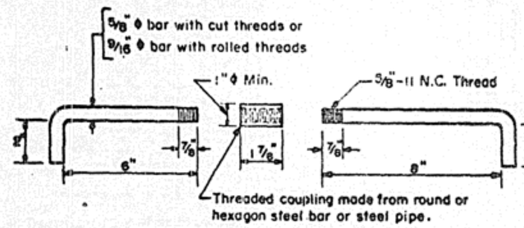


KEYED LONGITUDINAL CONSTRUCTION JOINT (WITH SMOOTH HOOKED TIE BAR)

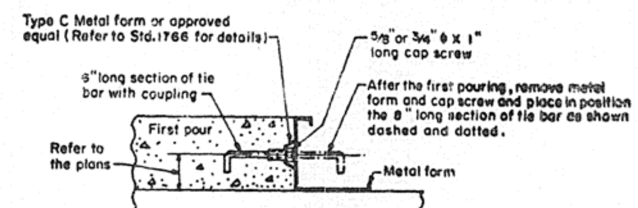


BULKHEAD LONGITUDINAL CONSTRUCTION JOINT (WITH SMOOTH HOOKED TIE BAR)

THREADED HOOKED TIE BARS



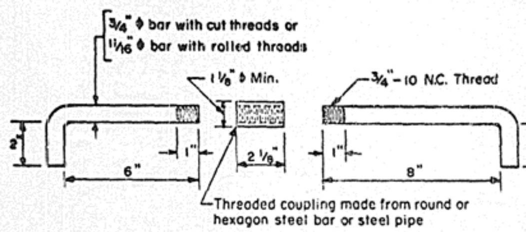
DETAIL OF HOOKED BAR WITH 5/8" THREAD



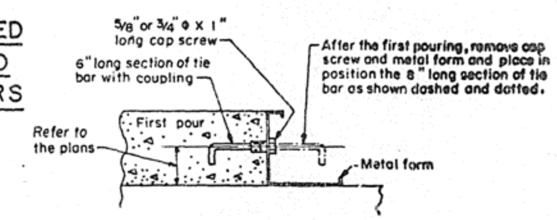
NOTE: Refer to the plans for size of tie bar required.
Use the hooked bars with 5/8" thread when 1/2" ϕ tie bars are specified and with 3/4" thread when 5/8" ϕ tie bars are specified.

ELEVATION SECTION

KEYED LONGITUDINAL CONSTRUCTION JOINT (WITH THREADED HOOKED TIE BAR)

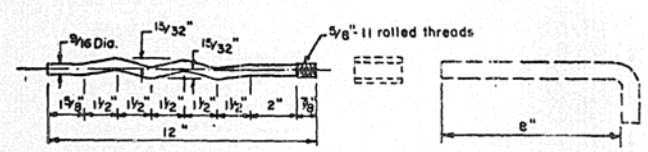


DETAIL OF HOOKED BAR WITH 3/4" THREAD



ELEVATION SECTION

BULKHEAD LONGITUDINAL CONSTRUCTION JOINT (WITH THREADED HOOKED TIE BAR)



DETAIL OF OPTIONAL "W" BAR

GENERAL NOTES

The bent steel bars shall be plain, round bars conforming to the requirements of AASHTO M-227, Grades 60-75, or AASHTO M-31 or M-53 grade 40.

The Contractor may use at his option for form paving or slip form paving, either the smooth hooked tie bars or the threaded hooked tie bars as detailed or deformed tie bars as noted below.

Deformed bar conforming to the requirements of AASHTO M-31 or M-53 may be used for tie bars in lieu of smooth or threaded hooked tie bars, except that the elongation shall not be less than 20 %. Deformed tie bars shall be comparable in size to the smooth bar, 2'-6" long, without hooks at the ends.

Illinois Department of Transportation

PASSED July 6, 1978
Engineer of Design Operations

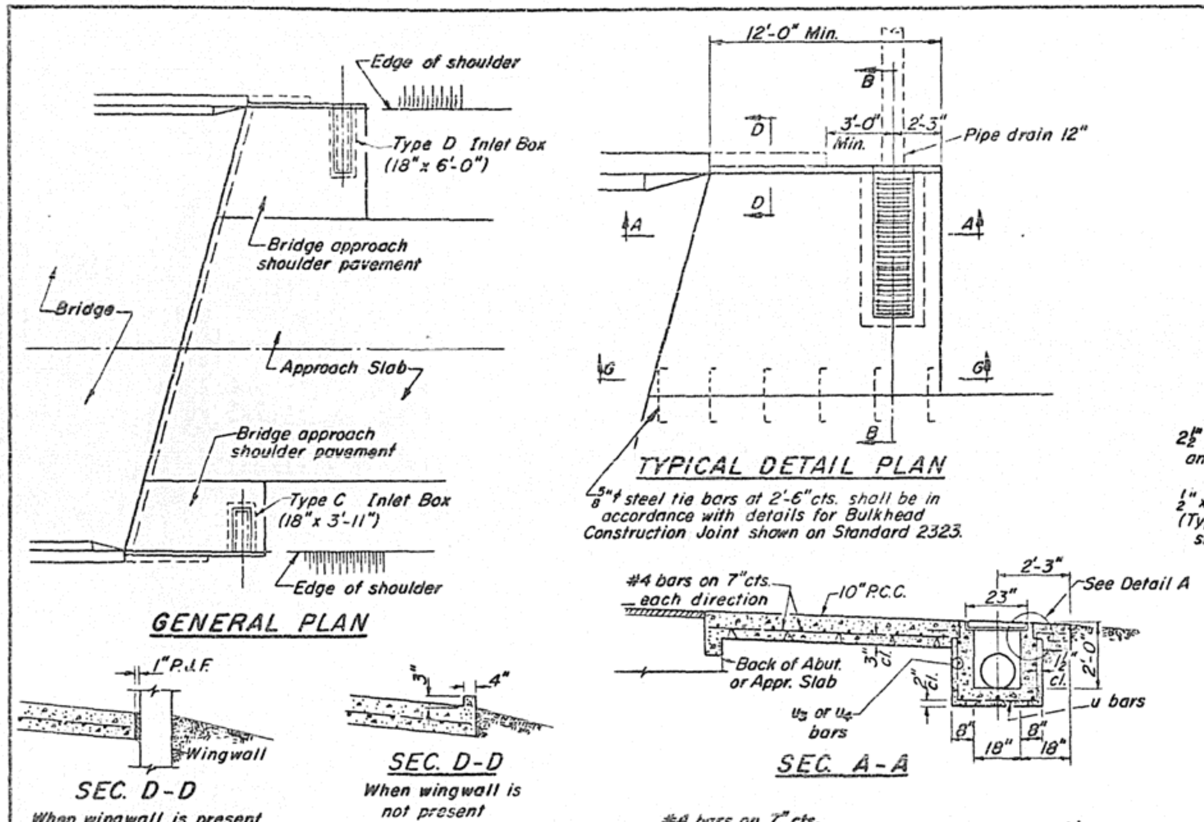
APPROVED July 6, 1978
Thomas A. Wright
Engineer of Design

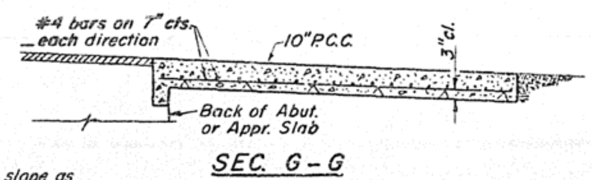
ISSUED 10-15-69	
REVISIONS	
D.W.W.	2-1-74
D.W.W.	4-16-74
D.W.W.	9-19-75
D.W.W.	7-6-78

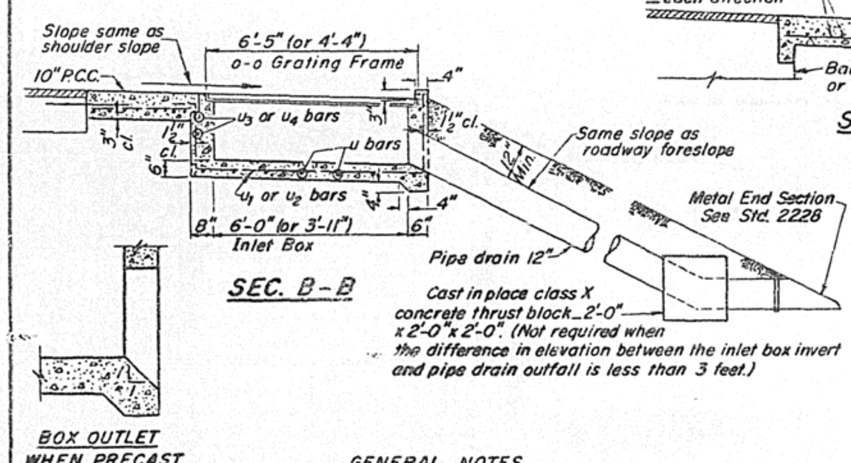
PAVEMENT JOINTS

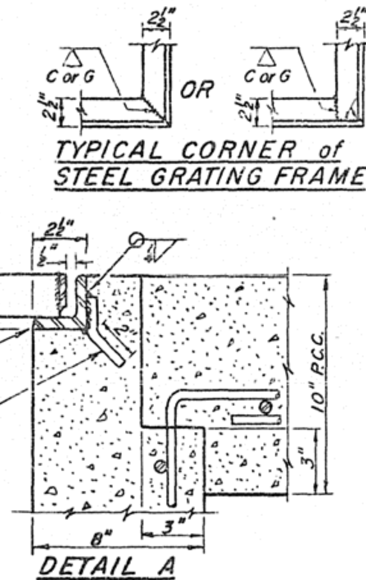
STANDARD 2323-4

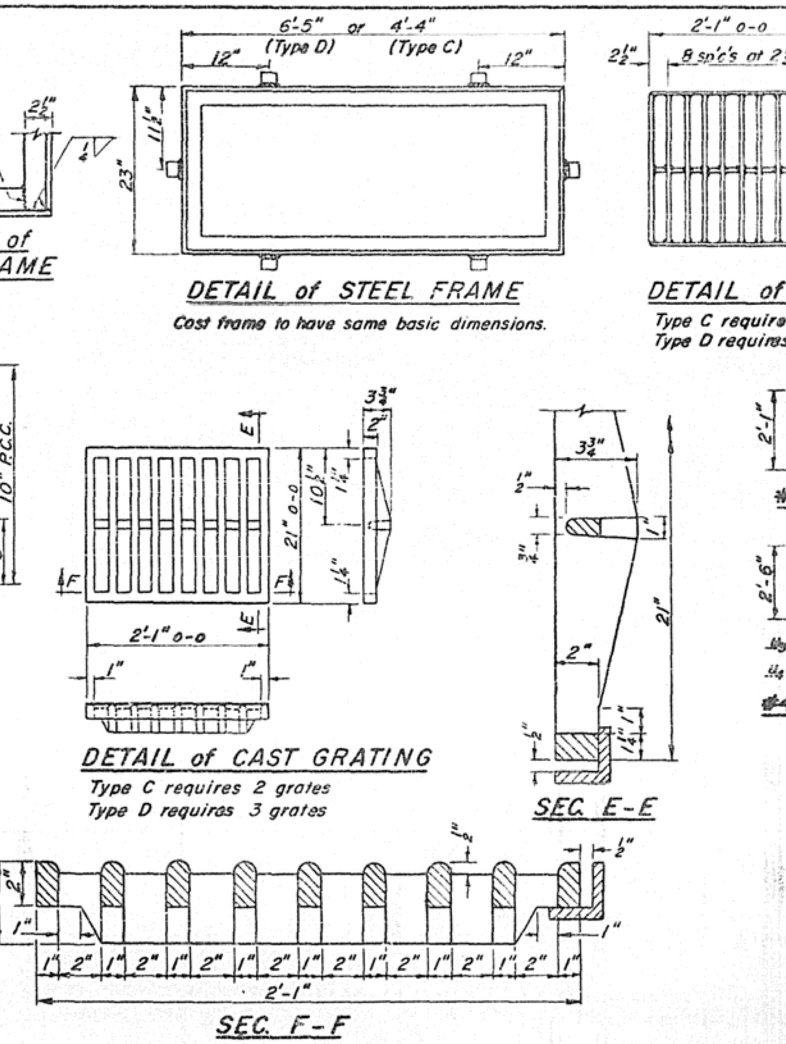
(Half size) W.F

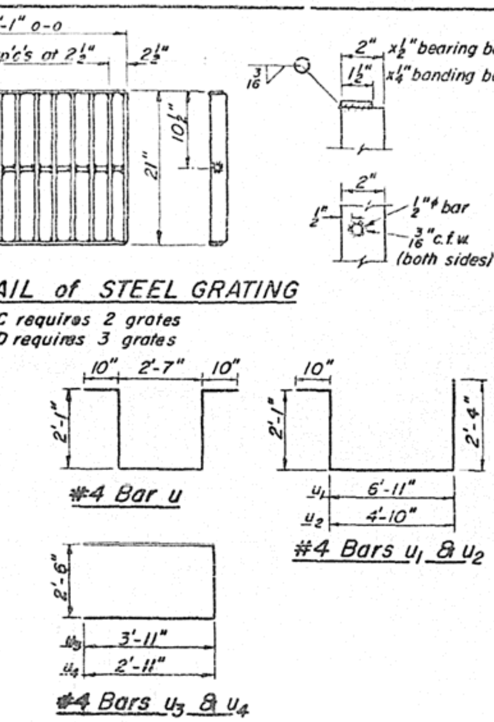












Material Required for One Type D Inlet Box

Bar	No.	Size	Length
u	8	#4	8'-5"
u_1	3	#4	12'-2"
u_3	4	#4	10'-4"
Concrete_Class X or Precast		Cu. Yds.	1.2
Reinf. Bars		Lbs.	100
Grating		Sq. Ft.	11.0

Material Required for One Type C Inlet Box

Bar	No.	Size	Length
u	6	#4	8'-5"
u_2	3	#4	10'-1"
u_4	4	#4	8'-4"
Concrete_Class X or Precast		Cu. Yds.	0.9
Reinf. Bars		Lbs.	80
Grating		Sq. Ft.	7.3

GENERAL NOTES

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

See bridge plans for location of bridge approach shoulder pavement.

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

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

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

The material for Pipe Drains_12" shall be either corrugated steel or aluminum alloy pipe. Cost of concrete thrust blocks to be incidental to drain pipes.

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

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

Class X concrete or precast concrete shall be used throughout.
Precast concrete shall be in accordance with Sections 505.01 thru 505.05 of the Standard Specifications except that the concrete strength shall be 4000 p.s.i. after 28 days.
Exposed edges shall be beveled ¾".
Shop drawings shall not be required for these Inlet Boxes.

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

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

Steel grating and frames shall conform to Article 710.04 of the Standard Specifications and shall be galvanized to AASHTO Specification M 111 after fabrication.

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

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

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

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

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

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

Illinois Department of Transportation

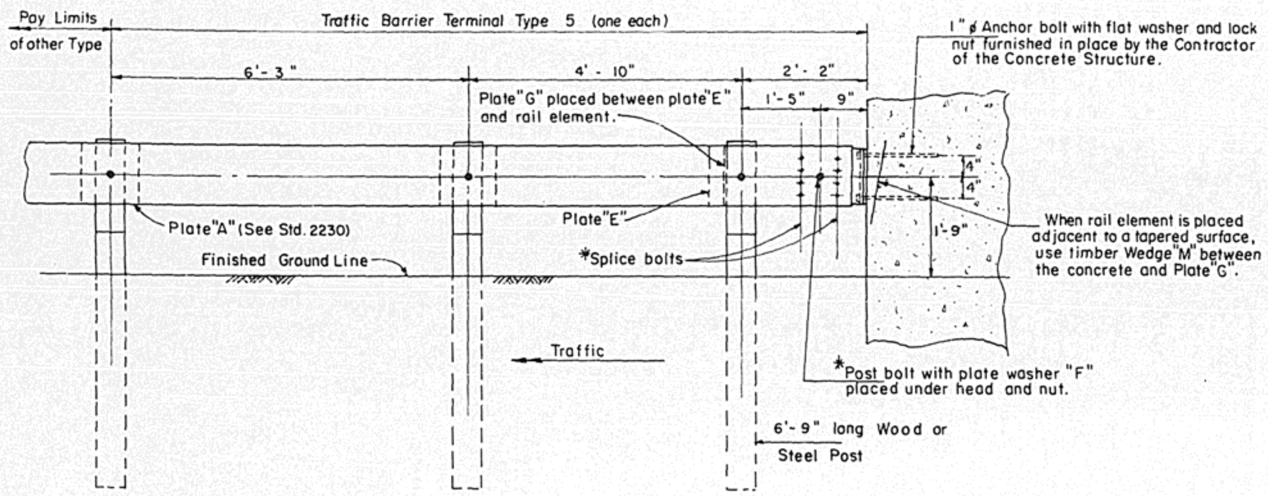
PASSED Mar. 16, 1979
Engineer of Bridge and Traffic Structures
APPROVED Mar. 16, 1979
Engineer of Design

ISSUED 12-1-69

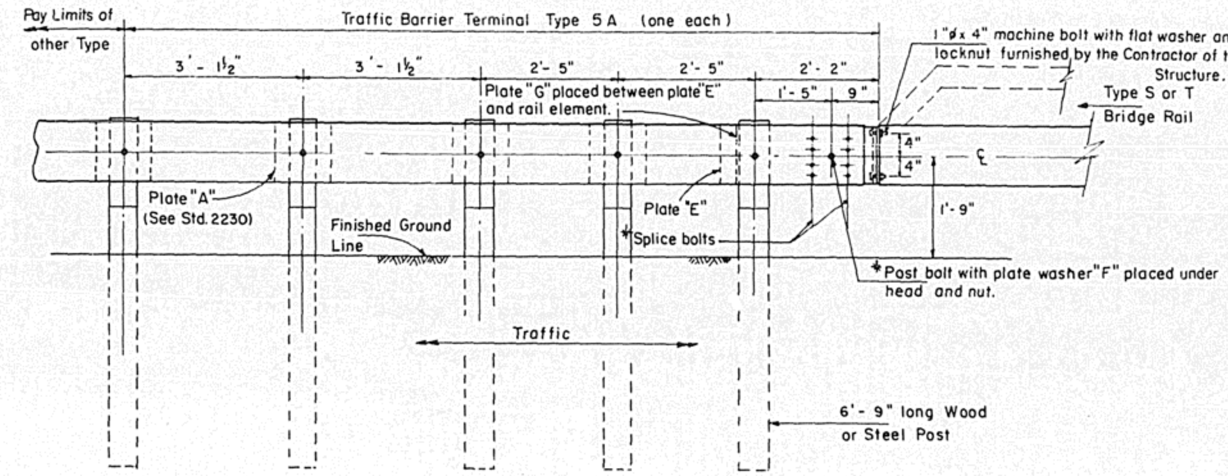
BRIDGE APPROACH SHOULDER PAVEMENT

STANDARD 2324 - 4
(Full Size)

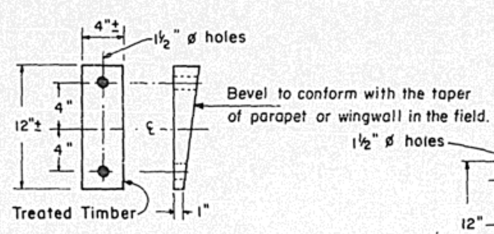
H-1.25d



TRAFFIC BARRIER TERMINAL TYPE 5
ANCHORING RAIL ELEMENT TO CONCRETE BRIDGE PARAPET



TRAFFIC BARRIER TERMINAL TYPE 5A
ANCHORING RAIL ELEMENT TO TYPE "S" OR "T" BRIDGE RAIL



WEDGE "M"

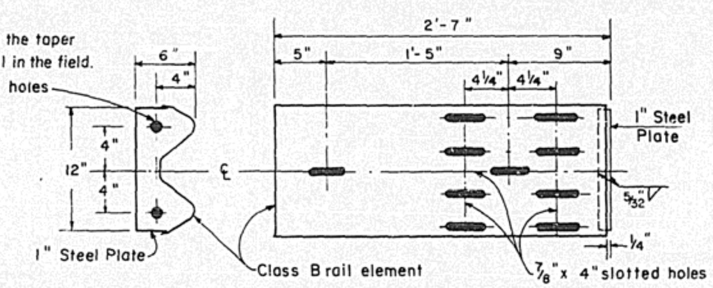


PLATE "G"

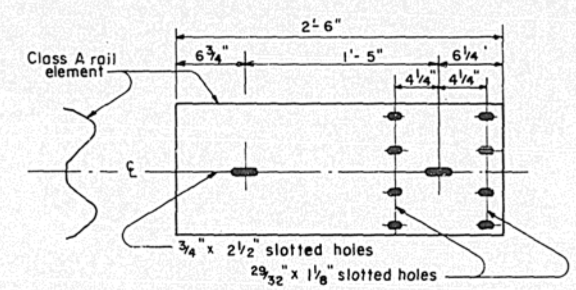


PLATE "E"

NOTES:

* Bolts shall be provided with a lock nut or double nut and shall be tightened only to a point that will allow plate "G" to be free to move when an expansion joint exists below the connector.

See Standard 2230 for details of guardrail not shown.

Illinois Department of Transportation

PASSED Aug. 20, 1979
Engineer of Design Operations

APPROVED Aug. 20, 1979
Engineer of Design

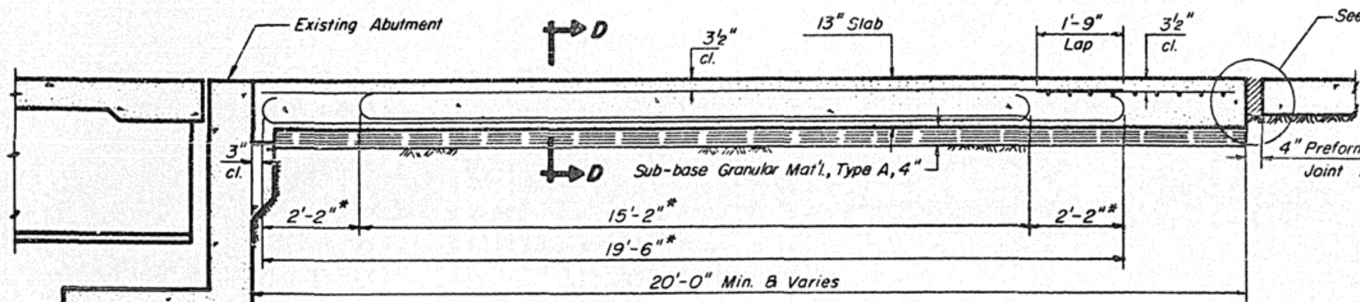
ISSUED 9-30-77

TRAFFIC BARRIER TERMINAL TYPE 5 & 5A

STANDARD 2340-2

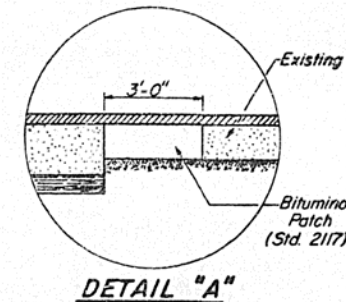
F-3.29 b

(Full Size) D.W.W. Sr.



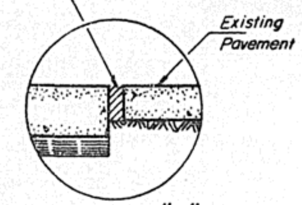
SECTION C-C

*Stagger alternate #7 bars as shown on plan - full width.



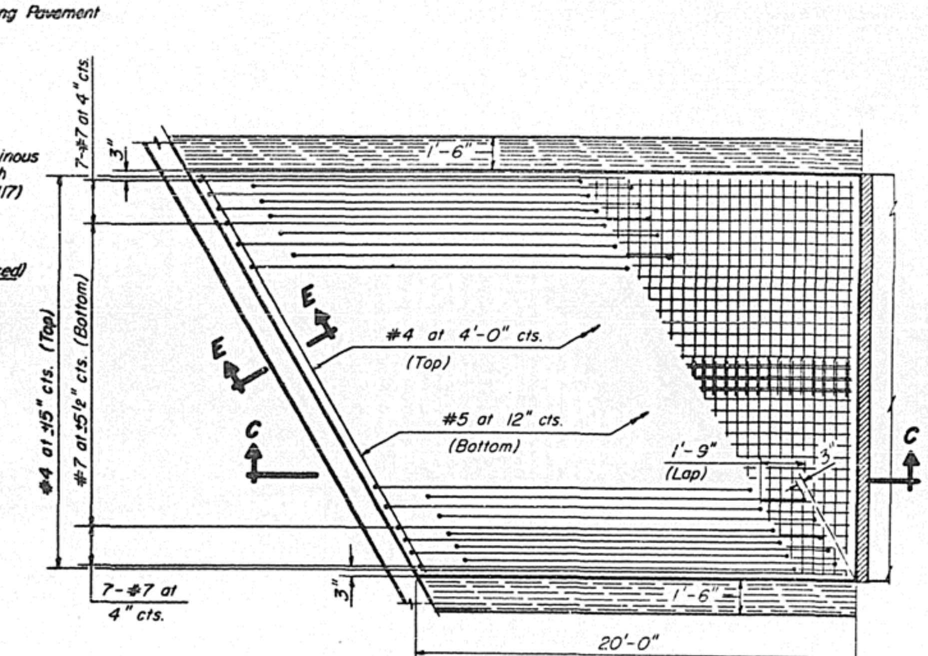
DETAIL "A"

(When bituminous surface is being placed)

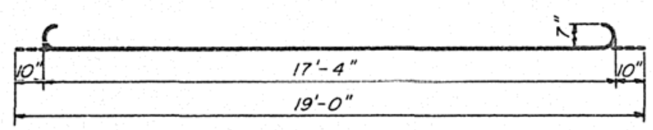


DETAIL "A"

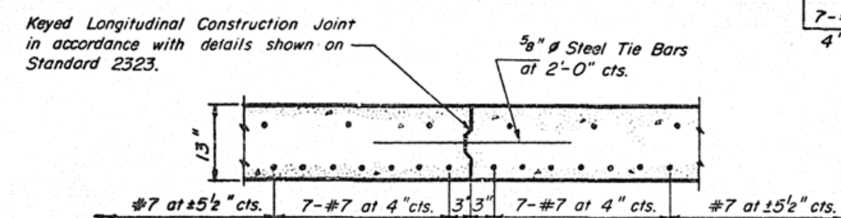
(P.C.C. Pavement Construction)



PLAN - WITH SKEW

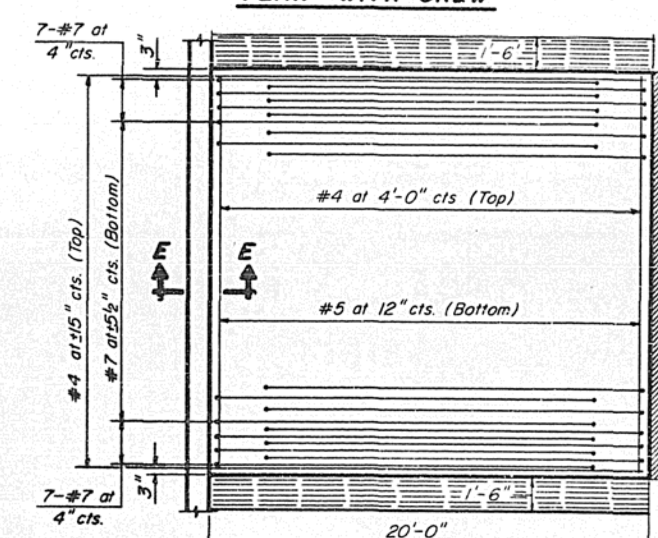


#7 BARS



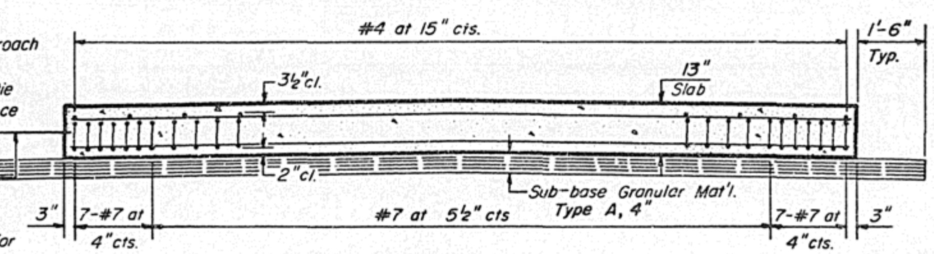
OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

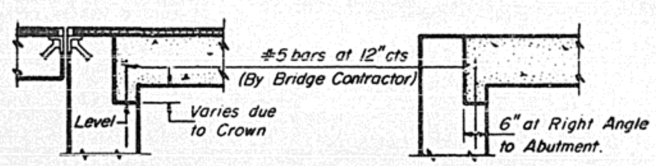


PLAN- WITHOUT SKEW

When the road plans show curb and gutter, gutter, or bridge approach shoulder pavement adjacent to approach slabs, place ½" ø steel tie bars at 2'-6" centers in accordance with the detail for Bulkhead Longitudinal Construction Joint shown on Standard 2323. Cost of the tie bars will be included in the contract unit price for the adjacent item. Transitions for curb and gutter or gutter shall be as shown on the plans.



SECTION D-D



(When bituminous surface is being placed on bridge and approach.)

(P.C.C. Pavement Construction)

SECTION E-E

Notes:

For skews of less than 10° omit wire fabric. For skews of 10° or more use Welded Wire Fabric, 6"x 6" - W5.5 x W5.5, placed 3½" below top of slab.

Expanded Metal weighing not less than 78 Pounds per 100 Sq. Ft. or a welded bar mat weighing not less than 78 Pounds per 100 Sq. Ft. having members of equal size in both directions and spaced not over 8" apart may be used instead of the Welded Wire Fabric, 6"x6" - W5.5 x W5.5, provided the expanded metal or bar mat is furnished at no additional cost to the State.

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M 31 or M 53, Grade 60.

DESIGN STRESSES

fy = 60,000 p.s.i.
f'c = 3500 psi
n = 8.5

GENERAL NOTES

The cost of tie bars, expansion joint filler, sub-base, welded wire fabric and bituminous prime when required shall be considered as included in the unit cost of the Bridge Approach Pavement.

Preformed Expansion Joint Filler shall conform to Section 715 of the Standard Specifications.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are ~~fabricated~~.

The bituminous patch, when required, will be paid for in accordance with Section 620 of the Standard Specifications.

Illinois Department of Transportation

PASSED Sept 4, 1979
Engineer of Bridge and Traffic Structures
APPROVED Sept 4, 1979
Engineer of Design

ISSUED 3-9-79

BRIDGE APPROACH PAVEMENT

Sheet 1 of 2

STANDARD 2382-1

II-5.30a

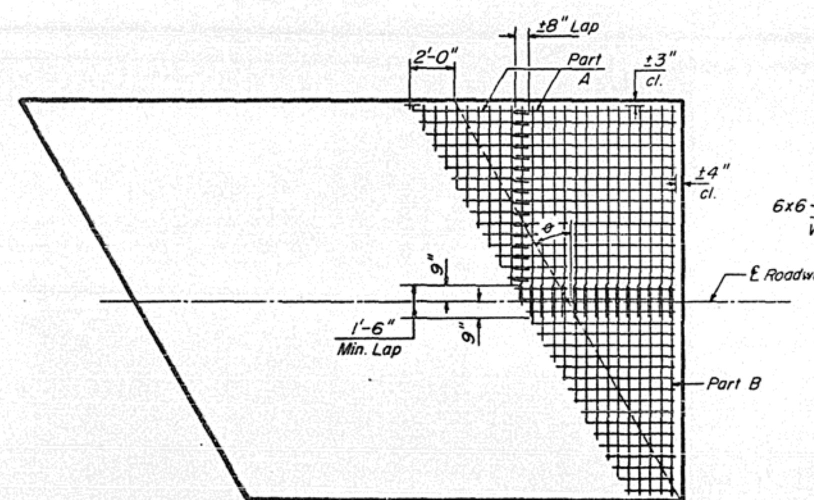
Note: The notation for the number of bars given as "4 x 2" indicates 4 lines of bars with 2 lengths per line. Min. bar lap = 1'-3"

Skew Angle Degrees	Bottom Reinforcement: Transverse #5 No.	Bottom Reinforcement: Transverse #5 Length	Bottom Reinforcement: Longitudinal #7 No. Required	Top Reinforcement: Transverse #4 No.	Top Reinforcement: Transverse #4 Length	Top Reinforcement: Longitudinal #4 No. Required	Reinforcement (Total Weight) (Pounds)	Slab Area (Sq.Yds.)	6x6-W5.5 x W5.5 W.W.F. Dimensions L(ft.)xW(ft.)	6x6-W5.5 x W5.5 W.W.F. Area* (Sq.Yds.)
18'-0" PAVEMENT										
0	20	17'-6"	7(Each Edge Beam) + 29(Slab) at 5½" cts. - 19'-0" long Weight = 1670 Pounds	6	17'-6"	15 bars - 19'-6" long Weight = 195 Pounds	2300	40.0	——	——
5	20	17'-7"		6	17'-7"		2302	41.6	——	——
10	20	17'-9"		6	17'-9"		2306	43.2	7'-0"x 9'-6"	7.4
15	20	18'-1"		5	18'-1"		2303	44.8	8'-6"x 9'-6"	9.0
20	19	18'-8"		5	18'-8"		2297	46.6	10'-6"x 9'-6"	11.1
25	18	19'-4"		5	19'-4"		2292	48.4	12'-3"x 9'-6"	12.9
30	18	20'-3"		5	20'-3"		2313	50.4	14'-3"x 9'-6"	15.0
35	17	21'-4"		5	21'-4"		2315	52.6	16'-6"x 9'-6"	17.4
40	16	22'-10"		4	22'-10"		2307	55.1	19'-0"x 9'-6"	20.1
45	14	24'-9"		4	24'-9"		2293	58.0	21'-9"x 9'-6"	23.0
50	13	27'-3"		4	27'-3"		2308	61.5	25'-6"x 9'-6"	26.9
55	12x2	15'-9"		3x2	15'-9"		2322	65.7	29'-9"x 9'-6"	31.4
60	10x2	18'-0"		3x2	18'-0"		2313	71.2	35'-3"x 9'-6"	37.2
24'-0" PAVEMENT										
0	20	23'-6"	7(Each Edge Beam) + 42 (Slab) at 5½" cts. - 19'-0" long Weight = 2175 Pounds	6	23'-6"	20 bars - 19'-6" long Weight = 260 Pounds	3019	53.3	——	——
5	20	23'-7"		6	23'-7"		3021	56.1	——	——
10	20	23'-10"		6	23'-10"		3028	58.9	8'-0"x 12'-6"	11.1
15	20	24'-4"		5	24'-4"		3024	61.9	10'-3"x 12'-6"	14.2
20	19	25'-0"		5	25'-0"		3014	64.9	12'-6"x 12'-6"	17.4
25	18	25'-11"		5	25'-11"		3008	68.2	15'-0"x 12'-6"	20.8
30	18	27'-2"		5	27'-2"		3036	71.8	17'-9"x 12'-6"	24.7
35	17	28'-8"		5	28'-8"		3039	75.7	20'-9"x 12'-6"	28.8
40	16x2	16'-0"		4x2	16'-0"		3055	80.2	24'-0"x 12'-6"	33.3
45	14x2	17'-3"		4x2	17'-3"		3031	85.3	27'-6"x 12'-6"	38.2
50	13x2	18'-10"		4x2	18'-10"		3046	91.4	32'-9"x 12'-6"	45.5
55	12x2	21'-1"		3x2	21'-1"		3047	99.0	38'-3"x 12'-6"	53.1
60	10x2	24'-0"		3x2	24'-0"		3032	108.7	45'-6"x 12'-6"	63.2

*Area does not include 8" longitudinal laps.
W.W.F. = Welded Wire Fabric

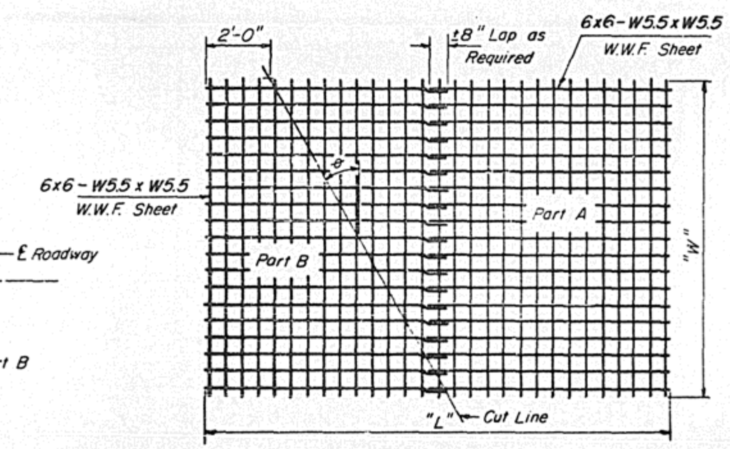
Skew Angle Degrees	Bottom Reinforcement: Transverse #5 No.	Bottom Reinforcement: Transverse #5 Length	Bottom Reinforcement: Longitudinal #7 No. Required	Top Reinforcement: Transverse #4 No.	Top Reinforcement: Transverse #4 Length	Top Reinforcement: Longitudinal #4 No. Required	Reinforcement (Total Weight) (Pounds)	Slab Area (Sq.Yds.)	6x6-W5.5 x W5.5 W.W.F. Dimensions L(ft)xW(ft)	6x6-W5.5 x W5.5 W.W.F. Area* (Sq.Yds.)
26'-0" PAVEMENT										
0	20	25'-6"	7(Each Edge Beam) + 46(Slab) at 5½" cts. - 19'-0" long Weight = 2330 Pounds	6	25'-6"	21 bars - 19'-6" long Weight = 274 Pounds	3238	57.8	——	——
5	20	25'-7"		6	25'-7"		3240	61.1	——	——
10	20	25'-11"		6	25'-11"		3249	64.4	8'-6"x 13'-6"	12.8
15	20	26'-5"		5	26'-5"		3243	67.8	11'-0"x 13'-6"	16.5
20	19	27'-2"		5	27'-2"		3233	71.4	13'-6"x 13'-6"	20.3
25	18	28'-2"		5	28'-2"		3227	75.3	16'-3"x 13'-6"	24.4
30	18x2	15'-3"		5x2	15'-3"		3278	79.5	19'-0"x 13'-6"	28.5
35	17x2	16'-1"		5x2	16'-1"		3282	84.1	22'-3"x 13'-6"	33.4
40	16x2	17'-2"		4x2	17'-2"		3269	89.3	25'-9"x 13'-6"	38.6
45	14x2	18'-6"		4x2	18'-6"		3243	95.3	30'-0"x 13'-6"	45.0
50	13x2	20'-4"		4x2	20'-4"		3264	102.5	35'-0"x 13'-6"	52.5
55	12x2	22'-9"		3x2	22'-9"		3265	111.4	41'-3"x 13'-6"	61.9
60	10x2	26'-0"		3x2	26'-0"		3251	122.8	49'-0"x 13'-6"	73.5
36'-0" PAVEMENT										
0	20x2	18'-3"	7(Each Edge Beam) + 68 (Slab) at 5½" cts. - 19'-0" long Weight = 3185 Pounds	6x2	18'-3"	29 bars - 19'-6" long Weight = 378 Pounds	4471	80.0	——	——
5	20x2	18'-4"		6x2	18'-4"		4475	86.3	——	——
10	20x2	18'-6"		6x2	18'-6"		4483	92.7	10'-0"x 18'-6"	20.6
15	20x2	18'-10"		5x2	18'-10"		4475	99.3	13'-6"x 18'-6"	27.7
20	19x2	19'-5"		5x2	19'-5"		4462	106.2	17'-0"x 18'-6"	34.9
25	18x2	20'-2"		5x2	20'-2"		4455	113.6	20'-6"x 18'-6"	42.1
30	18x2	21'-0"		5x2	21'-0"		4492	121.6	24'-9"x 18'-6"	50.8
35	17x2	22'-3"		5x2	22'-3"		4501	130.4	29'-0"x 18'-6"	59.6
40	16x2	23'-9"		4x2	23'-9"		4483	140.4	33'-9"x 18'-6"	69.4
45	14x2	25'-8"		4x2	25'-8"		4450	152.0	39'-6"x 18'-6"	81.2
50	13x2	28'-2"		4x2	28'-2"		4477	165.8	46'-6"x 18'-6"	95.6
55	12x3	21'-4"		3x3	21'-4"		4492	182.8	55'-0"x 18'-6"	113.0
60	10x3	24'-4"		3x3	24'-4"		4471	204.7	65'-9"x 18'-6"	135.1

*Area does not include 8" longitudinal laps.



PLACEMENT OF 6x6 - W5.5 x W5.5

W.W.F. only required on skews ≥ 10°



CUTTING DIAGRAM

Illinois Department of Transportation

PASSED Sept. 4, 1979

Carl C. Brunnan Jr.

Engineer of Bridge and Traffic Structures

APPROVED Sept. 4, 1979

Engineer of Design

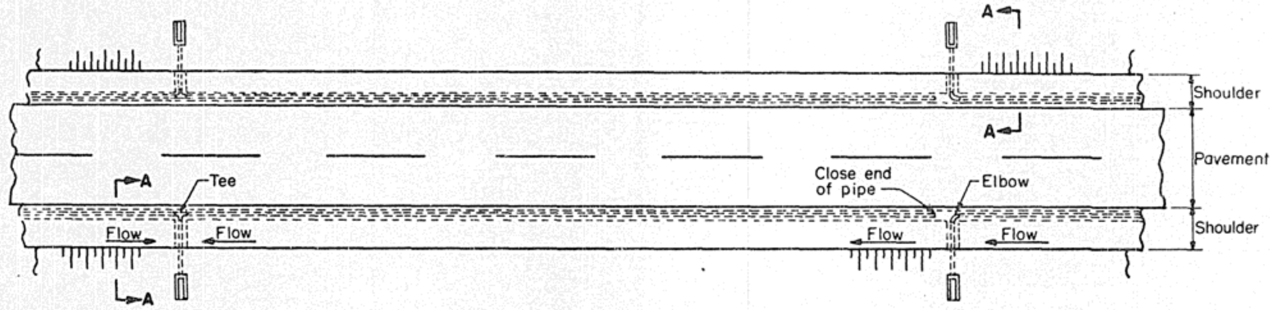
ISSUED 3-9-79

BRIDGE APPROACH PAVEMENT

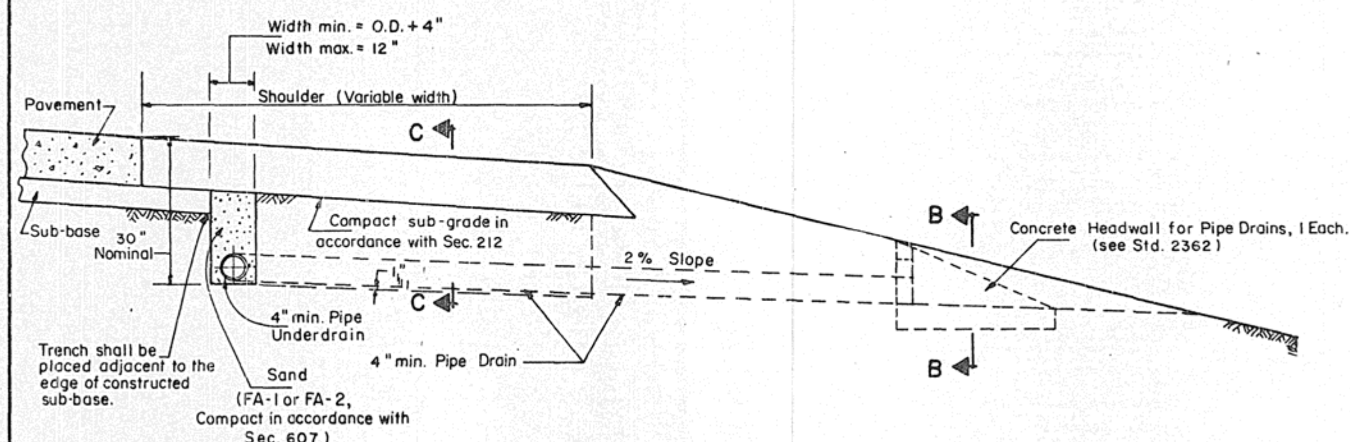
Sheet 2 of 2

STANDARD 2382-1

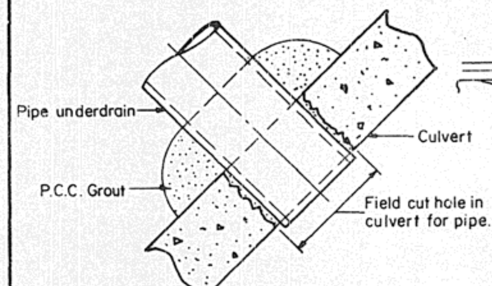
H-5.31a



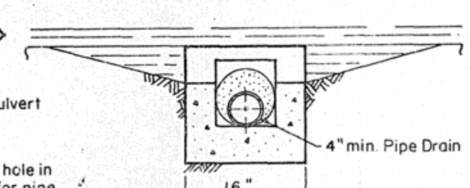
PLAN VIEW



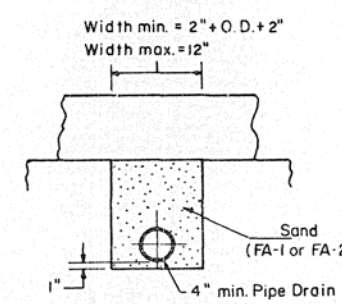
TYPICAL SECTION A-A
(not to scale)



DETAIL OF PLACING
PIPE IN CULVERT



SECTION B – B



SECTION C – C

GENERAL NOTES

All work to be in accordance with the applicable portions of the Standard Specifications except as modified hereon.

Pipe underdrains are to be outletted approximately every 500 feet. Pipe underdrain shall be outletted into the crossroad culvert when the fill above the culvert is 5feet or less.

When semi circular pipe is used for the underdrain, this material will be permitted for the pipe drain and payment will be made at the contract unit price bid for pipe drain.

That portion of Pipe Drain which is installed under the Stabilized Shoulder shall be bedded on and backfilled with FA-1 or FA-2 as detailed hereon.

In addition to the requirements of Art. 607.05 of the Standard Specifications, the contract unit price per lineal foot for PIPE DRAINS, 4" and PIPE UNDERDRAIN, 4" shall include the cost involved for materials and placing of pipe in culvert, and furnishing and placing the required bedding and backfill material.

Illinois Department of Transportation

Passed JAN 11, 1978
Engineer of Design Operations

Approved JAN 11, 1978
Engineer of Design

ISSUED: 7-12-71	
REVISIONS	
W.F.	4-3-72
D.W.W.	4-3-75
D.W.W.	3-7-76
D.W.W.	8-25-76
D.W.W.	1-6-78

SUB-SURFACE DRAINS

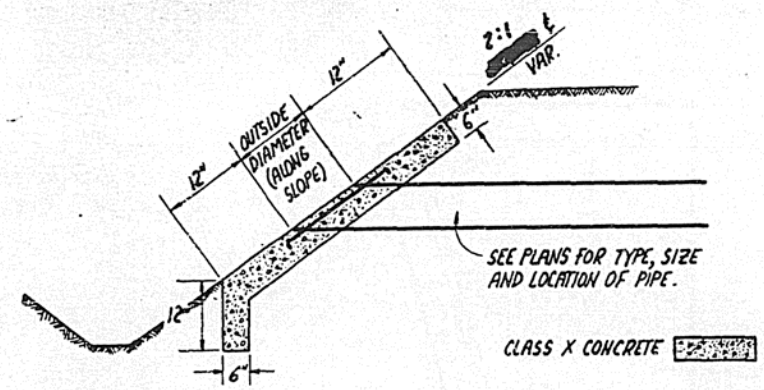
STANDARD 2327-4
(Half Size) WF

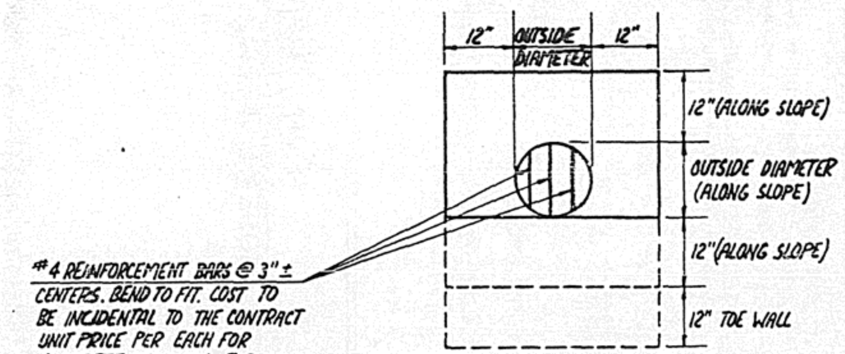
J-11.10

STANDARD DESIGN
CONCRETE HEADWALL
FOR PIPE DRAIN

CONCRETE HEADWALL FOR PIPE DRAINS

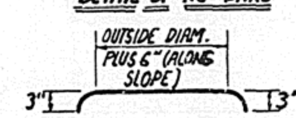
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.





END VIEW

DETAIL OF RE-BARS



NOTE: CLASS X CONCRETE SHALL BE USED THROUGHOUT. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR CONCRETE HEADWALL FOR PIPE DRAINS WHICH PRICE SHALL BE PAYMENT IN FULL FOR ALL MATERIALS AND LABOR INCLUDING EXCAKATION TO CONSTRUCT THE HEADWALL AS SHOWN. SEEDING SHALL BE PAID FOR SEPERATELY.

OUTSIDE PIPE DIAMETER	2:1 CLASS X CONCRETE	
	[redacted] SLOPE	6:1 SLOPE
4"	0.16 [redacted] CU. YDS.	0.22 CU. YDS.
8"	0.27 CU. YDS.	0.33 CU. YDS.
10"	0.32 CU. YDS.	0.40 CU. YDS.
12"	0.37 CU. YDS.	0.48 CU. YDS.
15"	0.46 CU. YDS.	0.60 CU. YDS.
18"	0.55 CU. YDS.	0.74 CU. YDS.
COMPUTED BY: E.A.D.	DATE: 7-14-72	
CHECKED BY: R.M.H.	DATE: 12-2-72	

AASHTO M-111. Other submitted designs for a removable rodent shield will be allowed with the approval of the Engineer.

STANDARD 2362

Half Size D.W.W. Sr.

DEPARTMENT OF TRANSPORTATION

REVISIONS

PASSED March 8, 1976
Engineer of Design Operations

APPROVED March 8, 1976
Engineer of Design