AS BUILT PLANS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	1
F.A.P.V.A. REG.		ILLINOIS	PROJECT IM-57-2(132)63	

* 28(5B-1,5B,2B,1B)D;28(5VB,3VB-1)I

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

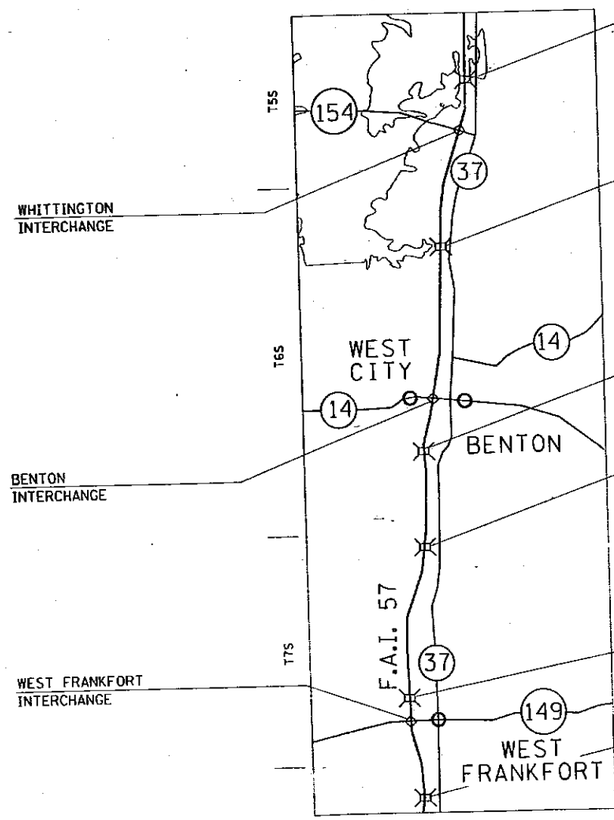
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 57
SECTION 28(5B–1,5B,2B,1B)D; 28(5VB,3VB–1)I
FRANKLIN COUNTY
PROJECT NO. IM-57–2(132)63
C–99–006–91

FOR INDEX OF SHEETS, SEE SHEET NO.2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO.3–4

SCALE IN FEET

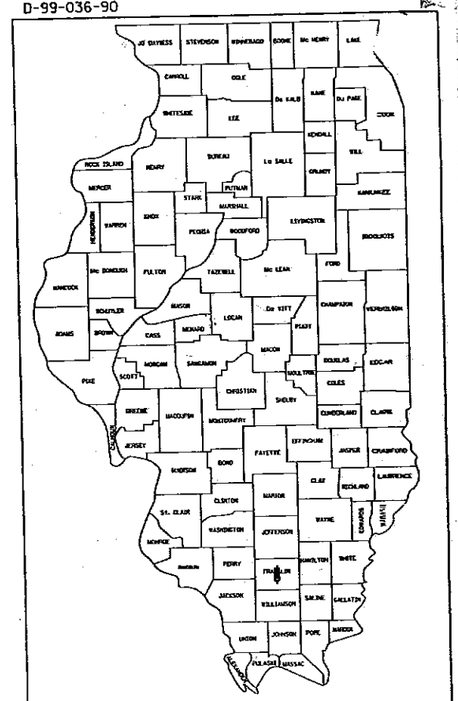
PLAN 50' 0 25' 50'
PROFILES HORIZ. 50' 0 25' 50'
PROFILES VERT. 5' 0 2.5' 5'
CROSS SECTIONS 5' 0 2.5' 5'



N

SCALE
2 MI. 0 2 MI.
APPROX.

D-99-036-90



LOCATION OF SECTION INDICATED THUS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 5/06 19 92
Karl L Bartelsmeyer
DISTRICT ENGINEER

EXAMINED _____ 19 ____
ENGINEER OF PLANS AND CONTRACTS

PASSED June 12 19 92
Gary D. Gould
ENGINEER OF DESIGN

APPROVED June 12 19 92
Ralph C. Wehner
DIRECTOR, DIVISION OF HIGHWAYS

JULIE 1-800-892-0123

CENTREX 782-4554
(618) 549-2171

PROJECT ENGINEER: JOSE RUIZ
SQUAD LEADER: ED SHAFER

CONTRACT NO. 98148

COUNTY: FRANKLIN SECTION: 28(5B-1,5B,2B,1B)D ; 28(5VB,3VB-1)I ROUTE: F.A.I. RTE. 57 Sheets 1 Thru 100

SUMMARY OF CHANGES TO FINAL PLANS

SHEET # 2A	REVISION TO INDEX
SHEET # 14	BIT SHLD REM & REPL (12")
SHEET # 15	BIT SHLD REM & REPL (12")
SHEET # 29A	DIAPHRAGM REPAIR AND ENCASEMENT
SHEET # 31A	WELDING DETAILS FOR BEARING ASSEMBLIES
SHEET # 41	BIT SHLD REM & REPL (12")
SHEET # 42	BIT SHLD REM & REPL (12")
SHEET # 56A	DIAPHRAGM REPAIR AND ENCASEMENT
SHEET # 58A	WELDING DETAILS FOR BEARING ASSEMBLIES
SHEET # 64	DIMENSION CORRECTION
SHEET # 75A	SLOPEWALL REVISION
SHEET # 76	BIT SHLD REM & REPL (12")
SHEET # 77	BIT SHLD REM & REPL (12")
SHEET # 87	SPLICE CORRECTION
SHEET # 88	GRADE CORRECTION
SHEET # 89	DIMENSION CORRECTION
SHEET # 90	DIMENSION CORRECTION
SHEET # 90A	DIAPHRAGM REPAIR AND ENCASEMENT
SHEET # 101	APPROACH SHLD REVISION
SHEET # 102	APPROACH SHLD REVISION
	DIMENSION CORRECTION
SHEET # 105	DIMENSION CORRECTION
SHEET # 114	BIT SHLD REM & REPL (12")
SHEET # 115	BIT SHLD REM & REPL (12")
SHEET # 130A	DIAPHRAGM REPAIR AND ENCASEMENT
SHEET # 133A	WELDING DETAILS FOR BEARING ASSEMBLIES

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	2
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*28(5B-1,5B,2B,1B)D;28(5VB,3VB-1)I

GENERAL NOTES

THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

FACTORS USED FOR QUANTITY CALCULATIONS ARE AS FOLLOWS:
ALL BITUMINOUS CONCRETE - - - - - - - - - - 2.016 TONS/CU. YD.

ALL PIPE CULVERTS DESIGNATED ON THE PLANS (RCCP) SHALL BE "REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE" CONFORMING TO THE REQUIREMENTS OF ARTICLE 709.03 OF THE STANDARD SPECIFICATIONS.

AT ALL LOCATIONS WHERE BITUMINOUS OR CONCRETE PAVEMENT JOINS AN EXISTING BITUMINOUS OR CONCRETE PAVEMENT, A SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCIDENTAL TO THE TYPE OF PAVEMENT BEING CONSTRUCTED.

EXISTING PIPE UNDERDRAIN OUTLETS IN THE MEDIAN SHALL BE PRESERVED AND PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO AN UNDERDRAIN OUTLET RESULTING FROM CONSTRUCTION ACTIVITY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. IN AREAS WHERE MEDIAN SLOPES ARE TO BE FLATTENED, IT MAY BE NECESSARY TO LENGTHEN EXISTING PIPE DRAINS. IF THIS OCCURS, THE WORK SHALL BE DONE AS DIRECTED BY THE ENGINEER AND PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

THE ENGINEER SHALL ESTABLISH NEW BENCH MARKS AT EACH BRIDGE LOCATION, AND RECORD THEM FOR USE DURING A FUTURE CONSTRUCTION CONTRACT.

UNLESS OTHERWISE NOTED IN THE PLANS, PROPOSED GUARDRAIL WILL BE TAPERED FROM THE BRIDGE PARAPETS AT A RATIO OF 30:1.

INDEX OF SHEETS

STANDARDS

2230-16	2326-3
2240-5	2336-4
2262-4	2337-2
2298-9	2339-2
2299-13	2340-4
2300-3	2341-4
2307-6	2355
2308-5	2358-3
2314-6	2383-3
2316-13	2396
2315-3	2417-2

Prepared By: [signature]
DISTRICT DESIGN ENGINEER

Examined By: [signature]
DISTRICT PLANNING ENGINEER

Examined By: [signature]
DISTRICT CONSTRUCTION ENGINEER

Examined By: [signature]
DISTRICT MAINTENANCE ENGINEER

Examined By: [signature]
DISTRICT TRAFFIC ENGINEER

Examined By: [signature]
DISTRICT MATERIALS ENGINEER

Examined By: [signature]
DISTRICT LAND ACQUISITION ENGINEER

Approved By: [signature]
DISTRICT ENGINEER

5/06 1992
DATE

SUMMARY OF QUANTITIES

F. A. I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	3
STA.		TO STA.		
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT		

* 28(5B-1,5B,2B,1B)D;28(5VB,3VB-1)I

CODE NUMBER	ITEM	UNIT	PROJECT TOTAL QUANTITY	CONSTRUCTION TYPE CODE: BRIDGE APPROACHES	SFTY-2D: STRUCTURES 028-0009 028-0004	X071-2A: STRUCTURES: 028-0013 028-0012 028-0006 028-0001	N.B. STRUCTURE NUMBER AND NAME: 028-0013 GUN CREEK	028-0012 MARCUM BRANCH	028-0009 MO. PAC. R.R.	028-0006 MIDDLE FORK OF BIG MUDDY RIVER	028-0004 C. & E.I. R.R. & 7TH ST.	028-0001 POND CREEK
				SFTY-30	SFTY-2D	X071-2A						
20200100	EARTH EXCAVATION	CU YD	8,962	8,962	--	--	3,627	2,164	47	1,591	33	1,500
40500300	BITUMINOUS MIXTURE COMPLETE	TON	9,167	9,167	--	--	2,344	2,454	--	2,291	--	2,078
50102400	CONCRETE REMOVAL	CU YD	70.6	--	31.6	39.0	9	9	21.4	12.0	10.2	9
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	4	--	--	4	1	1	--	1	--	1
50200100	STRUCTURE EXCAVATION	CU YD	194	--	--	194	23	22	--	127	--	22
50200300	COFFERDAM EXCAVATION	CU YD	52	--	--	52	--	--	--	52	--	--
50200500	COFFERDAMS	EACH	2	--	--	2	--	--	--	2	--	--
50300100	FLOOR DRAINS	EACH	65	--	--	65	18	12	--	21	--	14
50300120	PREFORMED JOINT SEAL 2 1/2"	LIN FT	136	--	--	136	43	49	--	--	--	44
50300130	PREFORMED JOINT SEAL 4"	LIN FT	219	--	83	136	43	49	--	--	83	44
50300150	NEOPRENE EXPANSION JOINT 2"	LIN FT	167	--	125	42	--	--	125	42	--	--
50300160	NEOPRENE EXPANSION JOINT 4"	LIN FT	42	--	--	42	--	--	--	42	--	--
50300250	CLASS X CONCRETE SUPERSTRUCTURE	CU YD	1,049.1	--	--	1,049.1	215.4	177.2	--	469.4	--	187.1
50300300	PROTECTIVE COAT	SQ YD	4,134	--	--	4,134	852	672	--	1,920	--	690
50300310	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	70	--	--	70	21	14	--	21	--	14
50300320	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	28	--	--	28	--	7	--	14	--	7
50400300	CLASS X CONCRETE	CU YD	89.3	--	30.7	58.6	--	--	20.75	58.6	9.95	--
50700400	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	32,510	--	3,180	29,330	10,450	9,190	--	--	3,180	9,690
50700100	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	--	--	1	--	--	--	1	--	--
50700500	STUD SHEAR CONNECTORS	EACH	16,555	--	--	16,555	3,094	3,255	--	7,056	--	3,150
50700705	JACK AND REMOVE EXISTING BEARINGS	EACH	120	--	--	120	28	28	--	36	--	28
51101279	PIPE CULVERTS, TYPE 2 RCCP 24"	LIN FT	258	258	--	--	258	--	--	--	--	--
51115979	REINFORCED CONCRETE PIPE ELBOW 24"	EACH	1	1	--	--	1	--	--	--	--	--
51125133	PIPE CULVERTS, TYPE 2, 18" (DETOUR)	LIN FT	248	248	--	--	248	--	--	--	--	--
51200200	REINFORCEMENT BARS, EPOXY COATED	POUND	258,885	--	5,335	253,550	51,380	41,230	3,930	116,790	1,405	44,150
51301600	FURNISHING STEEL PILES HP 12 X 53	LIN FT	208	--	--	208	--	--	--	208	--	--
51301700	FURNISHING STEEL PILES HP 12 X 74	LIN FT	225	--	--	225	--	--	--	225	--	--
51302700	DRIVING STEEL PILES	LIN FT	433	--	--	433	--	--	--	433	--	--
51303600	TEST PILE STEEL HP 12 X 53	EACH	2	--	--	2	--	--	--	2	--	--
51400100	NAME PLATES	EACH	4	--	--	4	1	1	--	1	--	1
61246400	INLET BOX, STANDARD 2358	EACH	1	1	--	--	1	--	--	--	--	--
61262700	INLETS TO BE RECONSTRUCTED	EACH	1	1	--	--	1	--	--	--	--	--
61701430	BITUMINOUS SHOULDER REMOVAL	SQ YDS	3,658	3,658	--	--	788	932	--	1,010	--	928
62800000	STEEL PLATE BEAM GUARD RAIL, TYPE A	LIN FT	2,725	2,725	--	--	250	525	750	450	325	425

SUMMARY OF QUANTITIES

F. A. I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*28(5B-1,5B,2B,1BD);28(5VB,3VB-1)I

	CONSTRUCTION TYPE CODE			SFTY-30	SFTY-2D	X071-2A	N.B. STRUCTURE NUMBER AND NAME					
CODE NUMBER	ITEM	UNIT	PROJECT TOTAL QUANTITY	BRIDGE APPROACHES	STRUCTURES 028-0009 028-0004	STRUCTURES: 028-0013 028-0012 028-0006 028-0001	028-0013 GUN CREEK	028-0012 MARCUM BRANCH	028-0009 MO. PAC. R.R.	028-0006 MIDDLE FORK OF BIG MUDDY RIVER	028-0004 C. & E.I. R.R. & 7TH ST.	028-0001 POND CREEK
62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	9	9	--	--	1	1	2	1	2	2
62800045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3	3	--	--	--	1	1	1	--	--
62800065	TRAFFIC BARRIER TERMINAL, TYPE 4	EACH	2	2	--	--	1	1	--	--	--	--
62800070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	3	3	--	--	1	1	--	1	--	--
62800085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	8	--	--	2	2	--	2	--	2
62800090	TRAFFIC BARRIER TERMINAL, TYPE 7	EACH	4	4	--	--	--	--	2	--	2	--
62800105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	2	2	--	--	--	--	1	--	1	--
62800127	TRAFFIC BARRIER TERMINAL, TYPE 3C, PORTABLE	EACH	4	4	--	--	1	1	--	1	--	1
62802800	TEMPORARY GUARD RAIL	LIN FT	887.5	887.5	--	--	487.5	137.5	--	137.5	--	125
63300300	STEEL PLATE BEAM GUARD RAIL REMOVAL	LIN FT	2,612.5	2,612.5	--	--	312.5	425	375	362.5	700	437.5
64200200	SEEDING CLASS 2	ACRE	8.3	8.3	--	--	2.2	2.2	.2	1.75	.2	1.75
64200400	NITROGEN FERTILIZER NUTRIENT	POUND	664	664	--	--	176	176	16	140	16	140
64200500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	2,656	2,656	--	--	704	704	64	560	64	560
64200600	POTASSIUM FERTILIZER NUTRIENT	POUND	1,328	1,328	--	--	352	352	32	280	32	280
64200700	AGRICULTURAL GROUND LIMESTONE	TON	16.6	16.6	--	--	4.4	4.4	.4	3.5	.4	3.5
64300130	MULCH, METHOD 3	TON	16.6	16.6	--	--	4.4	4.4	.4	3.5	.4	3.5
64600400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	14	14	--	--	3	3	1	3	1	3
6480D410	TRAFFIC CONTROL AND PROTECTION STANDARD 2417	EACH	4	4	--	--	1	1	--	1	--	1
64800700	TRAFFIC CONTROL AND PROTECTION STANDARD 2315	L SUM	1	1	--	--	--	--	--	1	--	--
6480D800	TRAFFIC CONTROL AND PROTECTION STANDARD 2316	L SUM	1	1	--	--	.1	.1	.3	.1	.3	.1
65000100	MOBILIZATION	L SUM	1	1	--	--	.2	.2	.1	.2	.1	.2
65600100	TEMPORARY CONCRETE BARRIER	LIN FT	1,360	1,360	--	--	340	340	--	330	--	350
Z0007200	BRIDGE SEAT SEALER	L SUM	1	--	--	1	.25	.25	--	.25	--	.25
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	--	1	--	--	--	1	--	--	--
* Z0076600	TRAINEES	HOUR	1,000									
** T5020200	PAINT PAVEMENT MARKING - LINE 4"	LIN FT	1,779	--	--	1,779	367	287	--	827	--	298
X0974000	OFFICE COPY MACHINE	EACH	1	1	--	--	.2	.2	.1	.2	.1	.2
Z0006070	BRIDGE DECK GROOVING	SQ YD	3,455	--	--	3,455	713	555	--	1,603	--	584

** SPECIALTY ITEMS

* TYPE CODE - Y080

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	5
STA.		TO STA.		
FED. ROAD DIST. NO.		STATE	FED. AID PROJECT	

* 28(5B-1,5B,2B,1B)D; 28(5VB,3VB-1)I

SCHEDULES OF QUANTITIES

EARTHWORK

BALANCE NO.	LOCATION	EARTH EXCAVATION	FILL	EXCAVATION REQUIRED TO COMPLETE THE FILL	REMARKS
		CU. YDS.	CU. YDS.	CU. YDS.	
	GUN CREEK				
1	NORTH CROSS-OVERS	178	1,059	1,184	OBTAIN 1,184 CU. YD. FROM BAL. #6
2	SOUTH CROSS-OVERS	187	1,774	2,078	OBTAIN 2,078 CU. YD. FROM BAL. #6
	MARCUM BRANCH				
3	NORTH CROSS-OVERS	154	874	972	OBTAIN 972 CU. YD. FROM BAL. #6
4	SOUTH CROSS-OVERS	157	804	881	OBTAIN 881 CU. YD. FROM BAL. #6
5	MO PAC RR	-	37	47	OBTAIN 47 CU. YD. FROM BAL. #6
6	WHITTINGTON INTER.				
	RAMP "A" INFIELD	5,162	-	-	PLACE 5,162 CU. YD. IN BALS. #1, 2, 3, 4, & 5
	MIDDLE FORK OF BIG MUDDY RIVER				
7	NORTH CROSS-OVERS	189	563	546	OBTAIN 546 CU. YD. FROM BAL. #12
8	SOUTH CROSS-OVERS	196	659	660	OBTAIN 660 CU. YD. FROM BAL. #12
9	C&EI RR AND 7TH ST.	-	26	33	OBTAIN 33 CU. YD. FROM BAL. #12
	POND CREEK				
10	NORTH CROSS-OVERS	167	580	585	OBTAIN 585 CU. YD. FROM BAL. #12
11	SOUTH CROSS-OVERS	139	580	609	OBTAIN 609 CU. YD. FROM BAL. #12
12	WEST FRANKFORT INTER.				
	RAMP "C" INFIELD	2,433	-	-	PLACE 2,433 CU. YD. IN BALS. #7, 8, 9, 10, & 11
TOTALS		8,962	6,956	-	

SEEDING & MULCHING

LOCATION	CLASS II SEEDING	NITROGEN FERTILIZER NUTRIENT	PHOSPHOROUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH METHOD 3
	ACRE	POUND	POUND	POUND	POUND	TON
GUN CREEK						
NORTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
SOUTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
MARCUM BRANCH						
NORTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
SOUTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
MO PAC RAILROAD						
NORTH	0.10	8	32	16	0.2	0.2
SOUTH	0.10	8	32	16	0.2	0.2
WHITTINGTON INTERCHANGE						
RAMP "A" INFIELD	2	160	640	320	4	4
MIDDLE FORK OF BIG MUDDY RIVER						
NORTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
SOUTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
C&EI RAILROAD & 7TH ST.						
NORTH	0.10	8	32	16	0.2	0.2
SOUTH	0.10	8	32	16	0.2	0.2
POND CREEK						
NORTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
SOUTH CROSS-OVERS	0.60	48	192	96	1.2	1.2
WEST FRANKFORT INTERCHANGE						
RAMP "C" INFIELD	1.1	88	352	176	2.2	2.2
TOTAL	8.3	644	2,656	1,328	16.6	16.6

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

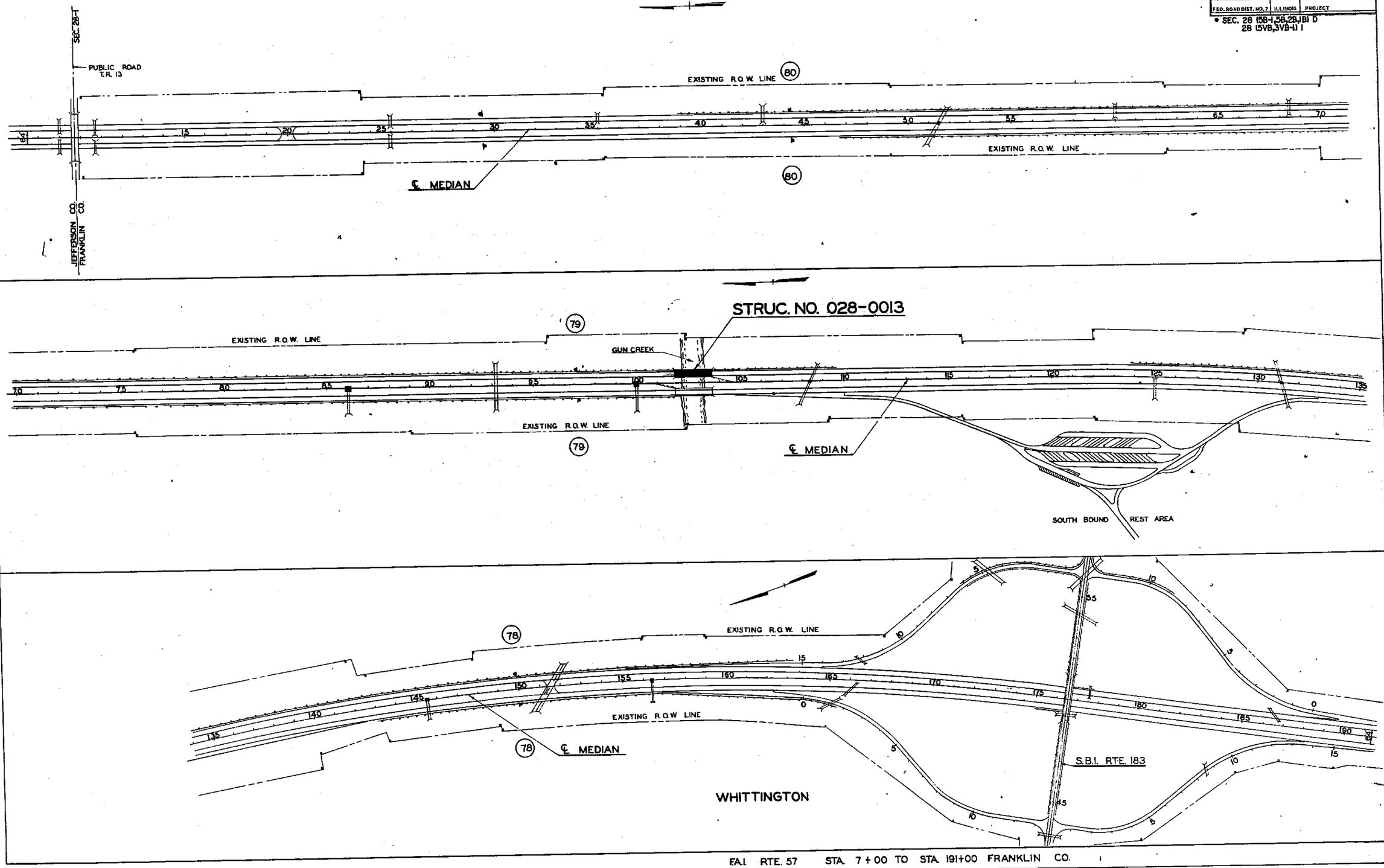
* 28(5B-1,5B,2B,1B)D;28(5VB,3VB-1)I

GUARDRAIL

LOCATION	QUAD.	S.P.B.G.R. REMOVAL	S.P.B.G.R. TYPE A	TRAFFIC BARRIER TERMINAL							TEMPORARY GUARDRAIL
				TYPE 1	TYPE 2	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 10	
		LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN. FT.
STRUCTURE NO. 028-0013 GUN CREEK	N. E.	62.5	50	--	--	--	1	--	--	--	--
	S. E.	100	100	1	--	--	--	1	--	--	--
	S. W.	150	100	--	--	1	--	1	--	--	487.5
	N. W.	--	--	--	--	--	--	--	--	--	--
TOTALS		312.5	250	1	--	1	1	2	--	--	487.5
STRUCTURE NO. 028-0012 MARCUM BRANCH	N. E.	187.5	50	--	1	--	1	--	--	--	--
	S. E.	100	350	1	--	--	--	1	--	--	--
	S. W.	137.5	125	--	--	1	--	1	--	--	137.5
	N. W.	--	--	--	--	--	--	--	--	--	--
TOTALS		425	525	1	1	1	1	2	--	--	137.5
STRUCTURE NO. 028-0009 MOPAC RAILROAD	N. E.	112.5	62.5	--	1	--	--	--	--	1	--
	S. E.	125	387.5	1	--	--	--	--	1	--	--
	S. W.	137.5	300	1	--	--	--	--	1	--	--
	N. W.	--	--	--	--	--	--	--	--	--	--
TOTALS		375	750	2	1	--	--	--	2	1	--
STRUCTURE NO. 028-0006 MIDDLE FORK BIG MUDDY RIVER	N. E.	125	112.5	--	1	--	1	--	--	--	--
	S. E.	100	75	--	--	--	--	1	--	--	--
	S. W.	137.5	262.5	1	--	--	--	1	--	--	137.5
	N. W.	--	--	--	--	--	--	--	--	--	--
TOTALS		362.5	450	1	1	--	1	2	--	--	137.5
STRUCTURE NO. 028-0004 C&EI RAILROAD	N. E.	62.5	62.5	--	--	--	--	--	--	1	--
	S. E.	500	50	1	--	--	--	--	1	--	--
	S. W.	137.5	212.5	1	--	--	--	--	1	--	--
	N. W.	--	--	--	--	--	--	--	--	--	--
TOTALS		700	325	2	--	--	--	--	2	1	--
STRUCTURE NO. 028-0001 POND CREEK	N. E.	200	--	--	--	--	--	--	--	--	--
	S. E.	100	150	1	--	--	--	1	--	--	--
	S. W.	137.5	275	1	--	--	--	1	--	--	125
	N. W.	--	--	--	--	--	--	--	--	--	--
TOTALS		437.5	425	2	--	--	--	2	--	--	125
PROJECT TOTALS		2,612.5	2,725	9	3	2	3	8	4	2	887.5

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	7
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

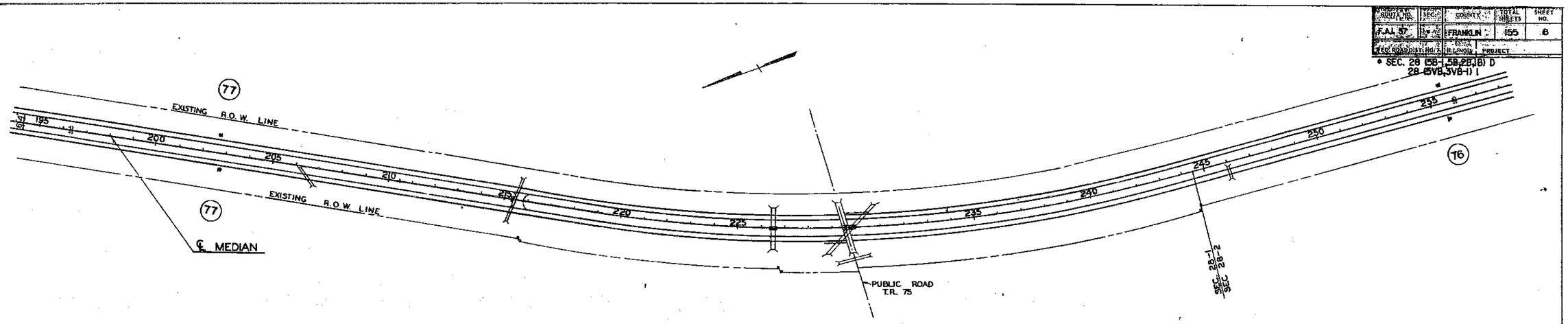
* SEC. 28 (58-1,58,28JB) D
28 (5VB,3VB-1) I

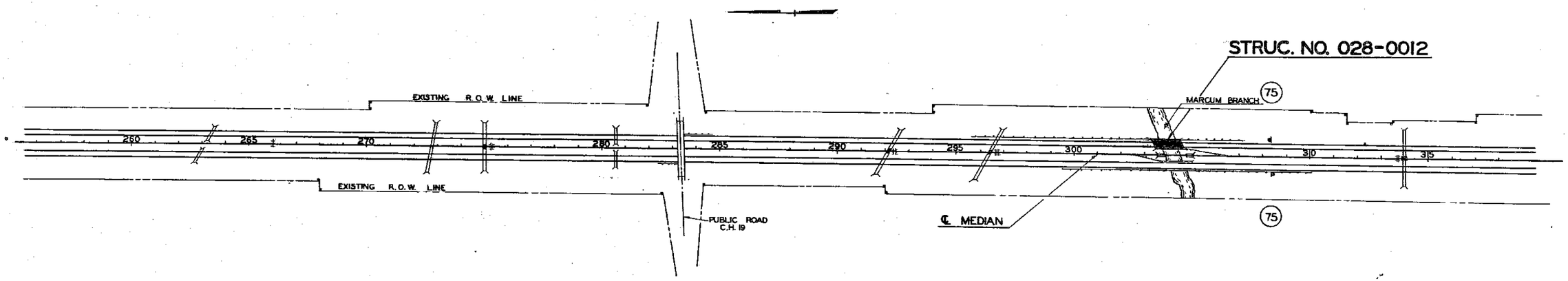


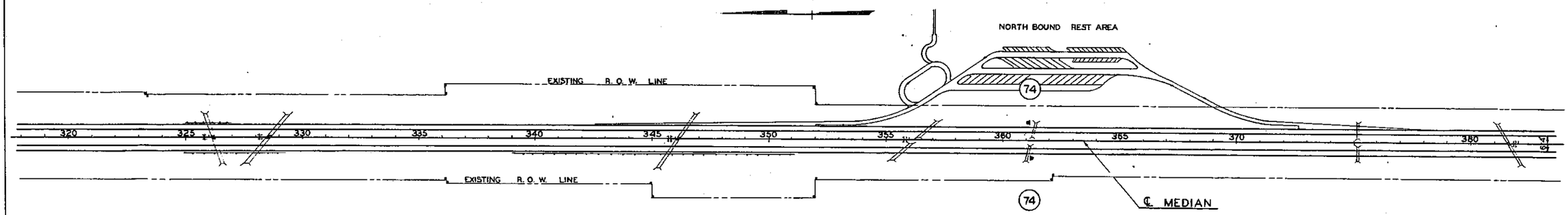
F.A.I. RTE. 57 STA. 7+00 TO STA. 191+00 FRANKLIN CO.

STRUCTURE ROUTE NO.	SECT. NO.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	57	FRANKLIN	155	8
FED. ROAD DIST. NO. 7	STATE ILLINOIS	PROJECT		

SEC. 28 (5B-1, 5B-2, 5B) D
28 (5VB, 5VB-1) I



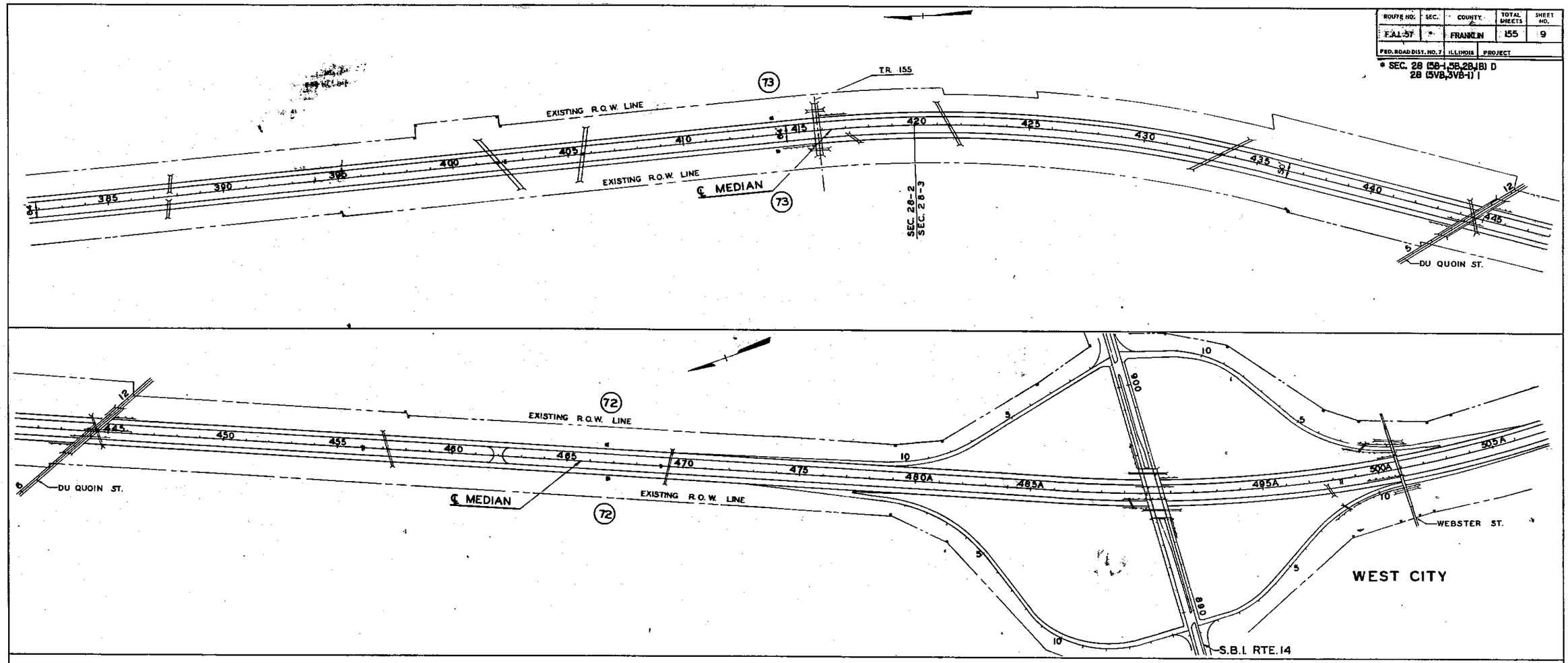


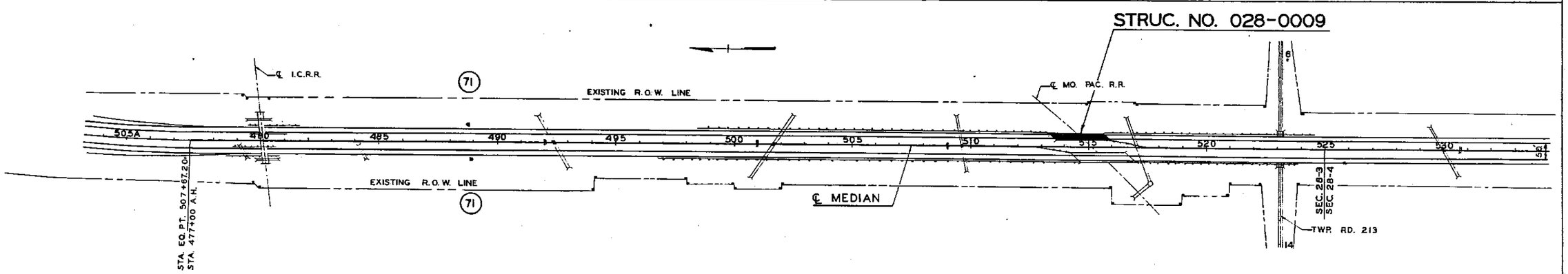


F.A.I. RTE. 57 STA. 194+00 TO STA. 383+00 FRANKLIN CO.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

* SEC. 28 (58-1,58,28,(B) D
28 (5VB,3VB-1) I

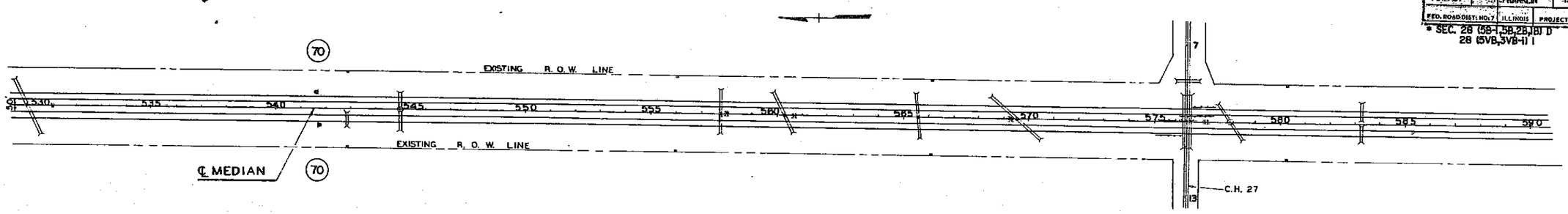


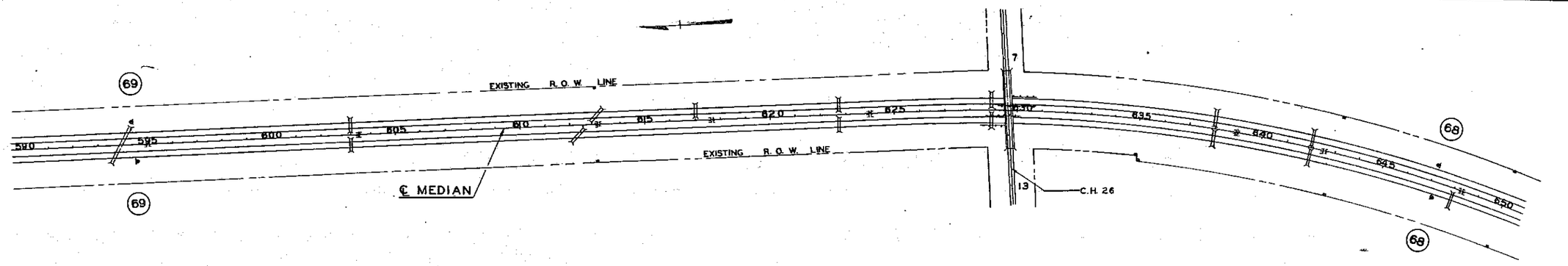


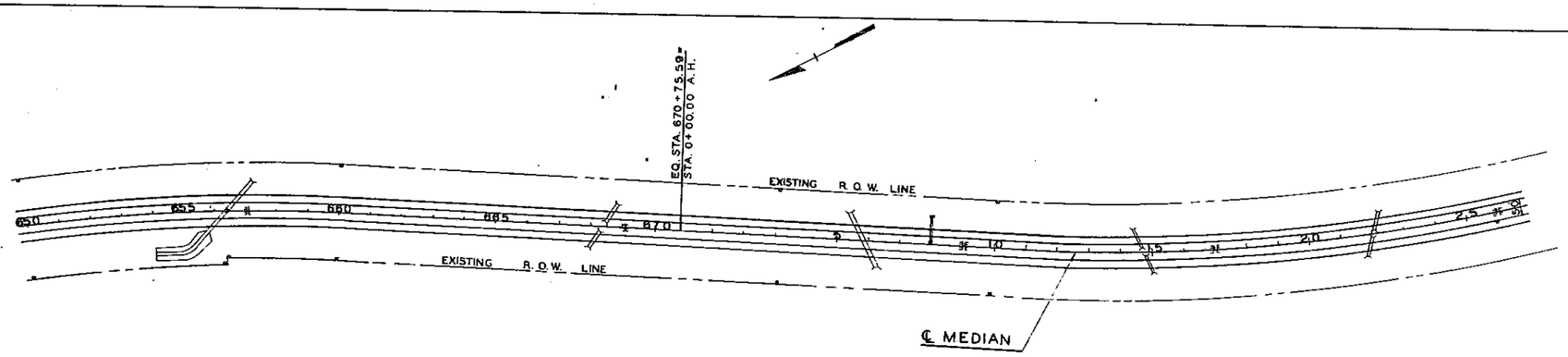
F.A.I. RTE 57 STA. 382+00 TO STA. 530+00 FRANKLIN CO.

ROUTE/NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57		FRANKLIN	155	10
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

* SEC. 28 (58-1,58,28,1B) D
28 (5VB,3VB-1) I







F.A.I. RTE. 57 STA. 530+00 TO STA. 25+00 FRANKLIN CO.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	11
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

* SEC. 28 (5B-1, 5B, 28JB) D
28 (5VB, 5VB-1) I

STRUC. NO. 028-0006

BIG MUDDY RIVER

P.T.E.Q. STA. 47+95.47
STA. 48+07.04 A.H.

EXISTING R.O.W. LINE

EXISTING R.O.W. LINE

℄ MEDIAN

SEC. 28-4
SEC. 28-5

STRUC. NO. 028-0004

EXISTING R.O.W. LINE

EXISTING R.O.W. LINE

℄ MEDIAN

℄ C&E.I. R.R.

℄ 7TH. ST.

NORTH ROAD

EXISTING R.O.W. LINE

EXISTING R.O.W. LINE

℄ MEDIAN

C.B.&Q. R.R

S.B.I. RTE. 149

WEST FRANKFORT

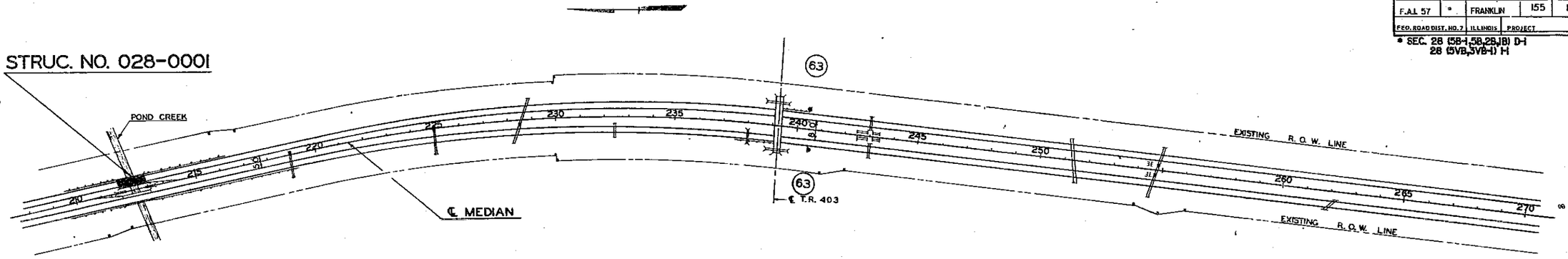
E.Q. STA. 204+74.09 E. LANES
STA. 204+69.46 W. LANES
P.T. STA. 204+79.72 (MED) A.H.

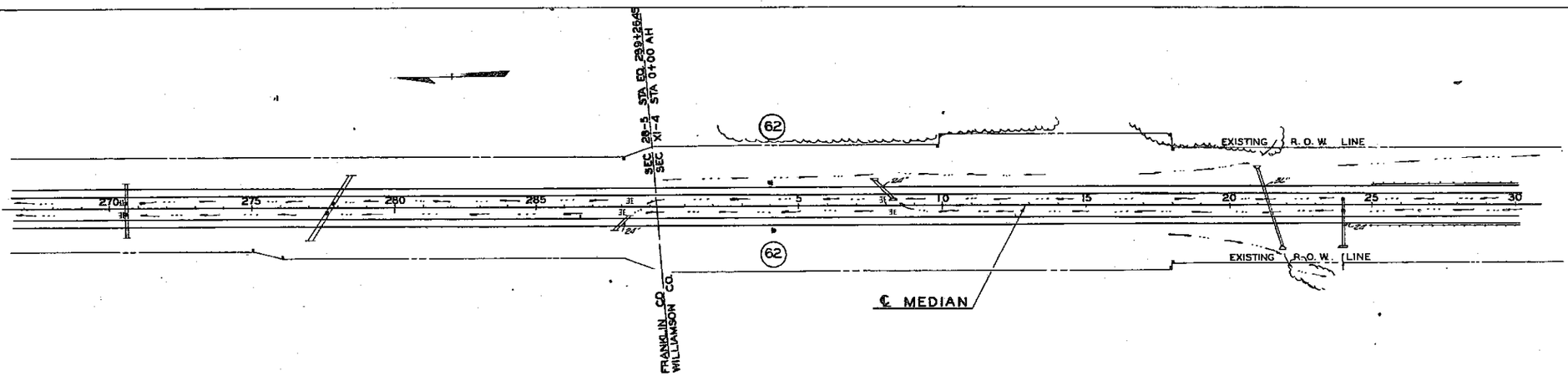
F.A.I. RTE 57 STA. 25+00 TO STA. 208+00 FRANKLIN CO.

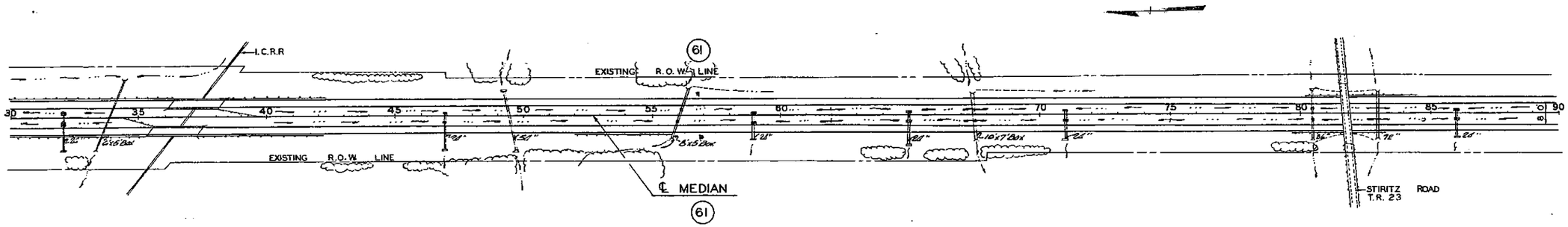
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	12
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

* SEC. 28 (5B-1,5B,2B,3B) D-1
28 (5VB,3VB-1) H

STRUC. NO. 028-0001



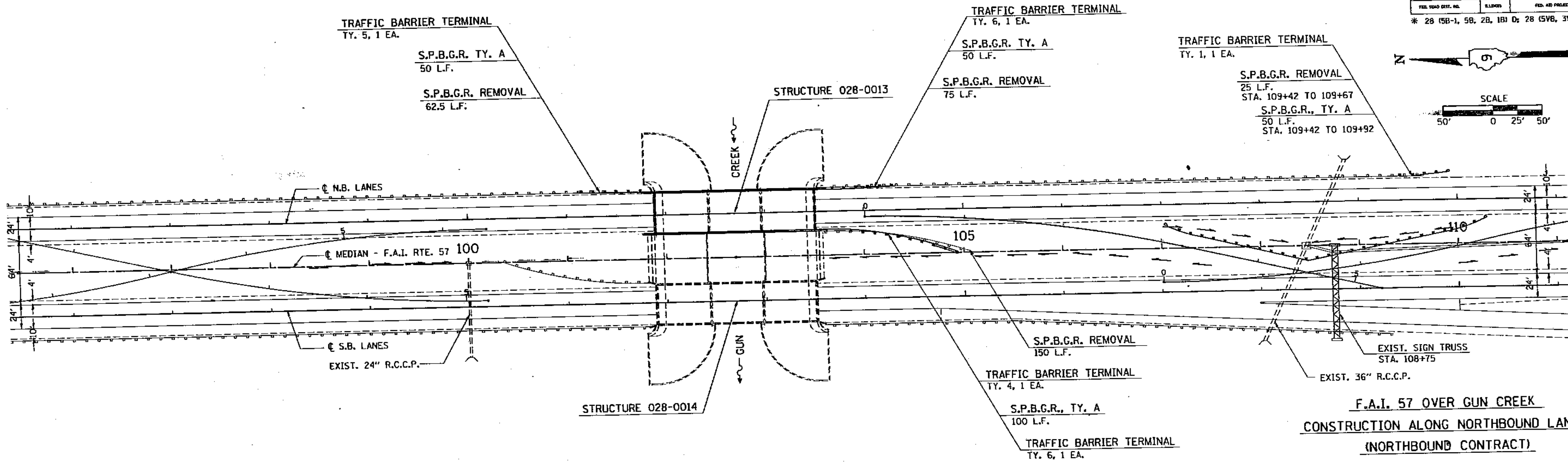




F.A.I. RTE. 57 · STA 208+00 TO 90+00 FRANKLIN – WILLIAMSON COUNTIES

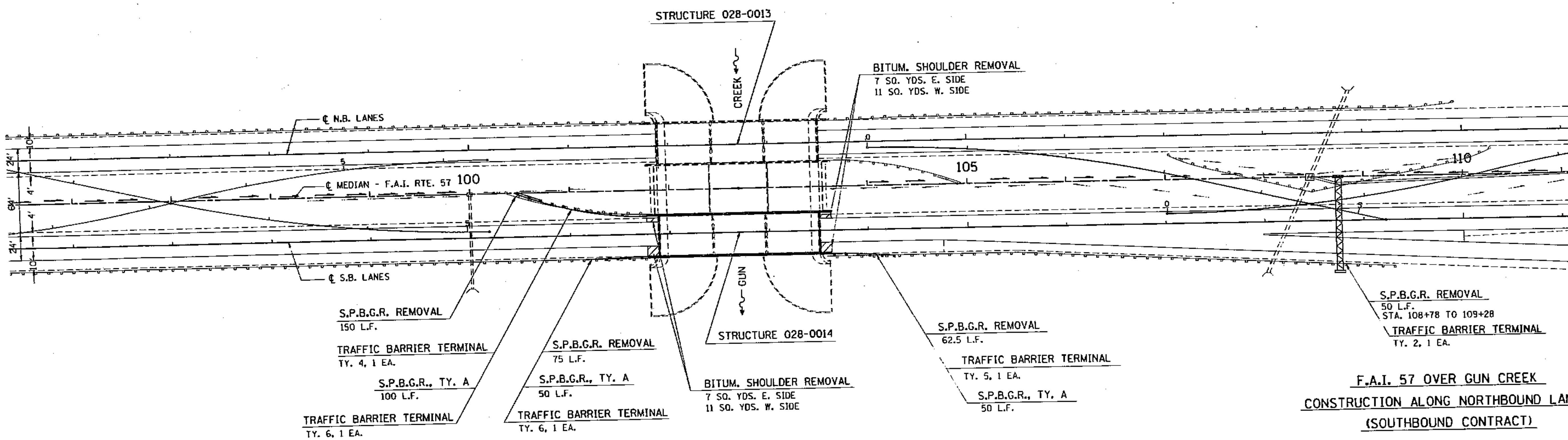
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	13

* 28 (SB-1, 5B, 2B, 1B) D; 28 (5VB, 3VB-1) I



F.A.I. 57 OVER GUN CREEK
CONSTRUCTION ALONG NORTHBOUND LANES
(NORTHBOUND CONTRACT)

OFFSET MEDIAN GUARDRAIL IN ACCORDANCE WITH STD. 2339, EXCEPT SET STA. 0+00 AT THE APPROACH END OF THE TYPE 6 TERMINAL.



F.A.I. 57 OVER GUN CREEK
CONSTRUCTION ALONG NORTHBOUND LANES
(SOUTHBOUND CONTRACT)

I-57 OVER GUN CREEK

FAI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	14
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (SB-1, 5B, 2B, 1B) D; 28 (SVB, 3VB-11.1

N

SCALE
50' 0 25' 50'

BITUMINOUS SHOULDER REMOVAL
36 SQ. YD.
LT. STA. 95+19 TO STA. 96+00

EQ. STA. 95+04.42 BK. (42.55' LT. ℄ I-57) =
STA. 0+00 AH. (℄ CROSSOVER NO. 2)

℄ N.B. LANES

℄ MEDIAN - F.A.I. RTE. 57

℄ S.B. LANES

EXIST. 84" R.C.C.P.

EQ. STA. 93+80.27 BK. (38' RT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

BITUMINOUS SHOULDER REMOVAL
108 SQ. YD.
RT. STA. 93+60.3 TO STA. 96+03

P-CULV. TY. 2, 18" (DETOUR)
248 LIN. FT.
STA. 95+85 TO 1.5' RT. STA. 98+35
U.S.F.L. = 413.1
D.S.F.L. = 412.2

BIT SHLD REM
Rt. 96+70 - 101+90

℄ CROSSOVER NO. 3
(S.B. CLOSED)

EQ. P.T. STA. 6+43.63 BK. ℄ CROSSOVER NO. 3) =
34' LT. STA. 100+18.50 AH. (℄ I-57)

BITUMINOUS SHOULDER REMOVAL
162 SQ. YD.
LT. STA. 98+25 TO STA. 101+88.50

BITUMINOUS SHOULDER REMOVAL
11 SQ. YD.

CREEK

GUN

BIT SHLD REM
Lt 99+34 - 101+90

EXIST. 24" R.C.C.P.

℄ CROSSOVER NO. 2
(N.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
107 SQ. YD.
RT. STA. 97+98 TO STA. 100+38.5

EQ. P.T. STA. 5+21.83 BK. (℄ CROSSOVER NO. 2) =
38' RT. STA. 100+18.50 AH. (℄ I-57)

CURVE DATA
CROSSOVER NO. 3

P.I. STA= 1+61.59
Δ= 12° 52' 22"
D= 4° 00' 00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 0+00.00
P.T. STA= 3+21.82

P.I. STA= 4+83.41
Δ= 12° 52' 22"
D= 4° 00' 00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 3+21.82
P.T. STA= 6+43.64

CURVE DATA
CROSSOVER NO. 2

P.I. STA= 3+61.59
Δ= 12° 52' 22"
D= 4° 00' 00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 2+00.00
P.T. STA= 5+21.82

B.M.: TOP OF IRON PIN AND CAP, 25.0' LT. ℄ S.B. LANES, STA. 95+05 ELEV. 416.21

EQ. STA. 95+04.42 BK. (42.55' LT. ℄ I-57) =
STA. 0+00 AH. (℄ CROSSOVER NO. 2)

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 2

PROP. PROFILE ALONG ℄ CROSSOVER NO. 2

PROP. BITUMINOUS MIXTURE COMPLETE, 14"

EQ. P.T. STA. 5+21.83 BK. (℄ CROSSOVER NO. 2) =
38' RT. STA. 100+18.50 AH. (℄ I-57)

EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

EQ. STA. 93+80.27 BK. (38' RT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 3

PROP. PROFILE ALONG ℄ CROSSOVER NO. 3

PROP. BITUMINOUS MIXTURE COMPLETE, 14"

EQ. P.T. STA. 6+43.63 BK. ℄ CROSSOVER NO. 3) =
34' LT. STA. 100+18.50 AH. (℄ I-57)

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

F.A.I. RTE. 57 OVER GUN CREEK

FM NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	15
STA.	TO STA.			
FED. ROAD DIST. NO.	STATE	FED. AID PROJECT		

* 2B (5B-1, 5B, 2B, 1B) & 2B (5VB, 3VB-1)

N

SCALE
50' 0 25' 50'

EQ. STA. 104+01.50 BK. (38' LT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)

BITUMINOUS SHOULDER REMOVAL
11 SQ. YD.

CREEK

TEMP. GUARDRAIL
337.5 LIN. FT.
LT. STA. 107+03 TO LT. STA. 110+30
(INCLUDES TWO TY. 1 TERMINALS)
ADJUST DEPTH OF POSTS AS NECESSARY TO AVOID PIPE CULVERT. GUARDRAIL IS TO REMAIN IN PLACE AT END OF CONTRACT.

BIT. SHLD. REM.
Rt. 103+83 - 105+50

BITUMINOUS SHOULDER REMOVAL
120 SQ. YD.
LT. STA. 103+51.50 TO STA. 106+21

CURVE DATA
CROSSOVER NO. 4
P.I. STA= 1+61.59
Δ= 12° 52' 22"
D= 4° 00' 00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 0+00.00
P.T. STA= 3+21.82

P-CULV. TY. 2 R.C.C.P. 24"
258 LIN. FT.
STA. 108+48 TO STA. 111+12
U.S.F.L. = 412.21
D.S.F.L. = 411.42
20° R.C. PIPE ELBOW, 24"
1 EACH
ALLOW 3' MIN. CLEARANCE BETWEEN PIPE AND SIGN TRUSS FOUNDATION

INLET BOX, STD. 2358
1 EACH
STA. 111+22
TOP OF GRATE ELEV. AT DITCH F.L. = 413.10

℄ CROSSOVER NO. 1
(N.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
99 SQ. YD.
LT. STA. 111+18 TO STA. 113+39.7

EQ. P.T. STA. 6+43.64 BK. (℄ CROSSOVER NO. 1) =
38' LT. STA. 113+39.73 (℄ I-57)

105 100' 20' 110 20' 115

℄ MEDIAN - F.A.I. RTE. 57

10' 24' 4' 64' 4' 24' 10'

TEMP. GUARDRAIL
150 LIN. FT.
(INCLUDES ONE TY. 10 TERMINAL AND ONE TY. 4 TERMINAL)

BITUMINOUS SHOULDER REMOVAL
134 SQ. YD.
RT. STA. 106+01.5 TO STA. 109+02

EXIST. 36" R.C.C.P.

INLET TO BE RECONSTRUCTED
1 EACH
STA. 108+47

℄ CROSSOVER NO. 4
(S.B. CLOSED)

EQ. P.I. STA. 5+28.29 BK. (℄ CROSSOVER NO. 4) =
44' RT. STA. 109+21.91 AH. (℄ I-57)

EQ. STA. 107+01.5 BK. (34' RT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)

BIT. SHLD. REM.
Lt. 103+51 - 105+85

CURVE DATA
CROSSOVER NO. 1

P.I. STA= 1+61.59	P.I. STA= 4+83.41
Δ= 12° 52' 22"	Δ= 12° 52' 22"
D= 4° 00' 00"	D= 4° 00' 00"
R= 1432.39'	R= 1432.39'
T= 161.59'	T= 161.59'
L= 321.82'	L= 321.82'
E= 9.09'	E= 9.09'
P.C. STA= 0+00.00	P.C. STA= 3+21.82
P.T. STA= 3+21.82	P.T. STA= 6+43.64

B.M.:
TOP OF ½" BOLT EMBEDDED IN S.E. CORNER OF EAST HANDRAIL OF S.B. BRIDGE.
ELEV. 419.91

B.M.:
TOP OF IRON PIN AND CAP, 25.0' LT. ℄ S.B. LANES, STA. 117+55
ELEV. 416.23

EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

EQ. STA. 107+01.5 BK. (34' RT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 1

PROP. PROFILE ALONG ℄ CROSSOVER NO. 1

PROP. BITUMINOUS MIXTURE COMPLETE 14"

-0.018%

EQ. P.T. STA. 6+43.64 BK. (℄ CROSSOVER NO. 1) =
38' LT. STA. 113+39.73 (℄ I-57)

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

EQ. STA. 104+01.50 BK. (38' LT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 4

PROP. PROFILE ALONG ℄ CROSSOVER NO. 4

+0.069%

-0.024%

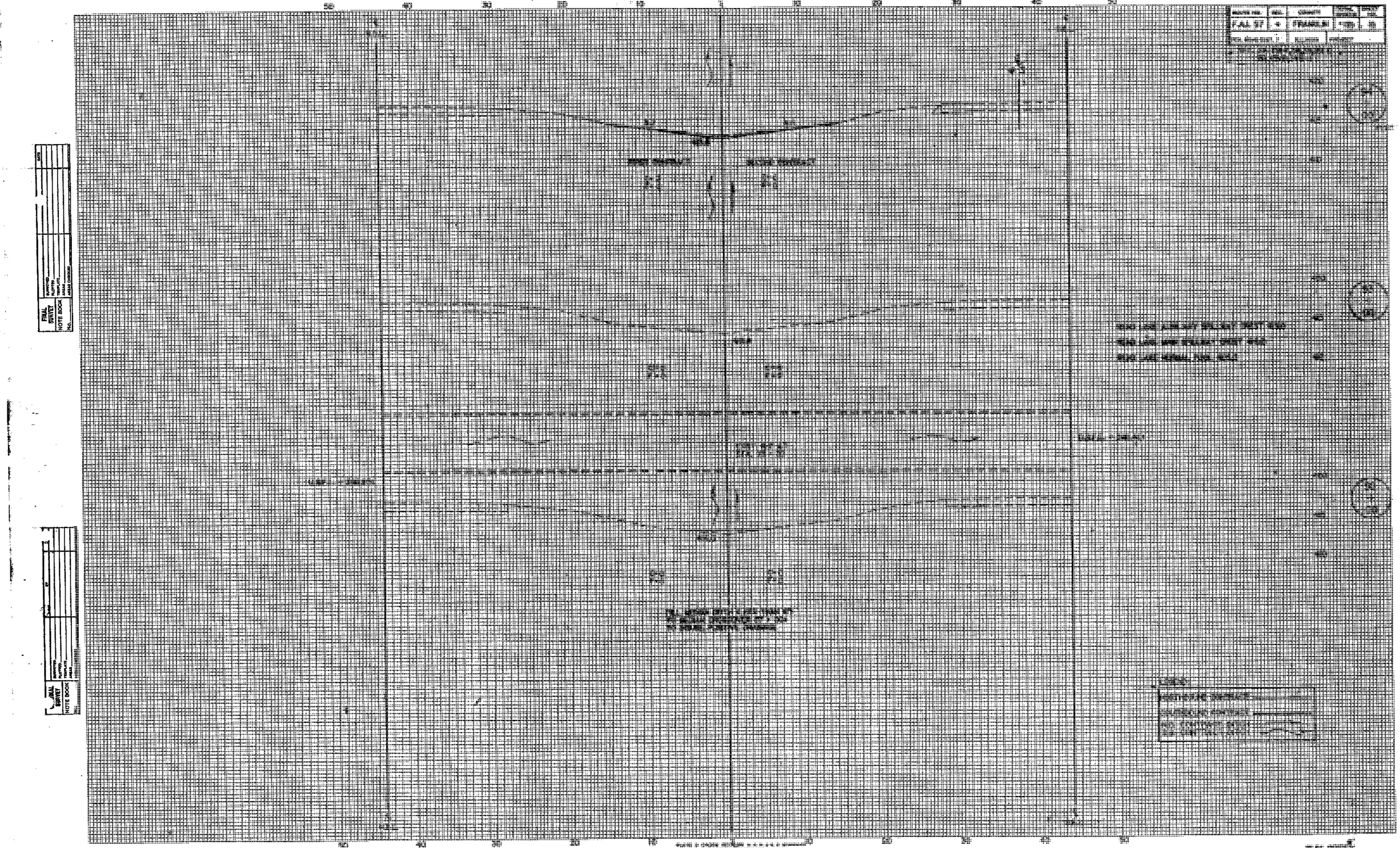
EQ. P.I. STA. 5+28.29 BK. (℄ CROSSOVER NO. 4) =
44' RT. STA. 109+21.91 AH. (℄ I-57)

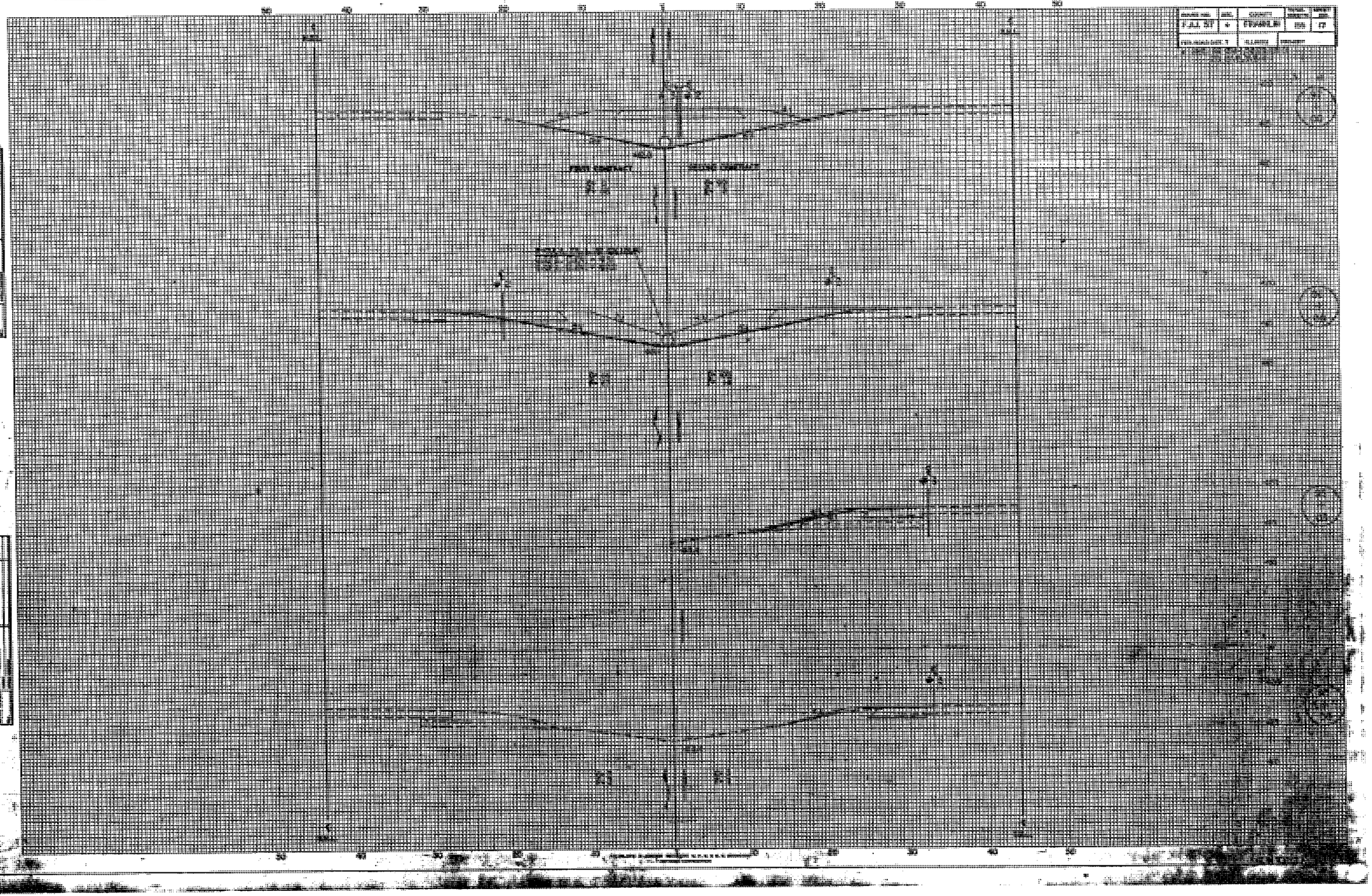
EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

420
415

104 0 1 2 3 4 5 110 111 112

F.A.I. RTE. 57 OVER GUN CREEK





FINAL SURVEY
NOTE BOOK
No.
DATE
SURVEYED
PLOTTED
TRACED
AREAS CHECKED

ORIGINAL SURVEY
NOTE BOOK
No.
DATE
SURVEYED
PLOTTED
TRACED
AREAS CHECKED

F.A.I. 57 | R
TRAMELLEN
SECT.
SHEET
ALIGNMENT 1
PROJECT

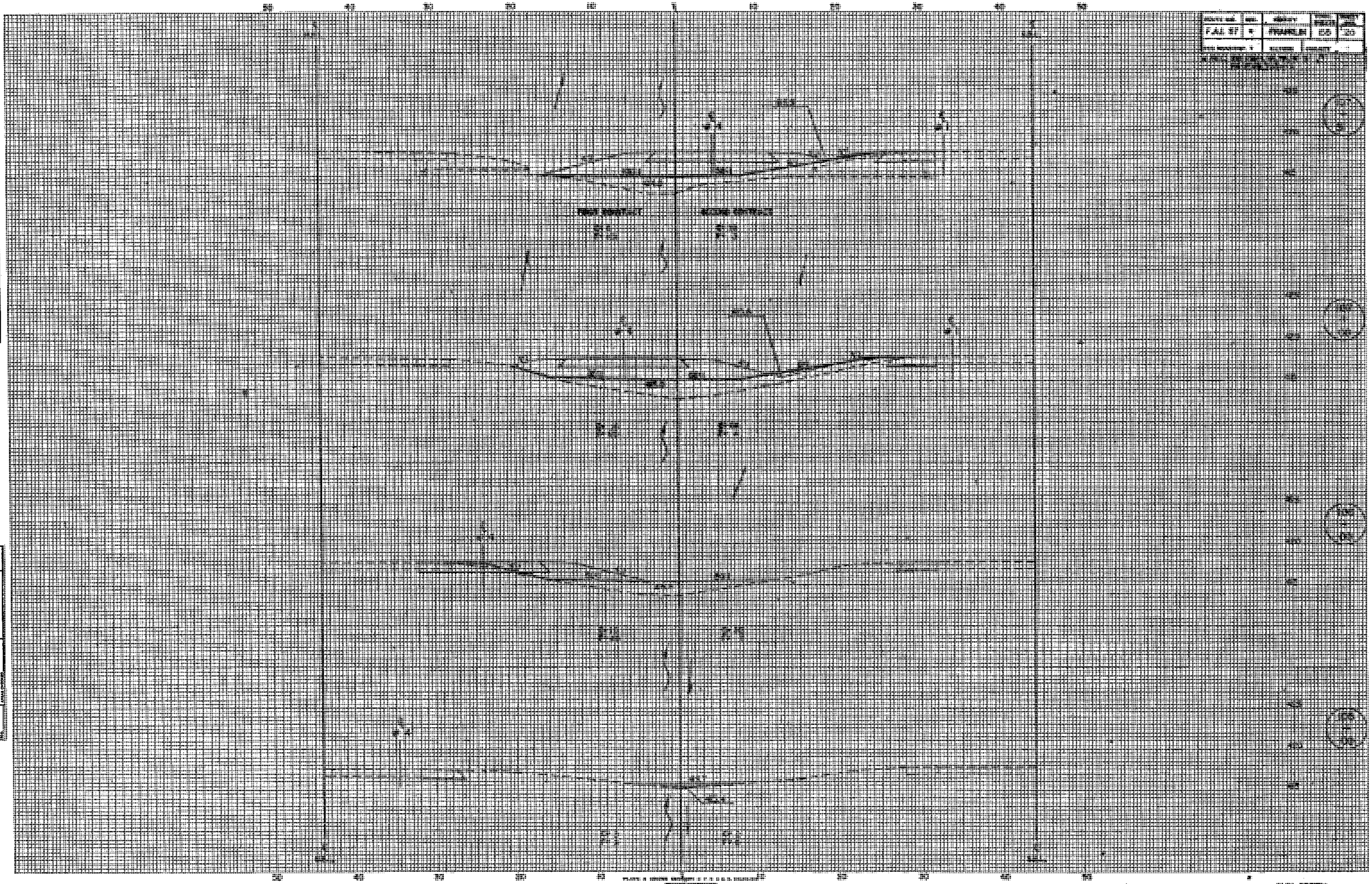
RUN OVER

FINAL SURVEY
NOTE BOOK
DATE
SURVEYED
DRAWN
TRACED
AREA
CROSS CHECKED

Original SURVEY
NOTE BOOK
SURVEYED
DRAWN
TRACED
AREA

DIVISION CORPORATION

GUN CREEK



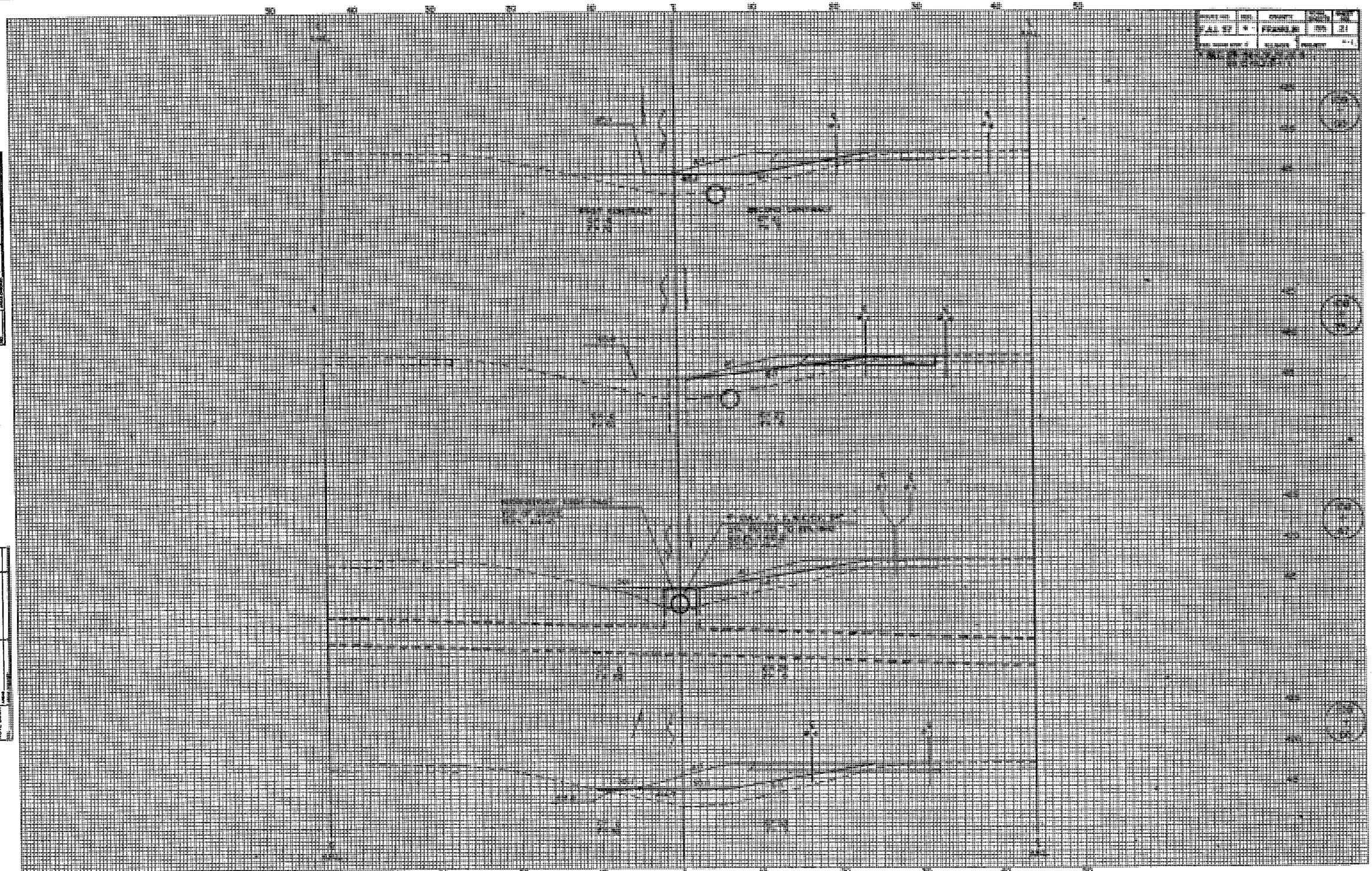
FINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE

ORIGINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

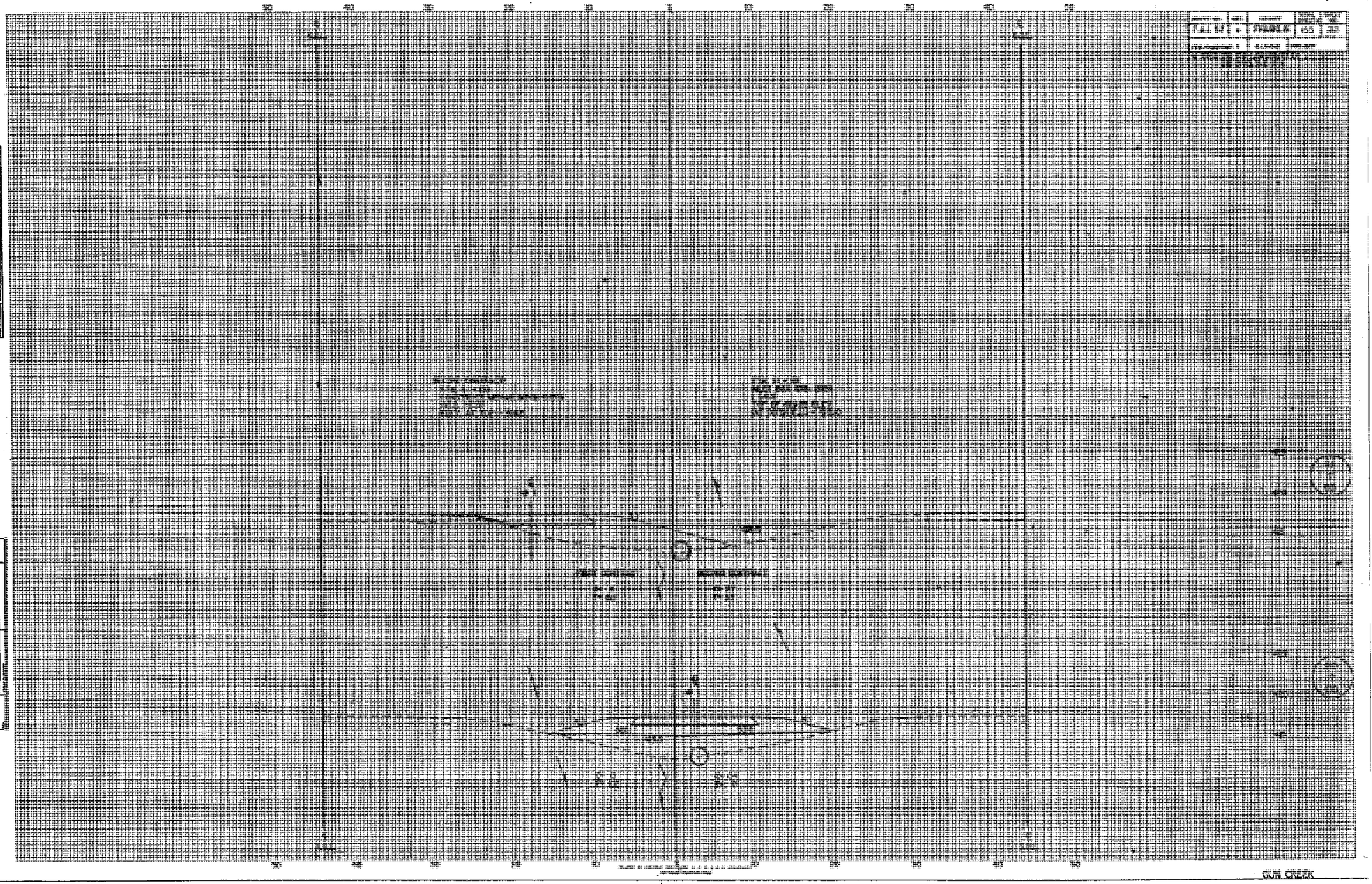
GUN CREEK

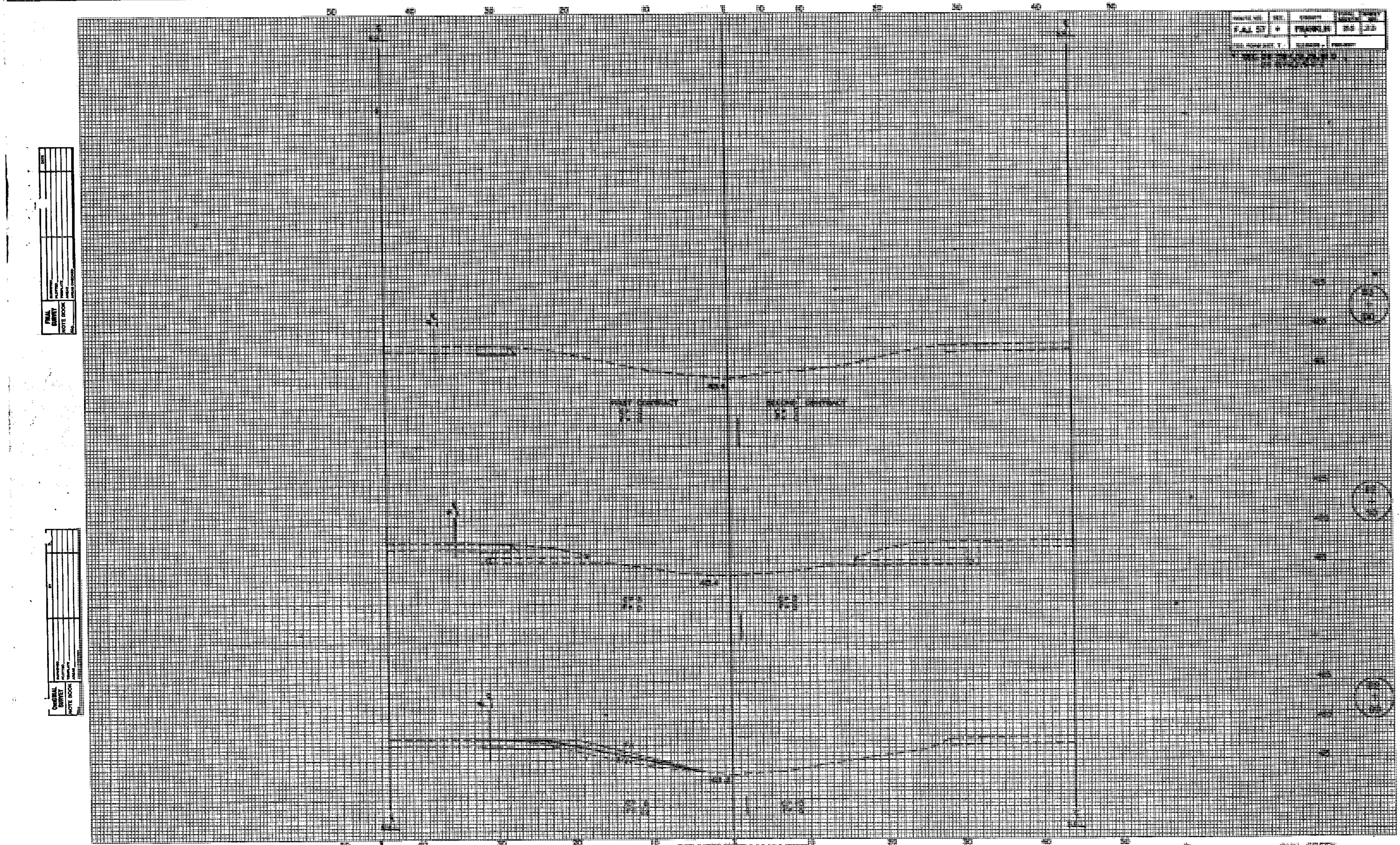
FINAL SURVEY
NOTE BOOK
No.
DATE
SURVEYED
PLOTTED
AREA CHECKED

FINAL SURVEY
NOTE BOOK
No.
DATE
SURVEYED
PLOTTED
AREA CHECKED



FIELD SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TRACED
TRIPLATE
AREAS CHECKED
DATE




GUN CREEK

Bench Mark: Top of ½" bolt imbedded in the S.E. corner of the east handrail on the southbound lane of the Gun Creek Bridge. Elev. 419.91

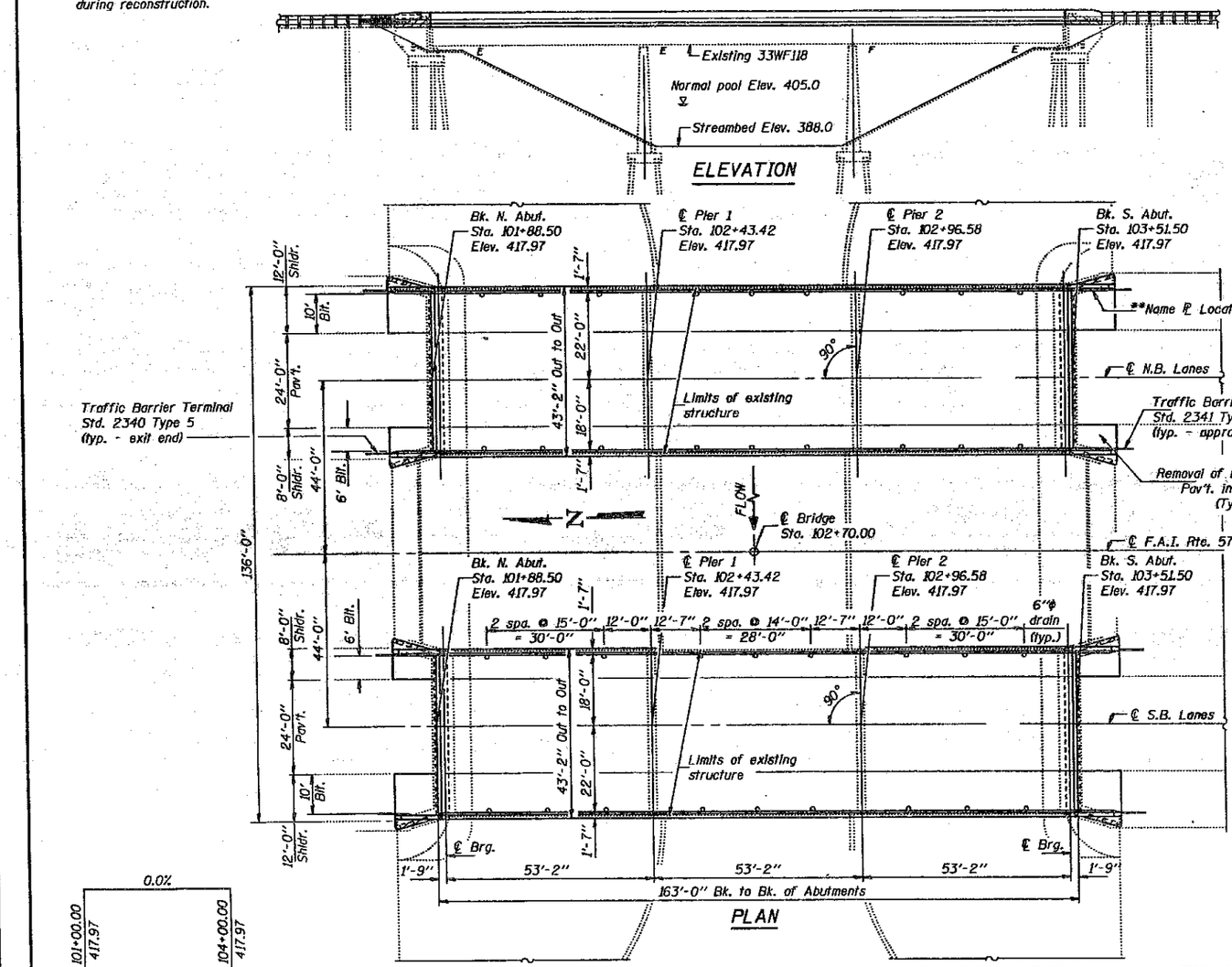
Existing structure: 028-0013 N.B. Built as F.A.I. Route 57 28-1B-F in 1962.
The superstructure consists of R.C. deck supported on 3 span continuous W.F. beams.
Temporary median cross-overs shall be utilized to divert traffic over adjacent bridge (028-0014 S.B.) during reconstruction.

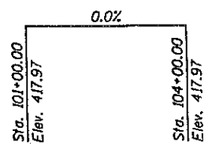
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	24
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
16 SHEETS

*(28-1B)D





PROFILE GRADE
(F.A.I. 57 along ℄ pavement)

NOTE: Only the Northbound Structure is included in the Contract.

DESIGNED	Michael A. Bergman, P.E.
CHECKED	Steve Arbour, Greg Stanley
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED Greg O. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

GENERAL NOTES

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

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

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

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ⅛ inch. Adjustment shall be made by shimming the bearing. Two ½" adjusting shims, of the dimensions of the top bearing plate, shall be provided for each new bearing in addition to all other plates or shims.

The Contractor will be required to mark on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted.

All top surfaces of the abutment seat area shall receive "Bridge Seat Sealer." Estimated quantity = 147 Sq. Ft.

The first two coats of the Lead and Chromate free Alkyd Paint System shall be used for shop and field painting of new structural steel.

Structural steel shall only be cleaned and painted as required by the special provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures".

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale, and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-11 for power tool cleaning or SP-2 for hand tool cleaning. Cost shall be incidental to concrete removal.

STATION 102 + 70.00
BUILT 199 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SEC. (28-1B)D
F.A. PROJ. IM-57-2(152)63
LOADING HS20
STR. NO. 028-0013

NAME PLATE

See Std. 2113

**Existing Name Plate to be cleaned and relocated next to the new Name Plate on the New Parapet. Cost incidental to "Name Plates."

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Concrete Removal	Cu. Yd.		9	9
*	Removal of Existing Concrete Deck	Each	1		1
	Structure Excavation	Cu. Yd.		23	23
	Floor Drains	Each	18		18
	Preformed Joint Seal 2½"	Lin. Ft.	43		43
	Preformed Joint Seal 4"	Lin. Ft.	43		43
	Class X Concrete Superstructure	Cu. Yd.	215.4		215.4
***	Protective Coat	Sq. Yd.	852		852
	Elastomeric Bearing Assembly, Type I	Each	21		21
	Structural Steel	Lbs.	10,450		10,450
	Stud Shear Connectors	Each	3094		3094
	Reinforcement Bars, Epoxy Coated	Pound	51,380		51,380
	Name Plates	Each	1		1
	Bridge Seat Sealer	L.S.		0.25	0.25
	Jack and Remove Existing Brgs.	Each	28		28
	Bridge Deck Grooving	Sq. Yd.	713		713

*** Includes deck & top and inside face of parapet.
* Includes removal of existing railing and expansion plates.

DESIGN SPECIFICATIONS

1989 AASHTO, 1990 & 1991 Interim Specifications & Seismic Retrofitting Guidelines for Highway Bridges.

LOADING HS 20-44 & ALT.

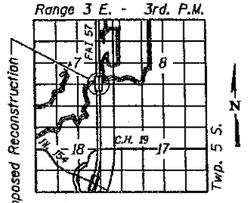
Allow 25#/ sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

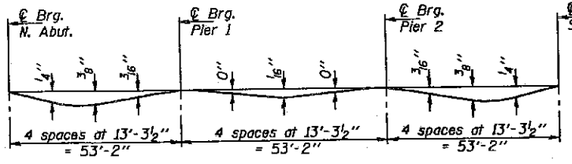
New Construction
f'_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
f_y = 36,000 psi (Str. Steel - M270 Gr. 36)

Old Construction
f_s = 20,000 psi (Exist. Structural Steel)



LOCATION SKETCH

GENERAL PLAN
F.A.I. ROUTE 57 OVER GUN CREEK
F.A.I. ROUTE 57 SECTION (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00
STRUCTURE NUMBER 028-0013 (N.B.)

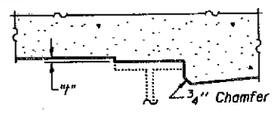


DEAD LOAD DEFLECTION DIAGRAM

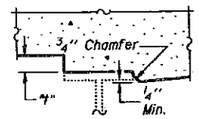
(Includes weight of concrete only)

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 on Sheet #3 of 16.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



At Minimum Fillet



At Maximum Fillet

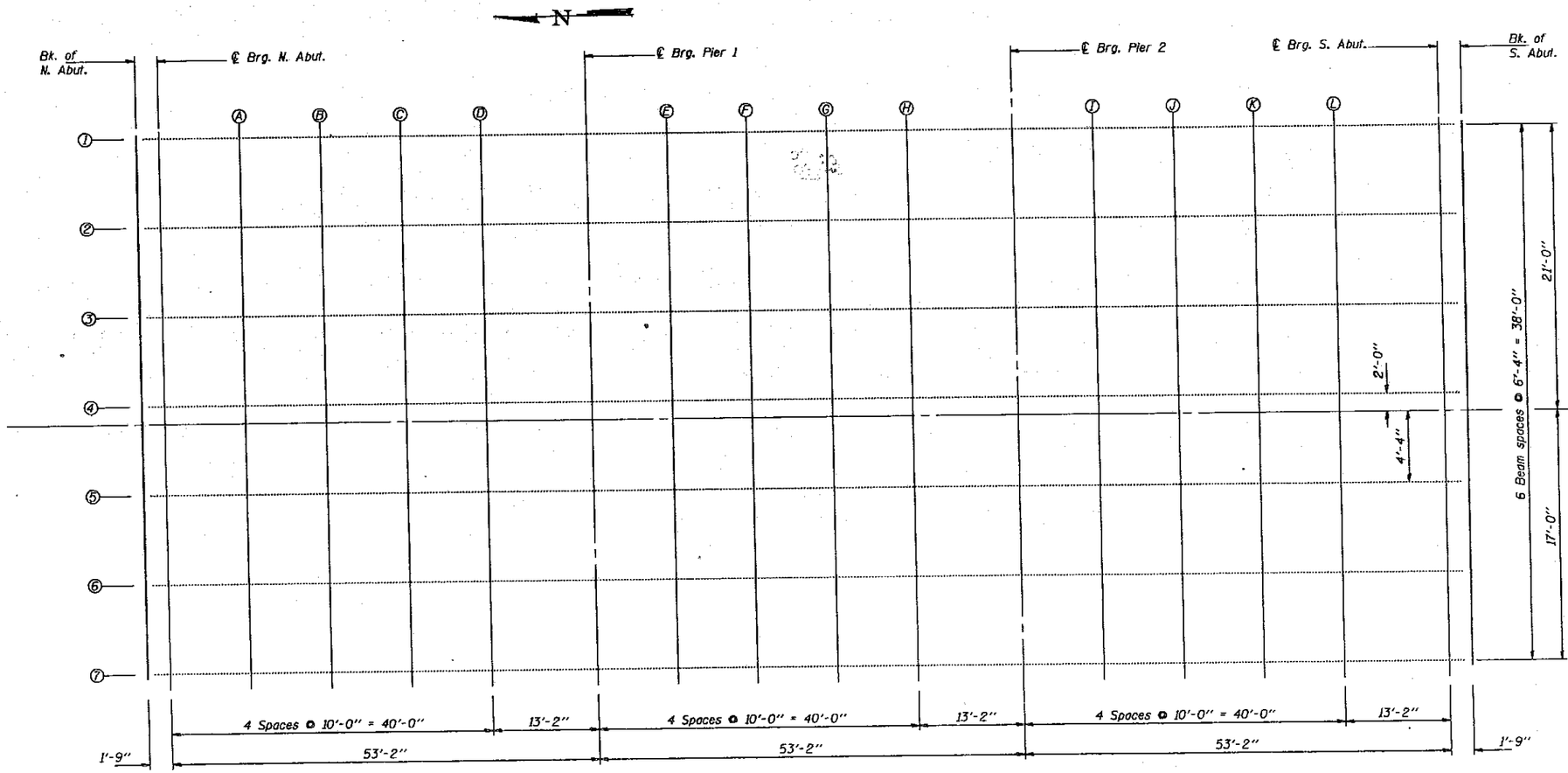
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	0	FRANKLIN	155	25
FED. ROAD DIST. NO. 7	ILL. DIVISION	FED. AID PROJECT-		

*(28-1B)D

SHEET NO. 2
16 SHEETS

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet #3 of 16, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

DESIGNED	Michael A. Stephenson, RSC
CHECKED	Shaker Ashour, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED Gaj. O. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	26
FED. ROAD DIST. NO. 9		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
16 SHEETS

*(28-1B)D

℄ BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	21.000	417.658	417.658
℄ BRG. N. ABUT.	10190.250	21.000	417.658	417.658
A	10200.250	21.000	417.658	417.675
B	10210.250	21.000	417.658	417.685
C	10220.250	21.000	417.658	417.685
D	10230.250	21.000	417.658	417.675
℄ BRG. PIER 1	10243.417	21.000	417.658	417.658
E	10253.417	21.000	417.658	417.658
F	10263.417	21.000	417.658	417.659
G	10273.417	21.000	417.658	417.660
H	10283.417	21.000	417.658	417.658
℄ BRG. PIER 2	10296.583	21.000	417.658	417.658
I	10306.583	21.000	417.658	417.671
J	10316.583	21.000	417.658	417.681
K	10326.583	21.000	417.658	417.686
L	10336.583	21.000	417.658	417.681
℄ BRG. S. ABUT.	10349.750	21.000	417.658	417.658
BK. S. ABUT.	10351.500	21.000	417.658	417.658

℄ BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	14.667	417.790	417.790
℄ BRG. N. ABUT.	10190.250	14.667	417.790	417.790
A	10200.250	14.667	417.790	417.807
B	10210.250	14.667	417.790	417.816
C	10220.250	14.667	417.790	417.816
D	10230.250	14.667	417.790	417.806
℄ BRG. PIER 1	10243.417	14.667	417.790	417.790
E	10253.417	14.667	417.790	417.790
F	10263.417	14.667	417.790	417.791
G	10273.417	14.667	417.790	417.792
H	10283.417	14.667	417.790	417.790
℄ BRG. PIER 2	10296.583	14.667	417.790	417.790
I	10306.583	14.667	417.790	417.802
J	10316.583	14.667	417.790	417.813
K	10326.583	14.667	417.790	417.818
L	10336.583	14.667	417.790	417.813
℄ BRG. S. ABUT.	10349.750	14.667	417.790	417.790
BK. S. ABUT.	10351.500	14.667	417.790	417.790

℄ BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	8.333	417.910	417.910
℄ BRG. N. ABUT.	10190.250	8.333	417.910	417.910
A	10200.250	8.333	417.910	417.927
B	10210.250	8.333	417.910	417.936
C	10220.250	8.333	417.910	417.936
D	10230.250	8.333	417.910	417.926
℄ BRG. PIER 1	10243.417	8.333	417.910	417.910
E	10253.417	8.333	417.910	417.910
F	10263.417	8.333	417.910	417.911
G	10273.417	8.333	417.910	417.912
H	10283.417	8.333	417.910	417.910
℄ BRG. PIER 2	10296.583	8.333	417.910	417.910
I	10306.583	8.333	417.910	417.922
J	10316.583	8.333	417.910	417.933
K	10326.583	8.333	417.910	417.938
L	10336.583	8.333	417.910	417.933
℄ BRG. S. ABUT.	10349.750	8.333	417.910	417.910
BK. S. ABUT.	10351.500	8.333	417.910	417.910

℄ BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	2.000	417.967	417.967
℄ BRG. N. ABUT.	10190.250	2.000	417.967	417.967
A	10200.250	2.000	417.967	417.984
B	10210.250	2.000	417.967	417.993
C	10220.250	2.000	417.967	417.993
D	10230.250	2.000	417.967	417.983
℄ BRG. PIER 1	10243.417	2.000	417.967	417.967
E	10253.417	2.000	417.967	417.967
F	10263.417	2.000	417.967	417.968
G	10273.417	2.000	417.967	417.968
H	10283.417	2.000	417.967	417.967
℄ BRG. PIER 2	10296.583	2.000	417.967	417.967
I	10306.583	2.000	417.967	417.979
J	10316.583	2.000	417.967	417.990
K	10326.583	2.000	417.967	417.995
L	10336.583	2.000	417.967	417.990
℄ BRG. S. ABUT.	10349.750	2.000	417.967	417.967
BK. S. ABUT.	10351.500	2.000	417.967	417.967

℄ ROADWAY AND P. G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	0.000	417.970	417.970
℄ BRG. N. ABUT.	10190.250	0.000	417.970	417.970
A	10200.250	0.000	417.970	417.988
B	10210.250	0.000	417.970	417.997
C	10220.250	0.000	417.970	417.997
D	10230.250	0.000	417.970	417.987
℄ BRG. PIER 1	10243.417	0.000	417.970	417.970
E	10253.417	0.000	417.970	417.970
F	10263.417	0.000	417.970	417.972
G	10273.417	0.000	417.970	417.972
H	10283.417	0.000	417.970	417.970
℄ BRG. PIER 2	10296.583	0.000	417.970	417.970
I	10306.583	0.000	417.970	417.983
J	10316.583	0.000	417.970	417.994
K	10326.583	0.000	417.970	417.998
L	10336.583	0.000	417.970	417.993
℄ BRG. S. ABUT.	10349.750	0.000	417.970	417.970
BK. S. ABUT.	10351.500	0.000	417.970	417.970

℄ BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	-4.333	417.954	417.954
℄ BRG. N. ABUT.	10190.250	-4.333	417.954	417.954
A	10200.250	-4.333	417.954	417.971
B	10210.250	-4.333	417.954	417.980
C	10220.250	-4.333	417.954	417.980
D	10230.250	-4.333	417.954	417.970
℄ BRG. PIER 1	10243.417	-4.333	417.954	417.954
E	10253.417	-4.333	417.954	417.954
F	10263.417	-4.333	417.954	417.955
G	10273.417	-4.333	417.954	417.956
H	10283.417	-4.333	417.954	417.954
℄ BRG. PIER 2	10296.583	-4.333	417.954	417.954
I	10306.583	-4.333	417.954	417.966
J	10316.583	-4.333	417.954	417.977
K	10326.583	-4.333	417.954	417.982
L	10336.583	-4.333	417.954	417.977
℄ BRG. S. ABUT.	10349.750	-4.333	417.954	417.954
BK. S. ABUT.	10351.500	-4.333	417.954	417.954

℄ BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	-10.667	417.871	417.871
℄ BRG. N. ABUT.	10190.250	-10.667	417.871	417.871
A	10200.250	-10.667	417.871	417.889
B	10210.250	-10.667	417.871	417.898
C	10220.250	-10.667	417.871	417.898
D	10230.250	-10.667	417.871	417.888
℄ BRG. PIER 1	10243.417	-10.667	417.871	417.871
E	10253.417	-10.667	417.871	417.871
F	10263.417	-10.667	417.871	417.873
G	10273.417	-10.667	417.871	417.874
H	10283.417	-10.667	417.871	417.871
℄ BRG. PIER 2	10296.583	-10.667	417.871	417.871
I	10306.583	-10.667	417.871	417.884
J	10316.583	-10.667	417.871	417.895
K	10326.583	-10.667	417.871	417.900
L	10336.583	-10.667	417.871	417.894
℄ BRG. S. ABUT.	10349.750	-10.667	417.871	417.871
BK. S. ABUT.	10351.500	-10.667	417.871	417.871

℄ BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. N. ABUT.	10188.500	-17.000	417.741	417.741
℄ BRG. N. ABUT.	10190.250	-17.000	417.741	417.741
A	10200.250	-17.000	417.741	417.759
B	10210.250	-17.000	417.741	417.768
C	10220.250	-17.000	417.741	417.768
D	10230.250	-17.000	417.741	417.758
℄ BRG. PIER 1	10243.417	-17.000	417.741	417.741
E	10253.417	-17.000	417.741	417.741
F	10263.417	-17.000	417.741	417.743
G	10273.417	-17.000	417.741	417.743
H	10283.417	-17.000	417.741	417.741
℄ BRG. PIER 2	10296.583	-17.000	417.741	417.741
I	10306.583	-17.000	417.741	417.754
J	10316.583	-17.000	417.741	417.765
K	10326.583	-17.000	417.741	417.769
L	10336.583	-17.000	417.741	417.764
℄ BRG. S. ABUT.	10349.750	-17.000	417.741	417.741
BK. S. ABUT.	10351.500	-17.000	417.741	417.741

Note: Work this sheet with sheet #2 of 16.

DESIGNED Michael A. Stephenson, ESG
CHECKED Shaker Assour, GAG
DRAWN E. Vern Taylor
CHECKED MAS, GAG
E-S 1-6-82

MAY 22 1992
EXAMINED Engineer of Bridge Design
PASSED Engineer of Bridges and Structures
APPROVED Director of Highways

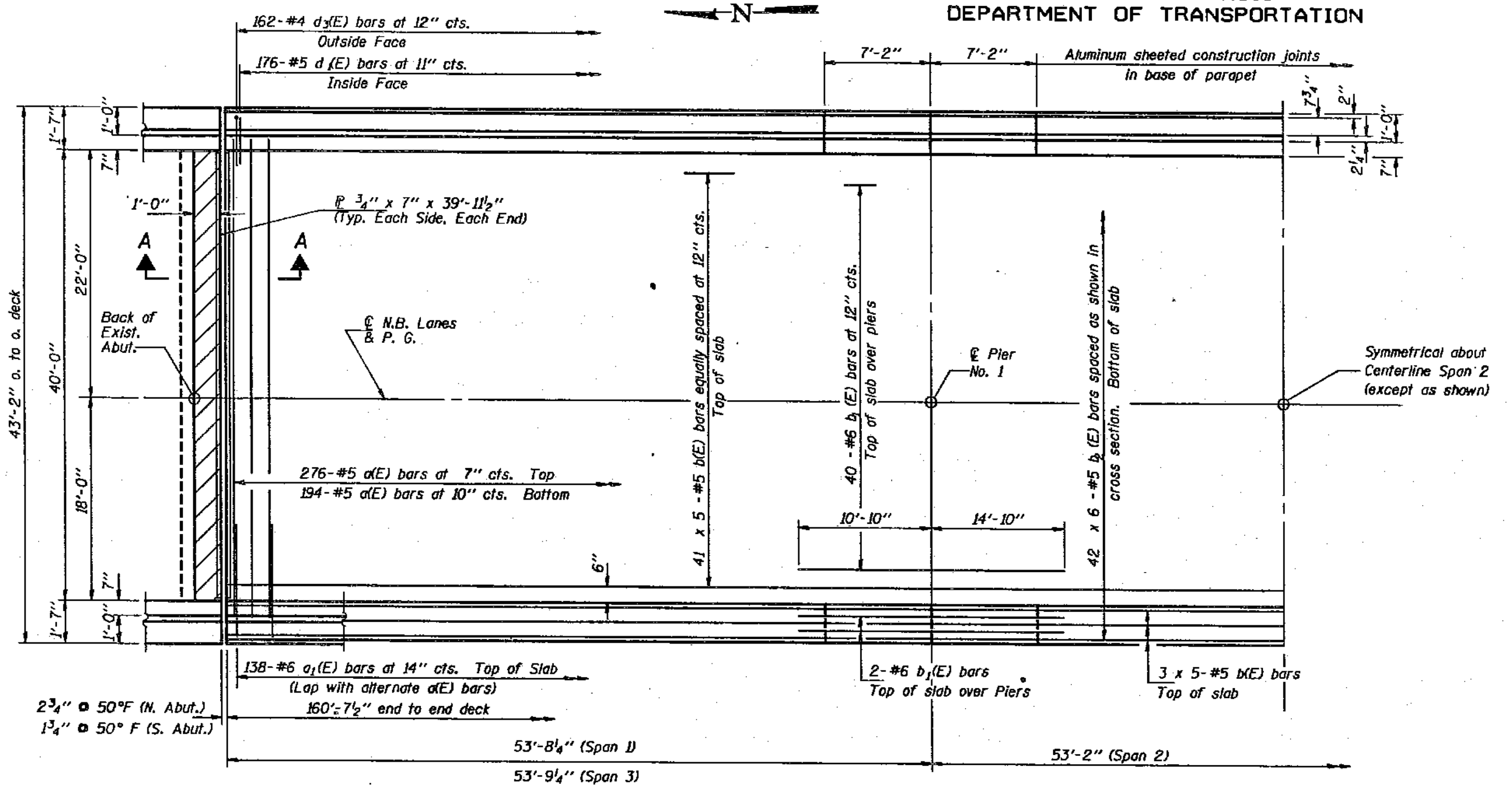
TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	27

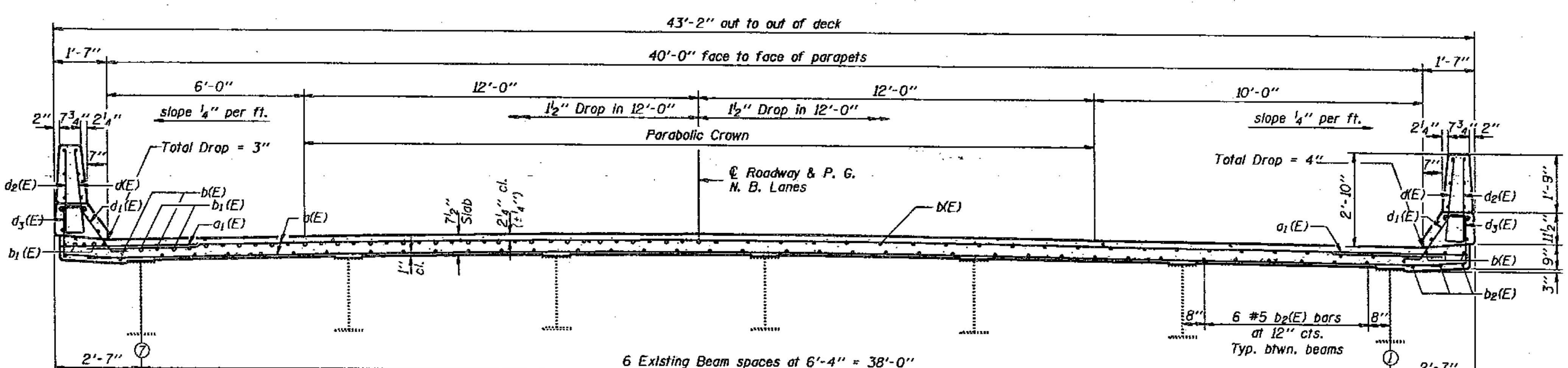
SHEET NO. 4
16 SHEETS

*(28-1B)D

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



HALF PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking North)

Notes: See sheets #5 and #6 of 16 for superstructure details, parapet reinforcement and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Reinforcement bars indicated thus 40 x 4 #5 etc. indicates 40 lines of bars with 4 lengths per line.
See sheet #1 of 16 for drain locations and sheet #5 of 16 for details.
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Class X Concrete Superstructure.
For Sec. A-A See Sht. 6 of 16.

MIN. BAR LAPS
#5 bars = 1'-8"

DESIGNED	Michael A. Stephenson, RSC
CHECKED	Shaker Asfour, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

S-1-0 12-31-87

May 22 1992
EXAMINED — Engineer of Bridge Design
PASSED — Ralph E. Anderson, Engineer of Bridges and Structures
APPROVED — Director of Highways

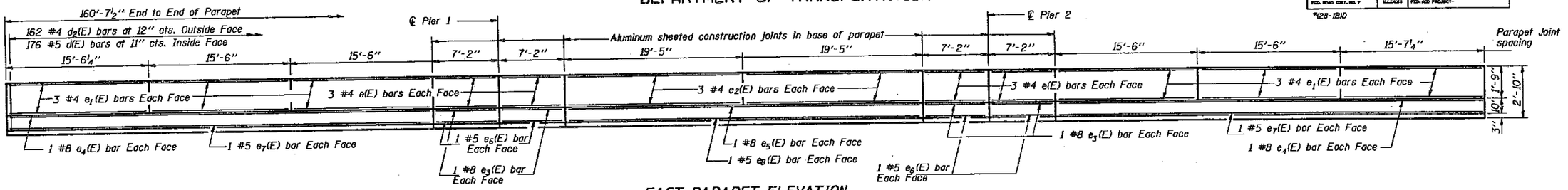
SUPERSTRUCTURE
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	-	FRANKLIN	155	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

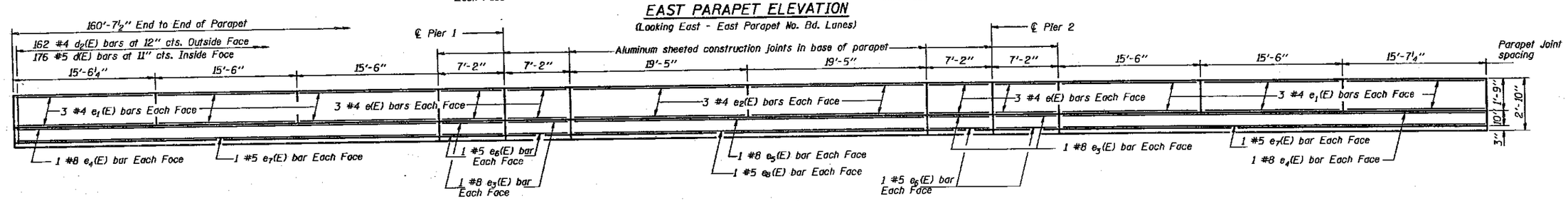
SHEET NO. 5
16 SHEETS

*(28-1B)D

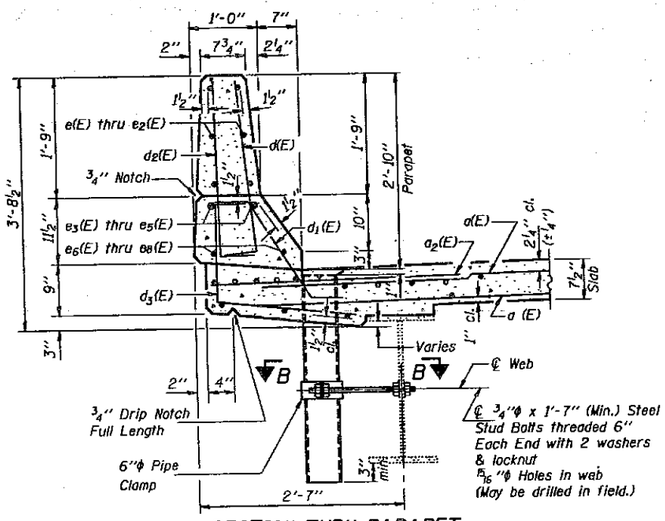
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



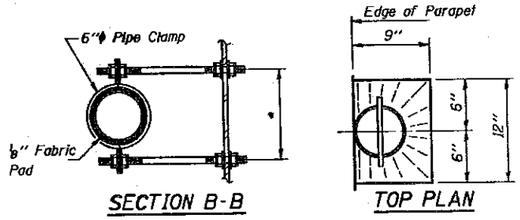
EAST PARAPET ELEVATION
(Looking East - East Parapet No. Bd. Lanes)



WEST PARAPET ELEVATION
(Looking West - West Parapet No. Bd. Lanes)



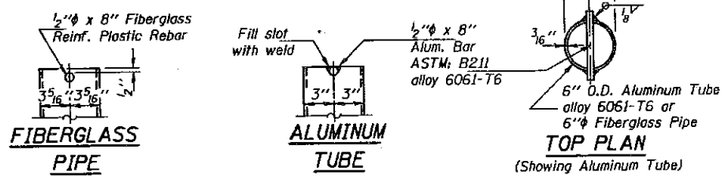
SECTION THRU PARAPET
See Plan view for Location of 6"ϕ drain.



SECTION B-B

TOP PLAN

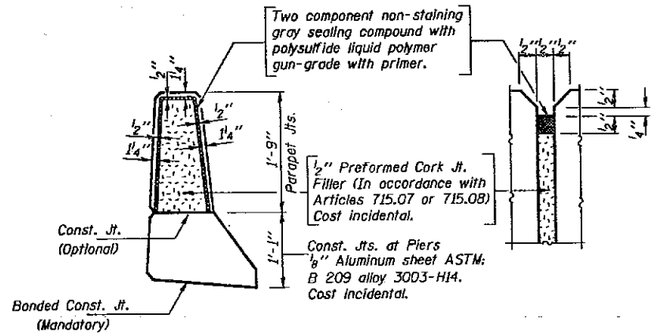
* Dimension as required by Pipe Clamp



FIBERGLASS PIPE

ALUMINUM TUBE

TOP PLAN
(Showing Aluminum Tube)



PARAPET JOINT DETAILS

Notes:
The exterior surfaces of the Floor Drain shall be painted with the vinyl enamel coat painting specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting. Fiberglass to have prewash as per MIL-P-15328 prior to painting.

Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED Michael A. Stephenson, P.E.
CHECKED Shaker Assouri, GAG
DRAWN E. Vern Taylor
CHECKED MAS, GAG

May 22 1992

EXAMINED Greg J. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

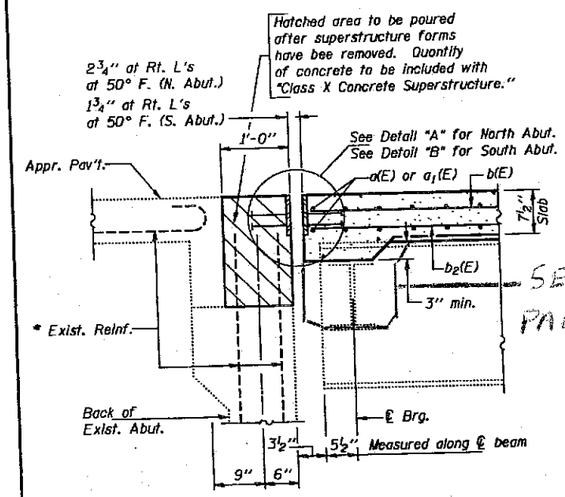
NORTH BOUND LANES
SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. P.A.E. 57	*	FRANKLIN	155	29
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

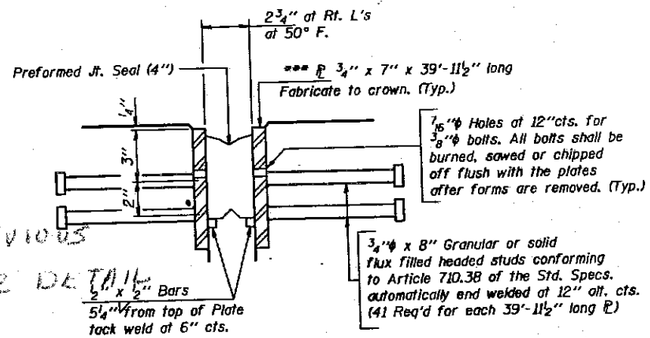
SHEET NO. 6
16 SHEETS

*(28-1B)D

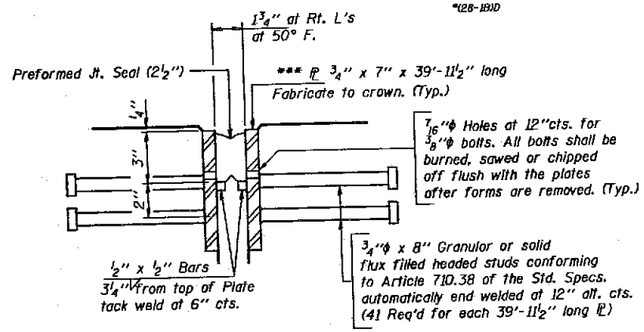
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A



DETAIL "A"

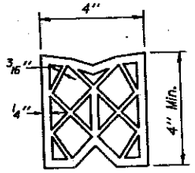


DETAIL "B"

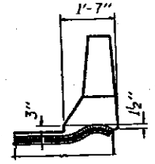
*** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.

SEE PREVIOUS PAGE FOR DETAILS

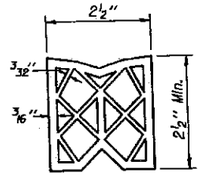
Notes:
- After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for Structural Steel. No field painting required.
- **Reinforcement is included in Abutment & Approach Slab Bill of Material.
- * Existing vertical Reinforcement in the back wall and the longitudinal reinforcement in the approach slab shall be cleaned and straightened and incorporated into new construction. Cost incidental to "Concrete Removal."



PREFORMED JOINT SEAL (4")
North Abutment



END TREATMENT
Typ. for (4") and (2½").

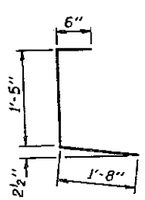


PREFORMED JOINT SEAL (2½")
South Abutment

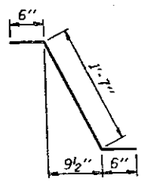
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	470	#5	41'-2"	
a1(E)	276	#6	4'-0"	
b(E)	235	#5	33'-5"	
b1(E)	88	#6	25'-8"	
b2(E)	252	#5	28'-2"	
d(E)	352	#5	3'-0"	L
d1(E)	352	#5	2'-7"	
d2(E)	324	#4	3'-0"	L
d3(E)	324	#4	3'-7"	
e(E)	48	#4	6'-11"	
e1(E)	72	#4	15'-3"	
e2(E)	24	#4	19'-2"	
e3(E)	16	#8	6'-11"	
e4(E)	8	#8	46'-3"	
e5(E)	4	#8	38'-7"	
e6(E)	16	#5	6'-11"	
e7(E)	8	#5	46'-3"	
e8(E)	4	#5	38'-7"	
Reinforcement Bars, Epoxy Coated			Lbs.	47,920
Class X Concrete Superstructure			Cu. Yd.	215.4

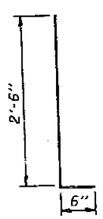
Reinforcement bars designated (E) shall be epoxy coated.



BAR d3(E)



BAR d1(E)



BARS d(E) & d2(E)

DESIGNED	Michael A. Stephenson, PSC
CHECKED	Shaker Ashout, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED Engineer of Bridge Design

PASSED Ralph E. Anderson, Engineer of Bridges and Structures

APPROVED Director of Highways

SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	90
PROJECT NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO. 7
16 SHEETS

*(28-1B)D

* INTERIOR BEAM MOMENT TABLE

		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
Is	(in⁴)	5900	5900	5900
Ic	(in⁴)	15782	———	15782
Ss	(in³)	359	359	359
Sc	(in³)	530	———	530
D	(K/ft.)	.75	1.03	.75
MD	('K)	169	271	53
fsD non-comp	(k.s.i.)	5.6	9.1	1.8
sD	(K/ft.)	.276	———	.276
MsD	('K)	69	———	37
ML	('K)	329	160	267
M (Imp)	('K)	92	45	75
M (Total)		490	205	379
fs(Comp)	(k.s.i.)	11.1	6.9	8.6
fs (Total)	(k.s.i.)	16.7	16.0	10.4
VR	(K)	41	———	40

* INTERIOR BEAM REACTION TABLE

		Abuts.	Piers
RD	(K)	22.2	59.7
RL	(K)	32.8	38.4
Imp.	(K)	9.2	10.8
R (Total)	(K)	64.2	108.9

* Service Load Values.

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 live Load + Impact shear range in span.

M (Total) = Ms D + (M L + I)

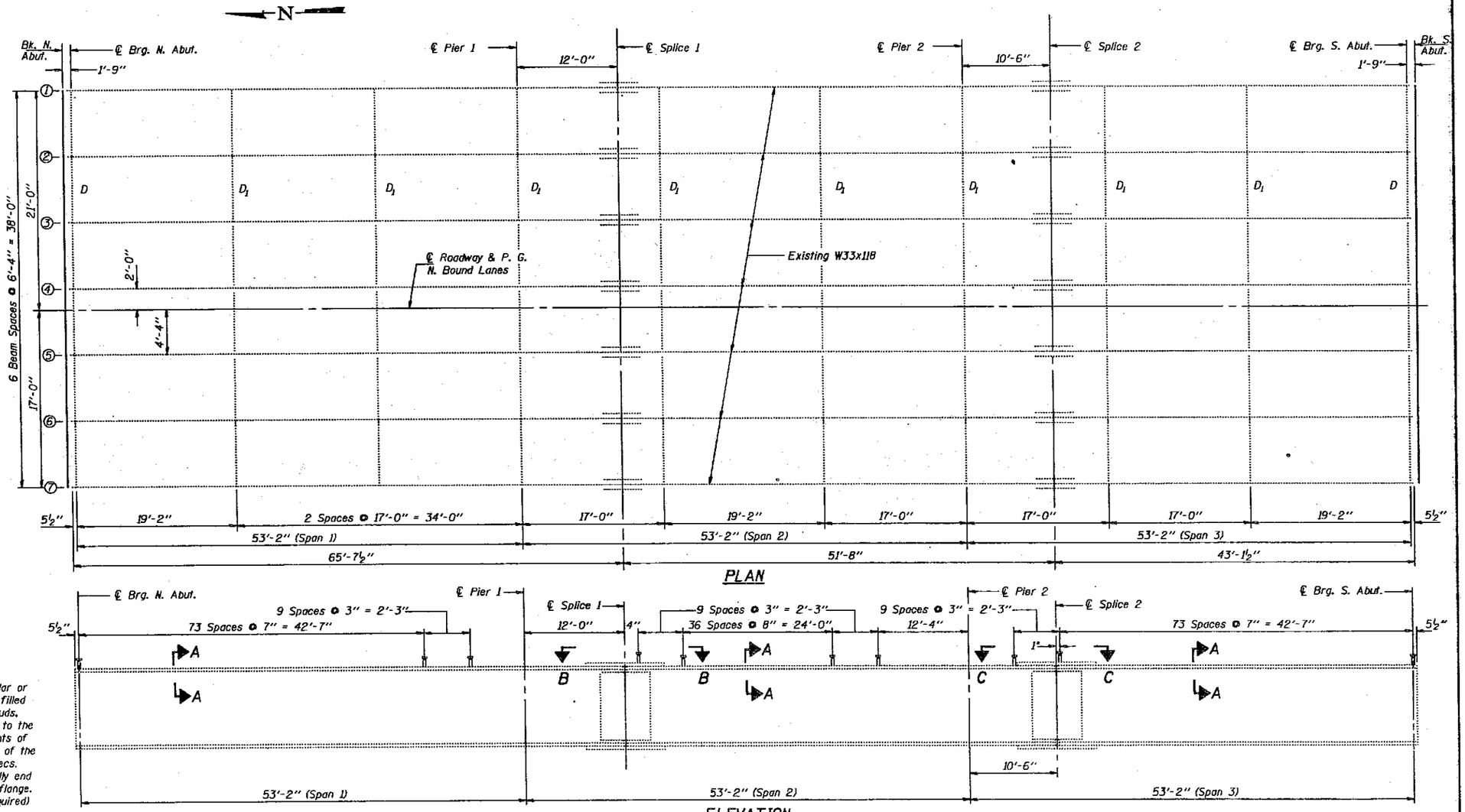
fs (Total) is the sum of the stresses due to [M D + Ms D + (M L + I)]

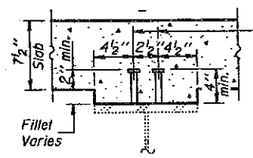
MD is the Moment due to Dead Loads on non-composite section.

Ms D is the Moment due to Dead Loads on composite section.

M L is the Moment due to Live Loads on non-composite or composite section.

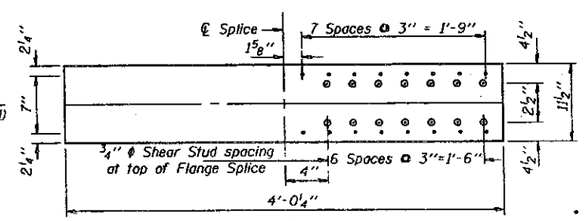
I is the Live Load Impact.



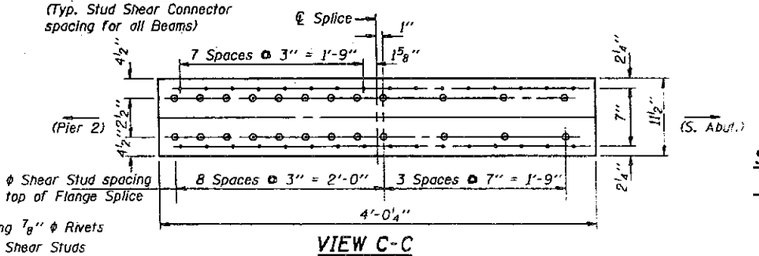


SECTION A-A

¾" Granular or solid flux filled headed studs, conforming to the requirements of Art. 710.38 of the Std. Specs. Automatically end welded to flange. (3094 Required)



VIEW B-B



VIEW C-C

DESIGNED	Michael A. Stephenson, PE
CHECKED	Shahriar Ashouri, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED Engineer of Bridge Design

PASSED Ralph E. Anderson, Engineer of Bridges and Structures

APPROVED Director of Highways

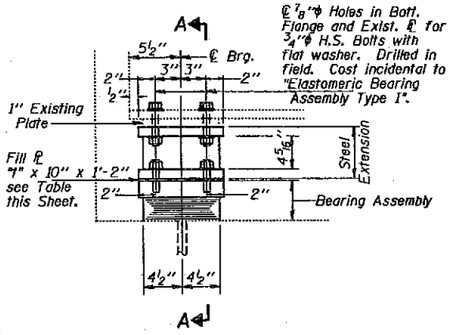
STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

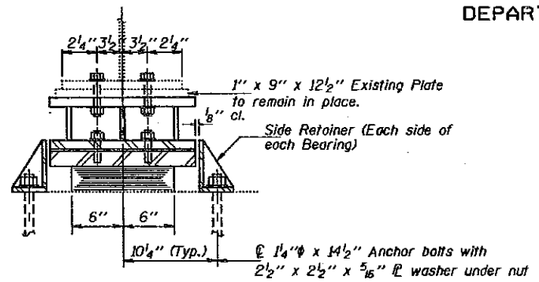
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	31
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
16 SHEETS

*(28-1B)D

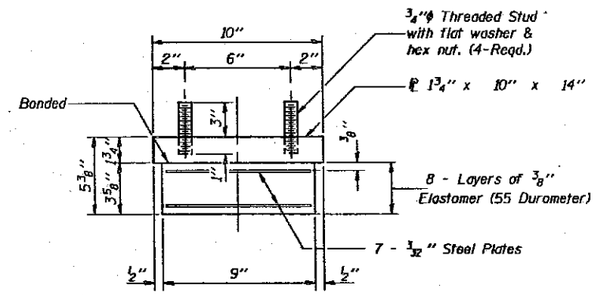




ELEVATION AT NORTH ABUT.

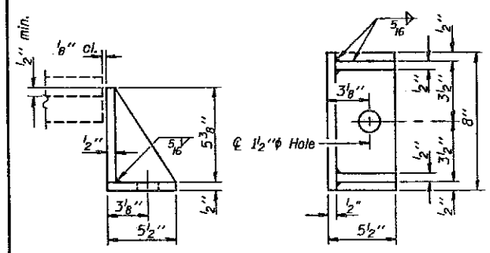
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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

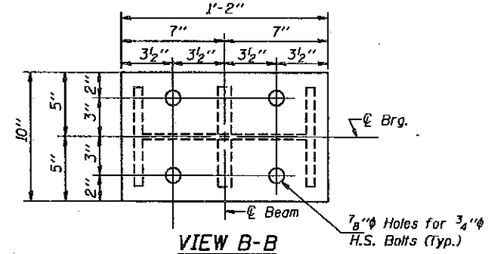


SIDE RETAINER

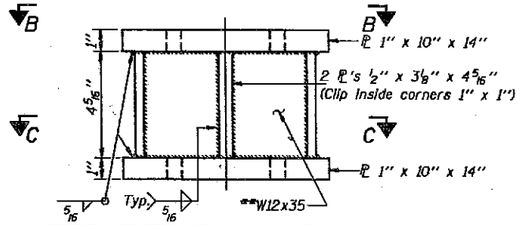
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

DESIGNED	Michael A. Stephenson, EIT
CHECKED	Shakir Asfour, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992
EXAMINED Engineer of Bridge Design
PASSED Ralph E. Anderson Engineer of Bridges and Structures
APPROVED
Director of Highways

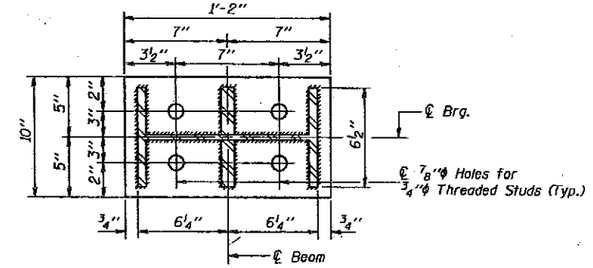


VIEW B-B



STEEL EXTENSION AT NORTH ABUT.

**Equivalent welded plates will be allowed in lieu of W12x35 section.



SECTION C-C

* Based on the existing elevations shown on sheet #11 of 16. The Contractor shall verify these elevations and make adjustments if necessary. Cost incidental.

Dimension / Location	Bm. #1	Bm. #2	Bm. #4	Bm. #5	Bm. #6	Bm. #7
* Dim. "1"	1/16"	⅛"	1⅛"	1 3/8"	1¼"	9/16"

Beam #3, No Fill ℄ Required.

For anchor bolt installation details see sheet #12 of 16.
Existing anchor bolts which are not under side retainer shall be covered with a 2" thick layer of cement mortar. Cost incidental to "Jack and Remove Existing Bearing".
For anchor bolt location see sheets #13 and 14 of 16.

BILL OF MATERIAL

	Item	Unit	Total
	Elastomeric Bearing Assembly Type I	Each	7
***	Jack and Remove Existing Bearings	Each	7

*** See Sheet 11 of 16 for the Jacking locations.

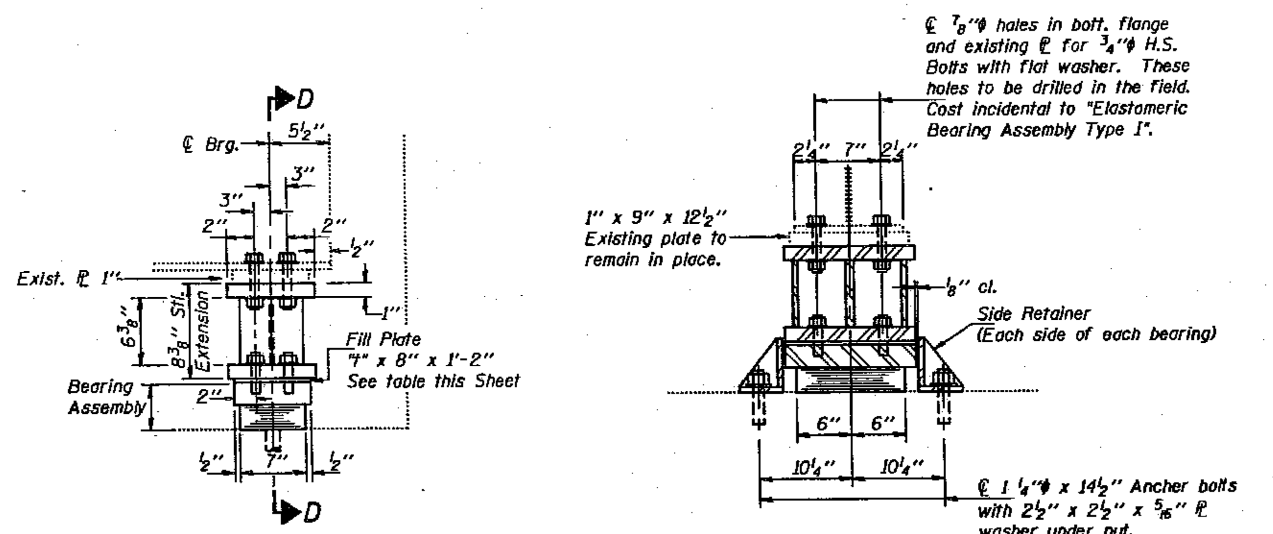
NORTH ABUTMENT
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	32
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(28-1B)D

SHEET NO. 9
16 SHEETS



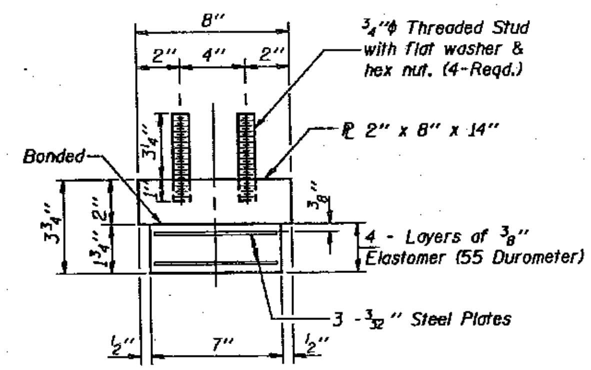
ELEVATION AT SOUTH ABUT.   SECTION D-D

TYPE I ELASTOMERIC EXP. BRG.

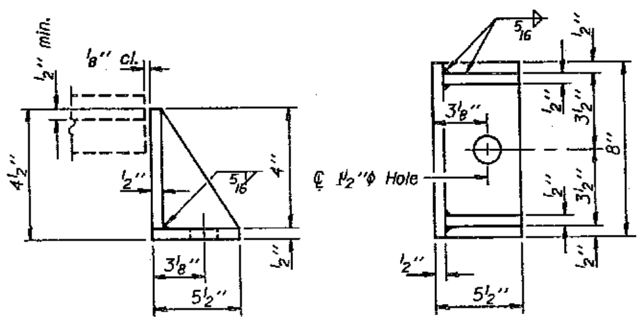
* Based on the existing elevations shown on sheet #11 of 16. The Contractor shall verify these elevations and make adjustments if necessary. Cost incidental.

Dimension / Location	Bm. #1	Bm. #2	Bm. #4	Bm. #5	Bm. #6	Bm. #7
* Dim. "t"	½"	5/16"	1⅛"	1 5/16"	1 1/16"	⅛"

Beam #3. No Fill ℄ Required.

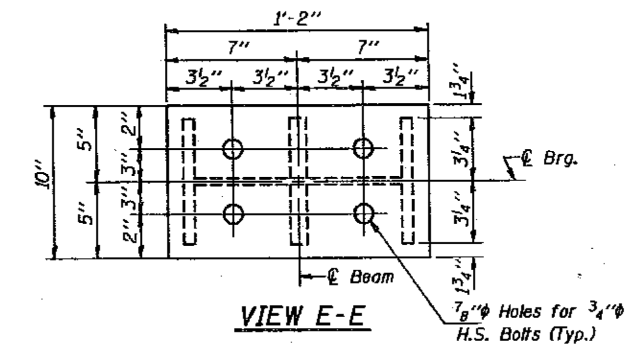


BEARING ASSEMBLY

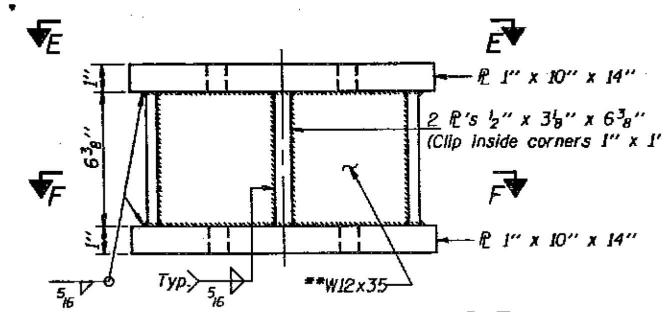


SIDE RETAINER

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

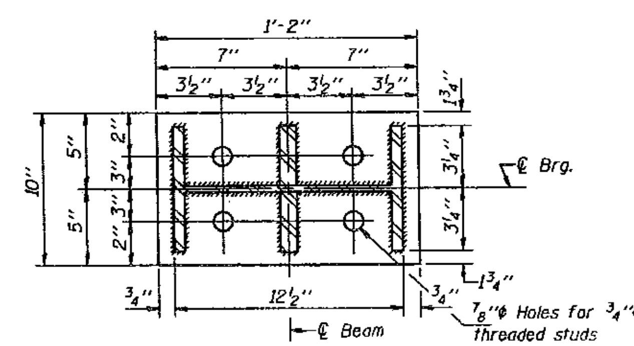


VIEW E-E



STEEL EXTENSION AT SOUTH ABUT.

**Equivalent welded plates will be allowed in lieu of W12x35 section.



SECTION F-F

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
*** Jack and Remove Existing Bearings	Each	7

***See Sheet #11 of 16 for the Jacking locations.

Notes: For anchor bolt installation details see sheet #12 of 16.
Existing anchor bolts which are not under side retainer shall be covered with a 2" thick layer of cement mortar. Cost incidental to "Jack and Remove Existing Bearing".
For anchor bolt location see sheets #13 and #14 of 16.

DESIGNED	Michael A. Stephenson
CHECKED	Shaker Asfour, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

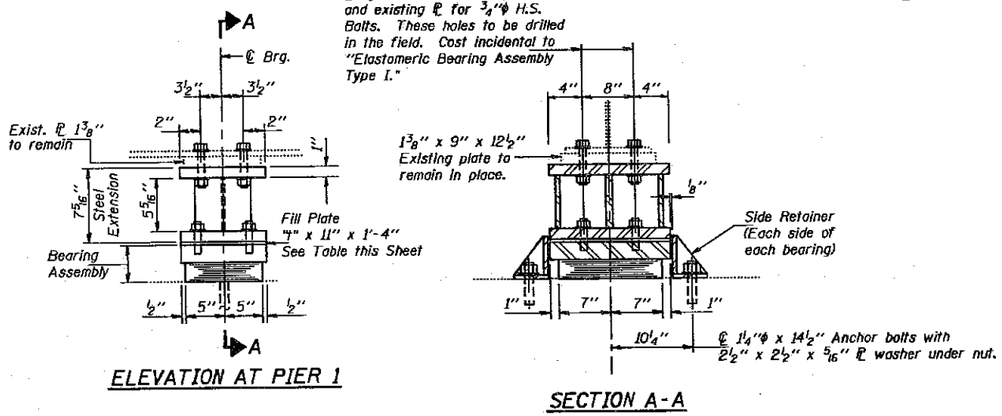
SOUTH ABUTMENT
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

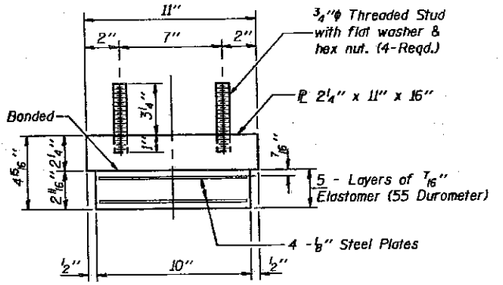
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
16 SHEETS

*(28-IBJD)



TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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

* Based on the existing elevations shown on Sheet #11 of 16. The Contractor shall verify these elevations and make adjustments if necessary. Cost incidental.

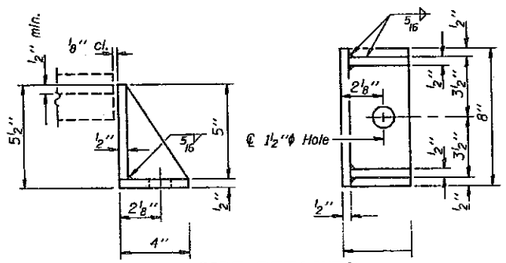
Dimension / Location	Bm. #2	Bm. #3	Bm. #4	Bm. #5	Bm. #6	Bm. #7
* Dim. "T"	3/16"	⅛"	13/16"	5/8"	1/16"	⅛"

Beam #1, No Fill ℄ Required.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
*** Jack and Remove Existing Bearings	Each	7

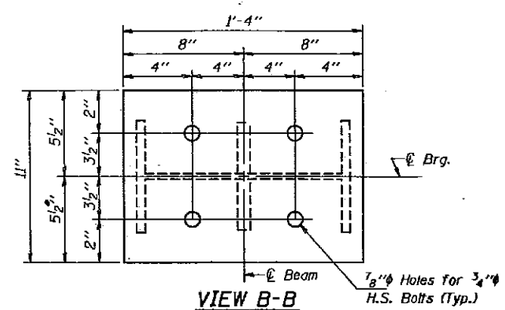
*** See Sheet #11 of 16 for the Jacking locations.



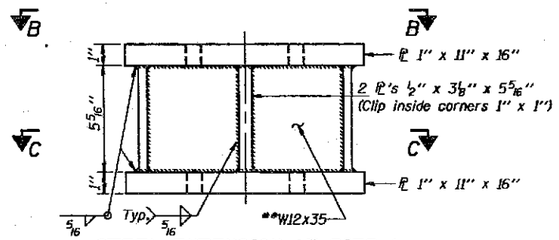
SIDE RETAINER

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

DESIGNED	Michael A. Stephenson, EX	May 22 1992
CHECKED	Shaker Ashour, GAG	EXAMINED Engineer of Bridge Design
DRAWN	E. Vern Taylor	PASSED Engineer of Bridges and Structures
CHECKED	MAS, GAG	APPROVED Director of Highways

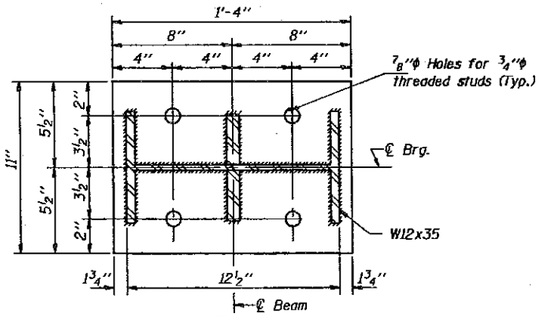


VIEW B-B



STEEL EXTENSION AT PIER 1

**Equivalent welded plates will be allowed in lieu of W12x35 section.



SECTION C-C

Notes: For anchor bolt installation details see sheet #12 of 16.
Existing anchor bolts which are not under side retainer shall be covered with a 2" thick layer of cement mortar. Cost incidental to "Jack and Remove Existing Bearing".
For anchor bolt location see sheets #13 and #14 of 16.

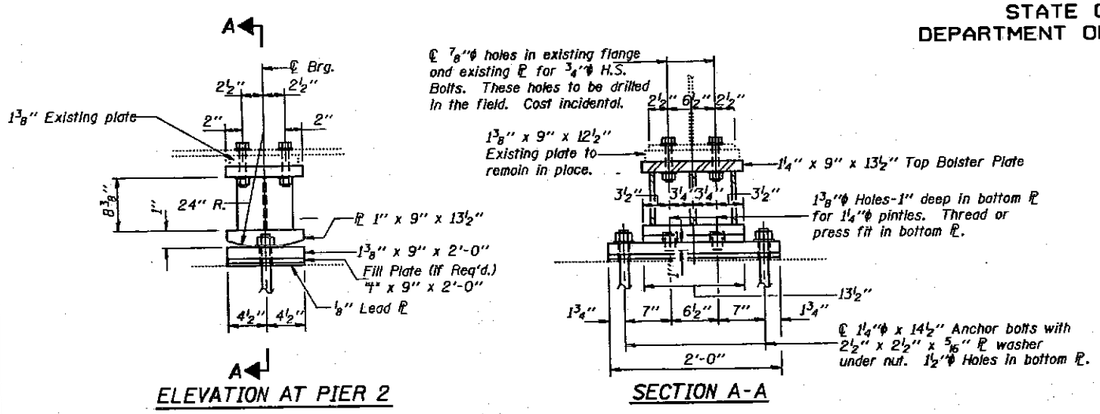
PIER 1
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-1BJD
FRANKLIN COUNTY
STATION 102+70.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	*	FRANKLIN	155	34
FED. ROAD DIST. NO. 9	ILL. ROUTE	FED. AID PROJECT		

SHEET NO. 11
16 SHEETS

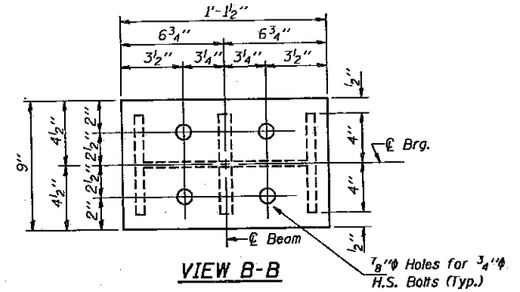
*(28-1B)D



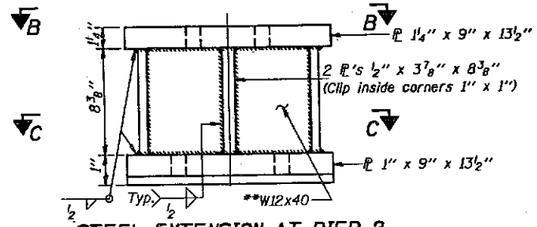
ELEVATION AT PIER 2

SECTION A-A

FIXED BEARING

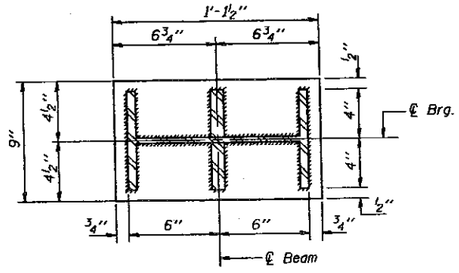


VIEW B-B



STEEL EXTENSION AT PIER 2

** Equivalent welded plates will be allowed in lieu of W12x40 section.

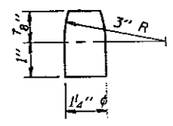


SECTION C-C

*EXISTING SEAT ELEVATIONS

Location	N. Abut.	Pier #1	Pier #2	S. Abut.
Beam #1	413.19	413.12	413.12	413.12
Beam #2	413.31	413.23	413.24	413.26
Beam #3	413.45	413.36	413.37	413.41
Beam #4	413.41	413.36	413.37	413.38
Beam #5	413.38	413.36	413.37	413.35
Beam #6	413.30	413.27	413.28	413.28
Beam #7	413.23	413.19	413.21	413.23

*From Field Survey



PINTLE

JACK AND REMOVE EXISTING BEARINGS

(Dimensions are at Rt. L's)

Notes:

The maximum dead load reaction with the deck removed per bearing at each abutment is 3.8 kips and at each Pier is 7.5 kips.

Bearing removal and replacement shall be completed before new deck is poured

For anchor bolt installation details see sheet #12 of 16.

Existing anchor bolts which are not under side retainer shall be covered with a 2" thick layer of cement mortar. Cast incidental to "Jack and Remove Existing Bearing."

For anchor bolt Location see Sheets #13 and #14 of 16.

Dimension / Location	Bm. #1	Bm. #2	Bm. #3	Bm. #4	Bm. #5	Bm. #6
" Dim. "Y"	1/16"	3/16"	1/8"	13/16"	5/8"	11/16"

Beam #7, No Fill ℄ Required.

* Based on the existing elevations shown in table on this sheet. The Contractor shall verify these elevations and make adjustments if necessary. Cost incidental.

JACK AND REMOVE EXISTING BEARING PROCEDURE

1. The Contractor shall submit for approval by the Engineer, plans for jacking prior to commencing any work at the bearings. Dead Load = 3.8K at each beam at abutments and 7.5K at each beam at piers without concrete deck. Jack Capacity = 8 Tons min.
2. Jacking and removing existing bearings shall be done after deck removal is completed and before the new deck is poured.
3. All beams at one abutment or at one pier shall be lifted simultaneously.
4. Jacking shall be limited to a maximum of ¼" lift.
5. The existing anchor bolts shall be removed or cut off flush and grind smooth with the bridge seat. The rockers and bottom plates shall be removed leaving the existing top plate intact. The existing holes shall be filled with concrete and new holes drilled at locations specified. The bottom flange area of the beam and existing top plate shall be cleaned and painted as required and as specified for structural steel prior to placing the new elastomeric bearings.
6. The new elastomeric bearings and steel extensions shall be placed and the jacks shall be lowered before the new deck is poured.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	7

DESIGNED	Michael O. Stephenson, P.E.
CHECKED	Shafer Associates, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED Craig D. Kaspar ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

PIER 2
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

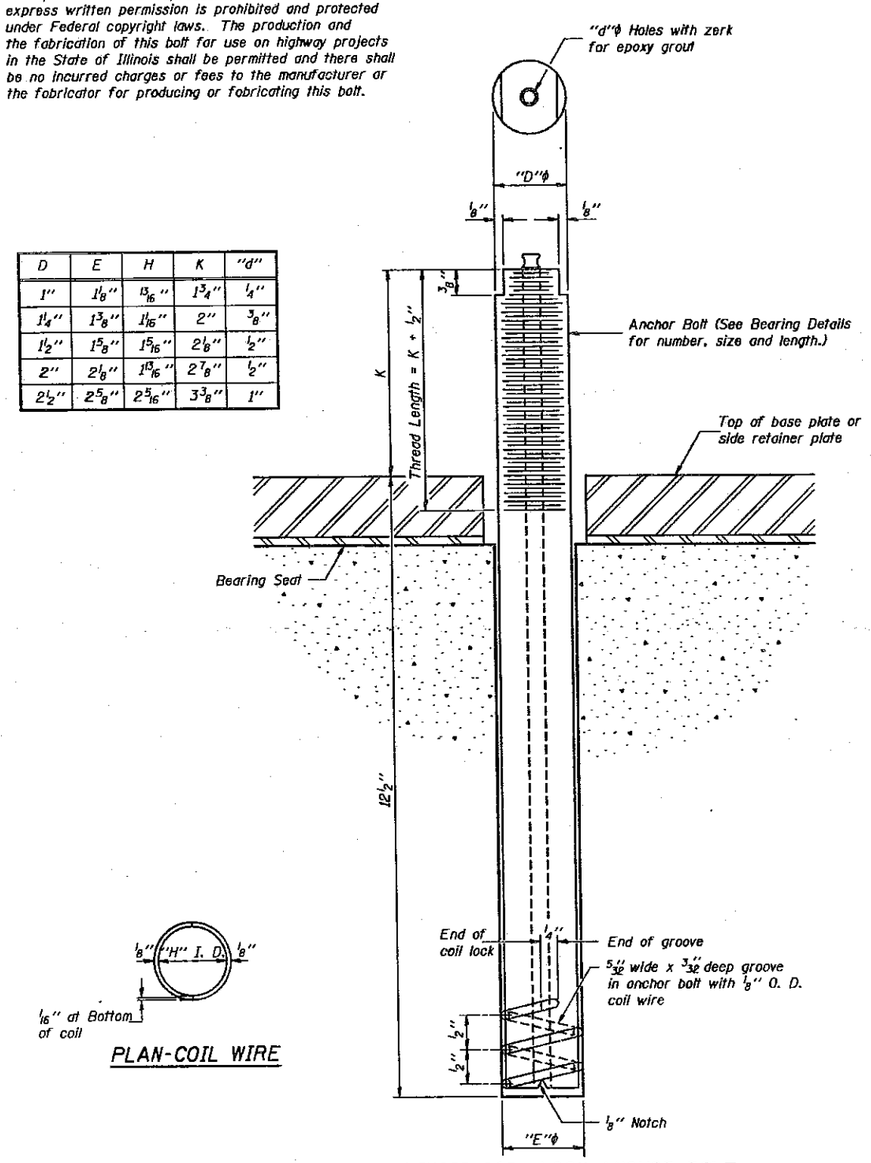
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	-	FRANKLIN	155	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
16 SHEETS

*(28-1B)D

D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

DESIGNED	Michael A. Tschumper, PE
CHECKED	shaker hsfour, GAG
DRAWN	E. Vern Taylor
CHECKED	MHS, GAG

May 22 1992

EXAMINED Greg D. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

ABB-1 12-1-83

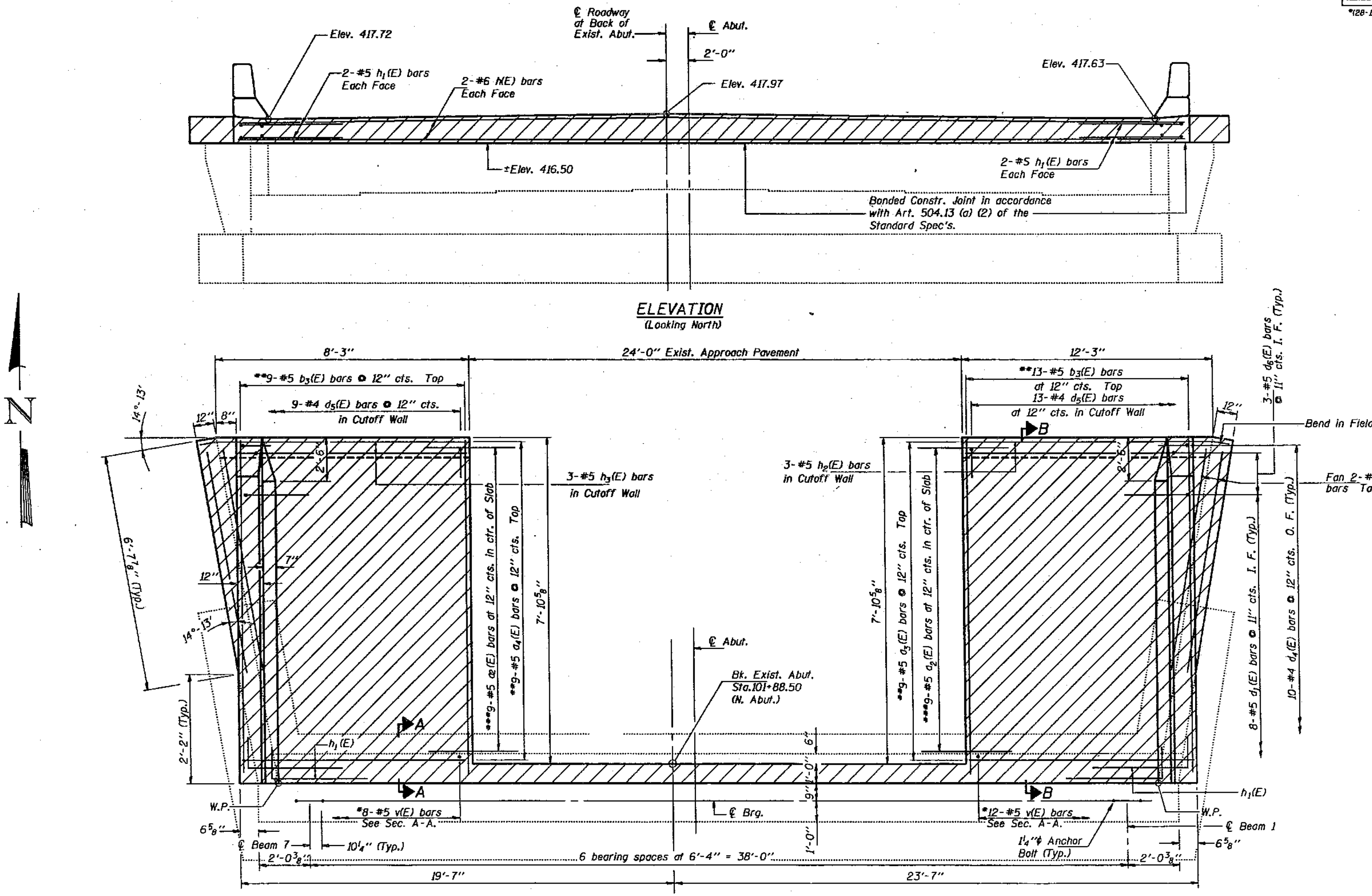
ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	36

*(28-1B)D

SHEET NO. 13
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



* Drill ⅞"φ x 9" Min. hole. Epoxy grout v(E) bars. See Special Provisions.

** Order a3(E), a4(E) and b3(E) bars full length. Cut to fit and use remainder of bars in bottom of slab.

*** Drill ⅞"φ x 9" Min. hole. Epoxy grout a2(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

Notes: Hatched area to be poured after superstructure forms have been removed.
Quantity of concrete included with "Class X Concrete Superstructure" on sheet #6 of 16. Quantity for End Posts billed with "Class X Conc. Superstr."
Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 2 x 2-#6 etc. indicates 2 lines of bars with 2 lengths per line.
For anchor bolt installation details see sheet #12 of 16.
All edges Shall have Standard ¾" chamfer.
Work this sheet with sheet #15 of 16.

DESIGNED	Michael A. Stephenson, PE
CHECKED	Shaker Ashour, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED: [signature], ENGINEER OF BRIDGE DESIGN
PASSED: Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
APPROVED: DIRECTOR OF HIGHWAYS

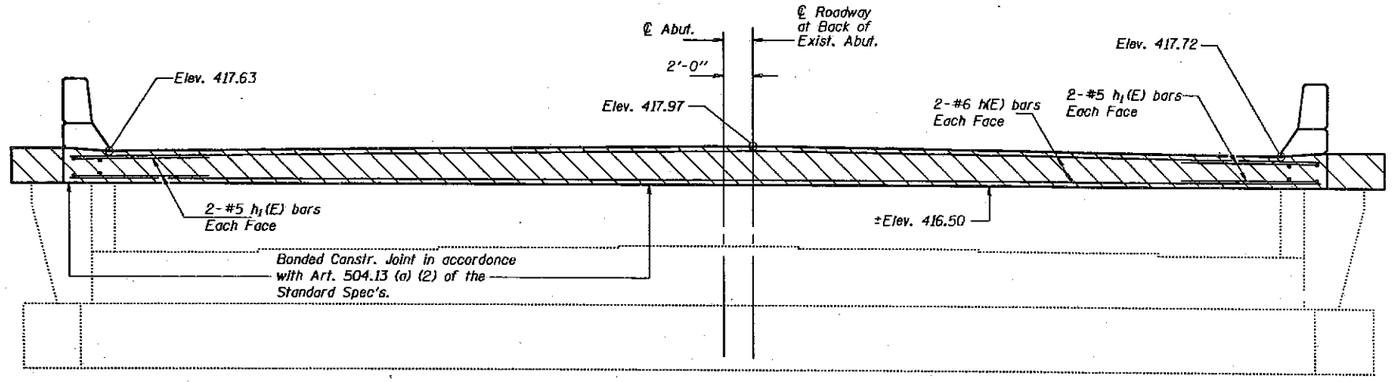
NORTH ABUTMENT
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

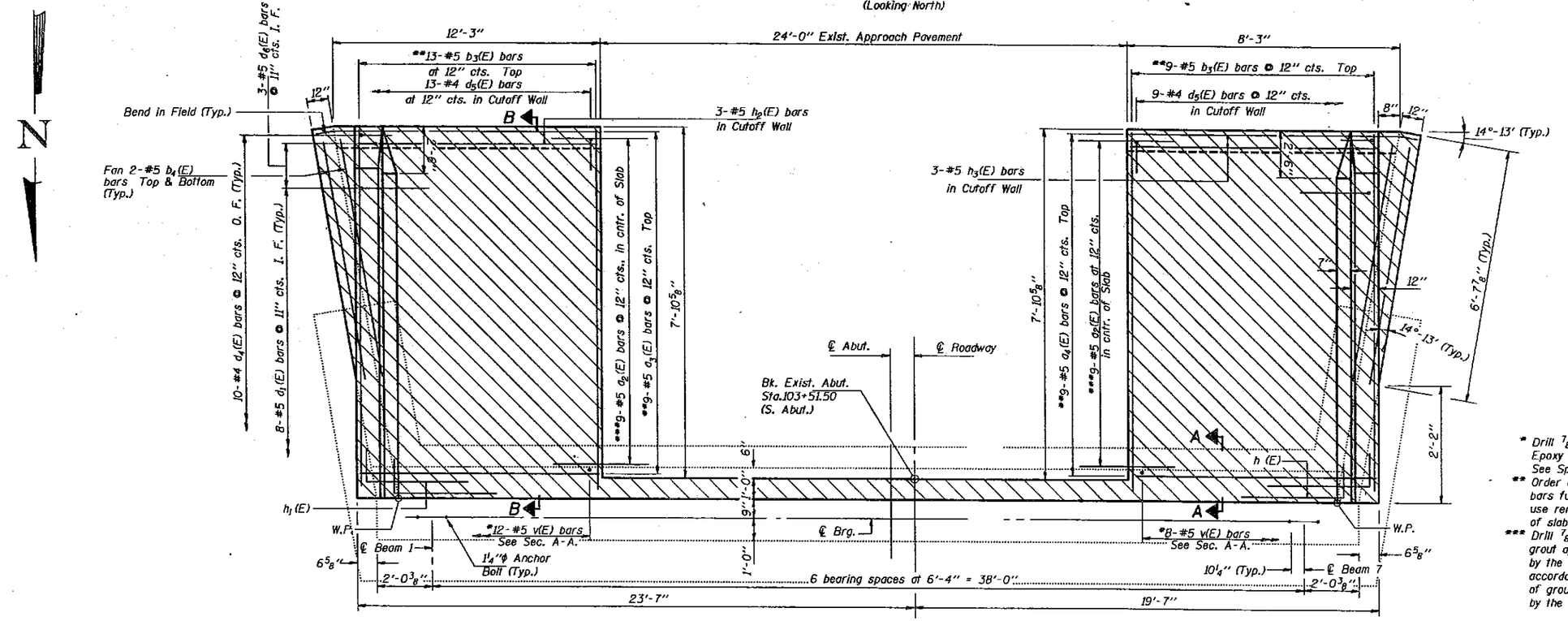
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	37
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
16 SHEETS

*(28-1)D



ELEVATION
(Looking North)



* Drill ⅞"ϕ x 9" Min. hole. Epoxy grout v(E) bars. See Special Provisions.
** Order a_3(E), d_4(E) and b_3(E) bars full length. Cut to fit and use remainder of bars in bottom of slab.
*** Drill ⅞"ϕ x 9" Min. hole. Epoxy grout a_2(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

PLAN

Notes: Hatched area to be poured after superstructure forms have been removed.
Quantity of concrete included with "Class X Concrete Superstructure" on sheet #6 of 16. Quantity for End Post is billed with "Class X Conc. Superstr."
Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 2 x 2-#6 etc. indicates 2 lines of bars with 2 lengths per line.
For anchor bolt installation details see sheet #12 of 16.
All edges Shall have Standard ¾" chamfer.
Work this sheet with sheet #15 of 16.

DESIGNED	Michael A. Stephenson, P.E.
CHECKED	Shaker Assour, G.A.G.
DRAWN	E. Vern Taylor
CHECKED	M.A.S., G.A.G.

May 22 1992

EXAMINED Greg D. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

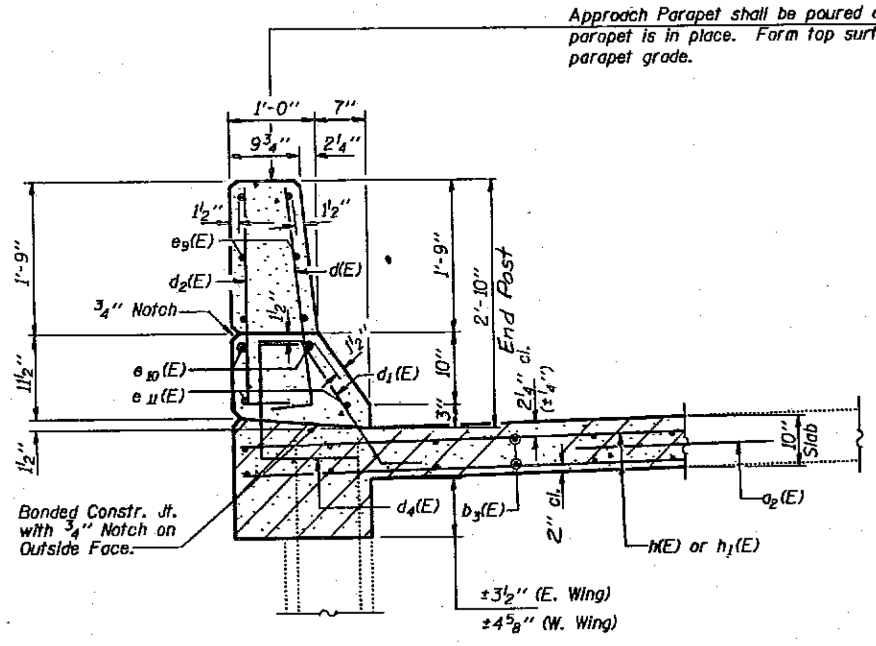
SOUTH ABUTMENT
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	*	FRANKLIN	153	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

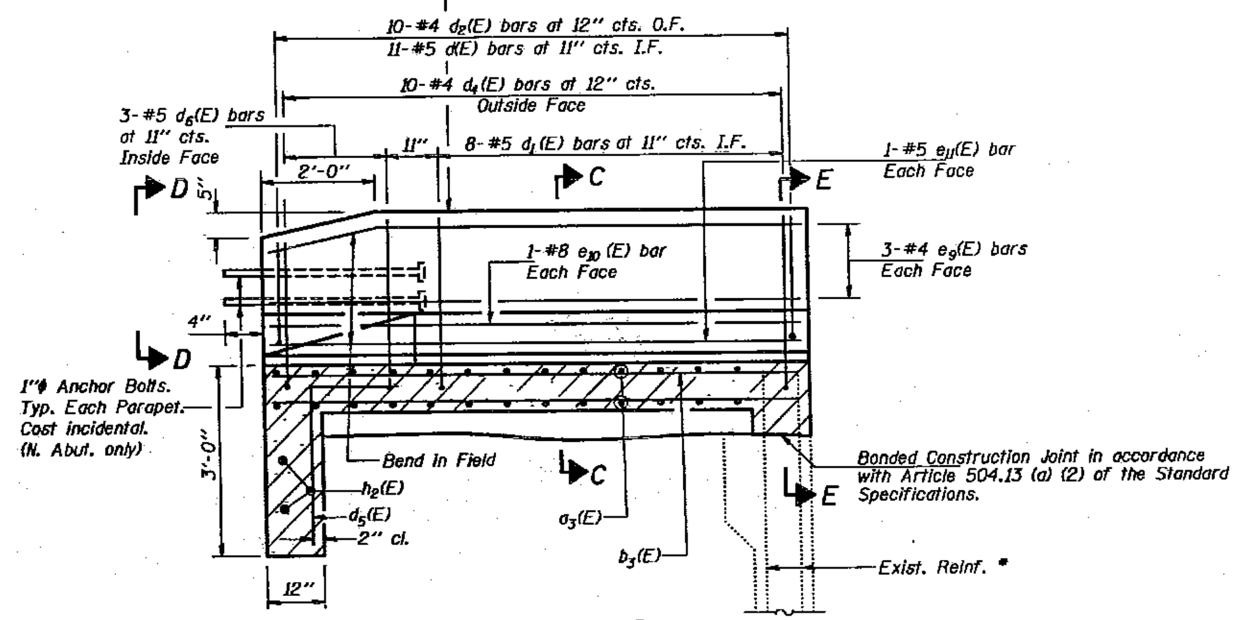
*(28-1B)D

SHEET NO. 15
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

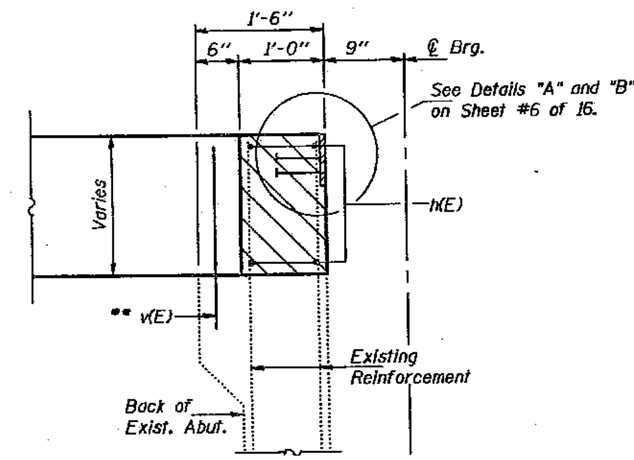


SECTION E-E



SECTION B-B

* Existing Reinforcement extending into new Construction shall be cleaned, straightened and incorporated into new Construction. Cost is incidental to "Concrete Removal."



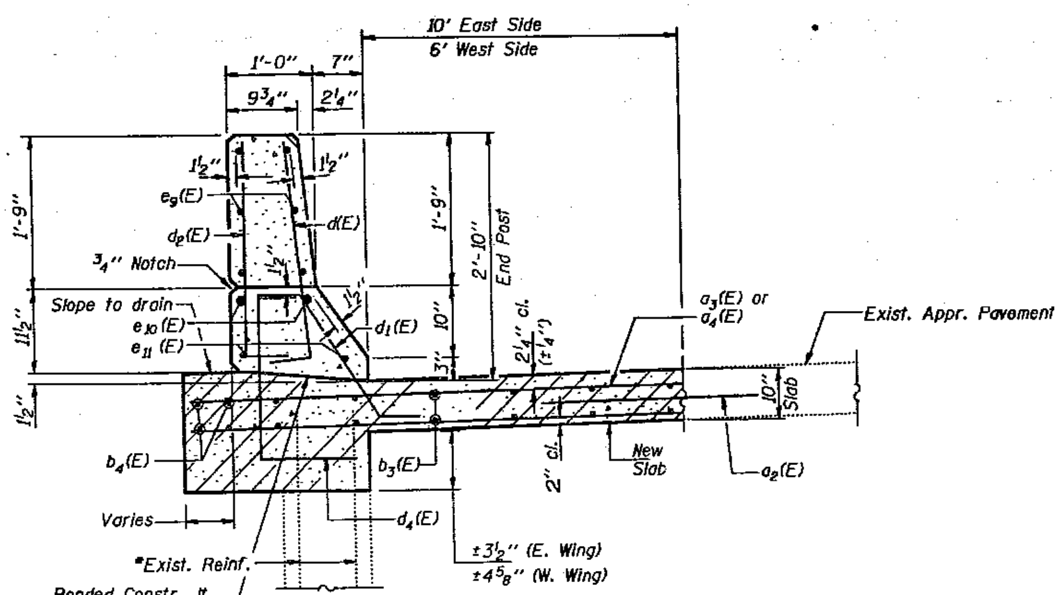
SECTION A-A

** Drill ⅞"ϕ x 9" min. holes and epoxy grout v(E) bars in accordance with Special Provision BSP-11 or grout approved by the Department. Cost shall be incidental to "Reinforcement Bars (Epoxy Coated)".

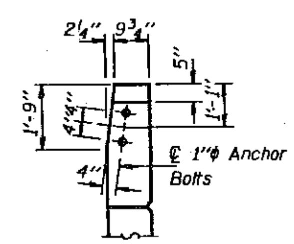
ABUTMENTS & APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_2(E)	36	#5	3'-0"	
a_3(E)	18	#5	26'-0"	
a_4(E)	18	#5	18'-0"	
b_3(E)	44	#5	17'-2"	
b_4(E)	16	#5	7'-6"	
d(E)	44	#5	3'-0"	
d_1(E)	32	#5	2'-7"	
d_2(E)	40	#4	3'-0"	
d_4(E)	40	#4	3'-8"	
d_5(E)	44	#4	4'-6"	
d_6(E)	12	#5	2'-9"	
e_9(E)	24	#4	8'-7"	
e_{10}(E)	8	#8	8'-7"	
e_{11}(E)	8	#5	8'-7"	
h(E)	8	#6	39'-9"	
h_1(E)	16	#5	6'-6"	
h_2(E)	6	#5	12'-0"	
h_3(E)	6	#5	8'-0"	
v(E)	40	#5	2'-0"	
Reinforcement Bars, Epoxy Coated			Lbs.	3,460

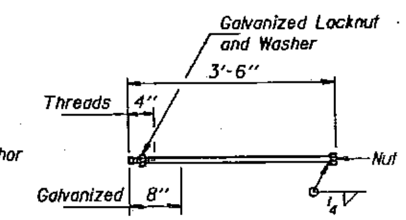
Reinforcement bars designated (E) shall be epoxy coated.



SECTION C-C

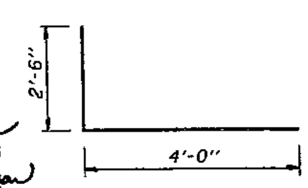


VIEW D-D

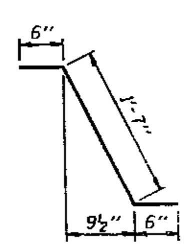


1"ϕ ANCHOR BOLT
(N. Abut. only)

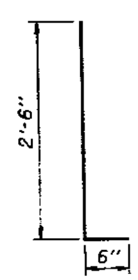
Notes: Area to be poured after Superstructure forms have been removed.
Concrete quantity to be billed with "Class X Concrete Superstructure." See Sheet #6 of 16.
Reinforcement bars designated (E) shall be Epoxy coated.



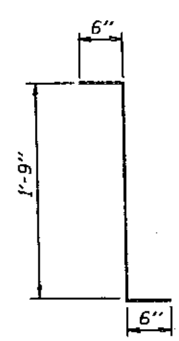
BAR h_1(E)



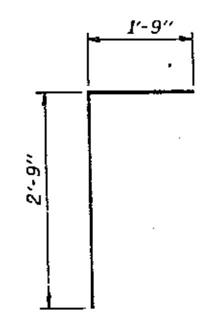
BAR d_1(E)



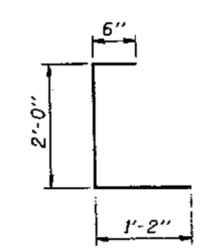
BARS d(E) & d_2(E)



BAR d_6(E)



BAR d_5(E)



BAR d_4(E)

Notes: Work this sheet with Sheets #13 & #14 of 16.

DESIGNED	Michael A. Stephens, E.C.
CHECKED	Shaker Aslam, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992
EXAMINED Eraj J. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

NORTH AND SOUTH ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

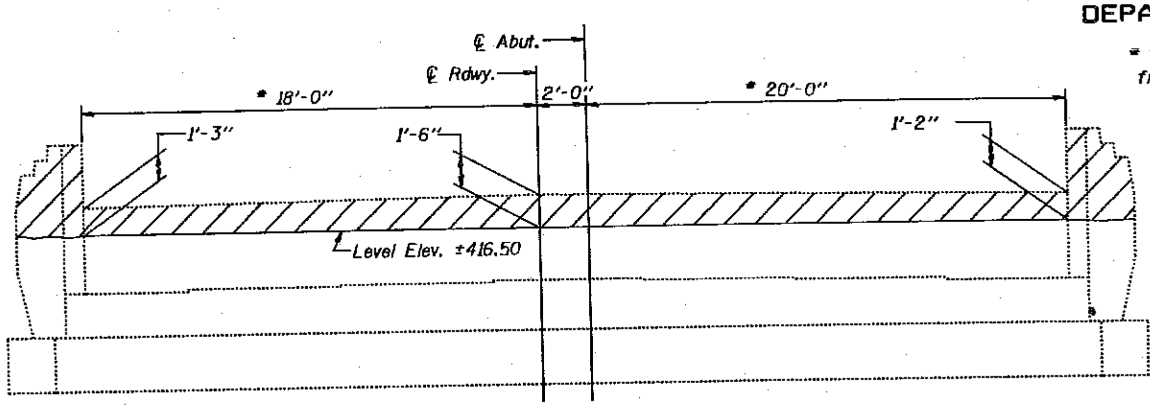
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	39
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

*(28-1B)D

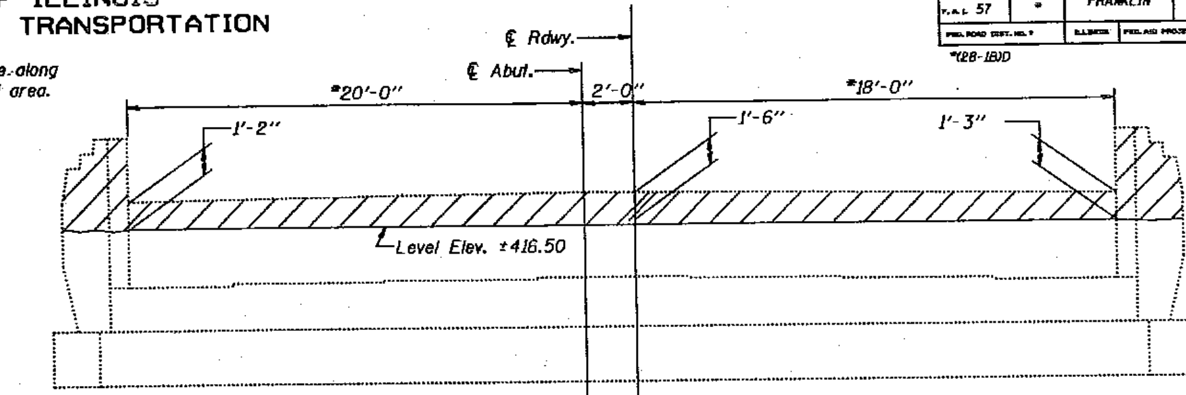
SHEET NO. 16
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

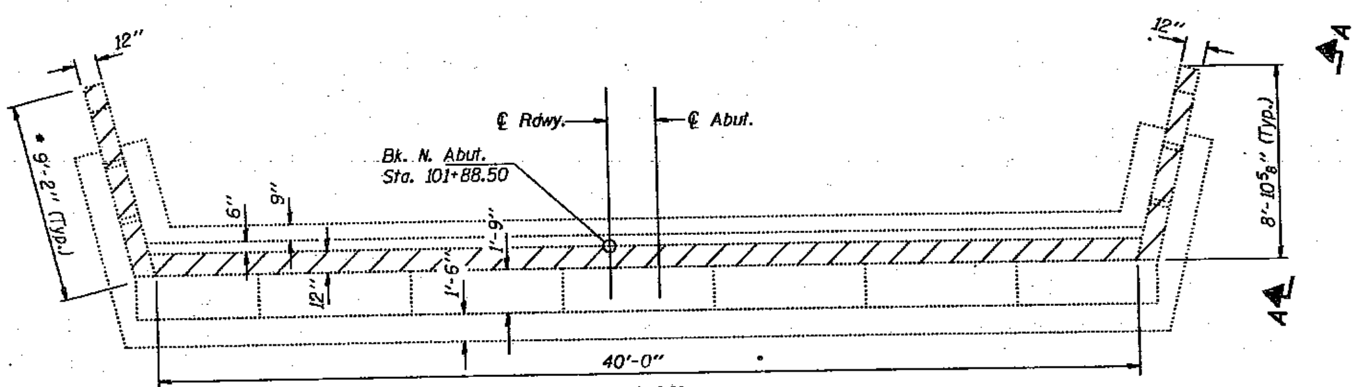
* These dimensions are along front face of hatched area.



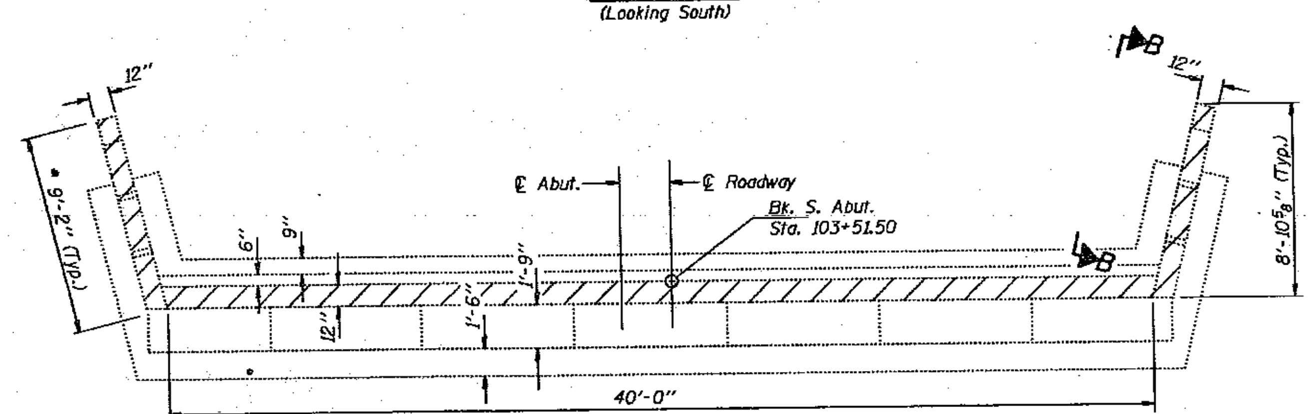
ELEVATION
(Looking North)



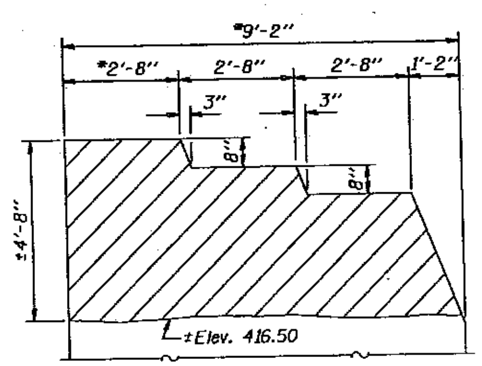
ELEVATION
(Looking South)



PLAN

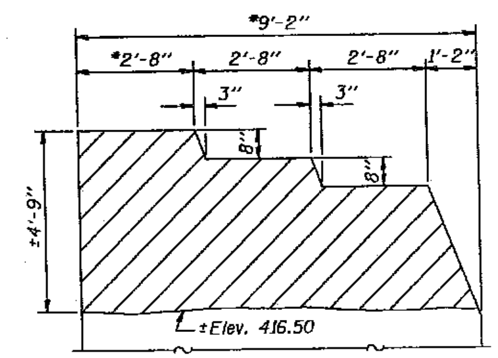


PLAN



VIEW A-A

* Inside Face of wing



VIEW B-B

NORTH ABUTMENT DETAILS

SOUTH ABUTMENT DETAILS

TWO ABUTMENTS
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	9

Notes: Hatched area indicates Concrete Removal.
For existing shoulder pavement removal see Roadway Plans.

DESIGNED	Michael A. Stephenson RX
CHECKED	Shaker Asfour, GAG
DRAWN	E. Vern Taylor
CHECKED	MAS, GAG

May 22 1992

EXAMINED Eraj D. Kaspar — ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

APPROVED ____ DIRECTOR OF HIGHWAYS

CONCRETE REMOVAL DETAILS
FOR EXISTING ABUTMENTS
F.A.I. RT. 57 SEC. (28-1B)D
FRANKLIN COUNTY
STATION 102+70.00

SEC. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	40
STA.		TO STA.		
FED. ROAD DIST. NO.		STATE	FED. AID PROJECT	

* 28 (SB-1, 58, 26, 181 O; 28 (SVB, 3VB-1)-3

N S

50' 0 25' 50'

STRUCTURE 028-0012

S.P.B.G.R. REMOVAL
125 L.F.
LT. STA. 295+75 TO 297+00
TRAFFIC BARRIER TERMINAL
TY. 2, 1 EACH

S.P.B.G.R. REMOVAL
62.5 L.F.
S.P.B.G.R. TY. A
50 L.F.
TRAFFIC BARRIER TERMINAL
TY. 5, 1 EA.

S.P.B.G.R. REMOVAL
75 L.F.
S.P.B.G.R. TY. A
50 L.F.
TRAFFIC BARRIER TERMINAL
TY. 6, 1 EA.

S.P.B.G.R. REMOVAL
25 L.F.
STA. 307+05 TO STA. 307+30
TRAFFIC BARRIER TERMINAL
TY. 1, 1 EA.
S.P.B.G.R. TY. A
300 L.F.
STA. 307+05 TO STA. 310+05

MARCUM BRANCH

℄ N.B. LANES

300 ℄ MEDIAN - F.A.I. RTE. 57

℄ S.B. LANES

EXIST. 18" R.C.C.P.

EXIST. 36" R.C.C.P.

305

310

TRAFFIC BARRIER TERMINAL
TY. 6, 1 EA.
S.P.B.G.R. TY. A
125 L.F. (SEE NOTE BELOW)
TRAFFIC BARRIER TERMINAL
TY. 4, 1 EA.
S.P.B.G.R. REMOVAL
137.5 L.F.

STRUCTURE 028-0011

F.A.I. 57 OVER MARCUM BRANCH
CONSTRUCTION ALONG NORTHBOUND LANES
(NORTHBOUND CONTRACT)

NOTE:
OFFSET MEDIAN GUARDRAIL IN ACCORDANCE WITH STD. 2339, EXCEPT SET STA. 0+00 25' FROM THE APPROACH END OF THE TY. 6 TERMINAL TO COMPENSATE FOR THE RIGHT FORWARD BRIDGE SKEW. (SEE GENERAL NOTE ON STANDARD)

TRAFFIC BARRIER TERMINAL
TY. 6, 1 EA.
S.P.B.G.R. REMOVAL
137.5 L.F.
S.P.B.G.R. TY. A
125 L.F. (SEE NOTE ABOVE)
TRAFFIC BARRIER TERMINAL
TY. 4, 1 EA.

STRUCTURE 028-0012

BITUM. SHOULDER REMOVAL
11 SQ. YD. E. SIDE
22 SQ. YD. W. SIDE

N S

50' 0 25' 50'

EXIST. 36" R.C.C.P.

℄ N.B. LANES

300 ℄ MEDIAN - F.A.I. RTE. 57

℄ S.B. LANES

EXIST. 18" R.C.C.P.

305

310

MARCUM BRANCH

S.P.B.G.R. REMOVAL
25 L.F.
STA. 299+40 TO 299+65
S.P.B.G.R. TY. A
287.5 L.F.
STA. 296+77 TO 299+65
TRAFFIC BARRIER TERMINAL
TY. 1, 1 EACH

S.P.B.G.R. REMOVAL
75 L.F.
S.P.B.G.R. TY. A
50 L.F.
TRAFFIC BARRIER TERMINAL
TY. 6, 1 EA.

BITUM. SHOULDER REMOVAL
15 SQ. YD. E. SIDE
14 SQ. YD. W. SIDE

S.P.B.G.R. REMOVAL
62.5 L.F.
S.P.B.G.R. TY. A
50 L.F.
TRAFFIC BARRIER TERMINAL
TY. 5, 1 EA.

S.P.B.G.R. REMOVAL
25 L.F.
STA. 309+95 TO 310+20
TRAFFIC BARRIER TERMINAL
TY. 2, 1 EA.

STRUCTURE 028-0011

F.A.I. 57 OVER MARCUM BRANCH
CONSTRUCTION ALONG SOUTHBOUND LANES
(SOUTHBOUND CONTRACT)

F.A.I. RTE. 57 OVER MARCUM BRANCH

VIEW MARBR

FAI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	41
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (5B-1, 5B, 2B, 1B) D; 28 (5VB, 3VB-1) I

EQ. STA. 296+47.45 BK. (44' LT. ℄ I-57)=
P.I. STA. -(0+06.47) AH. (℄ CROSSOVER NO. 2)

BITUMINOUS SHOULDER REMOVAL
37 SQ. YD.
LT. STA. 296+68 TO STA. 297+50

℄ CROSSOVER NO. 2
(N.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
163 SQ. YD.
LT. STA. 299+73 TO STA. 303+37.85

EQ. STA. 6+43.64 BK. (℄ CROSSOVER NO. 3)=
STA. 301+67.85 AH. (34' LT. ℄ I-57)

BITUM. SHOULDER REMOVAL
22 SQ. YD.

BIT. SHLD. REM.
Rt. 300+90 - 303+29

N
S
50' 0 25' 50'

MARCUM BRANCH

295 300 305

℄ MEDIAN - F.A.I. RTE. 57

20' 20' 20'

EXIST. 36" R.C.C.P.

EXIST. 36" R.C.C.P.

EXIST. 18" R.C.C.P.

EQ. STA. 295+29.61 BK. (38' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

BITUMINOUS SHOULDER REMOVAL
107 SQ. YD.
RT. STA. 295+09.6 TO STA. 297+51

EQ. STA. 5+21.82 BK. (℄ CROSSOVER NO. 2)=
P.T. STA. 301+67.85 AH. (38' RT. ℄ I-57)

BIT SHLD REM
Lt 300+20 - 303+12

℄ CROSSOVER NO. 3
(S.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
107 SQ. YD.
RT. STA. 299+48 TO STA. 301+87.9

CURVE DATA
CROSSOVER NO. 2

P.I. STA= 3+61.59
Δ= 12°-52'-22"
D= 4°-00'-00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 2+00.00
P.T. STA= 5+21.82

CURVE DATA
CROSSOVER NO. 3

P.I. STA= 1+61.59
Δ= 12°-52'-22"
D= 4°-00'-00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 0+00.00
P.T. STA= 3+21.82

P.I. STA= 4+83.41
Δ= 12°-52'-22"
D= 4°-00'-00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 3+21.82
P.T. STA= 6+43.64

B.M. IRON PIN & GAP
25.0' LT. ℄ S.B. LANES
STA. 300+05
ELEV. 422.72

B.M. "□" CUT IN TOP OF N.E. END OF WEST HANDRAIL OF S.B. BRIDGE. ELEV. 424.81

EQ. STA. 296+47.45 BK. (44' LT. ℄ I-57)=
P.I. STA. -(0+06.47) AH. (℄ CROSSOVER NO. 2)

PROFILE ALONG ℄ CROSSOVER NO. 2

EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

PROP. BITUMINOUS MIXTURE COMPLETE, 14"

-0.880%

EQ. STA. 5+21.82 BK. (℄ CROSSOVER NO. 2)=
STA. 301+67.85 AH. (38' RT. ℄ I-57)

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 2

EQ. STA. 295+29.61 BK. (38' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

PROFILE ALONG ℄ CROSSOVER NO. 3

PROP. BITUMINOUS MIXTURE COMPLETE, 14"

-0.866%

EQ. STA. 6+43.64 BK. (℄ CROSSOVER NO. 3)=
STA. 301+67.85 AH. (34' LT. ℄ I-57)

EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

PROFILE OF ORIGINAL GROUND LINE ALONG ℄ CROSSOVER NO. 3

430 425 420

294 295 0 1 2 3 4 5 6 302 303

F.A.I. RTE. 57 OVER MARCUM BRANCH

FAI RTE.	SECTION	COUNTY	BOOK SHEETS	SHEET NO.
57	*	FRANKLIN	155	42
STA.		TO STA.		
REG. ROAD DIST. NO.		ALIGNED	REG. ENG. PROJECT	

* 28 (SB-1, SB, 2B, 1B) D; 2B (SVB, 3VB)-D.I

N S

50' 0 25' 50'

BIT. SHLD. REM.
Rt. 304+66 - 308+60

EQ. STA. 307+12.15 BK. (38' LT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)

BITUM. SHOULDER REMOVAL
14 SQ. YD.

BITUMINOUS SHOULDER REMOVAL
208 SQ. YD.
LT. STA. 304+65.35 TO STA. 309+33

MARCUM BRANCH

305

EXIST. 18" R.C.C.P.

100'

20'

310

℄ CROSSOVER NO. 1
(N.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
107 SQ. YD.
LT. STA. 311+29 TO STA. 313+70

EQ. P.T. STA. 6+43.25 BK. (℄ CROSSOVER NO. 1)=
38' LT. STA. 313+50.00 AH. (℄ I-57)

CURVE DATA
CROSSOVER NO. 4
P.I. STA= 1+61.59
Δ= 12°-52'-22"
D= 4°-00'-00"
R= 1432.39'
T= 161.59'
L= 321.82'
E= 9.09'
P.C. STA= 0+00.00
P.T. STA= 3+21.82

20'

315

℄ MEDIAN - F.A.I. RTE. 57

EXIST. 36" R.C.C.P.

TEMPORARY GUARDRAIL
137.5 LIN. FT.
(INCLUDES ONE TY. 10 TERM.
AND ONE TYPE 4 TERM.)

EQ. STA. 307+12.15 BK. (34' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)

BITUMINOUS SHOULDER REMOVAL
131 SQ. YD.
RT. STA. 306+12.2 TO STA. 309+07

℄ CROSSOVER NO. 4
(S.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
36 SQ. YD.
RT. STA. 311+32 TO STA. 312+13

EQ. STA. 5+28.29 BK. (℄ CROSSOVER NO. 4)=
44' RT. STA. 312+32.55 AH. (℄ I-57)

CURVE DATA
CROSSOVER NO. 1

P.I. STA= 1+61.59	P.I. STA= 4+83.41
Δ= 12°-52'-22"	Δ= 12°-52'-22"
D= 4°-00'-00"	D= 4°-00'-00"
R= 1432.39'	R= 1432.39'
T= 161.59'	T= 161.59'
L= 321.82'	L= 321.82'
E= 9.09'	E= 9.09'
P.C. STA= 0+00.00	P.C. STA= 3+21.82
P.T. STA= 3+21.82	P.T. STA= 6+43.64

BIT. SHLD REM.
Lt. 305+14 - 307+65

B.M. IRON PIN & CAP 25'
LT. ℄ S.B. LANES
STA. 330+00, ELEV. 429.23

EQ. STA. 307+12.15 BK. (34' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)

EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 1

PROP. PROFILE ALONG
℄ CROSSOVER NO. 1

+0.417%

PROP. BITUMINOUS
MIXTURE COMPLETE, 14"

EQ. P.T. STA. 6+43.25 BK. (℄ CROSSOVER NO. 1)=
38' LT. STA. 313+50.00 AH. (℄ I-57)

EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT

425
420

306 307 0 1 2 3 4 5 313 314

422.03 422.40 422.69 422.89 423.79 423.21 423.62 424.04 424.51 424.65 424.77 425.06

+45.70 +2.48

EQ. STA. 307+12.15 BK. (38' LT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)

EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT

PROP. PROFILE ALONG
℄ CROSSOVER NO. 4

+0.315%

PROP. BITUMINOUS
MIXTURE COMPLETE, 14"

+0.422%

EQ. STA. 5+28.29 BK. (℄ CROSSOVER NO. 4)=
44' RT. STA. 312+32.55 AH. (℄ I-57)

EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 4

425
420

306 307 0 1 2 3 4 5 313 314

422.25 422.55 423.01 423.12 423.12 423.34 423.85 P.I. 423.73 424.09 424.36 424.36 424.77 425.09

+31.51 +25 +74.43

F.A.I. RTE. 57 OVER MARCUM BRANCH

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	43
FED. ROAD DIST. 7		ILLINOIS	PROJECT	
SEC. (20) (58) (58,2B) (61,D) 28 (CVD,3V6,1) *				

50 40 30 20 10 0 10 20 30 40 50

℄ N.B.L.

℄ S.B.L.

EXIST. INLET
STA. 296 + 41
TOP OF GRATE
ELEV. 423.82

FIRST CONTRACT
D=3
F=0

SECOND CONTRACT
D=0
F=0

℄ PT #3

425.3

426.2

435
430
425

296 + 00

295 + 00

294 + 00

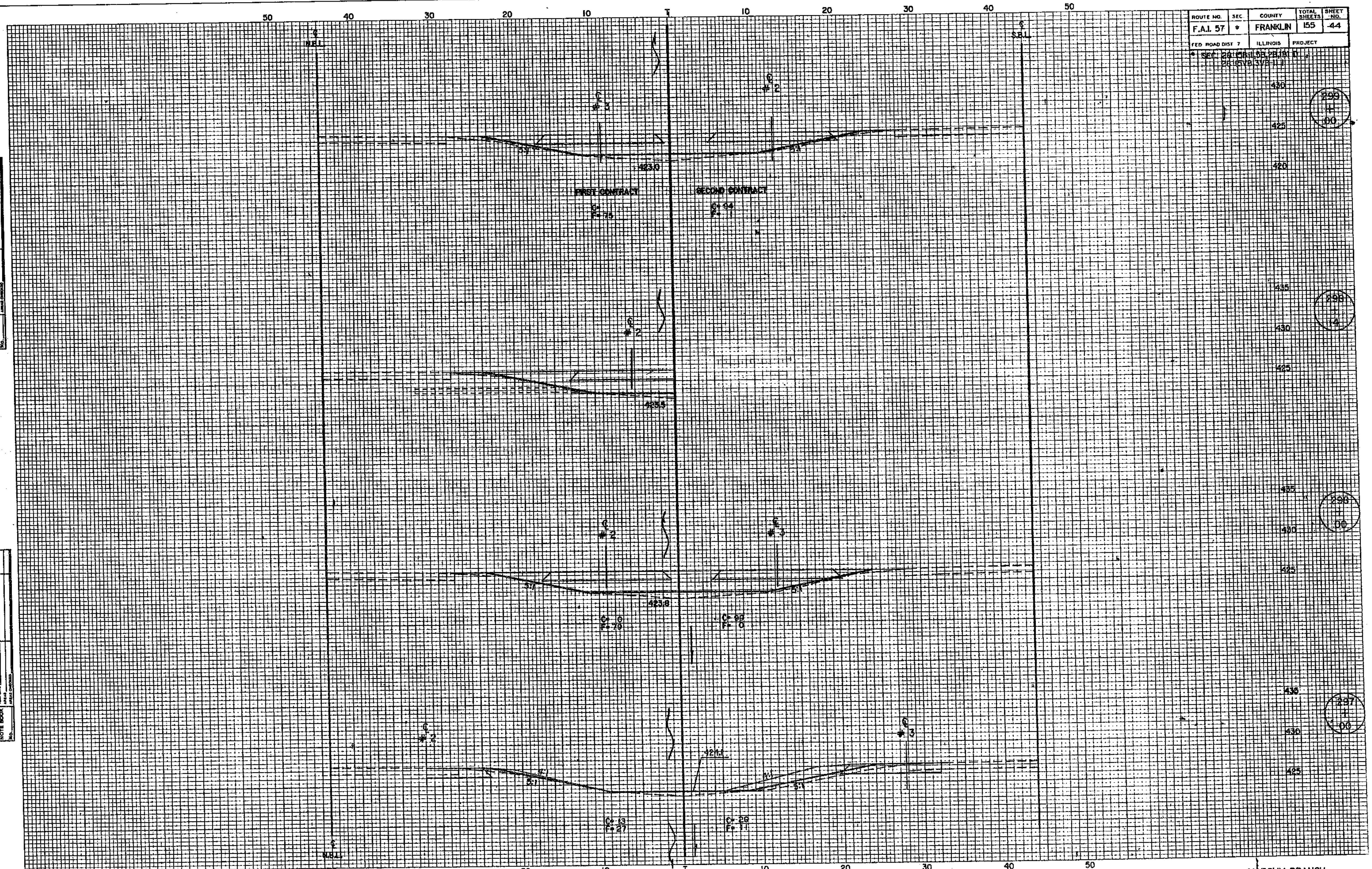
LEGEND:
NORTHBOUND CONTRACT
SOUTHBOUND CONTRACT
N.B. CONTRACT DITCH
S.B. CONTRACT DITCH

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION

MARCUM BRANCH

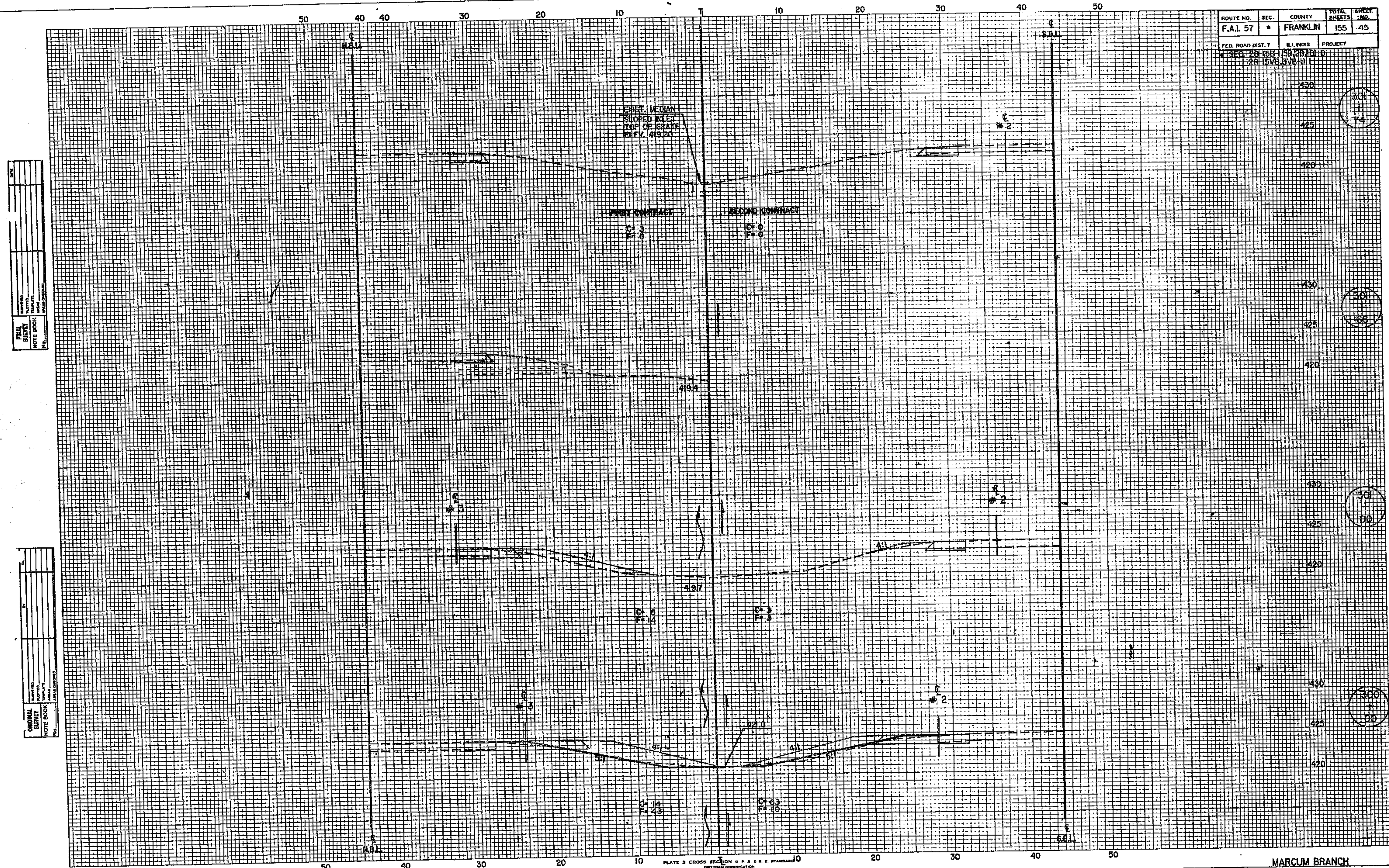
FINAL SURVEY NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	44
FED ROAD DIST 7		ILLINOIS	PROJECT	



MARCUM BRANCH

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	45
FED. ROAD DIST. 7		ILLINOIS	PROJECT	



ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	•	FRANKLIN	155	46
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

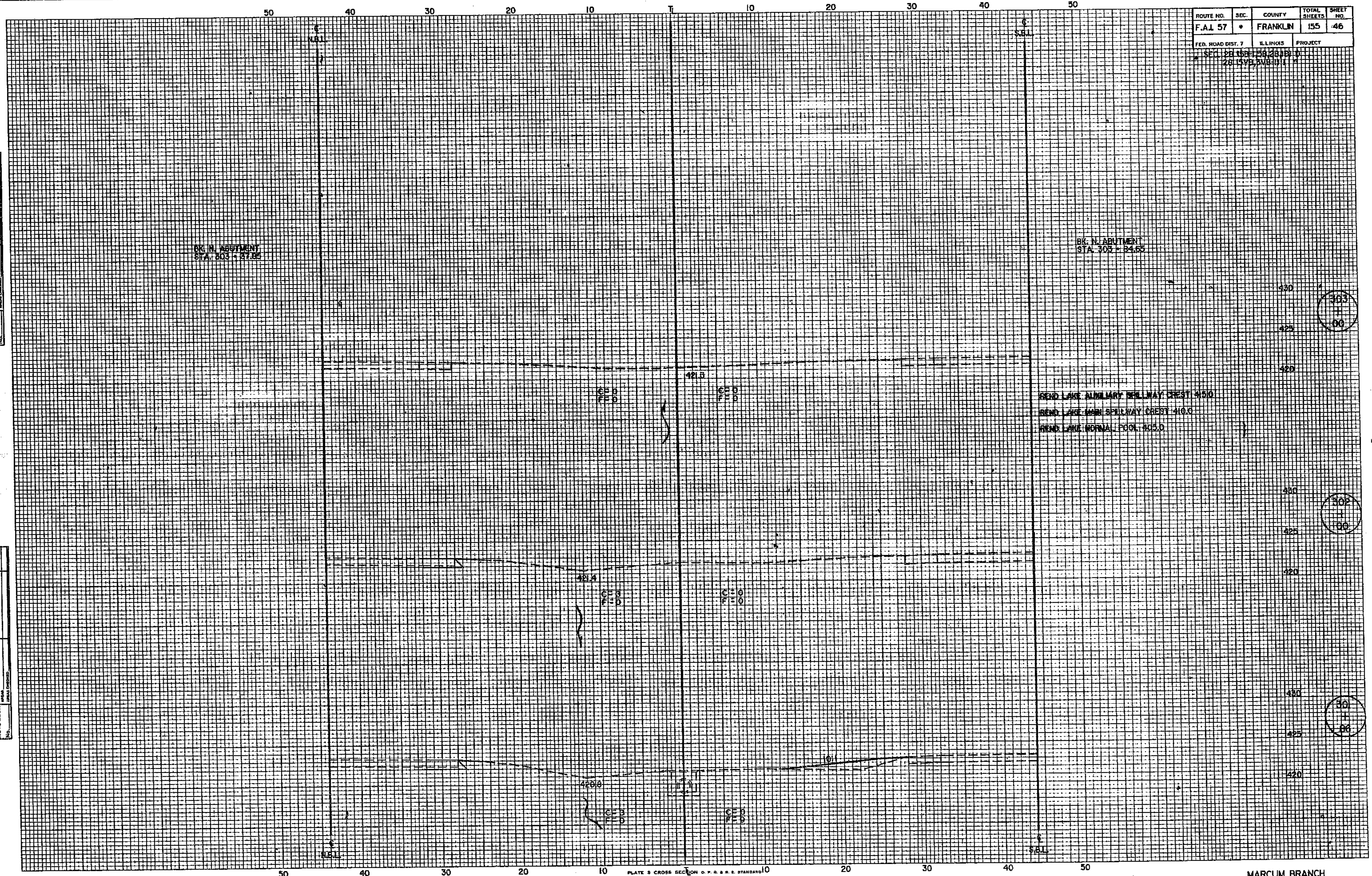
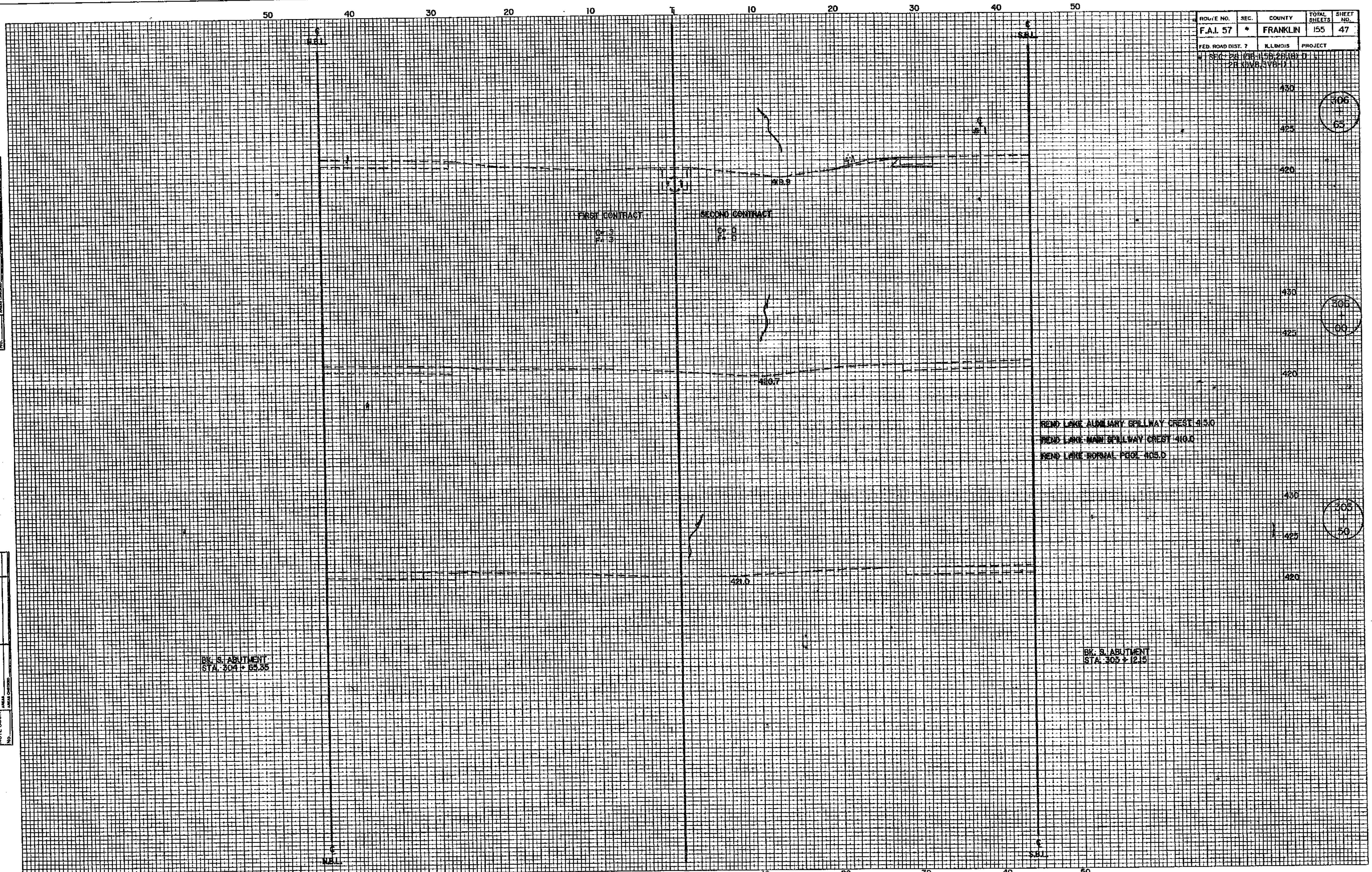


PLATE 3 CROSS SECTION DIETZGEN CORPORATION

MARCUM BRANCH

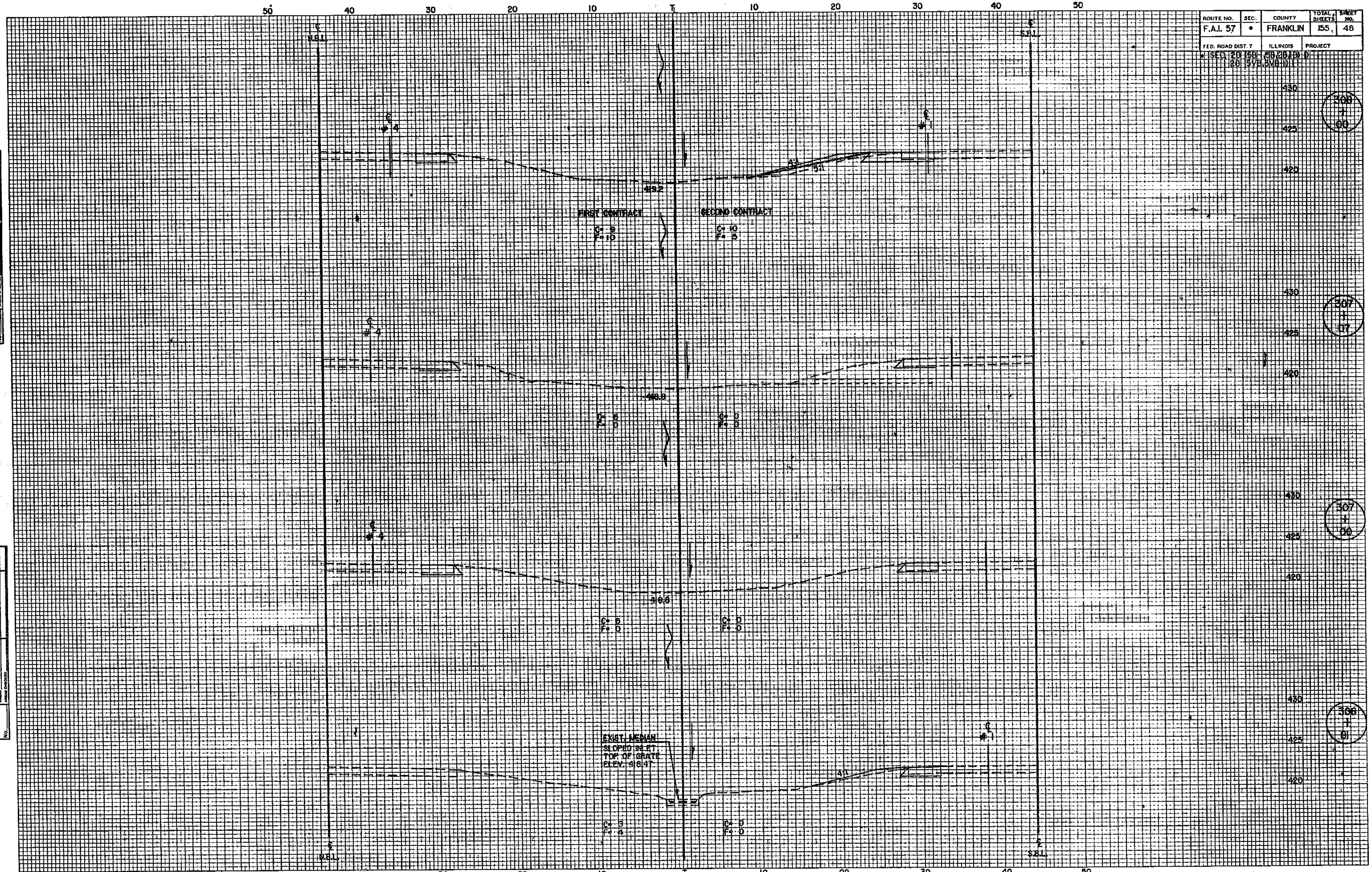
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	47
FED. ROAD DIST. 7		ILLINOIS	PROJECT	



* SEC. 28 (GB-1,5B,2B,(B) D
2B (5MB,3VB-1)
306 + 65
305 + 00
305 + 50
℄ N.B.L.
℄ S.B.L.
419.9
420.7
421.0
FIRST CONTRACT
SECOND CONTRACT
RENO LAKE AUXILIARY SPILLWAY CREST 415.0
RENO LAKE MAIN SPILLWAY CREST 410.0
RENO LAKE NORMAL POOL 405.0
BK. S. ABUTMENT STA. 304 + 65.35
BK. S. ABUTMENT STA. 305 + 12.15
FINAL SURVEY NOTE BOOK No.
ORIG. SURVEY NOTE BOOK No.
PLATE 3 CROSS SECTION O. P. R. & D. E. STANDARD
DIETZGEN CORPORATION

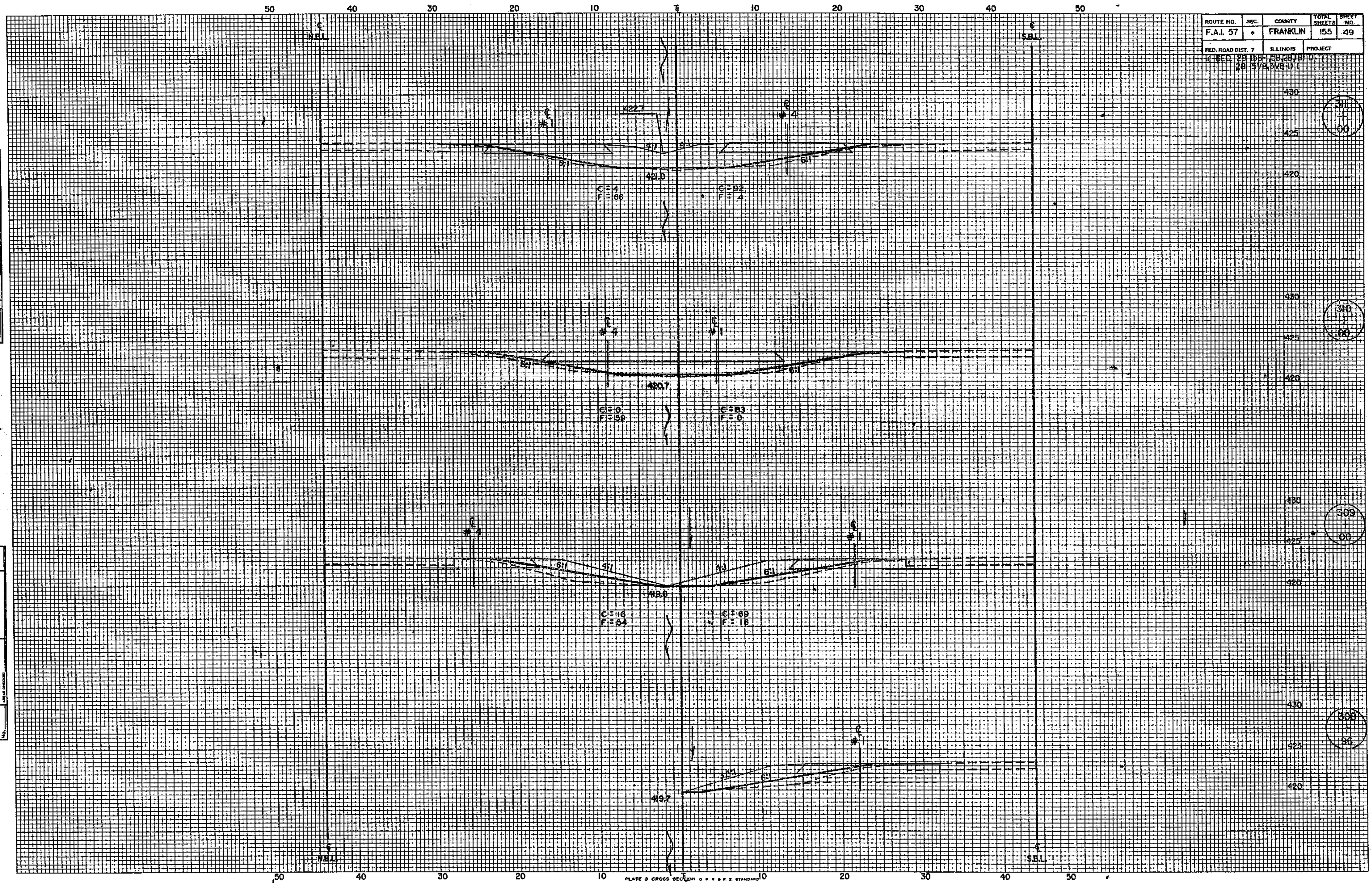
MARCUM BRANCH

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	48
FED. ROAD DIST. 7		ILLINOIS	PROJECT	



MARCUM BRANCH

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	49
FED. ROAD DIST. 7		ILLINOIS	PROJECT	



MARCUM BRANCH

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	50
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

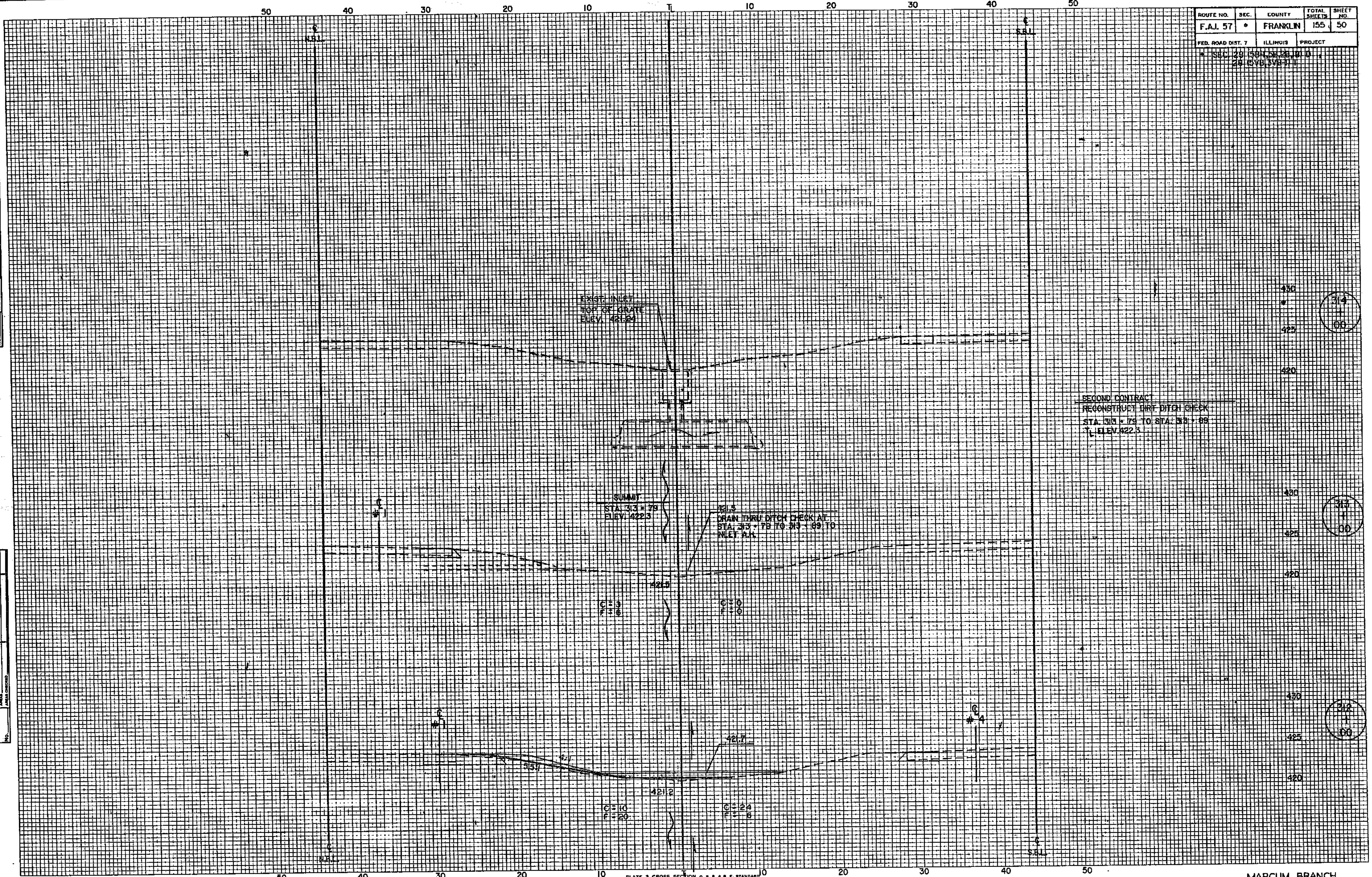


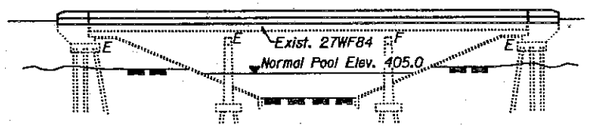
PLATE 3 CROSS SECTION

MARCUM BRANCH

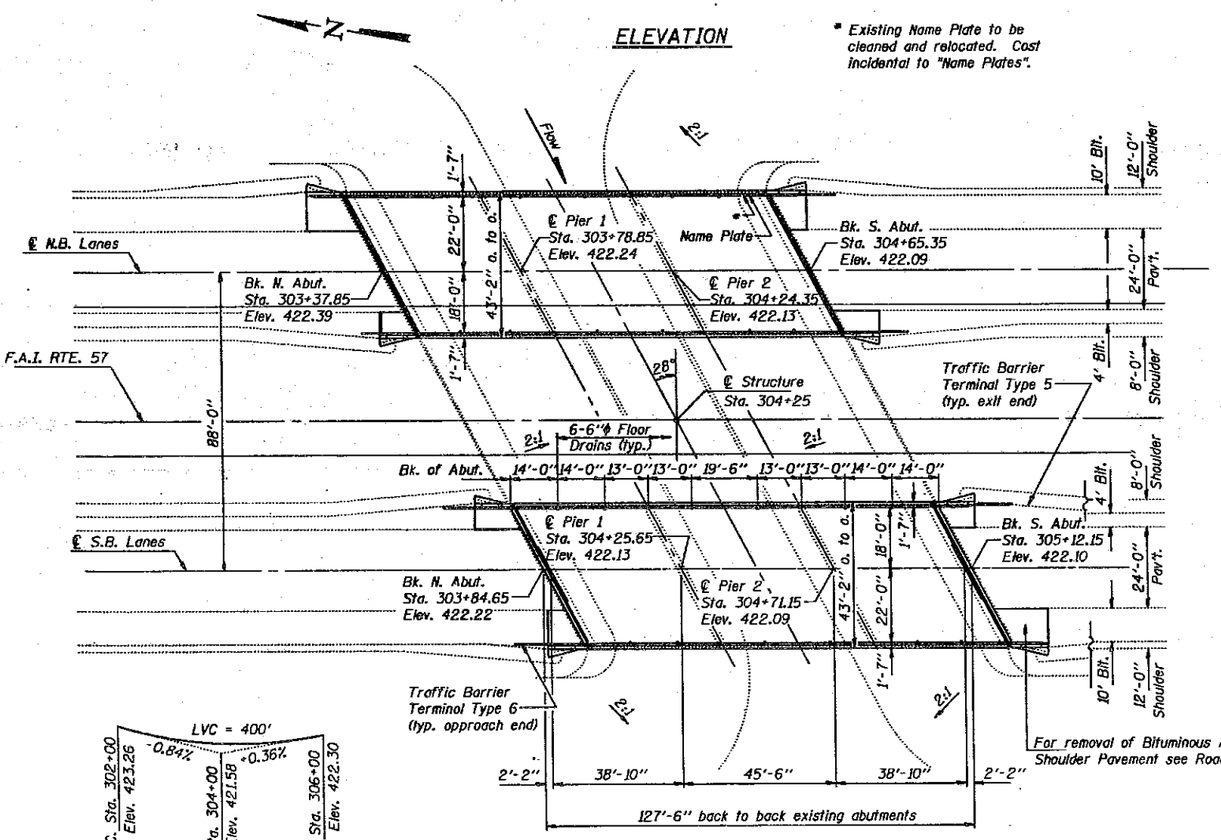
Existing Structures: #028-0011 (S.B.) & #028-0012 (N.B.) are each 127'-6" long and 42'-0" wide. Built as F.A.I. Rte. 57, Section 28-2B at Sta. 304+25 in 1962 consists of RC Deck supported on 3 span continuous wide flange beams. Temporary median crossovers shall be utilized to divert traffic over adjacent bridge during reconstruction.
Bench Mark: "□" Cut on top of N.E. end of West handrail of Southbound Lane of bridge over Marcum Branch. Elevation 424.81.
No Salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155 / 51	16 SHEETS
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		



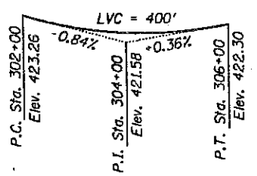
ELEVATION



* Existing Name Plate to be cleaned and relocated. Cost incidental to "Name Plates".

For removal of Bituminous Approach Shoulder Pavement see Roadway Plans (Typ.)

PLAN



PROFILE GRADE
F.A. Route 57 (along ℄ pavement)

STATION 304+25.00
REBUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SEC. (28-2B)D
F.A. PROJECT, IM-57-2(192)63
LOADING HS20 & ALT.
STR. NO. 028-0012

NAME PLATE
See Std. 2113

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{7}{8}$"ϕ, open holes $\frac{15}{16}$"ϕ, unless otherwise noted.

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

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

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

Two $\frac{1}{8}$" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of the top plate shall be provided and placed as detailed.

The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted.

All top surfaces of the abutments shall receive Bridge Seat Sealer. Estimated quantity = 189 Sq. Ft.

The first two coats of the Lead and Chromate free Alkyd Paint System shall be used for shop and field painting of new structural steel.

Structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures".

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-11 for power tool cleaning or SP-2 for hand tool cleaning. Cost shall be incidental to "Concrete Removal".

For cantilever forming brackets see Special Provisions.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Concrete Removal	Cu. Yd.		9	9
	Structure Excavation	Cu. Yd.		22	22
**	Removal of Existing Concrete Deck	Each	1		1
	Floor Drains	Each	12		12
	Preformed Joint Seal $2\frac{1}{2}$"	Lin. Ft.	49		49
	Preformed Joint Seal 4"	Lin. Ft.	49		49
	Class X Concrete Superstructure	Cu. Yd.	177.2		177.2
***	Protective Coat	Sq. Yd.	672		672
	Elastomeric Bearing Assembly, Type I	Each	14		14
	Elastomeric Bearing Assembly, Type II	Each	7		7
	Structural Steel	Lbs.	9190		9190
	Stud Shear Connectors	Each	3255		3255
	Reinforcement Bars, Epoxy Coated	Pound	37690	3540	41230
	Name Plates	Each	1		1
	Bridge Seat Sealer	L. Sum		0.25	0.25
	Jack and Remove Existing Bearings	Each	28		28
	Bridge Deck Grooving	Sq. Yd.	555		555

** Includes the removal of existing steel railing.
*** Quantity includes bridge deck surface.

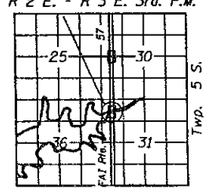
DESIGNED John Cicone
CHECKED [illegible]
DRAWN Paul W. Sweet JRS
CHECKED TLC DDC

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

Note: Only the Northbound structure is included in this contract.

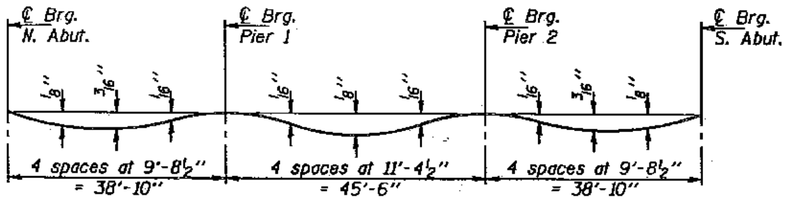
DESIGN SPECIFICATIONS
1989 AASHTO, 1990 & 1991 Interim Specifications
LOADING HS 20-44 & Alt.
Allow 25#/ sq. ft. for future wearing surface.
DESIGN STRESSES
FIELD UNITS
New Construction
f'_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
Old Construction
f_s = 20,000 psi (Structural Steel)

Proposed Reconstruction



LOCATION SKETCH

GENERAL PLAN
F.A.I. ROUTE 57 OVER
MARCUM BRANCH
F.A.I. ROUTE 57 SECTION (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00
STRUCTURE NUMBER 028-0012 (N.B.)

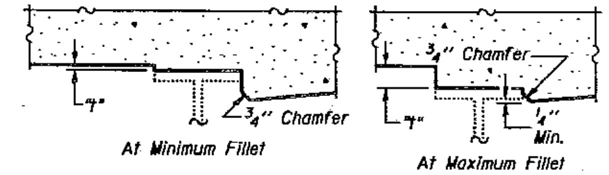


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	52

SHEET NO. 2
16 SHEETS

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

FILLET HEIGHTS

℄ BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30326.684	-21.000	422.124	422.124
℄ Brg. N. Abut.	30328.851	-21.000	422.114	422.114
A	30338.851	-21.000	422.070	422.081
B	30348.851	-21.000	422.030	422.043
C	30358.851	-21.000	421.992	421.998
℄ Brg. Pier 1	30367.684	-21.000	421.961	421.961
D	30377.684	-21.000	421.929	421.933
E	30387.684	-21.000	421.899	421.908
F	30397.684	-21.000	421.873	421.880
G	30407.684	-21.000	421.850	421.853
℄ Brg. Pier 2	30413.184	-21.000	421.838	421.838
H	30423.184	-21.000	421.820	421.827
I	30433.184	-21.000	421.804	421.818
J	30443.184	-21.000	421.792	421.802
℄ Brg. S. Abut.	30452.017	-21.000	421.783	421.783
Bk. of S. Abut.	30454.184	-21.000	421.781	421.781

℄ BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30330.052	-14.667	422.241	422.241
℄ Brg. N. Abut.	30332.218	-14.667	422.231	422.231
A	30342.218	-14.667	422.188	422.199
B	30352.218	-14.667	422.148	422.161
C	30362.218	-14.667	422.111	422.117
℄ Brg. Pier 1	30371.052	-14.667	422.081	422.081
D	30381.052	-14.667	422.050	422.055
E	30391.052	-14.667	422.022	422.031
F	30401.052	-14.667	421.997	422.004
G	30411.052	-14.667	421.975	421.977
℄ Brg. Pier 2	30416.552	-14.667	421.964	421.964
H	30426.552	-14.667	421.946	421.953
I	30436.552	-14.667	421.932	421.945
J	30446.552	-14.667	421.920	421.930
℄ Brg. S. Abut.	30455.385	-14.667	421.912	421.912
Bk. of S. Abut.	30457.552	-14.667	421.911	421.911

EAST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30331.469	-12.000	422.290	422.290
℄ Brg. N. Abut.	30333.636	-12.000	422.280	422.280
A	30343.636	-12.000	422.238	422.248
B	30353.636	-12.000	422.198	422.211
C	30363.636	-12.000	422.162	422.168
℄ Brg. Pier 1	30372.469	-12.000	422.132	422.132
D	30382.469	-12.000	422.101	422.106
E	30392.469	-12.000	422.074	422.082
F	30402.469	-12.000	422.049	422.056
G	30412.469	-12.000	422.027	422.030
℄ Brg. Pier 2	30417.969	-12.000	422.016	422.016
H	30427.969	-12.000	421.999	422.006
I	30437.969	-12.000	421.985	421.999
J	30447.969	-12.000	421.974	421.984
℄ Brg. S. Abut.	30456.803	-12.000	421.967	421.967
Bk. of S. Abut.	30458.969	-12.000	421.965	421.965

℄ BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30333.419	-8.333	422.346	422.346
℄ Brg. N. Abut.	30335.586	-8.333	422.336	422.336
A	30345.586	-8.333	422.295	422.305
B	30355.586	-8.333	422.256	422.269
C	30365.586	-8.333	422.220	422.226
℄ Brg. Pier 1	30374.419	-8.333	422.191	422.191
D	30384.419	-8.333	422.161	422.165
E	30394.419	-8.333	422.133	422.142
F	30404.419	-8.333	422.109	422.116
G	30414.419	-8.333	422.088	422.091
℄ Brg. Pier 2	30419.919	-8.333	422.078	422.078
H	30429.919	-8.333	422.061	422.068
I	30439.919	-8.333	422.048	422.061
J	30449.919	-8.333	422.037	422.047
℄ Brg. S. Abut.	30458.752	-8.333	422.030	422.030
Bk. of S. Abut.	30460.919	-8.333	422.029	422.029

℄ BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30336.787	-2.000	422.388	422.388
℄ Brg. N. Abut.	30338.953	-2.000	422.379	422.379
A	30348.953	-2.000	422.338	422.349
B	30358.953	-2.000	422.300	422.314
C	30368.953	-2.000	422.266	422.272
℄ Brg. Pier 1	30377.787	-2.000	422.237	422.237
D	30387.787	-2.000	422.208	422.213
E	30397.787	-2.000	422.182	422.191
F	30407.787	-2.000	422.159	422.166
G	30417.787	-2.000	422.139	422.141
℄ Brg. Pier 2	30423.287	-2.000	422.129	422.129
H	30433.287	-2.000	422.113	422.120
I	30443.287	-2.000	422.101	422.114
J	30453.287	-2.000	422.091	422.101
℄ Brg. S. Abut.	30462.120	-2.000	422.085	422.085
Bk. of S. Abut.	30464.287	-2.000	422.084	422.084

℄ ROADWAY AND P. G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30337.850	0.000	422.387	422.387
℄ Brg. N. Abut.	30340.017	0.000	422.378	422.378
A	30350.017	0.000	422.337	422.348
B	30360.017	0.000	422.300	422.313
C	30370.017	0.000	422.265	422.272
℄ Brg. Pier 1	30378.850	0.000	422.237	422.237
D	30388.850	0.000	422.209	422.213
E	30398.850	0.000	422.183	422.192
F	30408.850	0.000	422.160	422.167
G	30418.850	0.000	422.140	422.143
℄ Brg. Pier 2	30424.350	0.000	422.130	422.130
H	30434.350	0.000	422.115	422.122
I	30444.350	0.000	422.103	422.116
J	30454.350	0.000	422.094	422.104
℄ Brg. S. Abut.	30463.183	0.000	422.088	422.088
Bk. of S. Abut.	30465.350	0.000	422.087	422.087

℄ BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30340.154	4.333	422.361	422.361
℄ Brg. N. Abut.	30342.321	4.333	422.352	422.352
A	30352.321	4.333	422.312	422.323
B	30362.321	4.333	422.275	422.288
C	30372.321	4.333	422.241	422.248
℄ Brg. Pier 1	30381.154	4.333	422.214	422.214
D	30391.154	4.333	422.186	422.191
E	30401.154	4.333	422.161	422.170
F	30411.154	4.333	422.139	422.146
G	30421.154	4.333	422.119	422.122
℄ Brg. Pier 2	30426.654	4.333	422.110	422.110
H	30436.654	4.333	422.096	422.103
I	30446.654	4.333	422.084	422.098
J	30456.654	4.333	422.076	422.085
℄ Brg. S. Abut.	30465.487	4.333	422.071	422.071
Bk. of S. Abut.	30467.654	4.333	422.070	422.070

℄ BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30343.522	10.667	422.265	422.265
℄ Brg. N. Abut.	30345.688	10.667	422.256	422.256
A	30355.688	10.667	422.217	422.228
B	30365.688	10.667	422.181	422.194
C	30375.688	10.667	422.148	422.155
℄ Brg. Pier 1	30384.522	10.667	422.122	422.122
D	30394.522	10.667	422.095	422.099
E	30404.522	10.667	422.071	422.080
F	30414.522	10.667	422.050	422.057
G	30424.522	10.667	422.031	422.034
℄ Brg. Pier 2	30430.022	10.667	422.023	422.023
H	30440.022	10.667	422.009	422.016
I	30450.022	10.667	421.999	422.012
J	30460.022	10.667	421.991	422.001
℄ Brg. S. Abut.	30468.855	10.667	421.987	421.987
Bk. of S. Abut.	30471.022	10.667	421.986	421.986

WEST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30344.363	12.250	422.230	422.230
℄ Brg. N. Abut.	30346.530	12.250	422.221	422.221
A	30356.530	12.250	422.182	422.193
B	30366.530	12.250	422.147	422.160
C	30376.530	12.250	422.114	422.120
℄ Brg. Pier 1	30385.363	12.250	422.088	422.088
D	30395.363	12.250	422.061	422.066
E	30405.363	12.250	422.037	422.046
F	30415.363	12.250	422.016	422.023
G	30425.363	12.250	421.999	422.001
℄ Brg. Pier 2	30430.863	12.250	421.990	421.990
H	30440.863	12.250	421.977	421.984
I	30450.863	12.250	421.966	421.980
J	30460.863	12.250	421.959	421.969
℄ Brg. S. Abut.	30469.697	12.250	421.955	421.955
Bk. of S. Abut.	30471.863	12.250	421.955	421.955

℄ BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	30346.889	17.000	422.121	422.121
℄ Brg. N. Abut.	30349.056	17.000	422.112	422.112
A	30359.056	17.000	422.074	422.085
B	30369.056	17.000	422.040	422.053
C	30379.056	17.000	422.008	422.014
℄ Brg. Pier 1	30387.889	17.000	421.982	421.982
D	30397.889	17.000	421.956	421.961
E	30407.889	17.000	421.933	421.942
F	30417.889	17.000	421.913	421.920
G	30427.889	17.000	421.896	421.898
℄ Brg. Pier 2	30433.389	17.000	421.888	421.888
H	30443.389	17.000	421.875	421.882
I	30453.389	17.000	421.866	421.879
J	30463.389	17.000	421.859	421.869
℄ Brg. S. Abut.	30472.222	17.000	421.856	421.856
Bk. of S. Abut.	30474.389	17.000	421.855	421.855

Note: Work this sheet with sheet #3 of 16.

DESIGNED	John Ciccone
CHECKED	[signature]
DRAWN	Joe Sutherland
CHECKED	[signature]

May 22 1992

EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

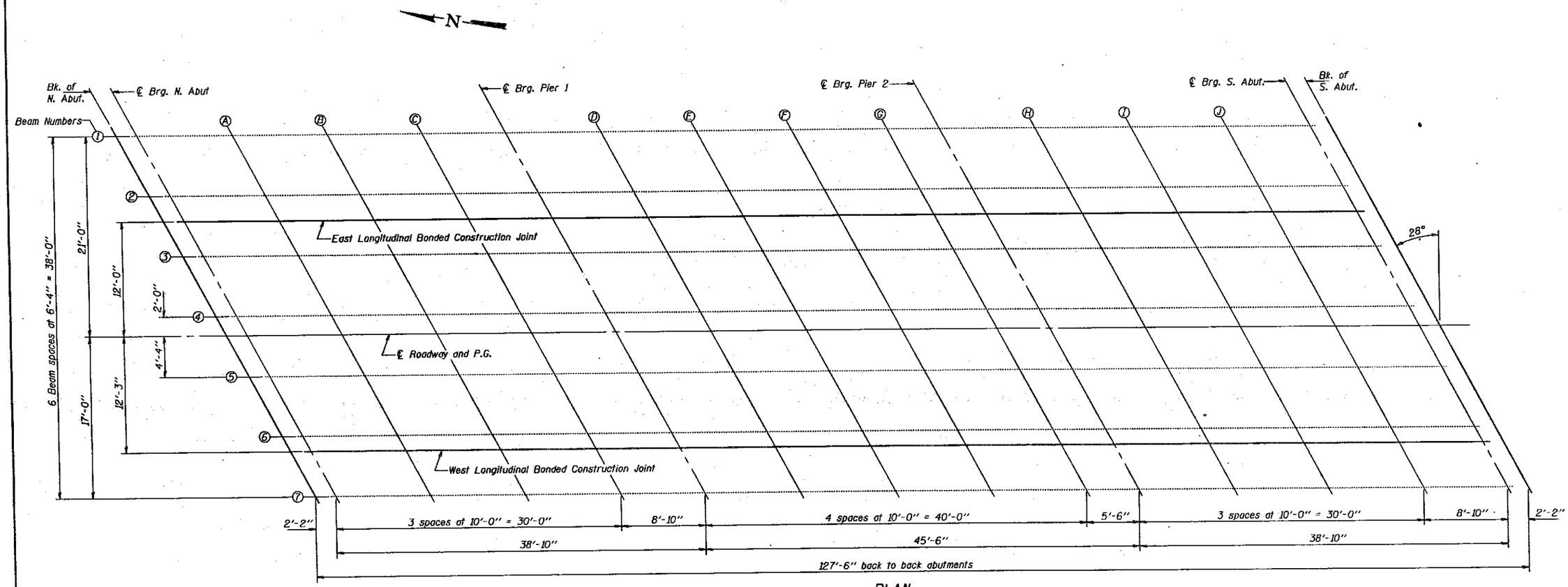
E-S 1-6-82

TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	53
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

DESIGNED	John Cicone
CHECKED	Patrick D Clement
DRAWN	Joe Sutherland
CHECKED	JLC PDC

MAY 22 1992

EXAMINED Engineer of Bridge Design

PASSED Rafael E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

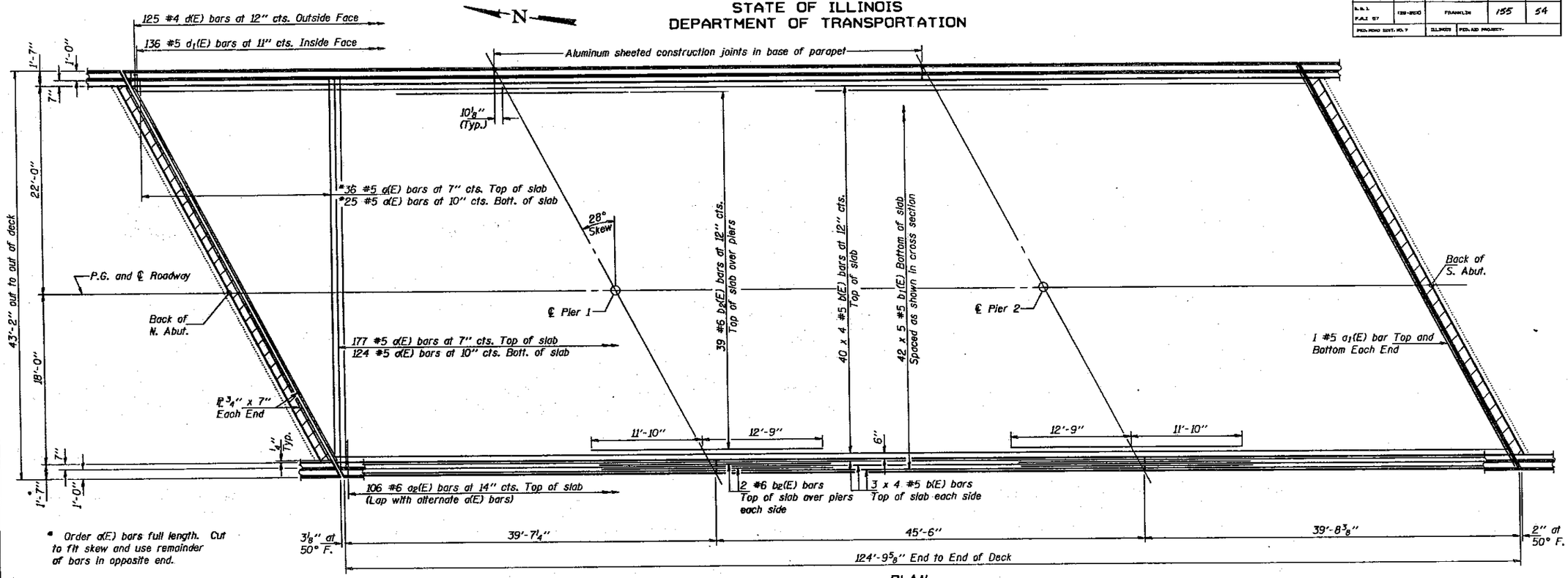
APPROVED
DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	128-2B1D	FRANKLIN	155	54
FED. ROAD DIST. NO. 7	ILL.24029	FED. AID PROJECT-		

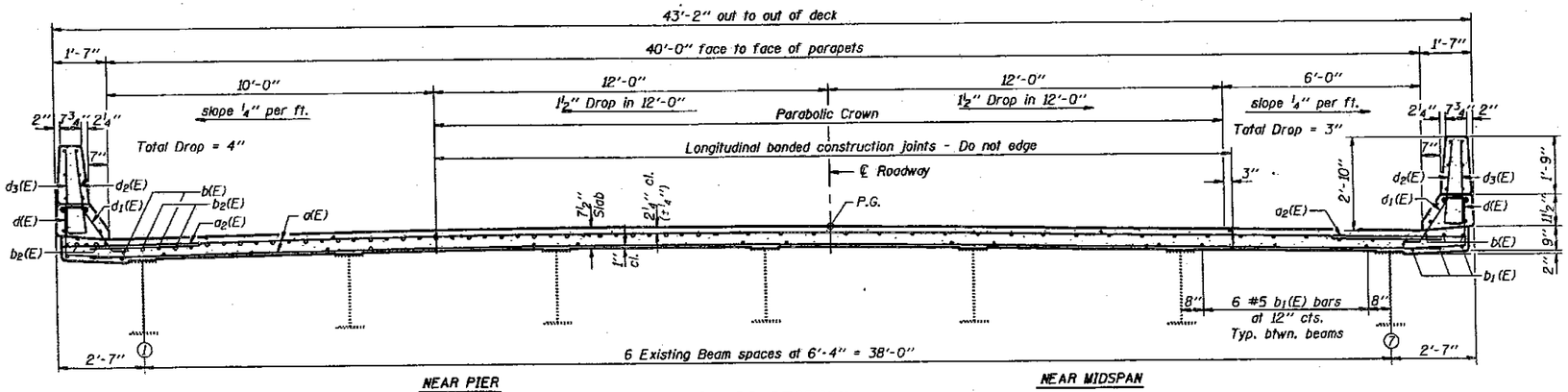
SHEET NO. 4
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

PLAN



NEAR PIER — NEAR MIDSPAN

CROSS SECTION
(Looking South)

Notes: See sheets #5 and #6 of 16 for superstructure details, parapet reinforcement and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Reinforcement bars indicated thus 40 x 4 #5 etc. indicates 40 lines of bars with 4 lengths per line.
See sheet #1 of 16 for drain locations and sheet #5 of 16 for details.
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Class X Concrete Superstructure.

MIN. BAR LAPS
#5 bars = 1'-8"

DESIGNED	John Cicero
CHECKED	Ralph E. Anderson
DRAWN	Joe Sutherland
CHECKED	JLC

May 22 1992

EXAMINED Raj D. Kapoor — ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

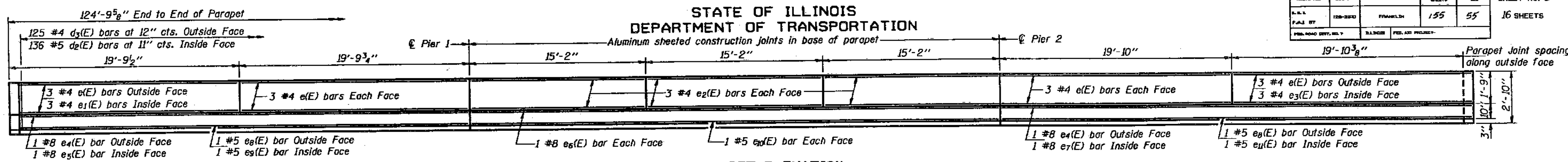
APPROVED — DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

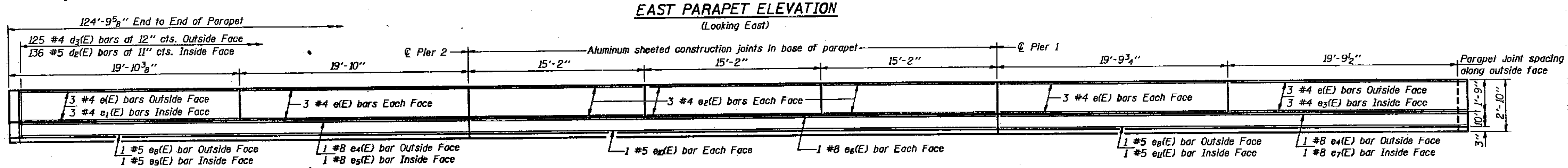
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	55

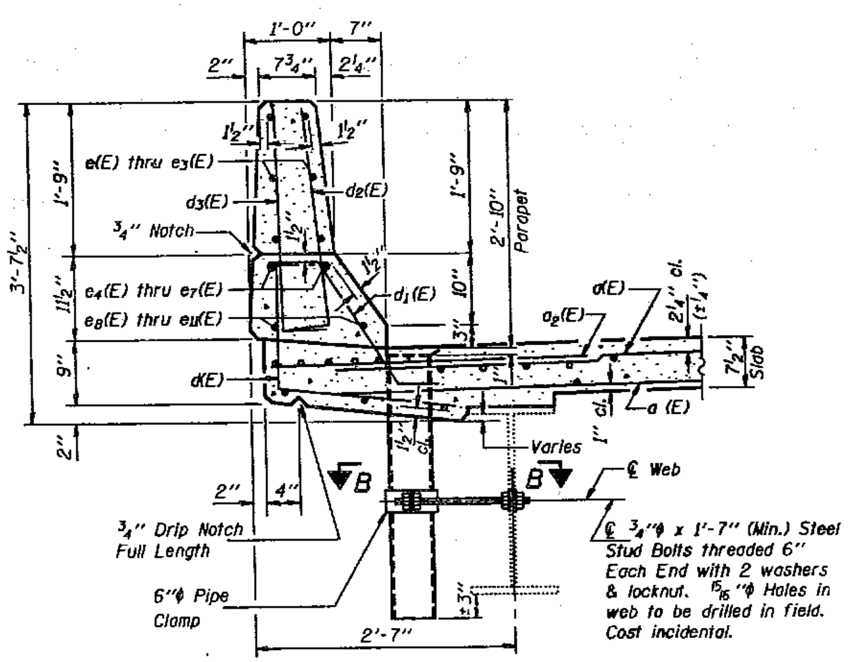
SHEET NO. 5
16 SHEETS



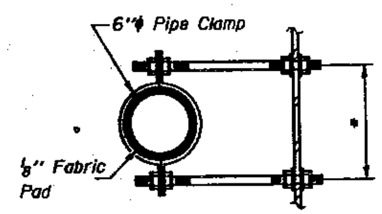
EAST PARAPET ELEVATION
(Looking East)



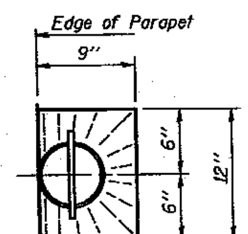
WEST PARAPET ELEVATION
(Looking West)



SECTION THRU PARAPET

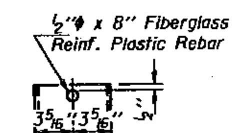


SECTION B-B

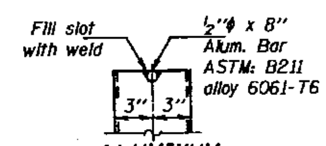


TOP PLAN

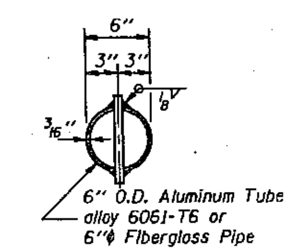
* Dimension as required by Pipe Clamp



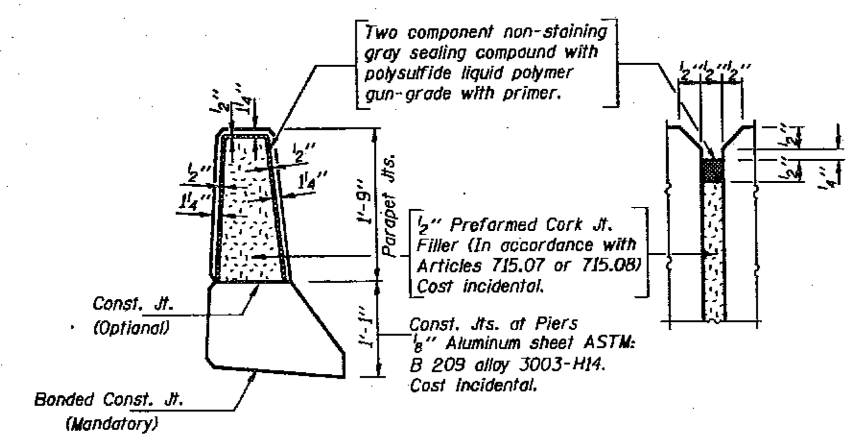
FIBERGLASS PIPE



ALUMINUM TUBE



TOP PLAN
(Showing Aluminum Tube)



PARAPET JOINT DETAILS

Notes:
The exterior surfaces of the Floor Drain shall be painted with the painting specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting. Fiberglass to have prewash as per MIL-P-15328 prior to painting.
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED	John Cicone
CHECKED	[signature]
DRAWN	Joe Sutherland
CHECKED	[signature]

May 22 1992

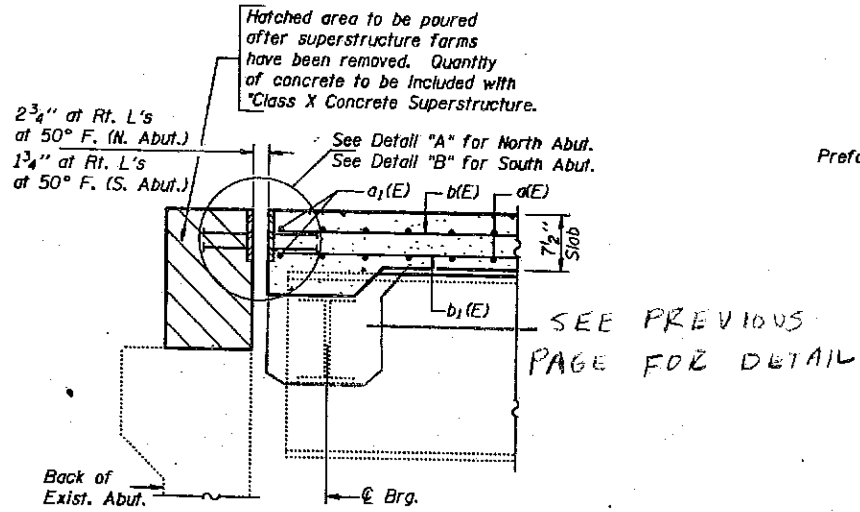
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	56
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

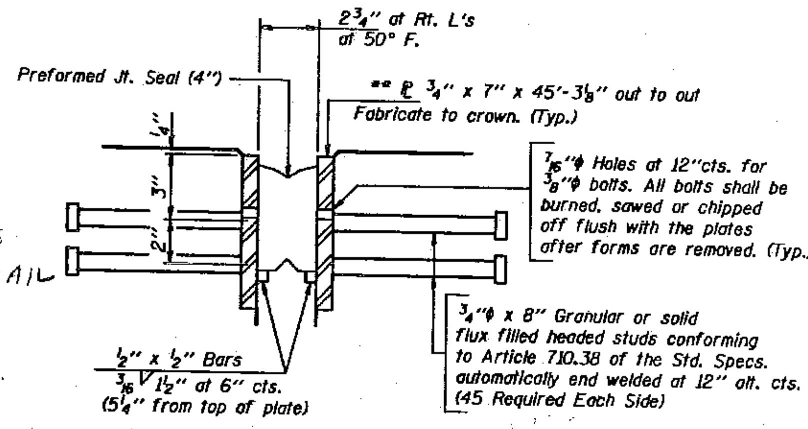
SHEET NO. 6
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

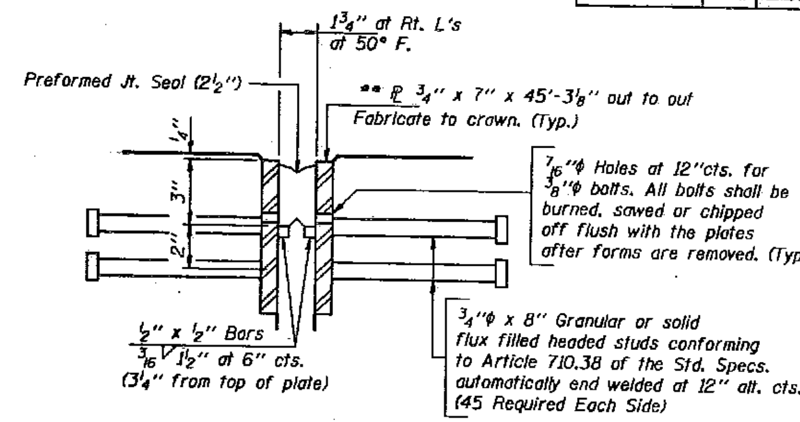


SECTION THRU ABUTMENTS

North Abut. Looking East
South Abut. Looking West

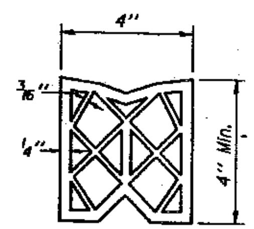


DETAIL "A"

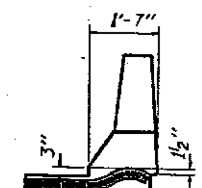


DETAIL "B"

** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.

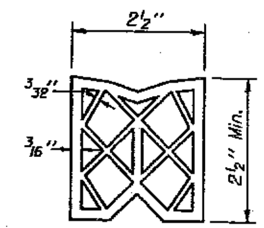


PREFORMED JOINT SEAL (4")



END TREATMENT

Typ. for (4") and (2½").



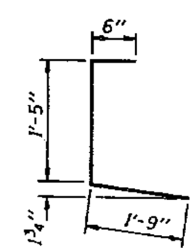
PREFORMED JOINT SEAL (2½")

BILL OF MATERIAL

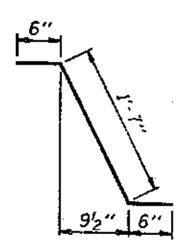
Bar	No.	Size	Length	Shape
a(E)	362	#5	41'-2"	——
a1(E)	4	#5	48'-2"	——
a2(E)	212	#6	4'-0"	——
b(E)	184	#5	32'-5"	——
b1(E)	210	#5	26'-3"	——
b2(E)	86	#6	24'-7"	——
d(E)	250	#4	3'-8"	⊏
d1(E)	272	#5	2'-7"	⌐
d2(E)	272	#5	3'-0"	L
d3(E)	250	#4	3'-0"	L
e(E)	36	#4	19'-7"	——
e1(E)	6	#4	18'-11"	——
e2(E)	36	#4	14'-11"	——
e3(E)	6	#4	20'-2"	——
e4(E)	4	#8	39'-5"	——
e5(E)	2	#8	38'-9"	——
e6(E)	4	#8	45'-3"	——
e7(E)	2	#8	40'-1"	——
e8(E)	4	#5	39'-5"	——
e9(E)	2	#5	38'-7"	——
e10(E)	4	#5	45'-3"	——
e11(E)	2	#5	40'-3"	——
Reinforcement Bars, Epoxy Coated			Lbs.	37690
Class X Concrete Superstructure			Cu. Yd.	177.2

Reinforcement bars designated (E) shall be epoxy coated.

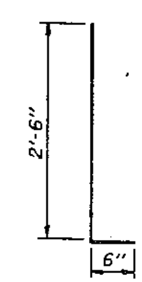
Note: After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for Structural Steel. No field painting required.



BAR d(E)



BAR d1(E)



BARS d2(E) & d3(E)

DESIGNED	John Timms
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	JLC PDC

May 22 1992

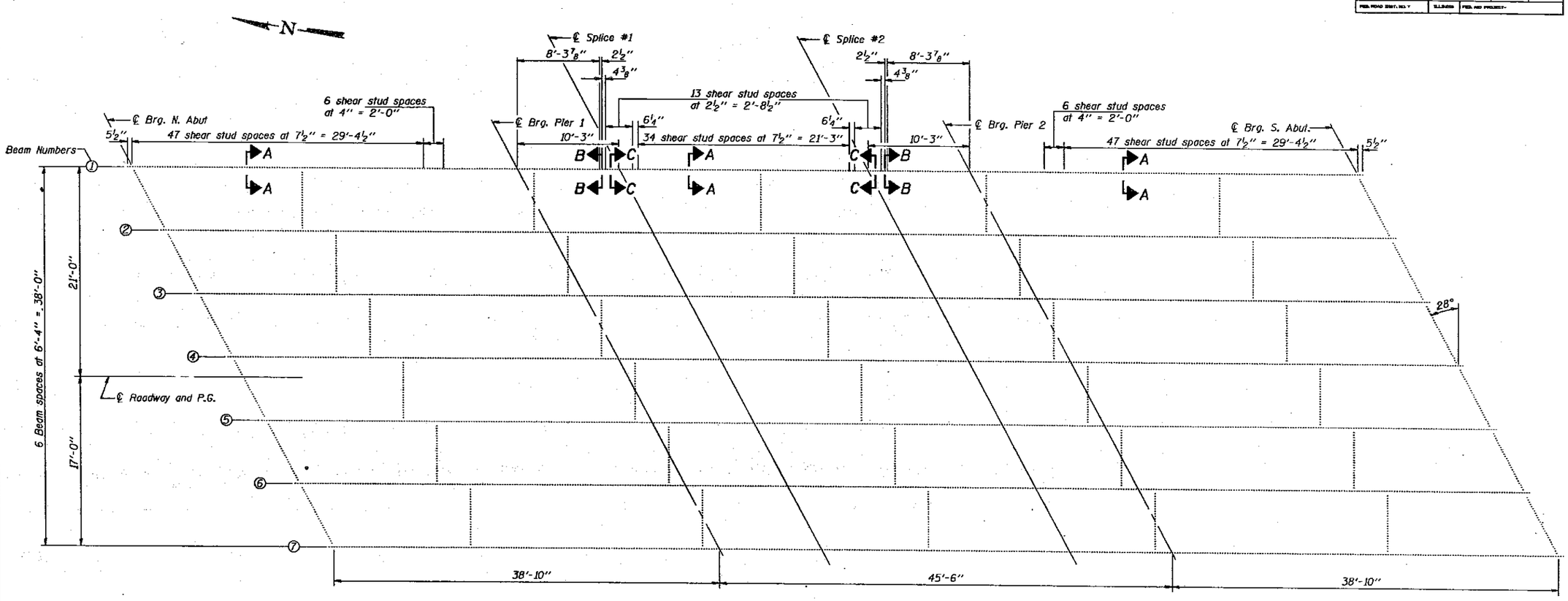
EXAMINED Oraj J. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

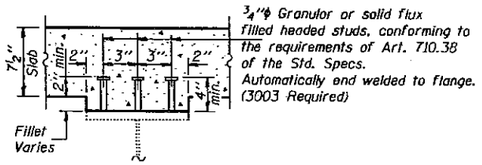
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	57
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
16 SHEETS

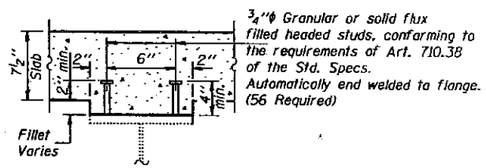


PLAN
(Shear Studs Typ. All Beams)



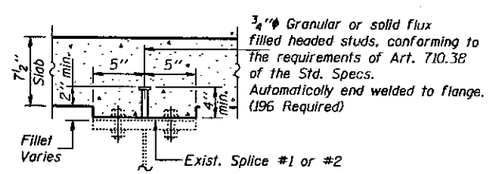
¾"ϕ Granular or solid flux filled headed studs, conforming to the requirements of Art. 710.38 of the Std. Specs. Automatically end welded to flange. (3003 Required)

SECTION A-A



¾"ϕ Granular or solid flux filled headed studs, conforming to the requirements of Art. 710.38 of the Std. Specs. Automatically end welded to flange. (56 Required)

SECTION B-B



¾"ϕ Granular or solid flux filled headed studs, conforming to the requirements of Art. 710.38 of the Std. Specs. Automatically end welded to flange. (196 Required)

SECTION C-C

DESIGNED	John Cicone
CHECKED	
DRAWN	Joe Sutherland
CHECKED	JLC PDC

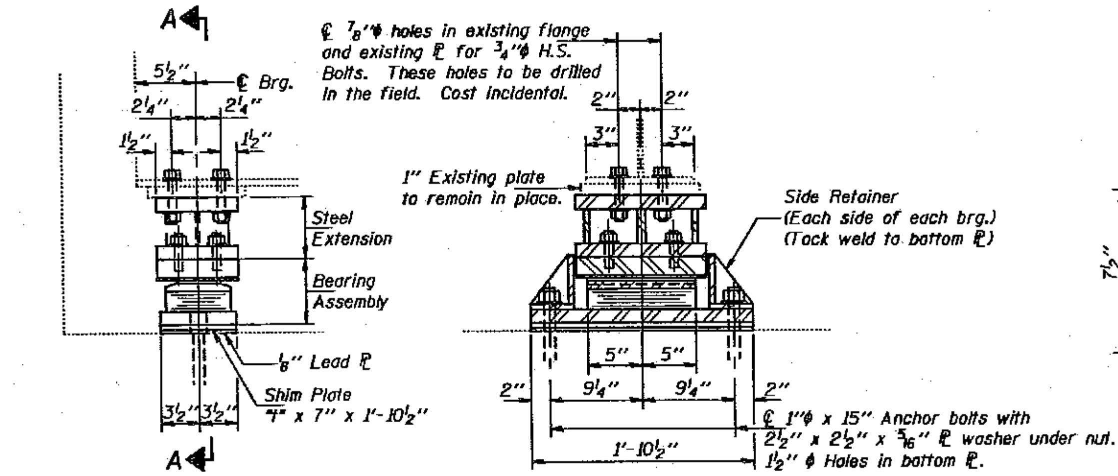
May 22 1992
EXAMINED Engineer of Bridge Design
PASSED Ralph E. Anderson
Engineer of Bridges and Structures
APPROVED
Director of Highways

STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	58

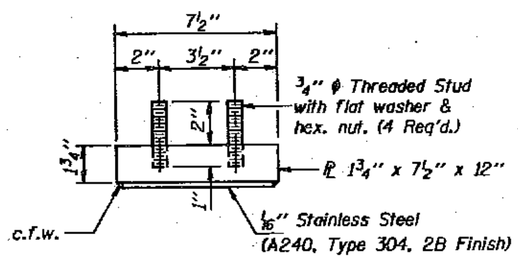
SHEET NO. 8
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

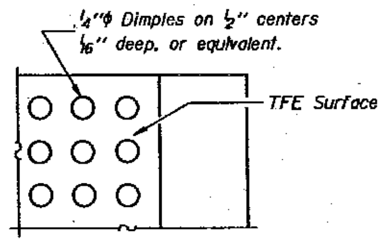


ELEVATION AT NORTH ABUT. — SECTION A-A

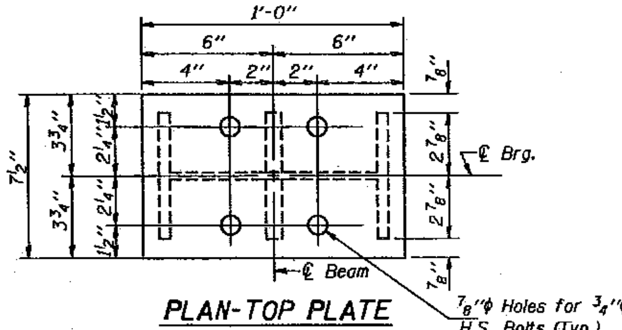
TYPE II TFE ELASTOMERIC EXP. BRG.



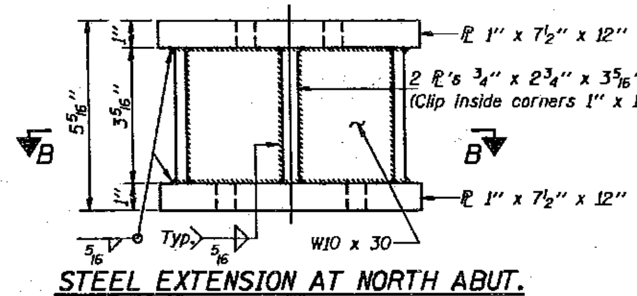
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE

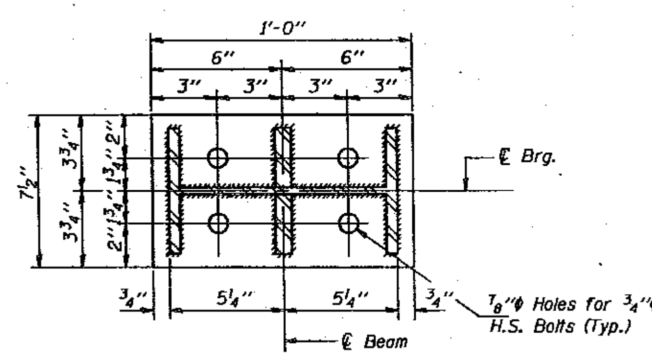


PLAN-TOP PLATE

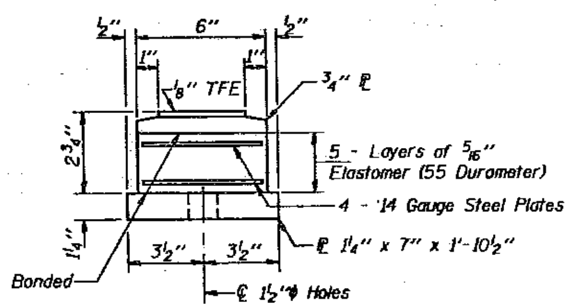


STEEL EXTENSION AT NORTH ABUT.

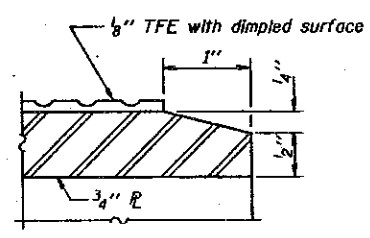
Equivalent welded plates will be allowed in lieu of W10x30 section.



SECTION B-B



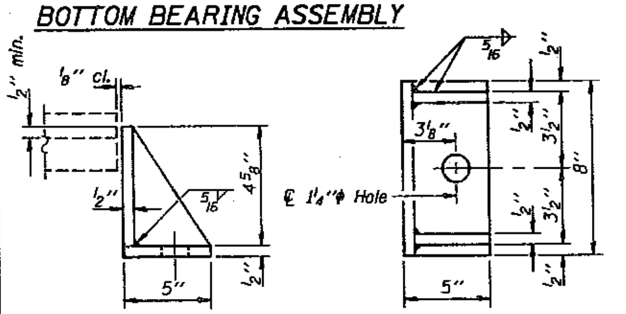
BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

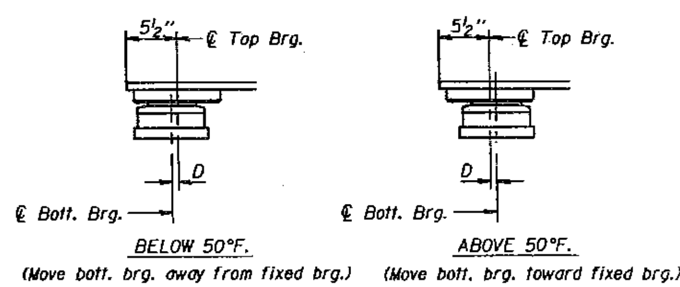
Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



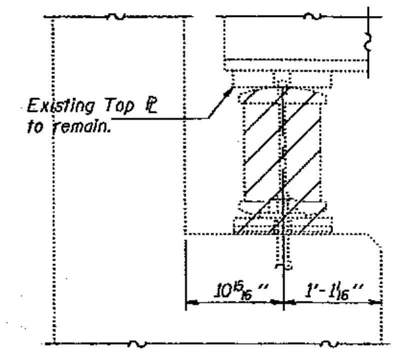
SIDE RETAINER

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

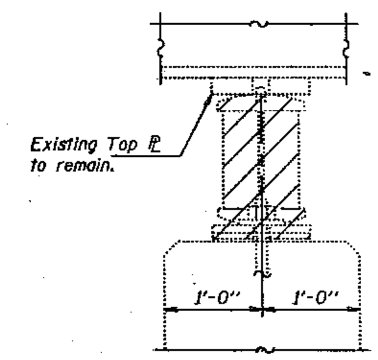


SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



AT ABUTMENT



AT PIER

JACK AND REMOVE EXISTING BEARING

Hatched areas indicate Removal of Existing Bearing.
See sheets #8, #9 & #10 of 16 for new brg. details.

JACK AND REMOVE EXISTING BEARING PROCEDURE

1. The Contractor shall submit for approval by the Engineer, plans for jacking prior to commencing any work at the bearings. Dead Load = 3.0K at each beam at abutments and 6.0K at each beam at piers without concrete. Min. Jack Capacity at each beam shall be 5 Tons.
2. Jacking and removing existing bearings shall be done after deck removal is completed and before the new deck is poured.
3. All beams at one abutment or at one pier shall be lifted simultaneously.
4. Jacking shall be limited to a maximum of ¼".
5. Remove the existing anchor bolts flush with the concrete surface and grind smooth. The rockers and bottom plates shall be removed, leaving the existing top plate intact. The bottom flange area of the beam and existing top plate shall be cleaned and painted as specified for structural steel.
6. The new bearings and steel extensions shall be installed in place and the jacks shall be lowered before the new deck is poured.

INTERIOR BEAM MOMENT TABLE		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
Is	(in4)	2850	2850	2850
Ic (n=9)	(in4)	8361	———	8361
Ic (n=27)	(in4)	6285	———	6285
Ss	(in3)	213	213	213
Sc (n=9)	(in3)	326	———	326
Sc (n=27)	(in3)	296	———	296
D℄	(K/ft.)	.705	.980	.705
M℄	('K)	77.3	163	56.7
fs℄ non-comp	(k.s.i.)	4.4	9.2	3.2
s℄	(K/ft.)	.275	———	.275
Ms℄	('K)	34.8	———	33.9
** fs℄ (comp)	(k.s.i.)	1.4	———	1.4
ML	('K)	213	110	219.7
M (Imp)	('K)	63.2	32.6	65.2
(Total)	('K)	276.2	142.6	284.9
fs (L+I)	(k.s.i.)	10.2	8.0	10.5
fs (Total)	(k.s.i.)	16.0	17.2	15.1
VR	(K)	43.2	———	45.9

** For n = 27.

INTERIOR BEAM REACTION TABLE		Abuts.	Piers
R℄	(K)	10.5	33.0
RL	(K)	30.3	37.3
Imp.	(K)	9.0	11.1
R (Total)	(K)	49.8	81.4

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 live Load + Impact shear range in span.

Notes: For anchor bolt installation details see sheet #16 of 16.
For anchor bolt location see sheet #10 of 16.
For shim plate thickness see sheet #10 of 16.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Jack and Remove Existing Bearings	Each	7

DESIGNED	John Ciccone
CHECKED	[signature]
DRAWN	Joe Sutherland
CHECKED	JLC PDC

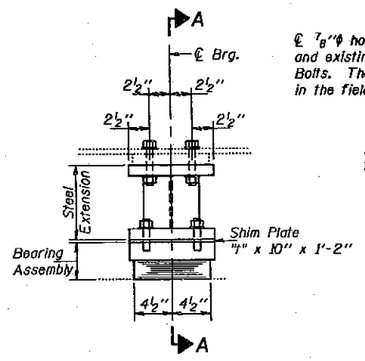
May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

NORTH ABUTMENT BEARING DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

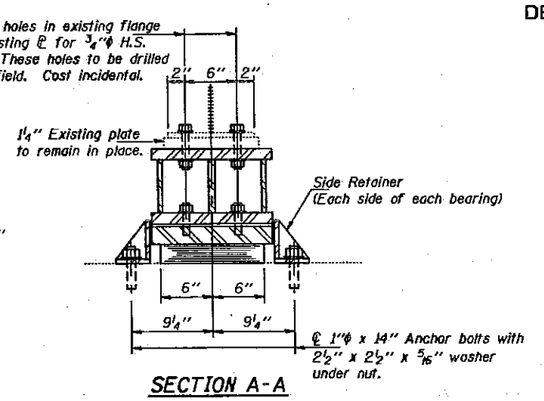
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	59
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

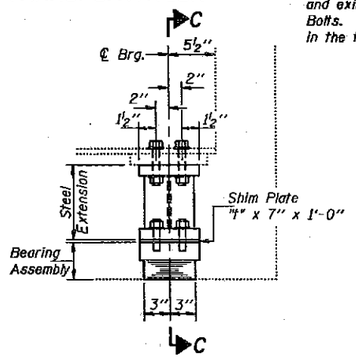
SHEET NO. 9
16 SHEETS



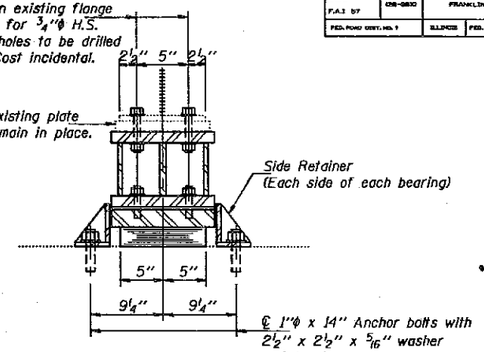
ELEVATION AT PIER 1



SECTION A-A

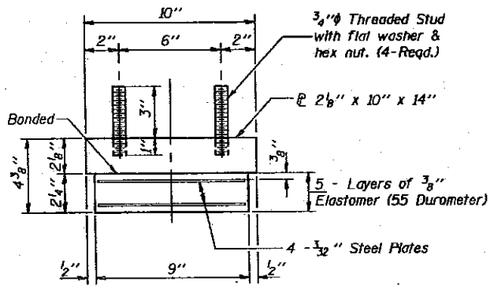


ELEVATION AT SOUTH ABUT.

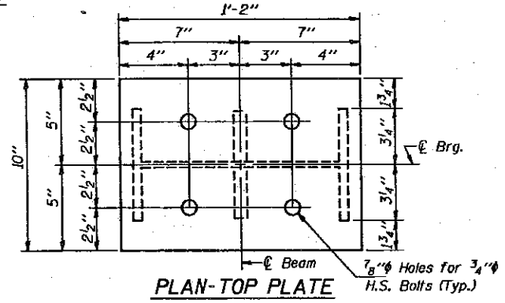


SECTION C-C

TYPE I ELASTOMERIC EXP. BRG.

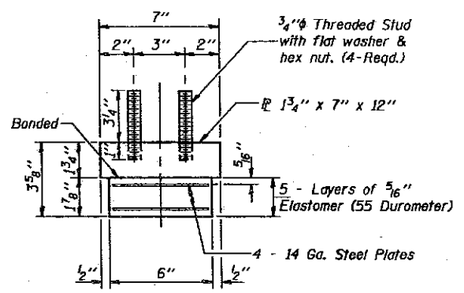


BEARING ASSEMBLY

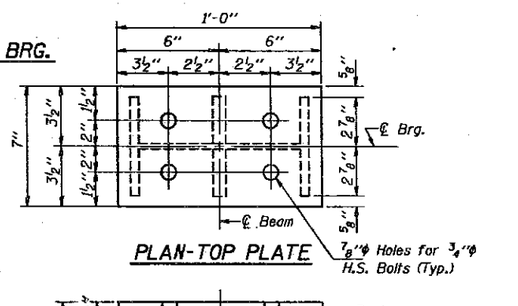


PLAN-TOP PLATE

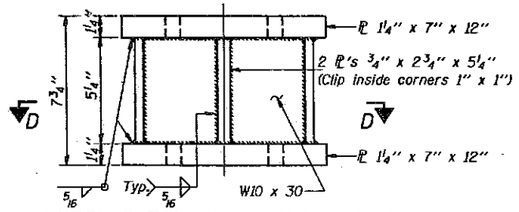
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

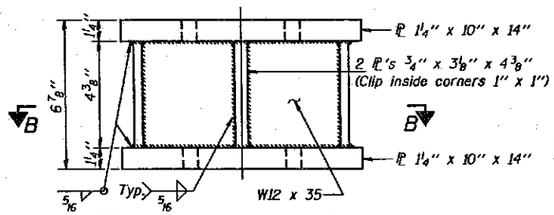


PLAN-TOP PLATE



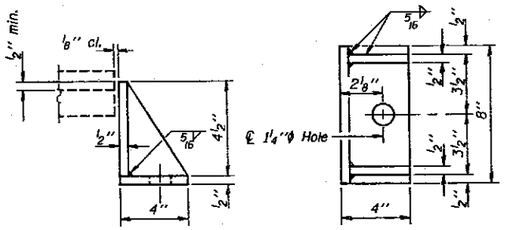
STEEL EXTENSION AT SOUTH ABUT.

Equivalent welded plates will be allowed in lieu of W10x30 section.



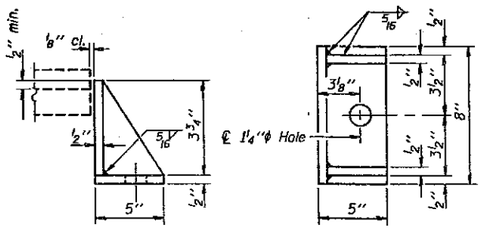
STEEL EXTENSION AT PIER 1

Equivalent welded plates will be allowed in lieu of W12 x 35 section.



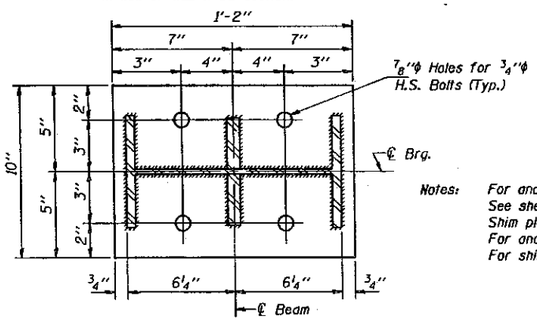
SIDE RETAINER

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



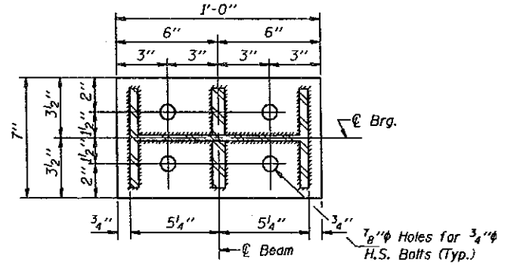
SIDE RETAINER

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



SECTION B-B

Notes:
For anchor bolt installation details see sheet #16 of 16.
See sheet #8 of 16 for Jack and Remove Existing Bearing Procedure.
Shim plates shall not be placed under Bearing Assembly.
For anchor bolt location see sheet #10 of 16.
For shim plate thickness see sheet #10 of 16.



SECTION D-D

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	14
Jack and Remove Existing Bearings	Each	14

DESIGNED John Sirone
CHECKED T.H.L. Sirone
DRAWN Joe Sutherland
CHECKED JLC PJC

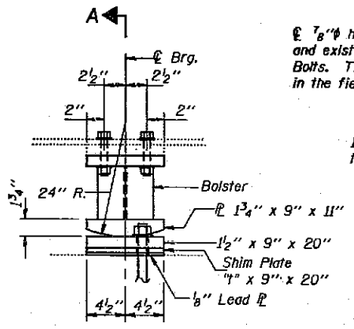
May 22 19 92
EXAMINED Engineer of Bridge Design
PASSED Ralph E. Anderson
Engineer of Bridges and Structures
APPROVED
Director of Highways

PIER 1 AND SOUTH ABUTMENT
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

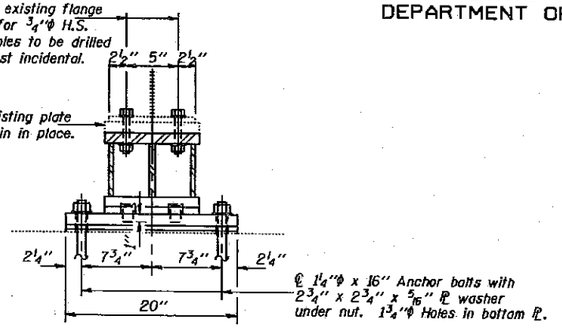
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 57	(28-2B)D	FRANKLIN	155	60
PROJ. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

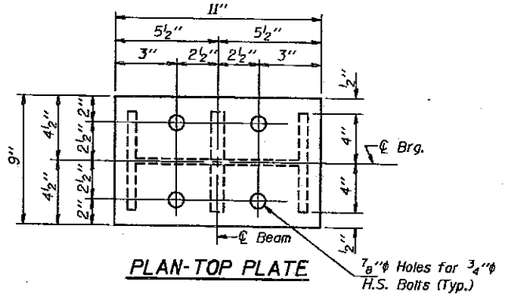
SHEET NO. 10
16 SHEETS



ELEVATION AT PIER 2

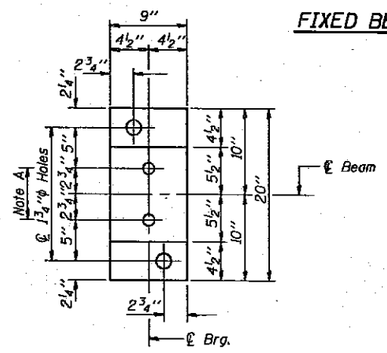


SECTION A-A

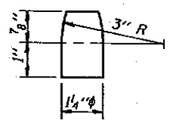


PLAN-TOP PLATE

FIXED BEARING

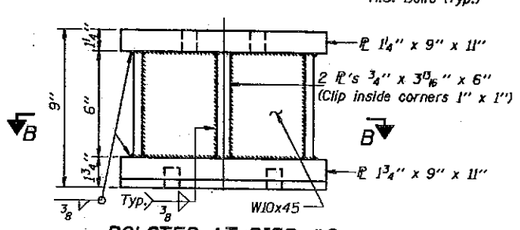


PLAN



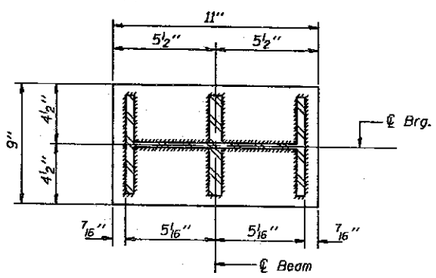
PINTLE

Note A:
1⅜"ϕ Holes-1" deep in bolster for 1¼"ϕ pintles. Thread or press fit in bottom ℄.



BOLSTER AT PIER #2

Equivalent welded plates will be allowed in lieu of W10x45 section.



SECTION B-B

* TABLE OF "t" DIMENSIONS

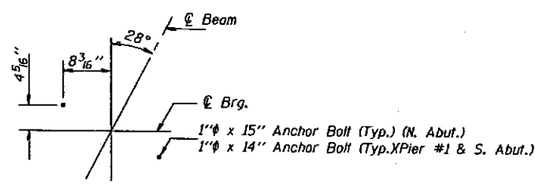
Location	N. Abut.	Pier #1	Pier #2	S. Abut.
Beam #1	1/2"	1/2"	1/2"	1/2"
Beam #2	9/16"	1/2"	9/16"	9/16"
Beam #3	7/8"	3/4"	13/16"	15/16"
Beam #4	13/16"	9/16"	3/4"	7/8"
Beam #5	1 1/4"	1"	1 1/8"	1 3/8"
Beam #6	1 1/4"	1"	1 1/8"	1 3/8"
Beam #7	1"	7/8"	15/16"	1 1/4"

FIELD SURVEY SEAT ELEVATIONS

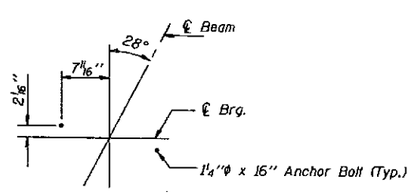
Location	N. Abut.	Pier #1	Pier #2	S. Abut.
Beam #1	418.16	417.95	417.88	417.82
Beam #2	418.27	418.07	418.00	417.94
Beam #3	418.35	418.16	418.09	418.03
Beam #4	418.40	418.22	418.15	418.09
Beam #5	418.33	418.16	418.09	418.03
Beam #6	418.24	418.08	418.01	417.95
Beam #7	418.11	417.96	417.89	417.83

* Based on the field survey seat elevations shown on this sheet. The Contractor shall verify these elevations in the field and make adjustments if necessary. Cost incidental.

Notes: For anchor bolt installation details see sheet #16 of 16.
See sheet #8 of 16 for Jack and Remove Existing Bearing Procedure.



PLAN AT N. ABUT.
S. ABUT. & PIER #1



PLAN AT PIER #2

DESIGNED	John Ciccone
CHECKED	T.J.L.
DRAWN	Joe Sutherland
CHECKED	JLC

May 22 1992

EXAMINED Engineer of Bridge Design
PASSED Ralph E. Anderson, Engineer of Bridges and Structures
APPROVED
Director of Highways

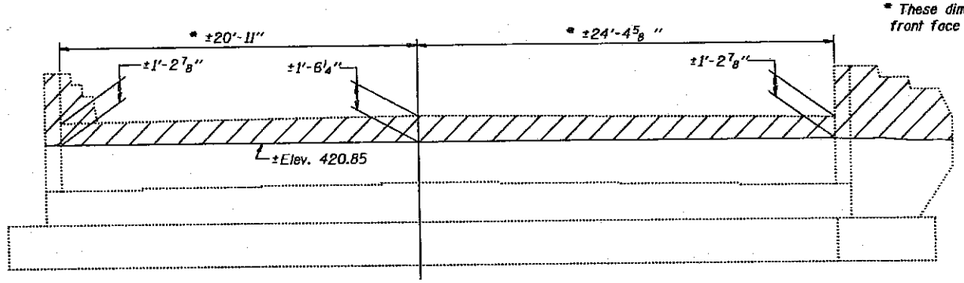
PIER 2
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT.	(28-2B)D	FRANKLIN	155	61
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

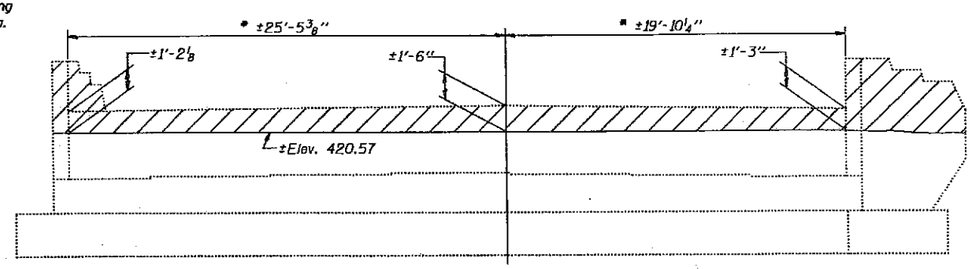
SHEET NO. 11
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

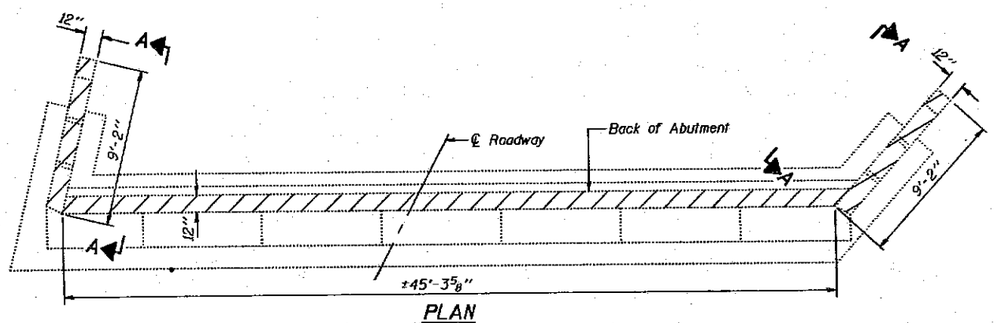
* These dimensions are along front face of hatched area.



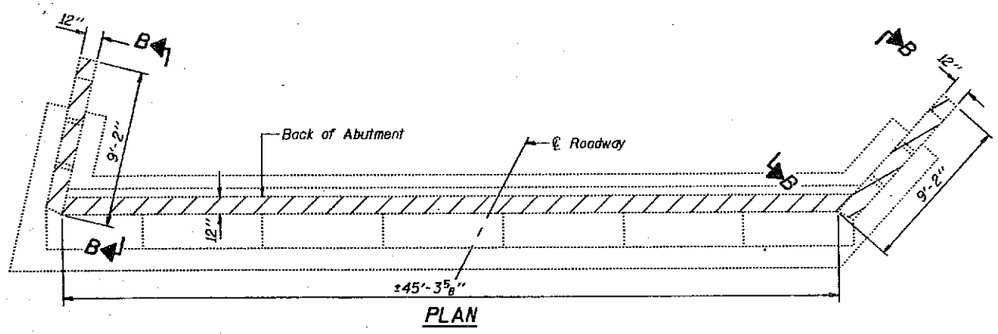
ELEVATION
(Looking North)



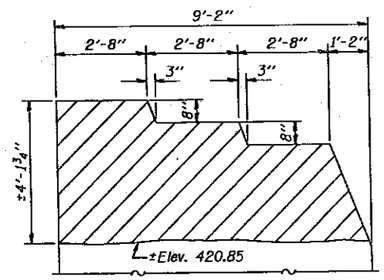
ELEVATION
(Looking South)



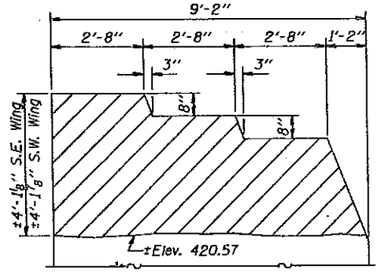
PLAN



PLAN



VIEW A-A



VIEW B-B

NORTH ABUTMENT DETAILS

SOUTH ABUTMENT DETAILS

Notes: Hatched areas indicate Concrete Removal.
For existing shoulder pavement removal see Roadway Plans.
Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.

TWO ABUTMENTS
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	9

CONCRETE REMOVAL DETAILS
FOR EXISTING ABUTMENTS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

DESIGNED	John Sicone
CHECKED	Patrick D. Shaw
DRAWN	Joe Sutherland
CHECKED	JLC PD

May 22 1992

EXAMINED Roy L. Hagen
ENGINEER OF BRIDGE DESIGN

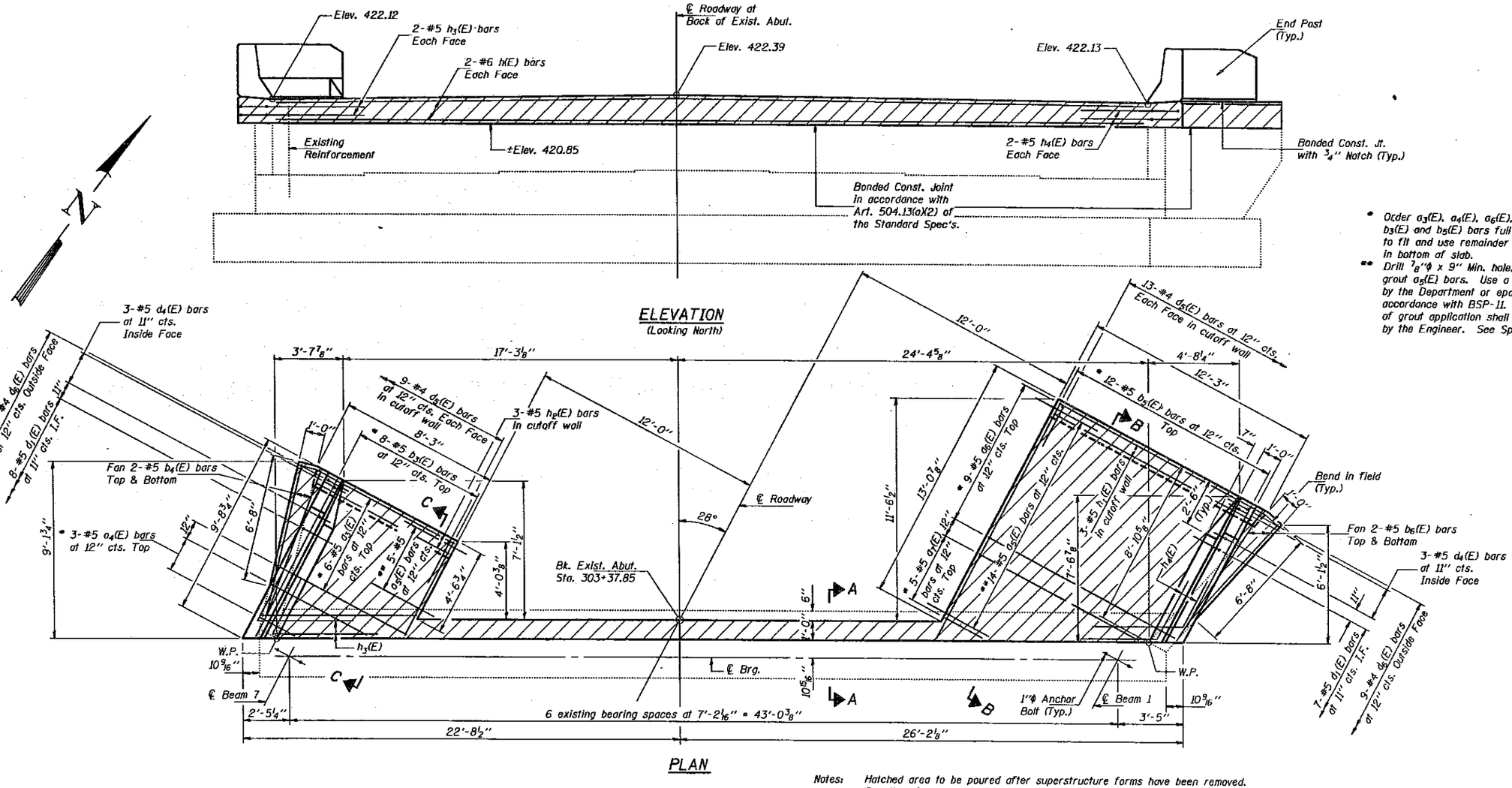
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 57	(28-2B)D	FRANKLIN	155	62
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
16 SHEETS



PLAN

* Order $a_3(E)$, $a_4(E)$, $a_6(E)$, $a_7(E)$, $b_3(E)$ and $b_5(E)$ bars full length. Cut to fit and use remainder of bars in bottom of slab.

** Drill $\frac{7}{8}$"ϕ x 9" Min. hole. Epoxy grout $a_5(E)$ bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete for hatched area and end post is included with "Class X Concrete Superstructure" on sheet #6 of 15.
Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
Reinforcement bars designated (E) shall be epoxy coated.
For anchor bolt installation details see sheet #16 of 15.
For anchor bolt location detail see sheet #10 of 16.
All edges shall have standard ¾" chamfer.
Work this sheet with sheet #13 of 16.

DESIGNED	John Ciccone
CHECKED	
DRAWN	R. Doty
CHECKED	JLC

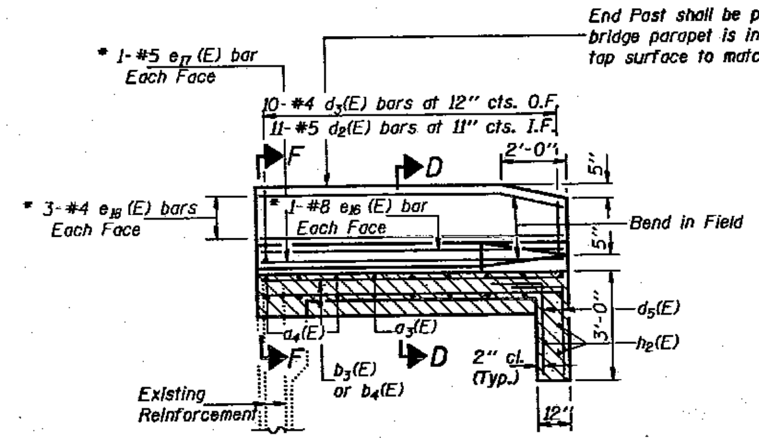
May 22 1992
EXAMINED Oraj O. Kaspar ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

NORTH ABUTMENT
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

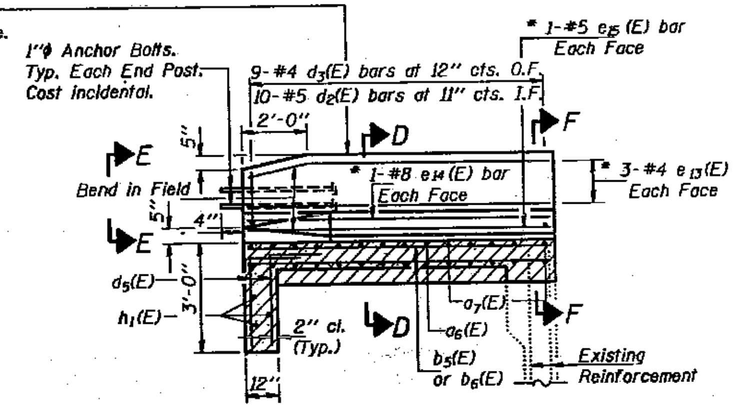
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	(28-2B)D	FRANKLIN	155	63
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

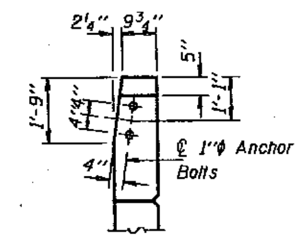


SECTION C-C

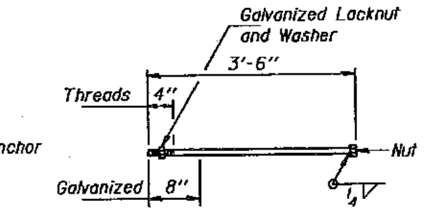


SECTION B-B

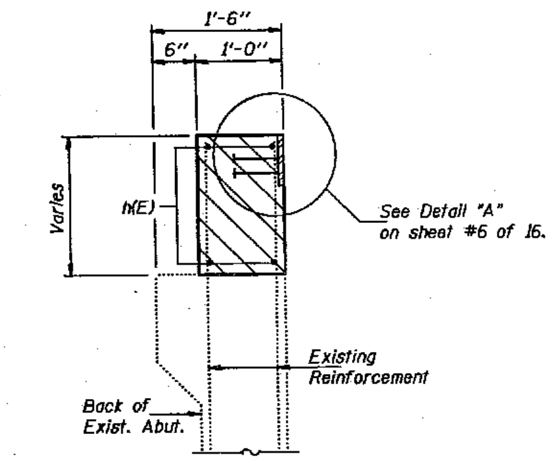
* Cut to fit. Cost incidental.



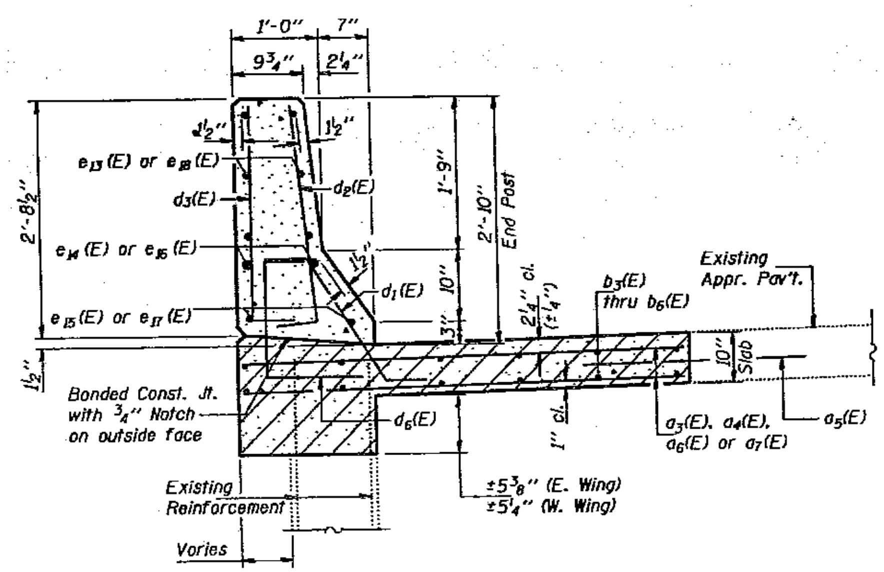
VIEW E-E



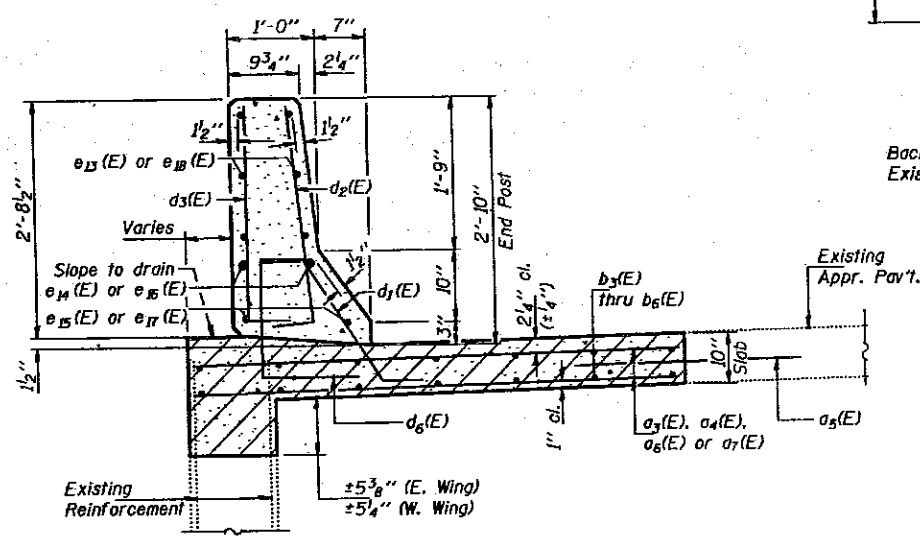
1"φ ANCHOR BOLT



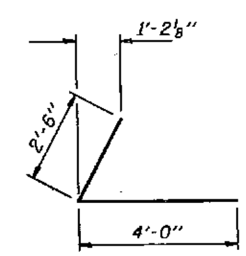
SECTION A-A



SECTION F-F



SECTION D-D

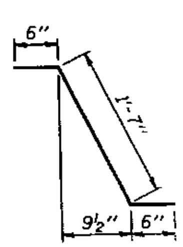


BAR h_3(E)

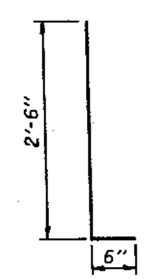
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_3(E)	6	#5	16'-4"	
a_4(E)	3	#5	7'-4"	
a_5(E)	19	#5	3'-0"	
a_6(E)	9	#5	24'-2"	
a_7(E)	5	#5	10'-4"	
b_3(E)	8	#5	14'-10"	
b_4(E)	4	#5	8'-2"	
b_5(E)	12	#5	21'-9"	
b_6(E)	4	#5	7'-9"	
d_1(E)	15	#5	2'-7"	
d_2(E)	21	#5	3'-0"	
d_3(E)	19	#4	3'-0"	
d_4(E)	6	#5	2'-4"	
d_5(E)	44	#4	4'-1"	
d_6(E)	19	#4	4'-0"	
e_{13}(E)	6	#4	8'-3"	
e_{14}(E)	2	#8	8'-3"	
e_{15}(E)	2	#5	8'-6"	
e_{16}(E)	2	#8	9'-5"	
e_{17}(E)	2	#5	9'-5"	
e_{18}(E)	6	#4	9'-5"	
h(E)	4	#6	45'-0"	
h_1(E)	3	#5	11'-9"	
h_2(E)	3	#5	7'-9"	
h_3(E)	4	#5	6'-6"	
h_4(E)	4	#5	6'-6"	
Reinforcement Bars, Epoxy Coated			Lbs.	1840
Structure Excavation			Cu. Yd.	11

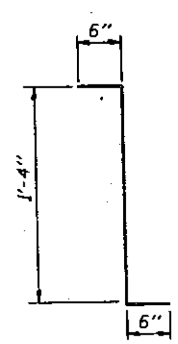
Reinforcement bars designated (E) shall be epoxy coated.



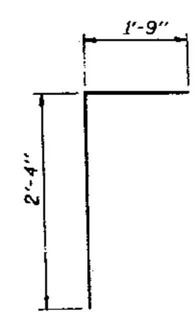
BAR d_1(E)



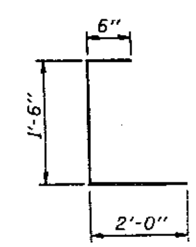
BARS d_2(E) & d_3(E)



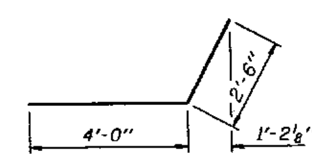
BAR d_4(E)



BAR d_5(E)



BAR d_6(E)



BAR h_4(E)

DESIGNED	John Ciccone
CHECKED	[illegible]
DRAWN	Joe Sutherland
CHECKED	JLC PJC

May 22 1992

EXAMINED [signature] ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

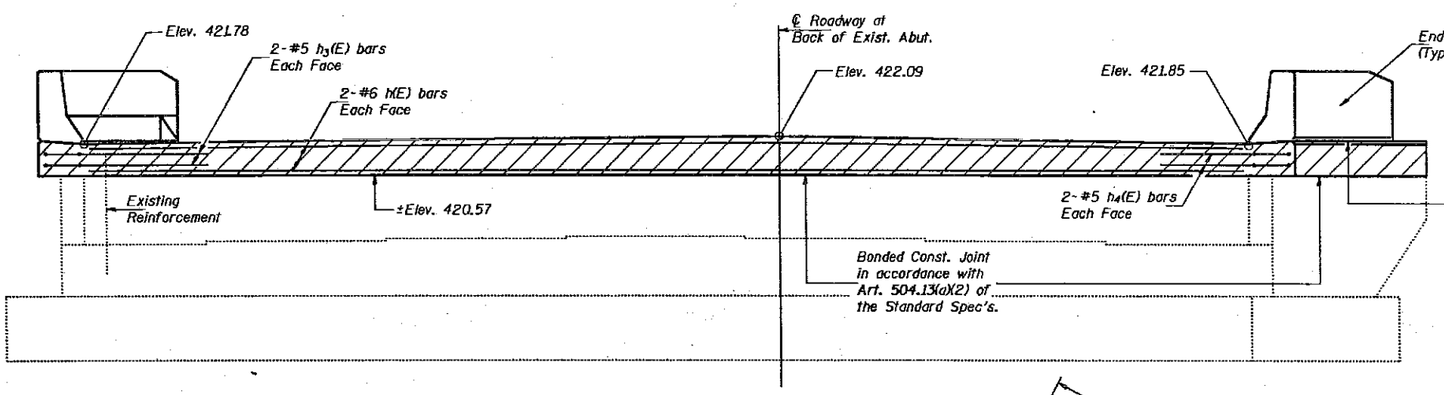
APPROVED DIRECTOR OF HIGHWAYS

NORTH ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

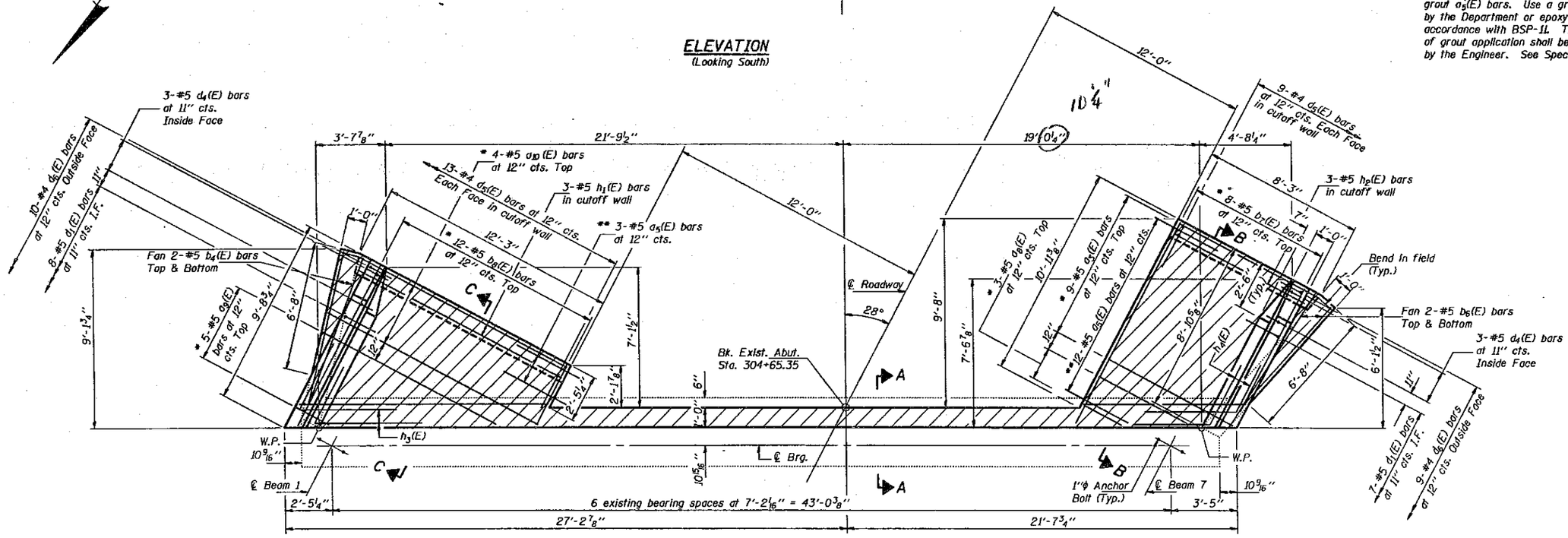
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 57	(28-2B)D	FRANKLIN	155	64
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 14
16 SHEETS



ELEVATION
(Looking South)



PLAN

* Order a_7(E), a_8(E), a_9(E), a_{10}(E), b_7(E) and b_8(E) bars full length. Cut to fit and use remainder of bars in bottom of slab.

** Drill 7/8"ϕ x 9" Min. hole. Epoxy grout a_5(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete for hatched area and end post is included with "Class X Concrete Superstructure" on sheet #6 of 16.
Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
Reinforcement bars designated (E) shall be epoxy coated.
For anchor bolt installation details see sheet #16 of 16.
For anchor bolt location detail see sheet #10 of 16.
All edges shall have standard 3/4" chamfer.
Work this sheet with sheet #15 of 16.

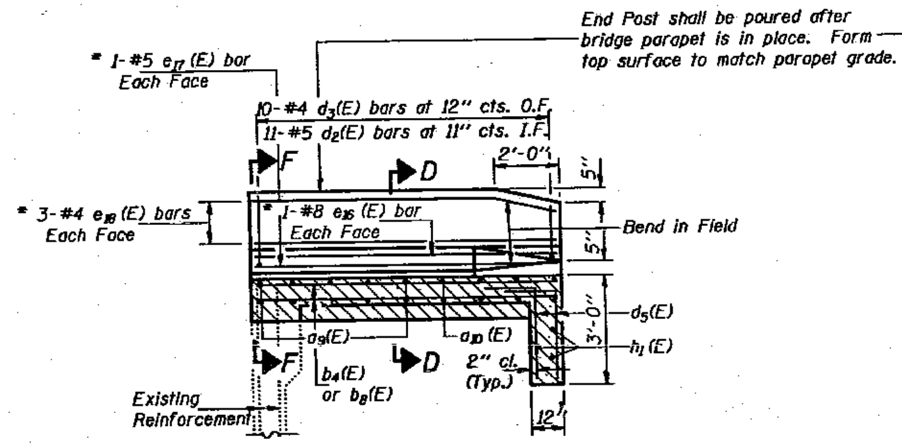
DESIGNED	John Sicone
CHECKED	P.D.C.
DRAWN	R. Doty
CHECKED	T.L.C. P.D.C.

May 22 1992
EXAMINED Raj D. Kaspar ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

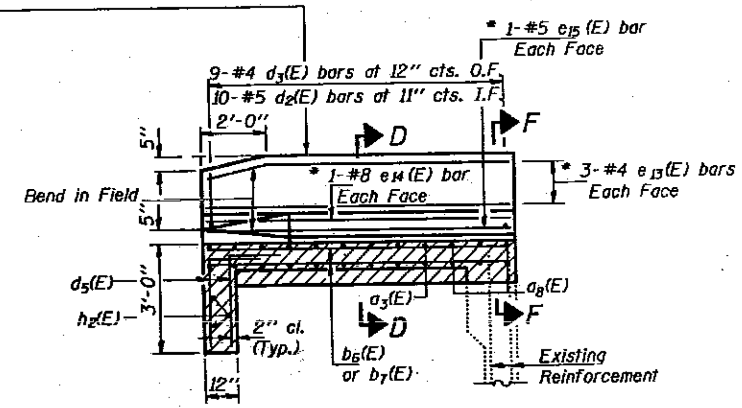
SOUTH ABUTMENT
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

F.A.I. 57	(28-2B)D	FRANKLIN	155	65	SHEET NO. 15
					16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

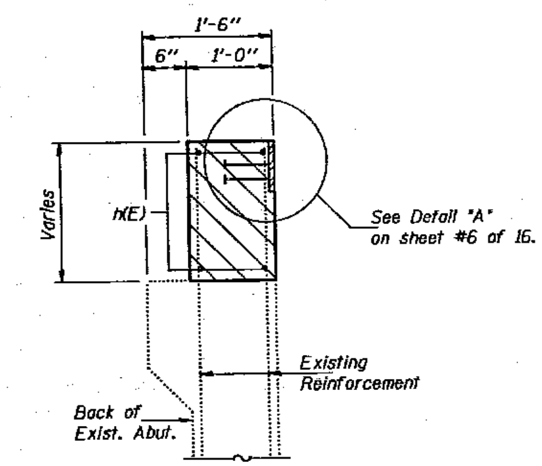


SECTION C-C

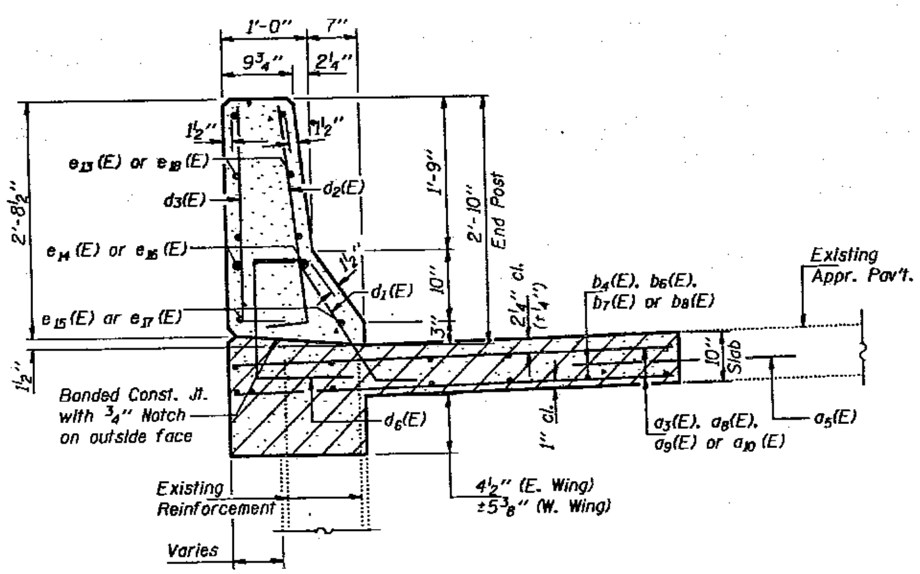


SECTION B-B

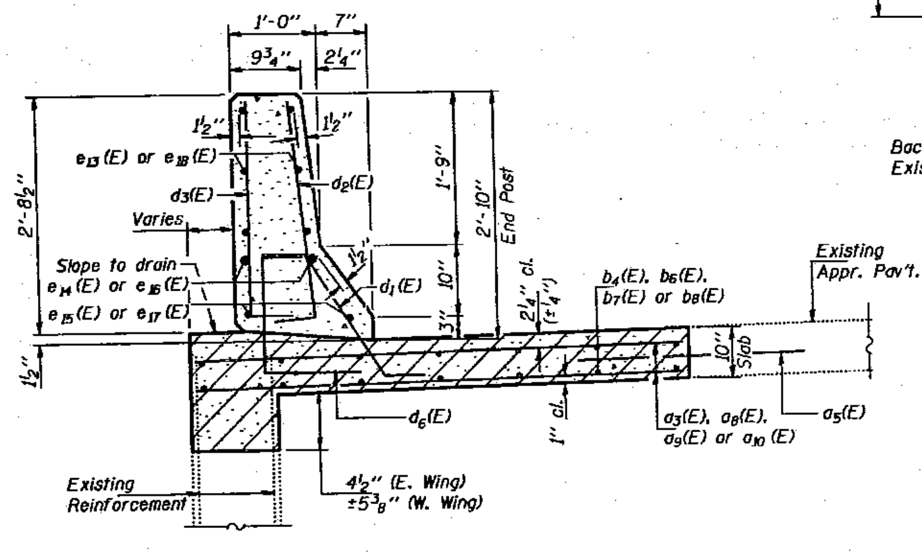
* Cut to fit. Cost incidental.



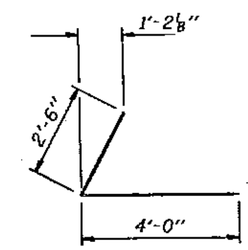
SECTION A-A



SECTION F-F



SECTION D-D

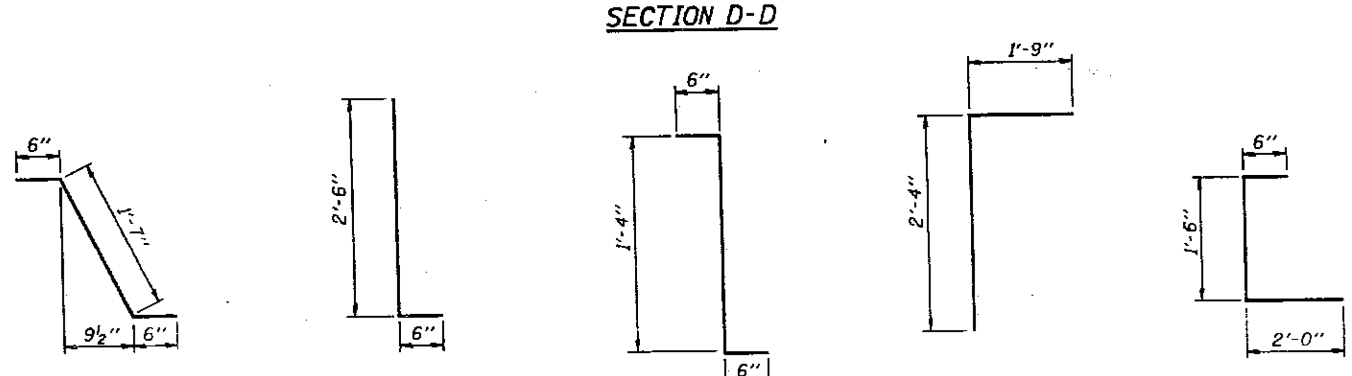


BAR h3(E)

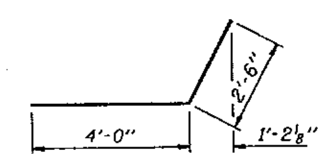
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_3(E)	9	#5	16'-4"	
a_5(E)	15	#5	3'-0"	
a_8(E)	3	#5	7'-0"	
a_9(E)	5	#5	13'-6"	
a_{10}(E)	4	#5	25'-2"	
b_4(E)	4	#5	8'-2"	
b_6(E)	4	#5	7'-9"	
b_7(E)	8	#5	19'-6"	
b_8(E)	12	#5	12'-9"	
d_1(E)	15	#5	2'-7"	
d_2(E)	21	#5	3'-0"	
d_3(E)	19	#4	3'-0"	
d_4(E)	6	#5	2'-4"	
d_5(E)	44	#4	4'-1"	
d_6(E)	19	#4	4'-0"	
e_{13}(E)	6	#4	8'-3"	
e_{14}(E)	2	#8	8'-3"	
e_{15}(E)	2	#5	8'-6"	
e_{16}(E)	2	#8	9'-5"	
e_{17}(E)	2	#5	9'-5"	
e_{18}(E)	6	#4	9'-5"	
h(E)	4	#6	45'-0"	
h_1(E)	3	#5	11'-9"	
h_2(E)	3	#5	7'-9"	
h_3(E)	4	#5	6'-6"	
h_4(E)	4	#5	6'-6"	
Reinforcement Bars, Epoxy Coated			Lbs.	1700
Structure Excavation			Cu. Yd.	11

Reinforcement bars designated (E) shall be epoxy coated.



BAR d_1(E) BARS d_2(E) & d_3(E) BAR d_4(E) BAR d_5(E) BAR d_6(E)



BAR h_4(E)

DESIGNED	John Ciccone
CHECKED	
DRAWN	Joe Sutherland
CHECKED	JLC

May 22 1992

EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

SOUTH ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

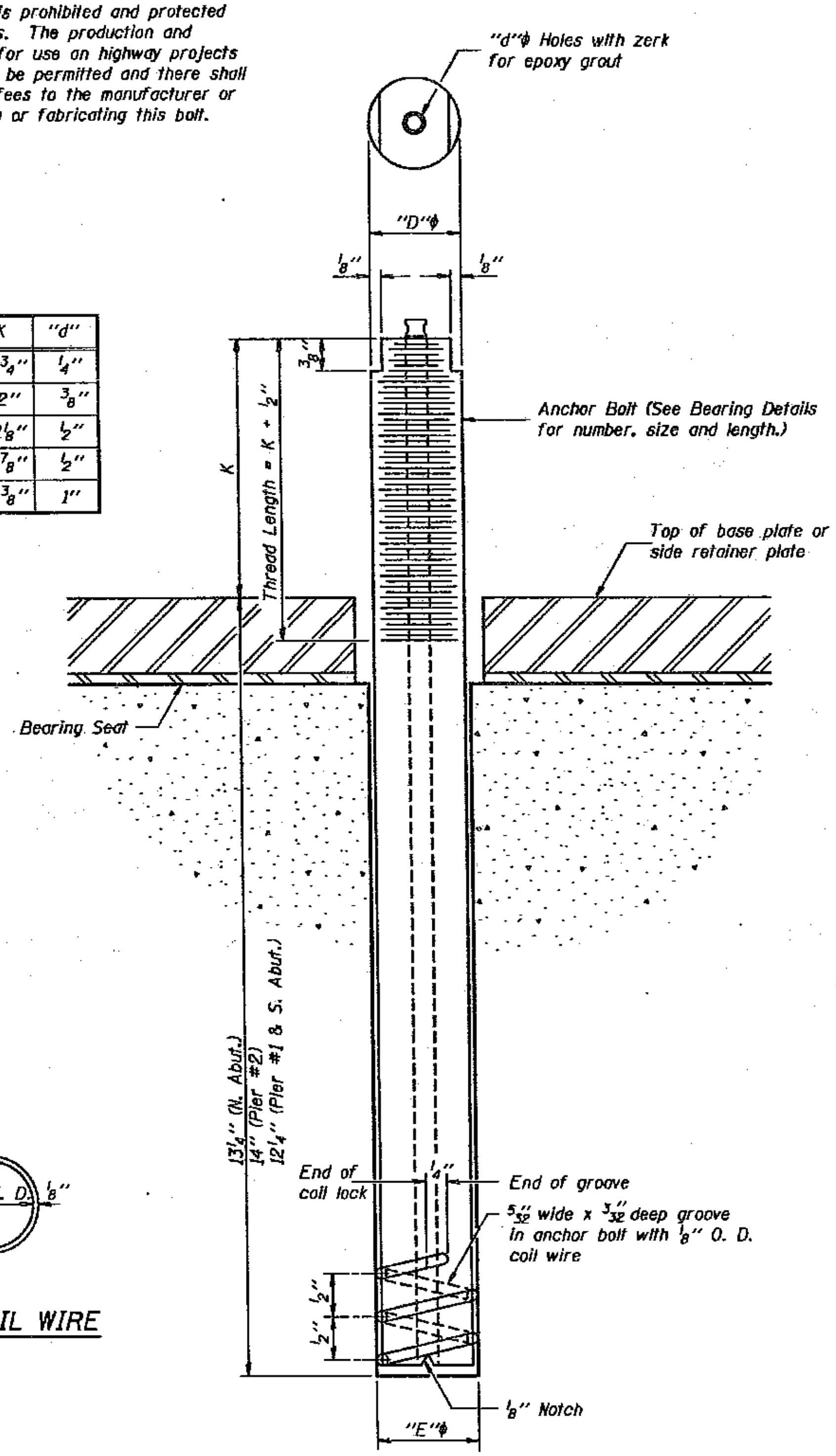
The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

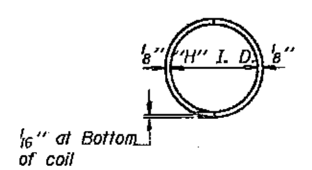
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-2B)D	FRANKLIN	155	66
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
16 SHEETS

D	E	H	K	"d"
1"	$1\frac{1}{8}$"	$\frac{13}{16}$"	$1\frac{3}{4}$"	$\frac{1}{4}$"
$1\frac{1}{4}$"	$1\frac{3}{8}$"	$1\frac{1}{16}$"	2"	$\frac{3}{8}$"
$1\frac{1}{2}$"	$1\frac{5}{8}$"	$1\frac{5}{16}$"	$2\frac{1}{8}$"	$\frac{1}{2}$"
2"	$2\frac{1}{8}$"	$1\frac{13}{16}$"	$2\frac{7}{8}$"	$\frac{1}{2}$"
$2\frac{1}{2}$"	$2\frac{5}{8}$"	$2\frac{5}{16}$"	$3\frac{3}{8}$"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

DESIGNED	John Cicone
CHECKED	Ethel S. Oman
DRAWN	Joe Sutherland
CHECKED	JLC, TDC

May 22 1992

EXAMINED Iraj J. Kaspar — ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

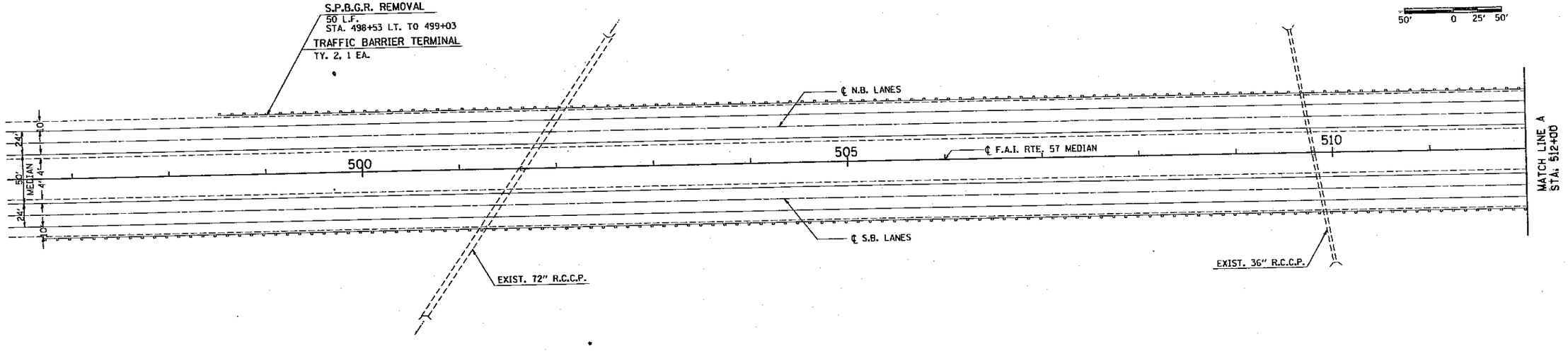
APPROVED — DIRECTOR OF HIGHWAYS

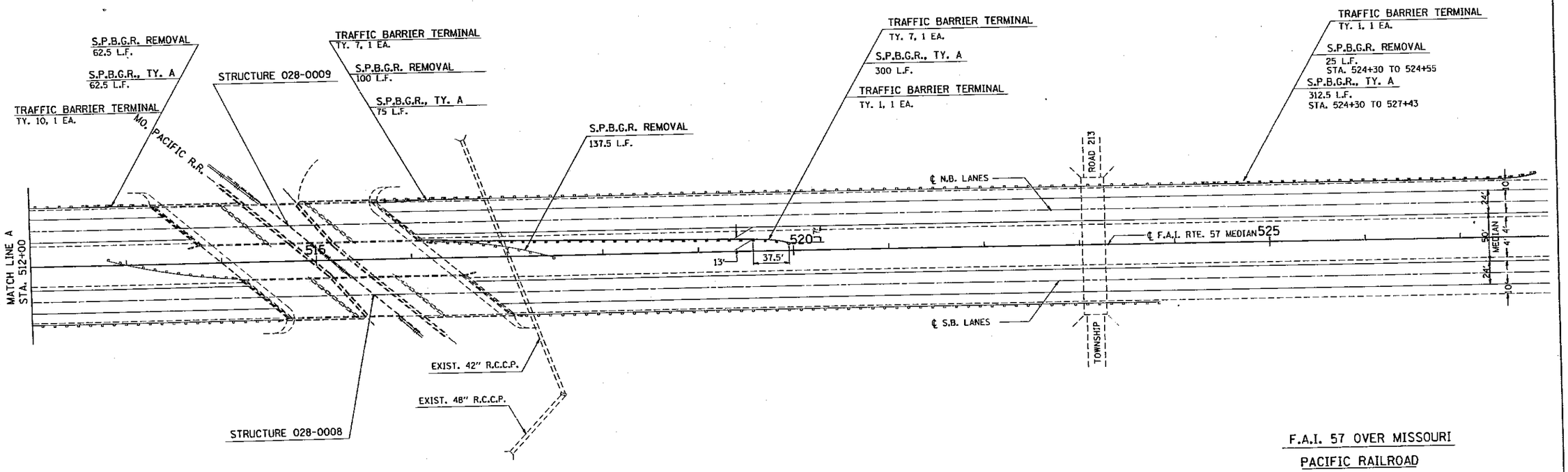
ABB-1 12-1-83

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.I. RT. 57 SEC. (28-2B)D
FRANKLIN COUNTY
STATION 304+25.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	67
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

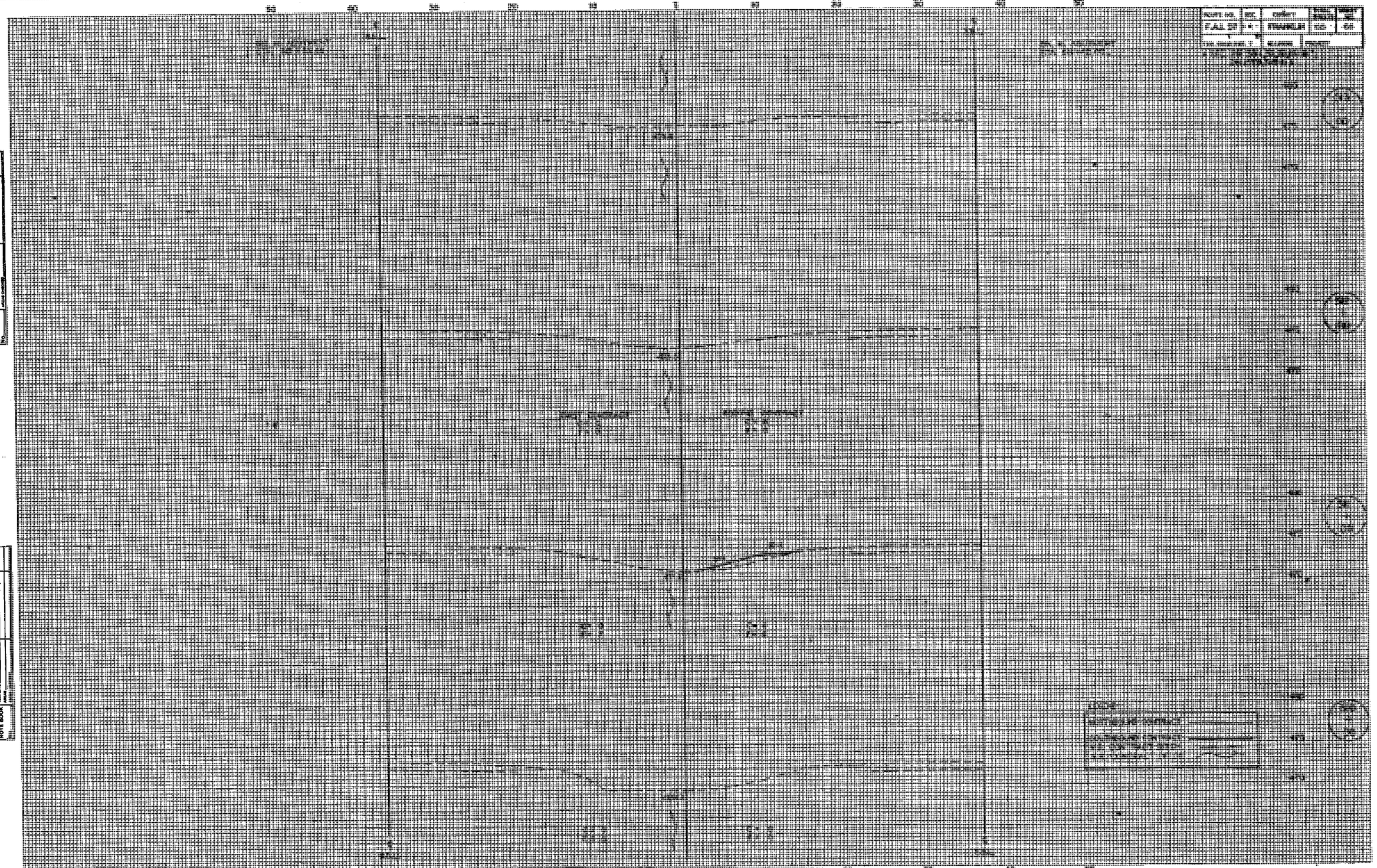
* 28 (5B-1, 5B, 2B, 1B) D; 28 (5VB, 3VB+11)I





F.A.I. 57 OVER MISSOURI
PACIFIC RAILROAD
CONSTRUCTION ALONG NORTHBOUND LANES
(NORTHBOUND CONTRACT)

F.A.I. RTE. 57 OVER MISSOURI PACIFIC RAILROAD

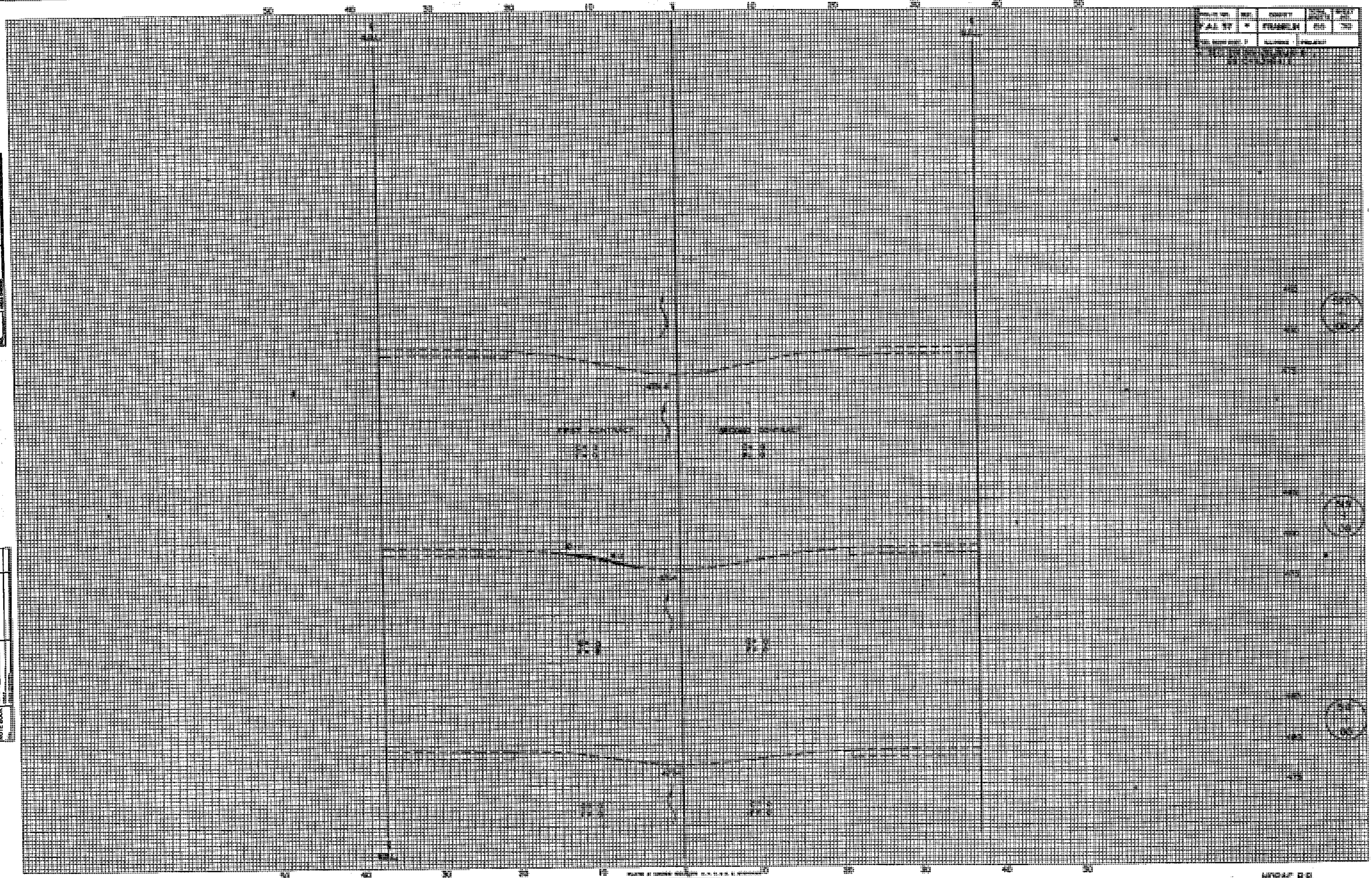


FINAL SURVEY NOTE BOOK NO.

DATE
SURVEYED
PLOTTED
TRAVERSE
AREA COMPUTED

ORIGINAL SURVEY NOTE BOOK NO.

DATE
SURVEYED
PLOTTED
TRAVERSE
AREA COMPUTED

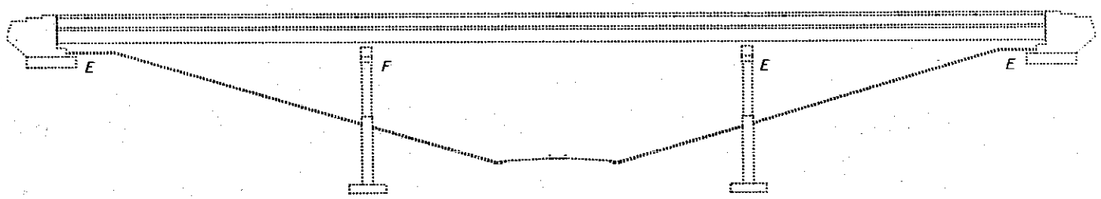


FINAL SURVEY
NOTE BOOK

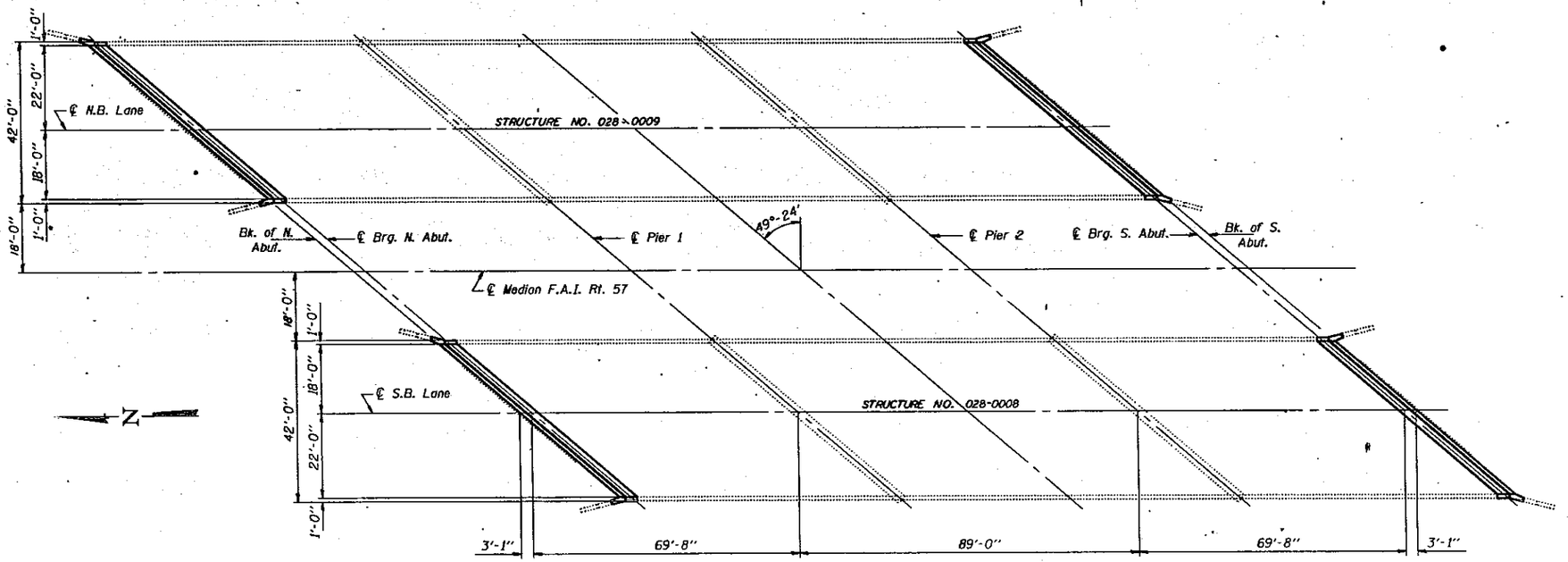
ORIGINAL SURVEY
NOTE BOOK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

					SHEET NO. 1
F.A.I. 57		FRANKLIN	155	71	4 SHEETS



ELEVATION



PLAN

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31. M-42 or M-53 Grade 60.

Traffic control shall be determined by the District.

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale, and all other foreign material shall be removed from the embedded portions of flanges of girders. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP11 for Power Tool Cleaning or SP2 for Hand Tool Cleaning. Cost shall be incidental to Concrete Removal.

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

The first bridge Post and Insert at each corner shall be removed, cleaned and reinstalled in new construction. Cost incidental to "Concrete Removal".

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANITY
Concrete Removal	Cu. Yd.	42.8
Class X Concrete	Cu. Yd.	41.5
Reinforcement Bars, Epoxy Coated	Pound	7860
Neoprene Expansion Joint 2"	Lin. Ft.	250

NOTE: QUANTITIES IN THE ABOVE BILL OF MATERIAL ARE FOR BOTH BRIDGES.

DESIGNED	Paul Summer
CHECKED	BRT
DRAWN	Paul Summer
CHECKED	BRT

February 7, 1992

EXAMINED _____ ENGINEER OF STRUCTURAL SERVICES

PASSED _____ ENGINEER OF BRIDGES AND STRUCTURES

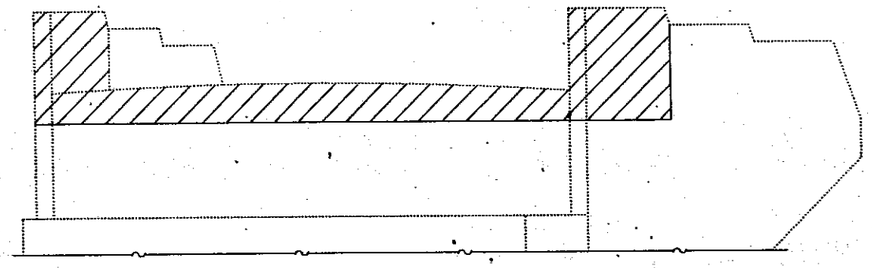
APPROVED _____ DIRECTOR OF HIGHWAYS

JOINT REPLACEMENT DETAILS
F.A.I. RT. 57 SEC. (28-3VB-1) I
FRANKLIN COUNTY
STA. 515+16.08
STR. No. ~~028-0008 &~~ 028-0009

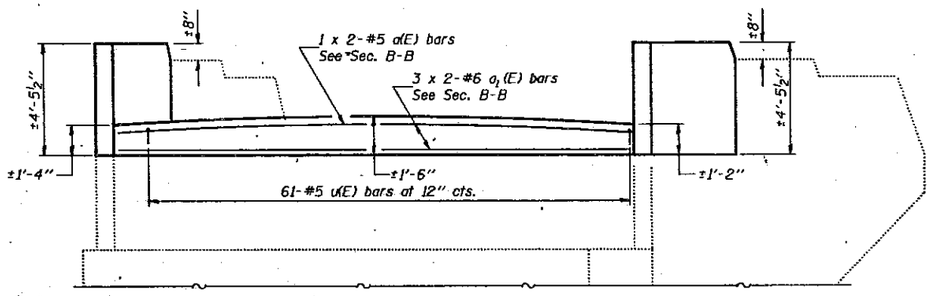
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57		FRANKLIN	155	72
PROJ. NUMB. SEQT. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
4 SHEETS



EXISTING ELEVATION



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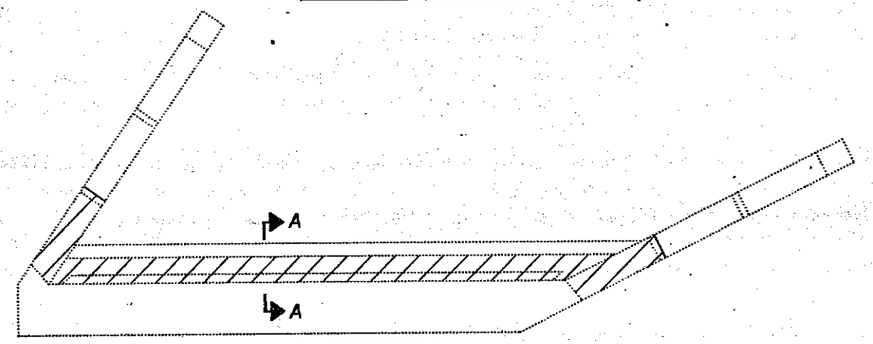
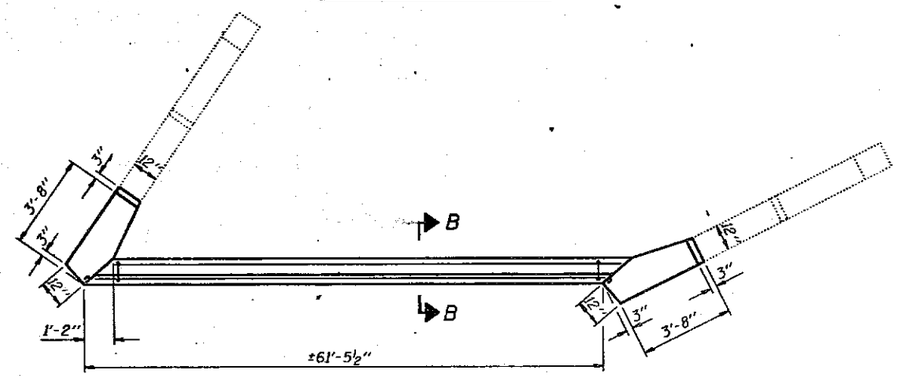
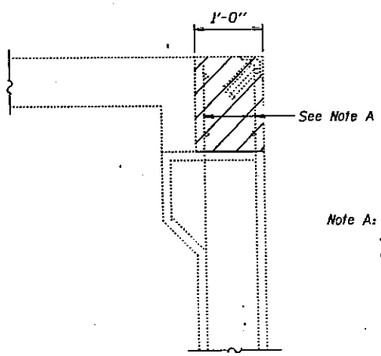


EXISTING PLAN

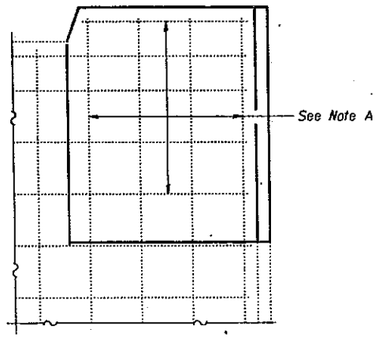


PROPOSED PLAN



SECTION A-A

Note A: Existing Reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost incidental to "Concrete Removal.



WING WALL ELEVATION

Notes: For Section A-A and B-B see Sheet 3.
For bar details and Bill of Material see Sheet 3.
Bars indicated thus 3 x 2-#6 ect. indicates 3 lines of bars with 2 lengths per line.
Reinforcement bars designated (E) shall be epoxy coated.
Hatched area indicates Concrete Removal.

DESIGNED	Paul Summer
CHECKED	BRT
DRAWN	Paul Summer
CHECKED	BRT

February 7 1992

EXAMINED Todd E. Ridenour
ENGINEER OF STRUCTURAL SERVICES

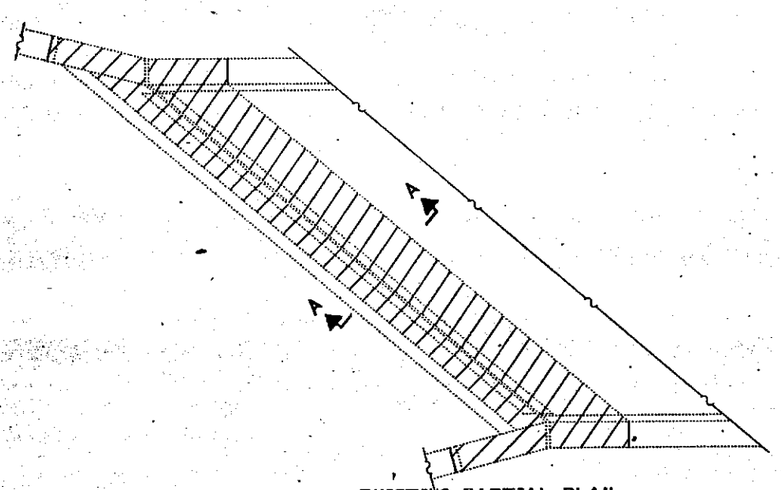
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

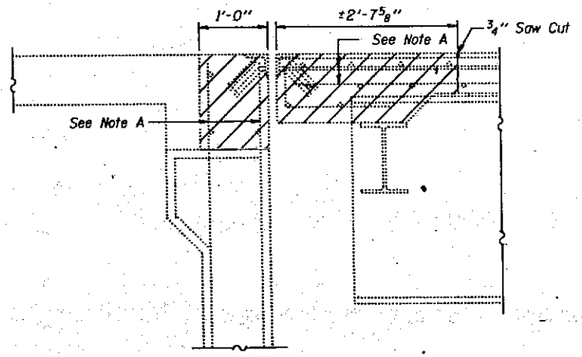
JOINT REPLACEMENT DETAILS
F.A.I. RT. 57 SEC. (28-3VB-1) I
FRANKLIN COUNTY
STA. 515+16.08
STR. No. ~~028-0008 &~~ 028-0009

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	JOB NO.	SHEET NO.
F.A.I. 57		FRANKLIN	155	73
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		4 SHEETS



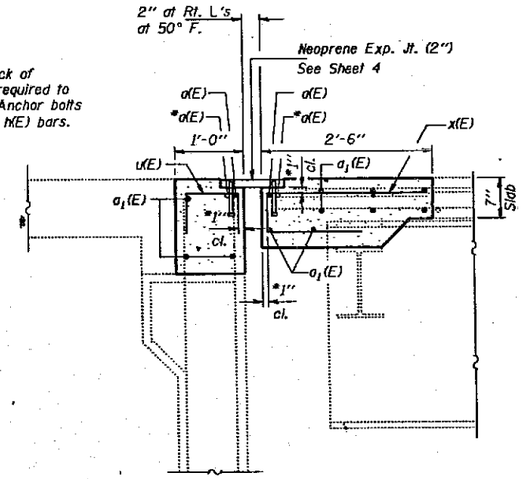
EXISTING PARTIAL PLAN



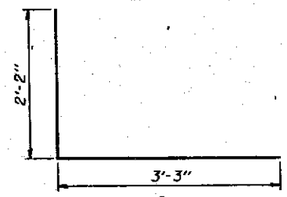
SECTION A-A

Note A: Existing Reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost incidental to "Concrete Removal.

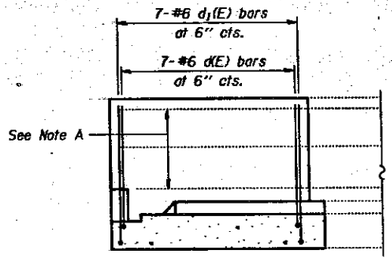
*Place a(E) bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-⅛"). Anchor bolts should be tied to a(E) and h(E) bars.



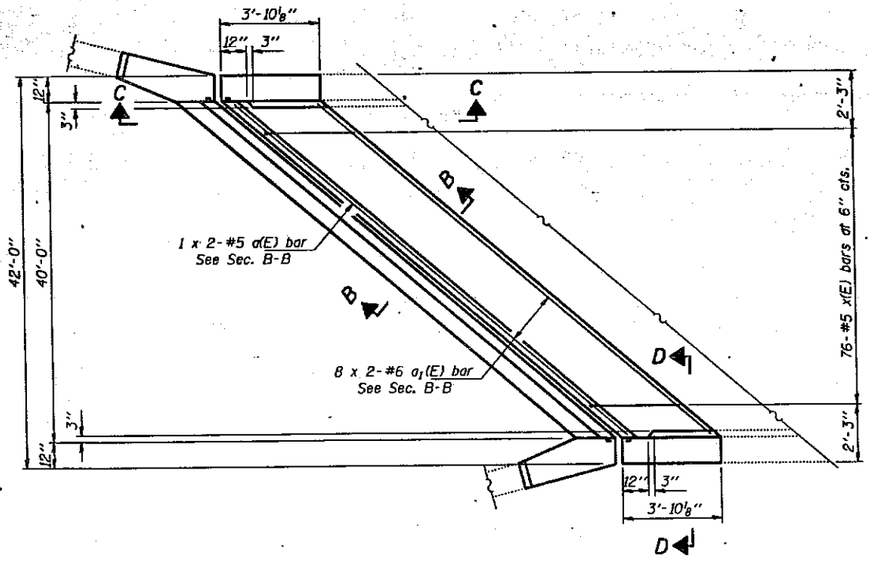
SECTION B-B



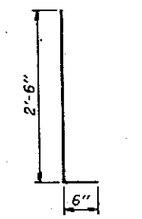
BAR d(E)



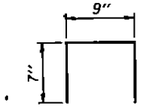
SECTION C-C



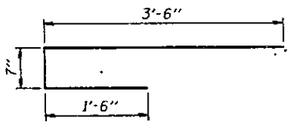
PROPOSED PARTIAL PLAN



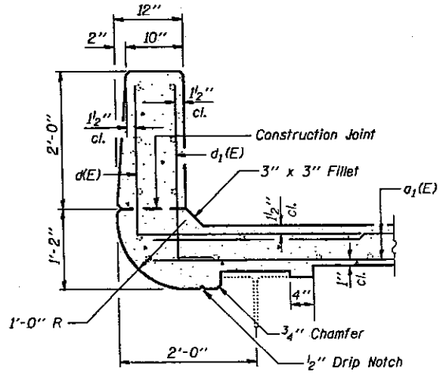
BAR d1(E)



BAR u(E)



BAR x(E)



SECTION D-D

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	16	#5	32'-7"	
a1(E)	88	#6	32'-10"	
d(E)	56	#6	5'-6"	
d1(E)	56	#6	3'-0"	
u(E)	244	#5	1'-11"	
x(E)	304	#5	5'-7"	
Concrete Removal			Cu. Yd.	42.8
Class X Concrete			Cu. Yd.	41.5
Reinforcement Bars, Epoxy Coated			Lbs.	7860

Notes: Bars indicated thus 3 x 2-#6 ect. indicates 3 lines of bars with 2 lengths per line.
Reinforcment bars designated (E) shall be epoxy coated.
Hatched area indicates Concrete Removal.
QUANTITIES IN THE ABOVE BILL OF MATERIAL ARE FOR BOTH BRIDGES.

DESIGNED	Paul Summer
CHECKED	BRT
DRAWN	Paul Summer
CHECKED	BRT

February 7 1992
EXAMINED Todd E. Hanson
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

JOINT REPLACEMENT DETAILS
F.A.I. RT. 57 SEC. (28-3VB-1) I
FRANKLIN COUNTY
STA. 515+16.08
STR. No. ~~028-0008 &~~ 028-0009

SHEET 75 A

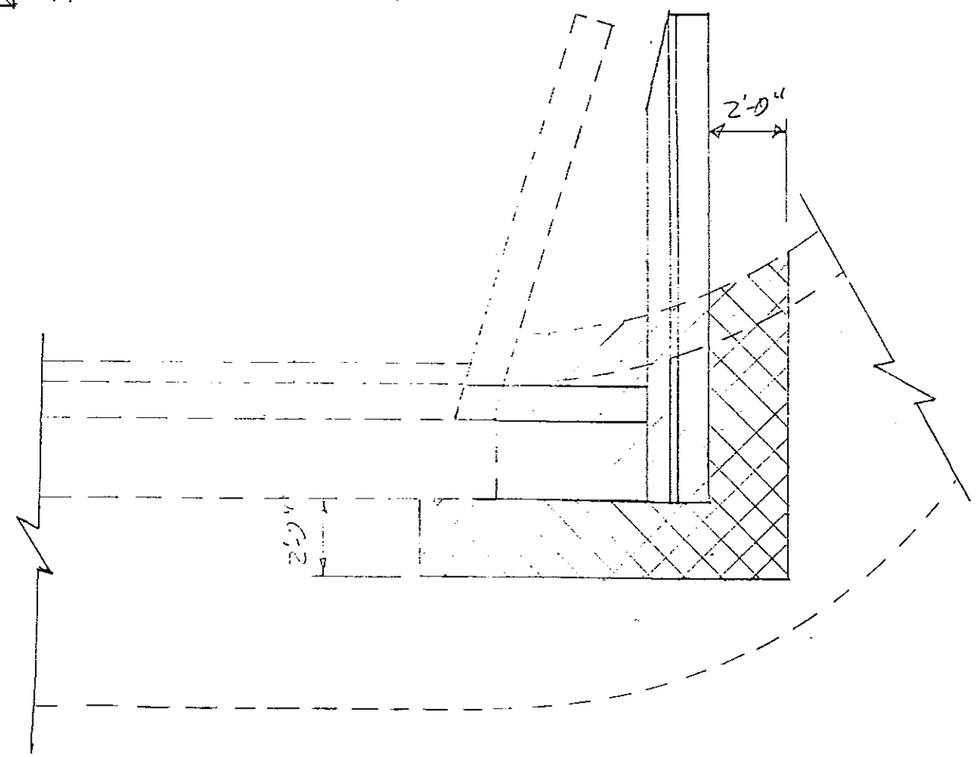
DETAIL OF SLOPEWALL REMOVAL & REPLACEMENT

(TO BE USED AT WEST CORNERS OF MIDDLE FORK BIG MUDDY RIVER BRIDGE)

LEGEND

SLOPEWALL REMOVAL

PROPOSED SLOPEWALL, 6"



F.A.I. RTE. 57 OVER MIDDLE FORK BIG MUDDY RIVER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4
F.A.I. 57		FRANKLIN	155	74.	4 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

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

INSTALLATION NOTES

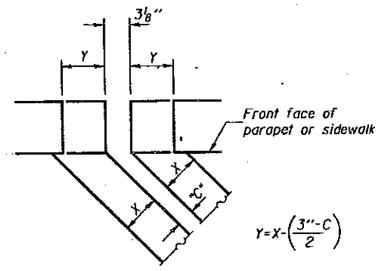
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

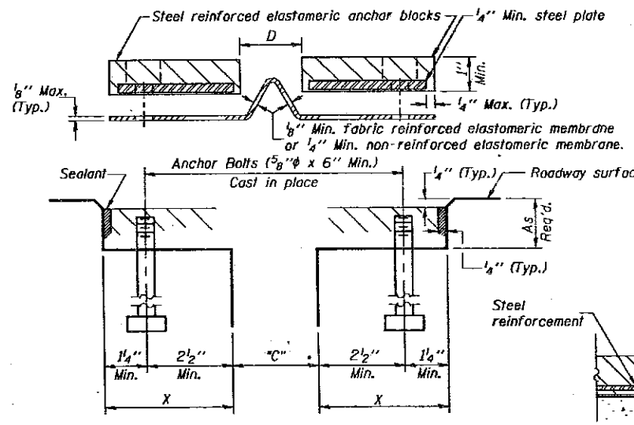
SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

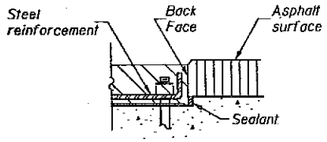
For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

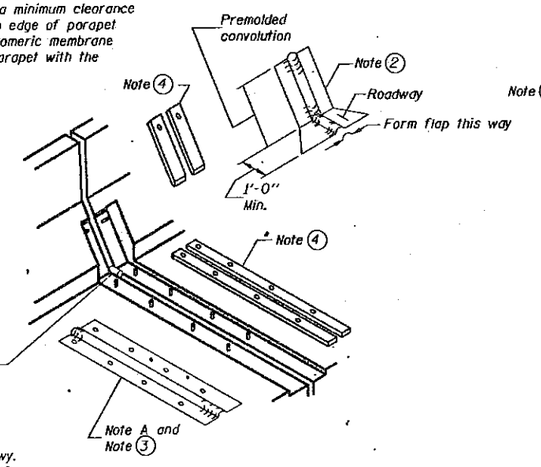
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

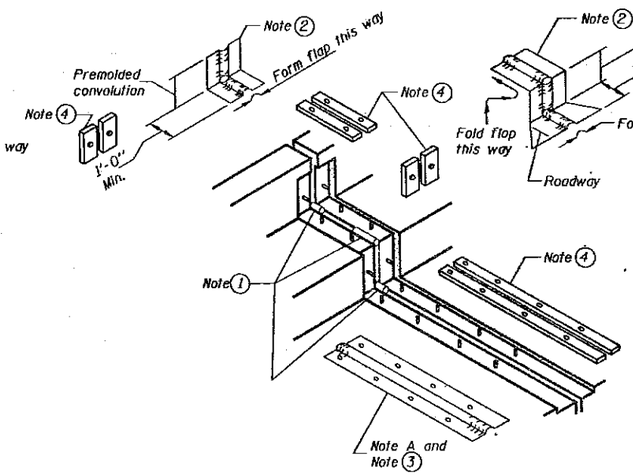
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

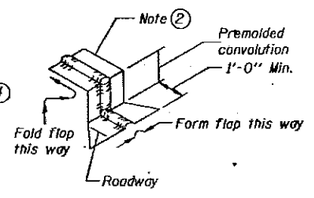
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.

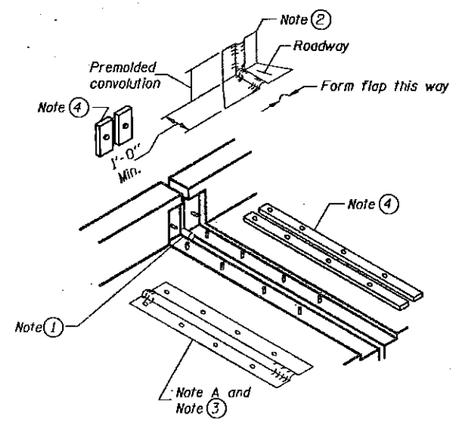


AT PARAPET

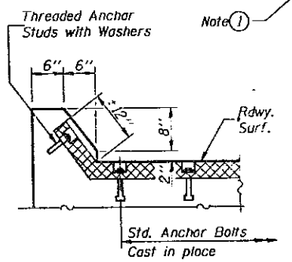


AT SIDEWALK OR MEDIAN

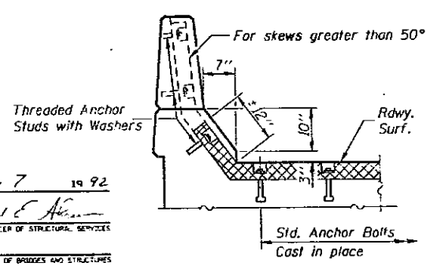




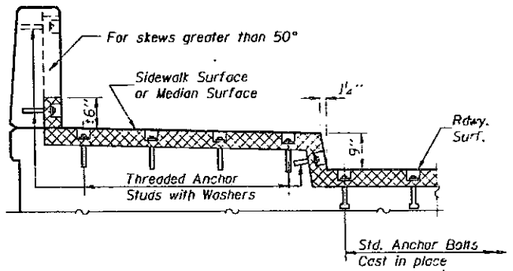
AT WALL



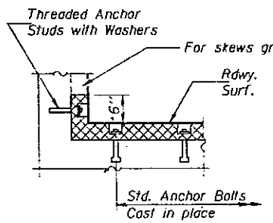
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS



AT WALL

DESIGNED	Paul Summer
CHECKED	BRT
DRAWN	Paul Summer
CHECKED	BRT

February 7 19 92

EXAMINED _____ ENGINEER OF STRUCTURAL SERVICES

PASSED _____ ENGINEER OF BRIDGES AND STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

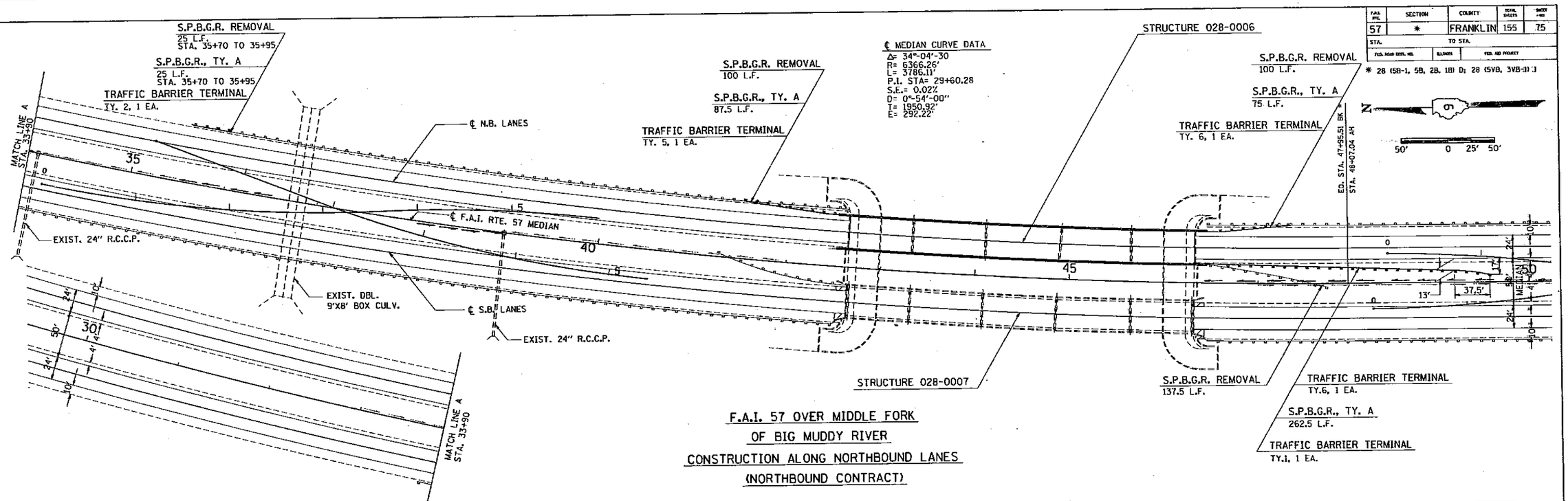
EJ-CS 6-1-89

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

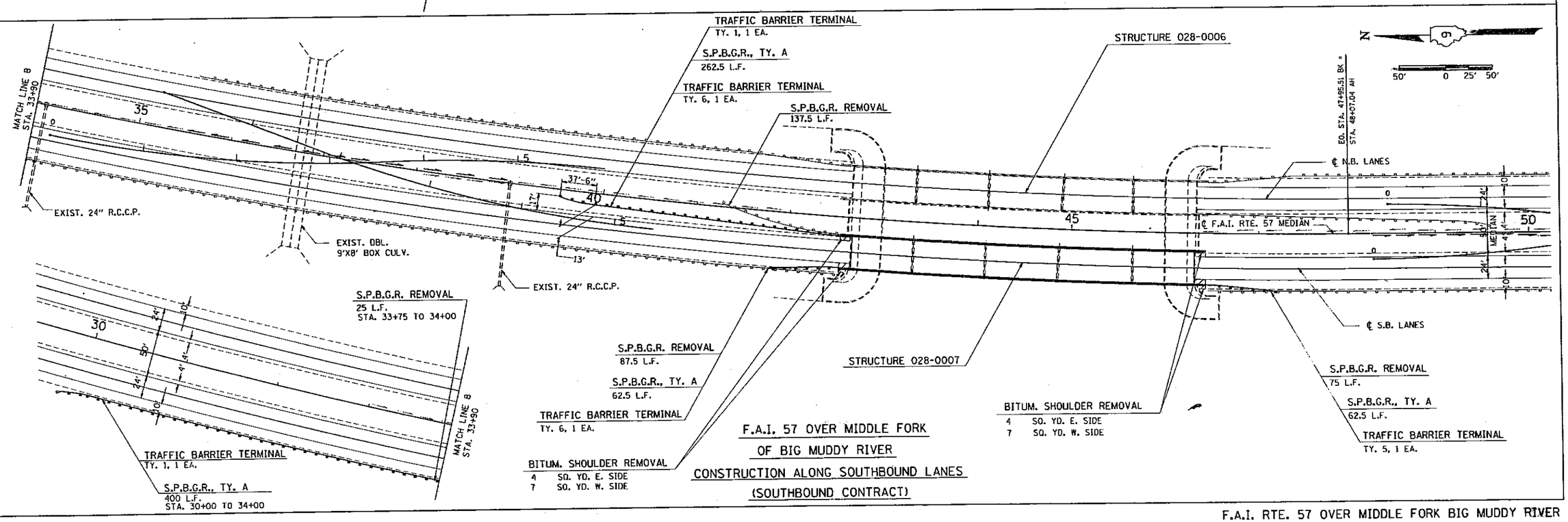
JOINT REPLACEMENT DETAILS
F.A.I. RT. 57 SEC. (28-3VB-1) I
FRANKLIN COUNTY
STA. 515+16.08
STR. No. ~~028-0008 &~~ 028-0009

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	75
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (5B-1, 5B, 2B, 1B) D; 28 (5VB, 3VB-1) D



F.A.I. 57 OVER MIDDLE FORK
OF BIG MUDDY RIVER
CONSTRUCTION ALONG NORTHBOUND LANES
(NORTHBOUND CONTRACT)



F.A.I. 57 OVER MIDDLE FORK
OF BIG MUDDY RIVER
CONSTRUCTION ALONG SOUTHBOUND LANES
(SOUTHBOUND CONTRACT)

DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET # NO
57	*	FRANKLIN	155	76
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (5B-1, 5B, 2B, 1B) D ; 28 (5VB, 3VB-1) 1

NOTE: WIDENED SHLD TO TEN FT TO MATCH NEW DECK (BOTH SIDES)

EQ. STA. 35+20.00 BK. (37' LT. ℄ I-57)=
STA. 0+00 AH. (℄ CROSSOVER NO. 2)

BITUMINOUS SHOULDER REMOVAL
45 SQ. YD.
LT. STA. 35+50 TO STA. 36+51

℄ CROSSOVER NO. 3
(S.B. CLOSED)

BIT. SHLD. REM.
Rt 39+47 - 42+62

EQ. P.T. STA. 5+92.20 BK. (℄ CROSSOVER NO. 3)=
27' LT. STA. 39+98.01 AH. (℄ I-57)

BITUMINOUS SHOULDER REMOVAL
197 SQ. YD.
LT. STA. 38+22 TO STA. 42+64.15

BITUMINOUS SHOULDER REMOVAL
7 SQ. YD.

℄ F.A.I. RTE. 57 MEDIAN

BITUMINOUS SHOULDER REMOVAL
121 SQ. YD.
RT. STA. 33+90 TO STA. 36+62

EXIST. 24" R.C.C.P.

EXIST. DBL.
9'X8' BOX CULV.

EQ. STA. 34+10.00 BK. (31' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

℄ CROSSOVER NO. 2
(N.B. CLOSED)

EXIST. 24" R.C.C.P.

BITUMINOUS SHOULDER REMOVAL
155 SQ. YD.
RT. STA. 38+07 TO STA. 41+55.6

EQ. P.T. STA. 5+41.38 BK. (℄ CROSSOVER NO. 2)=
31' RT. STA. 40+55.57 (℄ I-57)

BIT SHLD REM.
Lt. 38+55 - 42+40

MIDDLE FORK OF BIG MUDDY RIVER

N

50' 0 25' 50'

CURVE DATA
CROSSOVER NO. 2

P.I. STA= 3+61.23
Δ= 14°-29'-25"
D= 4°-00'-00"
R= 1432.39'
T= 182.10'
L= 362.26'
E= 11.53'
P.C. STA= 1+79.13
P.T. STA= 5+41.38

CURVE DATA
CROSSOVER NO. 3

P.I. STA= 1+82.10
Δ= 14°-29'-25"
D= 4°-00'-00"
R= 1432.39'
T= 182.10'
L= 362.26'
E= 11.53'
P.C. STA= 0+00.00
P.T. STA= 3+62.25

P.I. STA= 4+77.48
Δ= 9°-11'-53"
D= 4°-00'-00"
R= 1432.39'
T= 115.22'
L= 229.95'
E= 4.63'
P.C. STA= 3+62.25
P.T. STA= 5+92.21

EQ. STA. 35+20.00 BK. (37' LT. ℄ I-57)=
STA. 0+00 AH. (℄ CROSSOVER NO. 2)

EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 2

PROP. PROFILE ALONG
℄ CROSSOVER NO. 2

PROP. BITUMINOUS
MIXTURE COMPLETE, 14"

EQ. P.T. STA. 5+41.38 BK. (℄ CROSSOVER NO. 2)=
31' RT. STA. 40+55.57 (℄ I-57)

EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT

B.M. TOP OF IRON PIN & CAP
25' LT. OF ℄ OF S.B. LANES.
ELEV. 391.01 STA. 40+00

EQ. STA. 34+10.00 BK. (31' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 3

EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT

PROP. PROFILE ALONG
℄ CROSSOVER NO. 3

PROP. BITUMINOUS
MIXTURE COMPLETE, 14"

EQ. P.T. STA. 5+92.20 BK. (℄ CROSSOVER NO. 3)=
27' T. STA. 39+98.01 AH. (℄ I-57)

EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT

395
390

F.A.I. RTE. 57 OVER MIDDLE FORK BIG MUDDY RIVER

FAI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	77
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (SB-1, SB, 2B, 1B) D ; 28 (SVB, 3VB-11.1

N

50' 0 25' 50'

EQ. STA. 48+49.41 BK. (31' LT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)

BITUMINOUS SHOULDER REMOVAL
7 SQ. YD.

EQ. STA. 47+95.51 BK. =
STA. 48+07.04 AH

BITUMINOUS SHOULDER REMOVAL
193 SQ. YD.
LT. STA. 48+33.85 TO STA. 50+67

BIT. SHLD. REM.
Rt 46+35 - 50+00

℄ CROSSOVER NO. 1
(N.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
107 SQ. YD.
LT. STA. 51+86 TO STA. 54+27.4

EQ. P.T. STA. 5+77.44 BK. (℄ CROSSOVER NO. 1)=
31' LT. STA. 54+07.39 (℄ I-57)

℄ F.A.I. RTE. 57 MEDIAN

BITUMINOUS SHOULDER REMOVAL
137 SQ. YD.
RT. STA. 47+22.3 TO STA. 50+30

EXISTING INLET SHALL BE COVERED WITH A STEEL PLATE, OR OTHERWISE PROTECTED AS APPROVED BY THE ENGINEER BEFORE CONSTRUCTING THE CROSSOVER EMBANKMENT. THIS WORK SHALL BE INCLUDED IN THE COST OF THE OTHER ITEMS OF CROSSOVER CONSTRUCTION.

EXIST. 24" R.C.C.P.

EQ. STA. 4+86.92 BK. (℄ CROSSOVER NO. 4)=
37' RT. STA. 53+30.62 AH. (℄ I-57)

BITUMINOUS SHOULDER REMOVAL
41 SQ. YD.
RT. STA. 52+13 TO STA. 53+06

TEMPORARY GUARDRAIL
137.5 LIN. FT.
(INCLUDES ONE TY. 10 TERM., AND ONE TY. 4 TERM.)

MIDDLE FORK OF BIG MUDDY RIVER

EQ. STA. 48+33.85 BK. (27' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)

BIT. SHLD. REM.
Lt 46+46 - 49+10

℄ CROSSOVER NO. 4
(S.B. CLOSED)

CURVE DATA
CROSSOVER NO. 1

P.I. STA= 1+44.85
Δ= 11°-32'-56"
D= 4°-00'-00"
R= 1432.39'
T= 144.85'
L= 288.72'
E= 7.31'
P.C. STA= 0+00.00
P.T. STA= 2+88.72

P.I. STA= 4+33.57
Δ= 11°-32'-56"
D= 4°-00'-00"
R= 1432.39'
T= 144.85'
L= 288.72'
E= 7.31'
P.C. STA= 2+88.72
P.T. STA= 5+77.44

CURVE DATA
CROSSOVER NO. 4

P.I. STA= 1+35.14
Δ= 11°-05'-45"
D= 4°-00'-00"
R= 1432.39'
T= 135.14'
L= 269.41'
E= 6.74'
P.C. STA= 0+00.00
P.T. STA= 2+69.41

PLAN
SURVEYED
PLOTTED
GRADES CHECKED
PLT. OF ABV. CHECKED
ADD FILE NAME
NOTE BOOK
NO.
DATE
BY

B.M. "□" CUT IN N.E. HANDRAIL AT N.E. CORNER OF WEST BRIDGE, STA. 44+49 ELEV. 395.13

EQ. STA. 48+33.85 BK. (27' RT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)

EQ. STA. 47+95.47 BK. =
STA. 48+07.04 AH.

EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 1

PROP. PROFILE ALONG ℄ CROSSOVER NO. 1

PROP. BITUMINOUS MIXTURE COMPLETE, 14"

EQ. P.T. STA. 5+77.44 BK. (℄ CROSSOVER NO. 1)=
31' LT. STA. 54+07.39 (℄ I-57)

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

EQ. STA. 48+49.41 BK. (31' LT. ℄ I-57)=
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)

EQ. STA. 47+95.47 BK. =
STA. 48+07.04 AH.

EXIST. PROFILE ALONG MEDIAN EDGE OF N.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE ALONG ℄ CROSSOVER NO. 4

PROP. PROFILE ALONG ℄ CROSSOVER NO. 4

PROP. BITUMINOUS MIXTURE COMPLETE, 14"

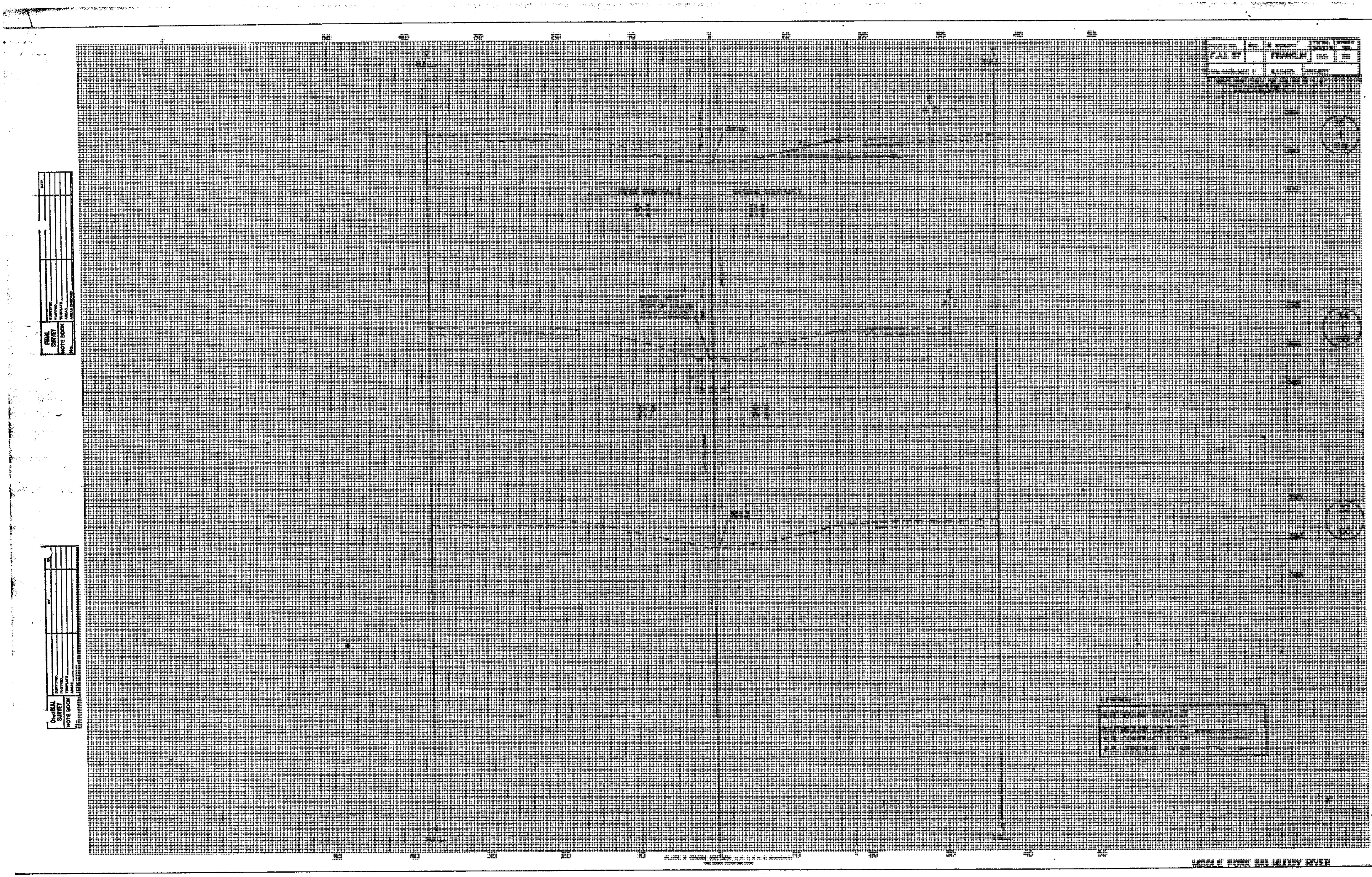
EQ. STA. 4+86.92 BK. (℄ CROSSOVER NO. 4)=
37' RT. STA. 53+30.62 AH. (℄ I-57)

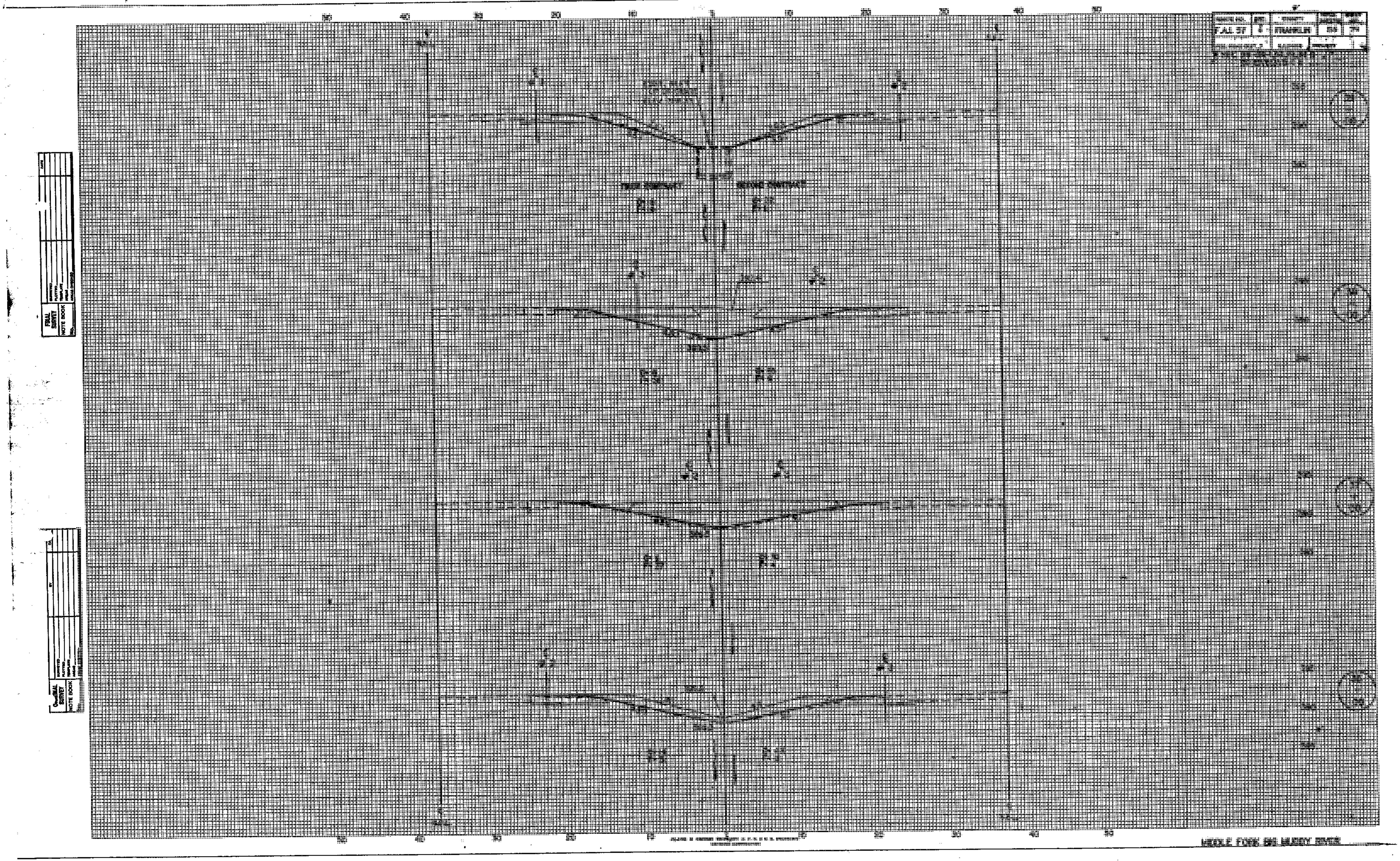
EXIST. PROFILE ALONG MEDIAN EDGE OF S.B. PAVEMENT

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
DATE

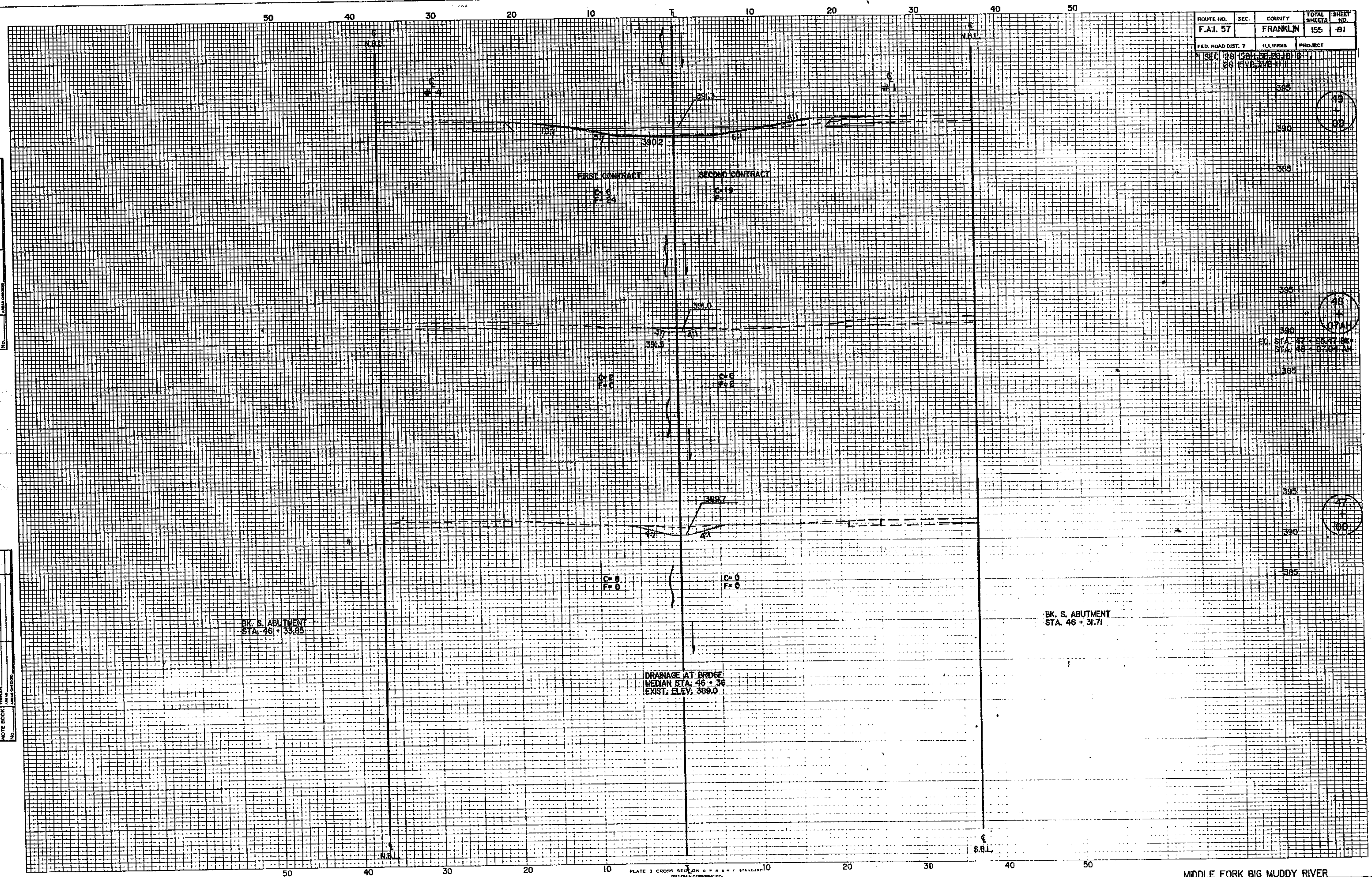
VIEW FROM NORTH

F.A.I. RTE. 57 OVER MIDDLE FORK BIG MUDDY RIVER

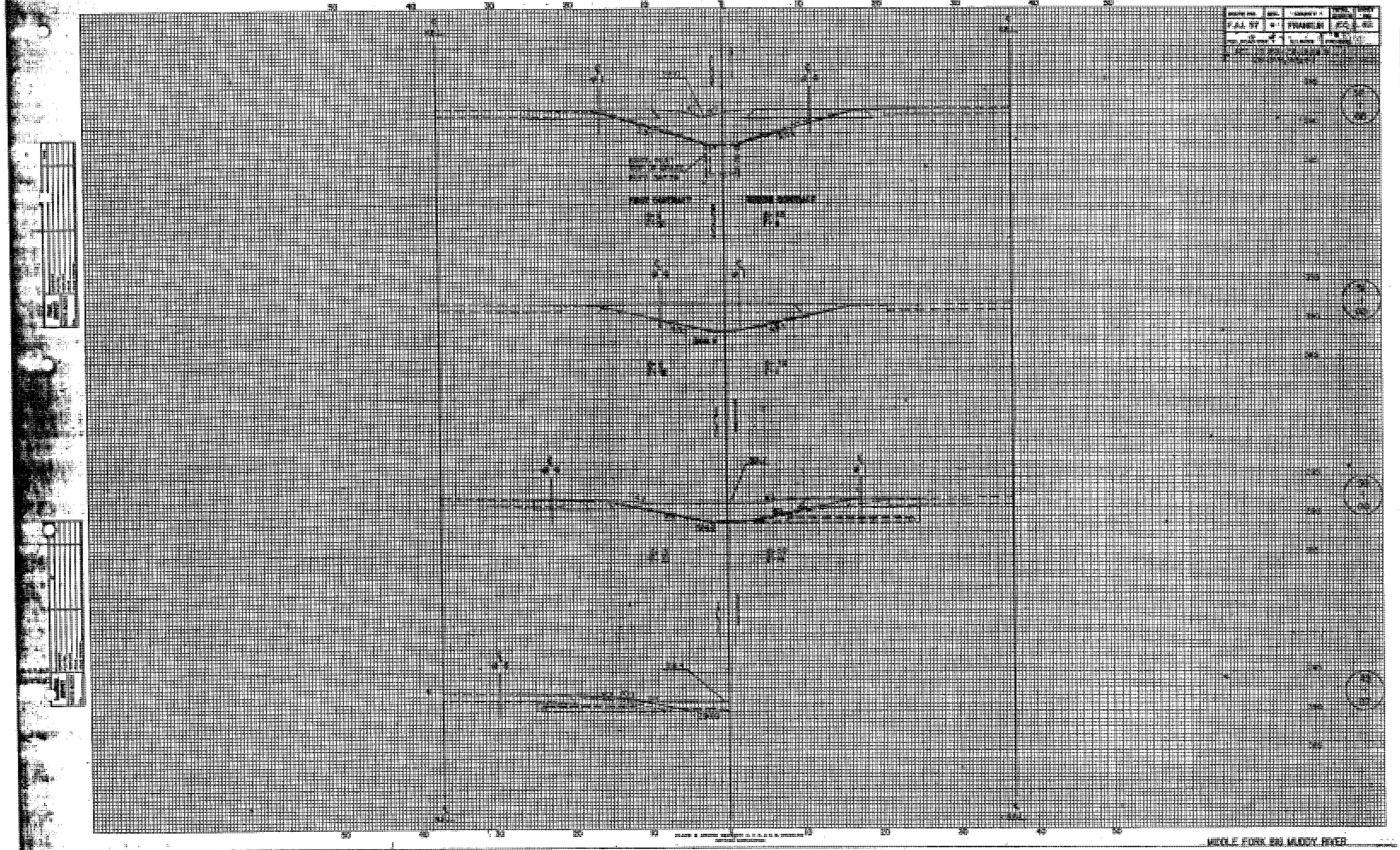

F.A.I. 57
FRANKLIN
FINAL SURVEY NOTE BOOK
ORIGINAL SURVEY NOTE BOOK
MIDDLE FORK BIG MUDDY RIVER

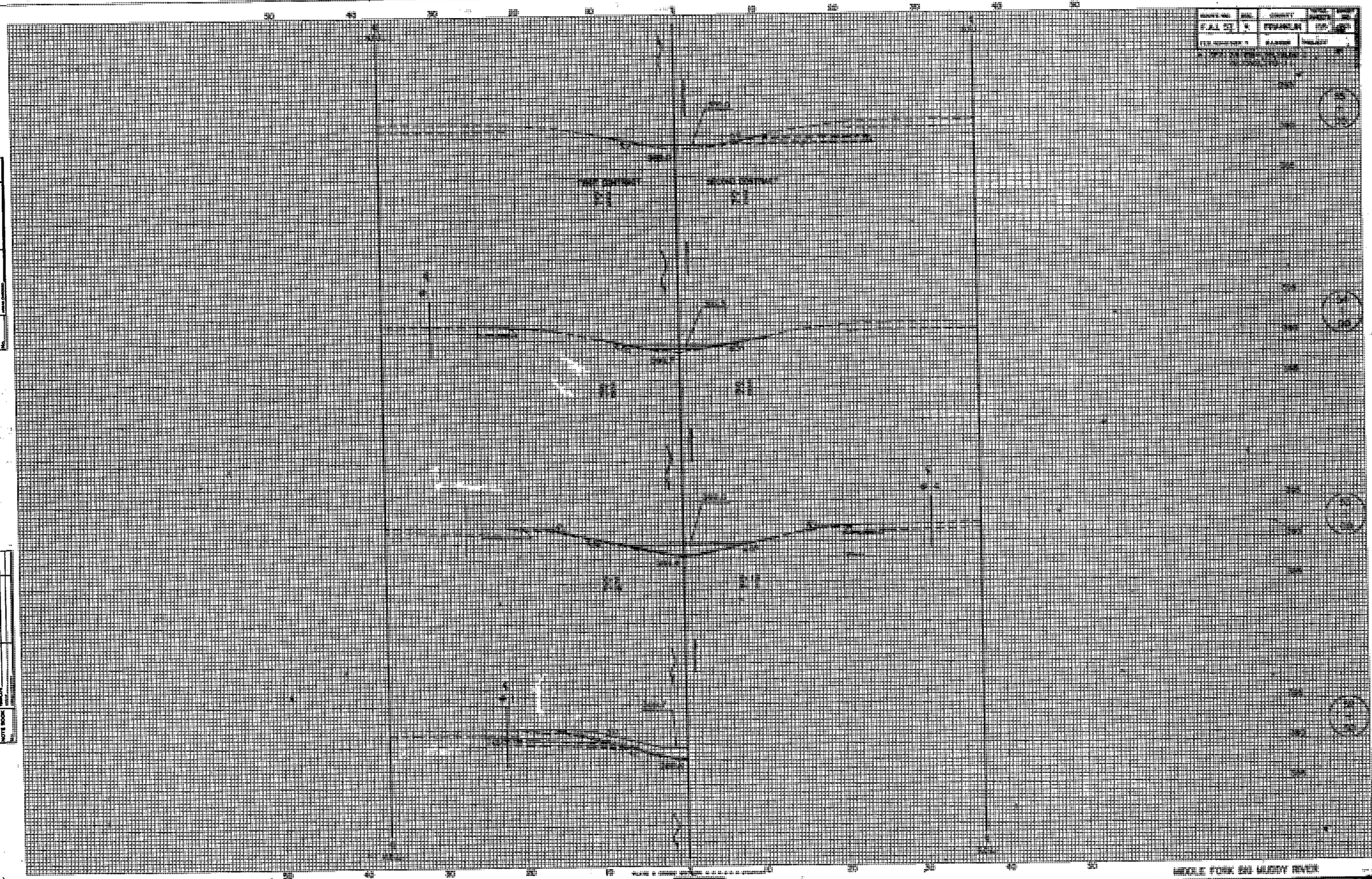


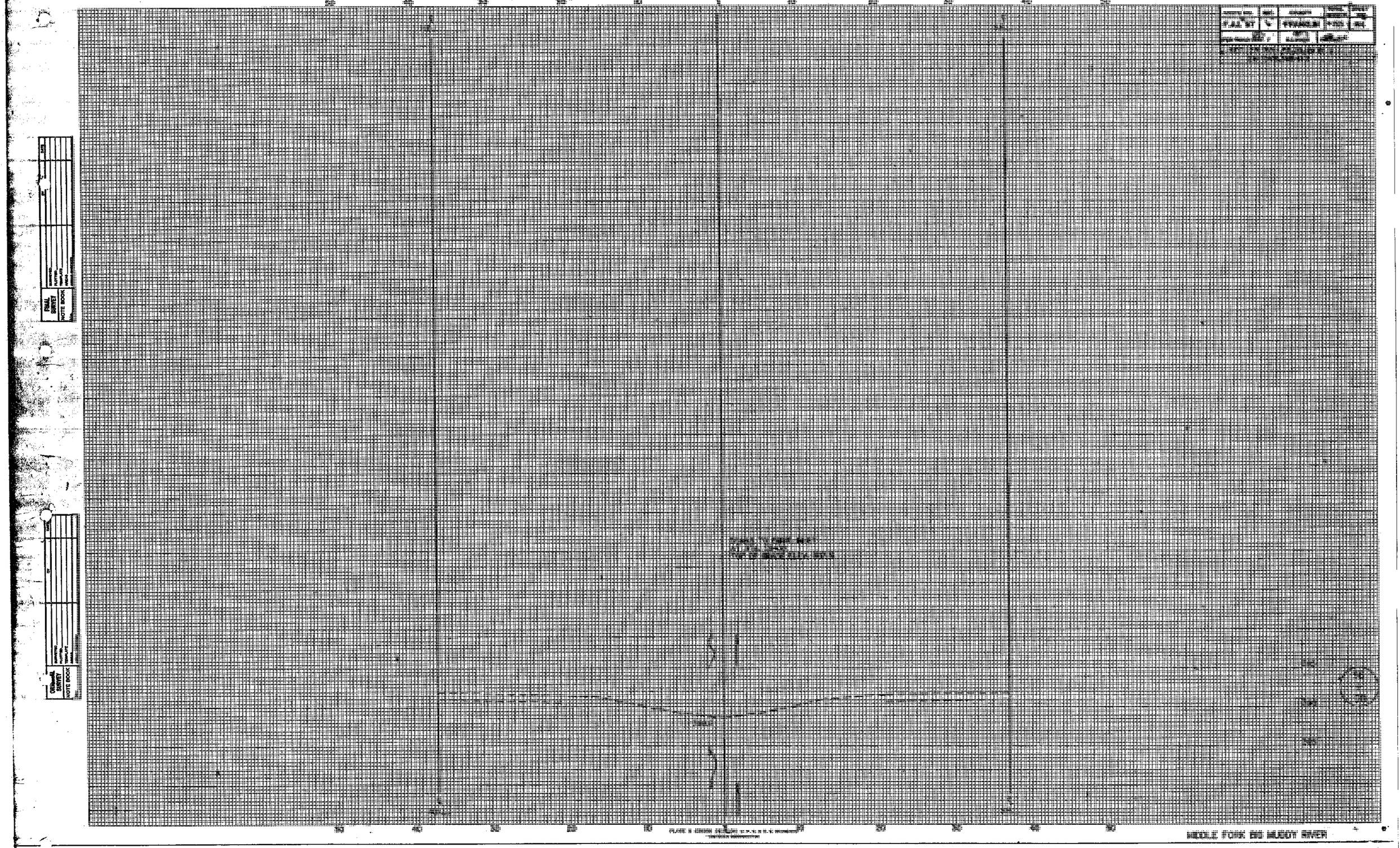
FAI 37
FRANKLIN
MIDDLE FORK BIG MUDDY RIVER



ROUTE NO. F.A.I. 57
SEC.
COUNTY FRANKLIN
TOTAL SHEETS 155
SHEET NO. 81
FED. ROAD DIST. 7
ILLINOIS
PROJECT
N.B.L.
S.B.L.
391.3
390.2
10:1
5:1
6:1
4:1
FIRST CONTRACT
SECOND CONTRACT
C= 6
F= 24
C= 19
F=
45 + 00
391.0
3:1
4:1
391.5
C= 2
F= 0
C= 0
F= 2
EQ. STA. 47 + 33.47 BK.
STA. 46 + 07.04 AH.
46 + 07AH
389.7
4:1
4:1
C= 8
F= 0
C= 0
F= 0
47 + 00
BK. S. ABUTMENT
STA. 46 + 33.85
BK. S. ABUTMENT
STA. 46 + 31.71
DRAINAGE AT BRIDGE
MEDIAN STA. 46 + 36
EXIST. ELEV. 389.0
395
390
385
MIDDLE FORK BIG MUDDY RIVER




FIELD SURVEY NOTE BOOK
MIDDLE FORK SAN MARCOS RIVER


FINAL SURVEY
NOTE BOOK
FINAL SURVEY
NOTE BOOK

Bench Mark: "□" Cut in N.E. handrail on the N.E. corner of Middle Fork of Big Middy River bridge - Southbound Lanes. Sta. 44+49.00 Elevation 395.13.

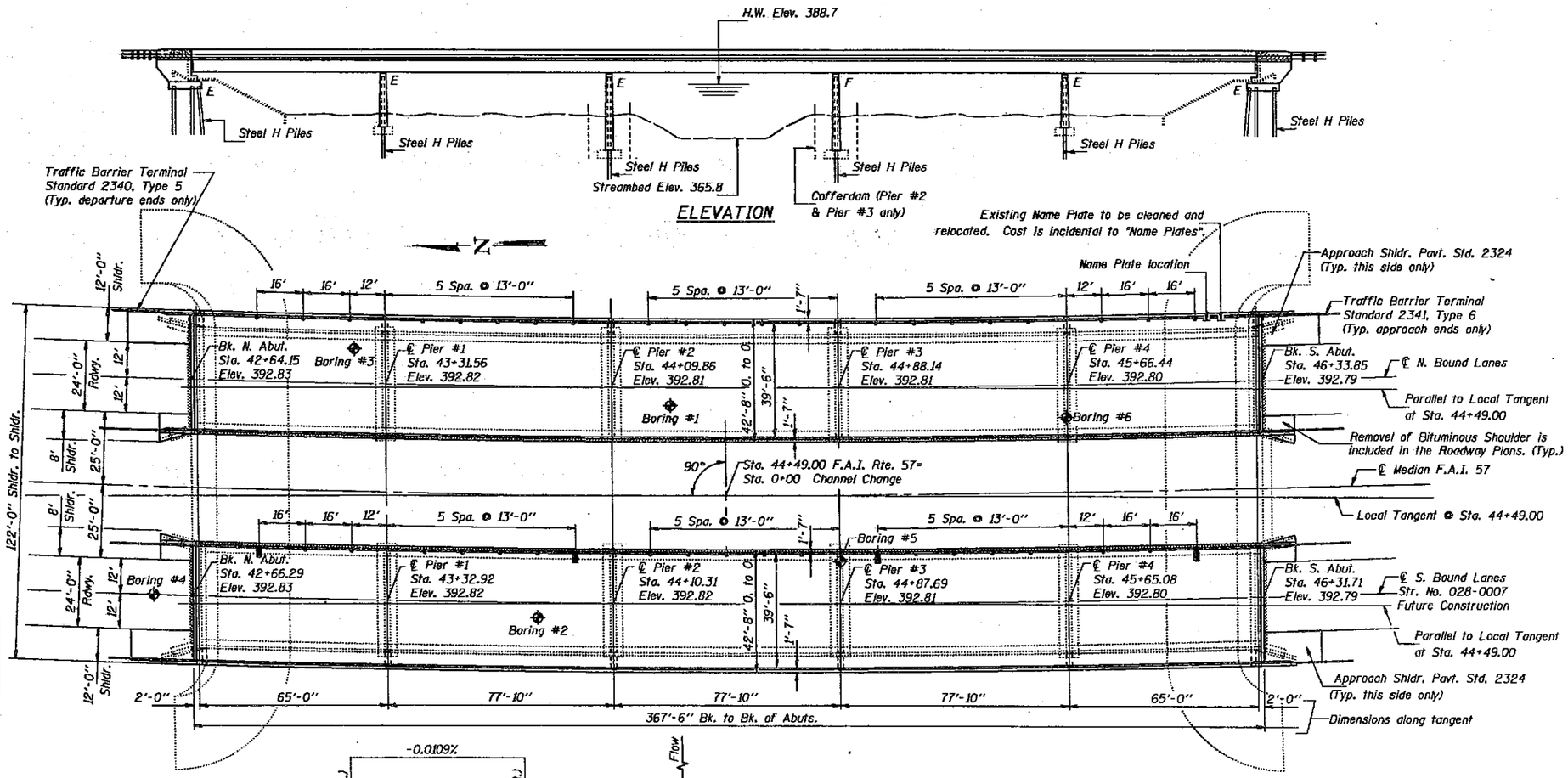
Existing Structure: D28-0006 (NB), Built as FAI Route 57, Sec.: 28-5(B-F) in 1962. The superstructure consists of 5 spans of continuous WF beams with an R.C. deck. The bridge will be rehabilitated in accordance with the scope of work shown below.

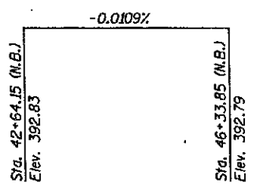
Temporary median crossovers shall be utilized to divert traffic over adjacent bridge (028-0007 S.B.) during reconstruction. No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	85
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

SHEET NO. 1
22 SHEETS





PROPOSED PROFILE GRADE
F.A. Route 57 (along ℄ pavement)

Flow

PLAN

Notes:
Only the North Bound Structure is included in the Contract.

CURVE DATA

Δ = 34°-04'-30"
D = 0°-54'
T = 1950.92'
L = 3786.11'
E = 292.22'
R = 6366.26'
S.E. =0.020'

STATION 44+49.00
REBUILT 199 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SEC. (28-5B)D
F.A. PROJ.IM-57-2(92)63
LOADING HS20 & ALT.
STR. NO. 028-0006

NAME PLATE
(North Bound Lanes)
See Std. 2113

DESIGN SPECIFICATIONS
1989 AASHTO, 1990, 1991 Interim Specifications & Seismic Retrofitting Guidelines for Highway Bridges

LOADING HS 20-44 & Alt.
Allow 25#/ sq. ft. for future wearing surface.

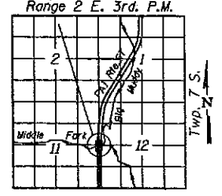
DESIGN STRESSES

FIELD UNITS

New Construction
f'c = 3,500 psi
fy = 60,000 psi (Reinf.)
fs = 27,000 psi (Structural Steel M270 Gr. 50)
fs = 20,000 psi (Structural Steel M270 Gr. 36)

Old Construction
fs = 20,000 psi (Structural Steel)

Proposed Reconstruction
Range 2 E. 3rd. P.M.



LOCATION SKETCH

DESIGNED
CHECKED Michael Abitoguni
Paul W. Sweet, W.D.C.
DRAWN John F. Schneller Jr.
CHECKED

May 22 19 92
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

GENERAL PLAN
F.A.I. ROUTE 57 OVER MIDDLE FORK OF BIG MUDDY RIVER
F.A.I. ROUTE 57 SECTION (28-5B)D
FRANKLIN COUNTY
STATION 44+49.00
STRUCTURE NUMBER 028-0006 (N.B.)

F.A.I. 57	(28-5B) D	FRANKLIN	155	86

SHEET NO. 2
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Fasteners shall be high strength bolts . Bolts 7/8"ϕ, open holes 15/16"ϕ, unless otherwise noted.

Calculated weight of Structural Steel M270 Gr. 50 = 51,330 Lbs.

Calculated weight of Structural Steel M270 Gr. 36 = 18,430 Lbs

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

Anchor bolts shall be set before bolting diaphragms over supports.

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 wide flange beams and all splice plate material of the wide flange beams.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

All top surfaces of the Abutments shall receive "Bridge Seat Sealer". Estimated quantity = 167 Sq. Ft.

The contractor shall drive 2 (two) Steel HP12 x 53 test piles in permanent locations 1 (one) at the North Abutment and 1 (one) at South Abutment as directed by the Engineer before ordering the remainder of the piles.

The first two coats of the Lead and Chromate free Alkyd Paint System shall be used for shop and field painting of the new Structural Steel.

Structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures".

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

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.

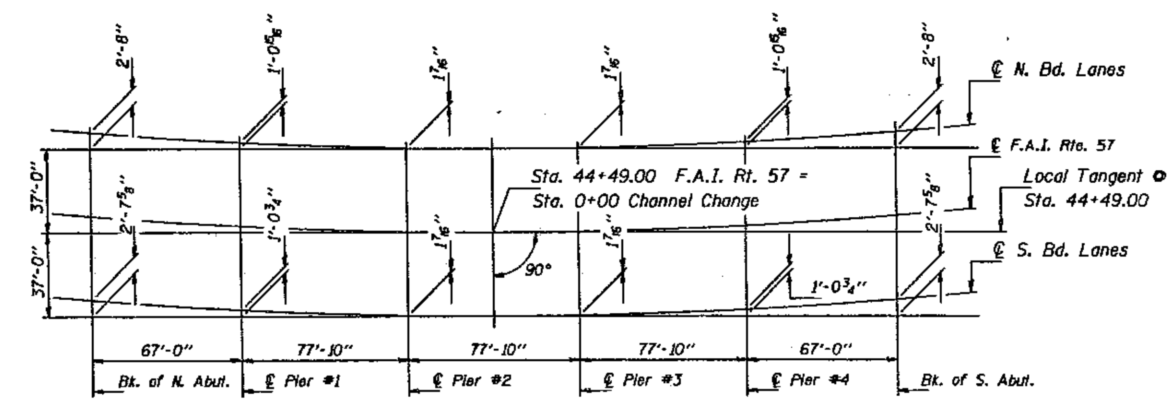
The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted.

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Prearation Specifications SP-11 for Power Tool Cleaning or SP-2 for hand tool cleaning. Cost shall be incidental to "Concrete Removal".

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		12	12
Removal of Existing Concrete Deck	Each	1		1
Structure Excavation	Cu. Yd.		127	127
Floor Drains	Each	21		21
Class X Concrete Superstructure	Cu. Yd.	469.4		469.4
* Protective Coat	Sq. Yd.	1,920		1,920
Elastomeric Bearing Assembly Type I	Each		21	21
Elastomeric Bearing Assembly Type II	Each		14	14
Class X Concrete	Cu. Yd.		58.6	58.6
Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	7,056		7,056
Reinforcement Bars, Epoxy Coated	Pound	108,840	7,950	116,790
Steel Piles HP12 x 53	Lin. Ft.		208	208
Steel Piles HP12 x 74	Lin. Ft.		225	225
Test Pile Steel HP12 x 53	Each		2	2
Name Plates	Each	1		1
Bridge Seat Sealer	L.S.		0.25	0.25
Neoprene Expansion Joint 2"	Lin. Ft.	42		42
Neoprene Expansion Joint 4"	Lin. Ft.	42		42
Jack and Remove Existing Bearings	Each		36	36
Cofferdams	Each		2	2
Cofferdam Excavation	Cu. Yd.		52	52
Bridge Deck Grooving	Sq. Yd.	1,603		1,603

* Top and inside faces of Parapets and Deck.



OFFSET SKETCH

DESIGNED [signature]
CHECKED MICHAEL ABITOGUN
Paul W. Sweet, W.D.C.
DRAWN John F. Schneller Jr.
CHECKED [initials] GRA

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

GENERAL PLAN DETAILS
F.A.I. RT 57 SEC. (28-5B)D
FRANKLIN COUNTY
STATION 44+49.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	87

SHEET NO. 3
22 SHEETS

BEAM #1A

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4263.536	-20.949	392.411	392.411
℄ Brg. No. Abut.	4265.555	-20.954	392.411	392.411
A	4275.650	-20.972	392.409	392.427
B	4285.746	-20.973	392.408	392.438
C	4295.841	-20.959	392.407	392.439
D	4305.936	-20.929	392.407	392.433
E	4316.032	-20.884	392.407	392.421
F	4326.127	-20.822	392.407	392.410
℄ Pier #1	4331.174	-20.785	392.407	392.407
G	4341.269	-20.700	392.408	392.414
H	4348.335	-20.631	392.408	392.422
I	4361.452	-20.820	392.403	392.428
J	4371.543	-20.950	392.399	392.430
K	4381.634	-21.064	392.396	392.419
L	4391.726	-21.161	392.393	392.409
M	4401.818	-21.243	392.390	392.397
℄ Pier #2	4409.723	-21.297	392.388	392.388
N	4419.816	-21.350	392.386	392.396
O	4429.908	-21.388	392.384	392.403
P	4440.001	-21.410	392.383	392.408
Q	4450.093	-21.417	392.381	392.413
R	4460.186	-21.407	392.380	392.405
S	4470.278	-21.381	392.380	392.397
T	4480.371	-21.340	392.380	392.387
℄ Pier #3	4488.277	-21.297	392.380	392.380
U	4498.369	-21.227	392.380	392.389
V	4508.460	-21.142	392.381	392.398
W	4518.552	-21.040	392.381	392.406
X	4528.643	-20.923	392.383	392.413
Y	4538.734	-20.790	392.384	392.408
Z	4549.665	-20.631	392.386	392.400
A1	4556.731	-20.700	392.384	392.390
℄ Pier #4	4566.826	-20.785	392.381	392.381
B1	4571.873	-20.822	392.380	392.383
C1	4581.968	-20.884	392.378	392.392
D1	4592.064	-20.929	392.376	392.402
E1	4602.159	-20.959	392.374	392.406
F1	4612.254	-20.973	392.373	392.403
G1	4622.350	-20.972	392.372	392.390
℄ Brg. So. Abut.	4632.445	-20.954	392.371	392.371
Bk. So. Abut.	4634.464	-20.949	392.371	392.371

BEAM #1

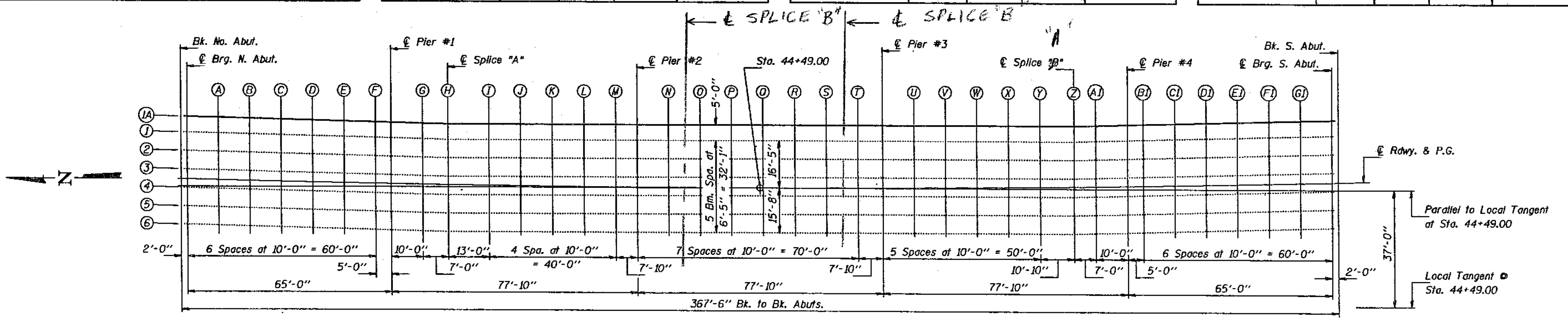
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4263.683	-15.949	392.511	392.511
℄ Brg. No. Abut.	4265.700	-15.954	392.511	392.511
A	4275.788	-15.972	392.509	392.527
B	4285.875	-15.973	392.508	392.538
C	4295.962	-15.959	392.507	392.539
D	4306.050	-15.929	392.507	392.533
E	4316.137	-15.884	392.507	392.521
F	4326.224	-15.822	392.507	392.510
℄ Pier #1	4331.267	-15.785	392.507	392.507
G	4341.354	-15.700	392.508	392.514
H	4348.414	-15.631	392.508	392.522
I	4361.521	-15.821	392.503	392.528
J	4371.604	-15.950	392.499	392.530
K	4381.689	-16.064	392.496	392.519
L	4391.771	-16.162	392.493	392.509
M	4401.855	-16.244	392.490	392.497
℄ Pier #2	4409.754	-16.297	392.488	392.488
N	4419.839	-16.350	392.486	392.496
O	4429.923	-16.388	392.484	392.503
P	4440.008	-16.410	392.483	392.508
Q	4450.092	-16.417	392.481	392.513
R	4460.177	-16.407	392.480	392.505
S	4470.262	-16.381	392.480	392.497
T	4480.346	-16.340	392.480	392.487
℄ Pier #3	4488.245	-16.297	392.480	392.480
U	4498.330	-16.227	392.480	392.489
V	4508.413	-16.142	392.481	392.498
W	4518.497	-16.041	392.481	392.506
X	4528.580	-15.923	392.483	392.513
Y	4538.663	-15.791	392.484	392.508
Z	4549.586	-15.631	392.486	392.500
A1	4556.646	-15.700	392.484	392.490
℄ Pier #4	4566.733	-15.785	392.481	392.481
B1	4571.776	-15.822	392.480	392.483
C1	4581.863	-15.884	392.478	392.492
D1	4591.950	-15.929	392.476	392.501
E1	4602.038	-15.959	392.474	392.506
F1	4612.125	-15.973	392.473	392.503
G1	4622.212	-15.972	392.472	392.490
℄ Brg. So. Abut.	4632.300	-15.954	392.471	392.471
Bk. So. Abut.	4634.317	-15.929	392.471	392.471

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4263.871	-9.532	392.639	392.639
℄ Brg. No. Abut.	4265.886	-9.537	392.639	392.639
A	4275.964	-9.555	392.638	392.656
B	4286.041	-9.556	392.636	392.666
C	4296.118	-9.542	392.636	392.668
D	4306.195	-9.512	392.635	392.661
E	4316.272	-9.467	392.635	392.649
F	4326.348	-9.405	392.635	392.638
℄ Pier #1	4331.387	-9.368	392.635	392.635
G	4341.463	-9.283	392.636	392.642
H	4348.516	-9.214	392.637	392.651
I	4361.610	-9.405	392.631	392.656
J	4371.683	-9.534	392.628	392.658
K	4381.756	-9.647	392.624	392.648
L	4391.829	-9.745	392.621	392.637
M	4401.903	-9.827	392.618	392.625
℄ Pier #2	4409.794	-9.880	392.617	392.617
N	4419.868	-9.934	392.614	392.624
O	4429.943	-9.972	392.612	392.631
P	4440.017	-9.994	392.611	392.637
Q	4450.091	-10.000	392.610	392.641
R	4460.166	-9.990	392.609	392.633
S	4470.240	-9.965	392.608	392.625
T	4480.314	-9.924	392.608	392.615
℄ Pier #3	4488.206	-9.880	392.608	392.608
U	4498.279	-9.811	392.608	392.617
V	4508.353	-9.725	392.609	392.627
W	4518.426	-9.624	392.610	392.635
X	4528.499	-9.507	392.611	392.641
Y	4538.572	-9.374	392.613	392.636
Z	4549.484	-9.214	392.615	392.629
A1	4556.537	-9.283	392.612	392.618
℄ Pier #4	4566.613	-9.368	392.610	392.610
B1	4571.652	-9.405	392.608	392.611
C1	4581.728	-9.467	392.606	392.620
D1	4591.805	-9.512	392.604	392.630
E1	4601.882	-9.542	392.602	392.634
F1	4611.959	-9.556	392.601	392.631
G1	4622.036	-9.555	392.600	392.618
℄ Brg. So. Abut.	4632.114	-9.537	392.599	392.599
Bk. So. Abut.	4634.129	-9.532	392.599	392.599

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4264.059	-3.115	392.768	392.768
℄ Brg. No. Abut.	4266.072	-3.120	392.767	392.767
A	4276.139	-3.138	392.766	392.784
B	4286.206	-3.139	392.765	392.795
C	4296.273	-3.125	392.764	392.796
D	4306.340	-3.095	392.764	392.790
E	4316.406	-3.050	392.763	392.777
F	4326.473	-2.988	392.763	392.766
℄ Pier #1	4331.506	-2.951	392.764	392.764
G	4341.572	-2.867	392.764	392.770
H	4348.618	-2.797	392.765	392.779
I	4361.699	-2.988	392.780	392.784
J	4371.761	-3.118	392.756	392.786
K	4381.824	-3.231	392.753	392.776
L	4391.887	-3.329	392.750	392.766
M	4401.951	-3.411	392.747	392.754
℄ Pier #2	4409.834	-3.464	392.745	392.745
N	4419.898	-3.517	392.743	392.752
O	4429.962	-3.555	392.741	392.760
P	4440.026	-3.577	392.739	392.765
Q	4450.090	-3.583	392.738	392.769
R	4460.154	-3.574	392.737	392.761
S	4470.218	-3.548	392.737	392.754
T	4480.282	-3.507	392.736	392.744
℄ Pier #3	4488.166	-3.464	392.736	392.736
U	4498.229	-3.394	392.737	392.746
V	4508.293	-3.309	392.737	392.755
W	4518.356	-3.208	392.738	392.763
X	4528.419	-3.091	392.739	392.770
Y	4538.481	-2.958	392.741	392.764
Z	4549.382	-2.797	392.743	392.757
A1	4556.428	-2.867	392.741	392.747
℄ Pier #4	4566.494	-2.951	392.738	392.738
B1	4571.527	-2.988	392.737	392.740
C1	4581.594	-3.050	392.734	392.748
D1	4591.660	-3.095	392.732	392.758
E1	4601.727	-3.125	392.731	392.763
F1	4611.794	-3.139	392.729	392.759
G1	4621.861	-3.138	392.728	392.746
℄ Brg. So. Abut.	4631.928	-3.120	392.728	392.728
Bk. So. Abut.	4633.941	-3.115	392.727	392.727



PLAN

NOTE:
Work this sheet with sheet #4 of 22.

DESIGNED [signature]
CHECKED Michael Abitogun
DRAWN John F. Schneller Jr.
CHECKED [initials] GRA

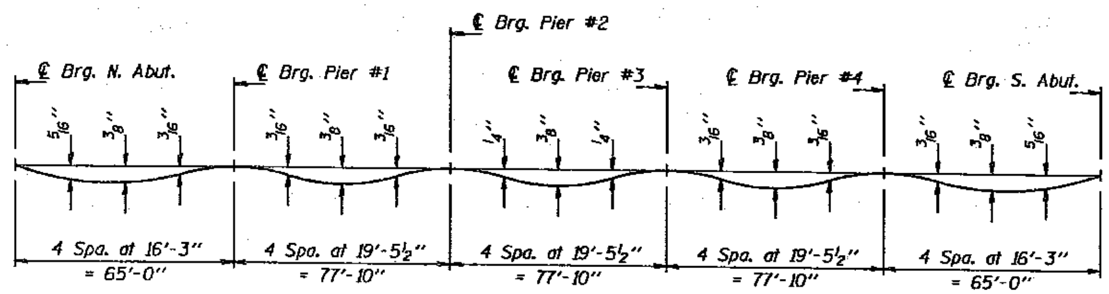
May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS
F.A.I. RT 57 SEC. (28-5B)D
FRANKLIN COUNTY
STATION 44+49.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	88

SHEET NO. 4
22 SHEETS

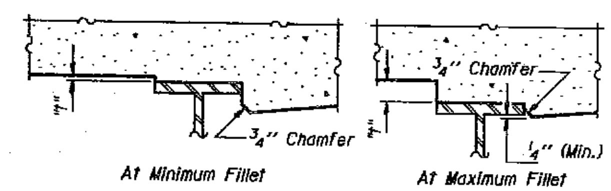
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below and on sheet #3 of 22.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets #3 & #4 of 22. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets #3 & #4 of 22, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

℄ RDWY & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4264.150	0.000	392.830	392.830
℄ Brg. No. Abut.	4266.162	0.000	392.830	392.830
A	4276.225	0.000	392.829	392.847
B	4286.287	0.000	392.829	392.858
C	4296.348	0.000	392.827	392.858
D	4306.409	0.000	392.825	392.851
E	4316.470	0.000	392.824	392.838
F	4326.531	0.000	392.823	392.826
℄ Pier #1	4331.561	0.000	392.823	392.823
G	4341.621	0.000	392.822	392.828
H	4348.663	0.000	392.821	392.835
I	4361.740	0.000	392.819	392.844
J	4371.799	0.000	392.818	392.848
K	4381.859	0.000	392.817	392.840
L	4391.917	0.000	392.816	392.832
M	4401.976	0.000	392.815	392.823
℄ Pier #2	4409.856	0.000	392.814	392.814
N	4419.914	0.000	392.813	392.823
O	4429.973	0.000	392.812	392.831
P	4440.031	0.000	392.811	392.837
Q	4450.090	0.000	392.810	392.841
R	4460.148	0.000	392.809	392.833
S	4470.206	0.000	392.807	392.825
T	4480.265	0.000	392.806	392.813
℄ Pier #3	4488.144	0.000	392.805	392.805
U	4498.203	0.000	392.804	392.813
V	4508.262	0.000	392.803	392.821
W	4518.321	0.000	392.802	392.826
X	4528.380	0.000	392.801	392.831
Y	4538.439	0.000	392.800	392.823
Z	4549.337	0.000	392.799	392.813
A1	4558.379	0.000	392.816 .798	392.804
℄ Pier #4	4566.439	0.000	392.797	392.797
B1	4571.469	0.000	392.796	392.800
C1	4581.530	0.000	392.795	392.809
D1	4591.591	0.000	392.791	392.820
E1	4601.652	0.000	392.793	392.825
F1	4611.713	0.000	392.792	392.822
G1	4621.775	0.000	392.791	392.809
℄ Brg. So. Abut.	4631.838	0.000	392.790	392.790
Bk. So. Abut.	4633.850	0.000	392.790	392.790

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4264.246	3.302	392.896	392.896
℄ Brg. No. Abut.	4266.258	3.297	392.896	392.896
A	4276.314	3.279	392.894	392.912
B	4286.371	3.278	392.893	392.923
C	4296.428	3.292	392.892	392.924
D	4306.484	3.322	392.892	392.918
E	4316.541	3.367	392.892	392.906
F	4326.597	3.429	392.892	392.895
℄ Pier #1	4331.625	3.466	392.892	392.892
G	4341.681	3.550	392.892	392.898
H	4348.720	3.619	392.893	392.907
I	4361.787	3.428	392.888	392.913
J	4371.840	3.298	392.884	392.915
K	4381.892	3.185	392.881	392.904
L	4391.945	3.088	392.878	392.894
M	4401.999	3.006	392.875	392.882
℄ Pier #2	4409.874	2.953	392.873	392.873
N	4419.927	2.899	392.871	392.881
O	4429.981	2.862	392.869	392.888
P	4440.035	2.840	392.868	392.893
Q	4450.089	2.833	392.866	392.898
R	4460.143	2.843	392.865	392.890
S	4470.197	2.868	392.865	392.882
T	4480.251	2.910	392.865	392.872
℄ Pier #3	4488.126	2.953	392.865	392.865
U	4498.180	3.022	392.865	392.874
V	4508.233	3.107	392.866	392.883
W	4518.286	3.208	392.866	392.891
X	4528.338	3.325	392.868	392.898
Y	4538.391	3.458	392.869	392.892
Z	4549.280	3.620	392.871	392.885
A1	4556.319	3.550	392.869	392.875
℄ Pier #4	4566.375	3.466	392.866	392.866
B1	4571.403	3.429	392.865	392.868
C1	4581.459	3.367	392.863	392.877
D1	4591.516	3.322	392.861	392.887
E1	4601.572	3.292	392.859	392.891
F1	4611.629	3.278	392.858	392.888
G1	4621.686	3.279	392.857	392.875
℄ Brg. So. Abut.	4631.742	3.297	392.856	392.856
Bk. So. Abut.	4633.754	3.302	392.856	392.856

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4264.433	9.719	393.024	393.024
℄ Brg. No. Abut.	4266.442	9.714	393.024	393.024
A	4276.489	9.696	393.023	393.041
B	4286.536	9.695	393.021	393.051
C	4296.582	9.709	393.021	393.053
D	4306.628	9.739	393.020	393.046
E	4316.675	9.784	393.020	393.034
F	4326.721	9.846	393.020	393.023
℄ Pier #1	4331.744	9.883	393.020	393.020
G	4341.790	9.987	393.021	393.027
H	4348.822	10.036	393.021	393.035
I	4361.876	9.844	393.016	393.041
J	4371.918	9.715	393.013	393.043
K	4381.960	9.601	393.009	393.033
L	4392.003	9.504	393.006	393.022
M	4402.046	9.422	393.003	393.010
℄ Pier #2	4409.913	9.369	393.002	393.002
N	4419.957	9.316	392.999	393.009
O	4430.001	9.278	392.997	393.016
P	4440.044	9.256	392.996	393.022
Q	4450.088	9.250	392.995	393.026
R	4460.132	9.260	392.994	393.018
S	4470.176	9.285	392.993	393.010
T	4480.219	9.326	392.993	393.000
℄ Pier #3	4488.086	9.369	392.993	392.993
U	4498.130	9.439	392.993	393.002
V	4508.173	9.524	392.994	393.012
W	4518.216	9.625	392.995	393.020
X	4528.258	9.741	392.996	393.026
Y	4538.300	9.874	392.998	393.021
Z	4549.178	10.036	393.000	393.014
A1	4556.210	9.967	392.998	393.004
℄ Pier #4	4566.256	9.883	392.995	392.995
B1	4571.279	9.846	392.993	392.996
C1	4581.325	9.784	392.991	393.005
D1	4591.372	9.739	392.989	393.015
E1	4601.418	9.709	392.987	393.019
F1	4611.464	9.695	392.986	393.016
G1	4621.511	9.696	392.985	393.003
℄ Brg. So. Abut.	4631.558	9.714	392.984	392.984
Bk. So. Abut.	4633.567	9.719	392.984	392.984

BEAM #6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	4264.620	16.135	393.153	393.153
℄ Brg. No. Abut.	4266.627	16.131	393.152	393.152
A	4276.663	16.113	393.151	393.169
B	4286.700	16.112	393.150	393.180
C	4296.736	16.126	393.149	393.181
D	4306.772	16.156	393.148	393.174
E	4316.809	16.201	393.148	393.162
F	4326.845	16.263	393.148	393.151
℄ Pier #1	4331.862	16.299	393.149	393.149
G	4341.898	16.384	393.149	393.155
H	4348.923	16.453	393.150	393.164
I	4361.964	16.260	393.145	393.169
J	4371.996	16.131	393.141	393.171
K	4382.028	16.018	393.138	393.161
L	4392.061	15.920	393.134	393.151
M	4402.094	15.839	393.132	393.139
℄ Pier #2	4409.953	15.786	393.130	393.130
N	4419.986	15.733	393.128	393.137
O	4430.020	15.695	393.126	393.145
P	4440.053	15.673	393.124	393.150
Q	4450.087	15.667	393.123	393.154
R	4460.121	15.676	393.122	393.146
S	4470.154	15.702	393.122	393.139
T	4480.188	15.743	393.121	393.129
℄ Pier #3	4488.047	15.786	393.121	393.121
U	4498.080	15.855	393.122	393.131
V	4508.113	15.940	393.122	393.140
W	4518.146	16.041	393.123	393.148
X	4528.178	16.157	393.124	393.155
Y	4538.210	16.290	393.126	393.149
Z	4549.077	16.453	393.128	393.142
A1	4556.102	16.384	393.126	393.132
℄ Pier #4	4566.138	16.299	393.123	393.123
B1	4571.155	16.263	393.122	393.125
C1	4581.191	16.201	393.119	393.133
D1	4591.228	16.156	393.117	393.143
E1	4601.264	16.126	393.116	393.148
F1	4611.300	16.112	393.114	393.144
G1	4621.337	16.113	393.113	393.131
℄ Brg. So. Abut.	4631.373	16.131	393.113	393.113
Bk. So. Abut.	4633.380	16.135	393.112	393.112

DESIGNED [signature]
CHECKED Michael Abitogun
DRAWN John F. Schneller Jr.
CHECKED JB GRA

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

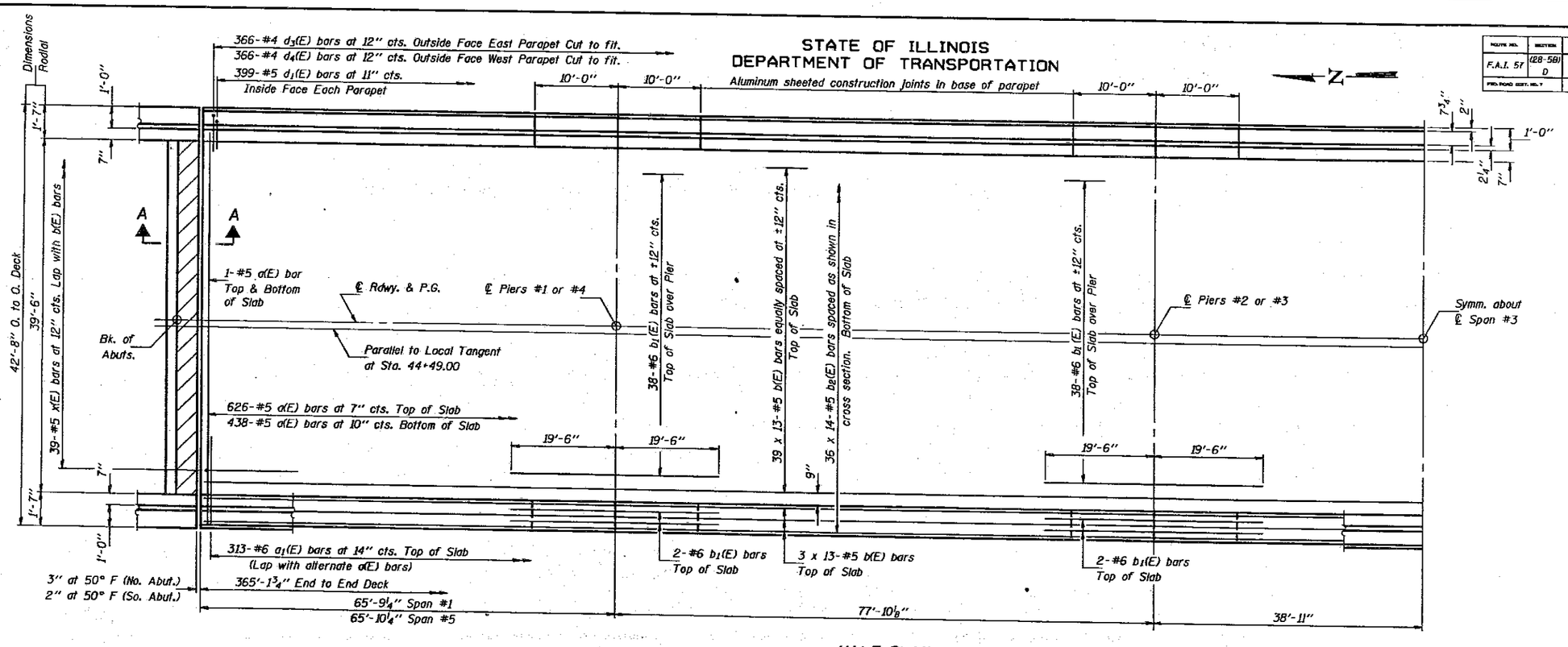
NOTE:
Work this sheet with sheet #3 of 22.

TOP OF SLAB ELEVATIONS
F.A.I. RT 57 SEC. (28-5B)D
FRANKLIN COUNTY
STATION 44+49.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	89
PROJECT NO.	ILLINOIS	PROJECT NO.		

SHEET NO. 5
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

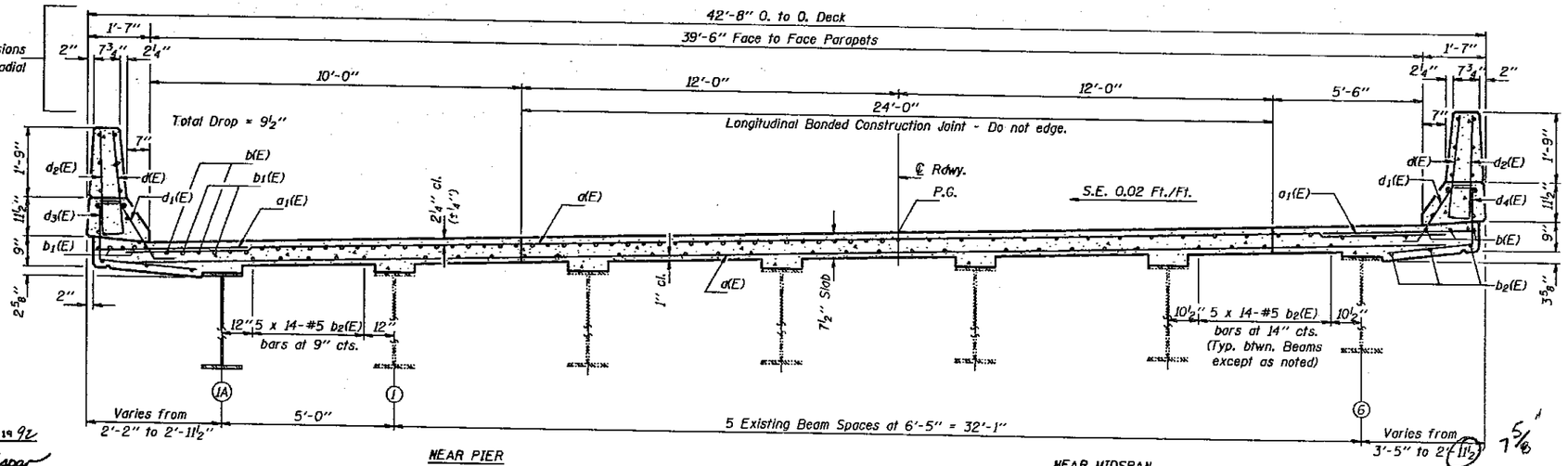


HALF PLAN

MIN. BAR LAPS

#5 (E) bar = 2'-2"

Notes: See Sheet #6 of 22 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet #6 of 22 for parapet reinforcement.



CROSS SECTION

(Looking South)

DESIGNED	Ramon Balvin
CHECKED	Michael Abitogun
DRAWN	John F. Schneller Jr.
CHECKED	GRA

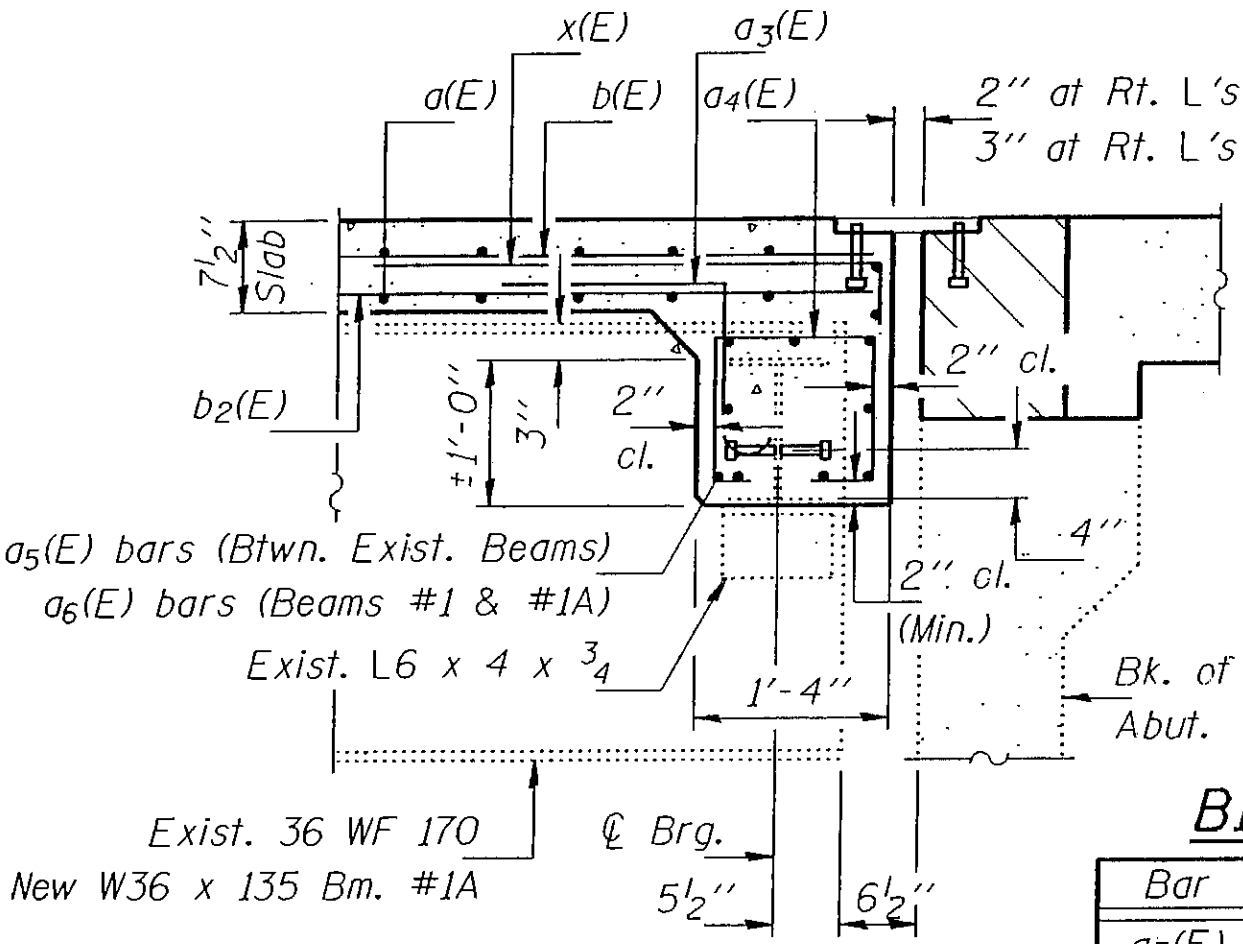
May 22 1992

EXAMINED Raj D. Kaspar ENGINEER OF BRIDGE DESIGN

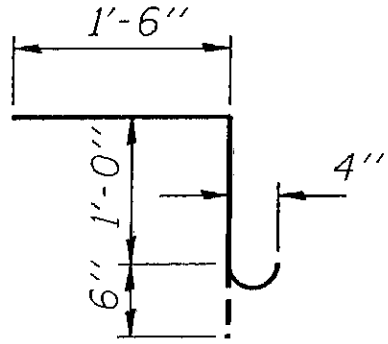
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

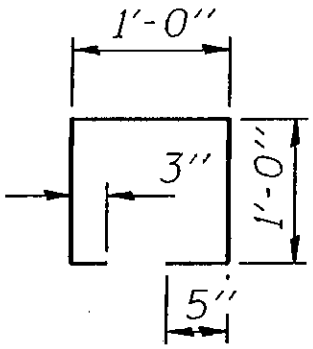
SUPERSTRUCTURE
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00



SECTION A-A



BAR $a_3(E)$



BAR $a_4(E)$

BILL OF MATERIAL

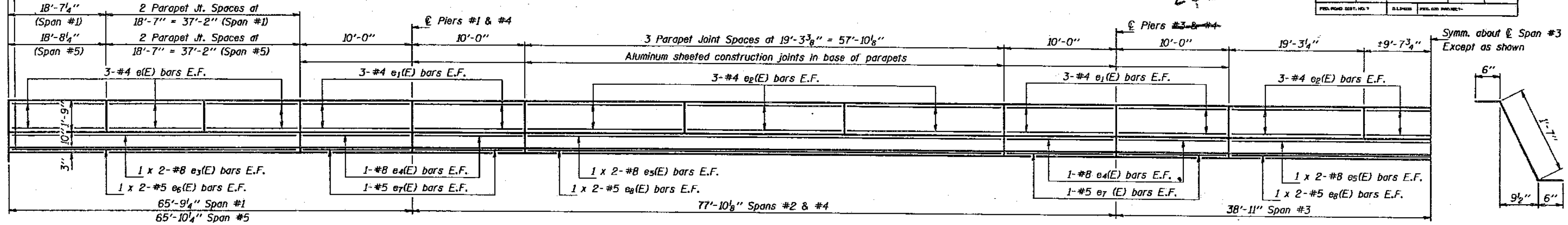
Bar	No.	Size	Length	Shape
$a_3(E)$	72	#4	3'-0"	⌐
$a_4(E)$	72	#4	3'-8"	⊓
$a_5(E)$	90	#4	6'-1"	—
$a_6(E)$	18	#4	4'-8"	—
Reinforcement Bars (Epoxy Coated)			Lbs.	740
Class X Concrete			Cu. Yd.	3.7
Stud Shear Connectors			Each	144

Reinforcememt Bars designated (E) shall be epoxy coated.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

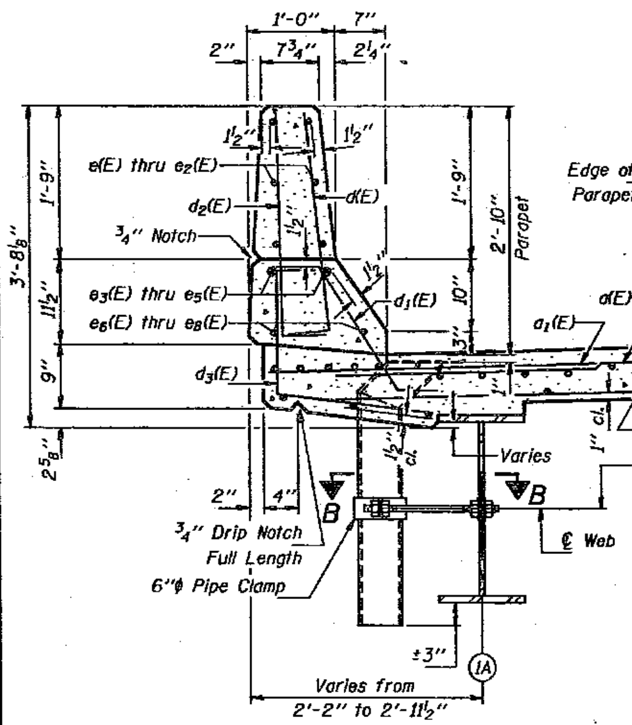
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
F.A.I. 57	(28-5B) D	FRANKLIN	155	90	SHEET NO. 6 / 22 SHEETS

"Z & 3"

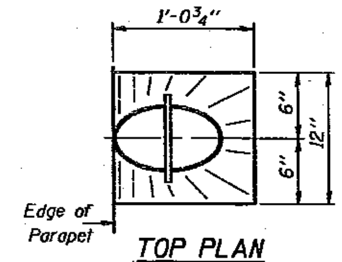


BAR $d_1(E)$

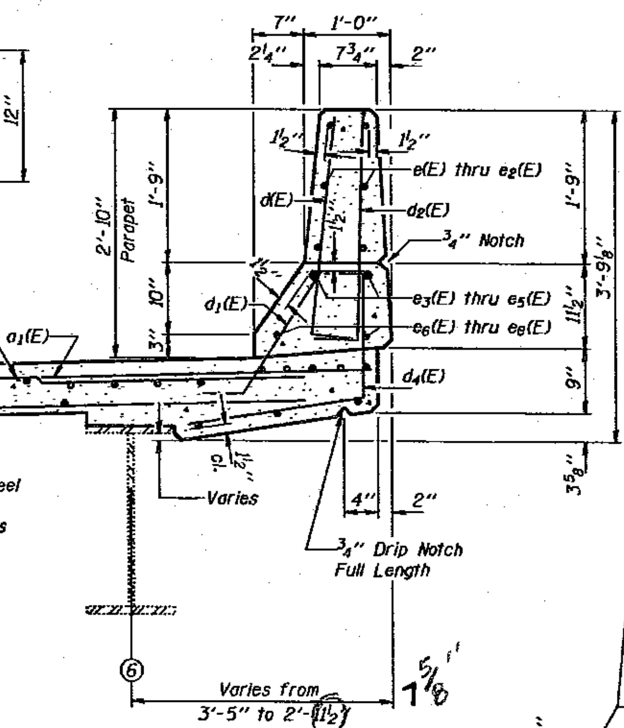
INSIDE ELEVATION OF PARAPET



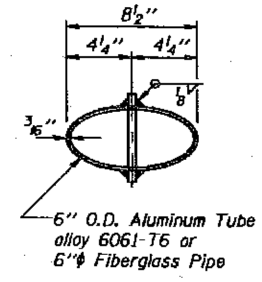
SECTION THRU EAST PARAPET



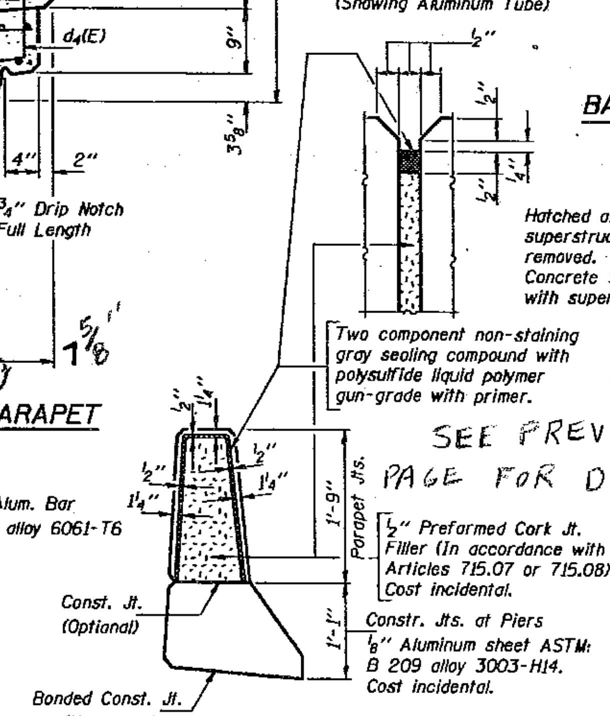
TOP PLAN



SECTION THRU WEST PARAPET

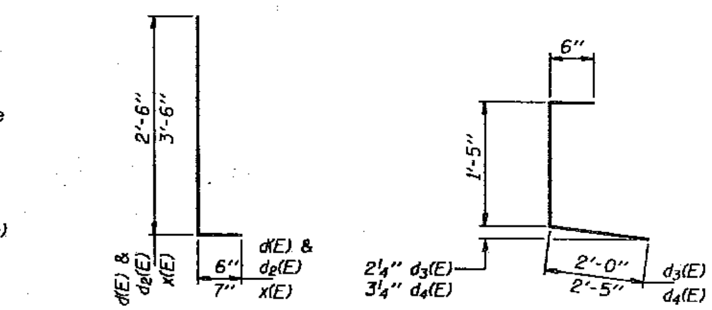


TOP PLAN
(Showing Aluminum Tube)



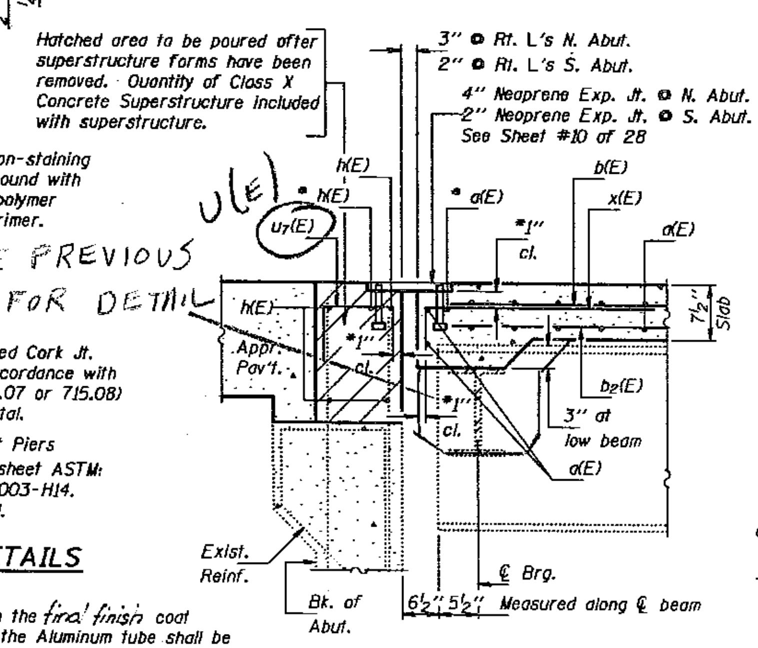
PARAPET JOINT DETAILS

MIN. BAR LAPS
#5 (E) bar = 2'-2"
#8 (E) bar = 4'-6"



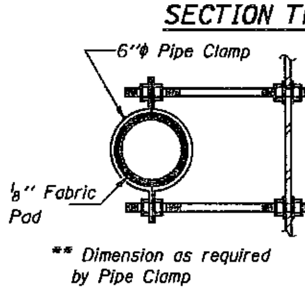
BARS $d(E)$, $d_2(E)$ & $x(E)$

BARS $d_3(E)$ & $d_4(E)$

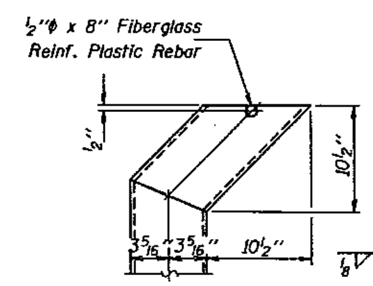


SECTION A-A

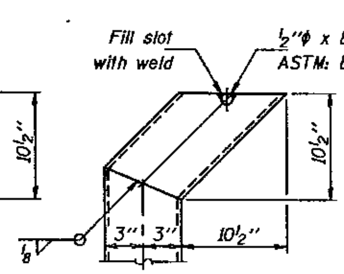
* Place a(E) bars and h(E) bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-⅛"). Anchor bolts should be tied to a(E) and h(E)



SECTION B-B



FIBERGLASS PIPE



ALUMINUM TUBE

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	1068	#5	40'-6"	——
a₁(E)	626	#6	4'-0"	——
b(E)	585	#5	30'-1"	——
b₁(E)	168	#6	39'-0"	——
b₂(E)	504	#5	28'-1"	——
d(E)	798	#5	3'-0"	
d₁(E)	798	#5	2'-7"	
d₂(E)	732	#4	3'-0"	
d₃(E)	366	#4	3'-11"	
d₄(E)	366	#4	4'-4"	
e(E)	72	#4	18'-4"	——
e₁(E)	96	#4	9'-9"	——
e₂(E)	108	#4	19'-0"	——
e₃(E)	16	#8	30'-0"	——
e₄(E)	32	#8	9'-9"	——
e₅(E)	24	#8	31'-1"	——
e₆(E)	16	#5	28'-10"	——
e₇(E)	32	#5	9'-9"	——
e₈(E)	24	#5	30'-0"	——
x(E)	78	#5	4'-1"	
Reinforcement Bars (Epoxy Coated)		Lbs.	108,840	
Class X Concrete Superstructure		Cu. Yds.	469.4	

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

Notes:
The exterior surfaces of the Floor Drain shall be painted with the final finish coat painting specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting. Fiberglass to have prewash as per MIL-P-15328 prior to painting.
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED	[signature]
CHECKED	MICHAEL ABITOGUN
DRAWN	John F. Schneller Jr.
CHECKED	[initials] GRA

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

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

INSTALLATION NOTES

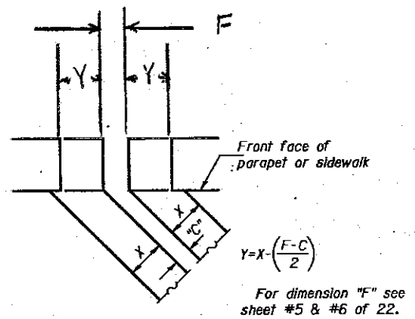
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

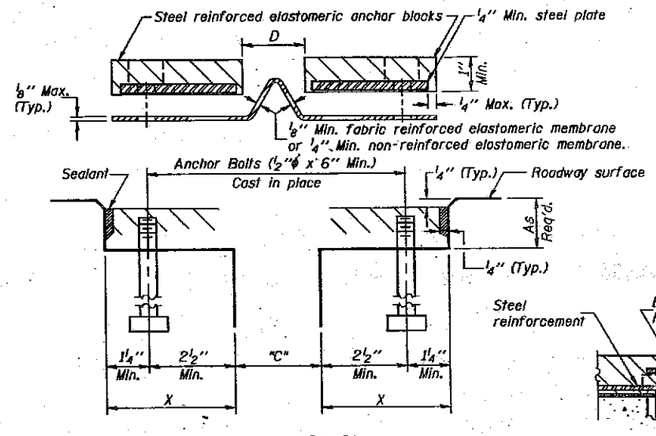
For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



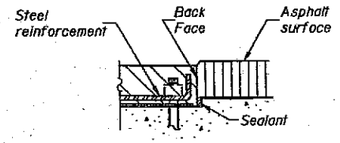
For dimension "F" see sheet #5 & #6 of 22.

FORMING BLOCKOUT SKETCH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	91
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
22 SHEETS

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

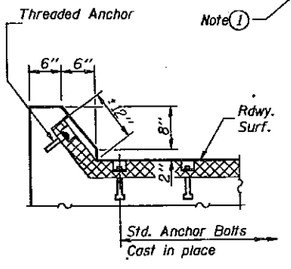
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

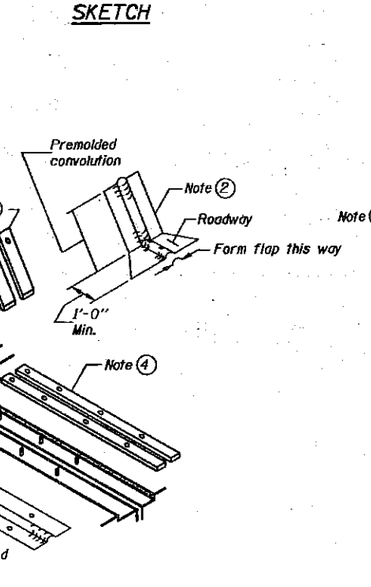
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

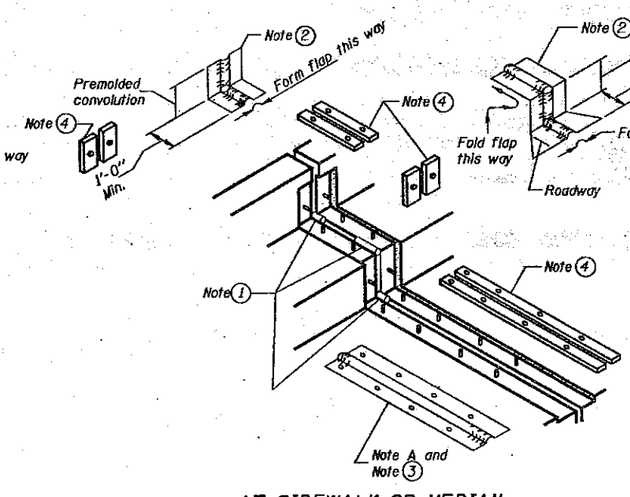
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



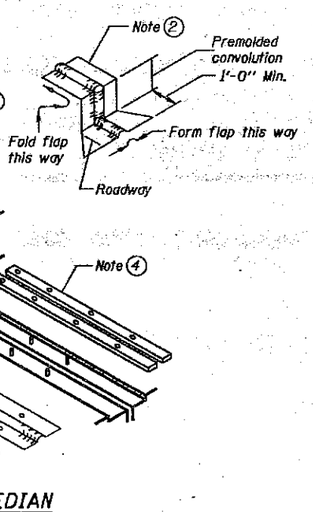
AT CURB



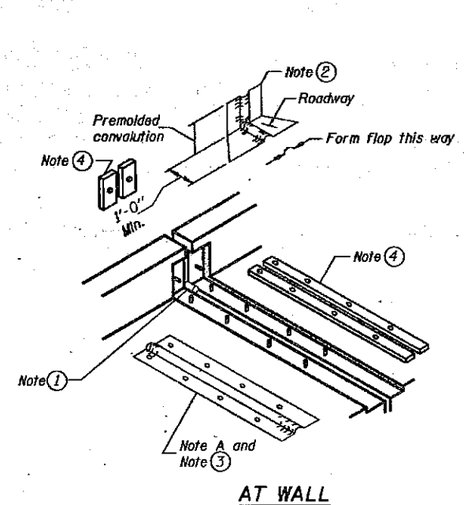
AT PARAPET



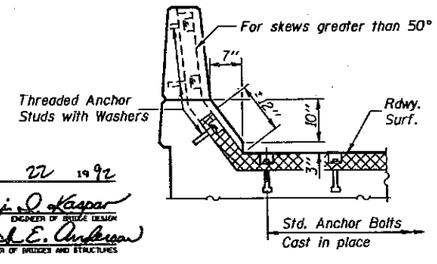
AT SIDEWALK OR MEDIAN



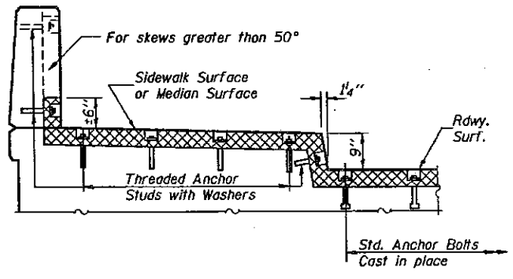
AT SIDEWALK OR MEDIAN



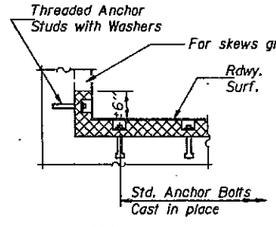
AT WALL



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

DESIGNED	
CHECKED Michael Antognini	
DRAWN John F. Schneller Jr.	
CHECKED	GRA

May 22 1992

EXAMINED Greg J. Kaspar, ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES

APPROVED, DIRECTOR OF HIGHWAYS

EJ-CS

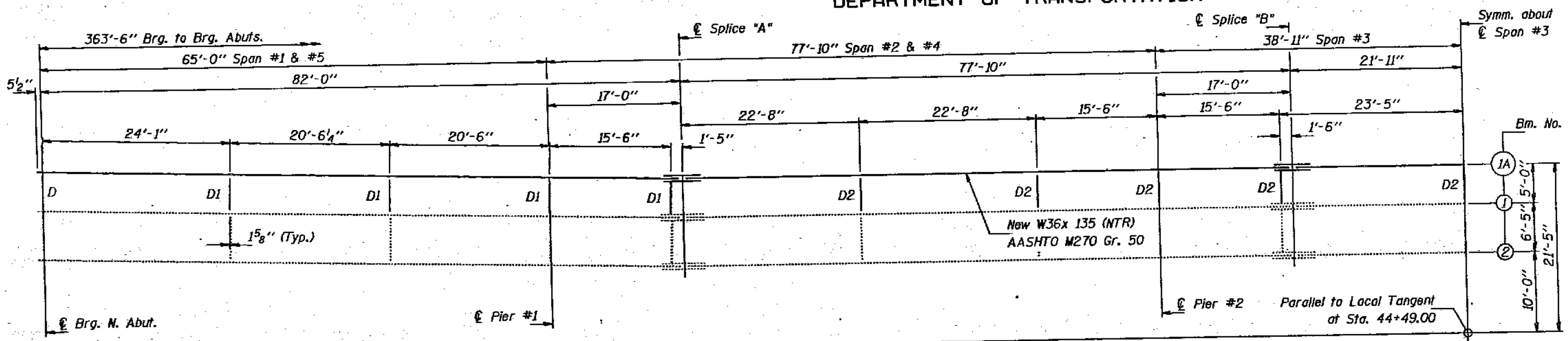
CONTINUOUS SEAL TYPE
NEOPRENE EXPANSION JOINTS
For 2", 2½" and 4" Movement

F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

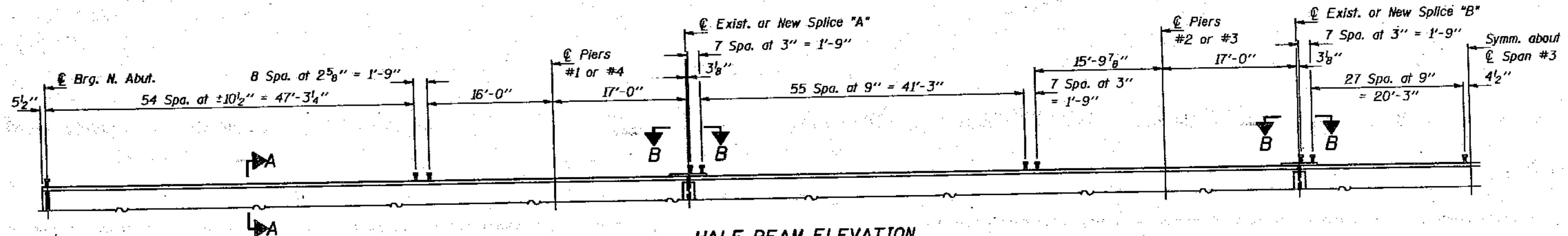
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	92

SHEET NO. 8
22 SHEETS

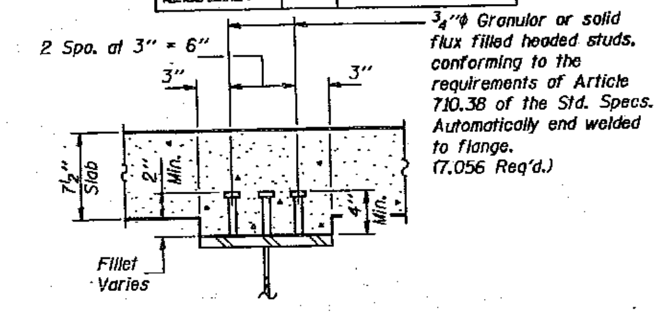
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



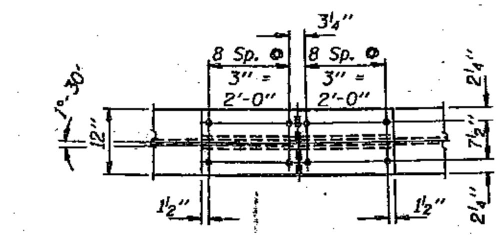
HALF PLAN - NORTH BD. LANES



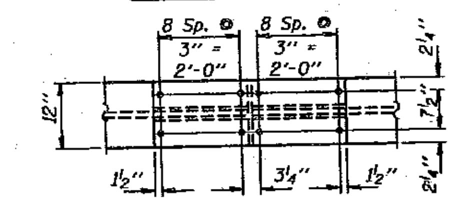
HALF BEAM ELEVATION
(Stud Shear Connector Spacing for all Beams)



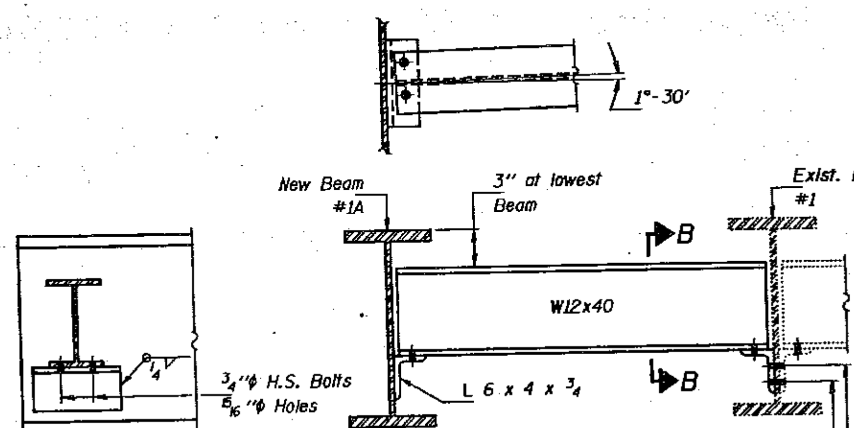
SECTION A-A



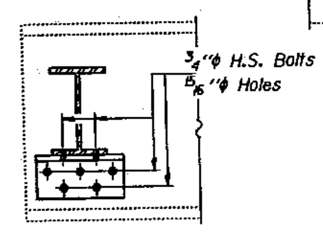
PLAN-SPLICE "A"



PLAN-SPLICE "B"

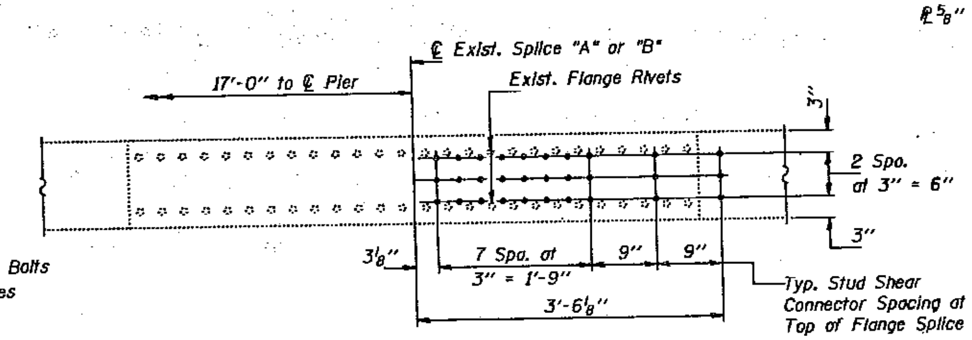


DIAPHRAGM D
(D = 2 Required)

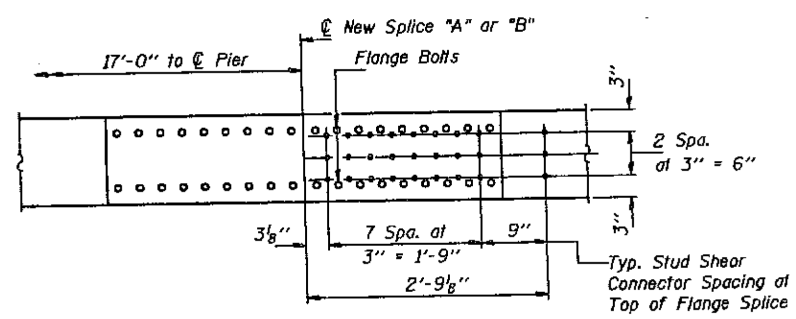


SECTION B-B

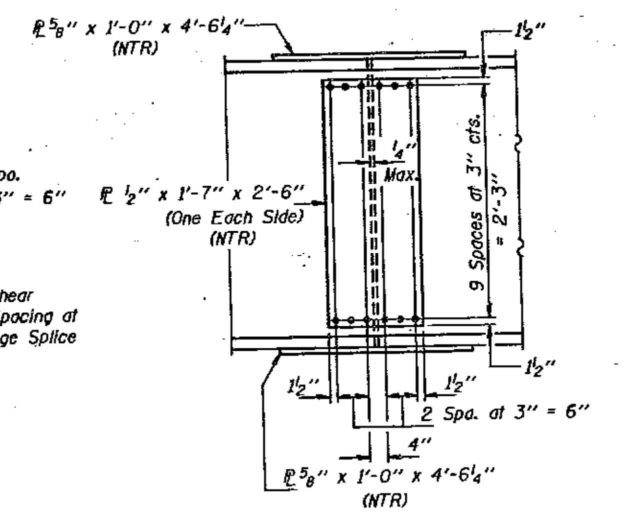
Remove existing rivets or bolts. Field drill ⅞"φ holes in new angles using holes in existing beams as a template. Existing bolts and rivets are to be replaced by ¾"φ H.S. Bolt. Cost of Rivet and Bolt Removal and Field Drilling is incidental to "Structural Steel".



VIEW B-B
(At Existing Beams #1 thru #6)



VIEW B-B
(At New Beam #1A)



FIELD SPLICE DETAIL
(Use ⅞"φ H.S. Bolts)

All new splice plate material shall be AASHTO M270 Gr. 50.

Note: Two hardened washers shall be required over all ⅞"φ holes. "NTR" denotes Notch Toughness Requirements.

DESIGNED	[signature]
CHECKED	Michael Abitogun
DRAWN	John F. Schneller Jr.
CHECKED	GRA

May 22 1992

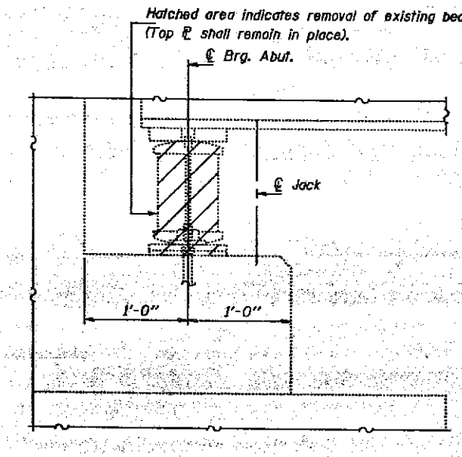
EXAMINED [signature] — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

STRUCTURAL STEEL
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

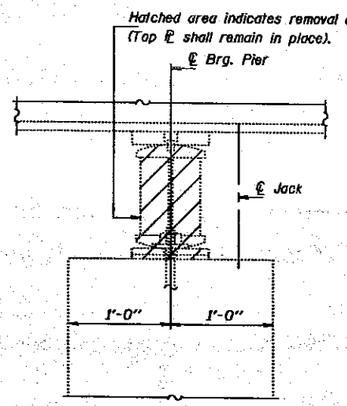
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	93
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
22 SHEETS



JACK AND REMOVE EXISTING BEARINGS
(Dimensions are at Rt. L's)
(Typ. for all Abutments)



JACK AND REMOVE EXISTING BEARINGS
(Dimensions are at Rt. L's)
(Typ. for all Piers)

EXIST. BEAM MOMENT TABLE		0.4 Sp. #1 or 0.6 Sp. #5	Pier #1 or Pier #4	0.5 Sp. #2 or 0.5 Sp. #4	Pier #2 or Pier #3	0.5 Sp. #3
Is	(in⁴)	10500	10500	10500	10500	10500
Ic	(in⁴)	24819		24819		24819
Ss	(in³)	580	580	580	580	580
Sc	(in³)	810		810		810
ℓD	(K/ft.)	.82	1.116	.82	1.116	.82
MℓL	('K)	247	545	203	537	209
fs-non-comp	(k.s.i.)	5.1	11.3	4.2	11.1	4.3
sℓL	(K/ft.)	.296		.296		.296
MsℓL	('K)	102		101		99
MℓL	('K)	447	276	469	296	472
M (Imp)	('K)	118	70	115	73	116
Total	('K)	667	346	685	369	687
fs-(comp)	(k.s.i.)	9.9	7.2	10.1	7.6	10.2
fs (Total)	(k.s.i.)	15.0	18.5	14.3	18.7	14.5
VR	(K)	48.3		41.4		41.2

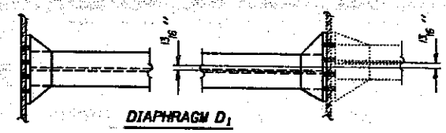
NEW BEAM MOMENT TABLE		0.4 Sp. #1 or 0.6 Sp. #5	Pier #1 or Pier #4	0.5 Sp. #2 or 0.5 Sp. #4	Pier #2 or Pier #3	0.5 Sp. #3
Is	(in⁴)	7800	7800	7800	7800	7800
Ic	(in⁴)	19426		19426		19426
Ss	(in³)	439	439	439	439	439
Sc	(in³)	631		631		631
ℓD	(K/ft.)	.82	1.116	.82	1.116	.82
MℓL	('K)	247	543	203	536	209
fs-non-comp	(k.s.i.)	6.8	14.8	5.5	14.6	5.7
sℓL	(K/ft.)	.296		.296		.296
MsℓL	('K)	102		102		101
MℓL	('K)	449	271	470	291	475
M (Imp)	('K)	117	69	118	72	117
Total	('K)	668	340	690	363	693
fs-(comp)	(k.s.i.)	12.7	9.3	13.1	9.9	13.2
fs (Total)	(k.s.i.)	19.5	24.1	18.6	24.5	18.9
VR	(K)	48.3		41.4		41.2

NEW & EXIST. BEAM REACTION TABLE		Abutments	Pier #1 & #4	Pier #2 & #3
RℓL	(K)	27.9	88.1	86.8
RℓL	(K)	35.1	45.9	47.3
Imp.	(K)	9.3	11.7	11.7
R (Total)	(K)	72.3	145.7	145.8

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 live Load + Impact shear range in span.

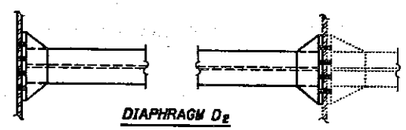
PROCEDURE FOR JACKING AND REMOVING OF EXISTING BEARINGS

The Contractor shall submit plans for Jacking and Cribbing, to the Engineer for approval, prior to commencing any work at the Bearings.
Jacking and Removing Existing Bearings shall be done after existing deck removal is completed and before new deck is poured.
All Beams all locations to be lifted simultaneously
The maximum dead load reaction with deck removed (per bearing) at each Abutment is 5.0 kips and 16.5 kips at each Pier.
Jacking shall be limited to a maximum ¼" lift to remove the Existing Bearing Assembly.
The Jack capacity for each beam is 5 Tons at Abutments and 20 Tons at Piers. Set Jacks so that Beams can be lowered 1¼" from original position.
The bottom flange area of the Beam and Existing Top Plate shall be cleaned and painted as required and specified for Structural Steel.
The new Bearings and Steel Extensions shall be in place and the Jacks shall be lowered before the new concrete Deck is poured. Lower all Beams simultaneously in ⅛" incerments.

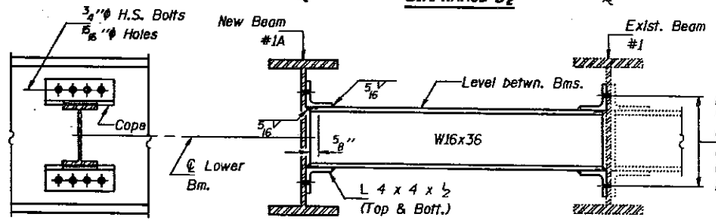


DIAPHRAGM D_1

Note: Two hardened washers shall be required over all 15/16"ϕ holes.



DIAPHRAGM D_2



Remove existing rivets or bolts. Field drill 15/16"ϕ holes in new angles using holes in existing beams as a template. Existing bolts and rivets are to be replaced by ¾"ϕ H.S. Bolt. Cost of Rivet and Bolt Removal and Field Drilling is incidental to "Structural Steel".

DIAPHRAGM D_1 & D_2
(D_1 = 8 Required)
(D_2 = 9 Required)

* TOP OF BEAM ELEVATIONS

Loc. \ Gir.	Beam #1A
℄ Brg. N. Abut.	391.74
℄ Brg. Pier #1	391.70
℄ Splice "A"	391.69
℄ Brg. Pier #2	391.68
℄ Splice "B"	391.66
℄ Splice "B"	391.66
℄ Brg. Pier #3	391.66
℄ Splice "A"	391.67
℄ Brg. Pier #4	391.68
℄ Brg. S. Abut.	391.70

* For Fabrication only.

DESIGNED [signature]
CHECKED MICHAEL ABIOGUN
DRAWN John F. Schneller Jr.
CHECKED JAB GRA

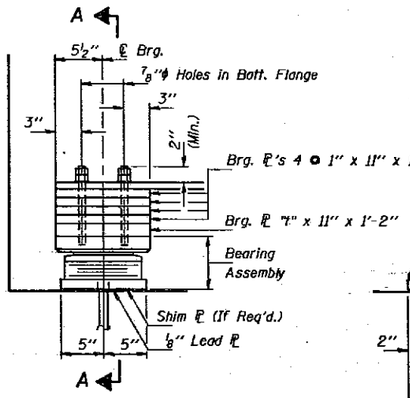
May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

STRUCTURAL STEEL
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

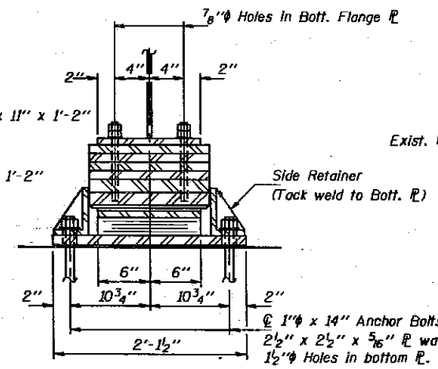
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	94
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
22 SHEETS

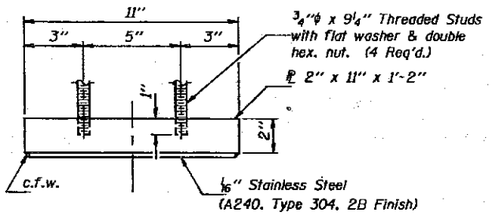


ELEVATION AT N. ABUT.

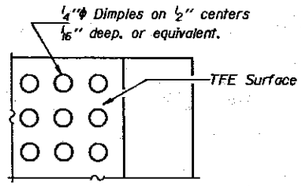


SECTION A-A

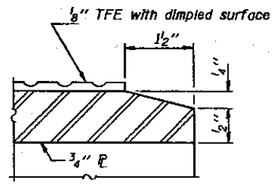
TYPE II TFE ELASTOMERIC EXP. BRG. BEAM #1A
(1 Required)



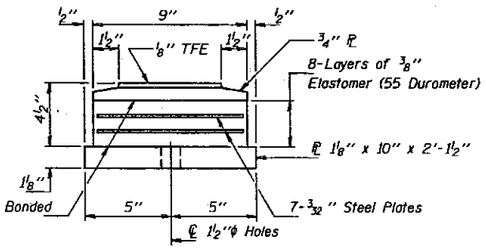
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



SECTION THRU TFE



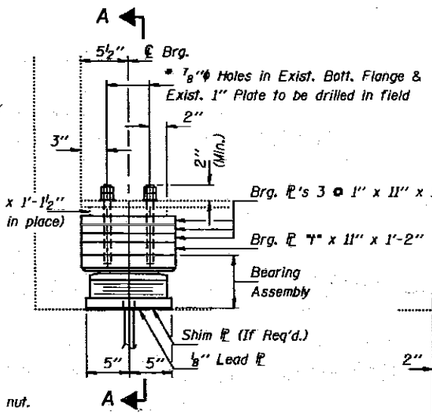
BOTTOM BEARING ASSEMBLY

DESIGNED Brian Bolin
CHECKED MICHAEL ABITOGUN
DRAWN John F. Schneller Jr.
CHECKED RAB GRA

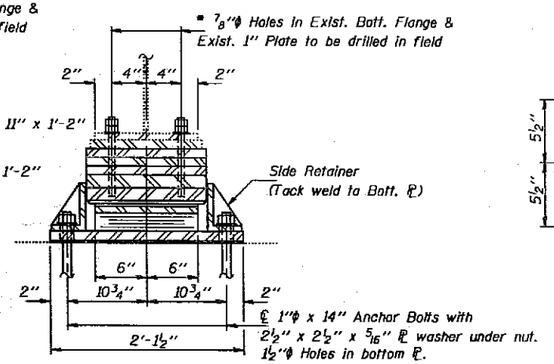
May 22 1992
EXAMINED Raj D. Kaspar
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

* Cost of drilling holes in existing bottom flanges and existing 1" plate in field is incidental to "Elastomeric Bearing Assembly Type II".

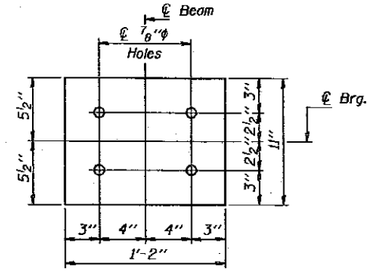


ELEVATION AT N. ABUT.



SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6
(6 Required)

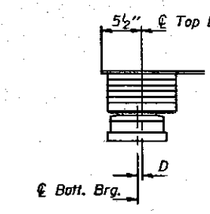


BEARING PLATE

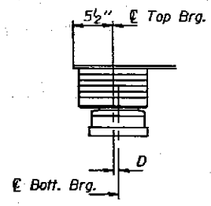
** BEARING PLATE "1" DIMENSIONS

Dim. / Brg.	1A	#1	#2	#3	#4	#5	#6
"1"	1¼"	¾"	11/16"	13/16"	13/16"	15/16"	7/8"

** Based on the survey elevations. The contractor shall verify and make adjustments if necessary.



BELOW 50°F.
(Move bott. brg. away from fixed brg.)

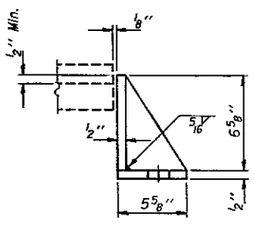


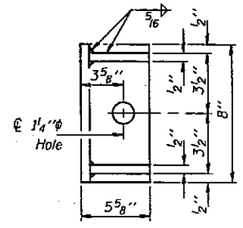
ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

Notes: See sheet #16 of 16 for Anchor Bolt installation.
Existing Anchor Bolts to be cut off flush with top of cap and grind smooth. Cost incidental to "Jack and Remove Existing Bearing."
If it is necessary to remove the existing Diaphragms in order to drill holes for the new Anchor Bolts, the contractor shall replace all diaphragm connectors with the same size H.S. Bolts. Cost incidental.
Weight of Steel Shim Plates, Lead Plates, Anchor Bolts, nuts and washers and Side Retainers is included in "Structural Steel".

SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.





SIDE RETAINER-N. ABUT.
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

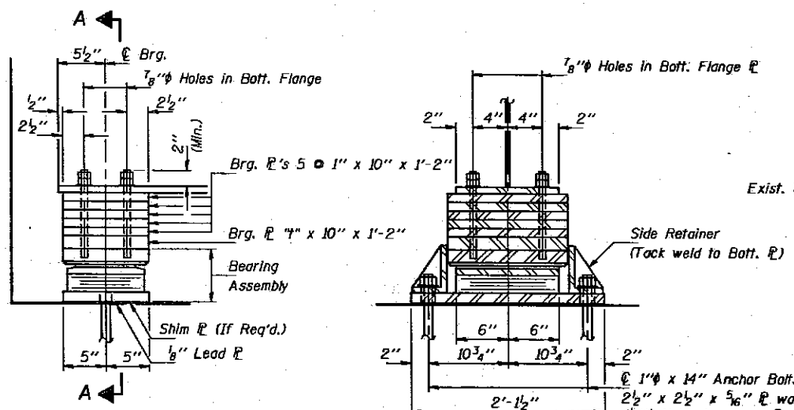
Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Jack and Remove Existing Bearings	Each	6

BEARING DETAILS
NORTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	95
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

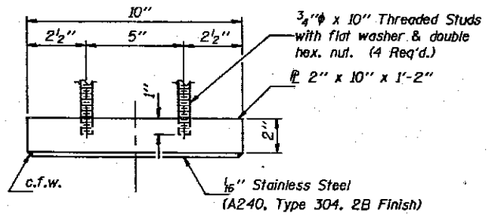
SHEET NO. 11
22 SHEETS



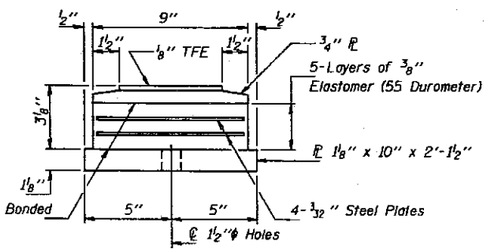
ELEVATION AT S. ABUT.

SECTION A-A

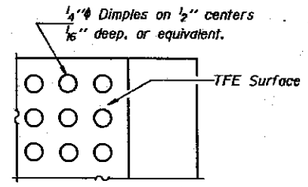
TYPE II TFE ELASTOMERIC EXP. BRG. BEAM #1A
(1 Required)



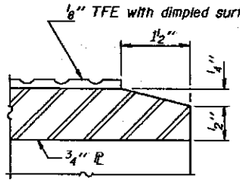
TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY



PLAN-TFE SURFACE



SECTION THRU TFE

DESIGNED	
CHECKED	MICHAEL ABITOGUN
DRAWN	John F. Schneller Jr.
CHECKED	GRA

May 22 1992

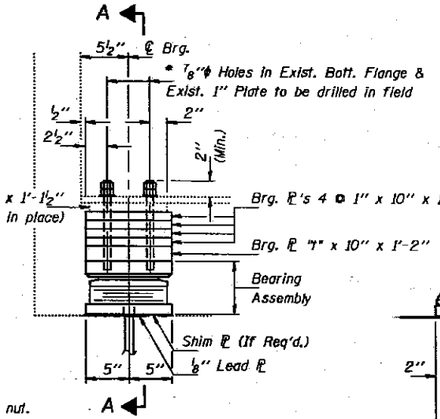
EXAMINED Engineer of Bridge Design

PASSED Ralph E. Anderson
Engineer of Bridges and Structures

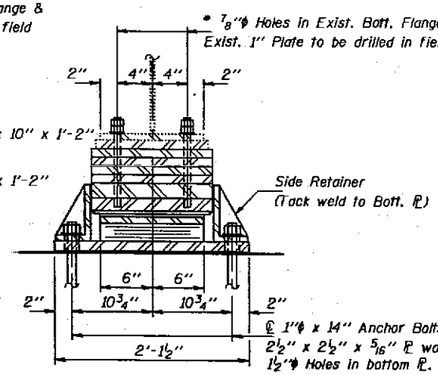
APPROVED
Director of Highways

Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

* Cost of drilling holes in existing bottom flanges and existing 1" plate in field is incidental to "Elastomeric Bearing Assembly Type II".

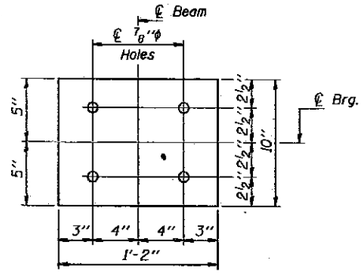


ELEVATION AT S. ABUT.



SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6
(6 Required)

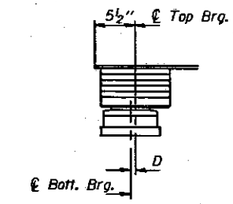


BEARING PLATE

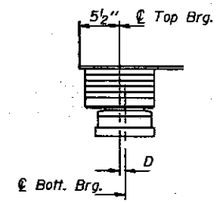
** BEARING PLATE "1" DIMENSIONS

Dim. / Brg.	1A	#1	#2	#3	#4	#5	#6
"1"	1⅛"	5/8"	5/8"	3/4"	3/4"	13/16"	13/16"

** Based on the survey elevations. The contractor shall verify and make adjustments if necessary.



BELOW 50°F.
(Move bott. brg. away from fixed brg.)

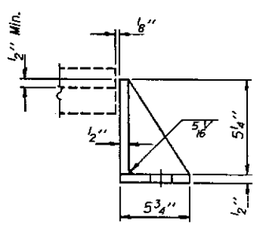


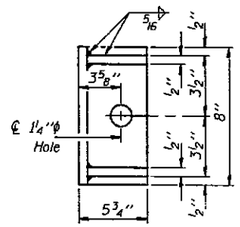
ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

Notes: See sheet #16 of 16 for Anchor Bolt installation.
Existing Anchor Bolts to be cut off flush with top of cap and grind smooth. Cost incidental to "Jack and Remove Existing Bearing."
It it is necessary to remove thr existing Diaphragms in order to drill holes for the new Anchor Bolts, the contractor shall replace all diaphragm connectors with the same size H.S. Bolts. Cost incidental.
Weight of Steel Shim Plates, Lead Plates, Anchor Bolts, nuts and washers and Side Retainers is included in "Structural Steel".





SIDE RETAINER-S. ABUT.
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

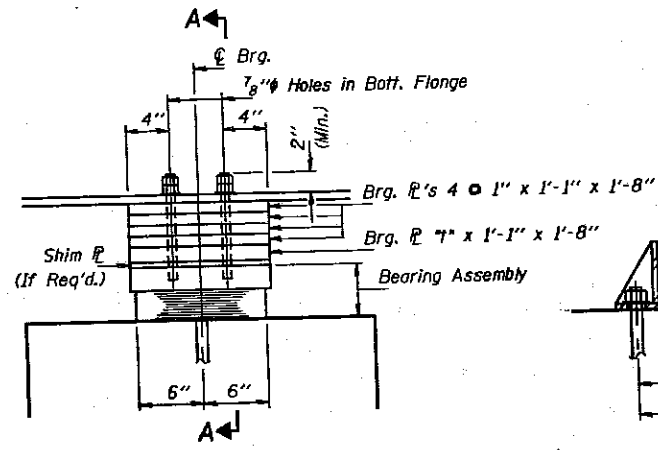
Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Jack and Remove Existing Bearings	Each	6

BEARING DETAILS
SOUTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

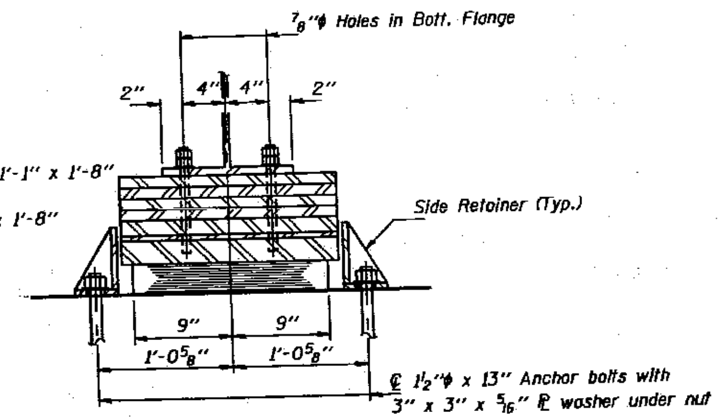
* Cost of drilling holes in existing bottom flanges and existing $1\frac{3}{8}$" plate in field is incidental to "Elastomeric Bearing Assembly Type I".

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	96
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
22 SHEETS

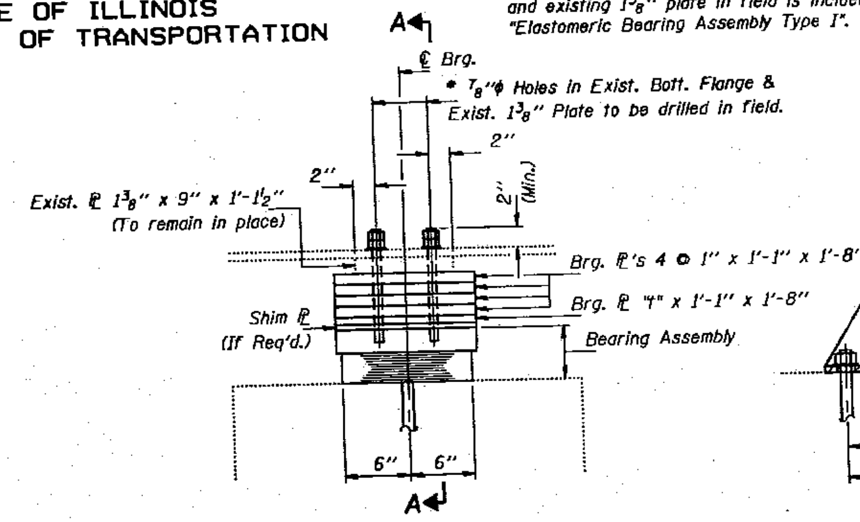


ELEVATION AT PIER #1

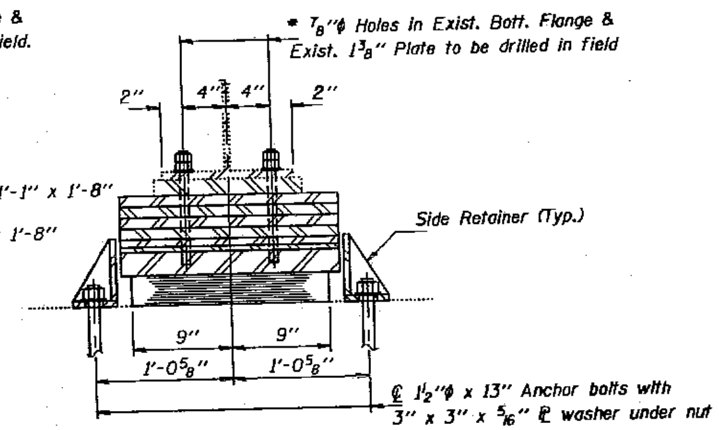


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. BEAM #1A
(1 Required)



ELEVATION AT PIER #1



SECTION A-A

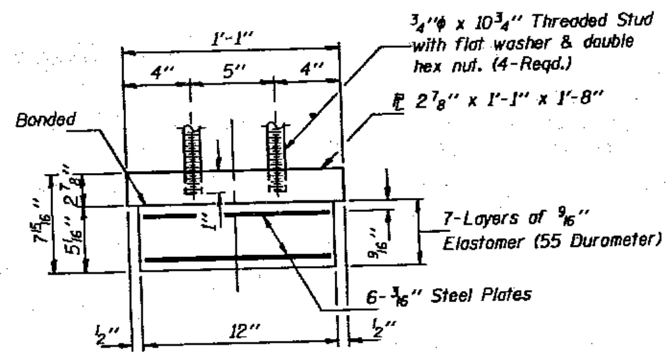
TYPE I ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6
(6 Required)

** BEARING PLATE "t" DIMENSIONS

Dim. \ Bm.	1A	#1	#2	#3	#4	#5	#6
"t"	$1\frac{5}{16}$"	$\frac{7}{8}$"	$\frac{7}{8}$"	1"	$\frac{15}{16}$"	$1\frac{1}{16}$"	1"

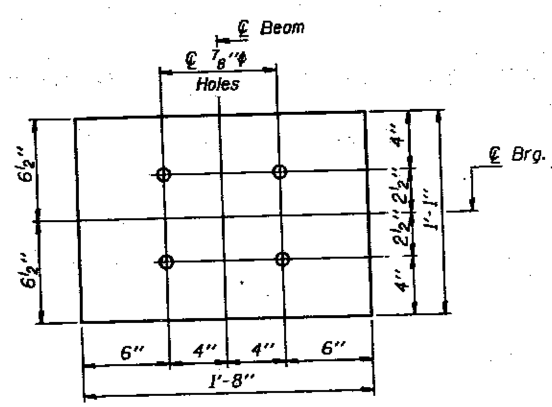
** Based on the survey elevations. The contractor shall verify and make adjustments if necessary.

Notes: See sheet #16 of 16 for Anchor Bolt installation.
Existing Anchor Bolts to be cut off flush with top of cap and grind smooth. Cost incidental to "Jack and Remove Existing Bearing."
If it is necessary to remove the existing Diaphragms in order to drill holes for the new Anchor Bolts, the contractor shall replace all diaphragm connectors with the same size H.S. Bolts. Cost incidental.
Weight of Steel Shim Plates, Anchor Bolts, nuts and washers and Side Retainers is included in "Structural Steel".

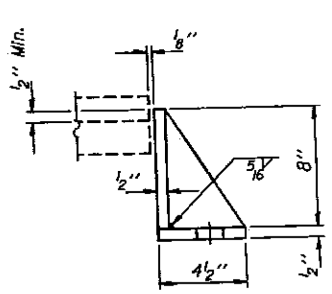


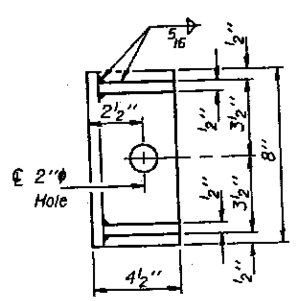
BEARING ASSEMBLY

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



BEARING PLATE





SIDE RETAINER-PIER #1

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Jack and Remove Existing Bearings	Each	6

DESIGNED	[signature]
CHECKED	Michael Abitogun
DRAWN	John F. Schneller Jr.
CHECKED	[initials] GKA

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

BEARING DETAILS - PIER #1
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

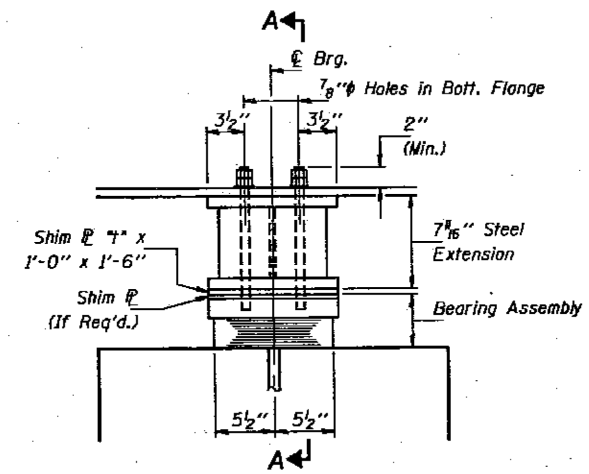
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	97

SHEET NO. 13

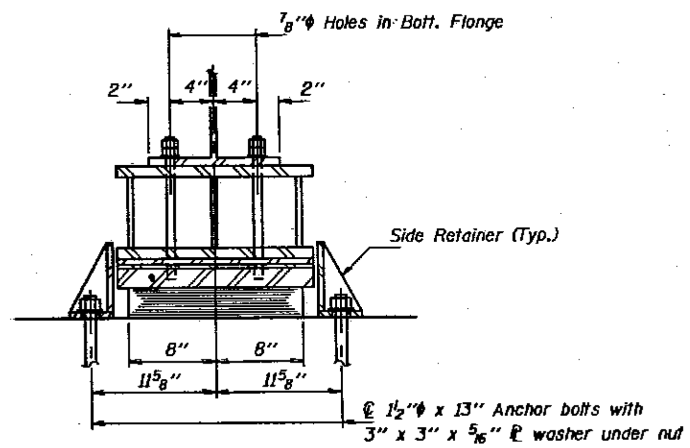
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* Cost of drilling holes in existing bottom flanges and existing 1⅜" plate in field is incidental to "Elastomeric Bearing Assembly Type I".



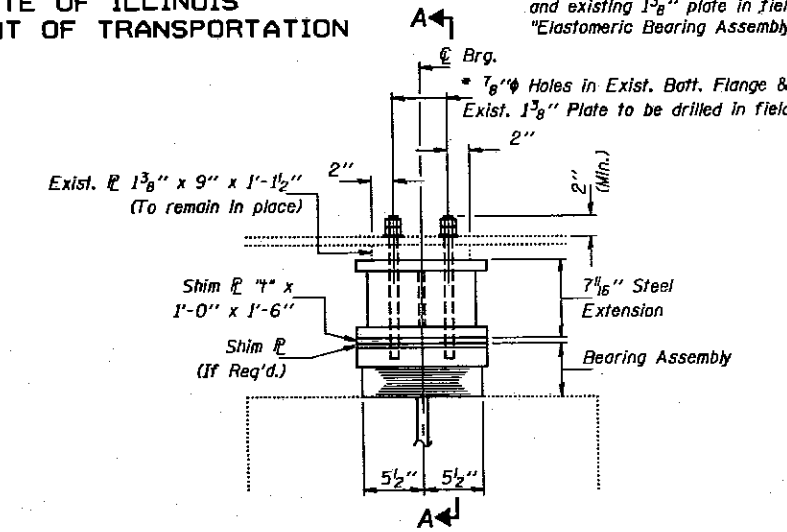
ELEVATION AT PIER #2



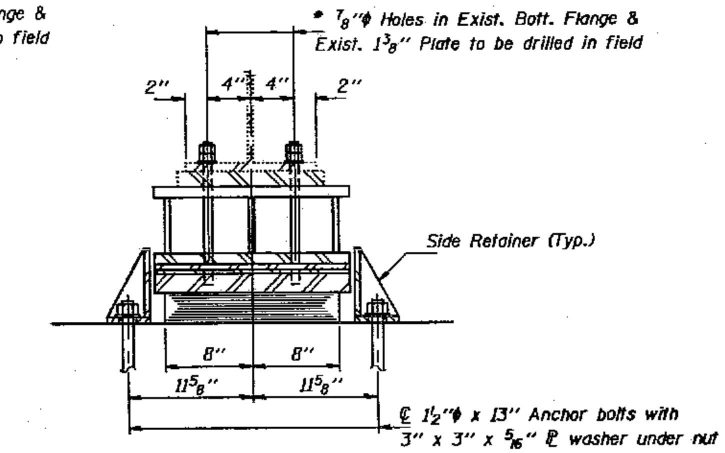
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. BEAM #1A

(1 Required)



ELEVATION AT PIER #2



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6

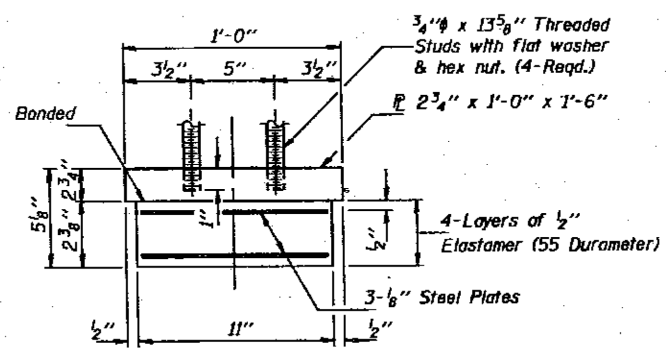
(6 Required)

** SHIM PLATE "t" DIMENSIONS

Dim. \ Bm.	1A	#1	#2	#3	#4	#5	#6
"t"	1 7/16"	0	0	⅛"	1/16"	3/16"	3/16"

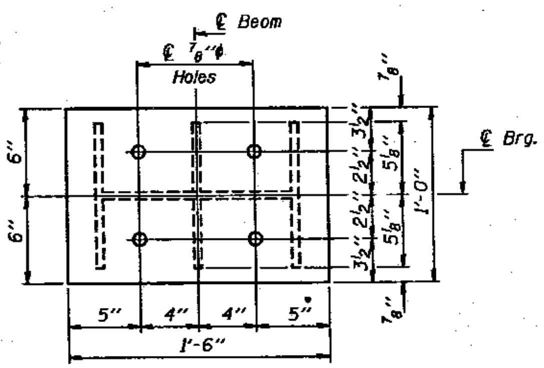
** Based on the survey elevations. The contractor shall verify and make adjustments if necessary.

Notes: See sheet #16 of 16 for Anchor Bolt installation.
Existing Anchor Bolts to be cut off flush with top of cap and grind smooth. Cost incidental to "Jack and Remove Existing Bearing."
If it is necessary to remove the existing Diaphragms in order to drill holes for the new Anchor Bolts, the contractor shall replace all diaphragm connectors with the same size H.S. Bolts. Cost incidental.
Weight of Steel Shim Plates, Steel Extensions, Anchor Bolts, nuts and washers and Side Retainers is included in "Structural Steel".

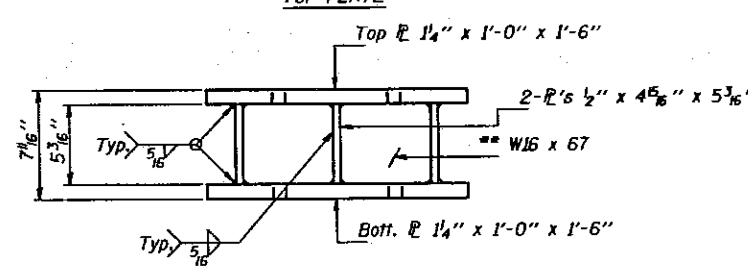


BEARING ASSEMBLY

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

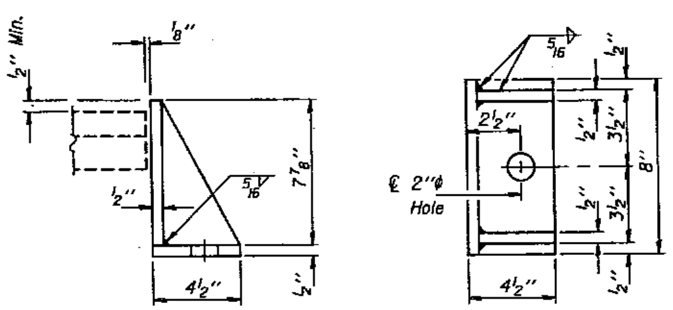


TOP PLATE



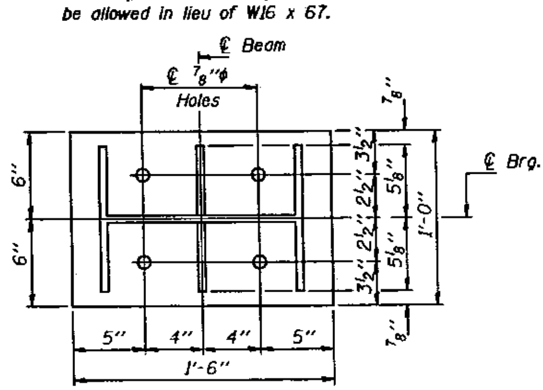
ELEVATION

** Equivalent welded plates will be allowed in lieu of W16 x 67.



SIDE RETAINER-PIER #2

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



BOTTOM PLATE

STEEL EXTENSION

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Jack and Remove Existing Bearings	Each	6

DESIGNED	[signature]
CHECKED	Michael Abitogun
DRAWN	John F. Schneller Jr.
CHECKED	AB GRA

May 22 1992

EXAMINED [signature] ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

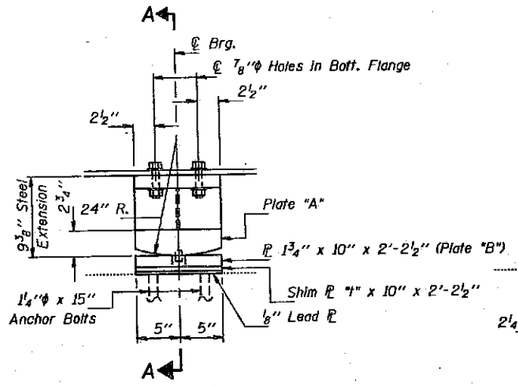
APPROVED DIRECTOR OF HIGHWAYS

BEARING DETAILS - PIER #2
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

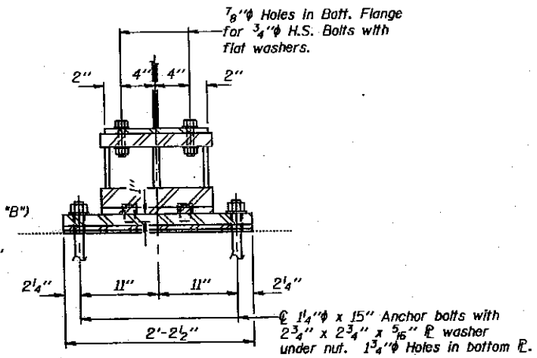
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) 0	FRANKLIN	155	90
FED. ROAD DIST. NO. 9	ILL. PROJECT	FED. AID PROJECT		

SHEET NO. 14
22 SHEETS

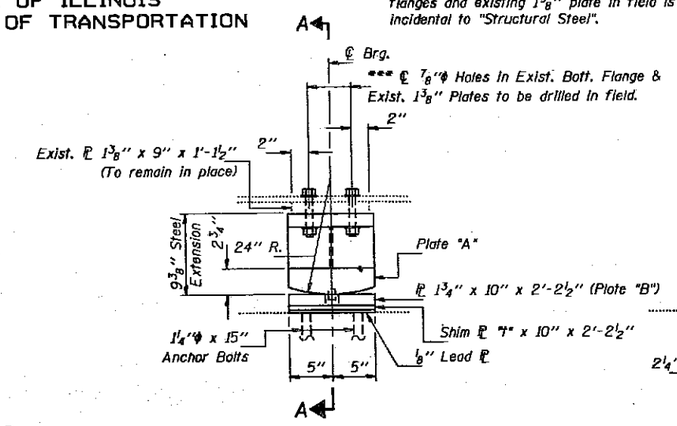


ELEVATION AT PIER 3

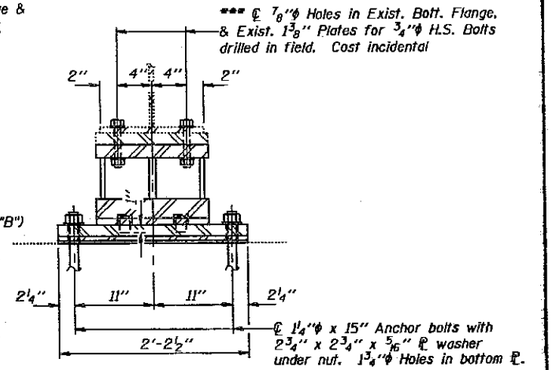


SECTION A-A

*** Cost of drilling holes in existing bottom flanges and existing 1⅜" plate in field is incidental to "Structural Steel".

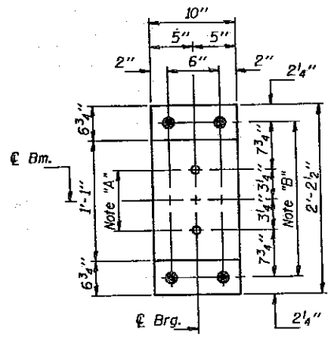


ELEVATION AT PIER 3



SECTION A-A

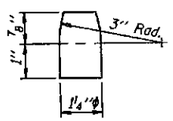
FIXED BEARING BEAM #1A
(1 Required)



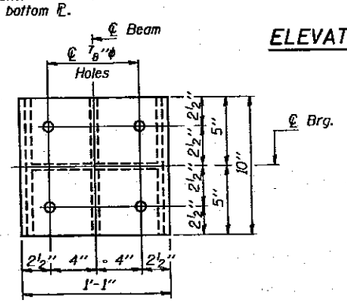
Note "A"
1⅜"ϕ Holes 1" deep in Bottom Plate "A" for 1¼"ϕ Pintles. Thread or press fit pintles in Bottom Plate "B".

Note "B"
1¾"ϕ Holes for 1¼"ϕ Anchor Bolts 2¾" x 2¾" x 5/16" ℄ washer under nut.

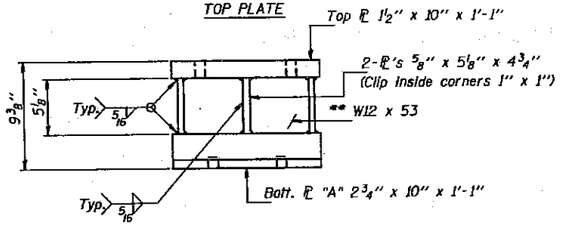
PLAN-BOTTOM PLATE "B"



PINTLE

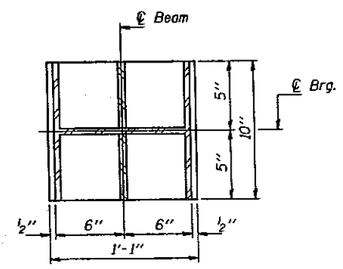


TOP PLATE



ELEVATION

** Equivalent welded plates will be allowed in lieu of W12 x 53.



BOTTOM PLATE "A"

STEEL EXTENSION

FIXED BEARING BEAMS #1 THRU #6
(6 Required)

* SHIM PLATE "t" DIMENSIONS

Dim. / Bm	1A	#1	#2	#3	#4	#5	#6
"t"	1 5/16"	0 *	0	⅛"	⅛"	3/16"	3/16"

* Based on the survey elevations. The contractor shall verify and make adjustments if necessary.

Notes: See sheet #16 of 16 for Anchor Bolt installation.
Existing Anchor Bolts to be cut off flush with top of cap and grind smooth. Cost incidental to "Jack and Remove Existing Bearing."
If it is necessary to remove the existing Diaphragms in order to drill holes for the new Anchor Bolts, the contractor shall replace all diaphragm connectors with the same size H.S. Bolts. Cost incidental.
Weight of Steel Shim Plates, Lead Plates, Anchor Bolts, nuts and washers, ¾"ϕ H.S. Bolts, nuts and flat washers and Steel Extensions is included in "Structural Steel".

DESIGNED Srinivas Pallina
CHECKED MICHAEL ABITOGUN
DRAWN John F. Schneller Jr.
CHECKED RB GRA

May 22 19 97
EXAMINED Engineer of Bridge Design
PASSED Engineer of Bridges and Structures
APPROVED Director of Highways

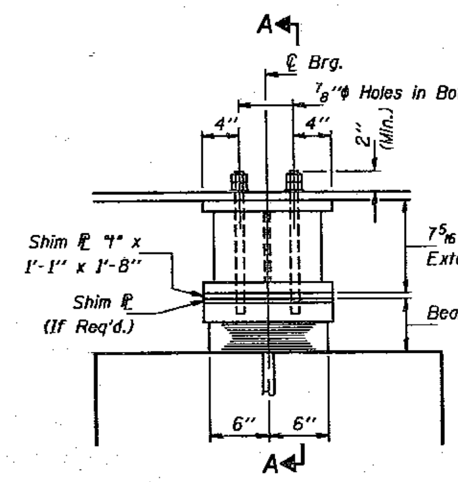
BEARING DETAILS - PIER #3
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

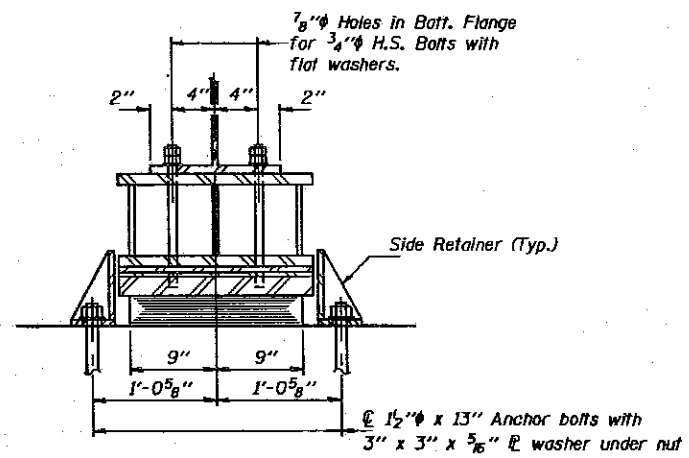
* Cost of drilling holes in existing bottom flanges and existing $1\frac{3}{8}$" plate in field is incidental to "Elastomeric Bearing Assembly Type I".

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	99
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 15
22 SHEETS

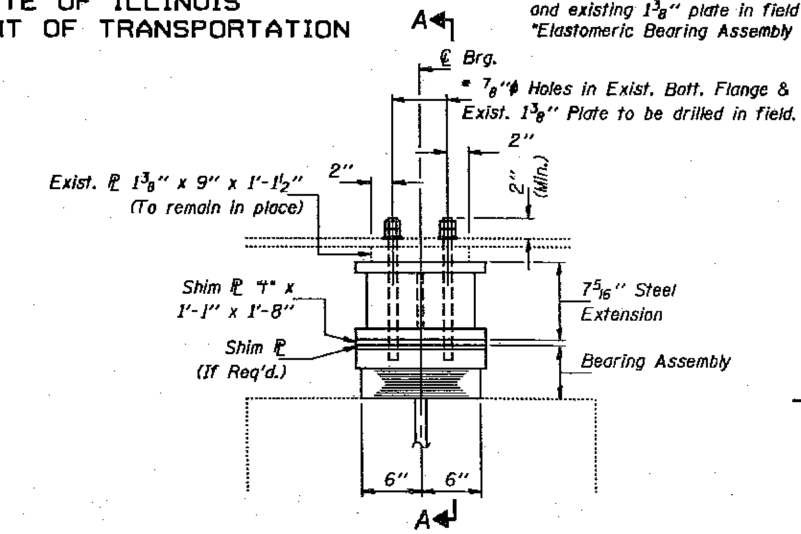


ELEVATION AT PIER #4

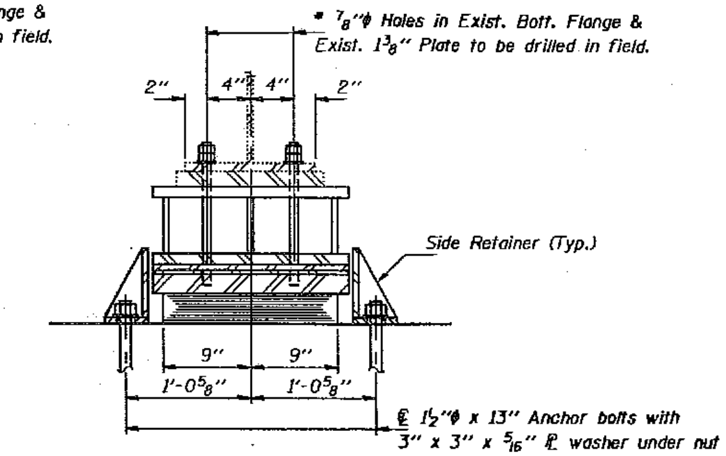


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. BEAM #1A
(1 Required)



ELEVATION AT PIER #4



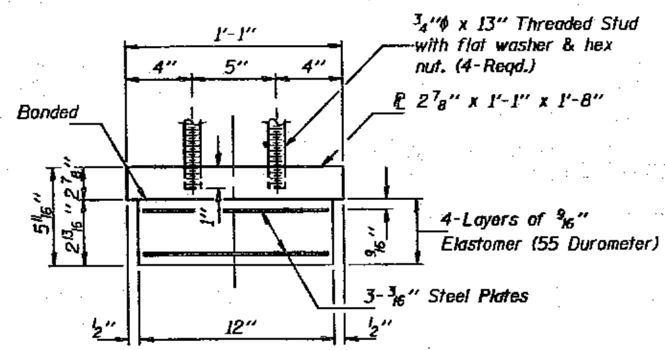
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6
(6 Required)

** SHIM PLATE "t" DIMENSIONS

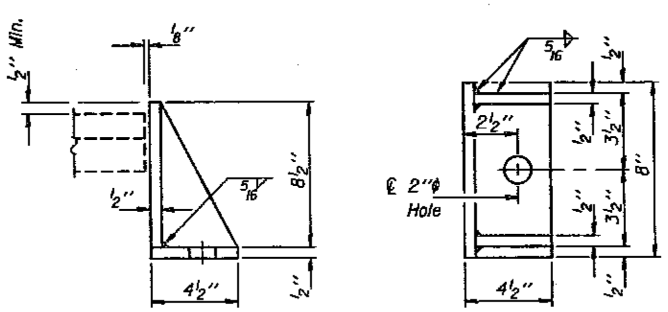
Dim. \ Bm	1A	#1	#2	#3	#4	#5	#6
"t"	$1\frac{1}{2}$"	0	0	$\frac{1}{16}$"	$\frac{1}{16}$"	$\frac{3}{16}$"	$\frac{1}{8}$"

** Based on the survey elevations. The contractor shall verify and make adjustments if necessary.



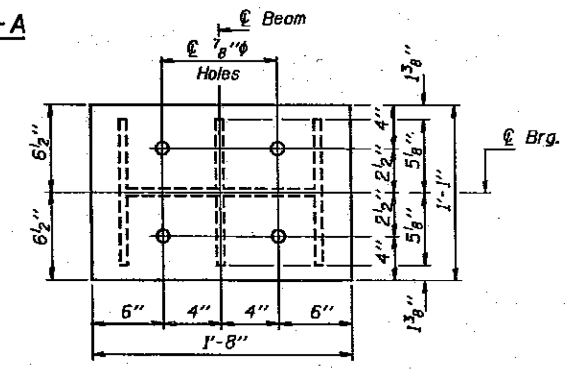
BEARING ASSEMBLY

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

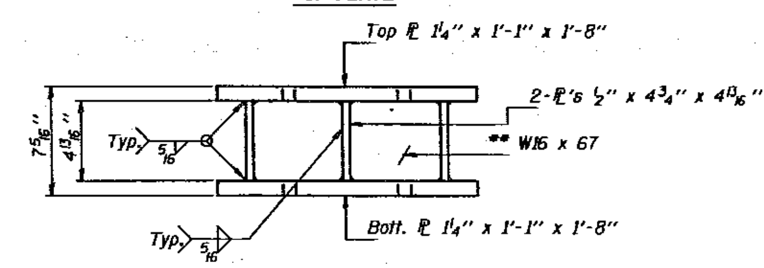


SIDE RETAINER-PIER #4

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

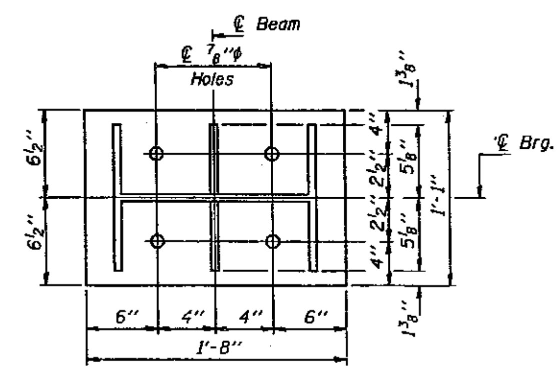


TOP PLATE



ELEVATION

** Equivalent welded plates will be allowed in lieu of W16 x 67.



BOTTOM PLATE

STEEL EXTENSION

Notes: See sheet #16 of 16 for Anchor Bolt installation.
Existing Anchor Bolts to be cut off flush with top of cap and grind smooth. Cost incidental to "Jack and Remove Existing Bearing."
If it is necessary to remove the existing Diaphragms in order to drill holes for the new Anchor Bolts. the contractor shall replace all diaphragm connectors with the same size H.S. Bolts. Cost incidental.
Weight of Steel Shim Plates, Steel Extensions. Anchor Bolts, nuts and washers and Side Retainers is included in "Structural Steel".

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Jack and Remove Existing Bearings	Each	6

DESIGNED [signature]
CHECKED Michael Abitogun
DRAWN John F. Schneller Jr.
CHECKED LRB GRA

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

BEARING DETAILS - PIER #4
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) 0	FRANKLIN	155	100
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

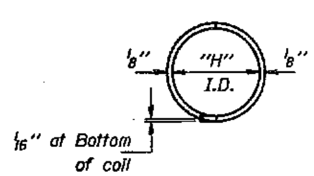
SHEET NO. 16
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

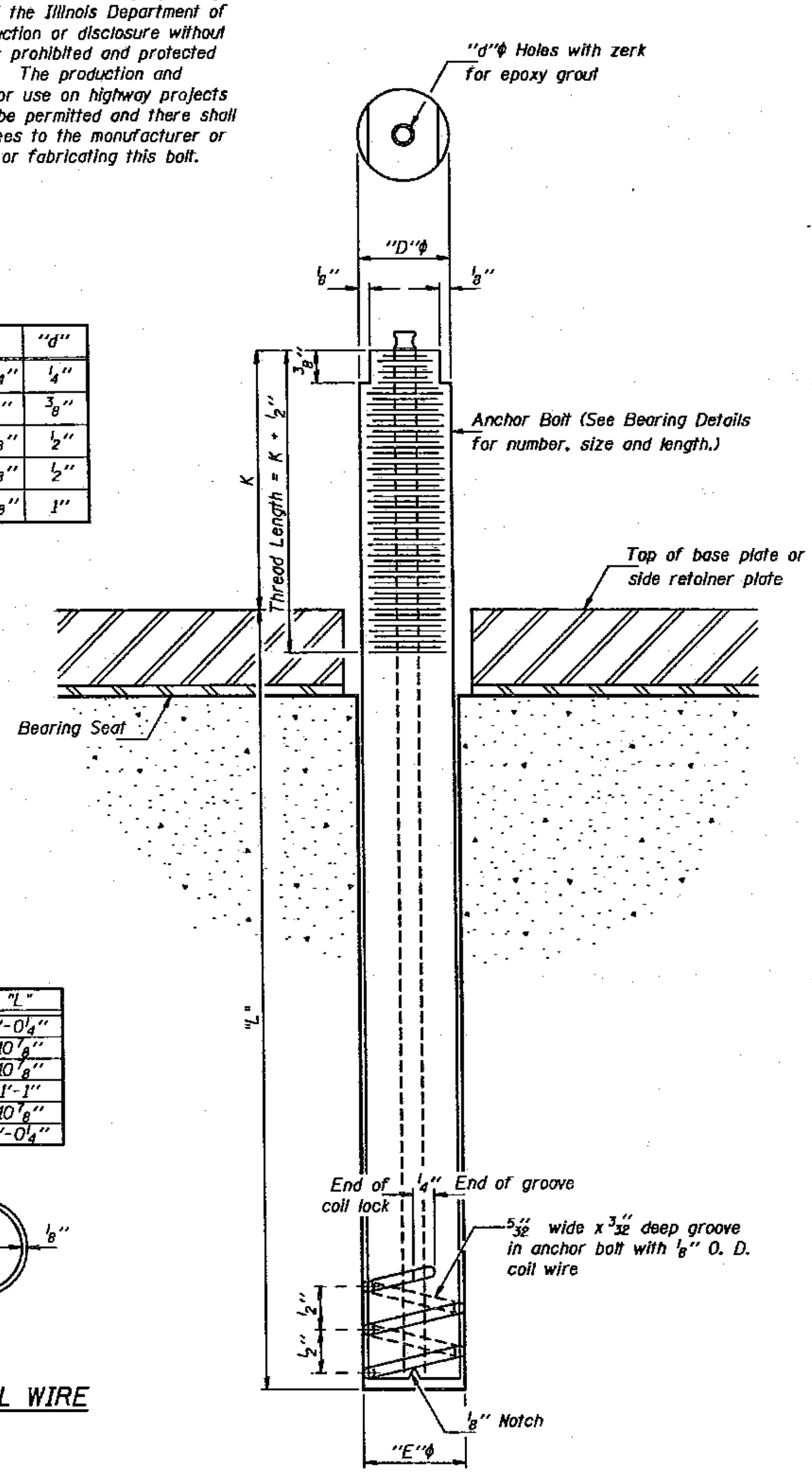
The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for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

D	E	H	K	"d"
1"	1-1/8"	13/16"	1-3/4"	1/4"
1-1/4"	1-3/8"	1-1/16"	2"	3/8"
1-1/2"	1-5/8"	1-5/16"	2-1/8"	1/2"
2"	2-1/8"	1-13/16"	2-7/8"	1/2"
2-1/2"	2-5/8"	2-5/16"	3-3/8"	1"

LOCATION	"L"
No. Abutment	1'-0-1/4"
Pier #1	10-7/8"
Pier #2	10-7/8"
Pier #3	1'-1"
Pier #4	10-7/8"
So. Abutment	1'-0-1/4"



PLAN-COIL WIRE



ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

DESIGNED [signature]
CHECKED Michael Abitogun
DRAWN John F. Schneller Jr.
CHECKED [initials] GRA

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

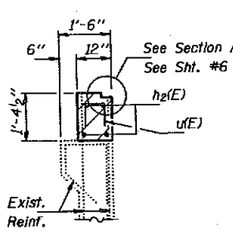
ABB-1 12-1-83

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

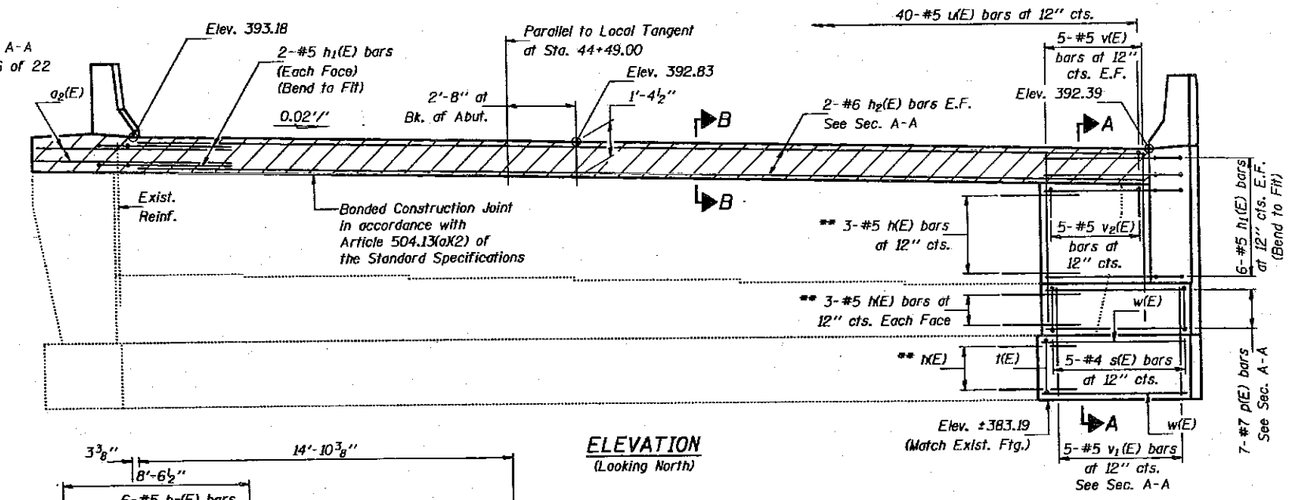
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	101
FED. ROAD DIST. NO. 7	ILL. SHEETS	FED. AID PROJECT-		

SHEET NO. 17
22 SHEETS

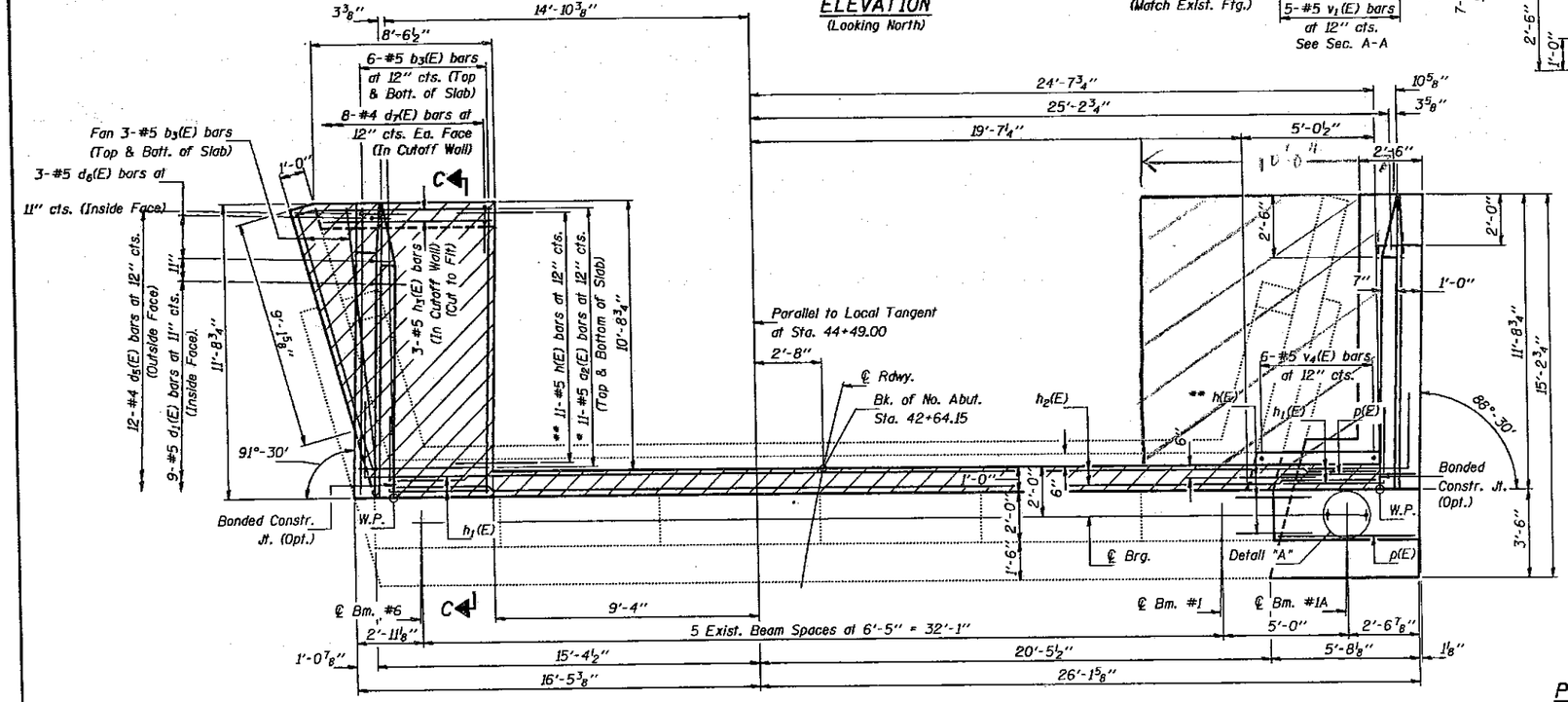
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION B-B



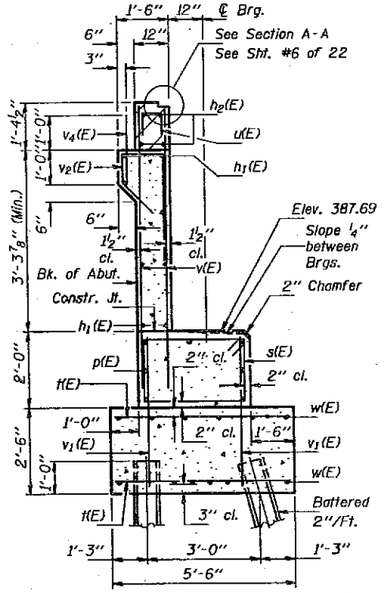
ELEVATION
(Looking North)



PLAN

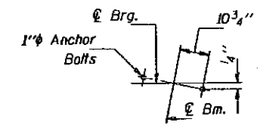
Notes:
Hatched area to be poured after Superstructure forms have been removed. Form top surface to match superstructure. Concrete quantity is billed with "Class X Concrete Superstructure" see sheet #6 of 22.
Concrete quantity for End Posts is billed with "Class X Concrete Superstructure" see sheet #6 of 22.
Existing vertical reinforcement extending into new construction shall be cleaned, straightened, and incorporated into new construction. Cost is incidental to "Concrete Removal".

Notes:
See sheet #22 of 22 for locations of Concrete Removal.
Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost incidental to "Concrete Removal".
Space reinforcement in cap to miss anchor bolts.
Reinforcement bars designated (E) shall be epoxy coated.
For Wingwall Details and Bill of Material see sheet #19 of 22.
For Anchor Bolt installation details see sheet #16 of 22.
All edges shall have standard ¾" chamfer except as noted.



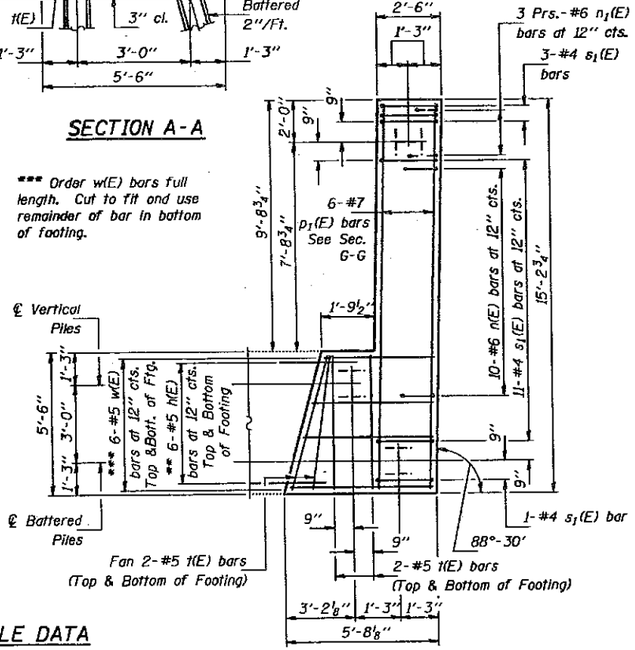
SECTION A-A

*** Order w(E) bars full length. Cut to fit and use remainder of bar in bottom of footing.



DETAIL "A"

* Order a2(E) bars full length. Cut to fit and use remainder of bars in bottom of slab.
** Drill ⅞"ϕ x 9" Min. hole. Epoxy grout h(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.



FOOTING PLAN

PILE DATA
Type: Steel HP12 x 53
Capacity: Drive to Refusal
Est. Length: 44 Ft.
No. Required: 2 + 1 Test Pile

MIN. BAR LAPS
#5 (E) bars = 2'-2"

NORTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

DESIGNED Srinivas Bollina
CHECKED Michael Abitogun
DRAWN John F. Schneller Jr.
CHECKED DAB GRA

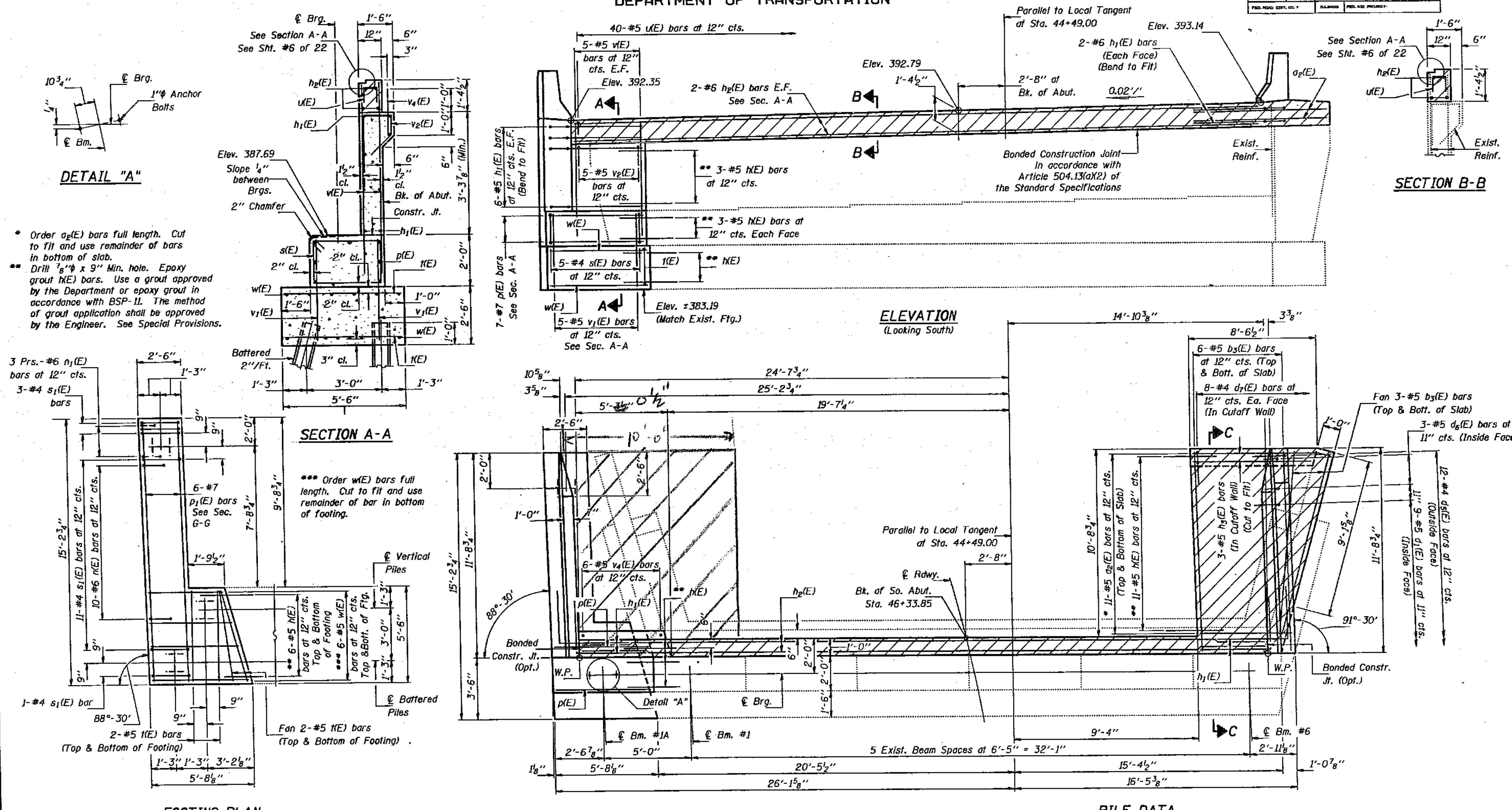
May 22 1992
EXAMINED Raj. D. Kaspar
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

Franklin Co. (28-5B-1)D Sheets 101 Thru 155

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	102

SHEET NO. 18
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Notes:
Hatched area to be poured after Superstructure forms have been removed. Form top surface to match superstructure. Concrete quantity is billed with "Class X Concrete Superstructure" see sheet #6 of 22.
Concrete quantity for End Posts is billed with "Class X Concrete Superstructure" see sheet #6 of 22.
Existing vertical reinforcement extending into new construction shall be cleaned, straightened, and incorporated into new construction. Cost is incidental to "Concrete Removal".

Notes:
Space reinforcement in cap to miss anchor bolts.
Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost incidental to "Concrete Removal".
Reinforcement bars designated (E) shall be epoxy coated.
For Wingwall Details and Bill of Material see sheet #19 of 22.
For Anchor Bolt installation details see sheet #16 of 22.
All edges shall have standard 3/4" chamfer except as noted.
See sheet #22 of 22 for locations of Concrete Removal.

PILE DATA

Type: Steel HP12 x 53
Capacity: Drive to Refusal
Est. Length: 60 Ft.
No. Required: 2 + 1 Test Pile

MIN. BAR LAPS

#5 (E) bars = 2'-2"

DESIGNED	Dominic Dobin
CHECKED	MICHAEL ABITOGUN
DRAWN	John F. Schneller Jr.
CHECKED	GPA

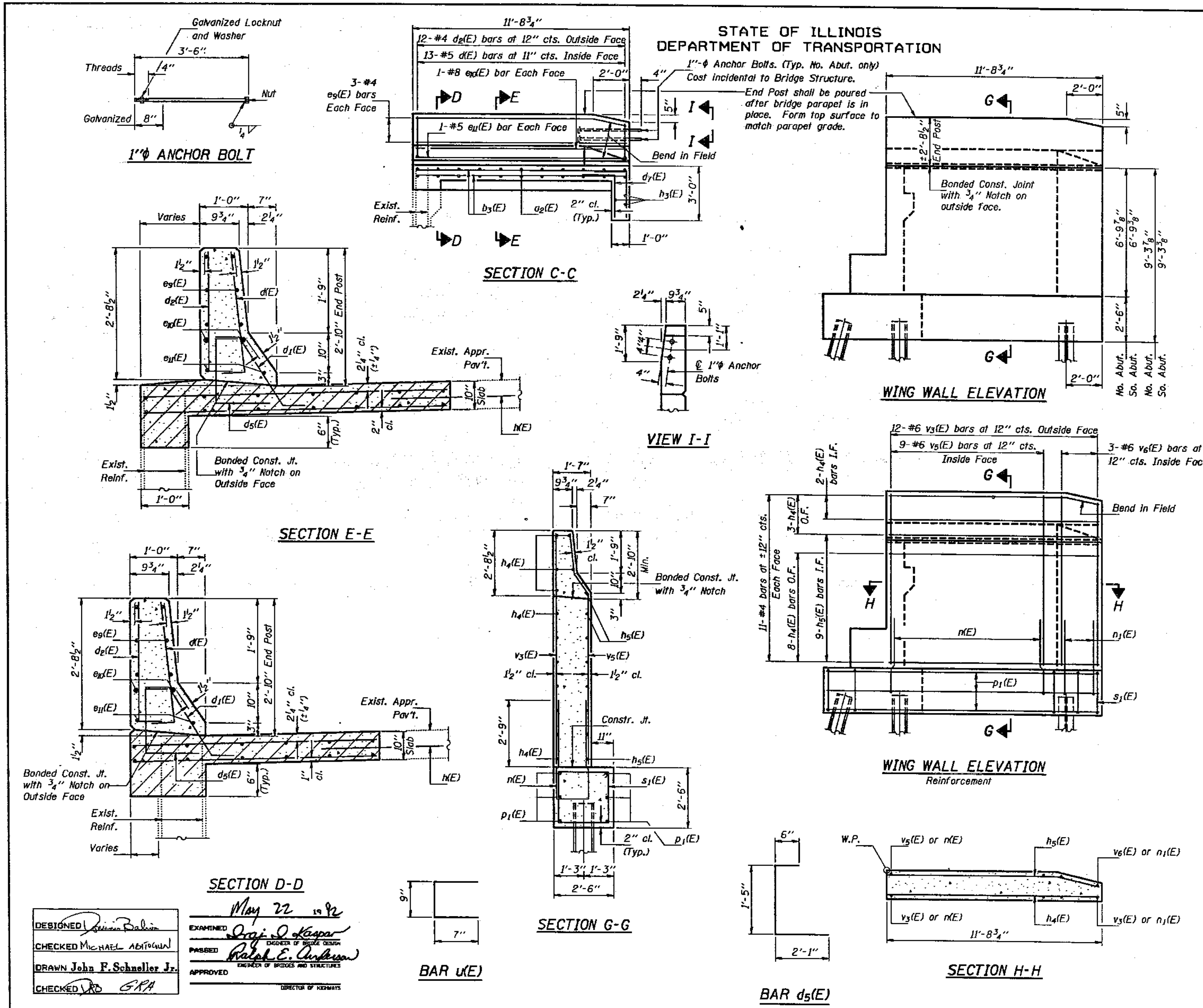
May 22 1992
EXAMINED — Engineer of Bridge Design
PASSED Ralph E. Anderson — Engineer of Bridges and Structures
APPROVED — Director of Highways

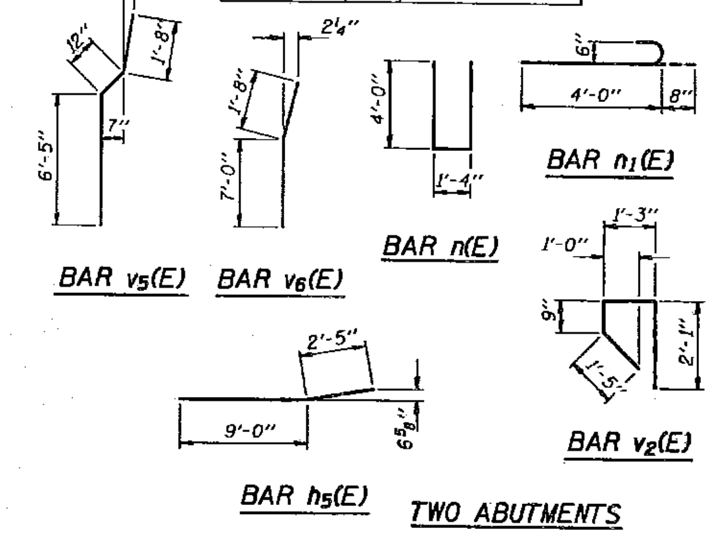
SOUTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

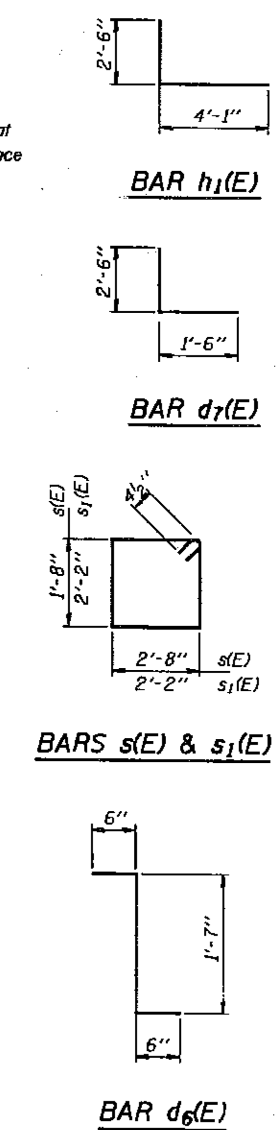
F.A.I. 57	(28-5B) D	FRANKLIN	155	103

SHEET NO. 19
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION







DESIGNED
CHECKED Michael Abitogun
DRAWN John F. Schneller Jr.
CHECKED GRA

May 22 1992
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_2(E)$	22	#5	15'-6"	
$b_3(E)$	36	#5	11'-5"	
$d(E)$	26	#5	3'-0"	
$d_1(E)$	18	#5	2'-7"	
$d_2(E)$	24	#4	3'-0"	
$d_5(E)$	24	#4	4'-0"	
$d_6(E)$	6	#5	2'-7"	
$d_7(E)$	32	#4	4'-0"	
$e_9(E)$	12	#4	11'-5"	
$e_{10}(E)$	4	#8	11'-5"	
$e_{11}(E)$	4	#5	11'-5"	
$h(E)$	64	#5	3'-0"	
$h_1(E)$	32	#5	6'-7"	
$h_2(E)$	8	#6	39'-3"	
$h_3(E)$	6	#5	8'-3"	
$h_4(E)$	26	#4	11'-5"	
$h_5(E)$	18	#4	11'-5"	
$n(E)$	20	#6	9'-4"	
$n_1(E)$	12	#6	4'-8"	
$p(E)$	14	#7	5'-5"	
$p_1(E)$	12	#7	15'-0"	
$s(E)$	10	#4	9'-5"	
$s_1(E)$	30	#4	9'-5"	
$t(E)$	16	#5	5'-3"	
$u(E)$	80	#5	1'-11"	
$v(E)$	20	#5	5'-11"	
$v_1(E)$	20	#5	4'-0"	
$v_2(E)$	10	#5	5'-6"	
$v_3(E)$	24	#6	9'-1"	
$v_4(E)$	12	#5	2'-0"	
$v_5(E)$	18	#6	9'-1"	
$v_6(E)$	6	#6	8'-8"	
$w(E)$	24	#5	9'-3"	
Class X Concrete			Cu. Yds.	22.2
Reinforcement Bars (Epoxy Coated)			Lbs.	5,230
Steel Piles HP12 x 53			Lin. Ft.	208
Test Piles Steel HP12 x 53			Each	2
Structure Excavation			Cu. Yds.	114

For details of bars d(E) thru $d_2(E)$ see sheet #6 of 22.

ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

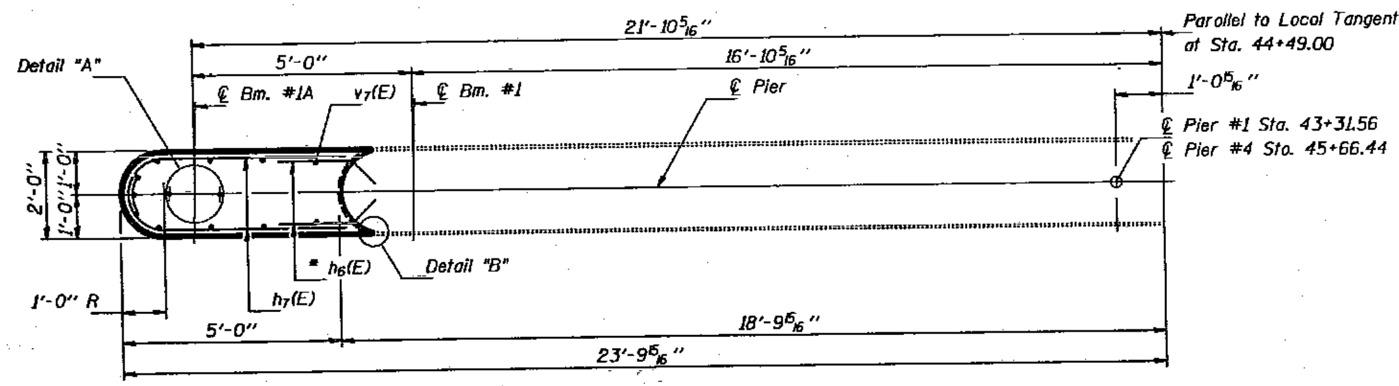
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	104
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes: For Anchor Bolt installation details see sheet #16 of 22.

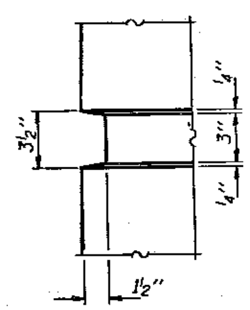
* Drill 7/8"ϕ x 9" Min. hole. Epoxy grout h_6(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.



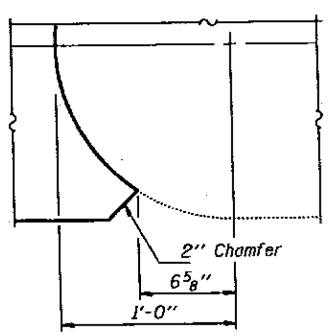
PLAN

PILE DATA

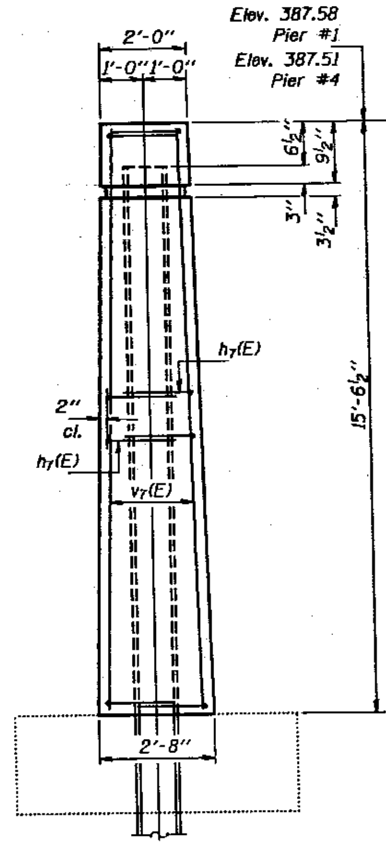
Type:	Steel (HP12 x 74)
Capacity:	Drive to Refusal
Est. Length:	47 Ft. Pier #1
Est. Length:	61 Ft. Pier #4
No. Req'd:	1 Each Pier



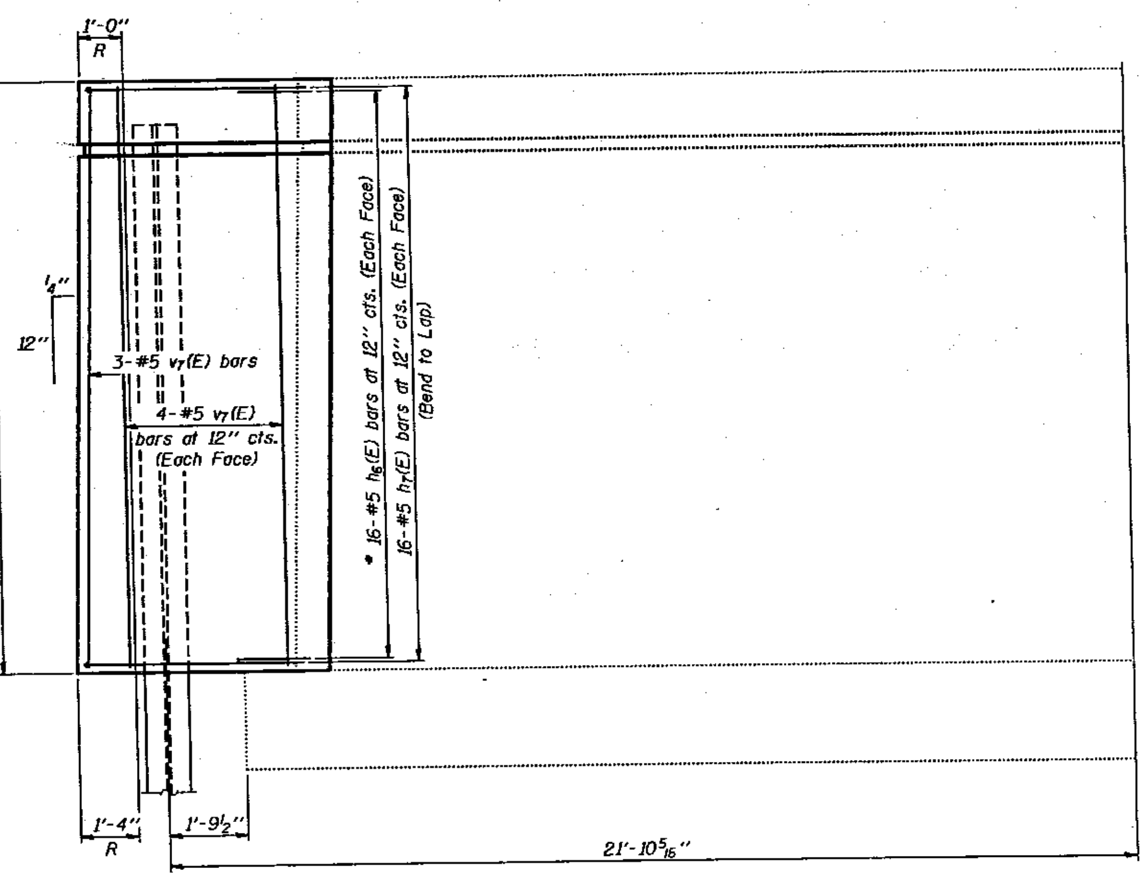
NOTCH DETAIL



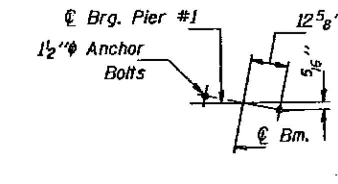
DETAIL "B"



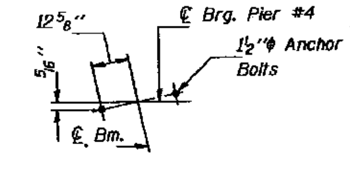
END VIEW



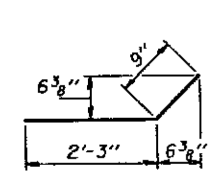
ELEVATION
(Looking South)



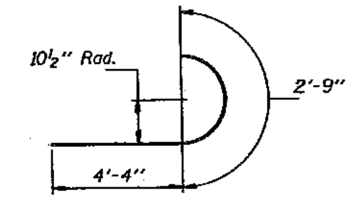
DETAIL "A"
* (Pier #1)



DETAIL "A"
(Pier #4)



BAR h_6(E)



BAR h_7(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_6(E)	64	#5	3'-0"	
h_7(E)	64	#5	7'-1"	
v_7(E)	22	#5	15'-3"	
Class X Concrete			Cu. Yd.	13.4
Reinforcement Bars, Epoxy Coated			Lbs.	1,020
Structure Excavation			Cu. Yd.	13
Steel Piles HP12 x 74			Lin. Ft.	108

Reinforcement Bars designated (E) shall be epoxy coated.

DESIGNED	[signature]
CHECKED	MICHAEL ABITOGUN
DRAWN	John F. Schneller Jr.
CHECKED	[signature]

May 22 1992

EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

PIERS #1 & #4
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

Notes: For Anchor Bolt installation details see sheet #16 of 22.

* Drill $\frac{7}{8}$"ϕ x 9" Min. hole. Epoxy grout h_6(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

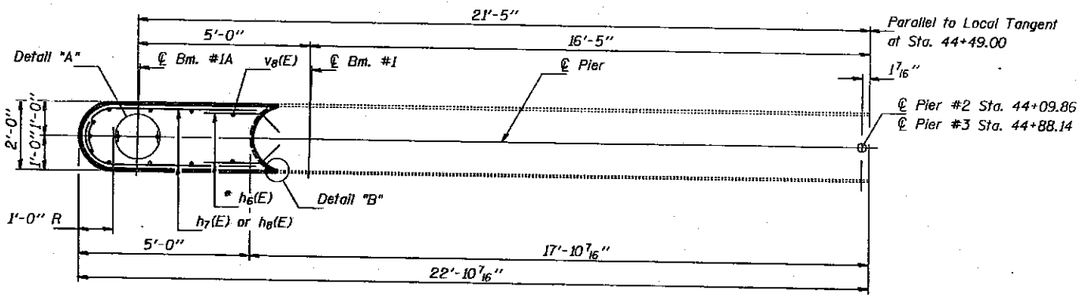
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B) D	FRANKLIN	155	105
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

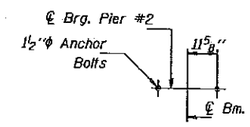
SHEET NO. 21
22 SHEETS

PILE DATA

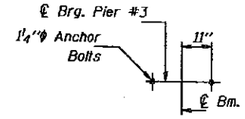
Type: Steel (HP12 x 74)
Capacity: Drive to Refusal
Est. Length: 55 Ft. Pier #2
Est. Length: 62 Ft. Pier #3
No. Req'd: 1 Each Pier



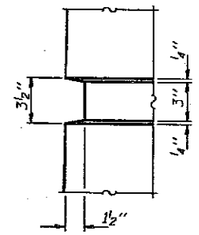
PLAN



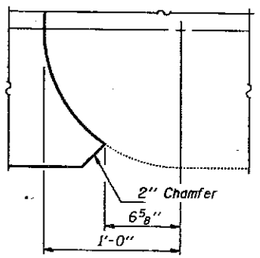
DETAIL "A"
(Pier #2)



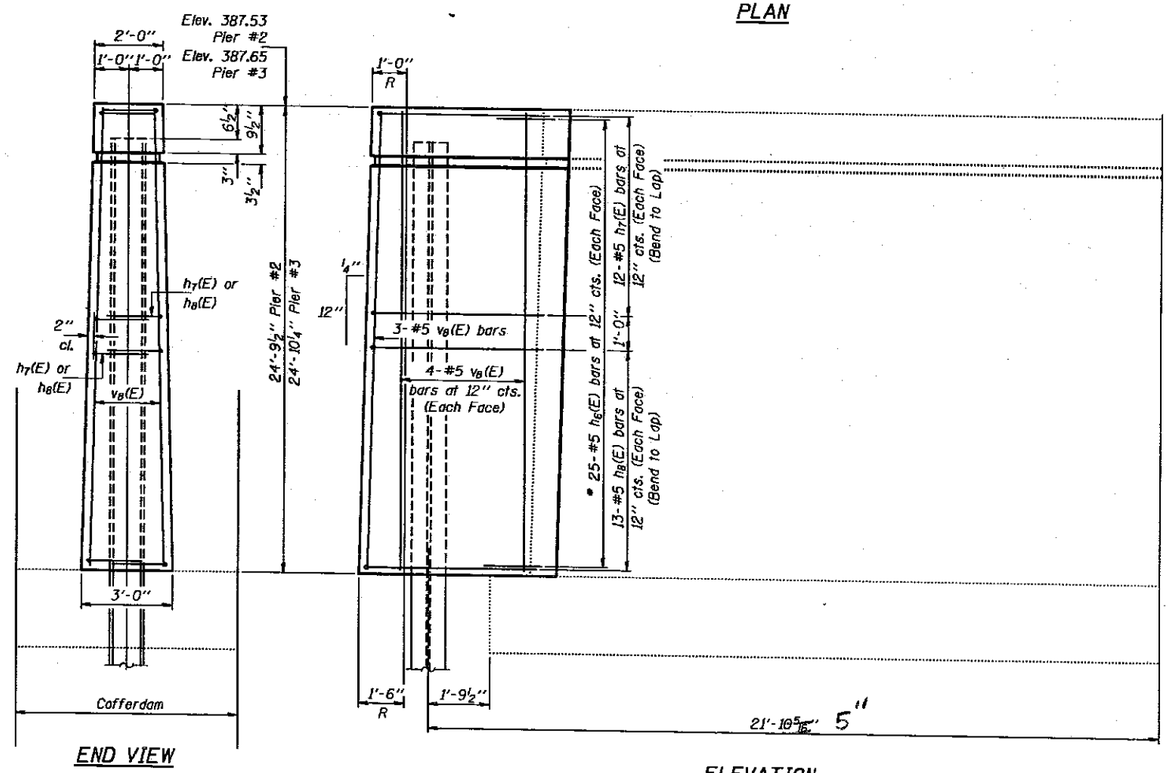
DETAIL "A"
(Pier #3)



NOTCH DETAIL

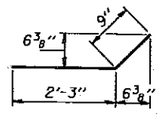


DETAIL "B"

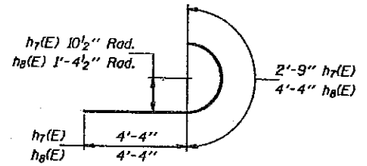


END VIEW

ELEVATION
(Looking South)



BAR h_6(E)



BARS h_7(E) & h_8(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_6(E)	100	#5	3'-0"	
h_7(E)	48	#5	7'-1"	
h_8(E)	52	#5	8'-8"	
v_8(E)	22	#5	24'-6"	
Class X Concrete			Cu. Yd.	23.0
Reinforcement Bars, Epoxy Coated			Lbs.	1,700
Cofferdams			Each	2
Cofferdam Excavation			Cu. Yd.	52
Steel Piles HP12 x 74			Lin. Ft.	117

Reinforcement Bars designated (E) shall be epoxy coated.

DESIGNED Dennis Bolin
CHECKED MICHAEL ABITO
DRAWN John F. Schneller Jr.
CHECKED GAA

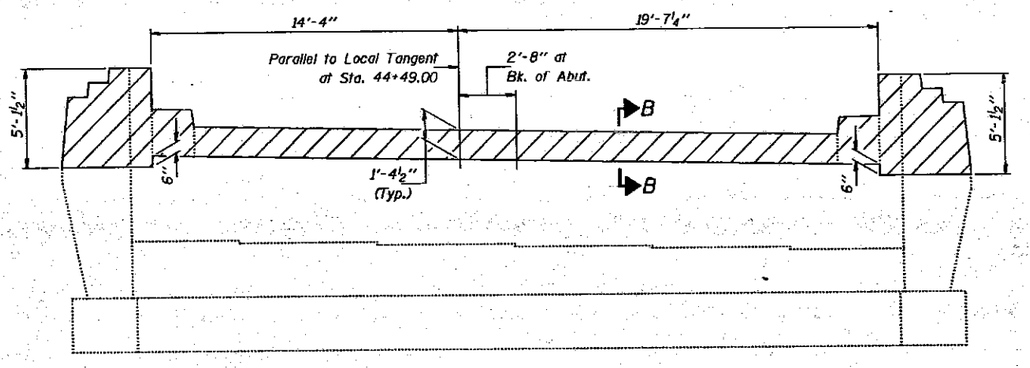
May 22 1992
EXAMINED Engineer of Bridge Design
PASSED Engineer of Bridges and Structures
APPROVED Director of Highways

PIERS #2 & #3
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

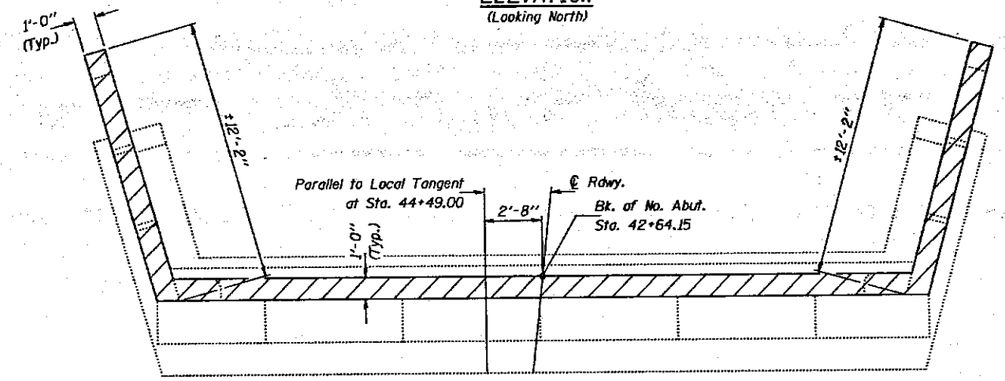
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B)D	FRANKLIN	155	106
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 22
22 SHEETS

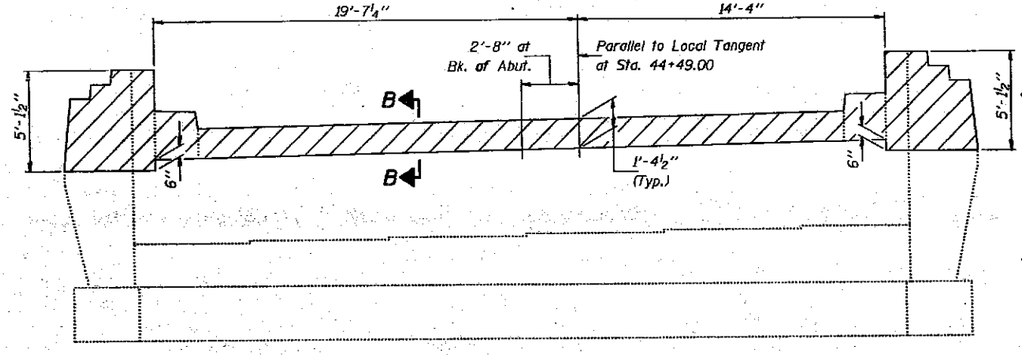
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



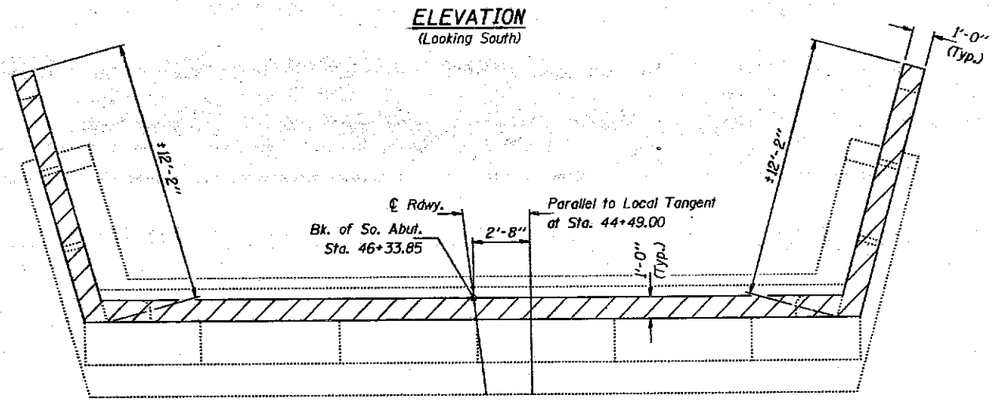
ELEVATION
(Looking North)



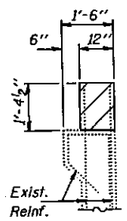
PLAN



ELEVATION
(Looking South)



PLAN



SECTION B-B

Notes: Hatched area indicates "Concrete Removal".
Existing reinforcement extending into new construction shall be cleaned, straightened, and incorporated into new construction. Cost Incidental to "Concrete Removal".
Existing reinforcement not extending into new construction shall be cut off flush and covered with a 2" layer of cement grout. Cost incidental to "Concrete Removal".
For existing shoulder pavement removal see Roadway Plans.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	12

CONCRETE REMOVAL
F.A.I. RT. 57 SEC. (28-5B)D
FRANKLIN COUNTY
STA. 44+49.00

DESIGNED	Dawin Bakin
CHECKED	MICHAEL ABITOGUN
DRAWN	John F. Schneller Jr.
CHECKED	RB GRA

May 22 1992

EXAMINED Engineer of Bridge Design

PASSED Engineer of Bridges and Structures

APPROVED Director of Highways

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

Route	Section	County	Total Sheets	Sheet No.
F.A.I. 57	28-5B	Franklin	155	106A

Boring No. 1
Station 44+25
Offset 37' Left

Elevation	Description	N	Qu (t/s.f.)	Type Failure	w (%)
374.6 (0)	Ground Surface				
	Soft and very moist brown silty clay to silty clay-loam A-6(10)	–	–	–	28
370.6	Medium to stiff and moist tan clay A-7-6(15)	5	1.0	S	31
367.6	Stiff and moist tan mottled brown clay A-7-6(13-14)	9	2.0	B	28
		11	1.3	S	30
363.6	Stiff and moist grey mottled brown silty clay to silty clay loam A-6(9-10)	10	1.4	B	28
360.1	Stiff and moist grey mottled brown silty clay to clay A-6(11-12)	7	1.5	B	31
357.6	Medium to stiff and moist grey silty clay A-6(10)	6	1.0	B	28
355.1	Medium and moist grey silt loam A-4(8)	6	0.6	B	35
353.6	(See next column)				
	Stiff and moist grey silty clay to clay A-6(12)	9	1.7	B	21
350.1	Very stiff and moist brown clay A-7-6(14-15)	13	1.6	B	21
		10	2.5	B	26
345.1	Stiff and moist brown clay A-7-6(14-15)	8	2.2	S	30
342.6	Medium to stiff and moist brown silty clay to clay A-6(10-11)	5	1.2	B	26
341.1	Medium and moist grey clay loam A-6(8)	8	1.4	B	18
338.6	Soft and moist grey sandy loam	13	0.8	P	17
336.1	Loose and very moist grey medium graded fine sand	14	0.3	P	18
332.6	([redacted])				

Boring No. 1 Cont.

Elevation	Description	N	Qu (t/s.f.)	Type Failure	w (%)
	(See previous column)				
332.6	Loose and wet grey medium graded fine sand	15	0.8	P	18
		5	–	–	23
328.6	Medium to hard and dry clay shale	100 Blows in 6"			11
		100 Blows in 9"			10
323.1	Medium to hard and dry black bituminous coal	100 Blows in 3"			17
322.1	Bottom of Hole = 52.5 feet				

During drilling operations it appeared that free water was encountered at 10.5 feet. The hole was washed to obtain the sample from 45.5 feet to 46.5 feet

Boring No. 2
Station 43+75
Offset 44' Right

Elevation	Description	N	Qu (t/s.f.)	Type Failure	w (%)
375.2 (0)	Ground Surface				
	Stiff and moist tan silty clay loam A-6(10-11)	–	–	–	22
370.7	Very stiff and moist tan clay A-7-6(14-15)	18	4.0	S	19
369.2	Very stiff and moist tan mottled brown and black clay A-7-6(14)	14	2.7	S	23
365.2	Very stiff and moist tan mottled brown and black clay A-7-6(13)	11	2.9	S	24
362.7	Stiff and moist tan mottled brown and black clay A-7-6(13-14)	8	1.9	S	27
		7	1.6	B	28
357.7	Stiff and moist red with grey & black streak silty clay A-6(11-12)	8	1.8	S	27
356.2	Soft and wet brown sandy clay loam				
355.2	Stiff and very moist brown silty clay A-6(12-13)	4	1.6	B	20
354.2	([redacted])				
	Stiff and moist brown silty clay A-7-6(13-14)	6	1.7	S	20
350.7	Very stiff and moist brown silty clay A-7-6(13-14)	10	2.7	B	23
348.2	Stiff and moist brown clay to clay loam A-6(10)	10	1.8	B	16
345.2	Medium to stiff and moist tan mottled grey clay to clay loam A-6(10)	7	1.1	B	17
342.7	Stiff and moist greenish grey clay to clay loam A-6(10)	6	1.2	B	17
340.2	Stiff and moist greenish grey clay to clay loam A-6(11-12)	14	1.5	B	17
338.7	Hard and dry grey clay shale	100 Blows in 7"	5.2	S	9
		100 Blows in 7"	2.9	S	9
331.6	Bottom of Hole 43.6 feet	100 Blows in 7"			11

During drilling operations, it appeared that free water was encountered at 15.0 feet

Boring No. 3
Station 43+23
Offset 45' Left

Elevation	Description	N	Qu (t/s.f.)	Type Failure	w (%)
374.4 (0)	Ground Surface				
	Medium and moist tan silty clay A-6(11-12)	–	–	–	24
369.9	Hard and moist grey mottled tan silty clay to clay A-7-6(13)	19	4.8	S	19
366.9	Stiff and moist tan clay A-7-6(15+)	6	1.6	S	26
365.4	Stiff and moist grey mottled brown silty clay A-6(11-12)	9	1.8	S	27
362.9	Very stiff and moist grey mottled brown silty clay A-7-6(13)	13	2.5	B	23
		7	2.5	B	31
357.9	Medium and moist brown clay loam A-6(11-12)	9	0.6	S	20
355.4	Medium and wet brown sandy loam to sand	11	0.8	P	20
	([redacted])	–	–	–	25
349.4	Medium and wet brown medium graded fine sand	17	–	–	30
345.9	Medium and wet brown gravelly sand	4	Lost Sample		
		14	–	–	18
342.9	Hard and dry grey clay shale	100 Blows in 7"			9
		100 Blows in 7"			9
		100 Blows in 6"			10
334.3	Bottom of Hole 40.1 feet	100 Blows in 7"			11

During drilling operations, it appeared that free water was encountered at 15.5 feet
Hole was washed to obtain samples between 25.0 feet and 31.5 feet.

Boring No. 4
Station 42+58
Offset 37' Right

Elevation	Description	N	Qu (t/s.f.)	Type Failure	w (%)
374.0 (0)	Ground Surface				
	Medium and moist tan silty clay loam to silty clay A-6(10-11)	–	–	–	24
370.0	Medium and moist tan silty clay to clay (13) A-7-6(13)	8	1.2	B	27
368.0	Stiff and moist tan clay A-7-6(15+)	9	1.8	S	26
364.5	Stiff and moist tan mottled grey clay A-7-6(15+)	9	1.7	B	30
	Stiff and moist grey mottled tan silty clay A-6(12-13)	7	2.1	B	24
359.5	Medium to stiff and moist grey mottled tan silty clay A-6(12-13)	8	1.1	S	26
357.0	Stiff and moist grey mottled tan clay A-7-6(15)	10	2.0	B	31
354.5	Medium to stiff and moist tan silty clay (11-12)	14	1.6	B	31
353.0	([redacted])				
	Medium and moist grey silt loam A-4(6)	18	1.5	P	23
		14	2.0	P	26
348.0	Loose and wet brown medium graded medium sand	4	–	–	13
344.0	Medium and very moist grey clay to clay loam A-6(10-11)	7	1.8	P	19
342.0	Very stiff and moist grey clay to clay loam A-6(10-11)	23	3.3	B	15
340.5	Hard and moist grey clay shale	100 Blows in 3"			8
337.0	Hard and dry grey clay shale	100 Blows in 8"			4
334.3	Bottom of Hole 39.7 feet	100 Blows in 8"			6

During drilling operations, it appeared that free water was encountered at 15.0 feet.
Hole was washed to obtain sample from 28.0 feet to 30.0 feet

Boring No. 5
Station 44+88
Offset 30' Rt.

Elevation	Description	N	Qu (t/s.f.)	w (%)
375.2 (0)	Ground Surface			
	Soft and very moist tan silty loam A-4(8)	Augered Sample		
		3	0.4B	22
368.2	Medium and very moist grey mottled brown silty clay A-6(10-11)	2	0.7P	27
366.2	Medium and very moist grey mottled brown clay A-7-6(15-17)	5	0.9B	29
364.2	Stiff and moist bluish grey clay A-7-6(20)	3	1.1S	33
361.7	Soft to medium and moist bluish grey silty clay A-6(11-12)	3	0.8B	36
358.2	Soft to medium and moist bluish grey silty clay A-6(9-10)	3	0.4B	31
		3	0.6B	36
354.7	([redacted])			
	Stiff and moist bluish grey clay A-7-6(15)	7	1.2B	32
351.2	Very stiff and moist brown clay A-7-6(20)	12	2.2B	26
		12	1.7S	31
347.2	Stiff and moist grey mottled brown clay A-7-6(20)	8	1.2S	33
		10	1.9B	30
342.2	Stiff and moist bluish grey clay A-7-6(20)	6	1.1B	29
339.2	Medium and wet grey sandy clay loam	10	0.4S	21
		9	0.7S	27
		7	– / 0.5P	– / 27
332.7	Medium and wet grey clay loam A-6(6-7)	16	0.1P	22
329.7	Medium and wet well graded medium sand	26	– / 4.5P	19 / –
327.7	Hard and moist grey clay A-7-6(15) near clay shale	90	4.5P	13
		53	2.1S	13
321.2	Medium and dry grey clay shale	100 Blows in 12 inches		
317.7	Bottom of Hole = 57.5 feet	100 Blows in 5 inches		

Boring No. 6
Station 45+66
Offset 30' Lt.

Elevation	Description	N	Qu (t/s.f.)	w (%)
375.6 (0)	Ground Surface			
	Medium and very moist grey mottled brown silty clay loam A-6(9-10)	Augered Sample		
371.1	Medium and very moist grey mottled brown silty clay A-6(11-12)	4	0.7P	27
369.6	Stiff and moist grey mottled brown silty loam A-4(8)	18	1.5S	21
365.6	Medium and very moist grey mottled brown silty clay A-6(11-12)	9	0.7B	26
363.6	Medium to stiff and moist grey mottled brown and black clay A-7-6(15-17)	5	1.1B	21
		5	0.9S	31
359.6	Soft and very moist bluish grey silty clay A-6(10)	4	0.4B	32
		4	0.5B	29
354.6	Soft and very moist bluish grey clay A-7-6(15) ([redacted])	4	0.5B	32
352.1	Medium and moist grey clay A-7-6(17-20)	8	0.8B	28
349.6	Stiff to very stiff and moist brown mottled grey clay A-7-6(20)	11	2.2B	28
		10	2.4B	27
		9	1.9B	3[illegible]
342.1	Stiff and moist grey clay A-7-6(17-20)	6	1.2B	3[illegible]
		8	0.9S	3[illegible]
337.1	Medium and wet grey sandy clay loam	8	0.5P	2[illegible]
		5	1.0P	22
331.1	(See top sheet)			

Boring No. 6 Cont.

Elevation	Description	N	Qu (t/s.f.)	w (%)
331.1	Loose and wet grey poorly graded fine sand	22	– / –	– / 17
330.1	Medium and wet grey well graded coarse sand			
329.1	Stiff to hard and slightly moist to moist grey clay A-7-6(15) near clay shale	26	1.9S	15
		96	4.4S	11
324.6	Medium and slightly moist grey clay shale	100 Blows in 8 inches		
321.6	Medium and wet black soft coal	100 Blows in 6 inches		
320.1	Medium and slightly moist grey clay shale			
319.6	Bottom of Hole = 56.0 feet			

N – Standard Penetration Test - Blows per foot to drive 2" O.D. Split Spoon Sampler with 140# hammer.

Qu – Unconfined Compressive Strength – t/sf

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

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

DESIGNED	R Kavert
CHECKED	
DRAWN	
CHECKED	

AUG 19 1961
EXAMINED W.E. Baumann — Engineer of Bridge and Traffic Structures
PASSED E.J. Stuart — Engineer of Design
APPROVED W.M. Bertelsmeyer — Chief Highway Engineer

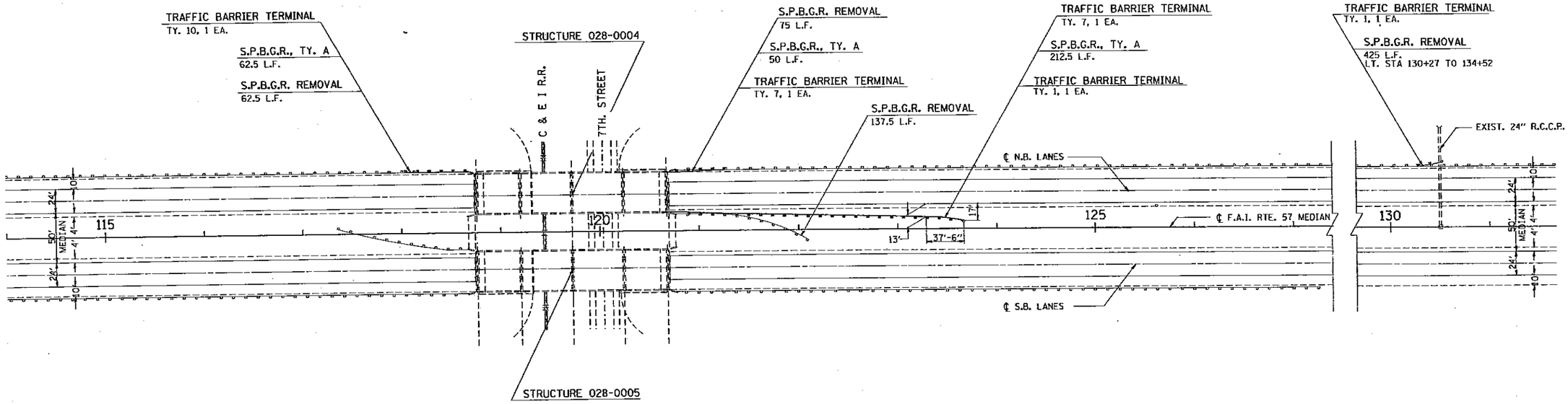
BORINGS
FAI RT 57 SEC 28-5B
FRANKLIN CO.
STATION 44+49

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	107
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (5B-1, 5B, 2B, 1B) D ;28 (5VB, 3VB-1) I

N

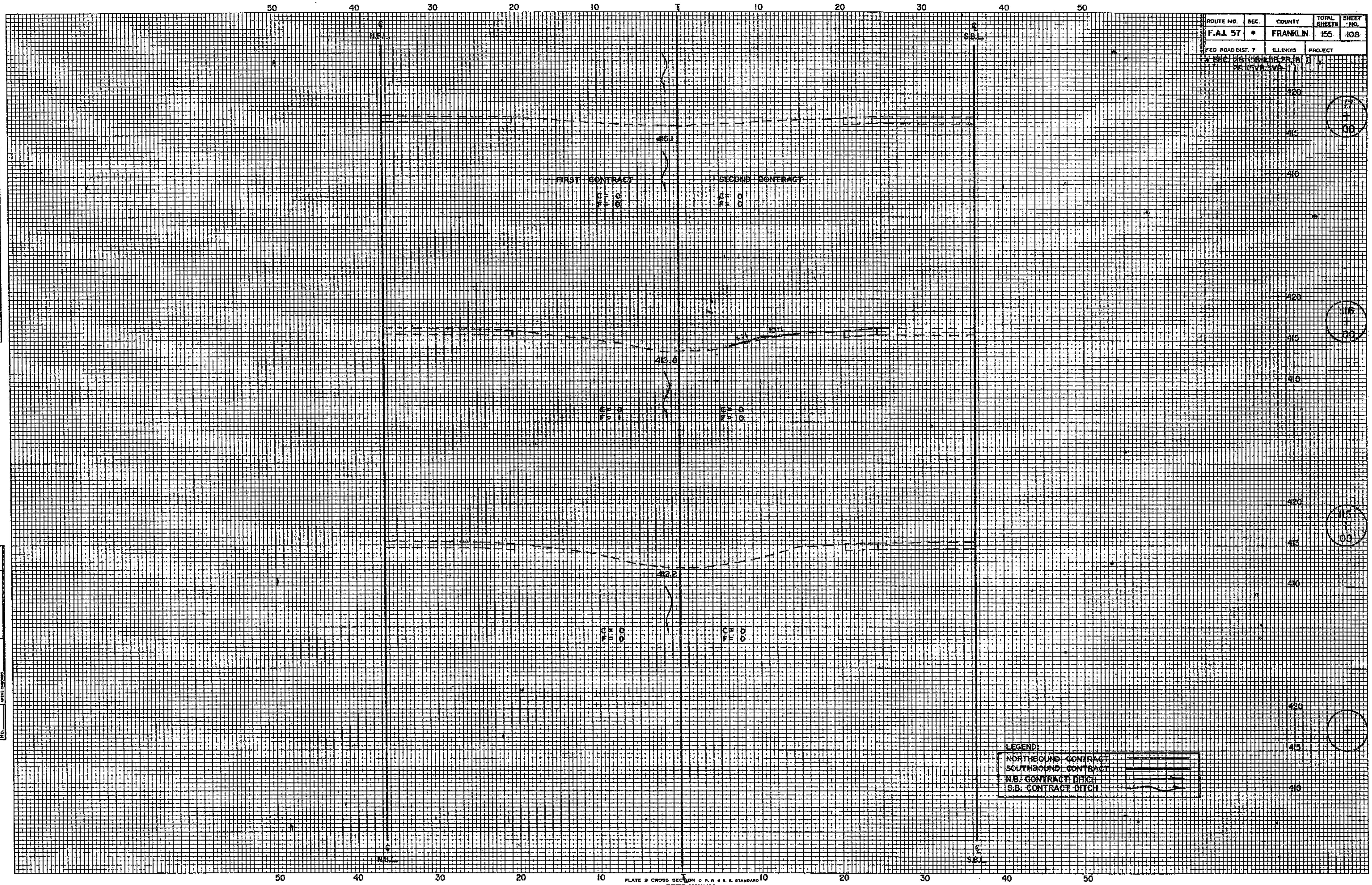
50' 0 25' 50'



F.A.I. 57 OVER C & E I RAILROAD
AND 7TH STREET
CONSTRUCTION ALONG NORTHBOUND LANES
(NORTHBOUND CONTRACT)

VIEW ©EIRR NORTH

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	•	FRANKLIN	155	108
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

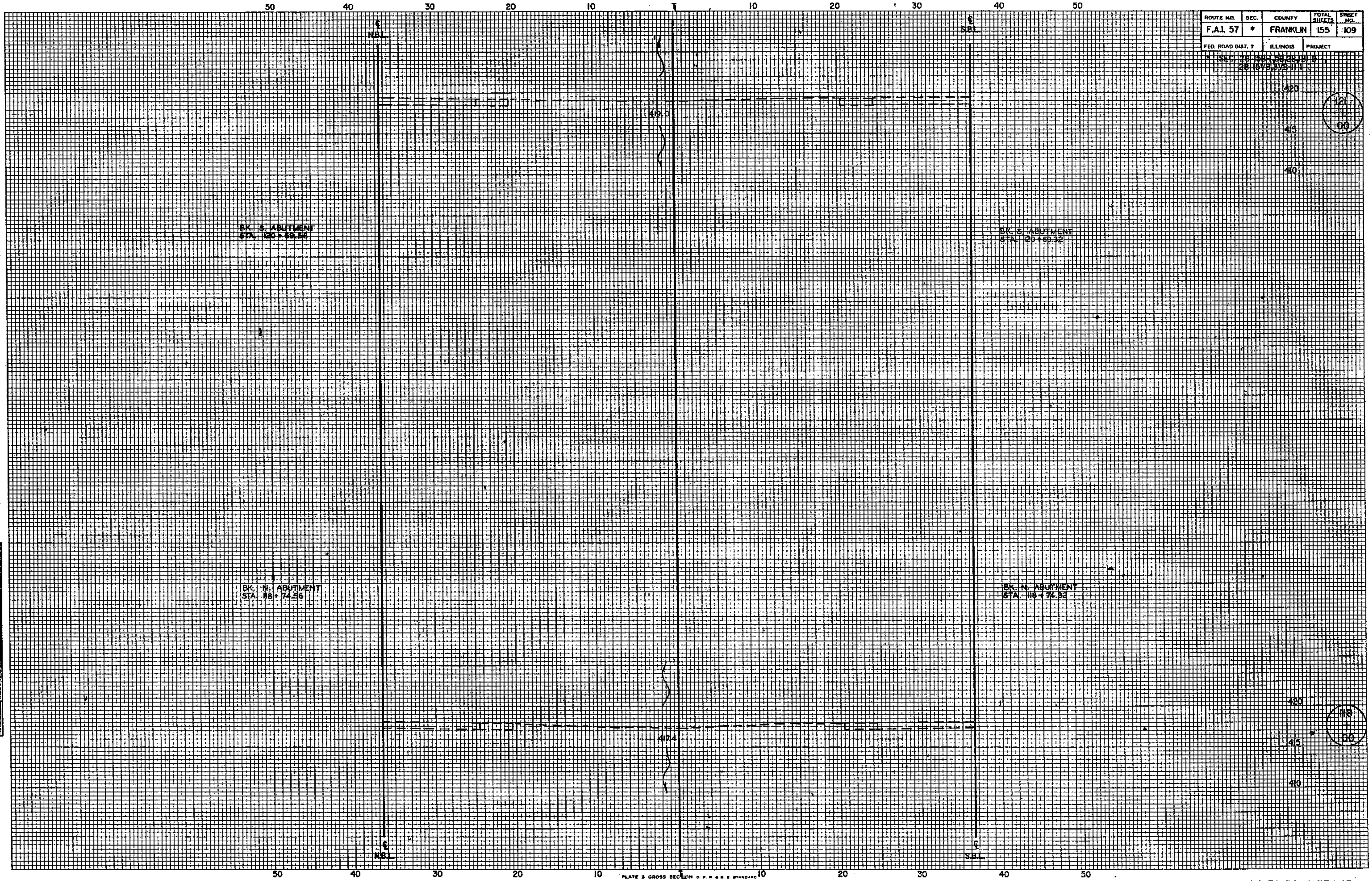


C.& E.I. R.R. & 7TH ST.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	109
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

FINAL SURVEY NOTE BOOK NO.

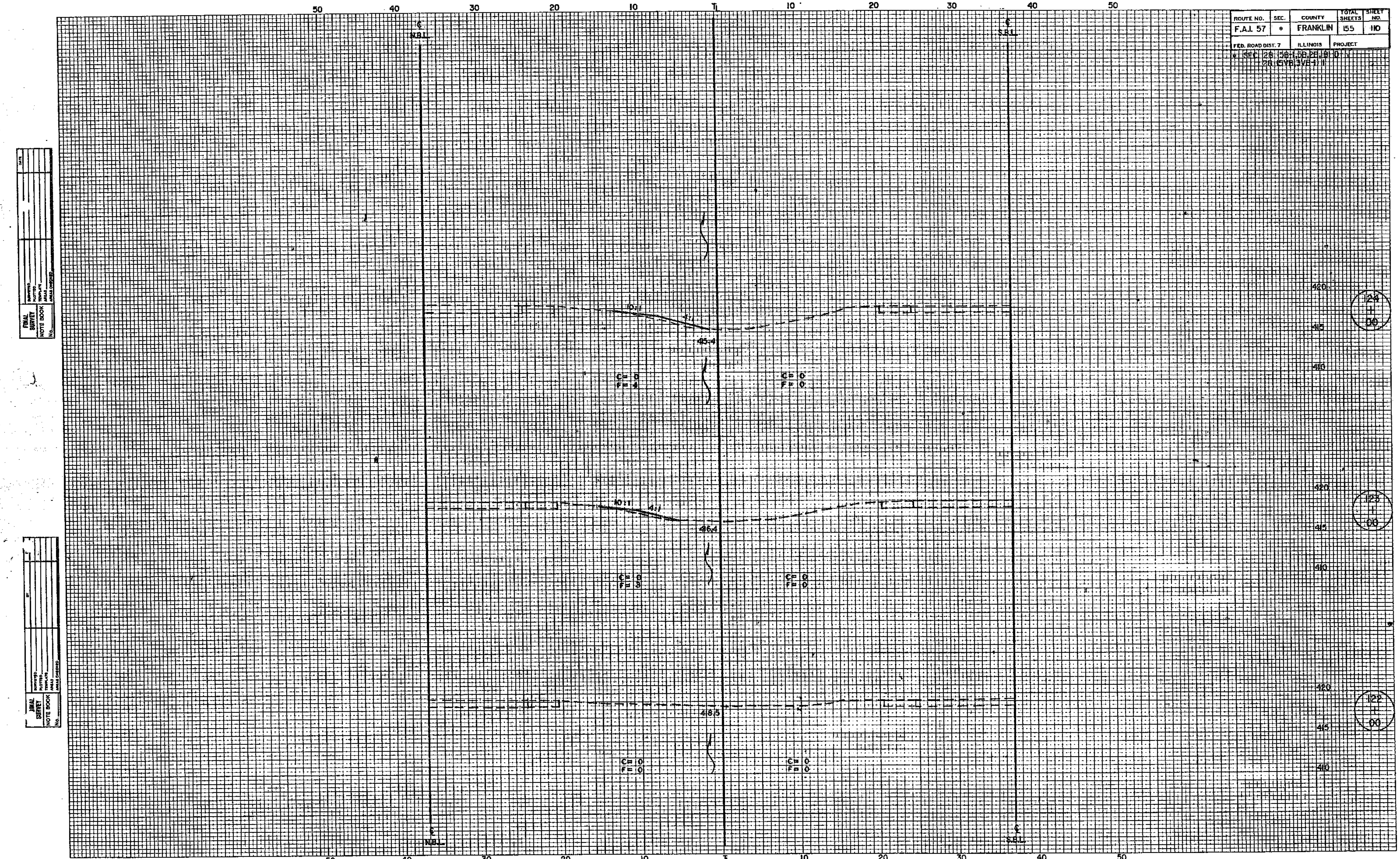
ORIGINAL SURVEY NOTE BOOK NO.



C.& E.I. R.R. & 7TH ST.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	110
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

* SEC. 28 (58-1,58,28,18) 0
28 (5VB,3VB-1) I

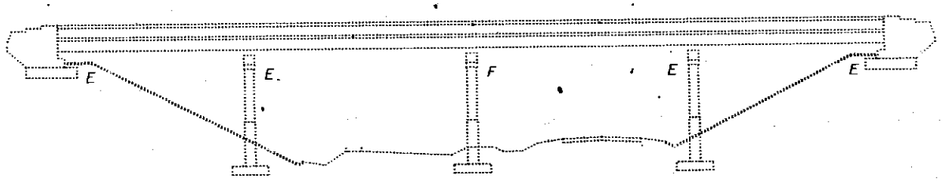


C.& E.I. R.R. & 7TH ST.

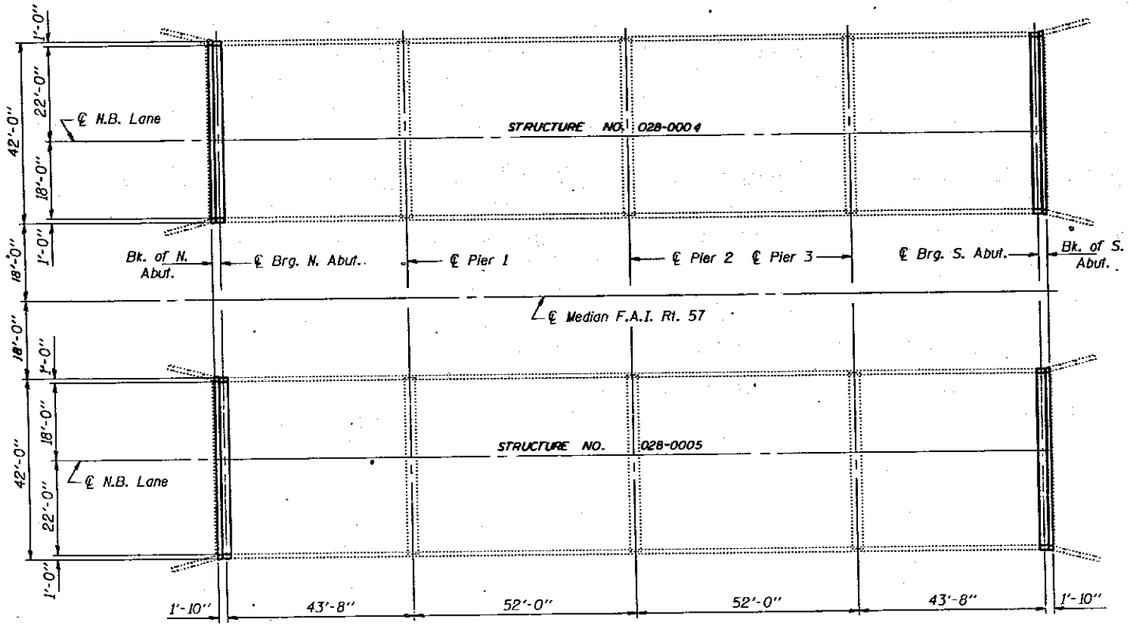
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57		FRANKLIN	155	111
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
2 SHEETS



ELEVATION



PLAN

Z

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31. M-42 or M-53 Grade 60.

Traffic control shall be determined by the District.

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale, and all other foreign material shall be removed from the embedded portions of flanges of girders. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP11 for Power Tool Cleaning or SP2 for Hand Tool Cleaning. Cost shall be incidental to Concrete Removal.

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

The first bridge Post and Insert at each corner shall be removed, cleaned and reinstalled in new construction. Cost incidental to "Concrete Removal".

After fabrication all surfaces of the steel plates shall be given one shop coat of the zinc-silicate and vinyl paint system. Cost incidental to "Furnishing and Erecting Structural Steel".

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANITY
Concrete Removal	Cu. Yd.	20.4
Class X Concrete	Cu. Yd.	19.9
Reinforcement Bars, Epoxy Coated	Pound	2810
Preformed Joint Seal 4"	Lin. Ft.	165
Furnishing and Erecting Structural Steel	Pound	6360

NOTE: QUANTITIES IN THE ABOVE BILL OF MATERIAL ARE FOR BOTH BRIDGES.

DESIGNED	Paul Summer
CHECKED	BRT
DRAWN	Paul Summer
CHECKED	BRT

February 7 1992

EXAMINED Fred E Harrison
ENGINEER OF STRUCTURAL SERVICES

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

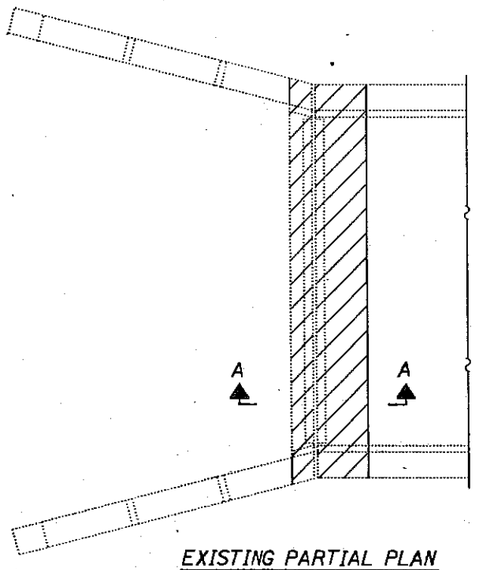
APPROVED
DIRECTOR OF HIGHWAYS

JOINT REPLACEMENT DETAILS
F.A.I. RT. 57 SEC. (28-5VB) I
FRANKLIN COUNTY
STA. 119+71.94
STR. No. 028-0004 ~~& 028-0005~~

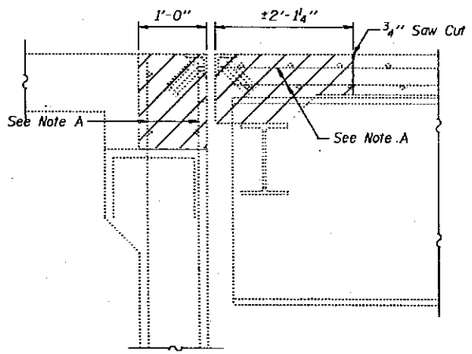
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57		FRANKLIN	155	112
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT=		

SHEET NO. 2
2 SHEETS

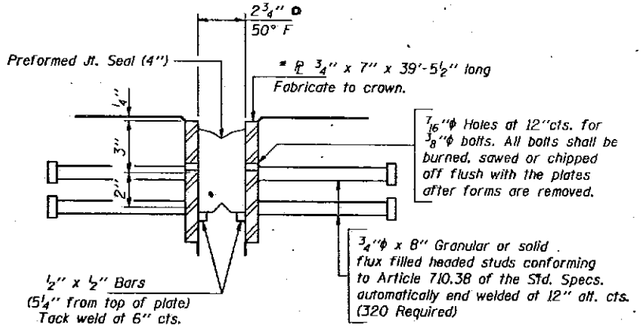


EXISTING PARTIAL PLAN



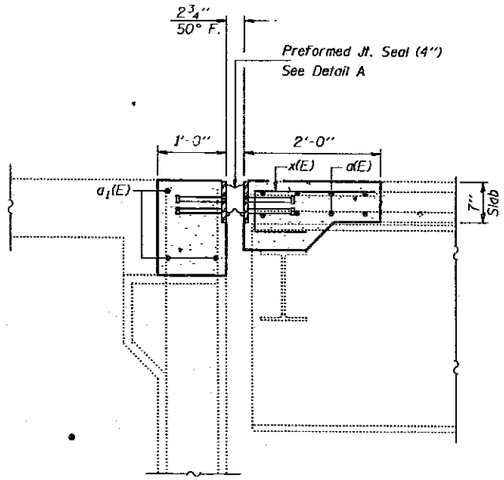
SECTION A-A

Note A: Existing Reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost incidental to "Concrete Removal.

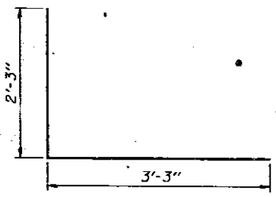


DETAIL A

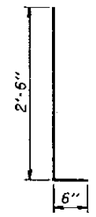
* Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.



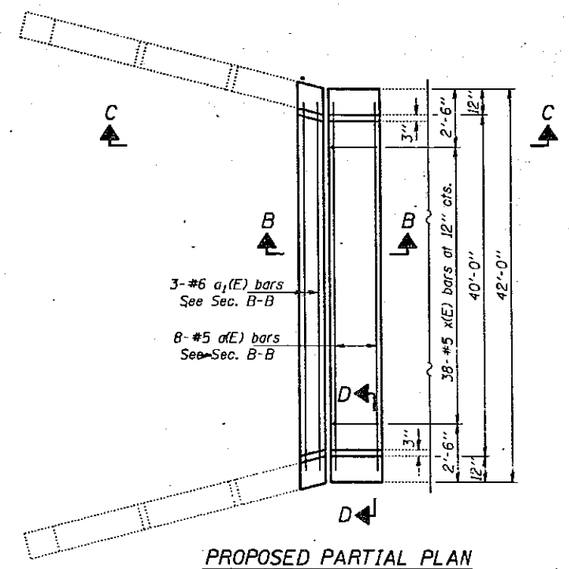
SECTION B-B



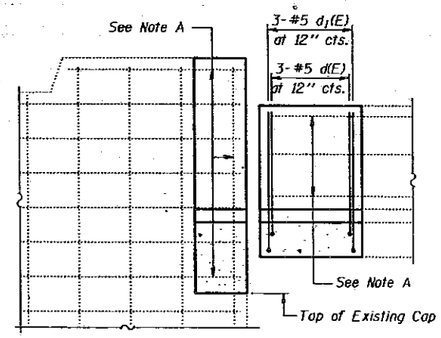
BAR d(E)



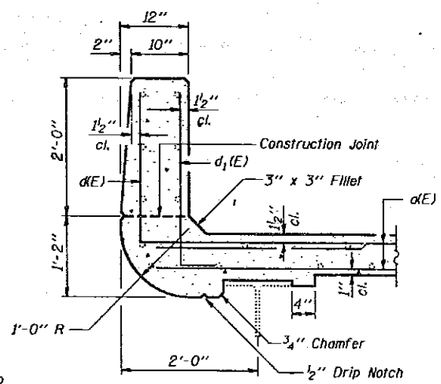
BAR d1(E)



PROPOSED PARTIAL PLAN



SECTION C-C



SECTION D-D

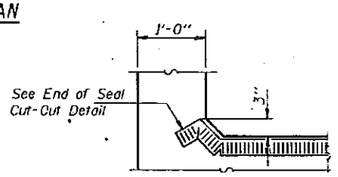
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	32	#5	41'-0"	
a1(E)	12	#6	41'-0"	
d(E)	24	#5	5'-6"	
d1(E)	24	#5	3'-0"	
x(E)	152	#5	3'-1"	
Concrete Removal			Cu. Yd.	20.4
Class X Concrete			Cu. Yd.	19.9
Reinforcement Bars, Epoxy Coated			Lbs.	2810

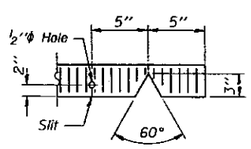
Notes: Reinforcement bars designated (E) shall be epoxy coated.
Hatched area indicates Concrete Removal.
QUANTITIES IN ABOVE BILL OF MATERIAL ARE FOR BOTH BRIDGES.

DESIGNED	Paul Summer
CHECKED	BRT
DRAWN	Paul Summer
CHECKED	BRT

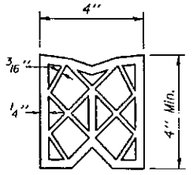
February 7 1972
EXAMINED Todd E Hanson
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS



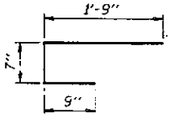
TYPICAL END OF SEAL TREATMENT



SEAL CUT-OUT



PREFORMED JOINT SEAL (4")

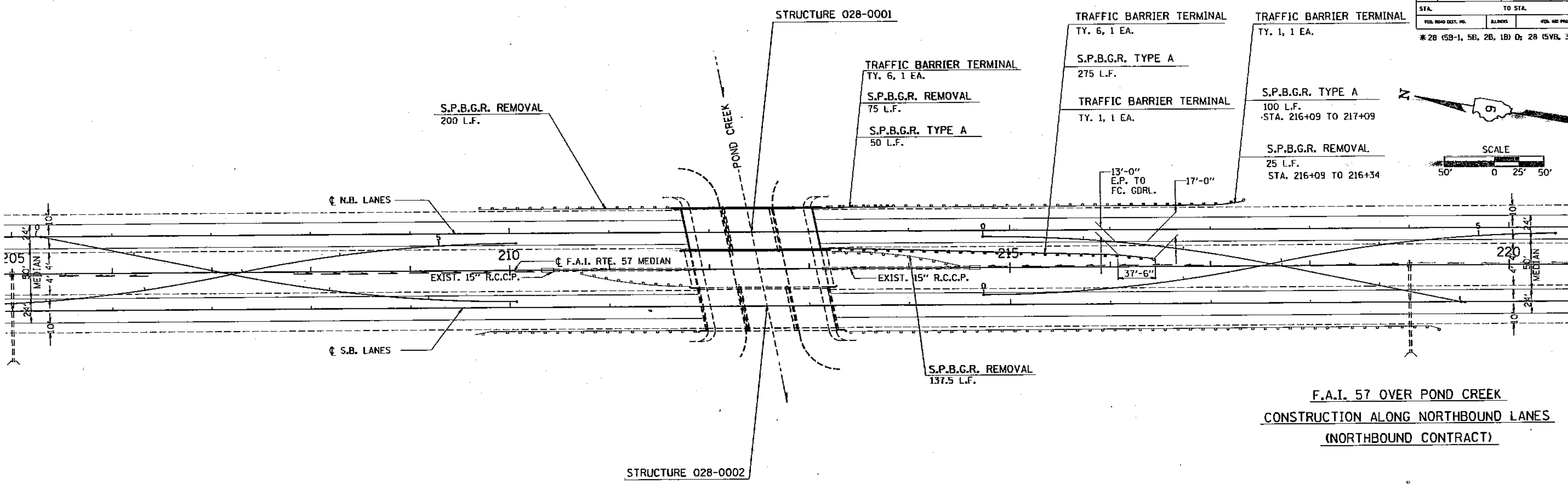


BAR x(E)

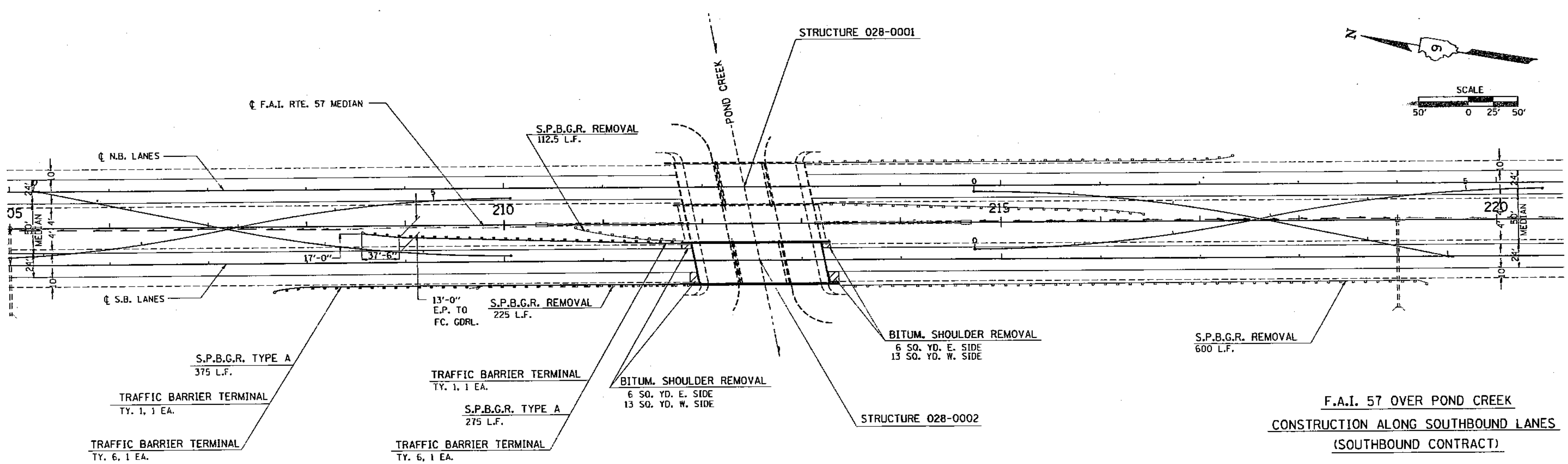
JOINT REPLACEMENT DETAILS
F.A.I. RT. 57 SEC. (28-5VB) I
FRANKLIN COUNTY
STA. 119+71.94
STR. No. 028-0004 ~~& 028-0005~~

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	113
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*28 (5B-1, 5B, 2B, 1B) 0; 28 (5VB, 3VB-1)I



F.A.I. 57 OVER POND CREEK
CONSTRUCTION ALONG NORTHBOUND LANES
(NORTHBOUND CONTRACT)



F.A.I. 57 OVER POND CREEK
CONSTRUCTION ALONG SOUTHBOUND LANES
(SOUTHBOUND CONTRACT)

FAI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	114
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28 (5B-1, 5B, 2B, 1B) D; 28 (5VB, 3VB-3) I

PLAN

SURVEYED / DRAWN / PLOTTED / CHECKED / QUANTITY CHECKED / ALIGN. OR WAY CHECKED / CADD FILE NAME / NOTE BOOK / NO. / BY / DATE

N

SCALE
50' 0 25' 50'

CURVE DATA
CROSSOVER NO. 2
P.I. STA= 3+44.85
Δ= 11° 32' 56"
D= 4° 00' 00"
R= 1432.39'
T= 144.85'
L= 288.72'
E= 7.31'
P.C. STA= 2+00.00
P.T. STA= 4+88.72

BIT. SHLD. REM
Rt. 209+30 - 211+77

℄ CROSSOVER NO. 2
(N.B. CLOSED)

BITUMINOUS SHOULDER REMOVAL
42 SQ. YD.
LT. STA. 205+47 TO STA. 206+42

BITUMINOUS SHOULDER REMOVAL
13 SQ. YD.

BITUMINOUS SHOULDER REMOVAL
162 SQ. YD.
LT. STA. 208+12 TO STA. 211+76.53

EQ. STA. 205+28.91 BK. (37' LT. ℄ I-57) =
P. I. STA. 0+05.20 AH. (℄ CROSSOVER NO. 2)

EQ. P. T. STA. 5+77.44 BK. =
27' LT. STA. 210+06.53 AH.

POND CREEK

200 ℄ F.A.I. RTE. 57 MEDIAN 205 210

24' 10' 4' 50' 4' 24' 10'

20' 20' 20'

EXIST. 15" R.C.C.P.

EQ. STA. 204+32.99 BK. (31' RT. ℄ I-57) =
P. C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

EXIST. 24" R.C.C.P.

EQ. P.T. STA. 4+88.72 BK.=
31' RT. STA. 210+06.53 AH.

BITUMINOUS SHOULDER REMOVAL
107 SQ. YD.
RT. STA. 204+13 TO STA. 206+54

BITUMINOUS SHOULDER REMOVAL
142 SQ. YD.
RT. STA. 207+87 TO STA. 211+06.5

CURVE DATA
CROSSOVER NO. 3

P.I. STA= 1+44.85	P.I. STA= 4+33.57
Δ= 11° 32' 56"	Δ= 11° 32' 56"
D= 4° 00' 00"	D= 4° 00' 00"
R= 1432.39'	R= 1432.39'
T= 144.85'	T= 144.85'
L= 288.72'	L= 288.72'
E= 7.31'	E= 7.31'
P.C. STA= 0+00.00	P.C. STA= 2+88.72
P.T. STA= 2+88.72	P.T. STA= 5+77.44

℄ CROSSOVER NO. 3
(S.B. CLOSED)

BIT. SHLD. REM.
Lt. 208+55 - 211+94

PROFILE

SURVEYED / DRAWN / PLOTTED / CHECKED / GRADES CHECKED / FINAL PLOT / PLOTTING CMD / NOTE BOOK / NO. / BY / DATE

EQ. STA. 205+28.91 BK. (37' LT. ℄ I-57) =
P. I. STA. 0+05.20 AH. (℄ CROSSOVER NO. 2)

EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT

PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 2

PROP. PROFILE ALONG
℄ CROSSOVER NO. 2

PROP. BITUMINOUS
MIXTURE COMPLETE, 1¼"

EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT

EQ. P.T. STA. 4+88.72 BK.=
31' RT. STA. 210+06.53 AH.

B.M. "□" CUT IN S.W. CORNER OF EAST HUBGUARD OF N.B. BRIDGE. ELEV. 399.40

400
395

398.72 398.65 398.57 398.55 398.55 398.59 398.59 398.79 398.85 398.85 398.80

202 203 204 205 0 1 2 3 4 5 211

EQ. STA. 204+32.99 BK. (31' RT. ℄ I-57) =
P. C. STA. 0+00 AH. (℄ CROSSOVER NO. 3)

EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT

PROP. PROFILE ALONG
℄ CROSSOVER NO. 3

PROP. BITUMINOUS
MIXTURE COMPLETE, 1¼"

+0.065%

PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 3

EQ. P.T. STA. 5+77.44 BK.=
27' LT. STA. 210+06.53 AH.

EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT

400
395

398.79 398.78 398.67 398.58 398.59 398.59 398.63 398.70 398.76 398.83 398.83 398.83 398.76

202 203 204 0 1 2 3 4 5 211

+31.51 +01.74

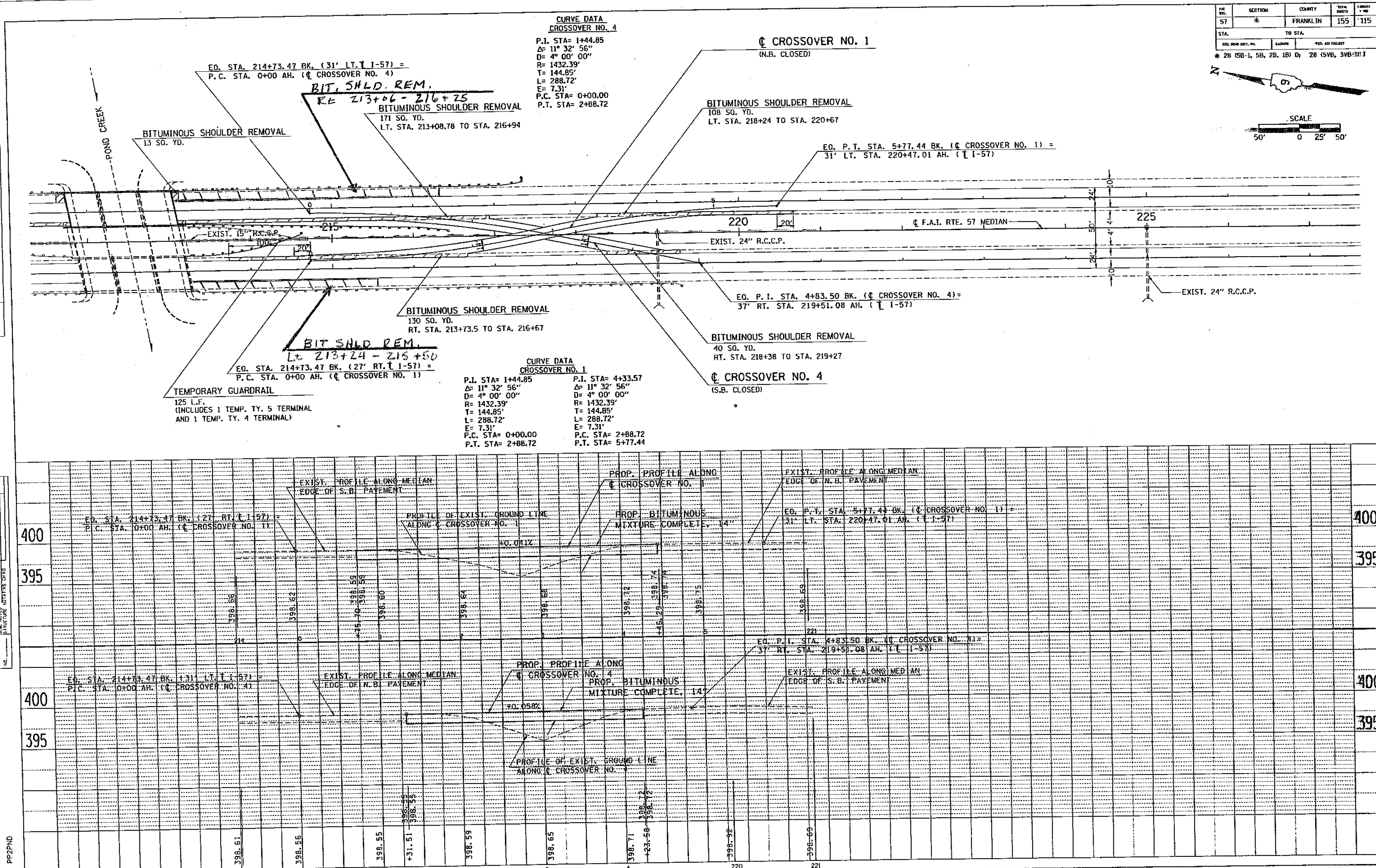
Wed Apr 29 08:06:52 1992
c:\projects\franklin\bridge\dgn\pipind L=7+15.14+16.8+61
L=17.3,8.2,15.6,20.25+28.3,34.37,39.42,48.60,54.57+69

VIEW PIPIND

F.A.I. RTE. 57 OVER POND CREEK

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	115

* 28 (5B-1, 5B, 2B, 1B) D; 28 (5VB, 3VB-1B)



CURVE DATA
CROSSOVER NO. 4
P.I. STA= 1+44.85
Δ= 11° 32' 56"
D= 4° 00' 00"
R= 1432.39'
T= 144.85'
L= 288.72'
E= 7.31'
P.C. STA= 0+00.00
P.T. STA= 2+88.72
℄ CROSSOVER NO. 1
(N.B. CLOSED)
EQ. STA. 214+73.47 BK. (31' LT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)
BIT. SHLD. REM.
Rt 213+06 - 216+25
BITUMINOUS SHOULDER REMOVAL
171 SQ. YD.
LT. STA. 213+08.78 TO STA. 216+94
BITUMINOUS SHOULDER REMOVAL
108 SQ. YD.
LT. STA. 218+24 TO STA. 220+67
BITUMINOUS SHOULDER REMOVAL
13 SQ. YD.
POND CREEK
EQ. P.T. STA. 5+77.44 BK. (℄ CROSSOVER NO. 1) =
31' LT. STA. 220+47.01 AH. (℄ I-57)
SCALE
50' 0 25' 50'
EXIST. 15" R.C.C.P.
EXIST. 24" R.C.C.P.
℄ F.A.I. RTE. 57 MEDIAN
EXIST. 24" R.C.C.P.
EQ. P.I. STA. 4+83.50 BK. (℄ CROSSOVER NO. 4) =
37' RT. STA. 219+51.08 AH. (℄ I-57)
BITUMINOUS SHOULDER REMOVAL
130 SQ. YD.
RT. STA. 213+73.5 TO STA. 216+67
BIT. SHLD. REM.
Lt 213+24 - 215+50
EQ. STA. 214+73.47 BK. (27' RT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)
TEMPORARY GUARDRAIL
125 L.F.
(INCLUDES 1 TEMP. TY. 5 TERMINAL
AND 1 TEMP. TY. 4 TERMINAL)
BITUMINOUS SHOULDER REMOVAL
40 SQ. YD.
RT. STA. 218+38 TO STA. 219+27
℄ CROSSOVER NO. 4
(S.B. CLOSED)
CURVE DATA
CROSSOVER NO. 1
P.I. STA= 1+44.85
Δ= 11° 32' 56"
D= 4° 00' 00"
R= 1432.39'
T= 144.85'
L= 288.72'
E= 7.31'
P.C. STA= 0+00.00
P.T. STA= 2+88.72
P.I. STA= 4+33.57
Δ= 11° 32' 56"
D= 4° 00' 00"
R= 1432.39'
T= 144.85'
L= 288.72'
E= 7.31'
P.C. STA= 2+88.72
P.T. STA= 5+77.44
EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT
PROP. PROFILE ALONG
℄ CROSSOVER NO. 1
EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT
EQ. STA. 214+73.47 BK. (27' RT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 1)
PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 1
PROP. BITUMINOUS
MIXTURE COMPLETE, 14"
EQ. P.T. STA. 5+77.44 BK. (℄ CROSSOVER NO. 1) =
31' LT. STA. 220+47.01 AH. (℄ I-57)
+0.041%
400
395
398.68
398.62
+45.70
398.59
398.60
398.64
398.68
398.72
+46.29
398.74
398.75
398.69
EQ. P.I. STA. 4+83.50 BK. (℄ CROSSOVER NO. 4) =
37' RT. STA. 219+51.08 AH. (℄ I-57)
PROP. PROFILE ALONG
℄ CROSSOVER NO. 4
EQ. STA. 214+73.47 BK. (31' LT. ℄ I-57) =
P.C. STA. 0+00 AH. (℄ CROSSOVER NO. 4)
EXIST. PROFILE ALONG MEDIAN
EDGE OF N.B. PAVEMENT
PROP. BITUMINOUS
MIXTURE COMPLETE, 14"
EXIST. PROFILE ALONG MEDIAN
EDGE OF S.B. PAVEMENT
+0.058%
PROFILE OF EXIST. GROUND LINE
ALONG ℄ CROSSOVER NO. 4
398.61
398.56
398.55
+31.51
398.55
398.59
398.65
398.71
+23.58
398.72
398.92
398.69
214
0
1
2
3
4
220
221

PLAN | NOTE BOOK NO. | SURVEYED | PLOTTED | ALIGNMENT CHECKED | R.O.W. CHECKED

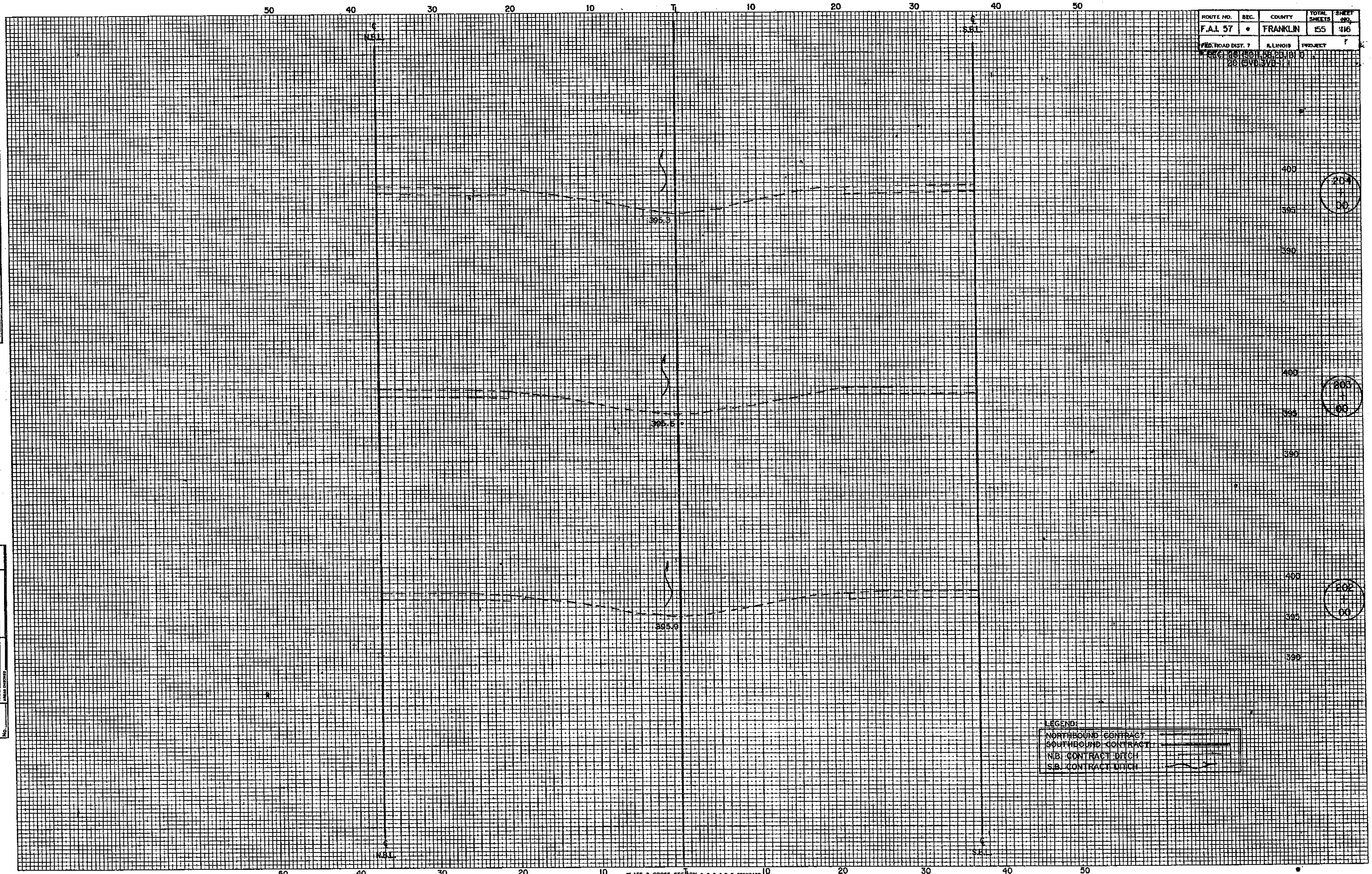
PROFILE | NOTE BOOK NO. | SURVEYED | PLOTTED | GRADES CHECKED

VIEW PP2PND

F.A.I. RTE. 57 OVER POND CREEK

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	116
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

* SEC. 28 (SB1,5B,29,(B) 0
26 (SVB,3VB) 1



POND CREEK

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	117
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

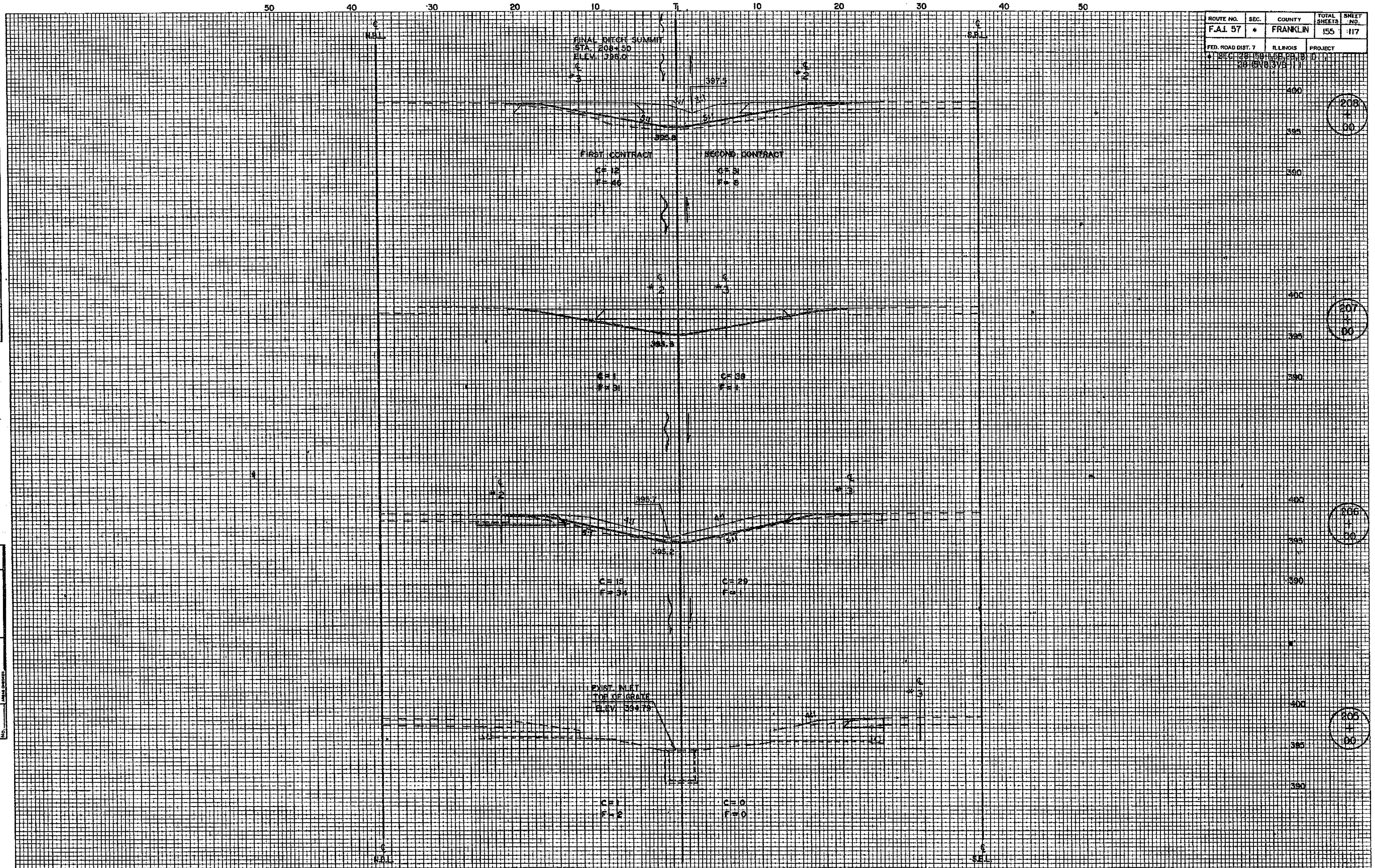
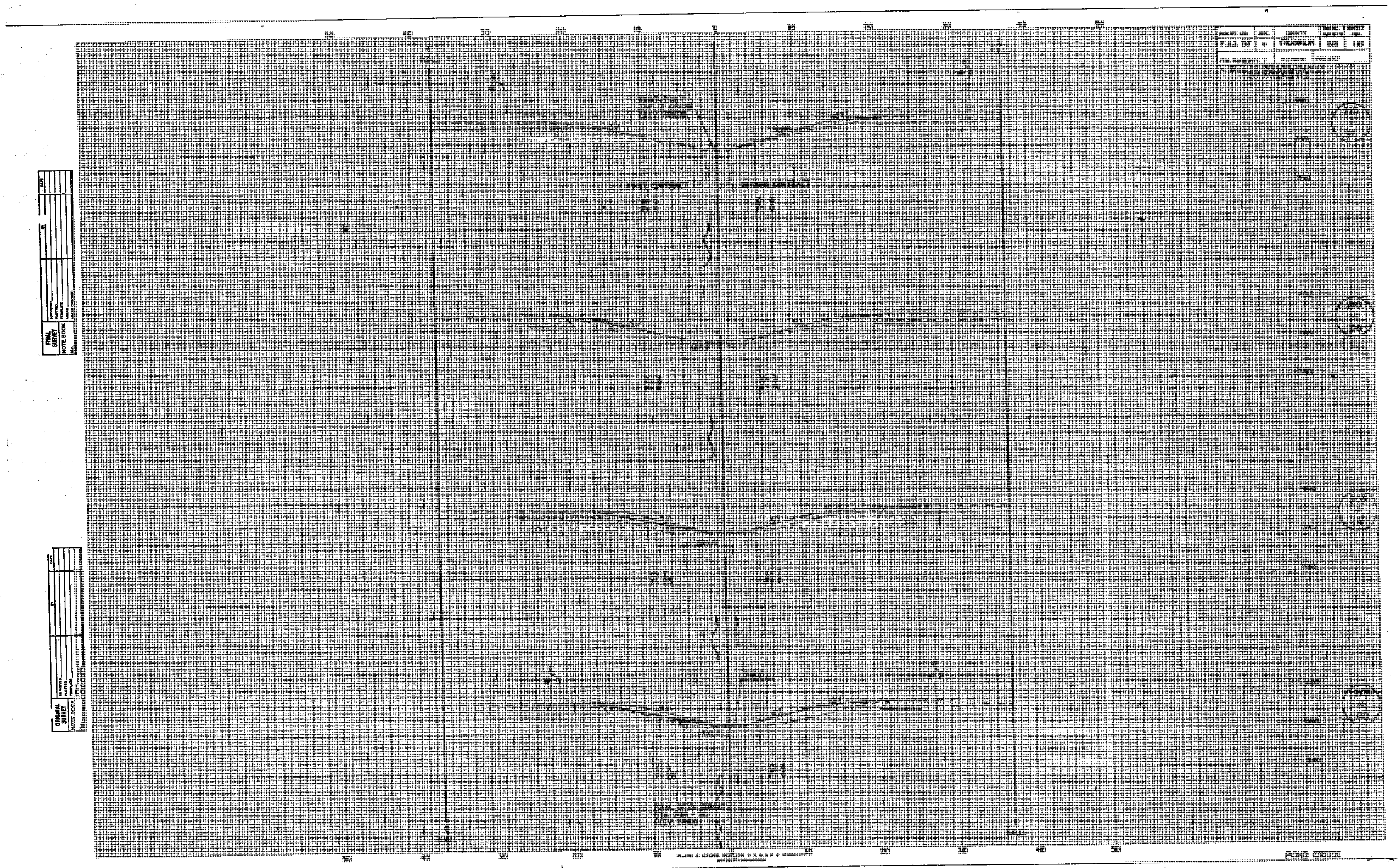
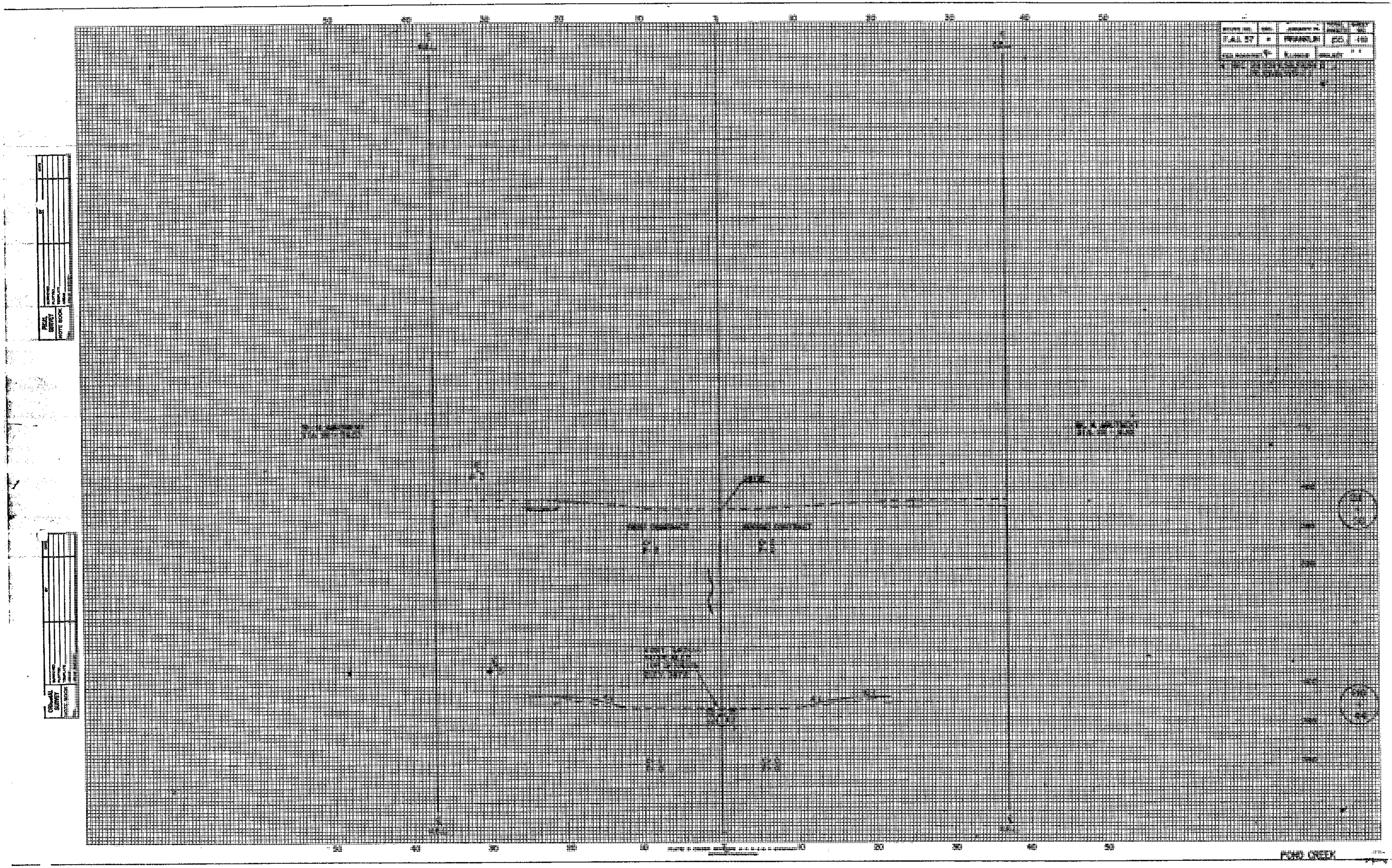
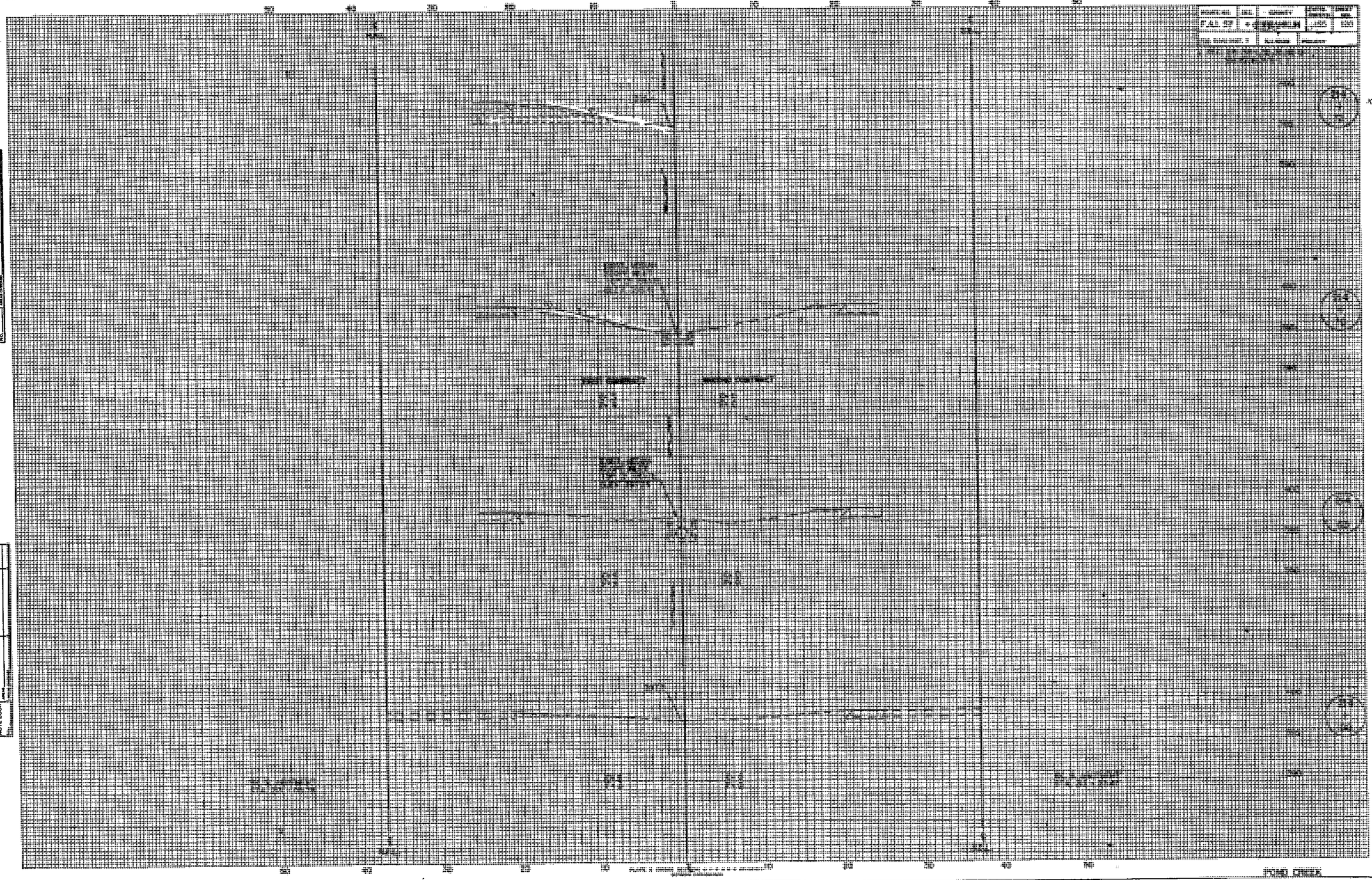


PLATE 3 CROSS SECTION

POND CREEK

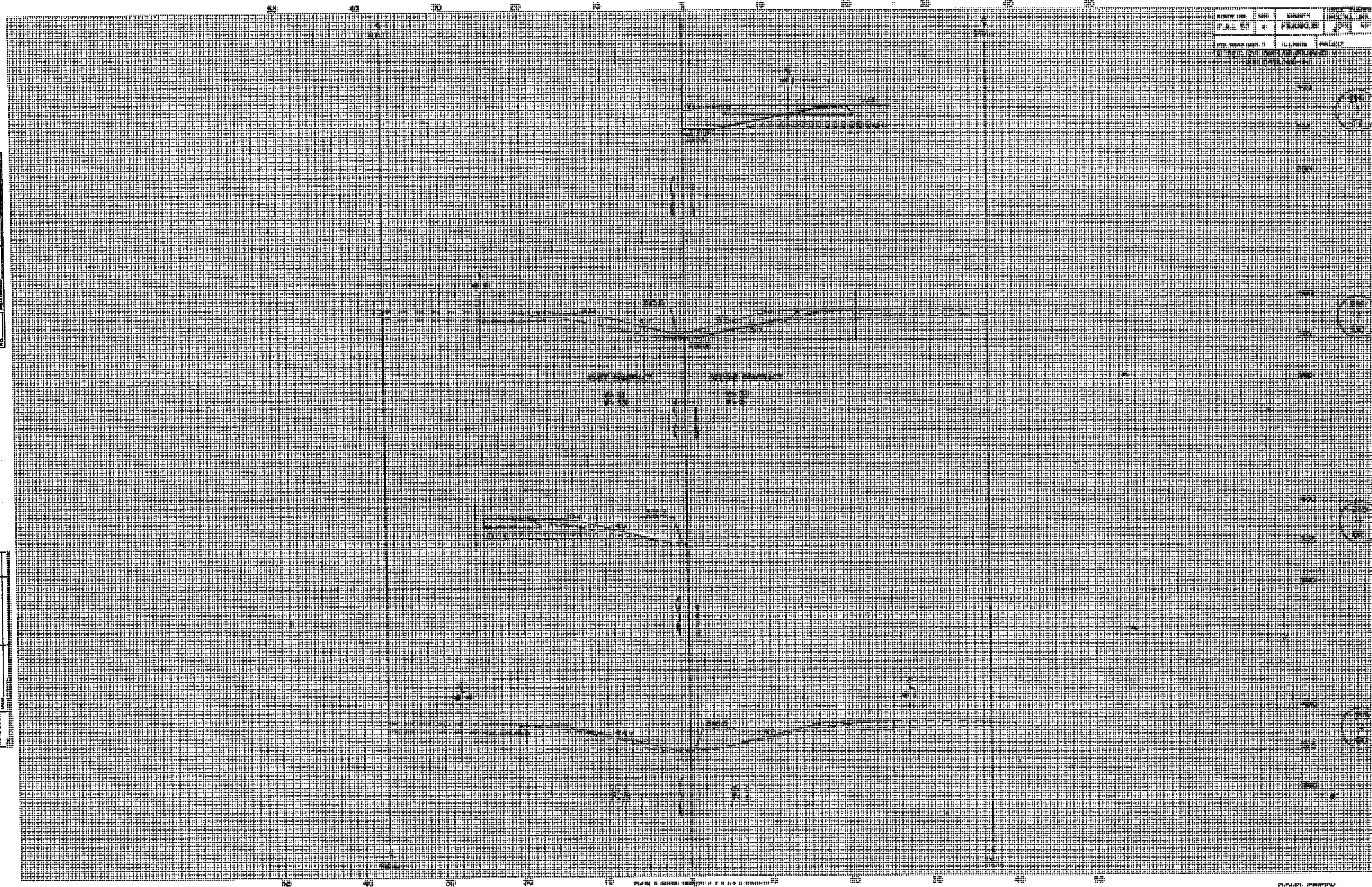

POND CREEK


POND CREEK



FINAL SURVEY NOTE BOOK No.

ORIGINAL SURVEY NOTE BOOK



POND CREEK

FINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TRACED
AREA
AREA CHECKED
DATE

FINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TRACED
AREA
AREA CHECKED
DATE

FINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TRANSLATE
AREAS CHECKED
DATE

FINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TRANSLATE
AREAS CHECKED
DATE

FOND CREEK

POND CREEK

Bench Mark: "□" Cut in S.W. corner of East hubguard of Pond Creek Bridge - Northbound Lane, Sta. 212+50 - Elevation 399.40

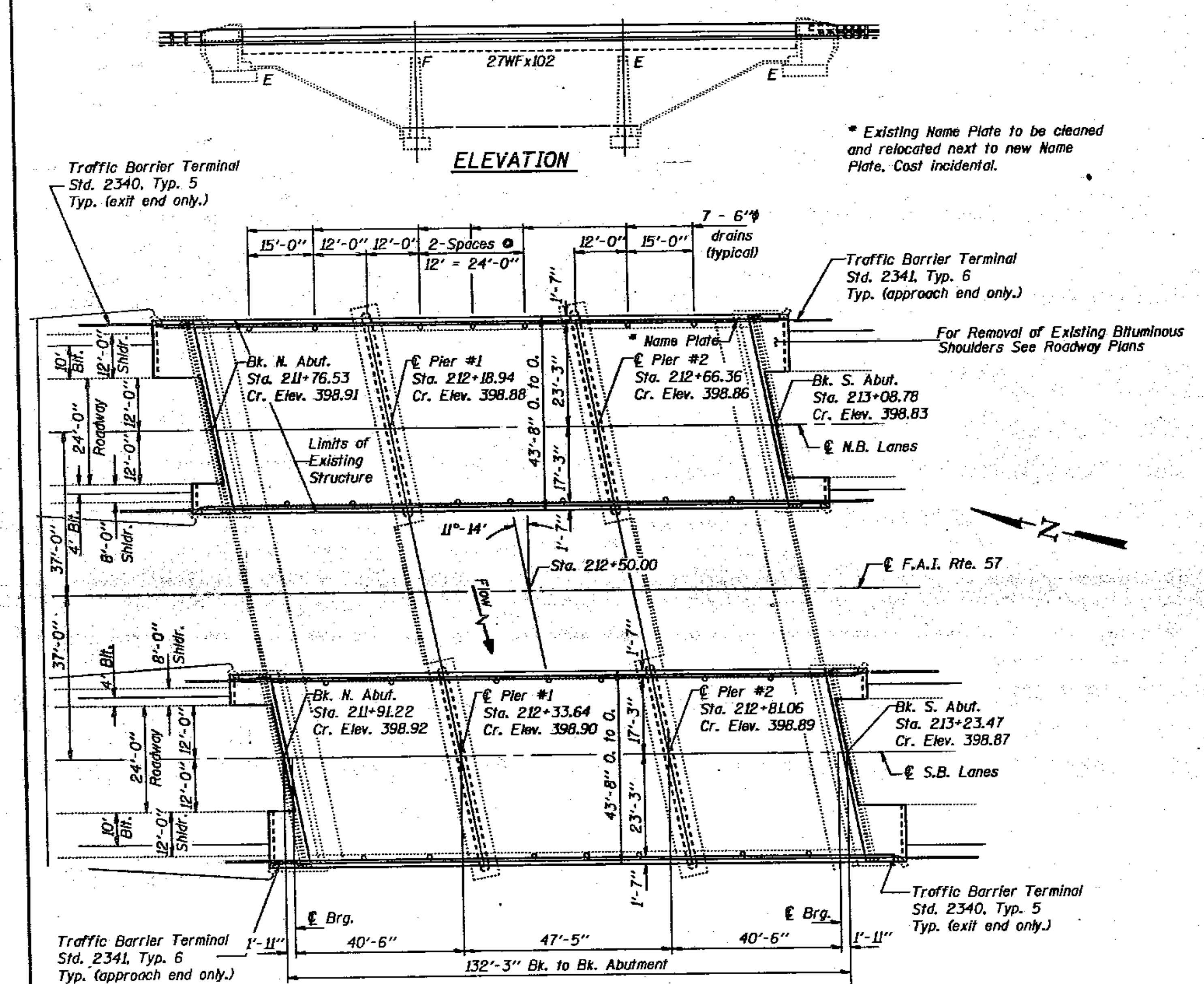
Existing Structure: 028-0001 (N.B.) Built as FAI Route 57, Sec. 28-5B-1 in 1961. Superstructure consists of R.C. deck supported on a 3 span continuous W.F. beams. Temporary median cross-overs shall be utilized to divert traffic over adjacent bridge 028-0002 (S.B.) during reconstruction.

No Salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	125
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

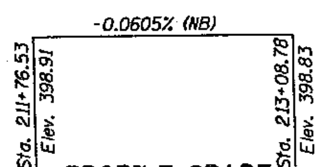
SHEET NO. 1 / 16 SHEETS



* Existing Name Plate to be cleaned and relocated next to new Name Plate. Cost incidental.

STATION 212+50.00
REBUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SEC. (28-5B-1)D
F.A. PROJECT: IM-57-2(132)63
LOADING HS20 & ALT.
STR. NO. 028-0001

NAME PLATE
See Std. 2113



PROFILE GRADE
F.A. Route 57 (along ℄ pavement) (North Bound Structure)

Note:
Only the North bound structure is included in this contract. South bound structure shown for information only.

DESIGNED Richard J. Chapot
CHECKED [signature]
DRAWN Paul W. Sweet
CHECKED RJC R18 [initials]

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

GENERAL NOTES

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

For cantilever forming bracket, See Special Provisions.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

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

All beams shall be lowered $1\frac{5}{8}$" from original position. (See Sht. #8 of 16)

Two $\frac{1}{8}$" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.

The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted.

All top surfaces of the abutments shall receive Bridge Seat Sealer. Estimated quantity = 177 Sq. Ft.

The first two coats of the Lead and Chromate free Alkyd Paint System shall be used for shop and field painting of new structural steel.

Structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures".

Prior to Welding Studs and pouring the new concrete for the deck, all loose rust, loose mill scale and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-11 for power tool cleaning or SP-2 for hand tool cleaning. Cost shall be incidental to "Removal of Existing Concrete Deck".

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		9	9
** Removal of Existing Concrete Deck	Each	1		1
Floor Drains	Each	14		14
Preformed Joint Seal $2\frac{1}{2}$"	Lin. Ft.	44		44
Preformed Joint Seal 4"	Lin. Ft.	44		44
Class X Concrete Superstructure	Cu. Yd.	187.1		187.1
*** Protective Coat	Sq. Yd.	690		690
Elastomeric Bearing Assembly, Type I	Each	14		14
Elastomeric Bearing Assembly, Type II	Each	7		7
Structural Steel	Lbs.	9,690		9,690
Stud Shear Connectors	Each	3,150		3,150
Reinforcement Bars, Epoxy Coated	Pound	44,150		44,150
Name Plates	Each	1		1
Bridge Seat Sealer	L. Sum	0.25		0.25
Jack and Remove Existing Bearings	Each	28		28
Bridge Deck Grooving	Sq. Yd.	584		584
Structure Excavation	Cu. Yd.		22.0	22.0

** Cost includes removal of existing railing.
*** Quantity includes bridge deck surface.

DESIGN SPECIFICATIONS

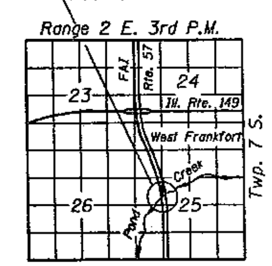
1989 AASHTO with 1990 & 1991 Interims & Seismic Retrofitting Guidelines for Highway Bridges.

LOADING HS 20-44 & Alt.

Allow 25#/ sq. ft. for future wearing surface.

DESIGN STRESSES

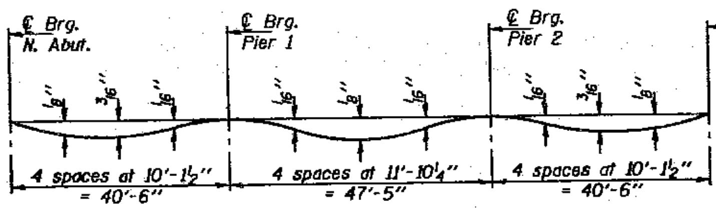
FIELD UNITS
New Construction
f'_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
f_y = 33,000 psi (Existing Structural Steel)
f_y = 36,000 psi (New Structural Steel)



LOCATION SKETCH

GENERAL PLAN
F.A.I. ROUTE 57 OVER
POND CREEK
F.A.I. ROUTE 57 SECTION (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00
STRUCTURE NUMBER 028-0001 (N.B.)

D9903690A

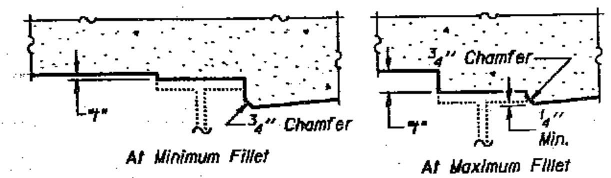


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

FILLET HEIGHTS

Note: The Fillet heights will be greater than 2 inches at Abutments. Due to lowering of all beams to maintain min. fillets at splice plates.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	126

SHEET NO. 2 — 16 SHEETS

℄ BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21171.986	-22.875	398.562	398.562
℄ Brg. N. Abut.	21173.902	-22.875	398.561	398.561
A	21183.902	-22.875	398.555	398.566
B	21193.902	-22.875	398.549	398.563
C	21203.902	-22.875	398.543	398.550
℄ Brg. Pier 1	21214.402	-22.875	398.537	398.537
D	21224.402	-22.875	398.531	398.536
E	21234.402	-22.875	398.524	398.534
F	21244.402	-22.875	398.518	398.527
G	21254.402	-22.875	398.512	398.516
℄ Brg. Pier 2	21261.819	-22.875	398.508	398.508
H	21271.819	-22.875	398.502	398.509
I	21281.819	-22.875	398.496	398.510
J	21291.819	-22.875	398.490	398.501
℄ Brg. S. Abut.	21302.319	-22.875	398.483	398.483
Bk. S. Abut.	21304.236	-22.875	398.482	398.482

℄ BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21173.302	-16.250	398.699	398.699
℄ Brg. N. Abut.	21175.218	-16.250	398.698	398.698
A	21185.218	-16.250	398.692	398.703
B	21195.218	-16.250	398.686	398.700
C	21205.218	-16.250	398.680	398.687
℄ Brg. Pier 1	21215.718	-16.250	398.674	398.674
D	21225.718	-16.250	398.668	398.673
E	21235.718	-16.250	398.661	398.671
F	21245.718	-16.250	398.655	398.664
G	21255.718	-16.250	398.649	398.653
℄ Brg. Pier 2	21263.135	-16.250	398.645	398.645
H	21273.135	-16.250	398.639	398.646
I	21283.135	-16.250	398.633	398.647
J	21293.135	-16.250	398.627	398.638
℄ Brg. S. Abut.	21303.635	-16.250	398.620	398.620
Bk. S. Abut.	21305.552	-16.250	398.619	398.619

EAST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21174.146	-12.000	398.786	398.786
℄ Brg. N. Abut.	21176.063	-12.000	398.785	398.785
A	21186.063	-12.000	398.779	398.790
B	21196.063	-12.000	398.773	398.787
C	21206.063	-12.000	398.767	398.774
℄ Brg. Pier 1	21216.563	-12.000	398.760	398.760
D	21226.563	-12.000	398.754	398.760
E	21236.563	-12.000	398.748	398.758
F	21246.563	-12.000	398.742	398.751
G	21256.563	-12.000	398.736	398.740
℄ Brg. Pier 2	21263.979	-12.000	398.732	398.732
H	21273.979	-12.000	398.726	398.733
I	21283.979	-12.000	398.720	398.734
J	21293.979	-12.000	398.714	398.725
℄ Brg. S. Abut.	21304.479	-12.000	398.707	398.707
Bk. S. Abut.	21306.396	-12.000	398.706	398.706

℄ BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21174.618	-9.625	398.830	398.830
℄ Brg. N. Abut.	21176.535	-9.625	398.829	398.829
A	21186.535	-9.625	398.823	398.835
B	21196.535	-9.625	398.817	398.831
C	21206.535	-9.625	398.811	398.819
℄ Brg. Pier 1	21217.035	-9.625	398.805	398.805
D	21227.035	-9.625	398.799	398.804
E	21237.035	-9.625	398.793	398.802
F	21247.035	-9.625	398.787	398.795
G	21257.035	-9.625	398.781	398.784
℄ Brg. Pier 2	21264.451	-9.625	398.776	398.776
H	21274.451	-9.625	398.770	398.777
I	21284.451	-9.625	398.764	398.778
J	21294.451	-9.625	398.758	398.770
℄ Brg. S. Abut.	21304.951	-9.625	398.752	398.752
Bk. S. Abut.	21306.868	-9.625	398.750	398.750

℄ BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21175.934	-3.000	398.903	398.903
℄ Brg. N. Abut.	21177.851	-3.000	398.901	398.901
A	21187.851	-3.000	398.895	398.907
B	21197.851	-3.000	398.889	398.904
C	21207.851	-3.000	398.883	398.891
℄ Brg. Pier 1	21218.351	-3.000	398.877	398.877
D	21228.351	-3.000	398.871	398.878
E	21238.351	-3.000	398.865	398.874
F	21248.351	-3.000	398.859	398.867
G	21258.351	-3.000	398.853	398.857
℄ Brg. Pier 2	21265.767	-3.000	398.848	398.848
H	21275.767	-3.000	398.842	398.849
I	21285.767	-3.000	398.836	398.850
J	21295.767	-3.000	398.830	398.842
℄ Brg. S. Abut.	21306.267	-3.000	398.824	398.824
Bk. S. Abut.	21308.184	-3.000	398.823	398.823

℄ ROADWAY AND P. G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21176.530	0.000	398.910	398.910
℄ Brg. N. Abut.	21178.447	0.000	398.909	398.909
A	21188.447	0.000	398.903	398.914
B	21198.447	0.000	398.897	398.911
C	21208.447	0.000	398.891	398.898
℄ Brg. Pier 1	21218.947	0.000	398.884	398.884
D	21228.947	0.000	398.878	398.883
E	21238.947	0.000	398.872	398.882
F	21248.947	0.000	398.866	398.875
G	21258.947	0.000	398.860	398.864
℄ Brg. Pier 2	21266.363	0.000	398.856	398.856
H	21276.363	0.000	398.850	398.857
I	21286.363	0.000	398.844	398.858
J	21296.363	0.000	398.838	398.849
℄ Brg. S. Abut.	21306.863	0.000	398.831	398.831
Bk. S. Abut.	21308.780	0.000	398.830	398.830

℄ BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21177.250	3.625	398.898	398.898
℄ Brg. N. Abut.	21179.167	3.625	398.897	398.897
A	21189.167	3.625	398.891	398.902
B	21199.167	3.625	398.885	398.899
C	21209.167	3.625	398.879	398.888
℄ Brg. Pier 1	21219.667	3.625	398.872	398.872
D	21229.667	3.625	398.866	398.871
E	21239.667	3.025	398.860	398.870
F	21249.667	3.625	398.854	398.863
G	21259.667	3.625	398.848	398.852
℄ Brg. Pier 2	21267.084	3.625	398.844	398.844
H	21277.084	3.625	398.838	398.845
I	21287.084	3.625	398.832	398.846
J	21297.084	3.625	398.825	398.837
℄ Brg. S. Abut.	21307.584	3.625	398.819	398.819
Bk. S. Abut.	21309.500	3.625	398.818	398.818

℄ BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21178.566	10.250	398.818	398.818
℄ Brg. N. Abut.	21180.483	10.250	398.817	398.817
A	21190.483	10.250	398.810	398.822
B	21200.483	10.250	398.804	398.819
C	21210.483	10.250	398.798	398.806
℄ Brg. Pier 1	21220.983	10.250	398.792	398.792
D	21230.983	10.250	398.786	398.791
E	21240.983	10.250	398.780	398.789
F	21250.983	10.250	398.774	398.782
G	21260.983	10.250	398.768	398.772
℄ Brg. Pier 2	21268.400	10.250	398.763	398.763
H	21278.400	10.250	398.757	398.764
I	21288.400	10.250	398.751	398.765
J	21298.400	10.250	398.745	398.757
℄ Brg. S. Abut.	21308.900	10.250	398.739	398.739
Bk. S. Abut.	21310.816	10.250	398.738	398.738

WEST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21178.914	12.000	398.784	398.784
℄ Brg. N. Abut.	21180.831	12.000	398.783	398.783
A	21190.831	12.000	398.776	398.788
B	21200.831	12.000	398.770	398.785
C	21210.831	12.000	398.764	398.772
℄ Brg. Pier 1	21221.331	12.000	398.758	398.758
D	21231.331	12.000	398.752	398.757
E	21241.331	12.000	398.746	398.755
F	21251.331	12.000	398.740	398.748
G	21261.331	12.000	398.734	398.738
℄ Brg. Pier 2	21268.747	12.000	398.729	398.729
H	21278.747	12.000	398.723	398.730
I	21288.747	12.000	398.717	398.731
J	21298.747	12.000	398.711	398.723
℄ Brg. S. Abut.	21309.247	12.000	398.705	398.705
Bk. S. Abut.	21311.164	12.000	398.704	398.704

℄ BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21179.882	16.875	398.682	398.682
℄ Brg. N. Abut.	21181.799	16.875	398.601	398.681
A	21191.799	16.875	398.674	398.686
B	21201.799	16.875	398.668	398.683
C	21211.799	16.875	398.662	398.670
℄ Brg. Pier 1	21222.299	16.875	398.656	398.656
D	21232.299	16.875	398.650	398.655
E	21242.299	16.875	398.644	398.653
F	21252.299	16.875	398.638	398.646
G	21262.299	16.875	398.632	398.636
℄ Brg. Pier 2	21269.716	16.875	398.627	398.827
H	21279.716	16.875	398.621	398.628
I	21289.716	16.875	398.615	398.629
J	21299.716	16.875	398.609	398.621
℄ Brg. S. Abut.	21310.216	16.875	398.603	398.603
Bk. S. Abut.	21312.133	16.875	398.602	398.602

Note: Work this sheet with sheet #3 of 16.

DESIGNED Richard J. Chapt
CHECKED Bhrew P. Nevithorde
DRAWN Paul W. Sweet
CHECKED RJC

May 22 1992
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

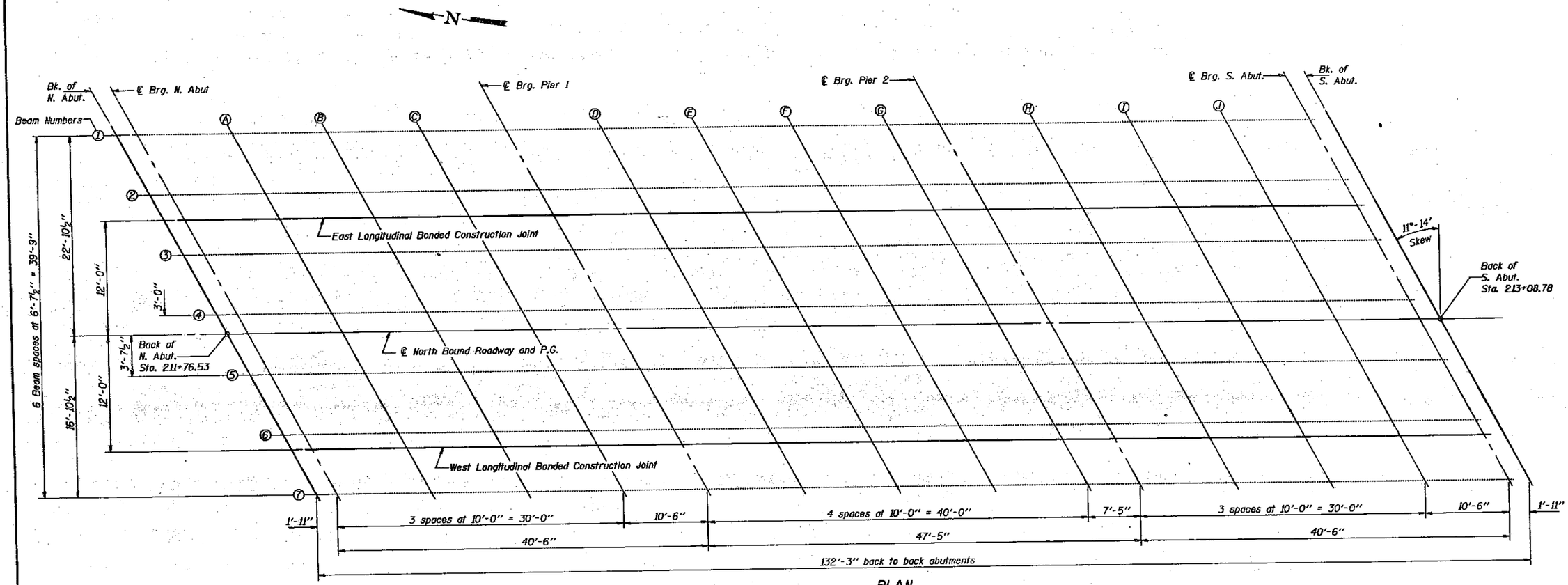
E-S 1-6-82

TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	128-1121-130	FRANKLIN	155	127
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Work this sheet with sheet #2 of 16.

DESIGNED	Richard J. Chaput
CHECKED	Steven P. Danielewski
DRAWN	Paul W. Sweet
CHECKED	RJC GE 7/18

MAY 22 1992

EXAMINED Siegi D. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

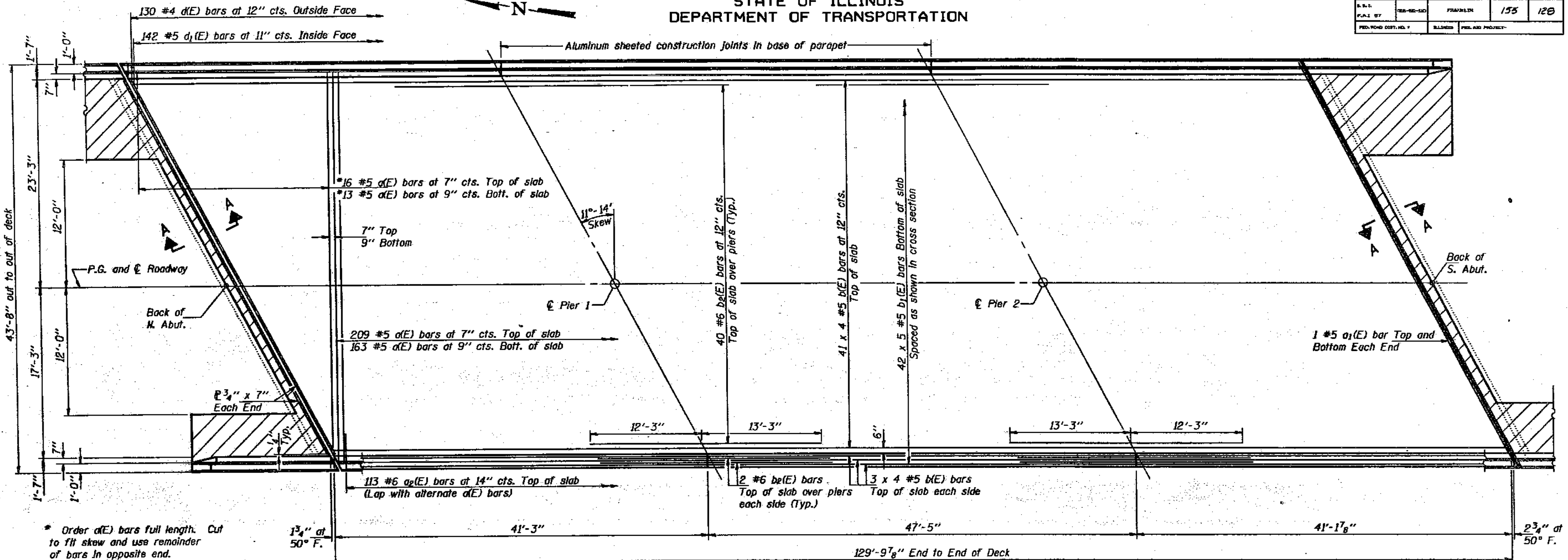
APPROVED
DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

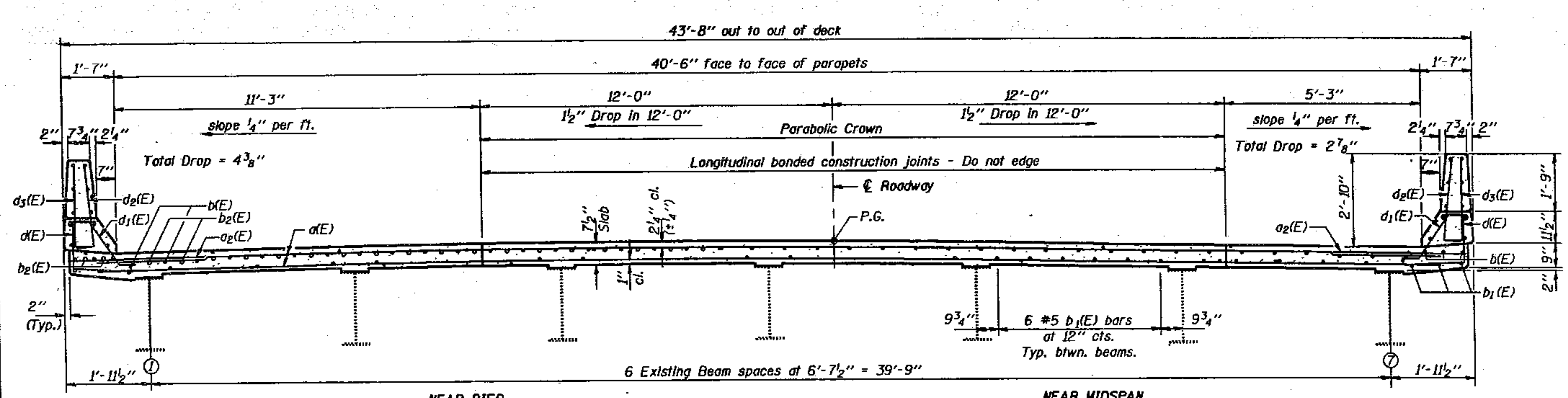
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	128

SHEET NO. 4
16 SHEETS



PLAN



CROSS SECTION
(Looking South)

Notes: See sheets #5 and #6 of 16 for superstructure details, parapet reinforcement and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Reinforcement bars indicated thus 40 x 4 #5 etc. indicates 40 lines of bars with 4 lengths per line.
See sheet #1 of 16 for drain locations and sheet #5 of 16 for details.
See sheets #13 & 15 of 16 for Approach shoulder details.

MIN. BAR LAPS
#5 bars = 1'-9"

DESIGNED	Richard / Chapt
CHECKED	Dhruv P. Naridwala
DRAWN	Paul W. Sweet
CHECKED	RJC CGE RTB

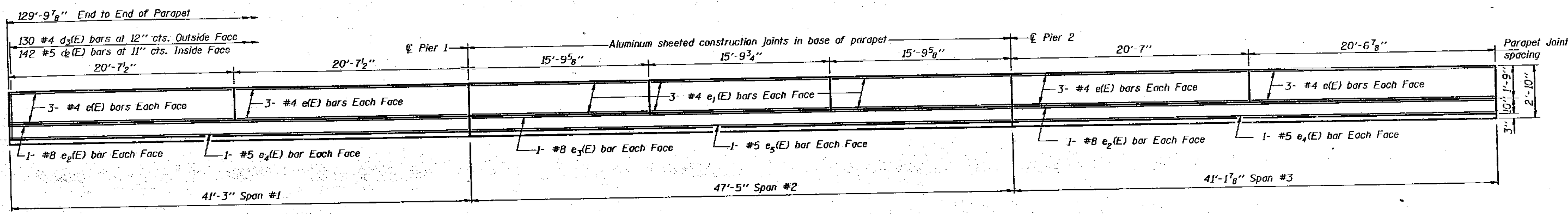
May 22 1992
EXAMINED Engineer of Bridge Design
PASSED Ralph E. Anderson, Engineer of Bridges and Structures
APPROVED Director of Highways

SUPERSTRUCTURE
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

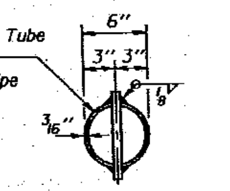
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	129

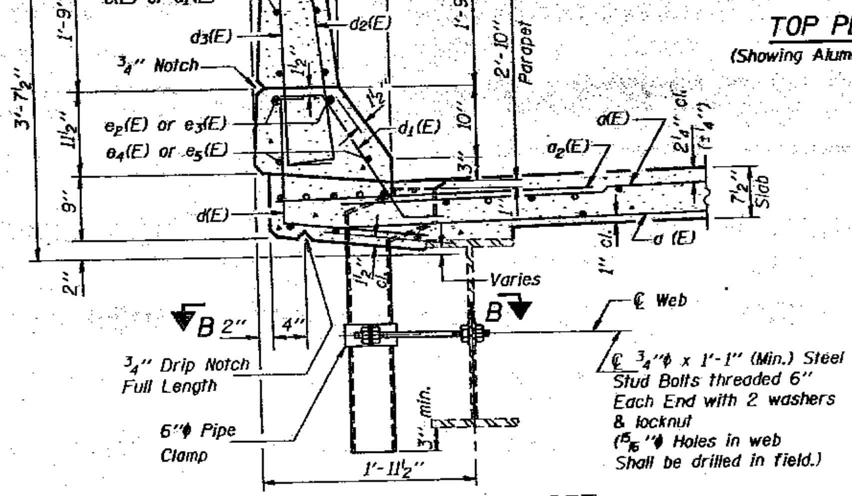
SHEET NO. 5
16 SHEETS



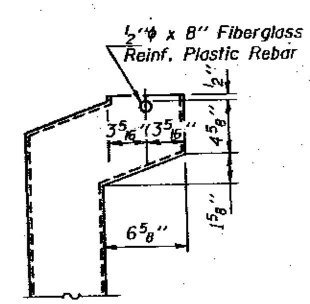
INSIDE PARAPET ELEVATION



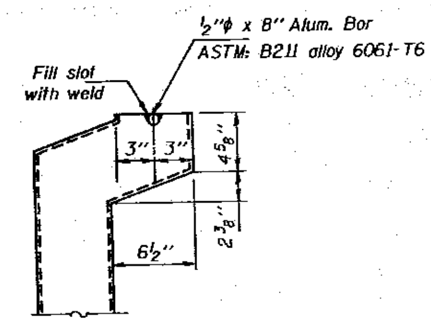
TOP PLAN
(Showing Aluminum Tube)



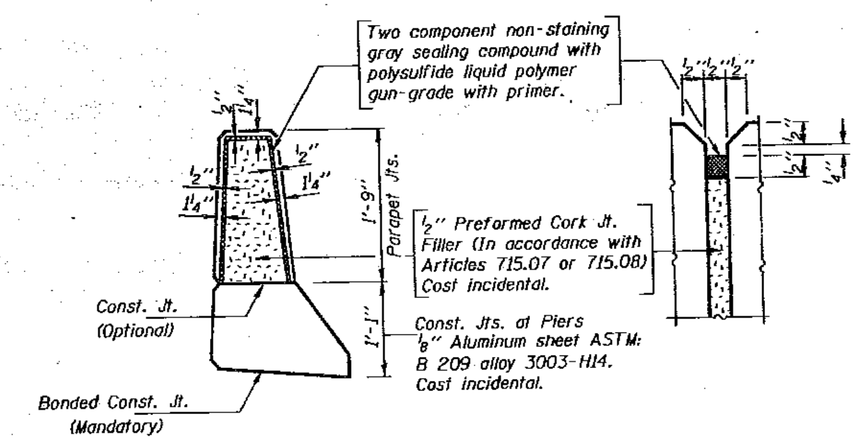
SECTION THRU PARAPET



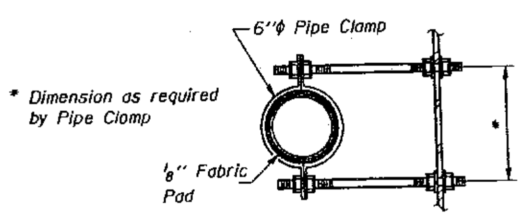
FIBERGLASS PIPE



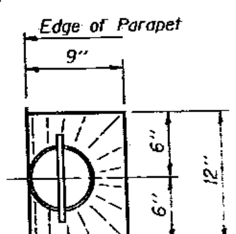
ALUMINUM TUBE



PARAPET JOINT DETAILS



SECTION B-B



TOP PLAN

Notes:
The exterior surfaces of the Floor Drain shall be painted with the painting specified for New Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting. Fiberglass to have prewash as per MIL-P-15328 prior to painting.
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED	Richard J. Chiquet
CHECKED	Thomas P. Dauidowski
DRAWN	Paul W. Sweet
CHECKED	RJC GE RJB

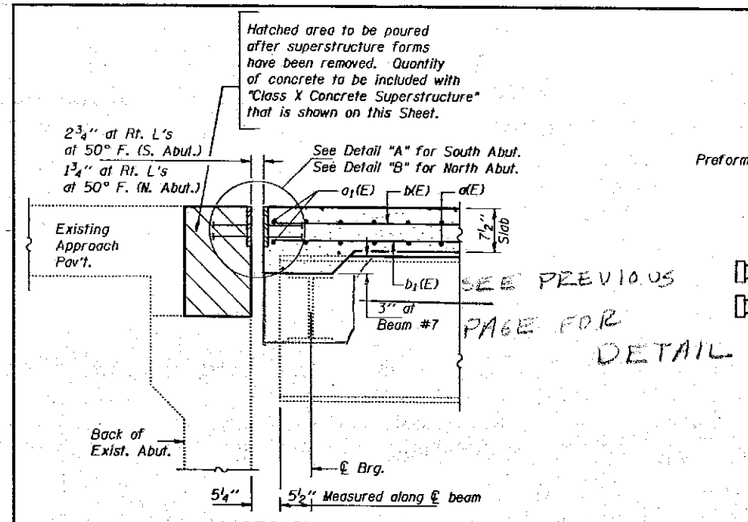
May 22 1992
EXAMINED Iraj J. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

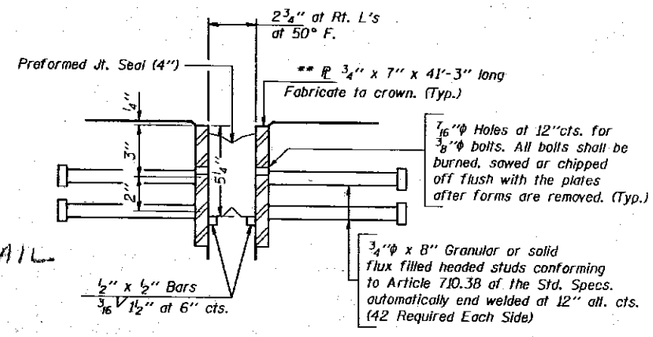
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	150
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

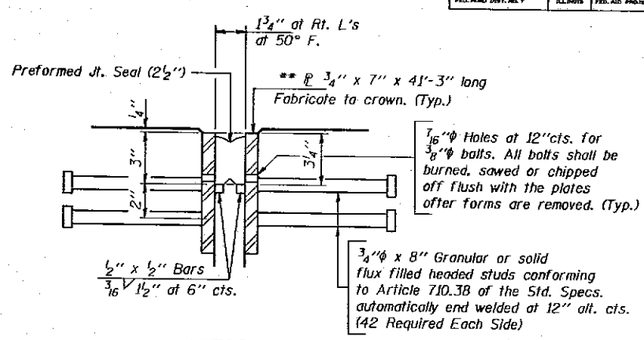
SHEET NO. 6
16 SHEETS



SECTION A-A

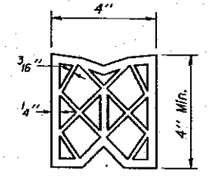


DETAIL "A"

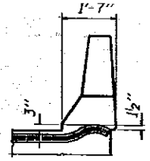


DETAIL "B"

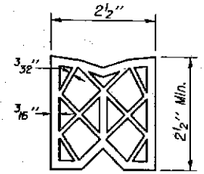
** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel. After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for New Structural Steel. No field painting required.



PREFORMED JOINT SEAL (4")



END TREATMENT
Typ. for (4") and (2½").

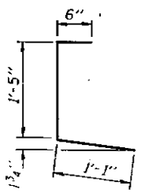


PREFORMED JOINT SEAL (2½")

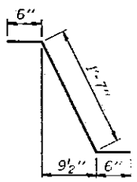
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	401	#5	41'-8"	
a1(E)	4	#5	42'-6"	
a2(E)	226	#6	4'-0"	
b(E)	188	#5	33'-8"	
b1(E)	210	#5	27'-3"	
b2(E)	88	#6	25'-6"	
d(E)	260	#4	3'-0"	⌐
d1(E)	284	#5	2'-7"	⌐
d2(E)	284	#5	3'-0"	L
d3(E)	260	#4	3'-0"	L
e(E)	48	#4	20'-4"	
e1(E)	36	#4	15'-6"	
e2(E)	8	#8	40'-10"	
e3(E)	4	#8	47'-1"	
e4(E)	8	#5	40'-10"	
e5(E)	4	#5	47'-1"	
Reinforcement Bars, Epoxy Coated			Lbs.	40,540
Class X Concrete Superstructure			Cu. Yd.	187.1

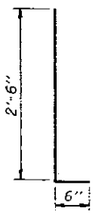
Reinforcement bars designated (E) shall be epoxy coated.



BAR d(E)



BAR d1(E)



BARS d2(E) & d3(E)

DESIGNED	Richard J. Chapot
CHECKED	Larry P. Davidson
DRAWN	Paul W. Sweat
CHECKED	RJC RPB

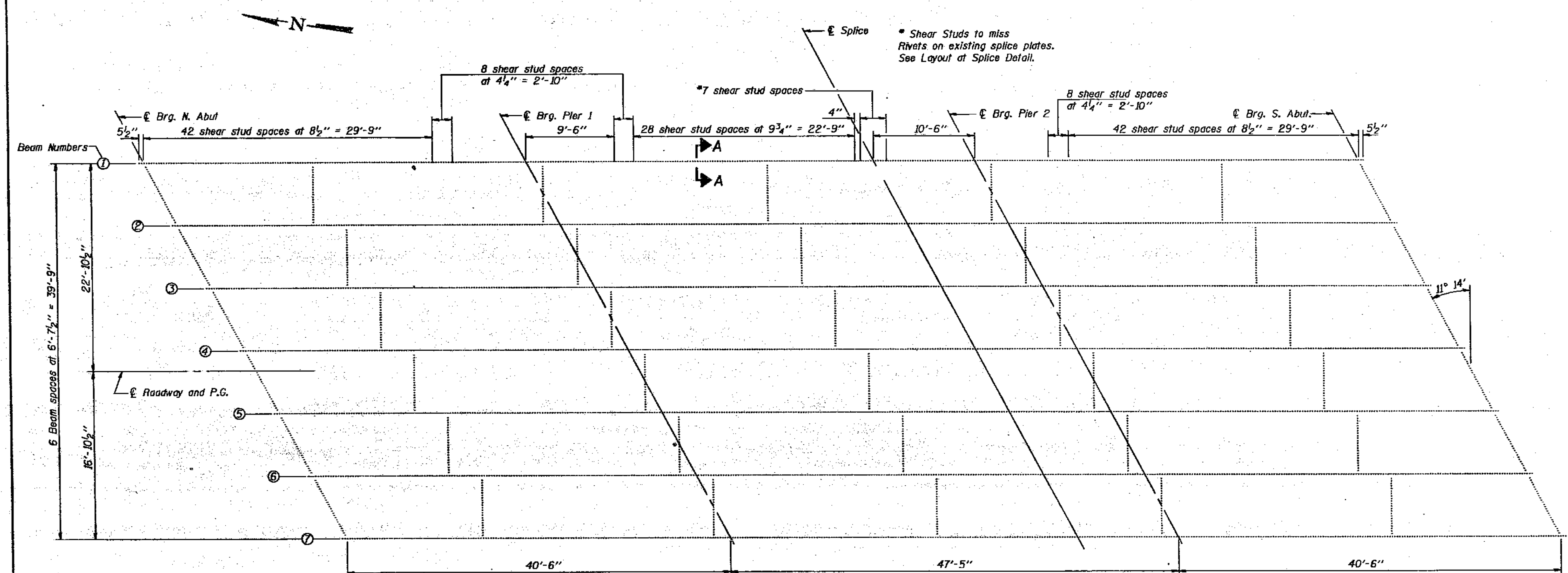
May 22 1992
EXAMINED Greg D. Kasper ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	128-5B-1D	FRANKLIN	155	131
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
16 SHEETS



PLAN

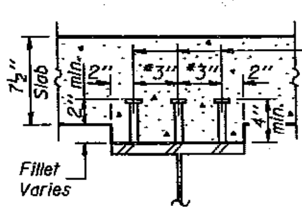
INTERIOR BEAM REACTION TABLE		
	Abuts.	Piers
R_D (K)	15.9	49.0
R_L (K)	32.2	39.3
Imp. (K)	9.7	11.6
R (Total) (K)	57.8	99.9

Is and Ss are the moment of inertia and section modulus of the steel section used in computing f_s (Total), and f_s (Overload).
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing, and f_s (Overload).
VR is the maximum Live Load + Impact shear range in span.

Ma (Applied Moment) = 1.3 [M_D + Ms_D + $\frac{5}{3}$(M_L + I)]
Mu is the Full Plastic Moment Capacity computed according to AASHTO 10.48.1 & 10.50.1.1
fs (Overload) is the sum of stresses the due to to [M_D + Ms_D + $\frac{5}{3}$(M_L + I)]
fs (Total) is the sum of stresses the due to 1.3 [M_D + Ms_D + $\frac{5}{3}$(M_L + I)]. at unbraced. Non-compact. section.
M_D - Moment due to dead load on non-composite section.
Ms_D - Moment due to dead load on composite section.
M_L - Moment due to live load on non-composite section.
I - Live load impact.

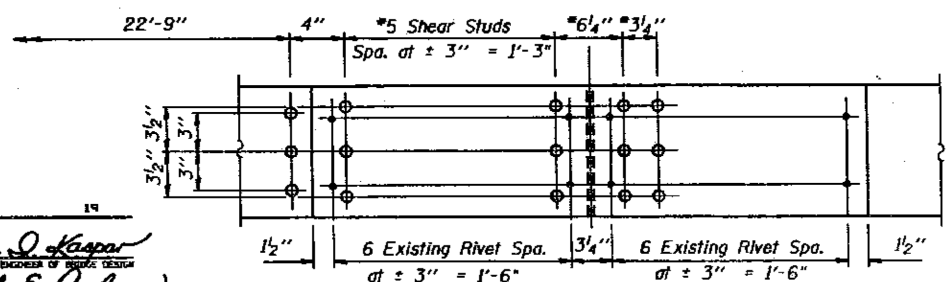
INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
Is	(in^4)	3604	3604	3604
Ic (n=9)	(in^4)	10448	——	10448
Ic (n=27)	(in^4)	7732	——	7732
Ss	(in^3)	266	266	266
Sc (n=9)	(in^3)	405	——	405
Sc (n=27)	(in^3)	367	——	367
D	(K/ft.)	.748	1.01	.748
M_D	('K)	89.3	183.6	65.3
fs_D non-comp	(k.s.i.)	4.0	8.3	2.9
s_D	(K/ft.)	.262	——	.262
Ms_D	('K)	36.1	——	34.9
** fs_D (comp)	(k.s.i.)	1.2	——	1.1
M_L	('K)	237.3	122.9	245.1
M (Imp)	('K)	71.2	36.2	70.8
$\frac{5}{3}$ (M_L+I)	('K)	514.2	265.2	526.5
fs $\frac{5}{3}$(L+I)	(k.s.i.)	15.2	11.9	15.6
Ma	('k)	831.0	583.0	815.0
Mu		1657	——	1657
fs (Overload)	(k.s.i.)	20.4	20.2	19.6
fs (Total)	(k.s.i.)	——	26.3	——
VR	(K)	45.4	——	48.5

** For n = 27.



¾"φ Granular or solid flux filled headed studs, conforming to the requirements of Art. 7.10.38 of the Std. Specs. Automatically end welded to flange. (3150 Required)

SECTION A-A



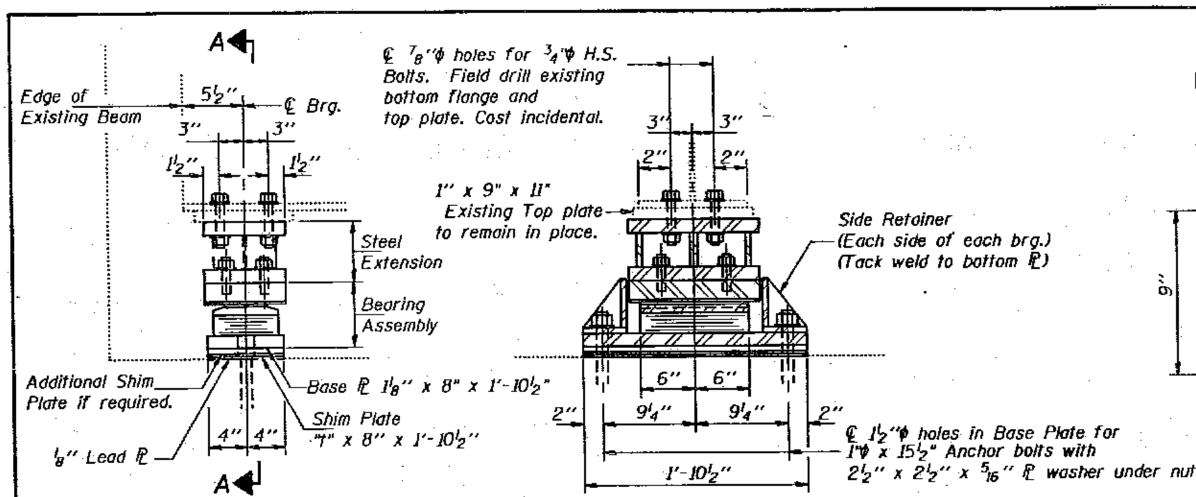
LAYOUT AT SPLICE

DESIGNED	Richard J. Chapat
CHECKED	[illegible]
DRAWN	Paul W. Sweet
CHECKED	RJC RIB [illegible]

EXAMINED [illegible signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

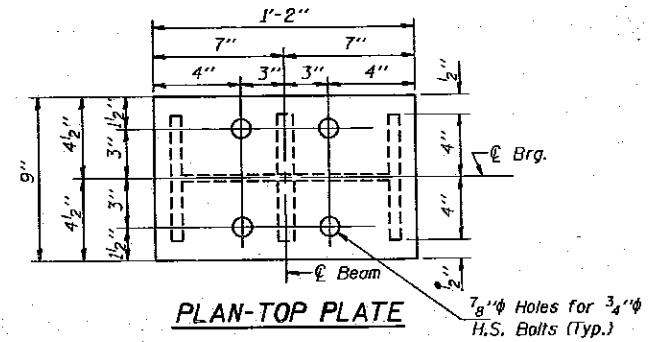
STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SEC. (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

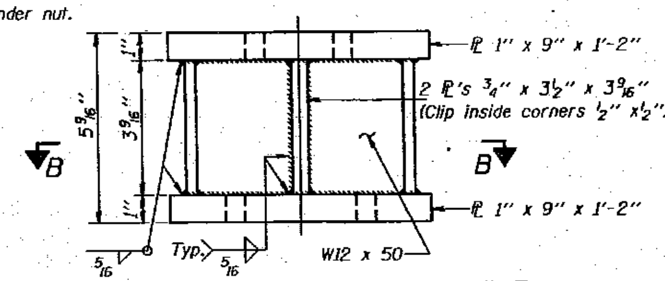


ELEVATION AT SOUTH ABUT.   SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

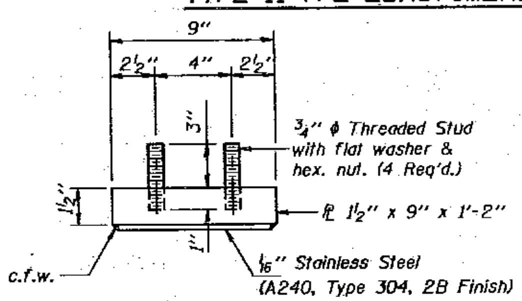


PLAN-TOP PLATE

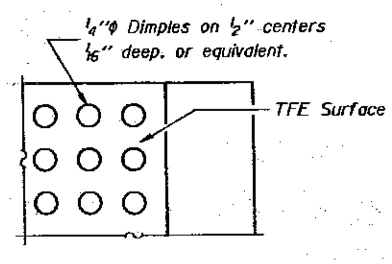


STEEL EXTENSION AT SOUTH ABUT.

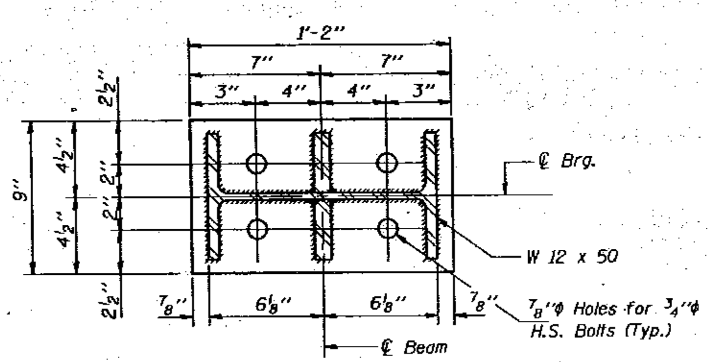
Equivalent welded plates will be allowed in lieu of W12 x 50 section.



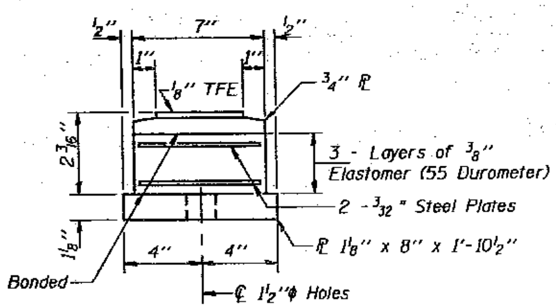
TOP BEARING ASSEMBLY



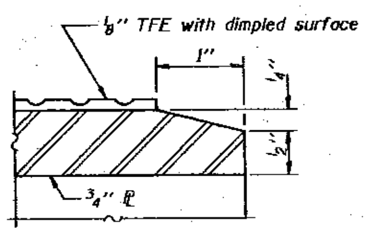
PLAN-TFE SURFACE



SECTION B-B



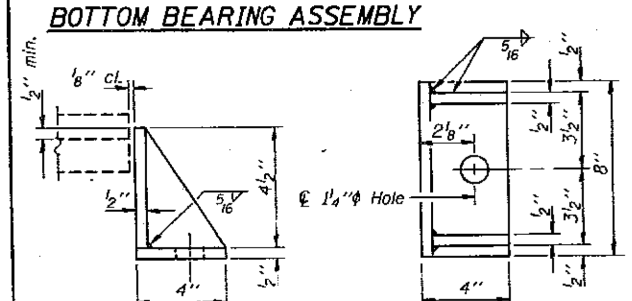
BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

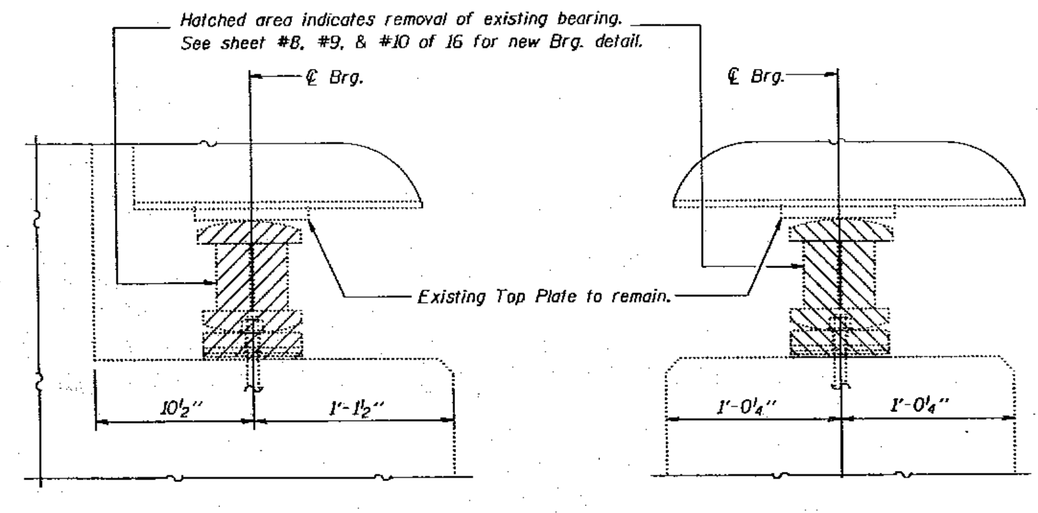
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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



SIDE RETAINER

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



JACK AND REMOVE EXISTING BEARING

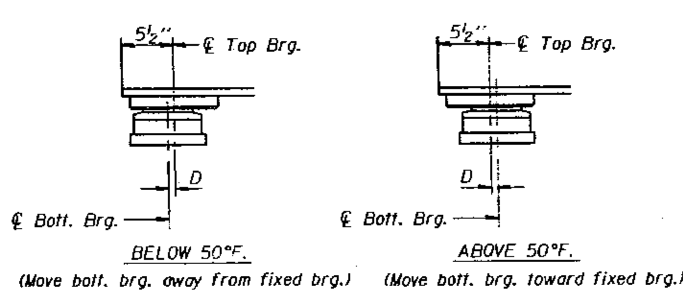
(Dimension are at Rt. L's)

JACK AND REMOVE EXISTING BEARING PROCEDURE

1. The Contractor shall submit for approval by the Engineer, plans for jacking & cribbing prior to commencing any work at the bearings.
2. Jacking and removing existing bearings shall be done after deck removal is completed and before the new deck is poured.
3. All beams, all locations shall be lifted simultaneously.
4. Jacking shall be limited to a maximum of 1/4" lift to remove the existing bearing assembly, utilizing a jack or series of jacks. The max. dead load reaction at each beam with the deck removed is 6.0K at Piers and 1.9K at Abutments. The Minimum Jack Capacity for each beam is 5 Ton at Piers and 2 Ton at Abutments. Set jacks so that beams can be lowered approximately 1 5/8" from original position.
5. Remove the existing anchor bolts flush with the concrete surface and grind smooth. The rocker and bottom plates shall be removed leaving the existing top plate intact. The bottom flange area of the beam and existing top plate shall be cleaned and painted as specified for Structural Steel.
6. The new bearings and steel extensions shall be in place and the jacks shall be lowered before the new deck is poured. Lower all Beams simultaneously in 1/4" increments.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Jack and Remove Existing Bearings	Each	7



SETTING ANCHOR BOLTS AT EXP. BRG.

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

Notes: For anchor bolt installation details see sheet #16 of 16.
For table of Shim Plate "T" Dimensions see sheet #10 of 16.
Anchor Bolts, Side Retainers, Shim Plates, Lead Plates, and Steel Extension Assemblies are included in the "Structural Steel" Quantity.
See sheet #14 of 16 for anchor bolt layout at South Abutment.

DESIGNED	Richard J. Chapat
CHECKED	[signature]
DRAWN	Paul W. Sweet
CHECKED	RJC RJB [initials]

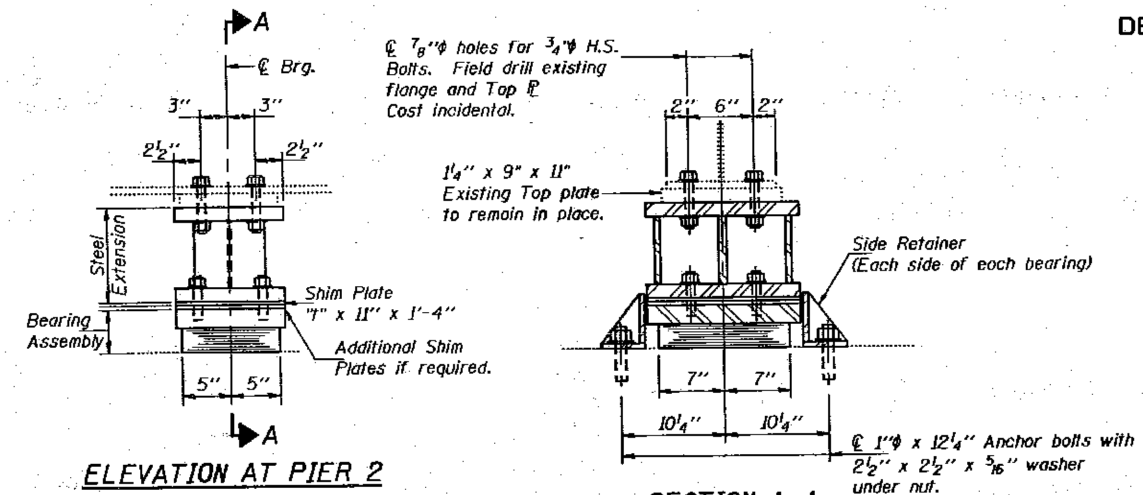
May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

SOUTH ABUTMENT
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	133

SHEET NO. 9
16 SHEETS

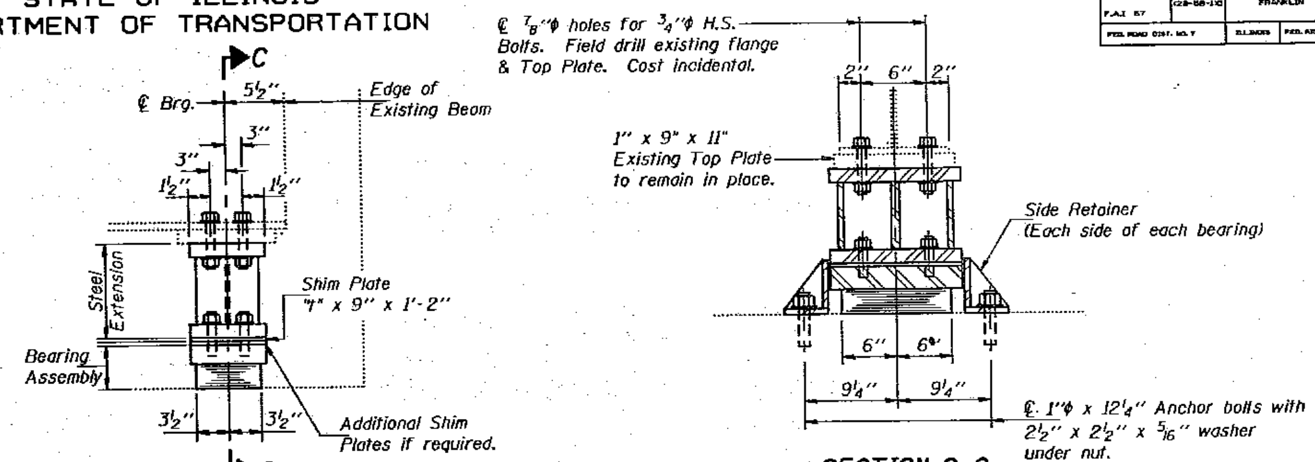
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT PIER 2

SECTION A-A

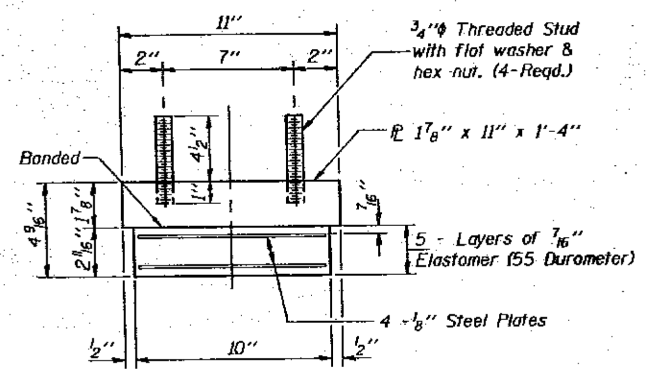
TYPE I ELASTOMERIC EXP. BRG.



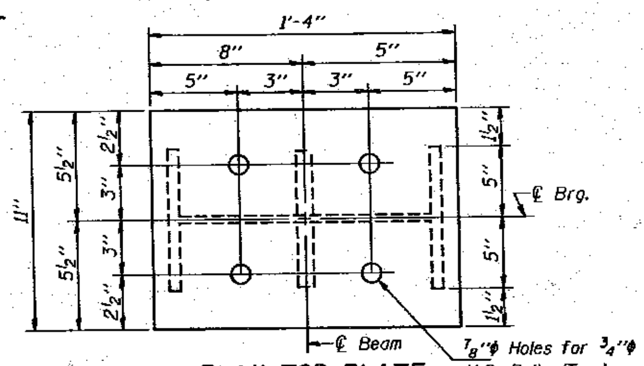
ELEVATION AT NORTH ABUT.

SECTION C-C

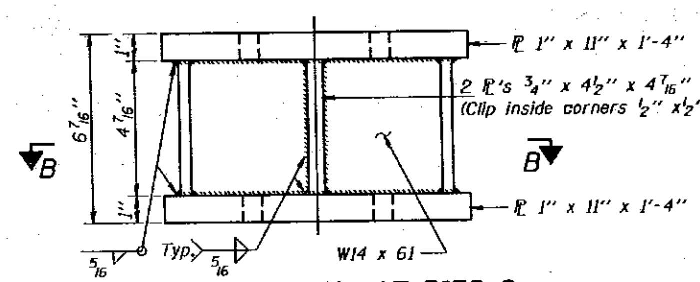
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

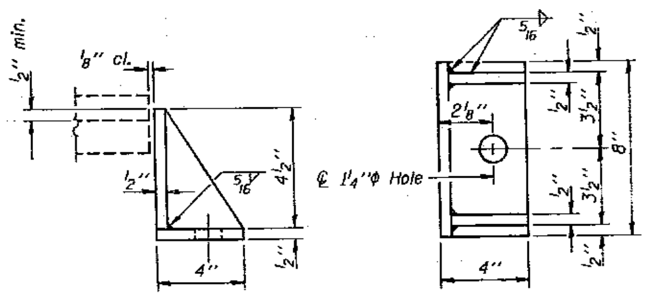


PLAN-TOP PLATE



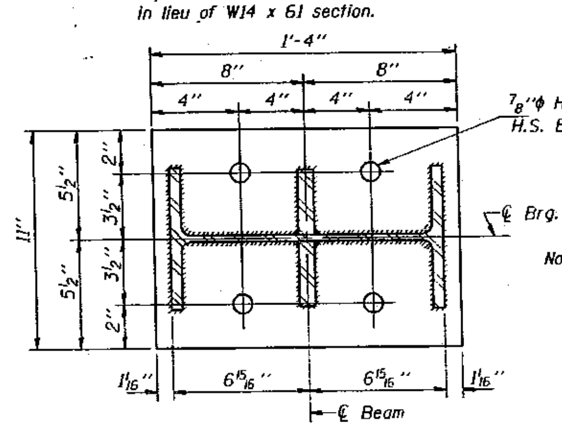
STEEL EXTENSION AT PIER 2

Equivalent welded plates will be allowed in lieu of W14 x 61 section.

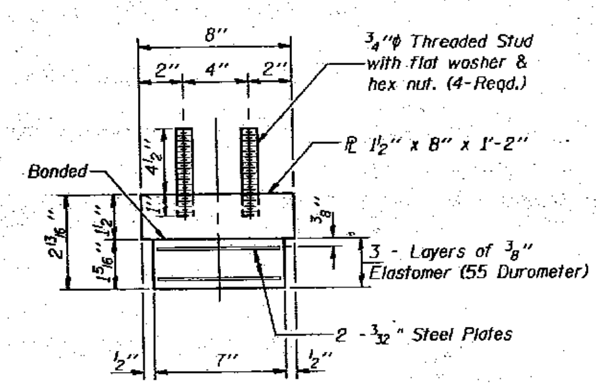


SIDE RETAINER

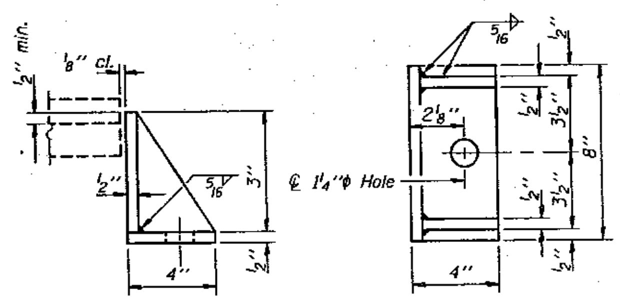
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SECTION B-B

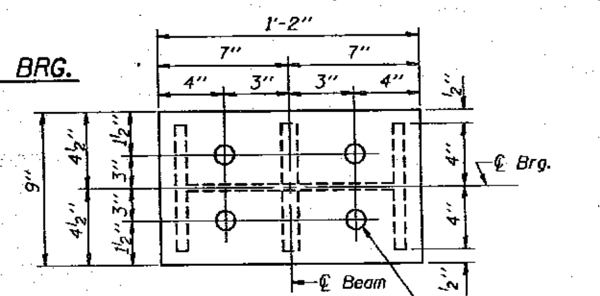


BEARING ASSEMBLY

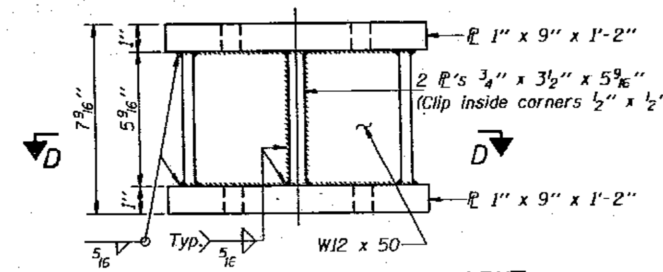


SIDE RETAINER

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

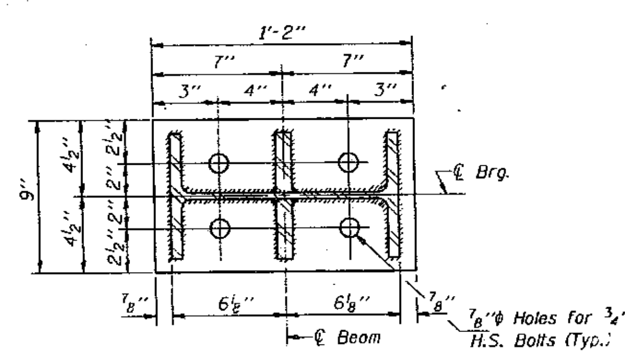


PLAN-TOP PLATE



STEEL EXTENSION AT NORTH ABUT.

Equivalent welded plates will be allowed in lieu of W12x50 section.



SECTION D-D

Notes: For anchor bolt installation details see sheet #16 of 16.
Anchor bolts, Side Retainers, Shim plates, Lead Plates, and Steel Extension Assemblies included in "Structural Steel" Quantity.
See sheet #8 of 16 for Jack and Remove Existing Bearing Procedure.
Shim plates shall not be placed under Bearing Assembly.
For anchor bolt location at Pier #2 See sheet #10 of 16.
See sheet #12 of 16 for anchor bolt layout at North Abutment.
For table of Shim Plate "T" Dimensions see sheet #10 of 16.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	14
Jack and Remove Existing Bearings	Each	14

PIER 2 AND NORTH ABUTMENT
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

DESIGNED	Richard J. Chapat
CHECKED	[signature]
DRAWN	Paul W. Sweet
CHECKED	RJC RJB GLE

May 22 1992

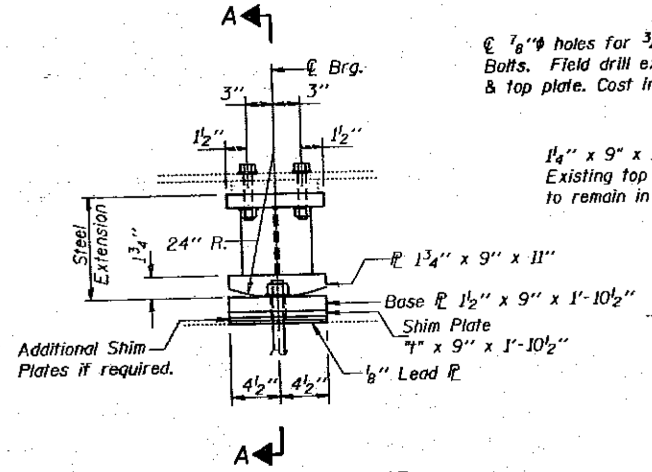
EXAMINED: [signature] — ENGINEER OF BRIDGE DESIGN
PASSED: Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED: — DIRECTOR OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	134

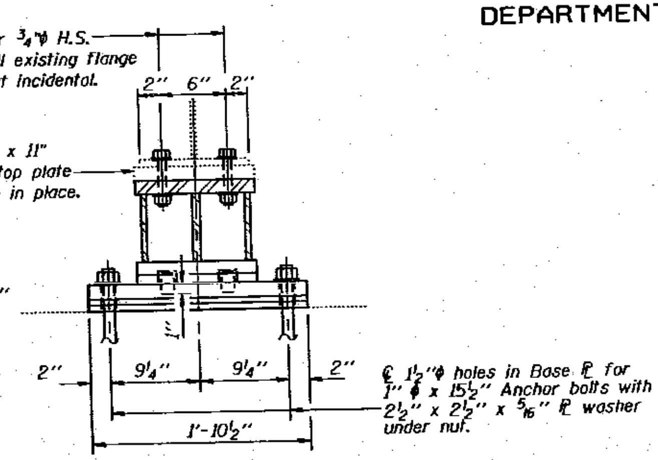
SHEET NO. 10
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

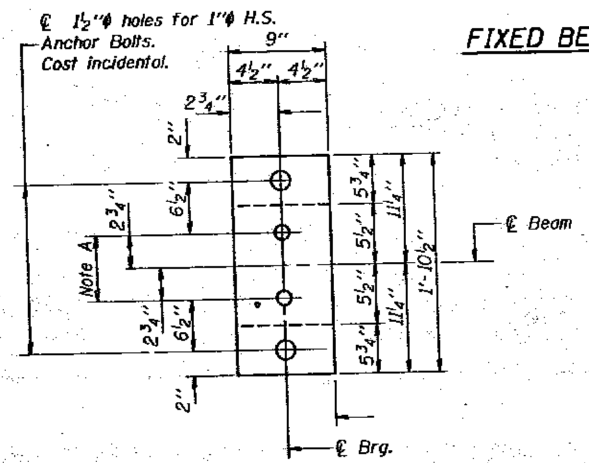
FIXED BEARING



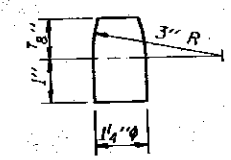
ELEVATION AT PIER 1



SECTION A-A

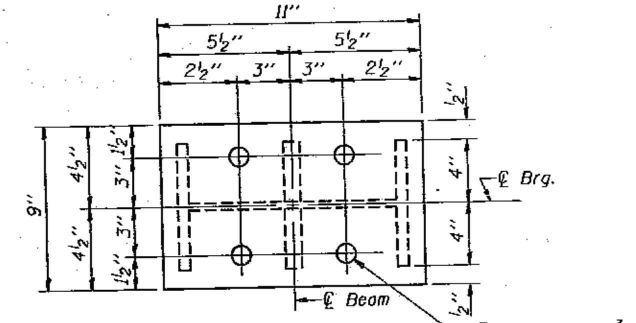


PLAN-BASE PLATE

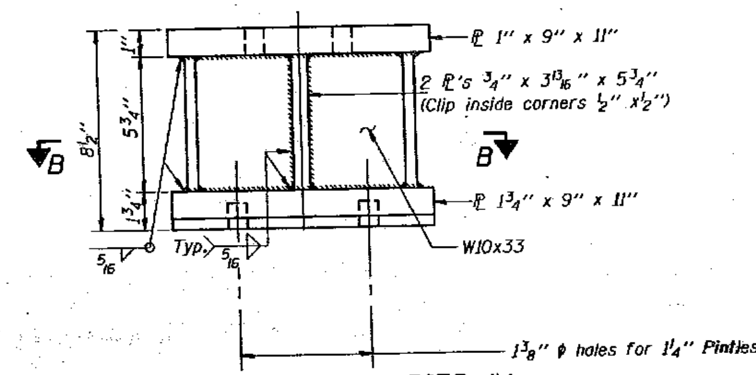


PINTLE

Note A:
1⅜"ϕ Holes-1" deep in bottom ℞ of Steel Extentsion for 1¼"ϕ pintles. Thread or press fit Pintles in Base ℞.

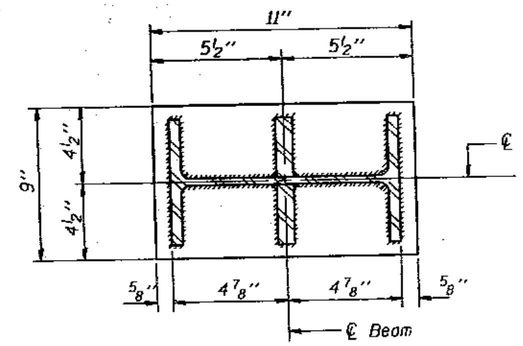


PLAN-TOP PLATE



STEEL EXTENSION AT PIER #1

Equivalent welded plates will be allowed in lieu of W10x33 section.



SECTION B-B

BILL OF MATERIAL

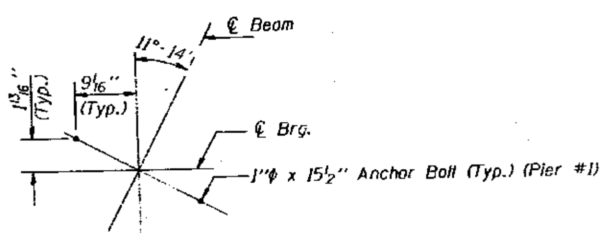
Item	Unit	Total
Jack and Remove Existing Bearings	Each	7

Notes: For anchor bolt installation details see sheet #16 of 16.
See sheet #8 of 16 for Jack and Removal Existing Bearing Procedure.

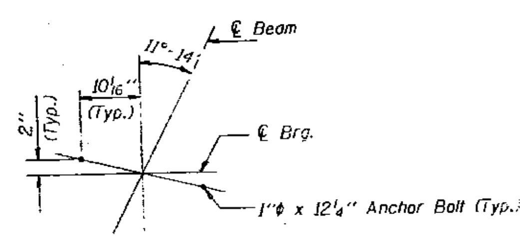
* TABLE OF "t" DIMENSIONS

Location	N. Abut.	Pier #1	Pier #2	S. Abut.
Beam #1	½"	½"	½"	½"
Beam #2	2⅛"	2¼"	2⅛"	2¼"
Beam #3	⅝"	¾"	¾"	¾"
Beam #4	1½"	1⅝"	1⅝"	1⅝"
Beam #5	1⅝"	1½"	1½"	1⅝"
Beam #6	⅝"	½"	⅝"	⅝"
Beam #7	2¼"	2"	2"	1⅞"

* Dimensions are based on Field survey. The contractor shall verify & make adjustments as necessary.



ANCHOR BOLT SETTING DETAILS
(PIER #1 ONLY)



ANCHOR BOLT SETTING DETAIL
(PIER #2 ONLY)

DESIGNED Richard T. Chapt
CHECKED [signature]
DRAWN Paul W. Sweet
CHECKED RJC RJB GGE

May 22 1992
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

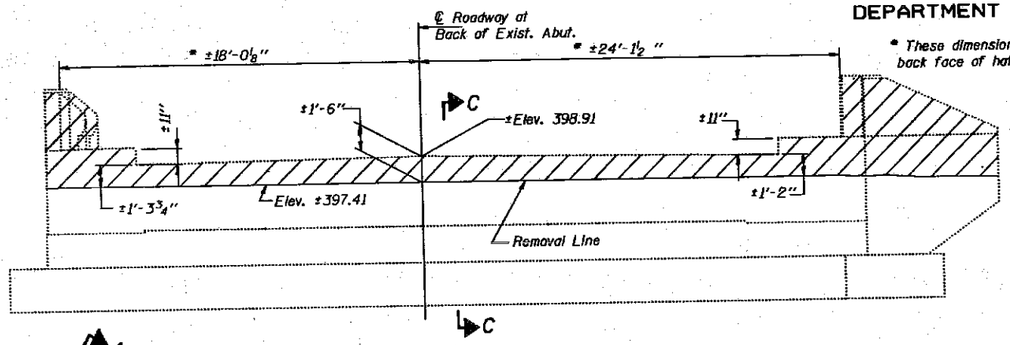
PIER 1
BEARING DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

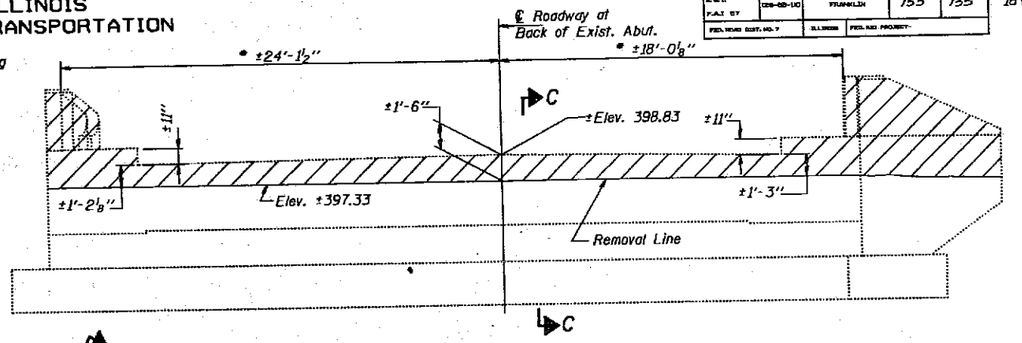
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	(28-5B-1D)	FRANKLIN	155	135
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

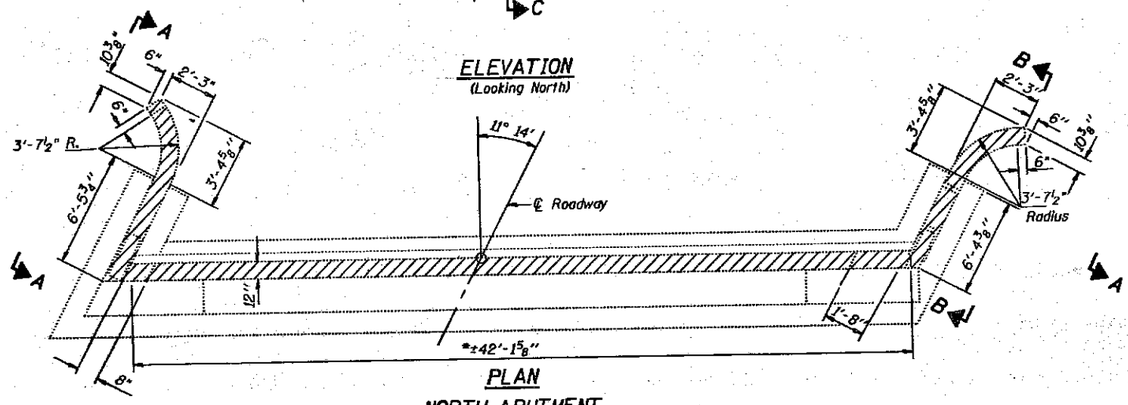
SHEET NO. 11
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* These dimensions are along back face of hatched area.

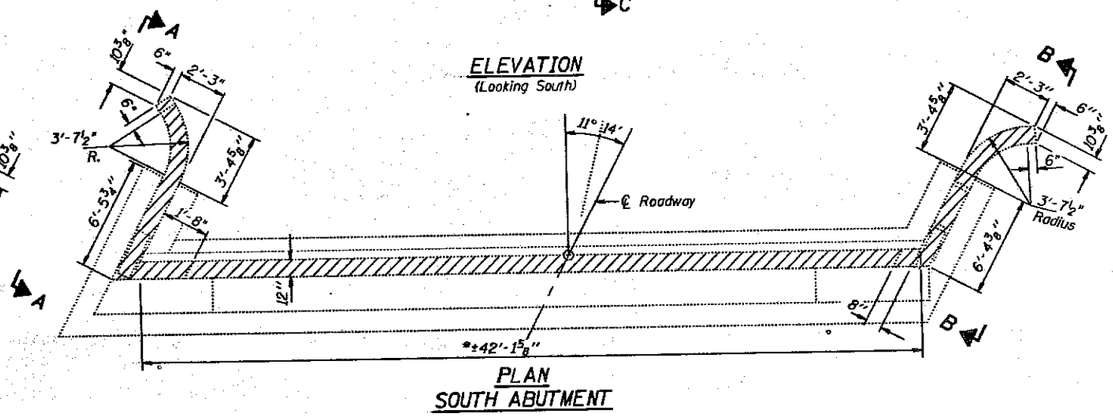






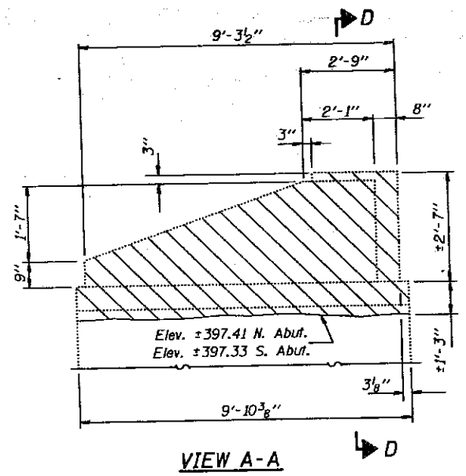
ELEVATION
(Looking North)

PLAN
NORTH ABUTMENT

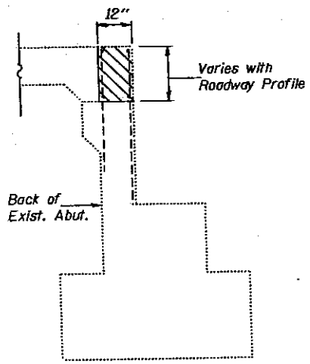


ELEVATION
(Looking South)

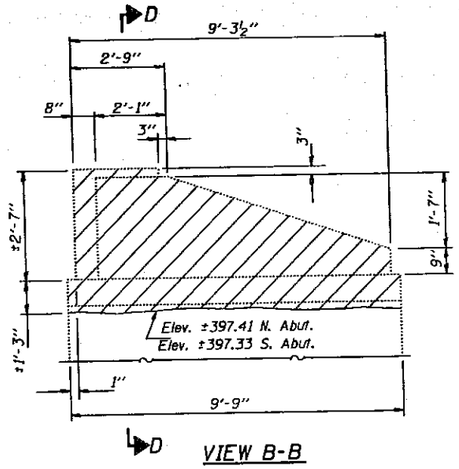
PLAN
SOUTH ABUTMENT



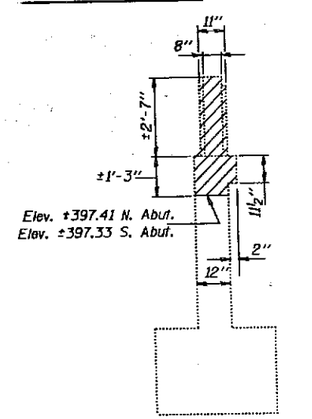
VIEW A-A



SECTION C-C



VIEW B-B



SECTION D-D

DESIGNED	Richard I. Chapt
CHECKED	Elmer P. Reichenbach
DRAWN	Paul W. Sweet
CHECKED	RJC RJB GE

May 22 1992

EXAMINED Proj. L. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

Notes: Hatched area indicates "Concrete Removal".
For existing shoulder pavement removal see Roadway Plans.
Existing vertical reinforcement shall be cleaned, straightened and incorporated into the new construction
Cost incidental to "Concrete Removal".

TWO ABUTMENTS
BILL OF MATERIAL

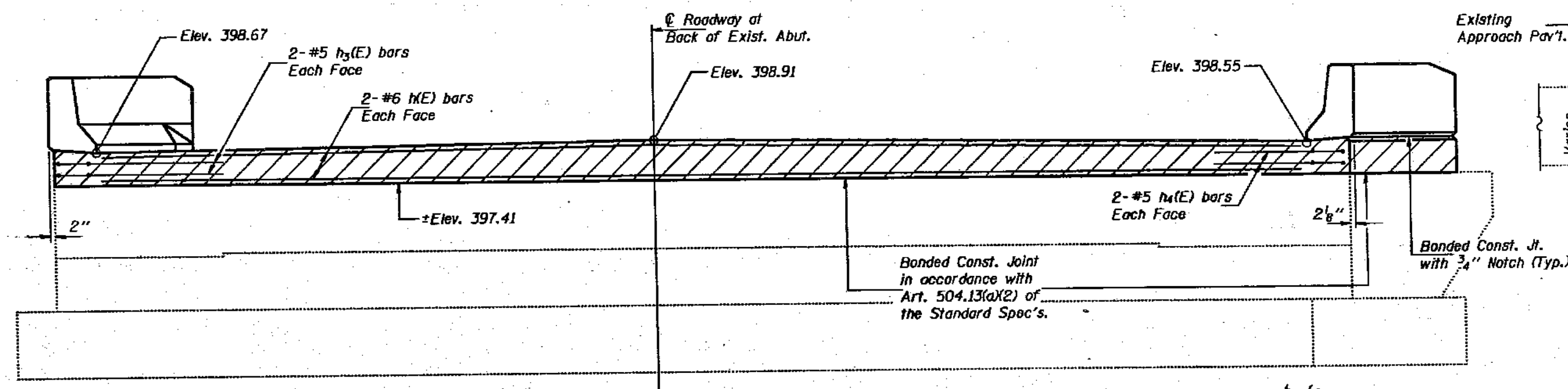
Item	Unit	Total
Concrete Removal	Cu. Yd.	9

CONCRETE REMOVAL DETAILS
FOR EXISTING ABUTMENTS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

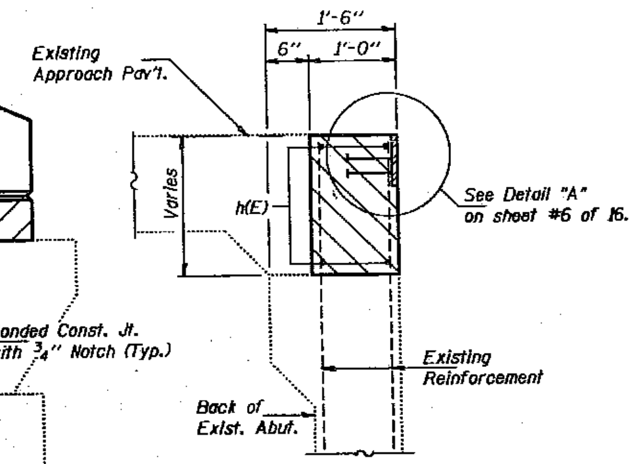
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1)D	FRANKLIN	155	136

SHEET NO. 12
16 SHEETS

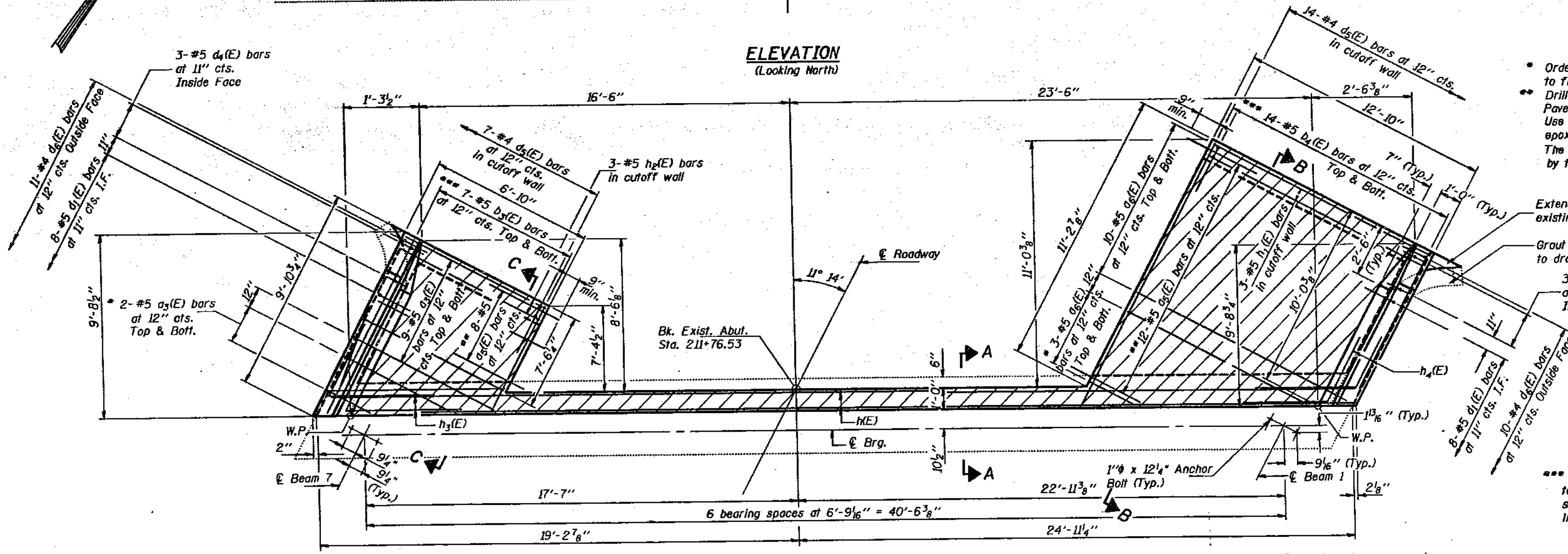
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
(Looking North)



SECTION A-A



PLAN

* Order a_3(E), and a_6(E). bars full length. Cut to fit and use remainder of bars in bottom of slab.

** Drill ⅞"ϕ x 9" Min. hole in existing approach Pavement. Epoxy grout a_5(E) bars.
Use a grout approved by the Department or epoxy grout in accordance with BSP-11.
The method of grout application shall be approved by the Engineer. See Special Provisions.

*** Order b_3(E) and b_4(E) bars full length. Cut to fit as shown in Field Cutting Diagram on sheet #13 of 16 and use remainder of bars in bottom of slab directly below top bars.

Notes: Hatched area to be poured after superstructure forms have been removed.
Quantity of concrete included with "Class X Concrete Superstructure" on sheet #6 of 16.
Existing reinforcement extending into new construction shall be cleaned, straightened and incorporated into the new construction.
Reinforcement bars designated (E) shall be epoxy coated.
For anchor bolt installation details see sheet #16 of 16.
Concrete Quantity for End Posts is included in "Class X Concrete Superstructutre".
All edges shall have standard ¾" chamfer. Except as Noted.

DESIGNED	Richard J. Chapot
CHECKED	Thomas P. Davidson
DRAWN	Paul W. Sweet
CHECKED	RJC RIB GGE

May 22 1992

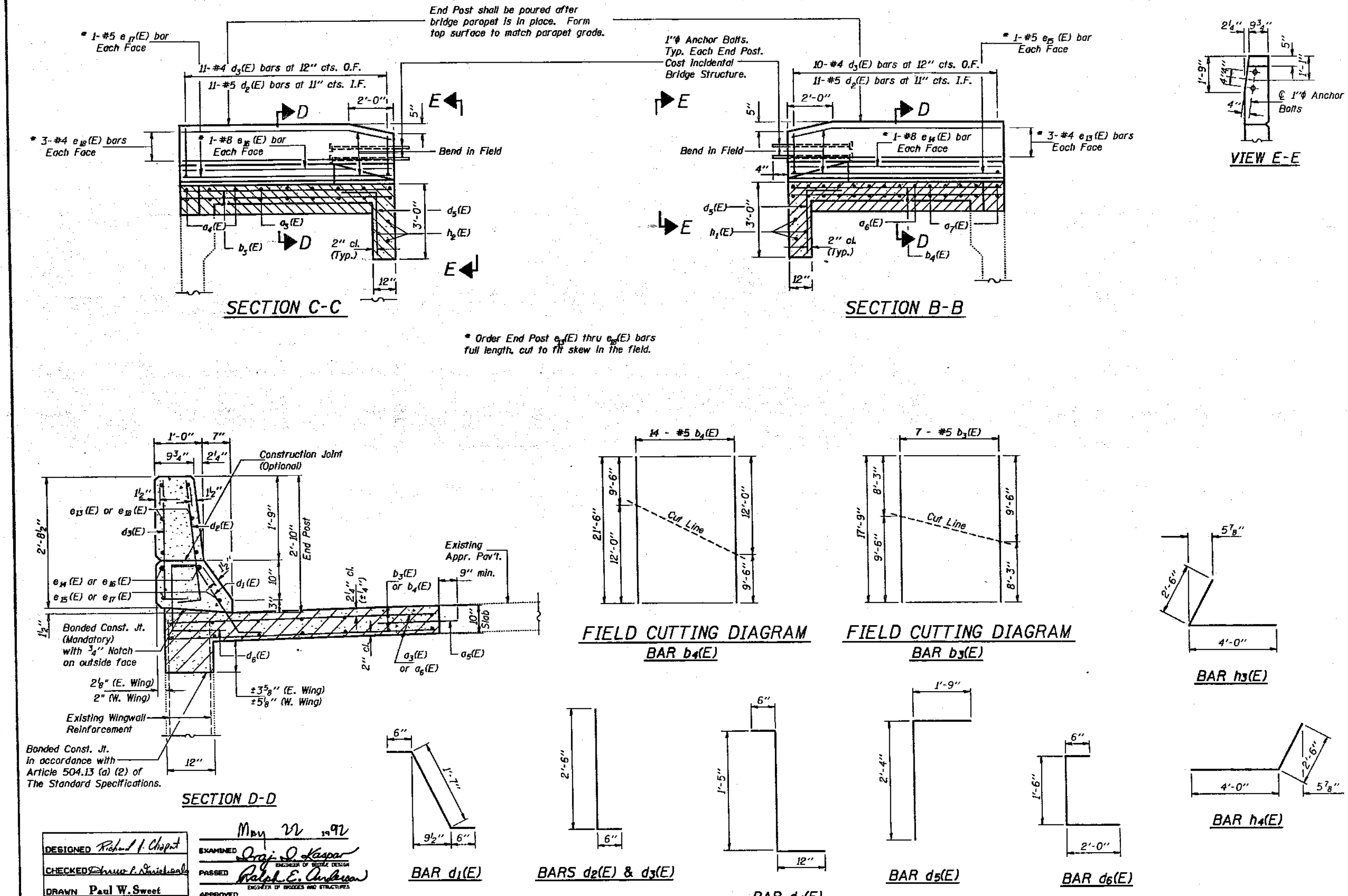
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

NORTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	(28-5B-1D)	FRANKLIN	155	137

SHEET NO. 13
16 SHEETS



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_3(E)$	20	#5	6'-7"	
$a_5(E)$	20	#5	3'-0"	
$a_6(E)$	23	#5	12'-7"	
$b_3(E)$	7	#5	17'-9"	
$b_4(E)$	14	#5	21'-6"	
$d_1(E)$	16	#5	2'-7"	
$d_2(E)$	22	#5	3'-0"	
$d_3(E)$	21	#4	3'-0"	
$d_4(E)$	6	#5	2'-11"	
$d_5(E)$	21	#4	4'-1"	
$d_6(E)$	21	#4	4'-0"	
$e_{13}(E)$	6	#4	9'-9"	
$e_{14}(E)$	2	#8	9'-9"	
$e_{15}(E)$	2	#5	9'-9"	
$e_{16}(E)$	2	#8	9'-7"	
$e_{17}(E)$	2	#5	9'-7"	
$e_{18}(E)$	6	#4	9'-7"	
$h(E)$	4	#6	43'-6"	
$h_1(E)$	3	#5	12'-7"	
$h_2(E)$	3	#5	6'-7"	
$h_3(E)$	4	#5	6'-6"	
$h_4(E)$	4	#5	6'-6"	
Reinforcement Bars. Epoxy Coated			Lbs.	1,870
Structure Excavation			Cu. Yd.	11.0

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	Richard J. Chapat
CHECKED	[illegible]
DRAWN	Paul W. Sweet
CHECKED	RJC RJB GLE

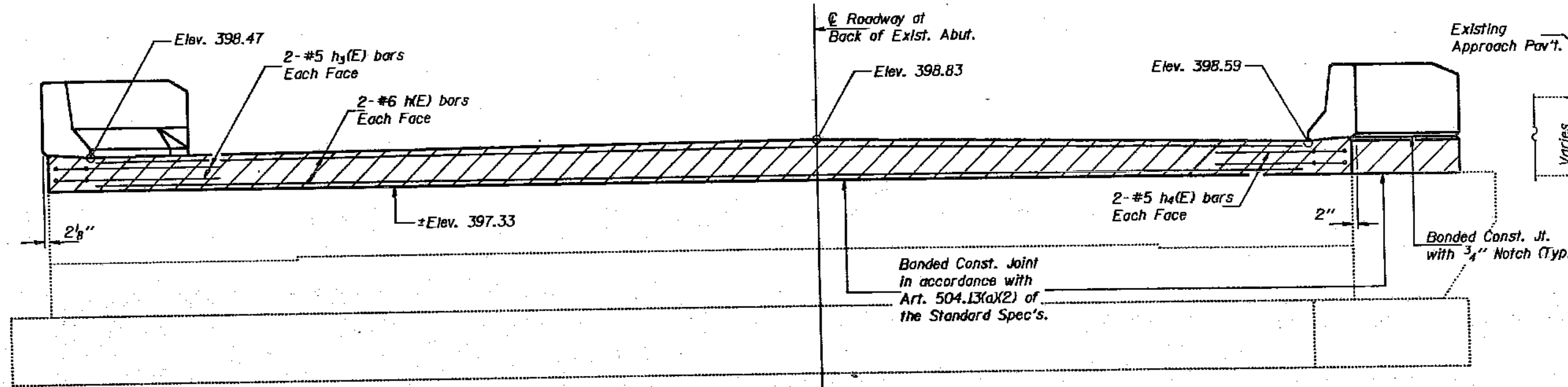
May 22 1992
EXAMINED [signature]
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

NORTH ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

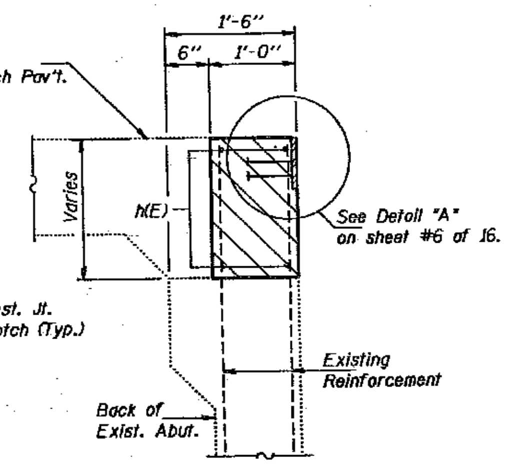
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	(28-5B-1)D	FRANKLIN	155	138
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 14
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



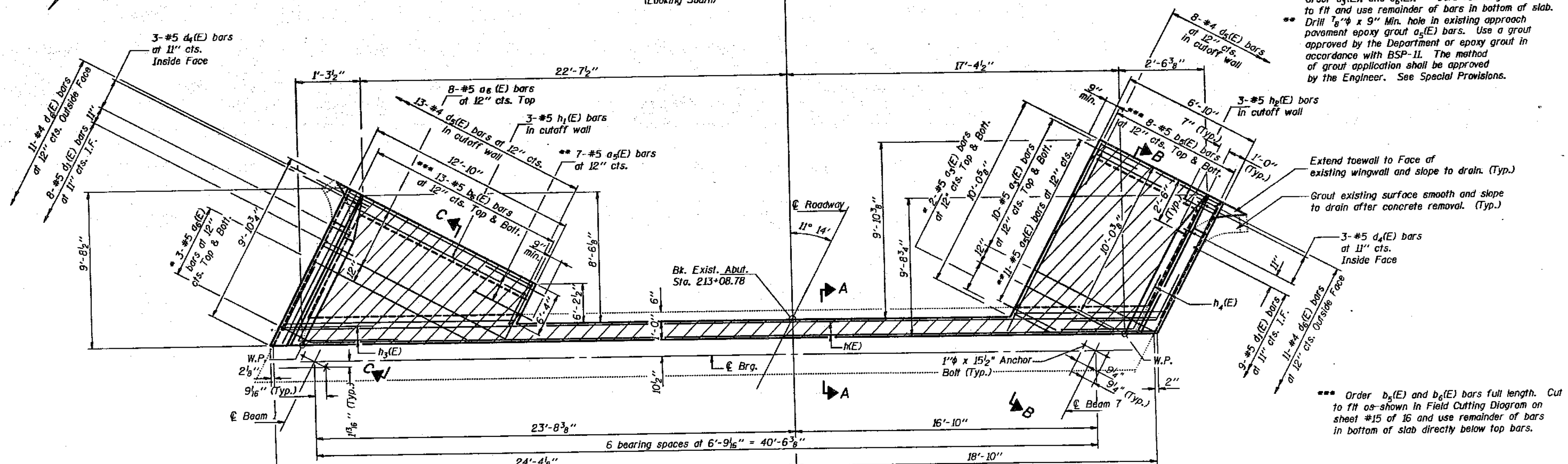
ELEVATION
(Looking South)



SECTION A-A

* Order a_5(E), and a_6(E). bars full length. Cut to fit and use remainder of bars in bottom of slab.

** Drill 7/8''φ x 9'' Min. hole in existing approach pavement epoxy grout a_5(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.



*** Order b_5(E) and b_6(E) bars full length. Cut to fit as shown in Field Cutting Diagram on sheet #15 of 16 and use remainder of bars in bottom of slab directly below top bars.

PLAN

Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with "Class X Concrete Superstructure" on sheet #6 of 16.
Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction.
Reinforcement bars designated (E) shall be epoxy coated.
For anchor bolt installation details see sheet #16 of 16.
Concrete Quantity for End Posts is included in "Class X Concrete Superstructure".
All edges shall have standard 3/4'' chamfer.

DESIGNED	Richard J Chapot
CHECKED	Edward P. Nordelwald
DRAWN	Paul W. Sweet
CHECKED	RJC RIB GLE

May 22 1992

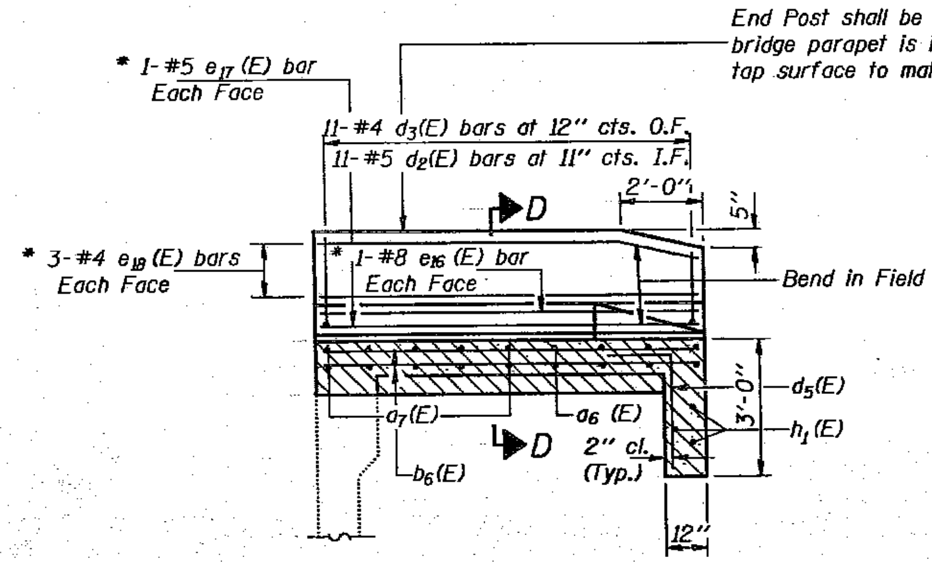
EXAMINED Oraj J. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

SOUTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

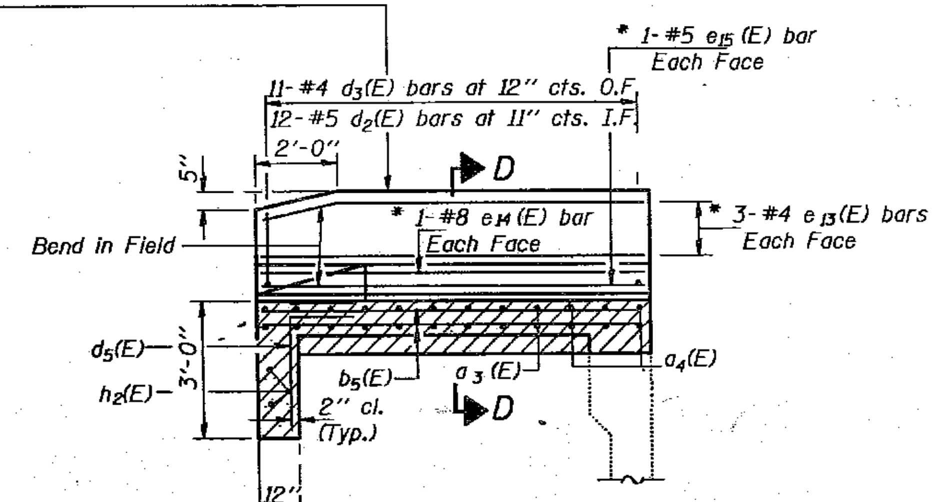
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	(28-5B-1)D	FRANKLIN	155	139
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

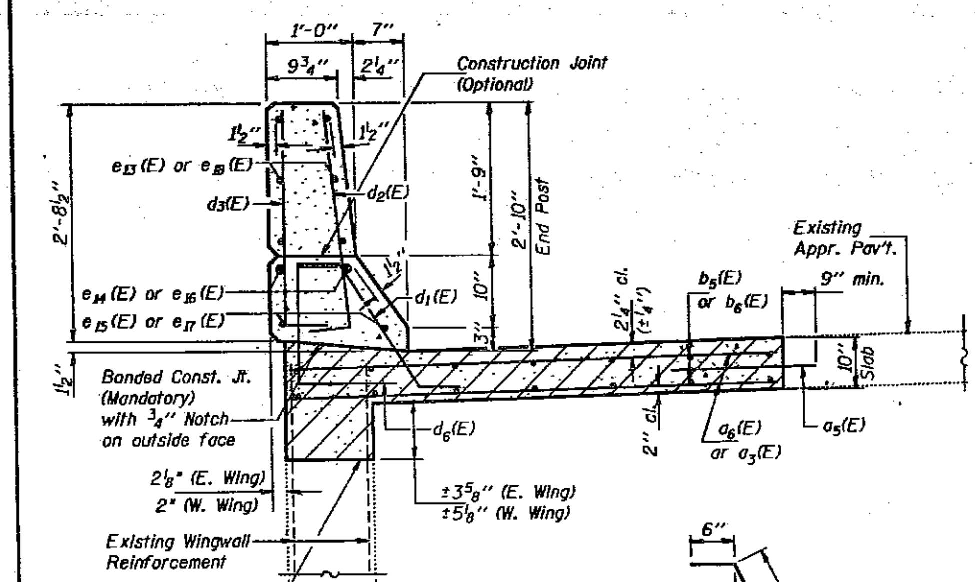


SECTION C-C

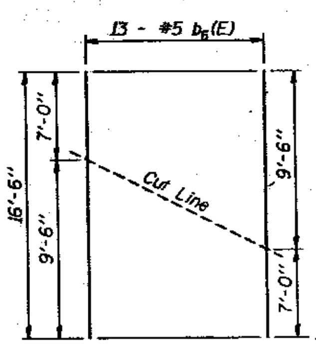


SECTION B-B

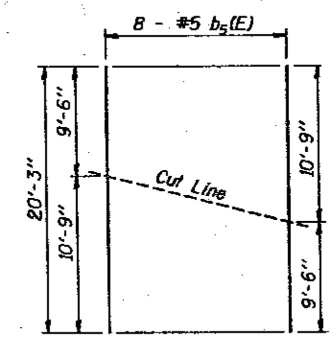
* Order End Post $e_{13}(E)$ thru $e_{18}(E)$ bars full length, cut to fit skew in the field.



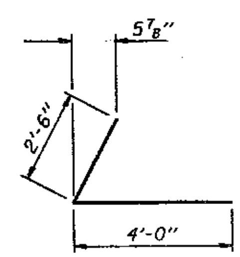
SECTION D-D



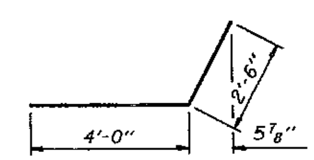
FIELD CUTTING DIAGRAM
BAR $b_6(E)$



FIELD CUTTING DIAGRAM
BAR $b_5(E)$



BAR $h_3(E)$

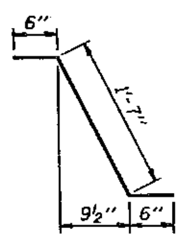


BAR $h_4(E)$

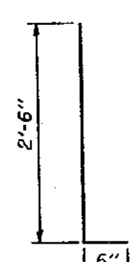
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_3(E)$	22	#5	6'-7"	straight
$a_5(E)$	18	#5	3'-0"	straight
$a_6(E)$	19	#5	12'-7"	straight
$b_5(E)$	8	#5	20'-3"	straight
$b_6(E)$	13	#5	16'-6"	straight
$d_1(E)$	17	#5	2'-7"	bent
$d_2(E)$	23	#5	3'-0"	L
$d_3(E)$	22	#4	3'-0"	L
$d_4(E)$	6	#5	2'-11"	bent
$d_5(E)$	21	#4	4'-1"	bent
$d_6(E)$	22	#4	4'-0"	bent
$e_{13}(E)$	6	#4	9'-9"	straight
$e_{14}(E)$	2	#8	9'-9"	straight
$e_{15}(E)$	2	#5	9'-9"	straight
$e_{16}(E)$	2	#8	9'-7"	straight
$e_{17}(E)$	2	#5	9'-7"	straight
$e_{18}(E)$	6	#4	9'-7"	straight
$h(E)$	4	#6	43'-6"	straight
$h_1(E)$	3	#5	12'-7"	straight
$h_2(E)$	3	#5	6'-7"	straight
$h_3(E)$	4	#5	6'-6"	bent
$h_4(E)$	4	#5	6'-6"	bent
Reinforcement Bars, Epoxy Coated			Lbs.	1,740
Structure Excavation			Cu. Yd.	11.0

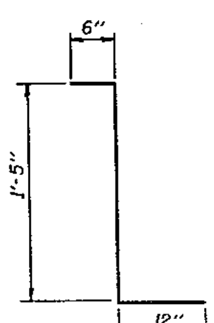
Reinforcement bars designated (E) shall be epoxy coated.



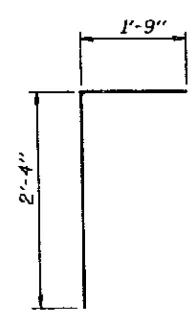
BAR $d_1(E)$



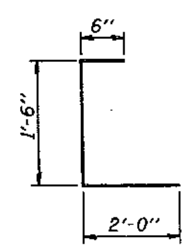
BARS $d_2(E)$ & $d_3(E)$



BAR $d_4(E)$



BAR $d_5(E)$



BAR $d_6(E)$

DESIGNED Richard J. Chaput
CHECKED Shawn P. Danielewski
DRAWN Paul W. Sweet
CHECKED RJC RBG&L

May 22 1992
EXAMINED Gregory J. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

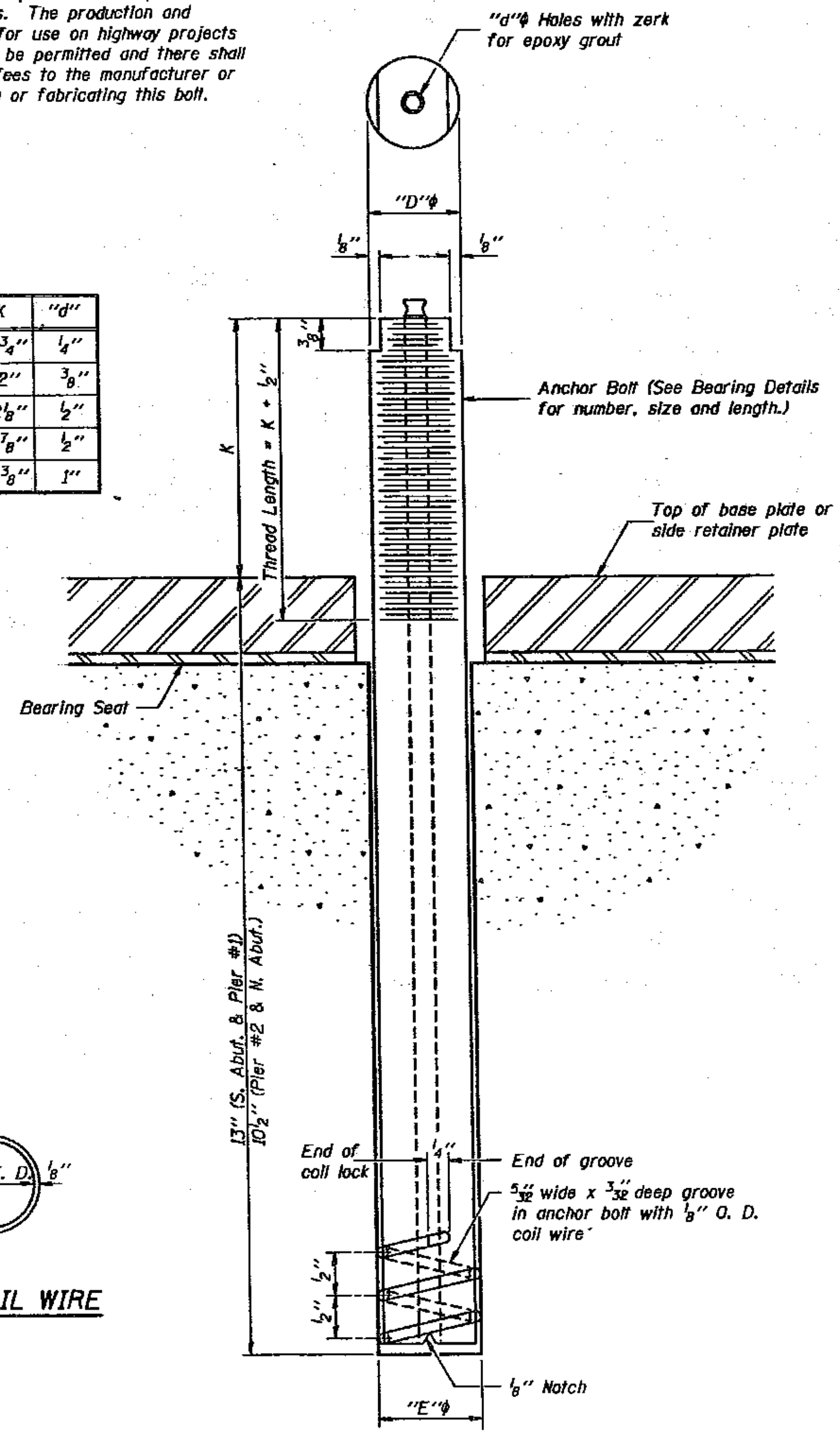
SOUTH ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 57	(28-5B-1)D	FRANKLIN	155	140.
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

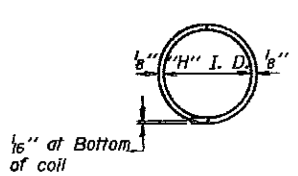
SHEET NO. 16
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

D	E	H	K	"d"
1"	1⅛"	13/16"	1¾"	¼"
1¼"	1⅜"	1 1/16"	2"	⅜"
1½"	1⅝"	1 5/16"	2⅛"	½"
2"	2⅛"	1 13/16"	2⅞"	½"
2½"	2⅝"	2 5/16"	3⅜"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

* The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

DESIGNED	Richard J. Chapek
CHECKED	Thomas F. Danielsoh
DRAWN	Paul W. Sweet
CHECKED	RJC RJB GG

May 22 1992

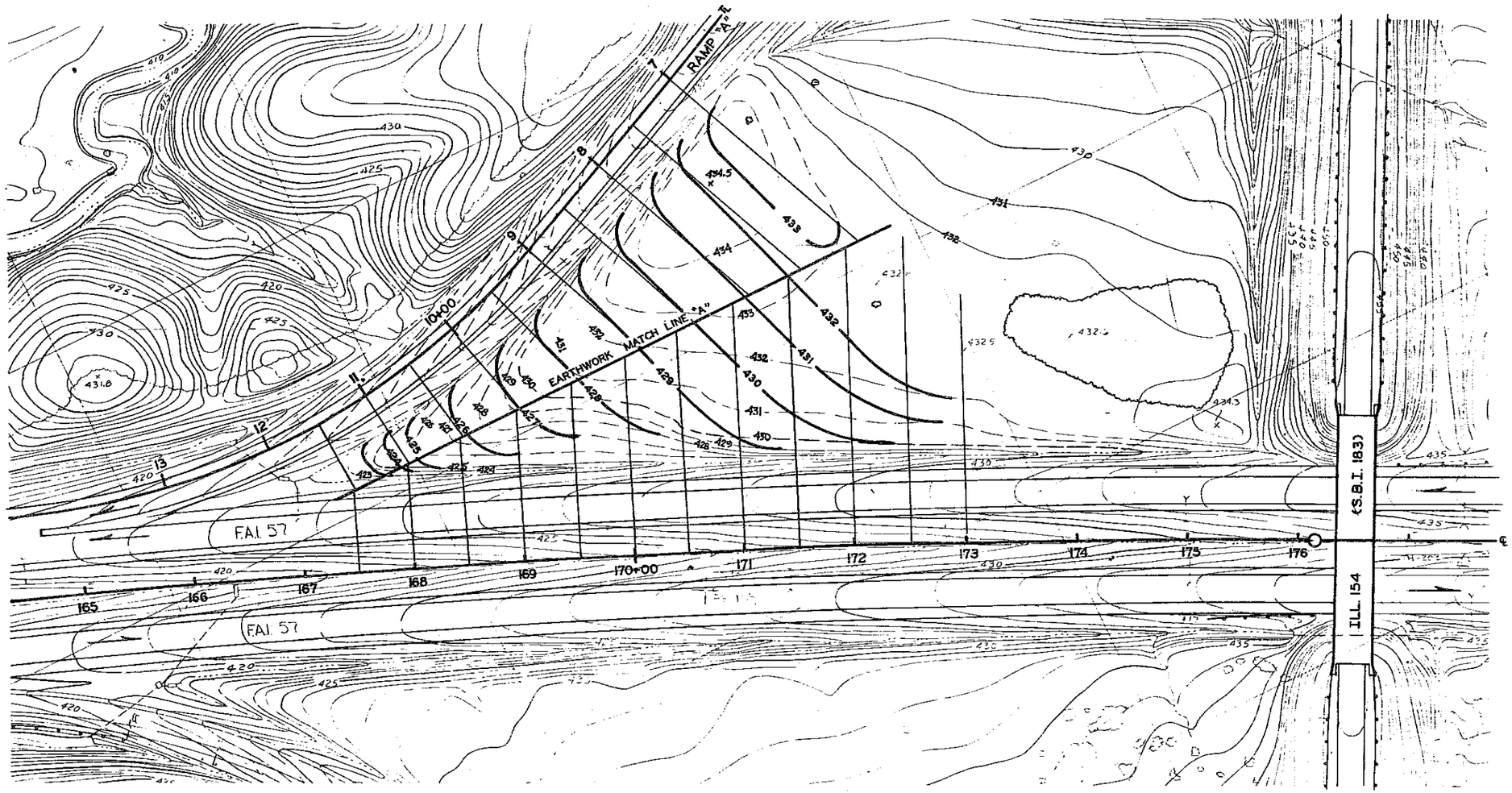
EXAMINED Jozef S. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

ABB-1 12-1-83

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.I. RT. 57 SEC. (28-5B-1)D
FRANKLIN COUNTY
STATION 212+50.00

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	141
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

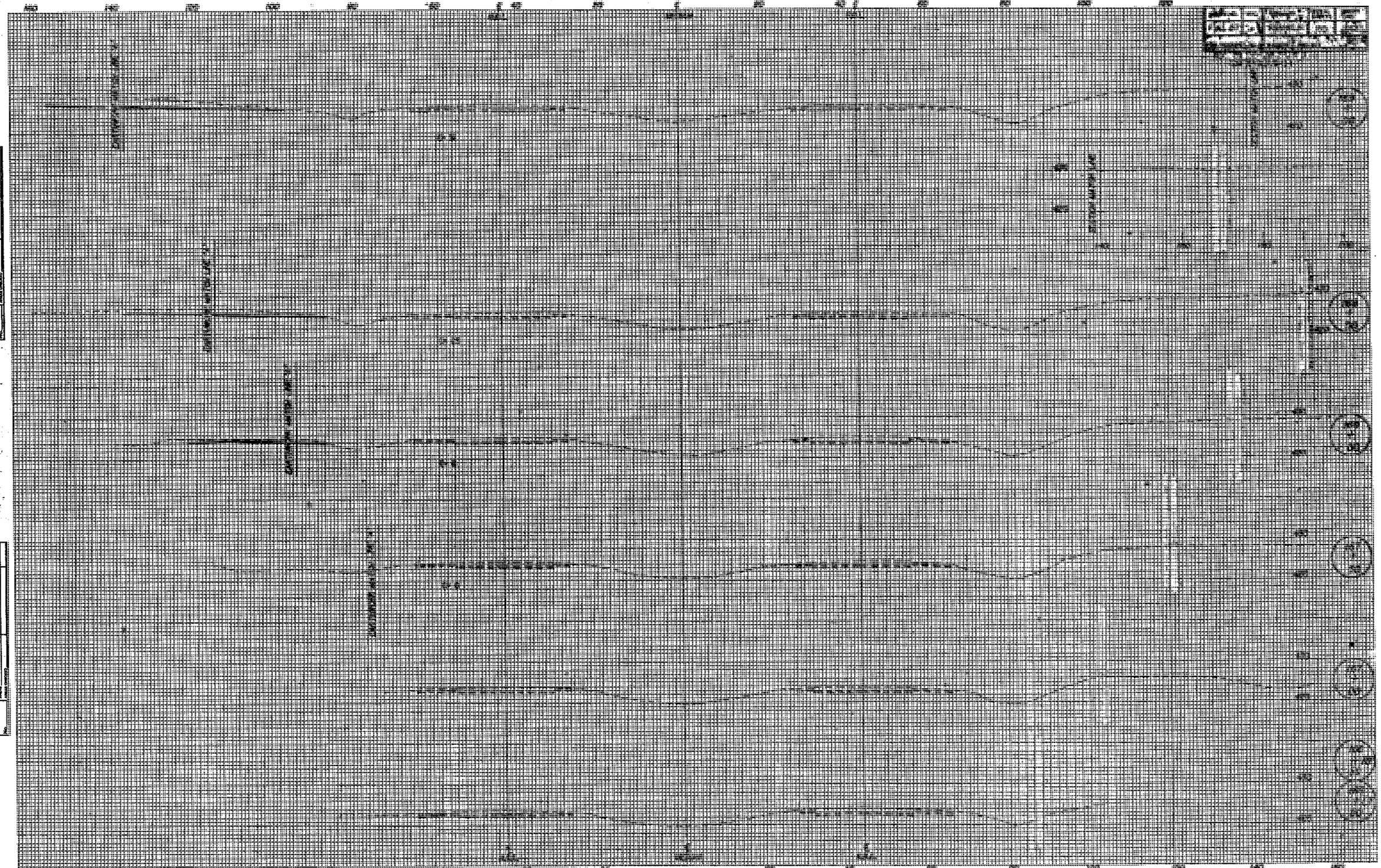
SEC. 28 (5B-1,5B,2B,1B) D
28 (5VB,3VB-1) I



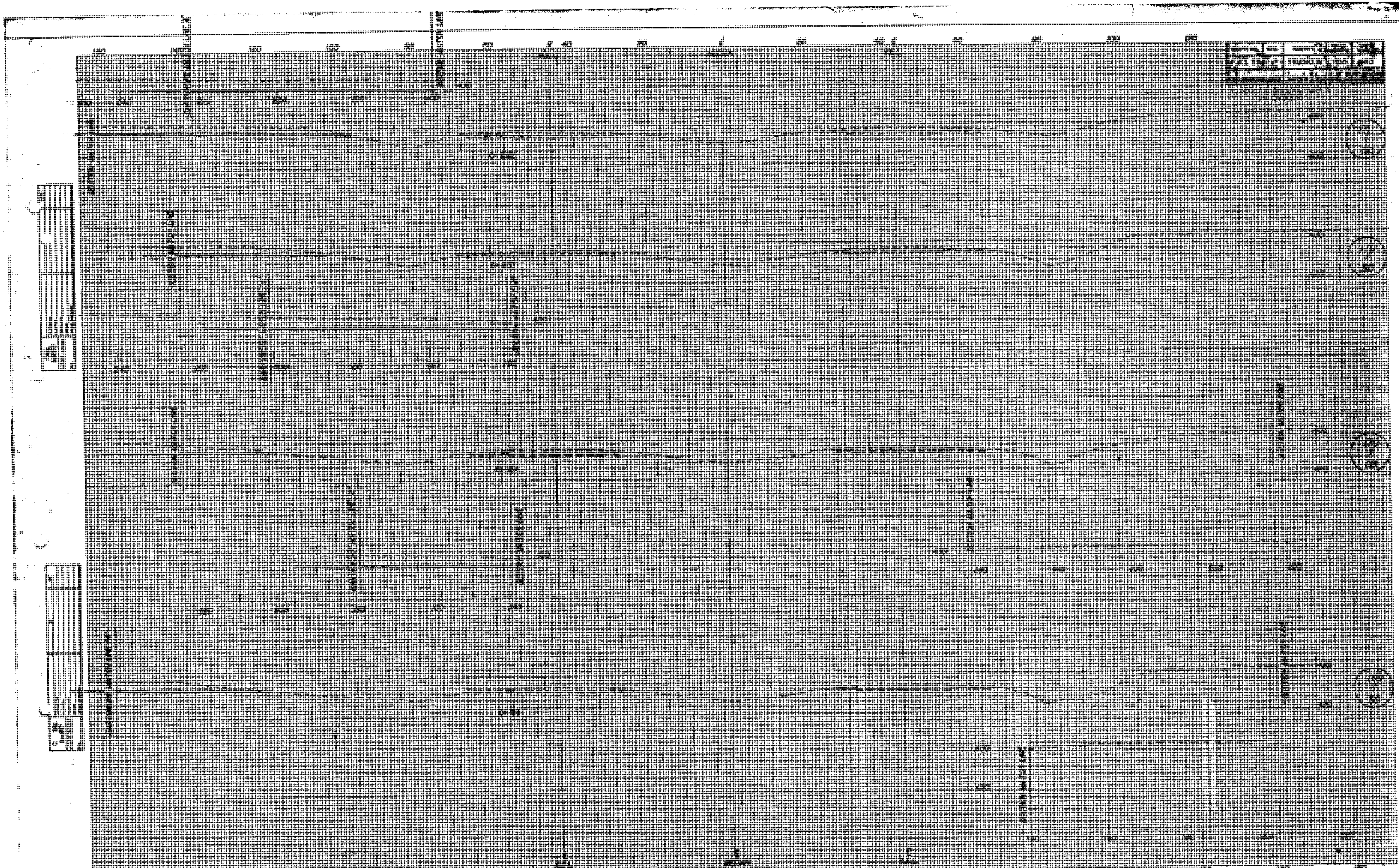
WHITTINGTON INTERCHANGE
RAMP "A"
INFIELD GRADING

N

SCALE
50 0 25 50

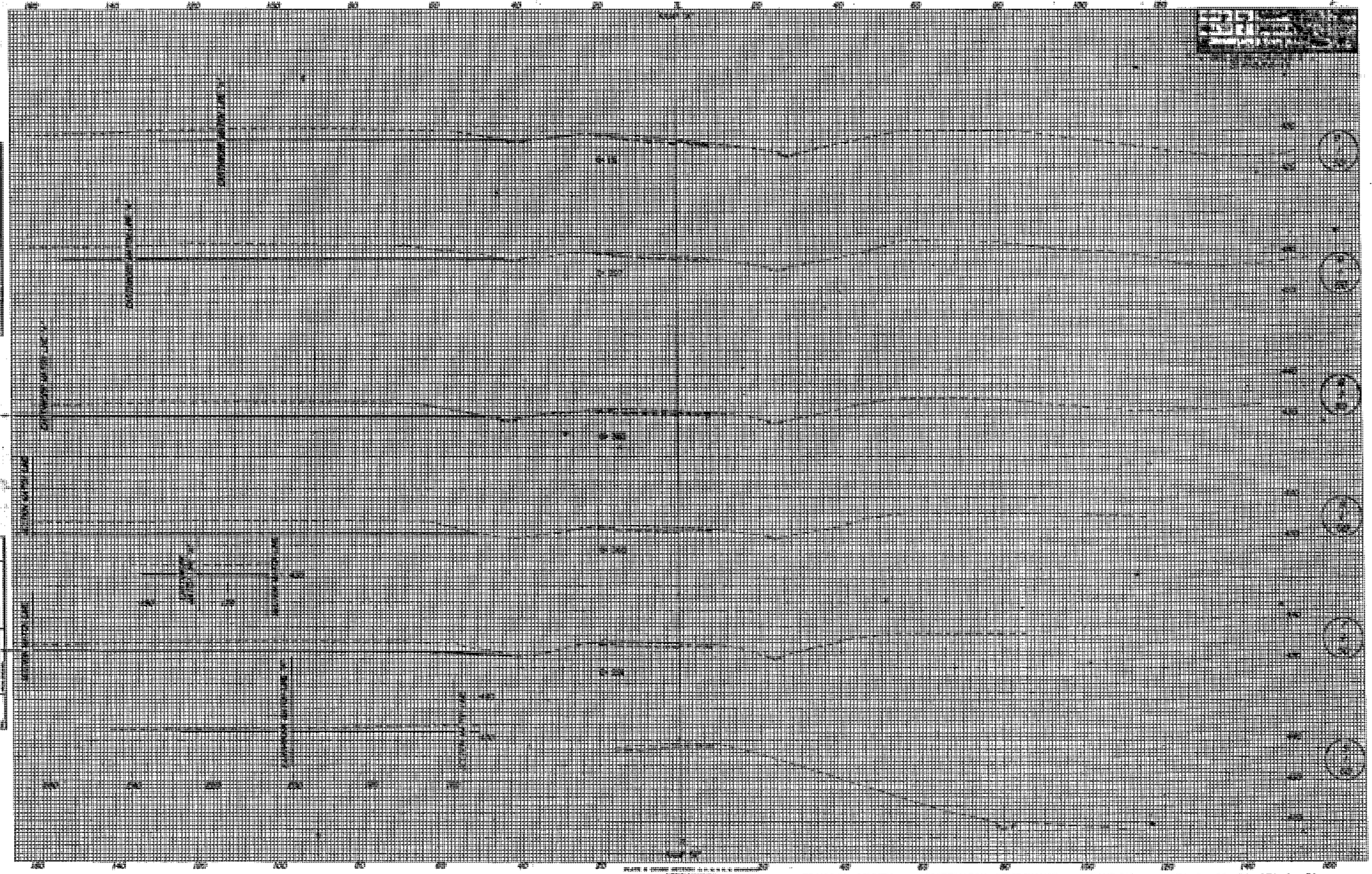


FRANKLIN COUNTY WHITTINGTON INTERCHANGE F.A.I. 57 STA. 166 + 50 TO STA. 169 + 00



FRANKLIN COUNTY WHITTINGTON INTERCHANGE F.A.I. 57 STA. 169 + 50 TO STA. 170 + 00

FRANKLIN COUNTY WHITTINGTON INTERCHANGE F.A.I. 57 STA. 171 + 50 TO STA. 175 + 50

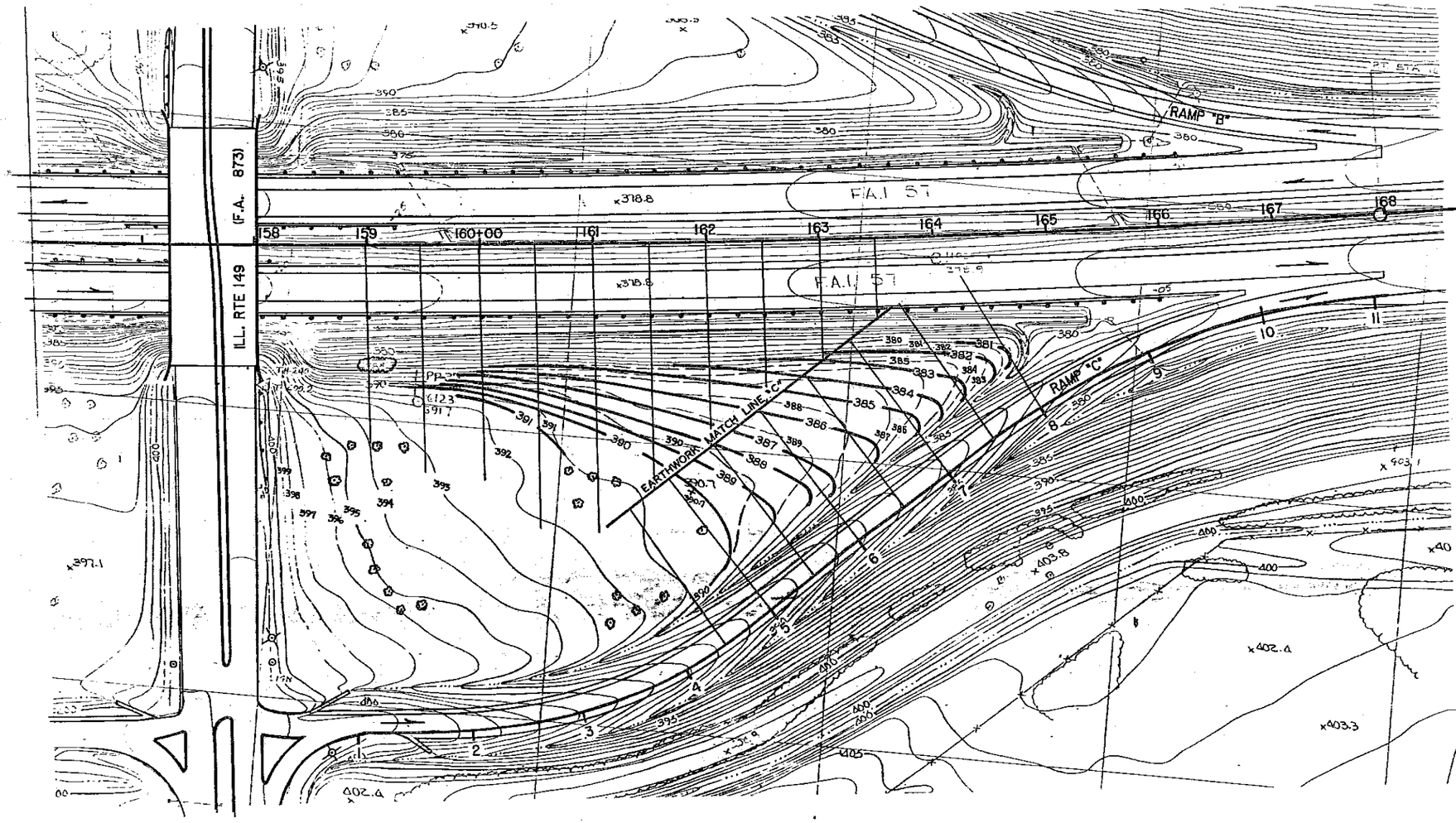


FRANKLIN COUNTY WHITTINGTON INTERCHANGE RAMP "A" STA. 5 + 60 TO STA. 9 + 50

FRANKLIN COUNTY WHITTINGTON INTERCHANGE RAMP "A" STA. 10 + 00 TO STA. 12 + 00

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	147
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

* SEC. 28 (5B-1,5B,2B,1B) D ,
28 (5VB,3VB-1) 1

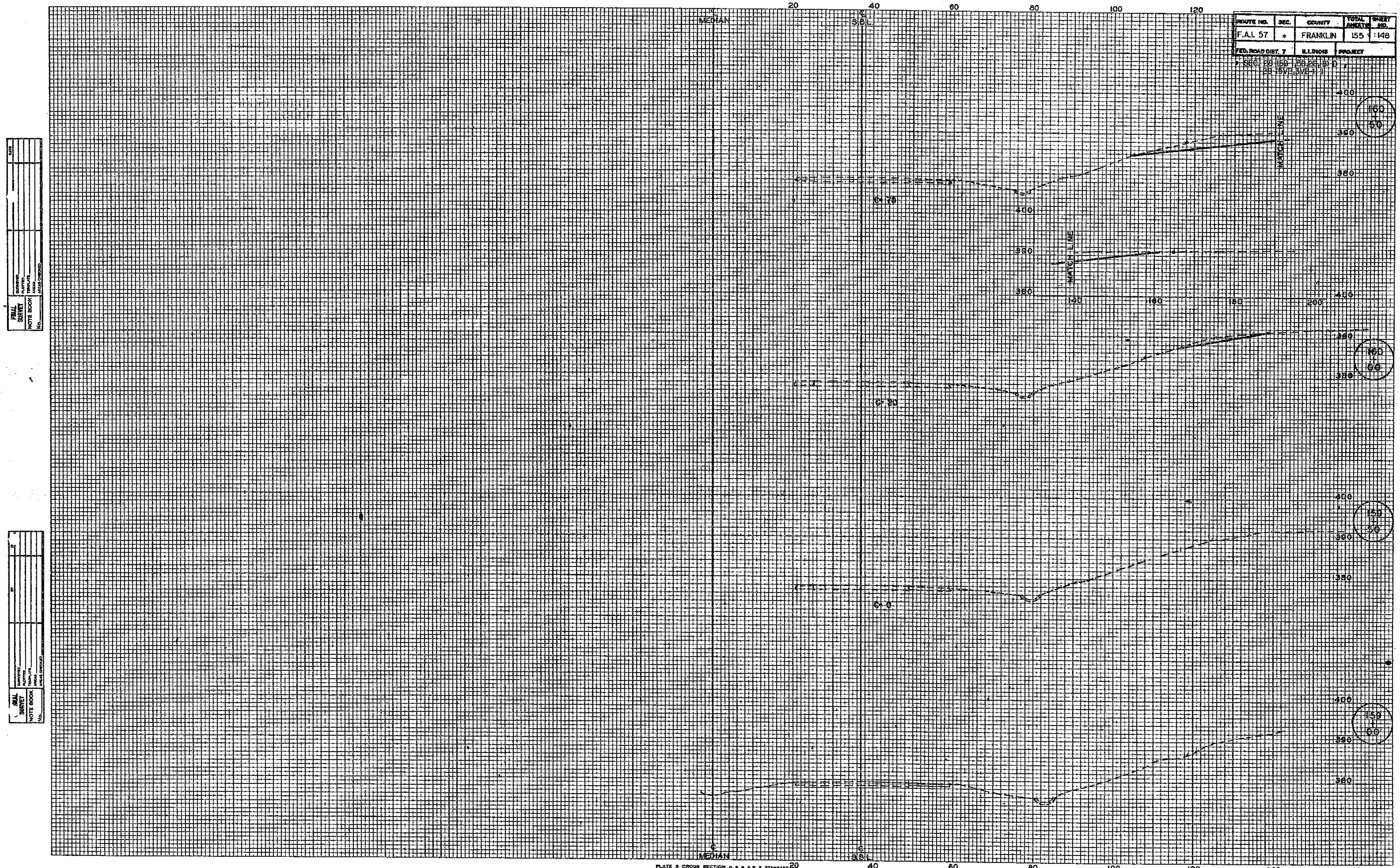


WEST FRANKFORT INTERCHANGE
RAMP "C"
INFIELD GRADING

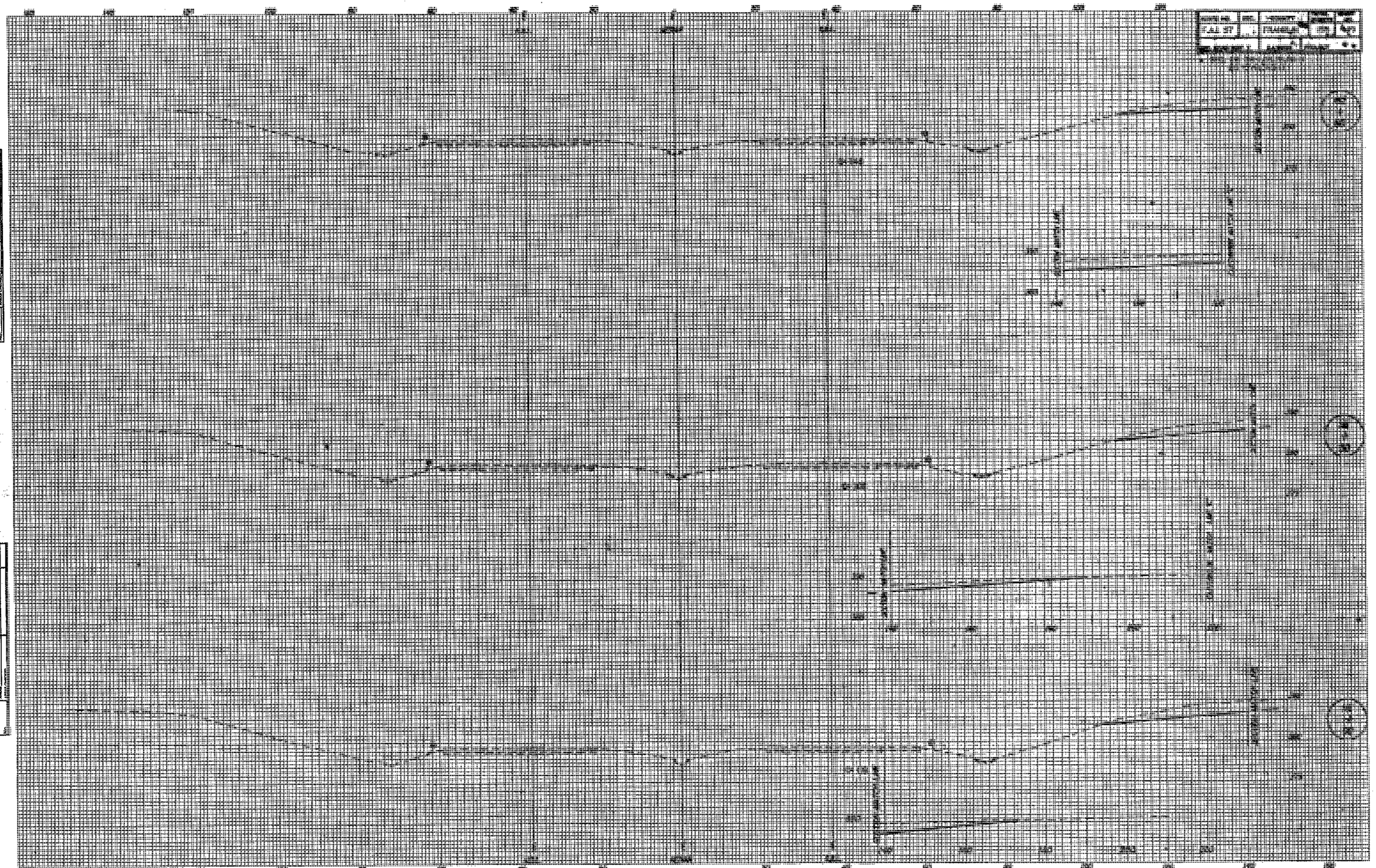
N

SCALE
50 0 25 50

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	148
FED. ROAD DIST. 7		ILLINOIS	PROJECT	



FRANKLIN COUNTY WEST FRANKFORT INTERCHANGE F.A.I. 57 STA. 159 + 00 TO STA. 160 + 50



FRANKLIN COUNTY WEST FRANKFORT INTERCHANGE F.A.I. 57 STA. 161 + 00 TO STA. 162 + 00

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	*	FRANKLIN	155	150
FED. ROAD DIST. 7		ILLINOIS	PROJECT	

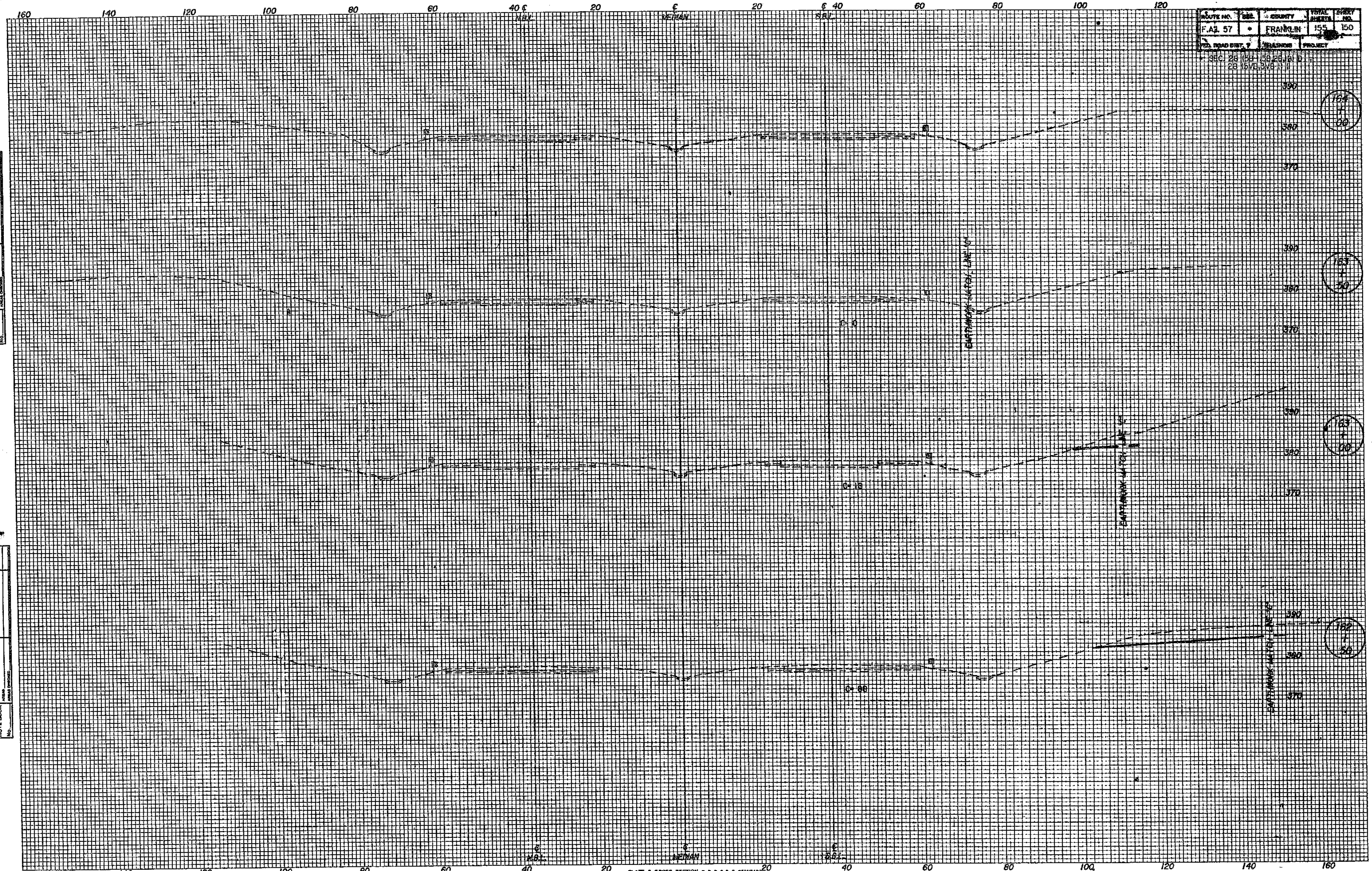


PLATE 3 CROSS SECTION

FRANKLIN COUNTY WEST FRANKFORT INTERCHANGE F.A.I. 57 STA. 162 + 50 TO STA. 164 + 00

FINAL SURVEY
NOTE BOOK
No.

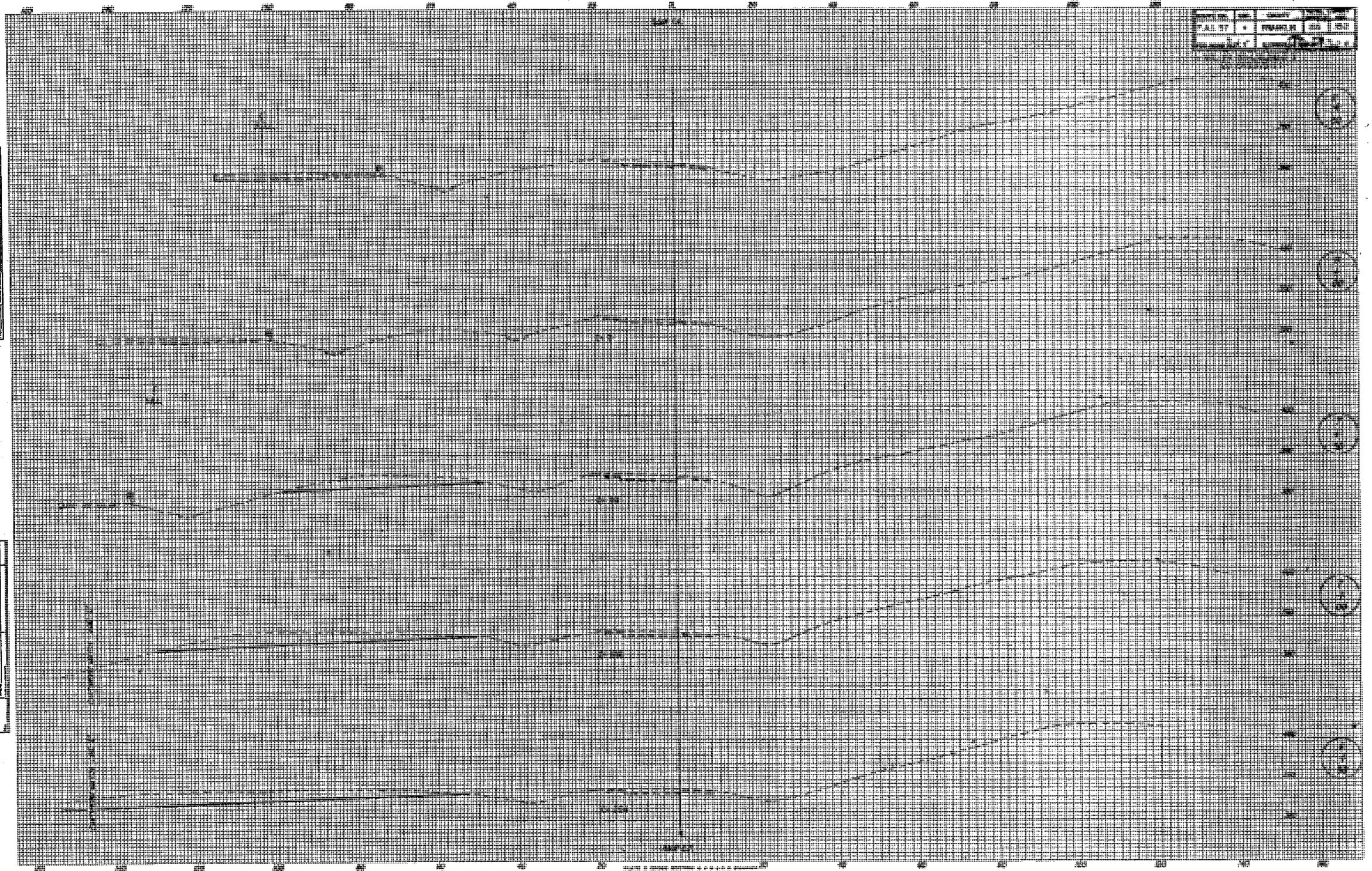
SURVEYED
PLOTTED
TRACED
AREA
QUANTITIES CHECKED
DATE

FINAL SURVEY
NOTE BOOK
No.

SURVEYED
PLOTTED
TRACED
AREA
QUANTITIES CHECKED
DATE

DIETZGEN CORPORATION

FRANKLIN COUNTY WEST FRANKFORT INTERCHANGE RAMP "C" STA. 4+00 TO STA. 6+00

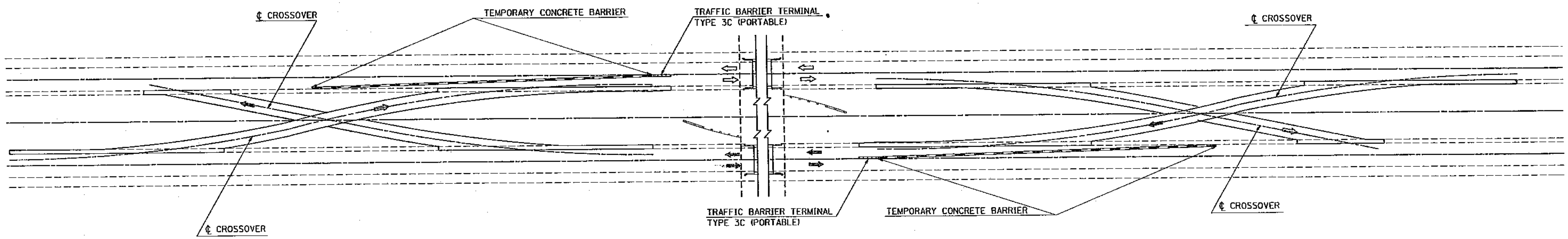


FRANKLIN COUNTY WEST FRANKFORT INTERCHANGE RAMP "C" STA. 6+50 TO STA. 8+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	153
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

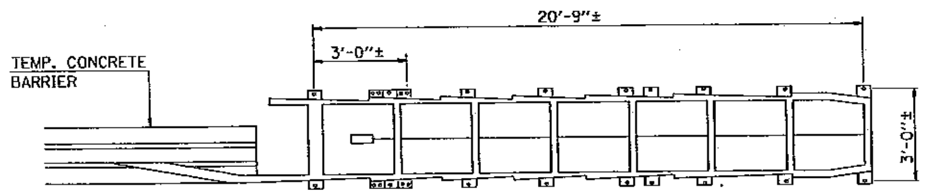
*28(5B-1,5B,2B,1B)D;28(5VB,3VB-1)I

DETAILS OF MEDIAN CROSSOVERS



PLAN VIEW

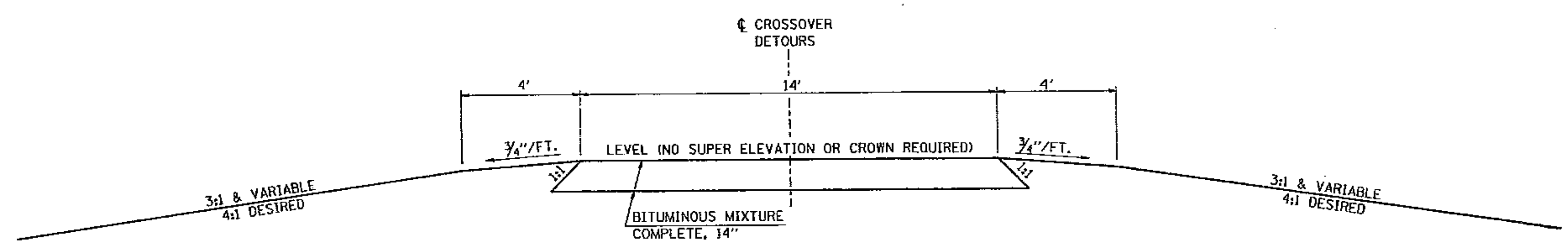
NOTE: WHEN NOT IN USE MEDIAN CROSSOVERS SHALL BE CLOSED TO TRAFFIC BY PLACING TYPE III BARRICADES AT EACH END OF THE CROSSOVER, COSTS TO BE INCLUDED IN THE PRICE FOR TRAFFIC CONTROL AND PROTECTION 2417. UPON COMPLETION OF THE NORTHBOUND CONTRACT, THESE BARRICADES SHALL REMAIN IN PLACE AND BECOME PROPERTY OF THE STATE.



PLAN

ELEVATION

TRAFFIC BARRIER TERMINAL, TYPE 3C, PORTABLE
(G.R.E.A.T. SYSTEM)

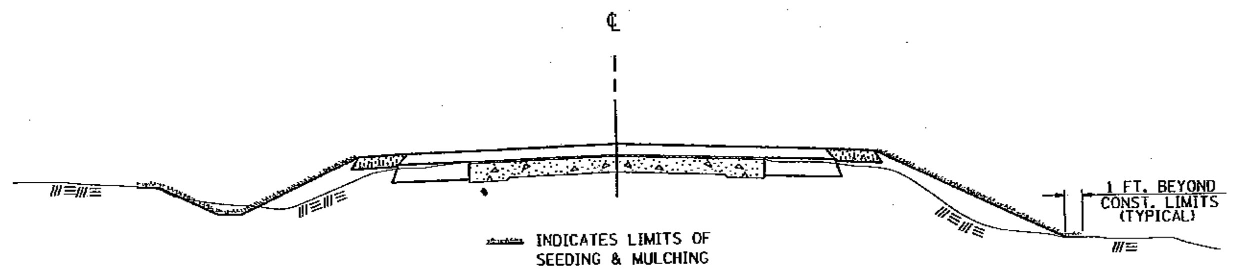


TYPICAL SECTION MEDIAN CROSSOVER DETOURS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	FRANKLIN	155	154
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 28(5B-1,5B,2B,1B)D;28(5VB,3VB-1)I

SEEDING & MULCHING



GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

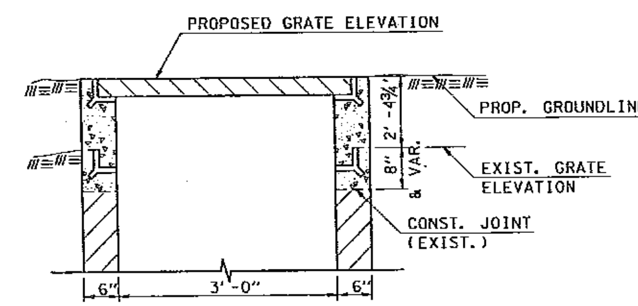
SECTIONS 642 AND 643 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89

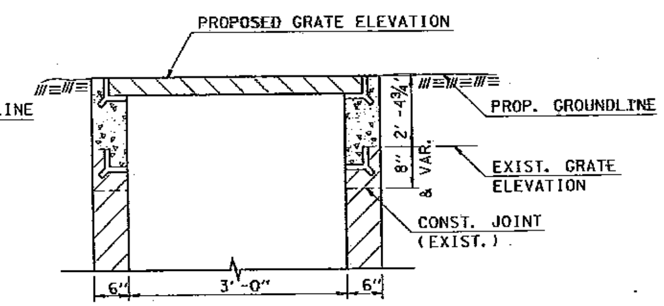
STD. 9-12

DETAIL OF INLETS TO BE RECONSTRUCTED

TO BE USED: STA. 108+47 (GUN CREEK)



OPTION I



OPTION II

GENERAL NOTES

THE CONTRACTOR MUST VERIFY EXISTING DIMENSIONS PRIOR TO ORDERING FRAMES AND GRATES.

FOR DETAILS OF GRATING AND FRAME, SEE STANDARD 2240. CLASS X CONCRETE SHALL BE USED THROUGHOUT. EXPOSED CONCRETE EDGES SHALL BE BEVELED ¾". THE FLUSH INLET BOX COVER FOR MEDIAN SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR INLETS TO BE RECONSTRUCTED WHICH PRICE SHALL BE PAYMENT IN FULL FOR FURNISHING ALL MATERIALS AND FOR CONSTRUCTING THE WORK IN PLACE, ACCORDING TO DETAILS OF OPTION I OR OPTION II AS FOLLOWS:

OPTION I

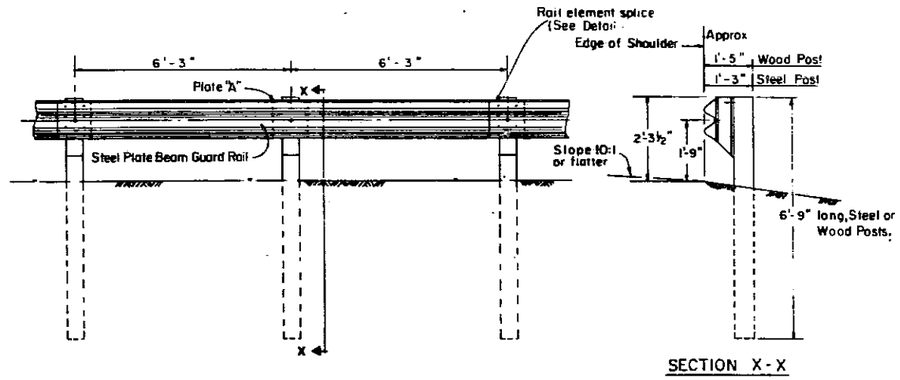
REMOVE ALL CONCRETE ABOVE CONSTRUCTION JOINT, CAREFULLY CLEAN ALL CONCRETE FROM EXISTING FRAME AND GRATE, CONSTRUCT INLET TO NEW GRADE USING CLEANED FRAME AND GRATE.

OPTION II

REMOVE EXISTING GRATE (PROPERTY OF STATE OF ILLINOIS) CONSTRUCT INLET TO NEW GRADE USING NEW FRAME AND GRATE. STORE EXISTING GRATE ON R.O.W. AS DIRECTED BY THE ENGINEER.

PLAN

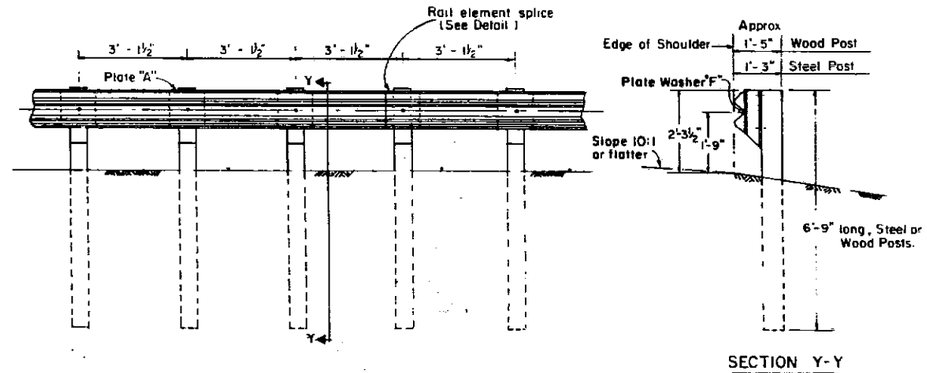
ALTERNATE STEEL PLATE CONNECTION



SECTION X-X

TYPE A

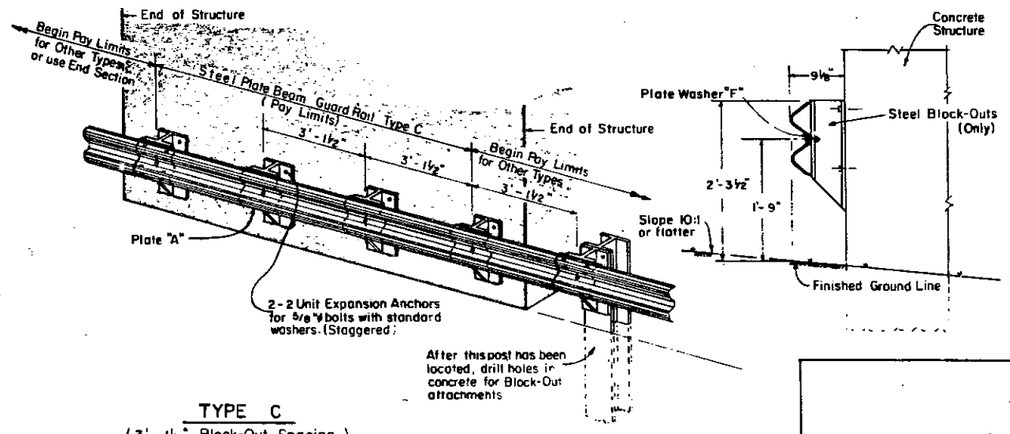
(6'-3" Typical Post Spacing)



SECTION Y-Y

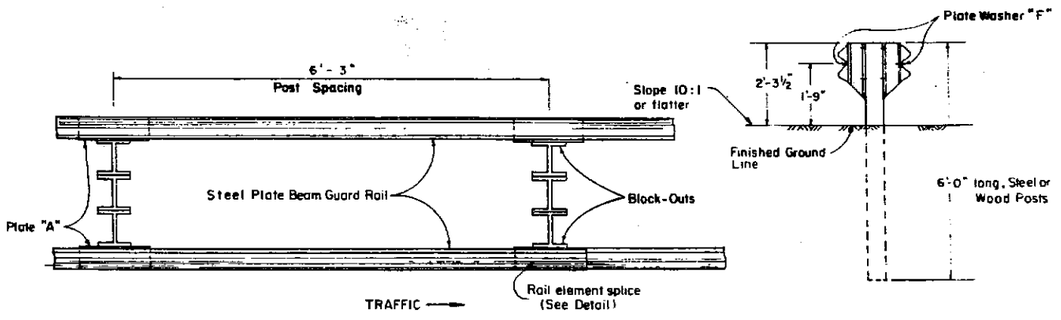
TYPE B

(3'-1½" Closed Post Spacing)



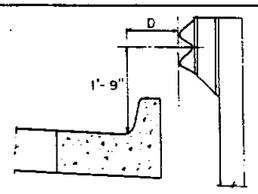
TYPE C

(3'-1½" Block-Out Spacing)



TYPE D

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



GUARD RAIL PLACED BEHIND CURB

D = 0'-0" desirable to 1'-0" maximum.

If it is necessary for D to be more than one foot and less than ten feet, Type M2 curb and gutter (Std. 2130) shall be used in front of and in advance of the guardrail.

NOTE: Rail element lap in direction of traffic of the adjacent lane for all types

Illinois Department of Transportation

PASSED April 9, 1990
Engineer of Policy and Procedures

APPROVED April 9, 1990
Engineer of Design

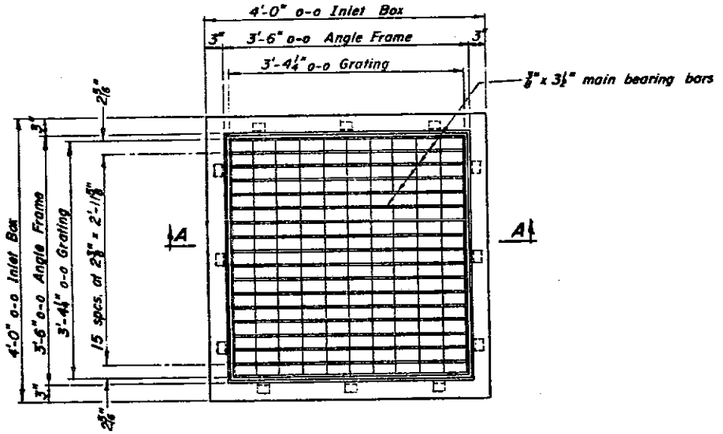
ISSUED 2-11-66

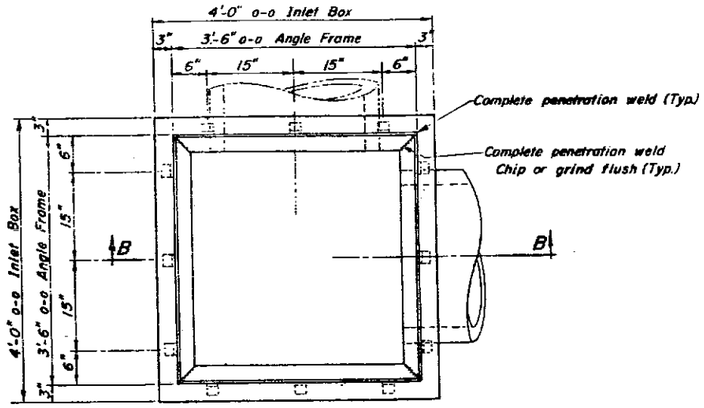
STEEL PLATE BEAM GUARD RAIL
TYPES A, B, C & D

Sheet 1 of 2 Sheets

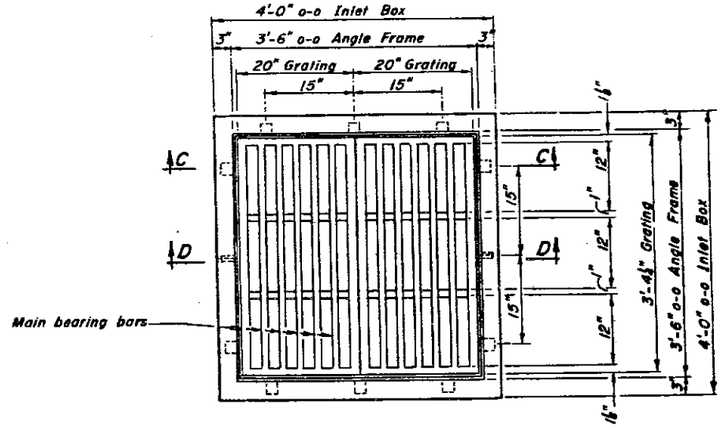
STANDARD 2230-16

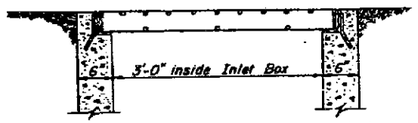
Full Size DWN 5



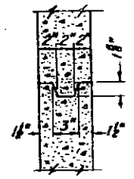


PLAN VIEW
(Grating omitted for clarity)

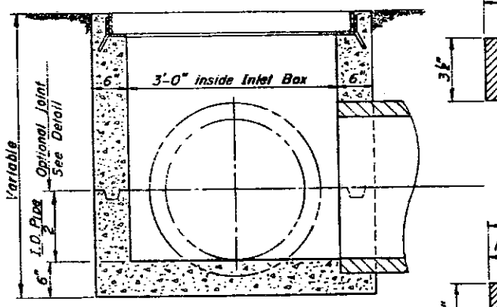




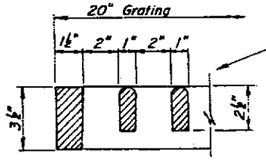
SEC. A-A

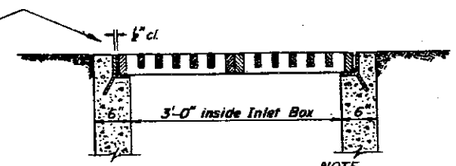


DETAIL of OPTIONAL JOINT



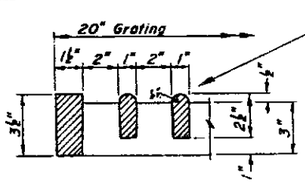
SEC. B-B

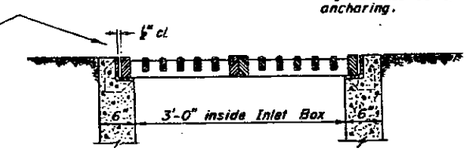




SEC. C-C

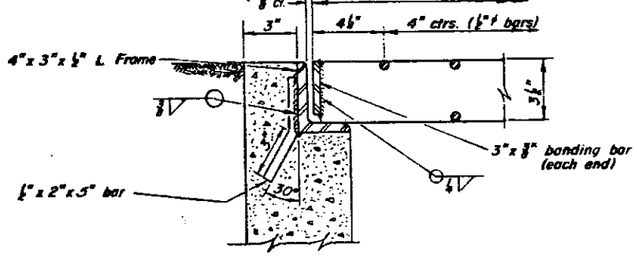
NOTE
The cast iron angle frame may be furnished in one piece in lieu of the two pieces as shown. The ears for bolting the two pieces together must be replaced with a tab for anchoring.





SEC. D-D

CAST FRAME & GRATE



STEEL FRAME & GRATE

GENERAL NOTES

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.

Shop drawings shall not be required for these inlet boxes.

Exposed concrete edges shall be beveled ¾".

The steel grating shall have the main bearing bars running parallel to the centerline of the median. The main bearing bars shall be as specified or shall be 3½" in depth and have a minimum section modulus of 3.78 inches cubed per foot width of grating with a maximum spacing of the main bearing bars equal to 3" c. to c. and a minimum spacing of 2" c. to c. The grating shall seat firmly in the frame but shall not be secured to the frame. The grating shall be cut in such manner that all riveted or welded connections are left in tact. The edges of the main bearing bars shall be laterally supported by transverse bars. Grating shall be approved by the Engineer.

All shop welding shall be done in accordance with the current specifications of the American Welding Society for Welded Highway and Railway Bridges. Welding of gratings or frames will not be permitted after galvanizing of the gratings and frames.

Steel grating and steel frames shall conform to Article 710.04 of the Standard Specifications and shall be galvanized to AASHTO Specification M111 after fabrication.

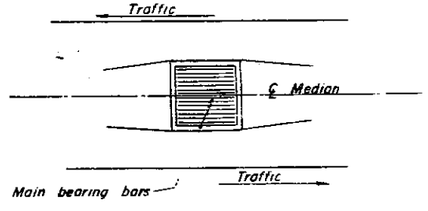
The cast grating shall conform to Article 710.18 of the Standard Specifications. (Grade 60-40-18) or Article 710.17 of the Std. Specs and proof-load tested in accordance with Federal Specifications RR-F-621. The proof-load shall be 25,000 lbs. on a 9" x 9" cast block.

The cast frames shall conform to Article 710.17 of the Standard Specifications.

The cast grating and frames shall not be galvanized.

The Contract Unit Price each for Flush Inlet Box for Median (2240) shall include frame and grate (either steel or ductile iron) and Class X concrete or Precast concrete, and bedding when required.

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 unit, and all voids around pipe entrance, both inside and outside, shall be sealed with mortar.



Sketch showing location and direction of main bearing bars in relation to ℄ Median

Illinois Department of Transportation

PASSED Sept. 28, 1979
Engineer of Bridges and Traffic Structures

APPROVED Sept. 28, 1979
Thomas A. Enright
Engineer of Design

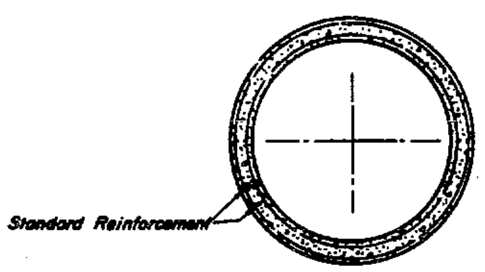
ISSUED 5-26-67

FLUSH INLET BOX for MEDIAN

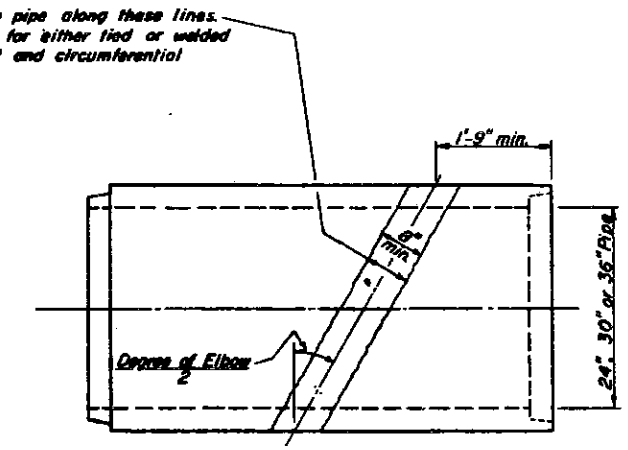
STANDARD 2240-5

B-4.01e

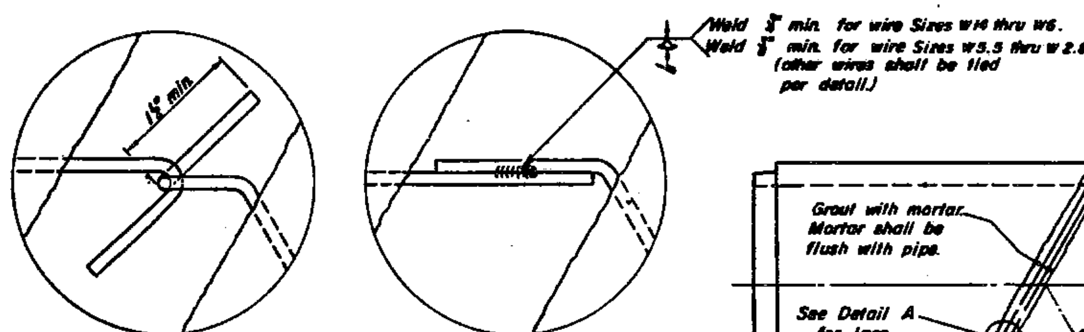
(Full Size)



TRANSVERSE SECTION

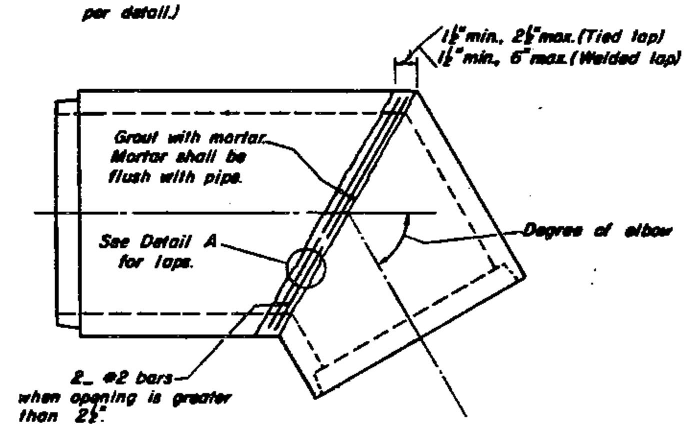


PLAN
Reinforced Concrete Pipe



Tied Lap　　Welded Lap

DETAIL A



PLAN
Reinforced Concrete Pipe Elbow

NOTES:

Reinforced Concrete Pipe shall conform to AASHTO M-170

Additional reinforcement shall conform to AASHTO M-31 or M-53

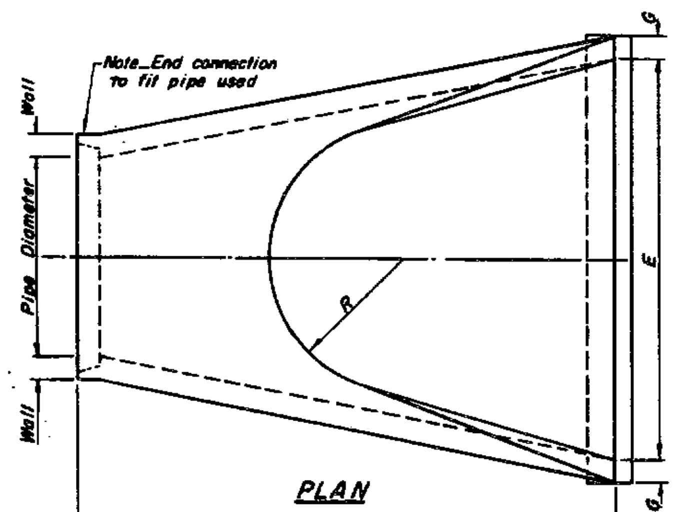
Degree of elbow and Pipe size required shall be as indicated on detail plan for each individual installation.

Cement mortar with bonding agent shall be approved by the Engineer.

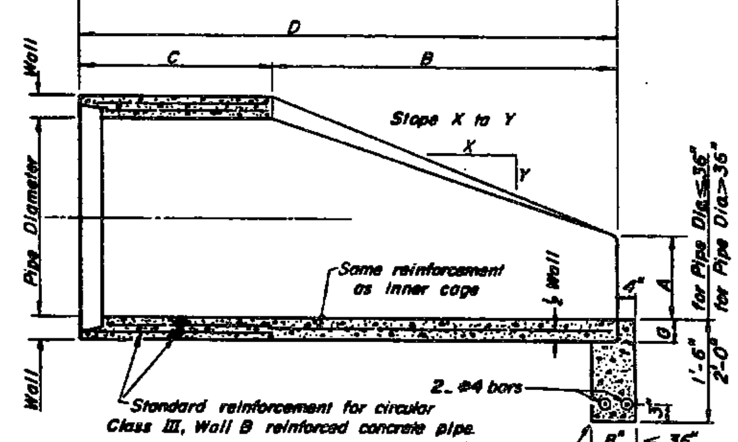
Basis of Payment_Reinforced Concrete Pipe Elbow shall be paid for at the contract unit price "each" complete in place for the pipe size specified. The section of pipe which includes the elbow will not be included in the lineal foot measurement of the pipe run in which it is included.

Pipe Dia.	Approx. Wt. (lbs.)	Wall	A	B	C	D	E	G	R	Slope
12"	530	2"	4"	2'-0"	4'-0⅞"	6'-0⅞"	2'-0"	2"	9"	3:1
15"	740	2¼"	6"	2'-3"	3'-10"	6'-1"	2'-6"	2¼"	11"	3:1
18"	990	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	2½"	12"	3:1
21"	1280	2¾"	9"	2'-11"	3'-2"	6'-1"	3'-6"	2¾"	13"	3:1
24"	1520	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3"	14"	3:1
27"	1930	3¼"	10½"	4'-0"	2'-1½"	6'-1½"	4'-6"	3¼"	14½"	3:1
30"	2190	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3½"	15"	3:1
33"	3200	3¾"	1'-1½"	4'-10½"	3'-3¼"	8'-1¾"	5'-6"	3¾"	17½"	3:1
36"	4100	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	4"	20"	3:1
42"	5380	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4½"	22"	3:1
48"	6550	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	5"	22"	3:1
54"	8240	5½"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	5½"	24"	2.4:1
60"	8730	6"	2'-11"	5'-0"	3'-3"	8'-3"	8'-0"	5"	*	2:1
66"	10710	6½"	2'-6"	6'-0"	2'-3"	8'-3"	8'-6"	5½"	*	2:1
72"	12520	7"	3'-0"	6'-6"	1'-9"	8'-3"	9'-0"	6"	*	1.86:1
78"	14770	7½"	3'-0"	7'-6"	1'-9"	9'-3"	9'-6"	6½"	*	1.82:1
84"	18160	8"	3'-0"	7'-6½"	1'-9"	9'-3½"	10'-0"	6½"	*	1.5:1

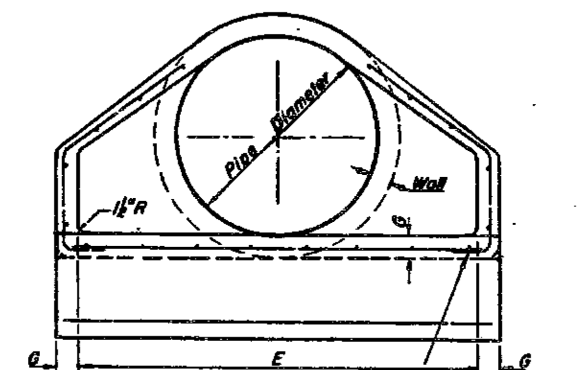
*Radius as furnished by manufacturer



PLAN



LONGITUDINAL SECTION



END VIEW

NOTES:

① Precast concrete flared end sections shall conform to the applicable requirements of AASHTO M-170 Class III, Wall B reinforced concrete pipe.

② Precast concrete flared end section for pipe diameter required shall be as indicated on detail plan for each individual installation.

③ The end block shall be placed prior to the installation of the flared end section. The end block shall be backfilled in accordance with Art. 502.11 of the Standard Specifications, cost incidental to End Section.

Illinois Department of Transportation

PASSED Nov. 21, 1978
Engineer of Bridge and Traffic Structures

APPROVED Nov. 21, 1978
Engineer of Design

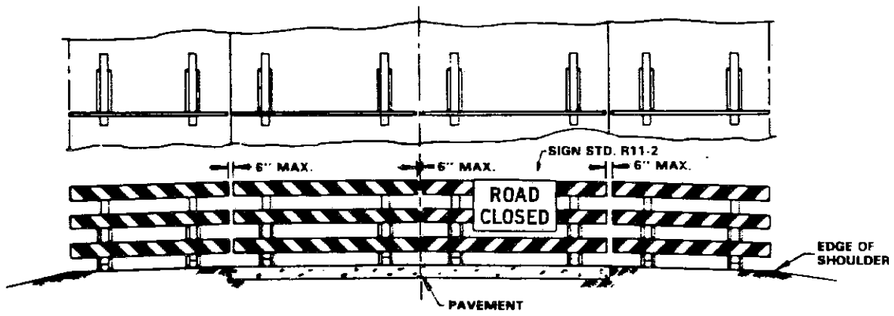
ISSUED 3-4-69	
REVISIONS	
W.F.	1-17-72
D.W.W.	2-1-74
WMB	5-11-78
D.W.W.	10-27-78

REINFORCED CONCRETE PIPE ELBOW

PRECAST REINFORCED CONCRETE FLARED END SECTION

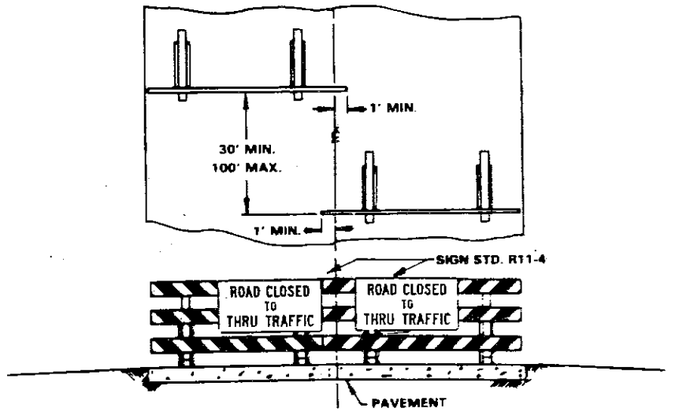
STANDARD 2262-4
(Full Size)

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the 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.



ROAD CLOSED TO ALL THRU TRAFFIC

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

WORK LIMIT SIGNING

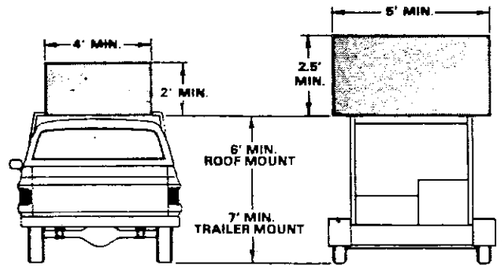
W7-3a(O)

END CONSTRUCTION

G20-2101-6024

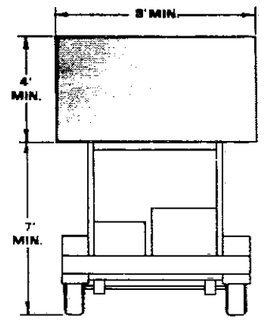
The NEXT X MILES supplemental plate shall be installed below the first warning sign in the series of all projects over two miles in length. The END CONSTRUCTION sign shall also be erected near the end of these projects, unless another project is within 2 miles beyond the end of the job.

ARROW BOARDS



TYPE A
ROOF MOUNTED

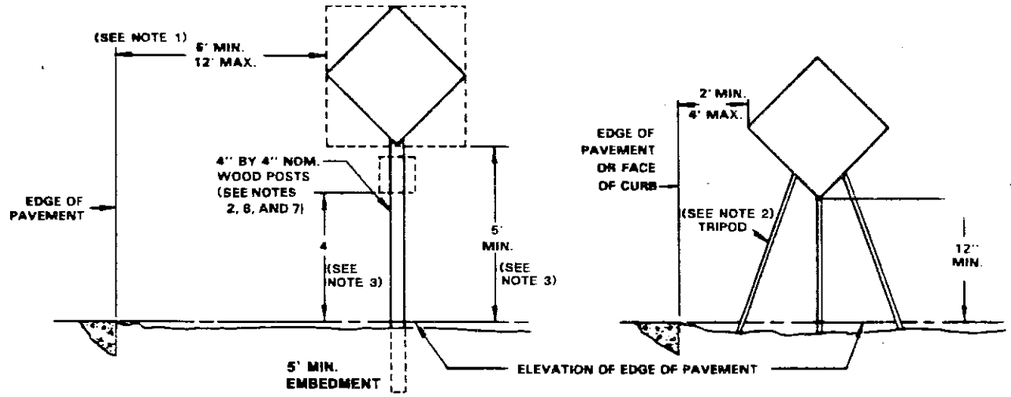
TYPE B
ROOF OR TRAILER MOUNTED



TYPE C
TRAILER MOUNTED

Arrow boards shall conform to Article 718.22 of the Standard Specifications. On roads with speeds of 45 miles per hour and above, Type C units are to be used for all operations 24 hours or more in duration and Type B units may be used for operations less than 24 hours in duration. Type A, B or C units may be used for all operations on roads with speeds less than 45 miles per hour. Arrow boards shall not be used to direct passing moves into lanes used by opposing traffic.

TYPICAL SIGN INSTALLATIONS



1. 2 ft. minimum to face of curb.
2. Alternate designs and or materials may be permitted when authorized by the Engineer. All materials shall be substantial and durable.
3. Add 2 ft. if parking exists within 200 ft. in advance of the sign location or if pedestrian movement is likely to occur at any time during the project.
4. Signs on temporary supports shall be within 20° of a vertical position.
5. 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.
6. Two posts shall be used for signs greater than 16 sq. ft. in area or where the height between the sign and the ground exceeds 7 ft. Bracing no heavier than 2" x 4" wood may be used for added support. Any brace placed parallel to the road shall be sloped down toward approaching traffic.
7. If approved by the Engineer, skids may be used to support signs where posts are impractical. If used, they shall not exceed the structural design of Type III barricades and shall be no greater than 4 ft. in length.

Illinois Department of Transportation

Approved 2/4/92

Engineer of Traffic

Issued 4/3/89

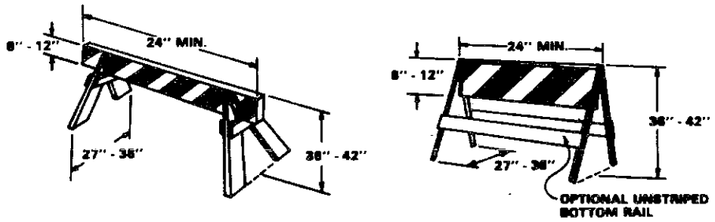
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

SHEET 1 OF 2

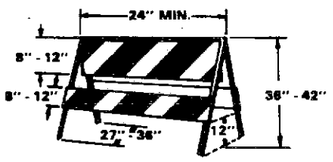
STANDARD 2298-9

F-6.00h

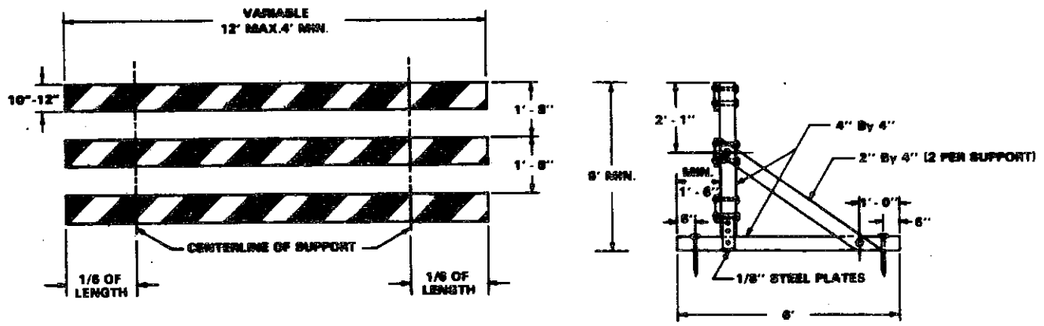
TYPE I BARRICADES



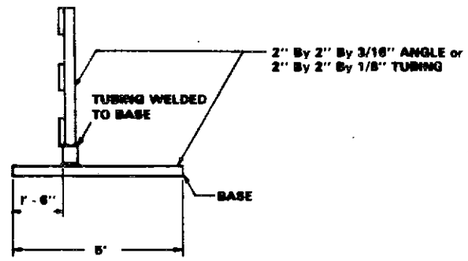
TYPE II BARRICADES



TYPE III BARRICADES

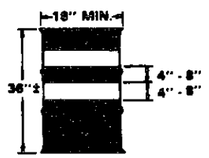


TYPICAL WOOD SUPPORT

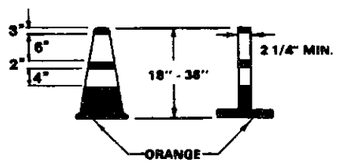


TYPICAL STEEL SUPPORT

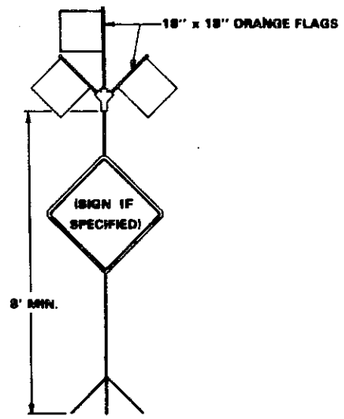
DRUMS



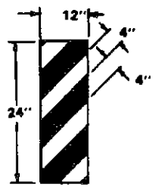
CONES



HIGH LEVEL WARNING DEVICE



VERTICAL PANELS



SEE NOTE 14 FOR SUPPORT OR MOUNTING REQUIREMENTS

GENERAL NOTES

1. Type I Barricades are intended for use on lower speed roads and shall not be used where normal speeds are greater than 40 MPH unless the reflective area of the upper rail is at least 288 square inches.
2. Type I and Type II Barricades shall not be intermixed within an individual string of barricades.
3. Type III Barricades are intended for road and lane closures and shall not be used for channelization or delineation.
4. All heights shown shall be measured above the pavement surface.
5. Unless otherwise noted, the reflective sheeting used for barricades, drums, and vertical panels shall meet the requirements of Article 718.17 and 718.18 of the Standard Specifications for Road and Bridge Construction.
6. All barricades and vertical panels shall have alternating reflectorized white and reflectorized orange stripes sloping downward at 45° toward the side on which traffic will pass. 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. 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. Vertical panels placed on the outside of curves shall be striped on both sides. The predominant color for other barricade components shall be white or silver, except that painted galvanized metal or aluminum components may be used.
7. Drums shall be non-metallic and have alternating reflectorized orange and reflectorized white horizontal, circumferential stripes 4 inches to 8 inches in width. There shall be at least two orange and at least two white stripes on each drum. If nonreflective spaces are left between the orange and white stripes, they shall be no more than 2 inches in width. All nonreflectorized portions of the drums shall be orange or white. Drums may be slightly conical in shape and may have one or more flat surfaces to minimize rolling when hit.
8. Frames for Type I and Type II Barricades shall be designed so as to provide a stable support and should be constructed of light weight steel or aluminum angles or tubing, wood, plastic, or rubber and have no rigid stay bracing for "A" frame designs. As Type III Barricades are only used at closures, they may be constructed of heavier materials than Type I or Type II Barricades. However, they should not have any vertical or sloping supports heavier than 4-inch by 4-inch lumber, 2-inch by 2-inch by 1/8-inch steel tubing, or 2-inch by 2-inch by 3/16-inch steel angles.
9. Barricade rails shall be no heavier than 1-inch thick lumber or plywood except for the "sawhorse" design Type I Barricade which may have a rail no heavier than 2-inch thick lumber. Other light weight weather resistant materials such as plastic, fiberglass or sheet aluminum may be used. Barricade rails may be sloping or vertical. Nominal lumber dimensions may be used to satisfy wooden barricade component dimensions.
10. The name and phone number only of an agency, contractor, or supplier may be shown on the nonreflective surface of the face part of a barricade. Such identification shall be in one color and nonreflective with letters not to exceed 1-inch in height.
11. When used, warning lights on barricades, drums, or vertical panels shall be mounted above the top of the device to the side on which traffic will pass and shall not obscure any reflectorized portion of the device.
12. Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize barricades other than sandbags must be rigidly attatched to the legs of the barricades as close to the ground as possible. No sandbags will be allowed on the top rail of barricades. Sandbags may be placed on barricade legs, over striped bottom rails not facing traffic, over unstriped bottom rails, or suspended from the barricade rail or frame in such a manner so that the bulk of the sand is at least 18 inches below the top of the barricade. Drums may be weighted internally with just enough sand, water, or other material to provide stability.
13. Cones shall be constructed of durable material able to withstand abuse by vehicular traffic. Minimum weights shall be 4 pounds for 18 inch, 7 pounds for 28 inch, and 10 pounds for 36 inch cones with a minimum of 60 percent of the total weight in the base. On fully access-controlled facilities, cones shall be a minimum of 28 inches in height. Reflectorized cones shall only be used as specified on the plans or as approved by the Engineer. When used, reflectorized cones shall be a minimum 28 inches in height and shall have two reflective bands; one a minimum of six inches wide placed three inches from the top of the cone and the other a minimum of four inches placed two inches below the six inch band.
14. Vertical panels may be either post mounted, frame supported or attached to the top of a barrier. Post mounted vertical panels shall be firmly attached to light weight wood or metal posts with the top a minimum height of 48 inches above the pavement surface. Frame supported vertical panels shall conform to General Notes 8, 9, 10 and 12 of this Standard and shall only be used where normal speeds are 40 MPH or less with the top a minimum height of 36 inches above the pavement surface.

Illinois Department of Transportation

Approved 2/4/92

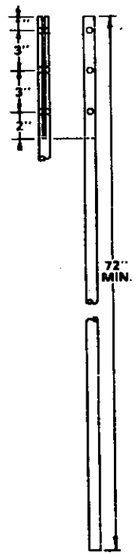
R W Jones

Engineer of Traffic

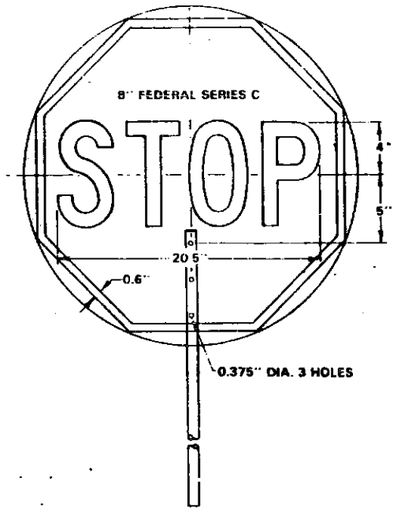
Issued 4/15/88

DESIGN OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

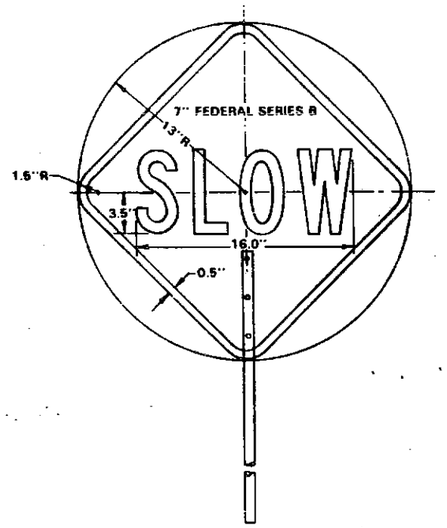
STANDARD 2299-13



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 an orange reflectorized background.
3. Areas outside sign borders shall be light blue or black.
4. The sign blank may be octagonal in shape in lieu of circular.
5. The portion of the staff within the sign face shall match the sign colors.
6. All colors and letters shall meet applicable federal standards.
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 flagger 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.

Illinois Department of Transportation

Approved October 21, 1983

Engineer of Traffic

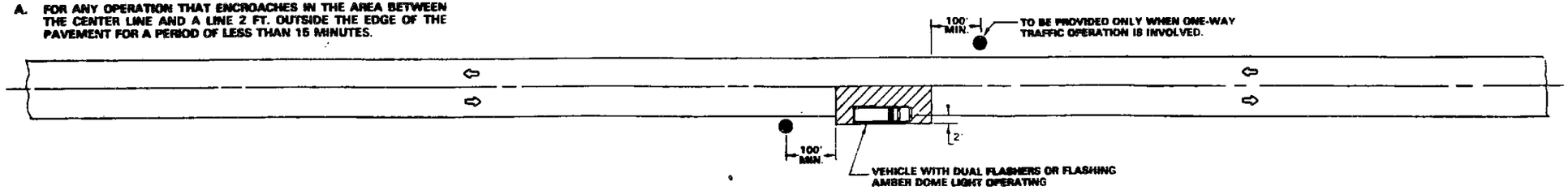
Issued 4-3-69

FLAGGER TRAFFIC CONTROL SIGN

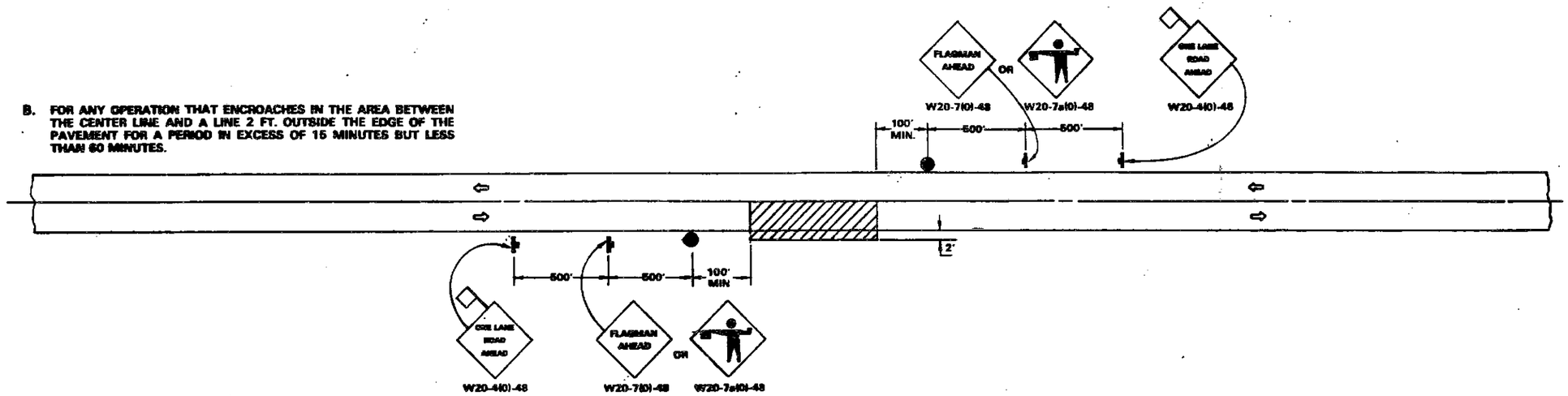
STANDARD 2300-3

F-6.03C

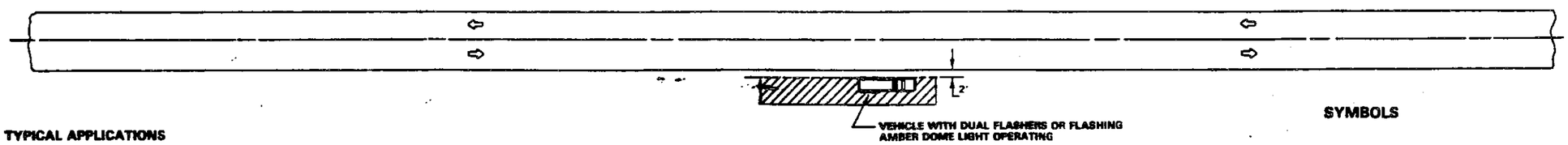
A. FOR ANY OPERATION THAT ENCROACHES IN THE AREA BETWEEN THE CENTER LINE AND A LINE 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD OF LESS THAN 15 MINUTES.



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

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 flaggers 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 flagger shown for traffic approaching from the opposite direction will be positioned as directed by the Engineer, the advance warning signs for traffic approaching from the opposite direction omitted, and the ONE LANE ROAD AHEAD sign changed to RIGHT (LEFT) LANE CLOSED AHEAD
5. Longitudinal dimensions may be adjusted to fit field conditions. The lateral placement of the flaggers may be varied from that shown.

SYMBOLS

- Work Area
- 18 in. X 18 in. (minimum) Orange Flag
- Sign on Portable or Permanent Support
- Flagger with Traffic Control Sign

Illinois Department of Transportation

Approved October 21, 1983

Engineer of Traffic

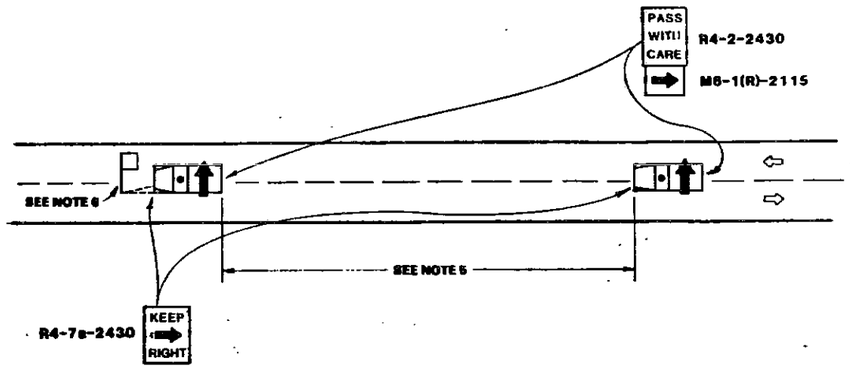
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

SHORT-TIME OPERATIONS DAY OR NIGHT OPERATIONS

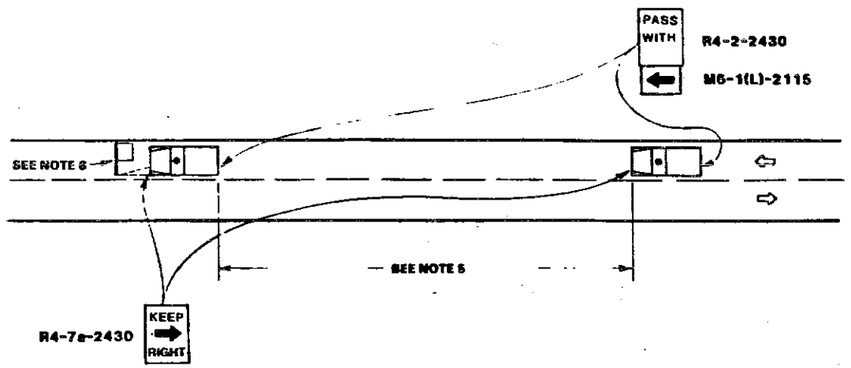
STANDARD 2307-6

F-6.12d

DETAIL A



DETAIL B



G20-1(01-2430
SEE NOTE 2

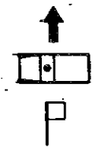
GENERAL NOTES

1. For shoulder operations not encroaching on the pavement, use DETAIL A, Sheet 2.
2. During pavement marking operations, WET PAINT signs with appropriate arrow(s) shall be mounted on the back of the striper and following vehicle where necessary to reduce tracking.
3. In areas where the shoulder is inadequate for motorists to pass the convoy, the arrow boards shall be changed from the flashing arrow mode to a flashing hazard mode. In no case shall the arrow boards be visible to traffic approaching the front of the convoy in the open lane. Arrow boards shall never flash to indicate passing on the left on a two-lane, two-way roadway.
4. All vehicles shall have headlights and emergency flashers operating and shall display an amber colored oscillating, rotating or flashing light(s). At least one amber light is to be visible from any direction.
5. Trailing vehicles shall be at least 200 feet behind the lead vehicles with the distance varying depending upon the terrain and susceptibility of any pavement marking to wheel tracking.
6. If a guide wheel is used in pavement marking operations, it shall be equipped with a flag as shown.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Pavement marking
- Weed spraying
- Roadometer measurements
- Debris clean-up
- Crack pouring

SYMBOLS



Arrow Board

Truck with Flashing Amber Light

18 in. X 18 in. (minimum) Orange Flag

Illinois Department of Transportation

Approved 7 JUNE 1988

Engineer of Traffic

Issued 7/1/82

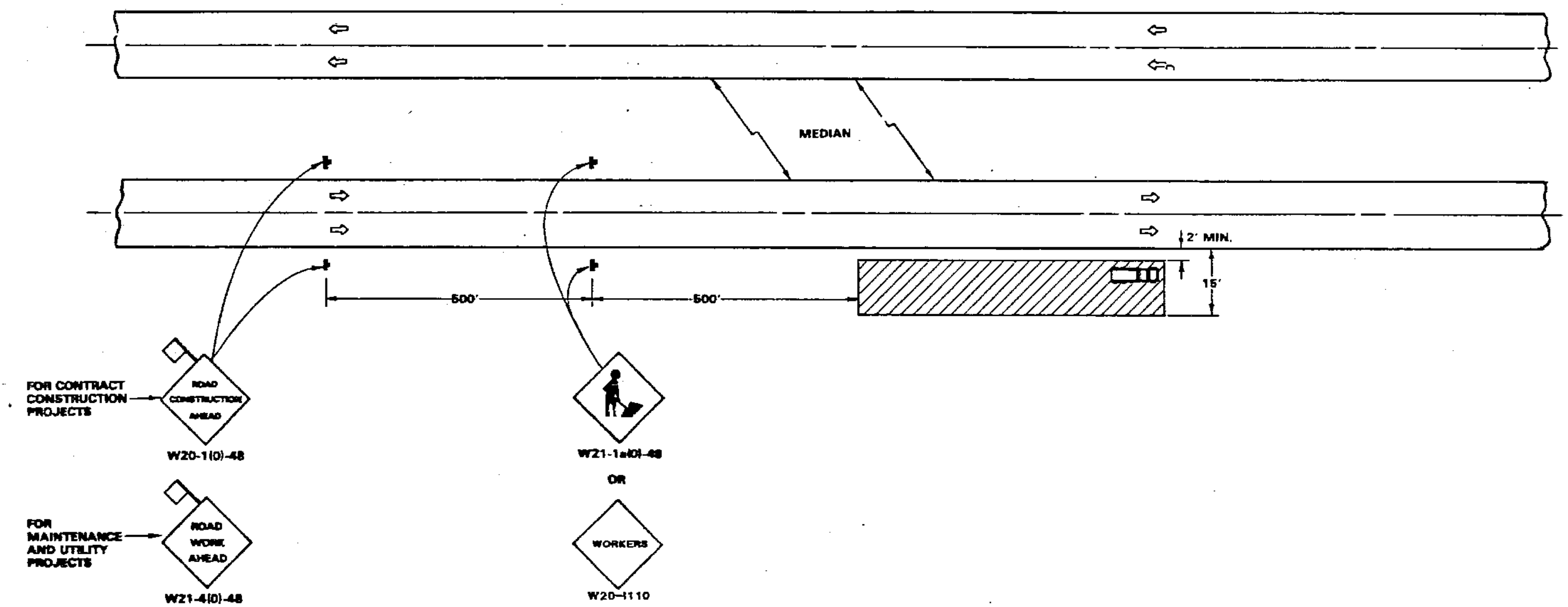
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

RURAL, DAY OR NIGHT MOVING OPERATIONS

Where, at any time, any vehicle, equipment, workers or their activities will require a continuous or intermittant moving operation where the average speed of movement is greater than 1 MPH.

STANDARD 2308-5

F-6.24 e



TYPICAL APPLICATIONS

Utility Operations

Culvert Extensions

Side Slope Changes

Guard Rail Installation and Maintenance

Delineator Installation

Landscaping Operations

Sign Installation and Maintenance

Shoulder Repair

GENERAL NOTES

1. If the work operation does not exceed 60 minutes, traffic control may be in conformance with STANDARD 2307.
2. Worker 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 barricades at 50 ft. centers, with flashing lights at night. If the hazard exceeds 100 ft. in length, steady burning lights shall be substituted for flashing lights. When the distance is greater than 250 ft., barricade spacing may be increased to 100 ft.
3. If the work operation requires that four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a Flagger sign shall be substituted for the Worker sign.
4. Signs mounted in the median may be omitted when the median is less than 10 feet wide.
5. This standard also applies when work is being performed on a multilane undivided highway. Under these conditions the signs normally mounted in the median shall be omitted.
6. Longitudinal dimensions may be adjusted to fit field conditions.

SYMBOLS

Work Area

18 in. X 18 in. (minimum) Orange Flag

Sign on Portable or Permanent Support

Illinois Department of Transportation

Approved 2/4/82

Engineer of Traffic

Issued 6/3/69

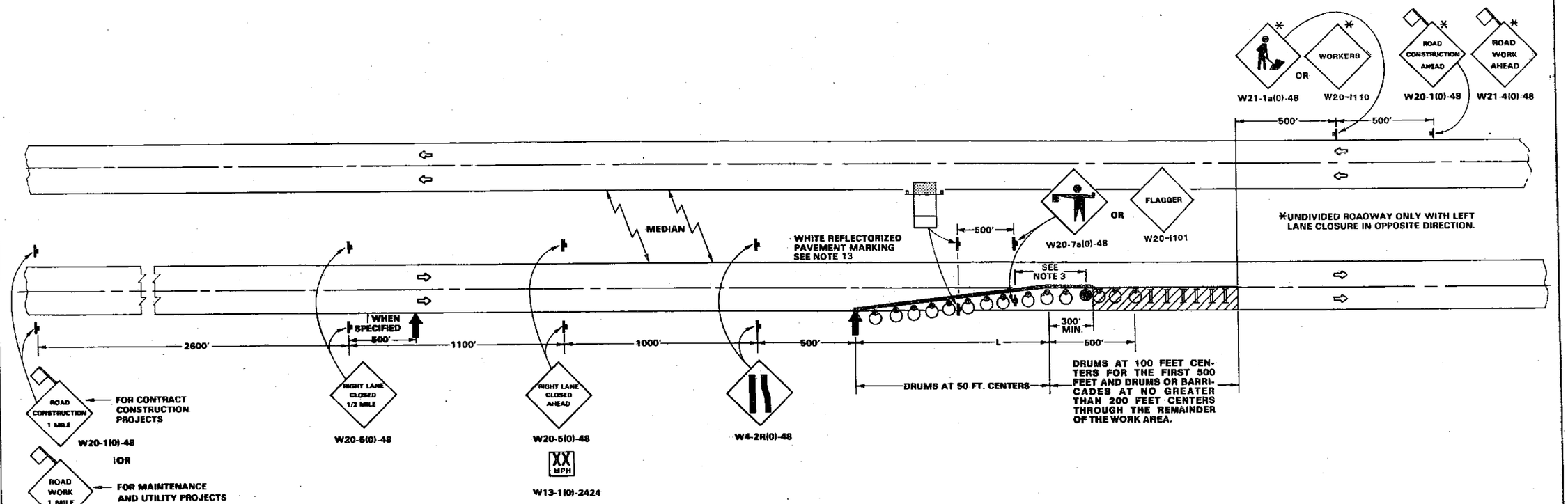
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

MULTILANE, DIVIDED AND UNDIVIDED,
RURAL DAY OR NIGHT OPERATIONS.

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

STANDARD 2314-6

F-6.199



SYMBOLS

- Construction Speed Limit Sign
- Work Area
- Arrow Board
- Sign on Portable or Permanent Support
- Flagger with Traffic Control Sign (Note 15)
- Barricade or Drum
- Drum with Steady Burning Light
- 18 in. X 18 in. (minimum) Orange Flag

Illinois Department of Transportation

Approved 2/4/92

Engineer of Traffic

Issued 4/5/89

GENERAL NOTES

1. The "L" distance equals the lane width times the taper ratio.

Normal Posted Speed m.p.h.	Taper Ratio ft./ft.
65	65/1
60	60/1
55	55/1
50	50/1
45 or less	45/1

2. When no work is being performed, the flagger will not be required. If the flagger is not present, the Flagger and Worker signs shall be removed or covered.
3. The Construction Speed Limit sign and the Flagger sign shall be moved as necessary to maintain a spacing of 500 feet to 1.5 miles between the flagger and the Flagger sign.
4. This standard also applies when work is being performed in the left lane. Under these conditions, LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown. On left lane closures with narrow medians, the arrow board at the beginning of the lane closure shall be relocated behind the taper as necessary so that a clearance of at least 4 ft. can be maintained from the opposing traffic.
5. The speed limit to be shown on the Construction Speed Limit signs and Advisory Speed plates shall be 10 miles per hour less than the normal posted speed limit or 45 MPH, whichever is less. The signs shall not be used where the normal posted speed limit is below 45 miles per hour.
6. The flashing lights on the Construction Speed Limit signs shall be activated only when workers are present in a lane adjacent to one open to traffic. At all other times, the flashing lights shall be turned off and the signs may be removed.
7. Median signs may be omitted when the median is less than 10 feet wide.
8. This standard 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.
9. Cones may be substituted for barricades or drums at half the spacing during day operations. On fully access-controlled facilities, cones shall be a minimum of 28 in. in height.
10. Steady burning lights will not be required on drums for day operations. All drum lights shall be monodirectional.
11. All signs shall be post-mounted if the closure time exceeds four days.
12. 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.
13. Reflectorized temporary pavement marking tape shall be placed throughout the taper and for 300 feet alongside the work area where the closure time is greater than fourteen days. The edge line shall be yellow for left lane closures. Raised reflectorized pavement markers at 25 ft. centers may be used to supplement the pavement marking tape.
14. Longitudinal dimensions may be adjusted to fit field conditions. The lateral placement of the flagger may be varied from that shown. The flagger shown at the beginning of the work area shall be stationed approximately 200 feet in advance of the work party.
15. At all times when workers are present, a flagger shall be positioned in advance of the first work operation as shown. (See Note 2) An additional flagger, as required by Paragraph 10 of Article 107.14 of the Standard Specifications, shall be positioned in advance of each separate activity of the operation that requires frequent encroachment into a lane open to traffic.
16. Form BT 725 is required.

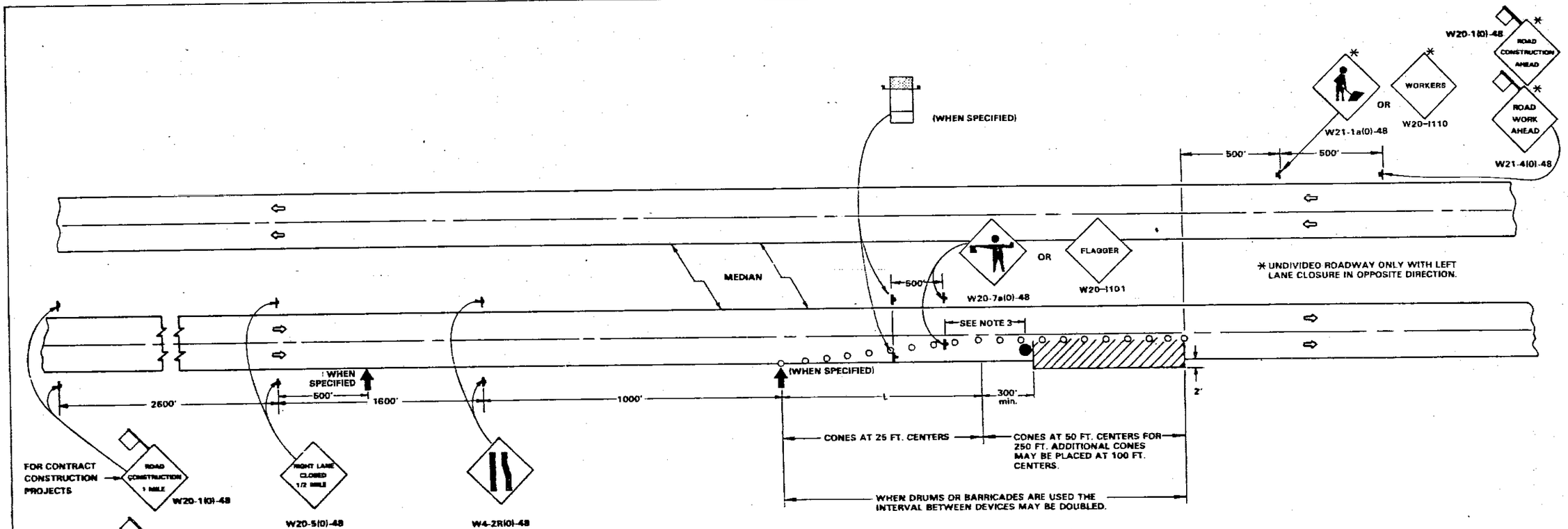
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

MULTILANE, DIVIDED AND UNDIVIDED, RURAL OPERATIONS EXCEEDING ONE DAYLIGHT OPERATION

Where, at any time, any vehicle, equipment, workers or their activities will encroach on any portion of the lane immediately adjacent to the shoulder or on the shoulder within 2 feet of the edge of pavement.

STANDARD 2316-13

F-6.21



TYPICAL APPLICATIONS

Pavement Patch

Utility Operations

Bituminous Resurfacing

GENERAL NOTES

1. The "L" distance equals the lane width times the taper ratio.

Normal Posted Speed m.p.h.	Taper Ratio ft./ft.
65	65/1
60	60/1
55	55/1
50	50/1
45 or less	45/1

2. When no work is being performed, the flagger will not be required. If the flagger is not present, the Flagger and Worker signs shall be removed or covered.
3. The Construction Speed Limit signs (when specified) and the Flagger signs shall be moved as necessary to maintain a spacing of 500 feet to 1.5 miles between the Flagger and Flagger signs.
4. This standard also applies when work is being performed in the left lane. Under these conditions, LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown and cones shall be placed along the center line throughout the taper and work area. On left lane closures with narrow medians, the arrow board at the beginning of the lane closure (when specified) shall be relocated behind the taper as necessary so that a clearance of at least 4 ft. can be maintained from the opposing traffic.
5. The speed limit to be shown on the Construction Speed Limit signs and Advisory Speed plates shall be 10 miles per hour less than the normal posted speed limit or 45 MPH, whichever is less. The signs shall not be used where the normal posted speed limit is below 45 miles per hour.
8. The flashing lights on the Construction Speed Limit signs shall be activated only when workers are present in a lane adjacent to one open to traffic. At all other times, the flashing lights shall be turned off and the signs may be removed.
7. All signs, cones, barricades and drums are to be removed at completion of the day's operations and the work area opened to traffic.
8. Median signs may be omitted when the median is less than 10 feet wide.
9. This standard 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.
10. On fully access-controlled facilities, cones shall be a minimum of 28 in. in height.
11. Longitudinal dimensions may be adjusted to fit field conditions. The lateral placement of the flagger may be varied from that shown. The flagger shown at the beginning of the work area shall be stationed approximately 200 feet in advance of the work party.
12. At all times when workers are present, a flagger shall be positioned in advance of the first work operation as shown. (See Note 2) An additional flagger, as required by Paragraph 10 of Article 107.14 of the Standard Specifications, shall be positioned in advance of each separate activity of the operation that requires frequent encroachment into a lane open to traffic.
13. Form BT 725 may be required.

SYMBOLS

- Arrow Board
- Work Area
- 18 in. X 18 in. (minimum) Orange Flag
- Cone, Drum or Barricade
- Sign on Portable or Permanent Support
- Flagger with Traffic Control Sign (Note 12)
- Construction Speed Limit Sign

Illinois Department of Transportation

Approved 2/4/92

R.W. Jones

Engineer of Traffic

Issued 4/3/92

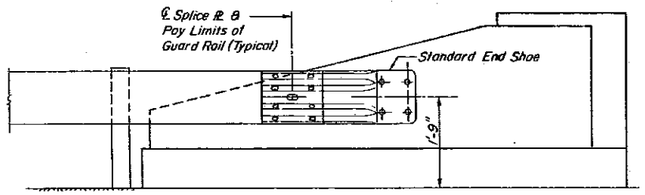
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

MULTILANE, DIVIDED AND UNDIVIDED,
RURAL DAY OPERATIONS ONLY

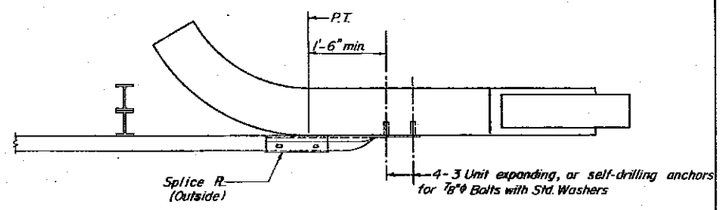
Where, at any time, any vehicle, equipment, workers or their activities will encroach on any portion of the lane immediately adjacent to the shoulder or on the shoulder within 2 ft. of the edge of pavement.

STANDARD 2315-8

F - 6.20

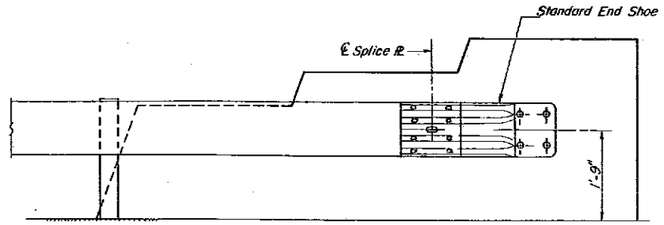


ELEVATION

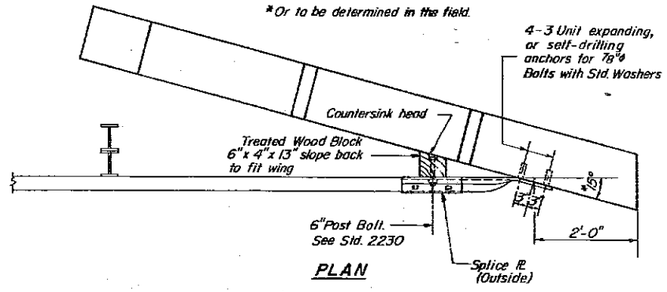


PLAN

CURVED WING

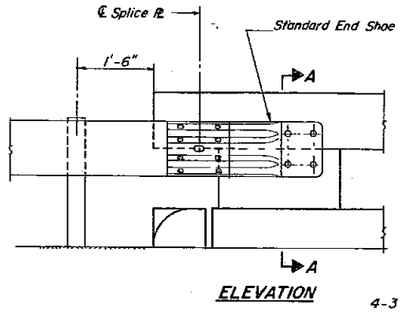


ELEVATION



PLAN

FLARED WING



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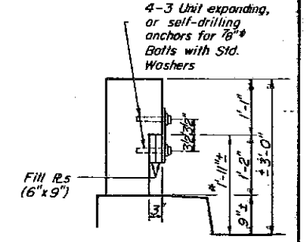
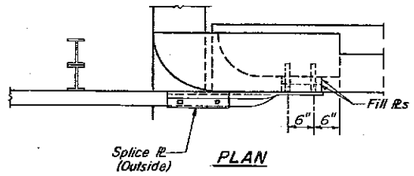
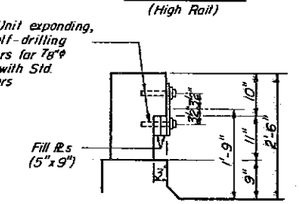


SECTION A-A
(High Rail)

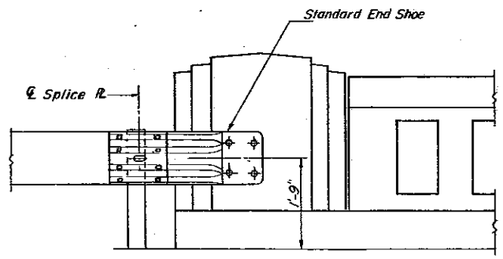


PLAN

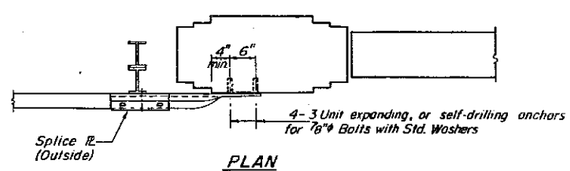


SECTION A-A
(Low Rail)

R.C. HANDRAIL



ELEVATION



PLAN

CONCRETE HANDRAIL

NOTES

For details of guardrail not shown see Standard 2230.

The Standard End Shoe shall be attached to the existing 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.

The Standard End Shoe shall be placed between the splice plate and the rail element.

The minimum edge distance (distance from any anchor to edge of existing concrete) shall be six (6) inches unless otherwise shown.

If the existing name plate is covered completely or partially by the end shoe, the name plate shall be moved to an adjacent area along the rail or end post. The cost of moving the name plate shall be included in the cost of TRAFFIC BARRIER TERMINAL, TYPE 10.

Pay limits of guardrail shall be at ℄ of end shoe splice.

The cost of the Standard End Shoes, Splice Plate, any required blocks and plates, and all fasteners shall be included in the cost of TRAFFIC BARRIER TERMINAL, TYPE 10 (One Each).

When a bridge expansion joint exists between the End Shoe and the first post, all splice bolts at the End Shoe shall be fitted with a locknut or double nuts tightened only to a point that will allow guardrail movement.

Illinois Department of Transportation

PASSED Aug. 31, 1979
Engineer of Bridge and Traffic Structures

APPROVED Aug 31, 1979
Engineer of Design

ISSUED 9-25-79

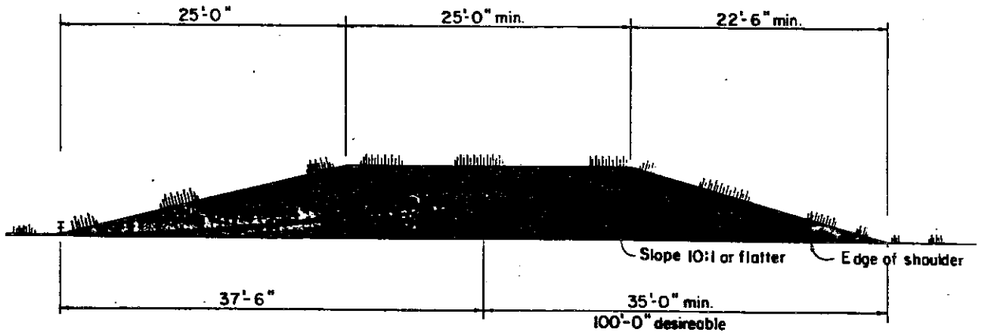
TRAFFIC BARRIER TERMINAL TYPE 10

STANDARD 2326-3

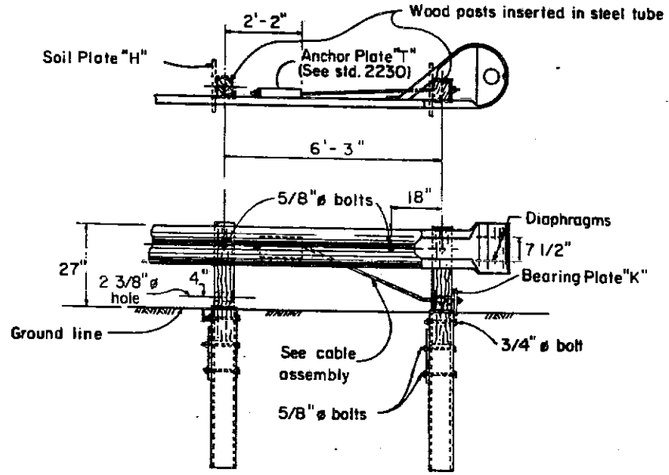
F-3-216

Full Size

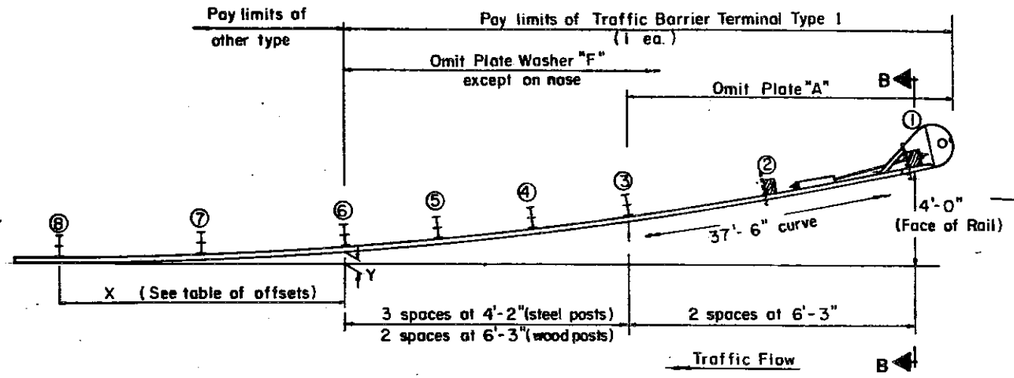
OFFSETS TO FACE OF RAIL (Feet)		TYPE 1	TYPE 1A	
Post	X	Y (4')	Y (3')	Y (2')
①	37.22	4.00	3.00	2.00
②	31.09	2.79	2.09	1.40
③	24.92	1.79	1.34	0.90
④	20.79	1.25	0.94	0.62
⑤	16.64	0.80	0.60	0.40
⑥	12.49	0.45	0.34	0.23
⑦	6.25	0.11	0.08	0.06
⑧	0.00	0.00	0.00	0.00



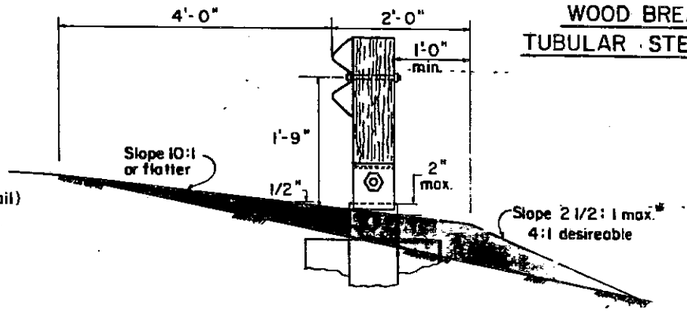
SHOULDER WIDENING TRANSITION



WOOD BREAKAWAY POSTS
TUBULAR STEEL FOUNDATIONS

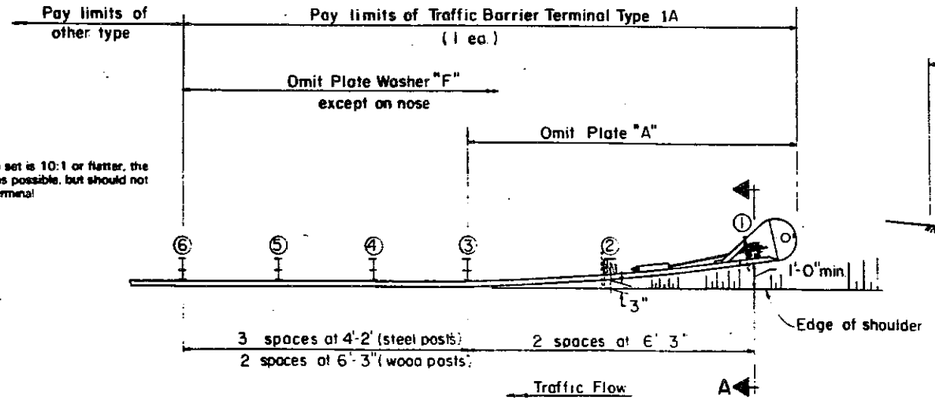


PLAN TYPE 1

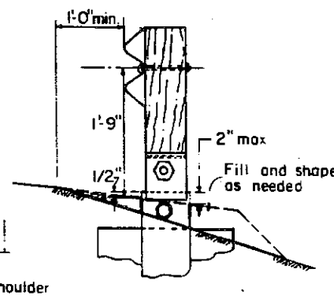


SECTION B-B

* If fill height exceeds 5'-0", use 3:1 max.



PLAN TYPE 1A



SECTION A-A

NOTE

If the surface upon which the barrier is to be set is 10:1 or flatter, the Type 1A Terminal should be flared as much as possible, but should not exceed the offsets provided for the Type 1 Terminal

GENERAL NOTES

See Standard 2230 for details of guard rail not shown.

All steel parts shall be galvanized after fabrication.

Posts at locations 1 & 2 shall be wood breakaway posts. Posts other than 1 & 2 may be either standard wood posts or steel posts, at the option of the Contractor. If standard wood posts are used, one post shall be located midway between and in lieu of posts 4 & 5. For Terminal Type 1, the offset (Y) for this post shall be 1.00 foot.

The wood breakaway posts shall be treated and conform to the requirements of Art. 711.06 of the Standard Specifications

A two-piece assembly may be substituted for the one-piece nose shown above

Hollow structural tubing shall conform to the requirements of ASTM A-500 grade B or A-501.

The Bearing Plate "K" shall be held in position by (2) two eightpenny nails driven into the post and bent over the top of the plate

Illinois Department of Transportation

PASSED Mar 30 1987
Engineer of Policy and Procedures

APPROVED Mar 30 1987
Engineer of Design

ISSUED 4-3-78

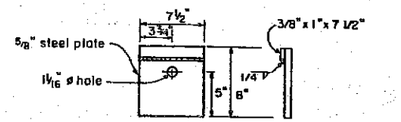
TRAFFIC BARRIER TERMINAL TYPE 1 & 1A

(Sheet 1 of 2)

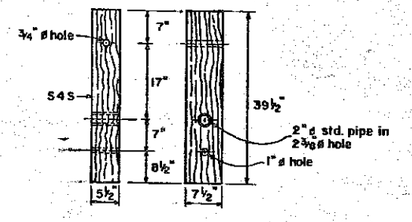
STANDARD 2336-4

(Full Size) DWW SF

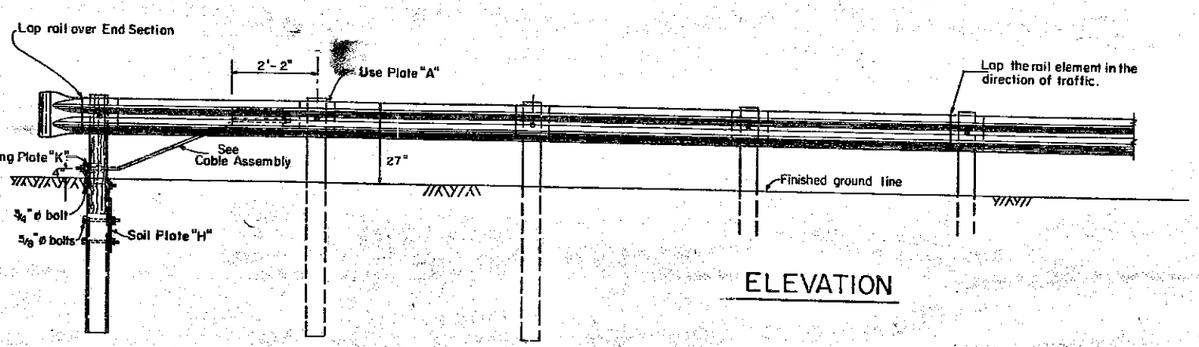
F-3.24



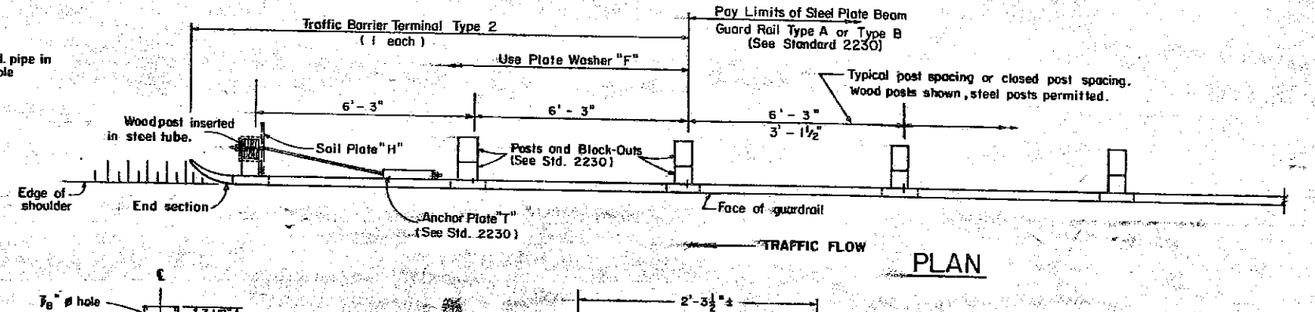
BEARING PLATE "K"



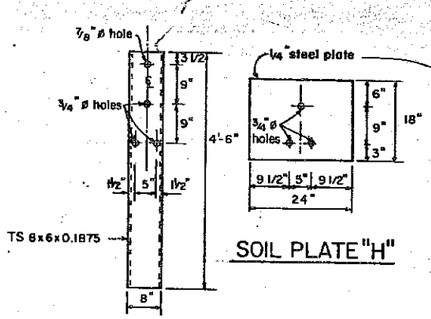
WOOD POST



ELEVATION

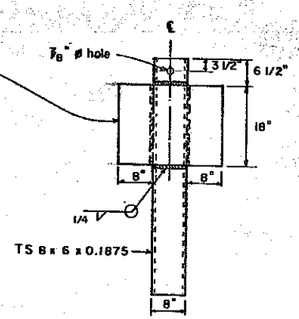


PLAN

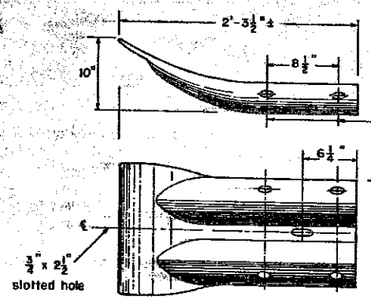


STEEL TUBE

SOIL PLATE "H"



ALTERNATE SOIL PLATE CONNECTION



END SECTION

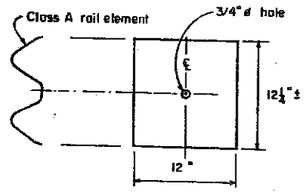
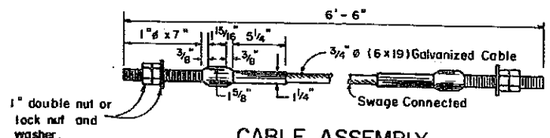


PLATE A



CABLE ASSEMBLY
(40,000 lbs. min. breaking strength)
Tighten cable to taut tension.

NOTES:

See Standard 2230 for details of Guardrail not shown.

The wood posts shall be treated and conform to the requirements of Article 711.06 of the Standard Specifications.

All steel parts shall be galvanized after fabrication.

Use Plate Washer "F" at all posts (See Std. 2230).

Illinois Department of Transportation

PASSED Feb. 3, 1981
Engineer of Design Operations

APPROVED Feb. 3, 1981
Engineer of Design

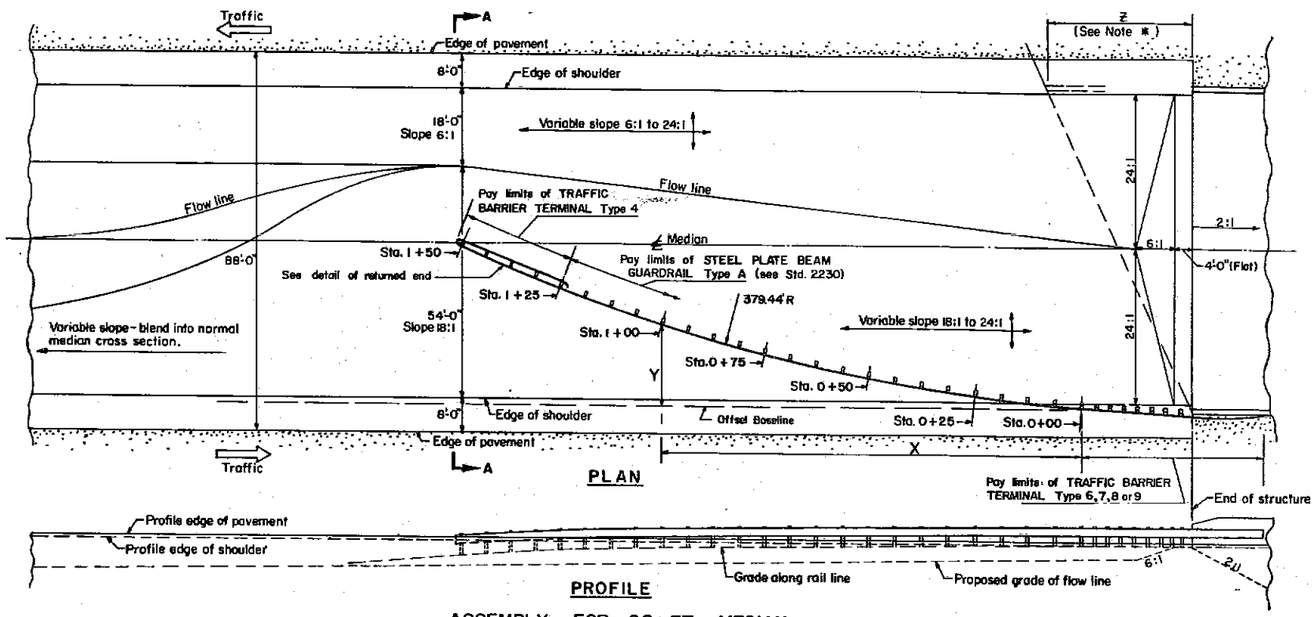
ISSUED 8-1-77

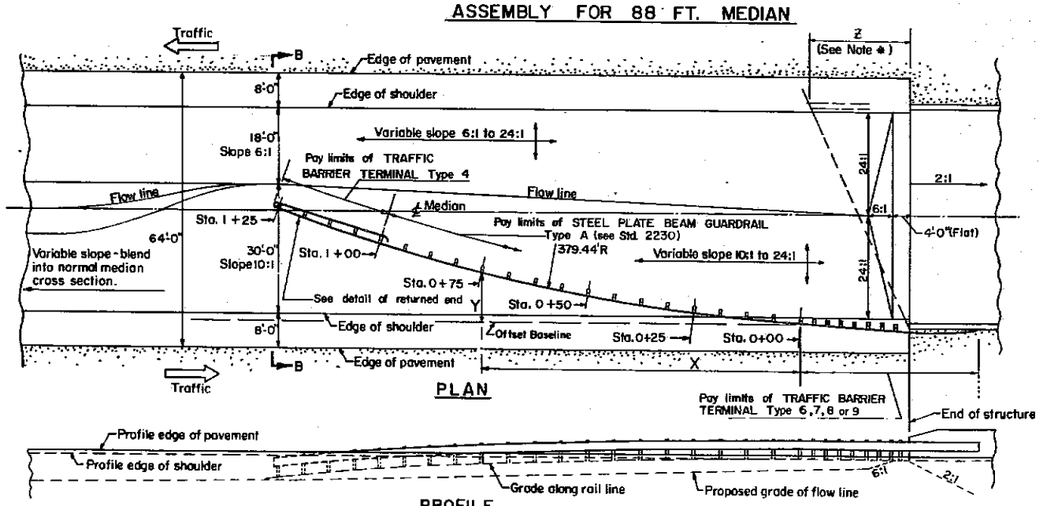
TRAFFIC BARRIER TERMINAL TYPE 2

STANDARD 2337-2

F-3.26 b

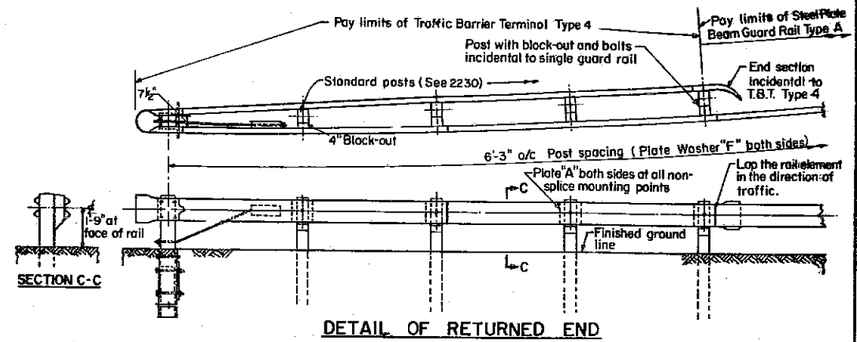
Full Size

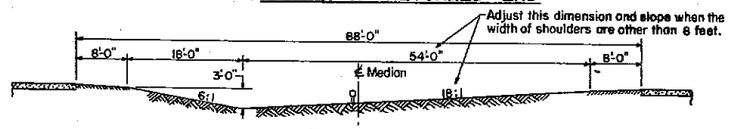


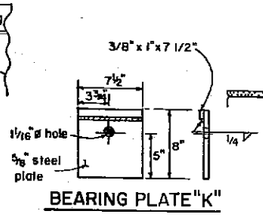


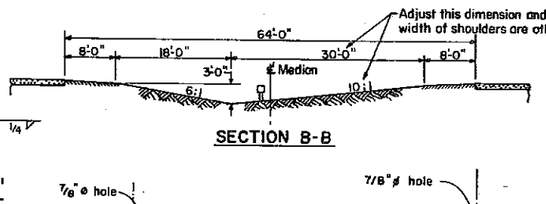
OFFSETS TO FACE OF RAIL		
STATION	Distance X	Offset Y
0+00	0.00'	0.00'
0+25	24.93'	1.83'
0+50	49.68'	5.28'
0+75	74.16'	10.37'
1+00	98.24'	17.05'
1+25	121.83'	25.30'
1+50	144.83'	35.09'

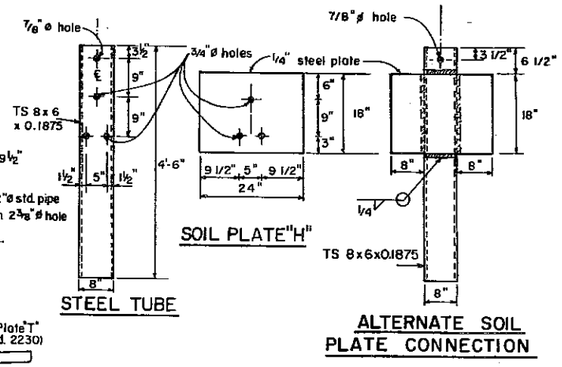
Offsets (Y) are measured between the face of rail and the Offset Baseline, which is parallel to the pavement edge and passes through Sta. 0+00. The location of Sta. 0+00 will vary, being dependent on structure details and the type of Traffic Barrier Terminal utilized.

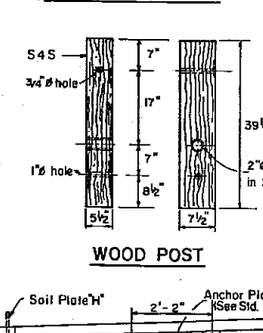


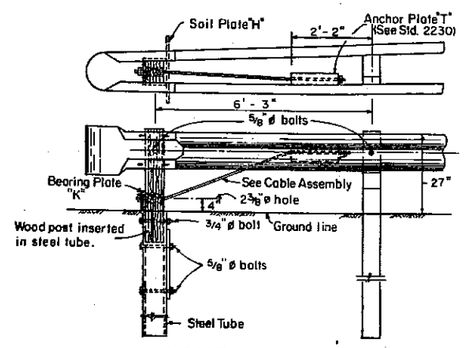


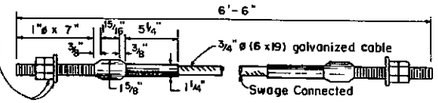


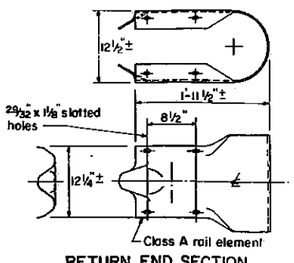












Illinois Department of Transportation

PASSED May 20, 1981
Engineer of Design Operations

APPROVED May 20, 1981
Engineer of Design

ISSUED 8-18-81

GENERAL NOTES

For details of Guardrail not shown, see Standard 2230.

When pavement is on a curved alignment, guardrail shall be approximately curved to match the alignment.

For dual structures that are 90°, or skewed left forward, the length of guradrail shown is appropriate.

* For dual structures skewed right forward the nose of the Type 4 Terminal shall be positioned longitudinally away from the structures for a distance equal to dimension Z. Appropriate adjustments to the length of the Type A Guardrail and its offsets (Y) shall be calculated and used. All additional lengths of guardrail shall be in increments of 12'-6".

All steel parts shall be galvanized after fabrication.

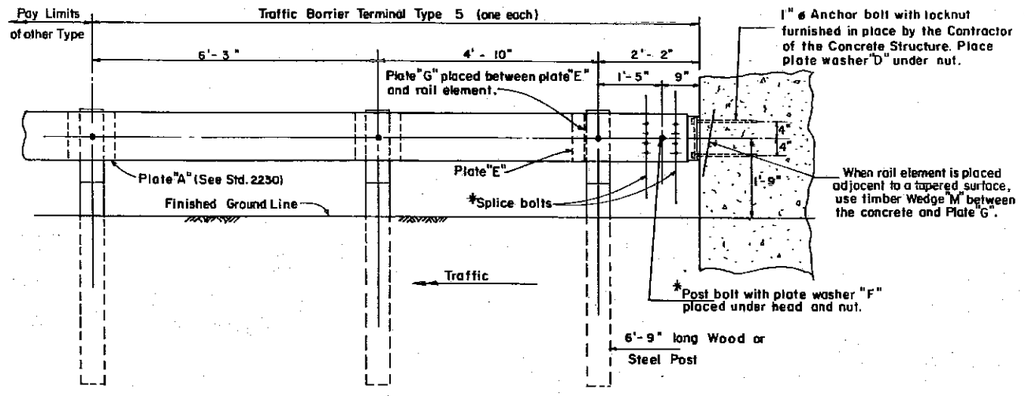
The wood posts shall be treated and conform to the requirements of Article 711.06 of the Standard Specifications.

TRAFFIC BARRIER TERMINAL TYPE 4

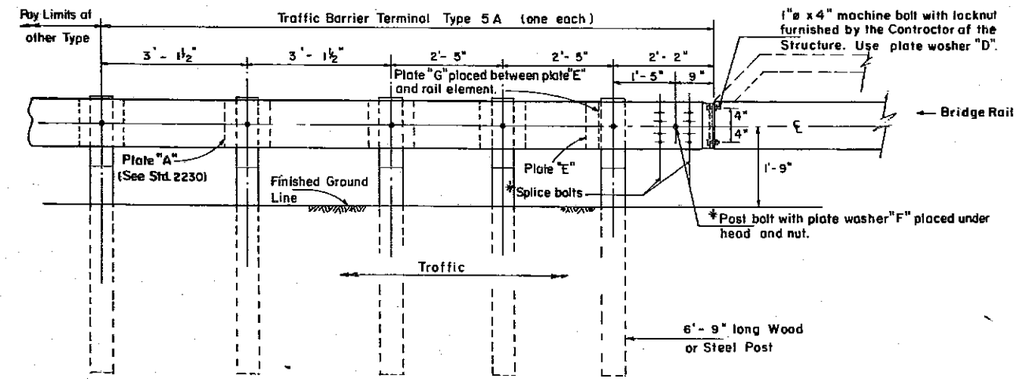
STANDARD 2339-2

(Full Size) W.F.

F-3.28 b



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



TRAFFIC BARRIER TERMINAL TYPE 5A
ANCHORING RAIL ELEMENT TO TYPE "S", "S-I", "T" or "T-I" BRIDGE RAIL

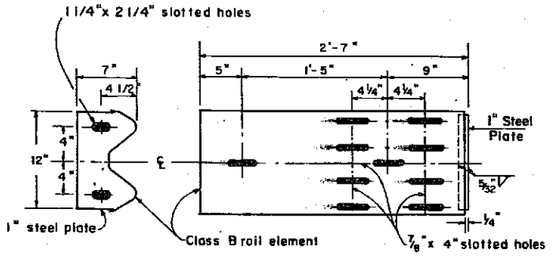


PLATE "G"

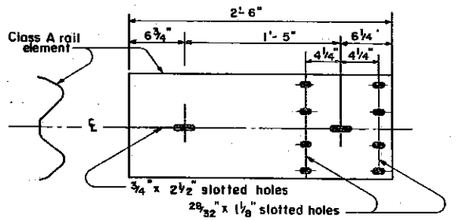
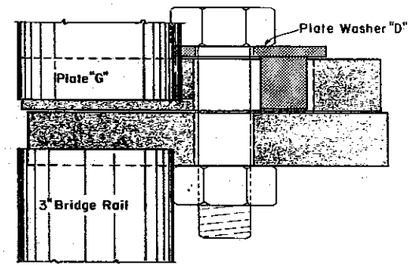
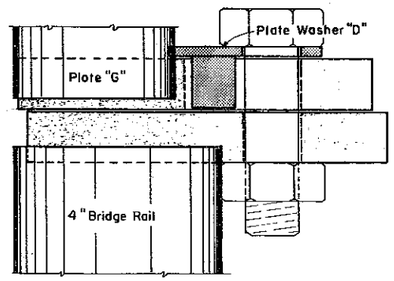


PLATE "E"





ORIENTATION OF PLATE WASHER "D"
(Top View)

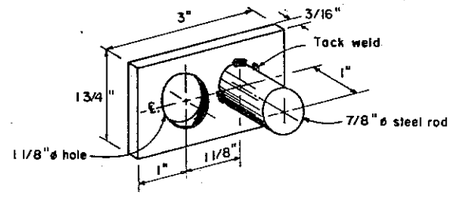
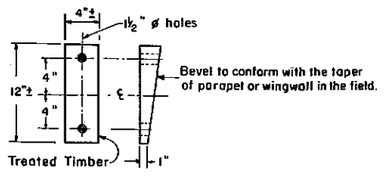


PLATE WASHER "D"



WEDGE "M"

NOTES:

Install the face of the guardrail flush with the face of the bridge rail or parapet. Install plate washer "D" so that the 1" projection fills the remainder of the slotted holes in the 1" end plate on plate "G" after the 1" Ø bolts are in place.

*Bolts shall be provided with 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 June 20, 1984
Engineer of Policy and Procedures

APPROVED June 20, 1984
Engineer of Design

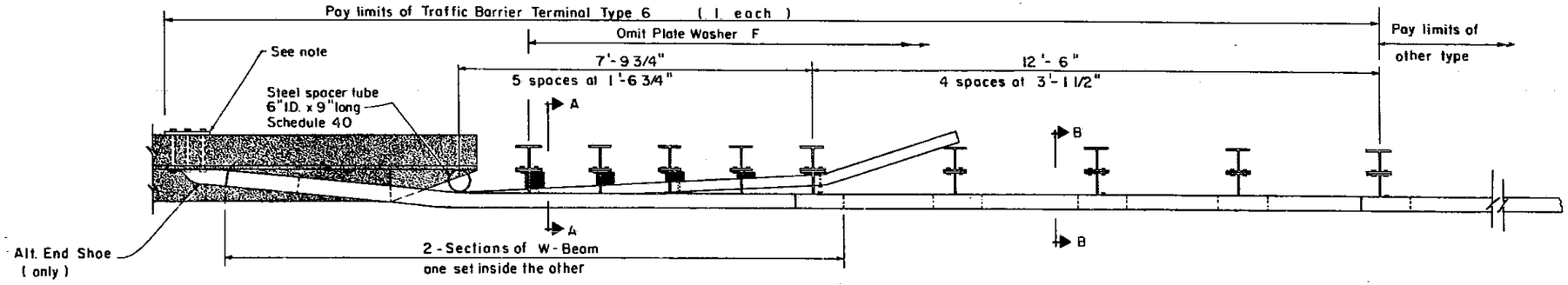
ISSUED-6-90-7-7

TRAFFIC BARRIER TERMINAL TYPE 5 & 5A

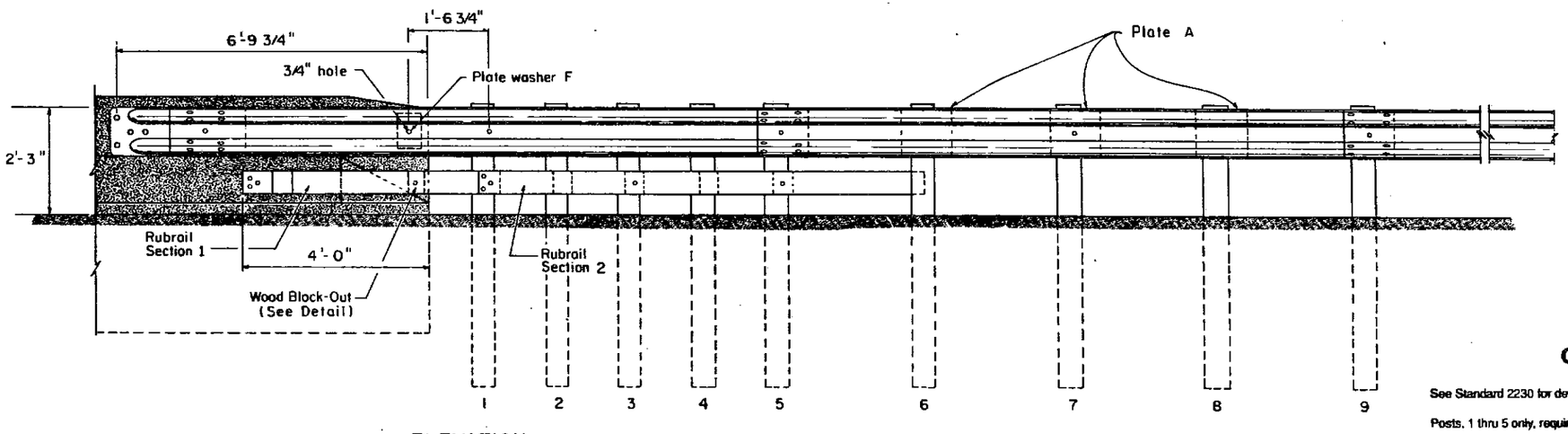
STANDARD 2340 - 4

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

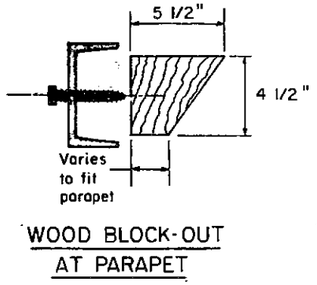
F-3.29 d



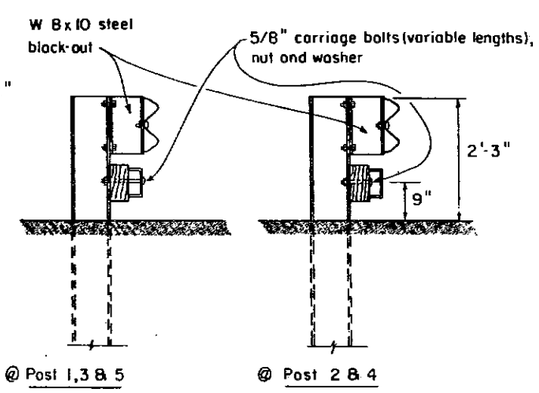
PLAN



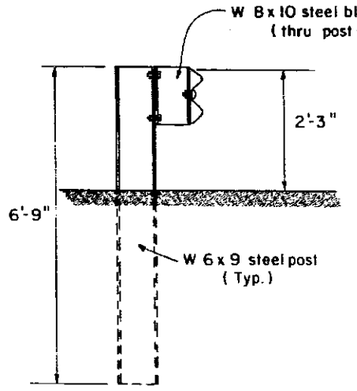
ELEVATION



WOOD BLOCK-OUT AT PARAPET



SECTION A-A



SECTION B-B

GENERAL NOTES

See Standard 2230 for details of guardrail not shown.

Posts, 1 thru 5 only, require the hole 18 1/2" from the top of post.

W-beam shall not be bolted to posts 2 thru 4, 6 and 8.

Rubrail sections and the bearing plate shall conform to the requirements of AASHTO M-183. They shall be galvanized after fabrication is accordance with AASHTO M-111.

The rubrail shall be fastened to the parapet/support by three 5/8" x 6" long hex bolts with 5/8" expansion anchors or other approved cast-in-place insert devices.

The end shoe shall be fastened to the parapet/support by four 7/8" x 6" long hex bolts conforming to ASTM A-325 with approved 7/8" cast-in-place insert device. An alternate method which uses thru drilled holes with 5/8" bearing plate may also be used.

Steel spacer tube shall be galvanized in accordance with Article 710.33 (b)(1) of the Standard Specifications.

The Wood Block-Out shall be treated in accordance with Article 711.12 of the Standard Specifications.

Illinois Department of Transportation

PASSED Nov. 18, 1991
Engineer of Policy and Procedures

APPROVED Nov. 18, 1991
Engineer of Design

ISSUED 8-1-77

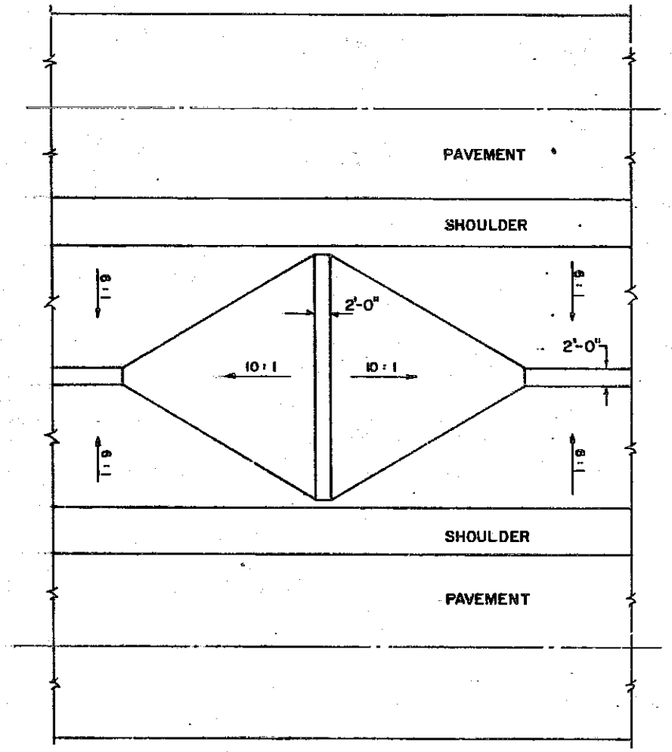
TRAFFIC BARRIER TERMINAL TYPE 6

(Sheet 1 of 2)

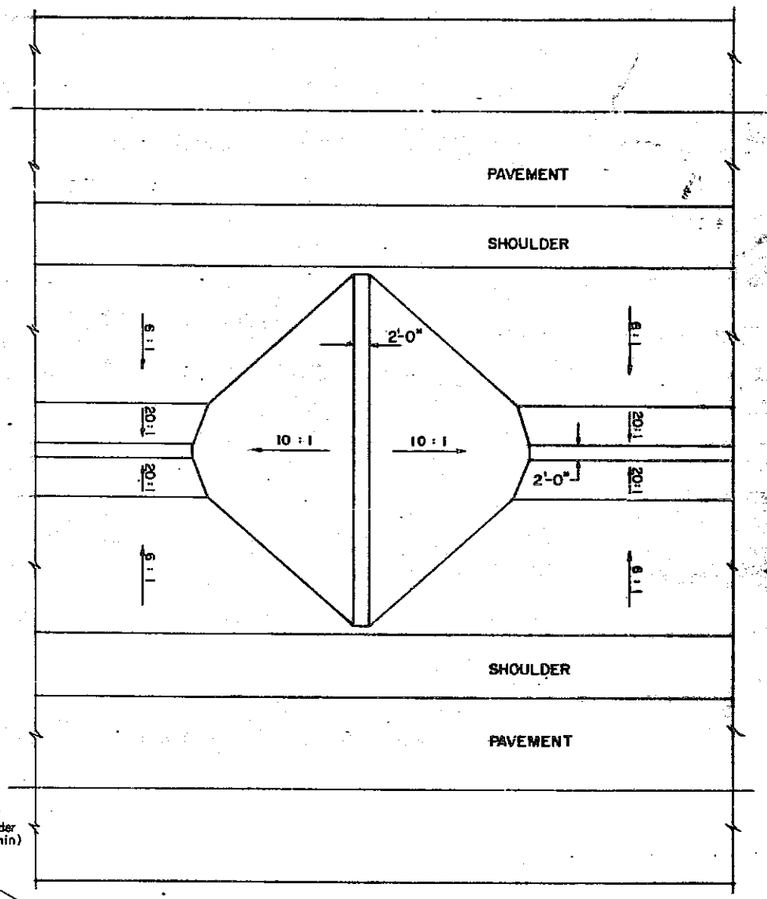
STANDARD 2341 - 4

(Full Size) D.W.W. Sr

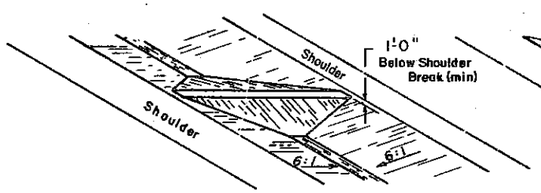
EARTH MEDIAN DITCH CHECK



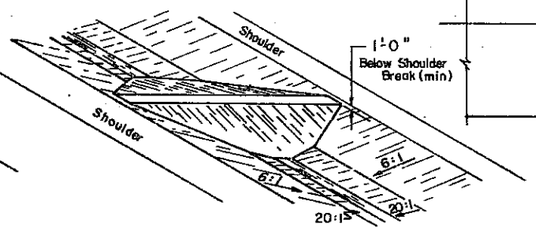
DITCH CHECK FOR NARROW MEDIAN



DITCH CHECK FOR WIDE MEDIAN



VIEW OF NARROW MEDIAN



VIEW OF WIDE MEDIAN

GENERAL NOTES

Earth Median Ditch Check shall be constructed of the same materials, finished and seeded in the same manner as the adjacent embankment. Quantities will be measured and paid for in accordance with the provisions of the Standard Specifications for the appropriate materials required.

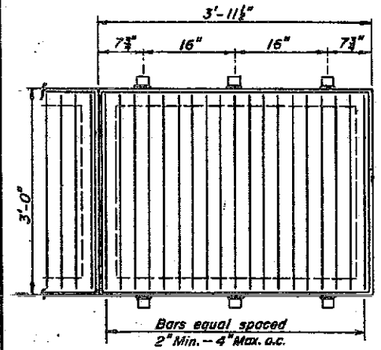
Top of Ditch Check shall be a minimum of 1'-0" below shoulder edge. In order to reduce embankment cost this distance may be increased if justified by hydraulic studies.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 12-9-74
PASSED 1974	REVISIONS
Engineer of Design Operations	
APPROVED Dec. 9 1974	
Thomas A. Bright	
Engineer of Design	

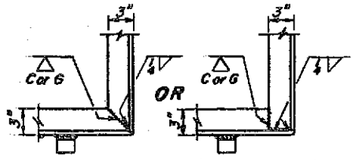
STANDARD 2355

D.W.W. Sr. 11-25-74

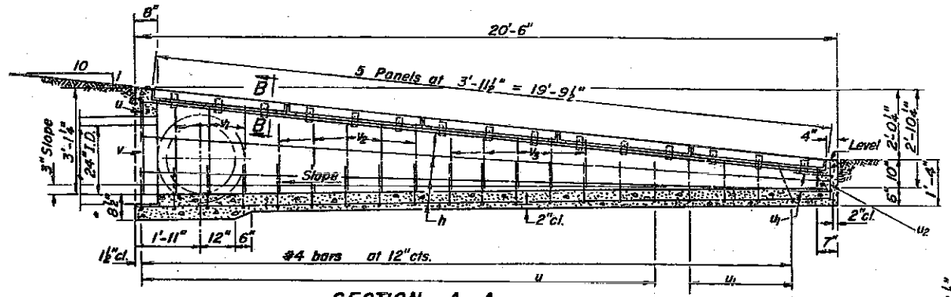
A-12.20



TYPICAL STEEL GRATING

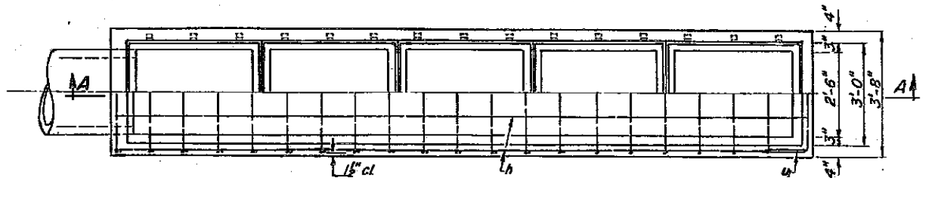


TYPICAL CORNER of STEEL GRATING FRAME

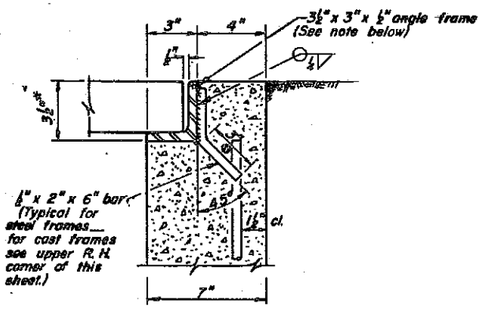


SECTION A-A

Note: Culvert pipe may exit from the side (or sides) by changing reinforcement bars in that area and in the headwall end of box.



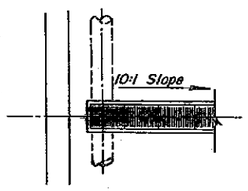
PLAN



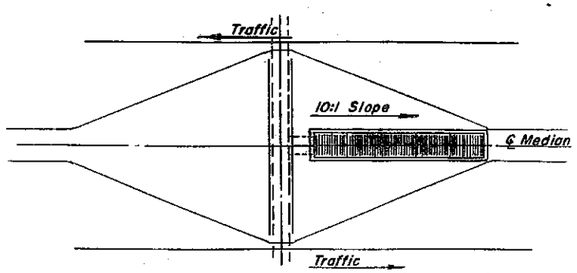
SECTION B-B

*NOTE:

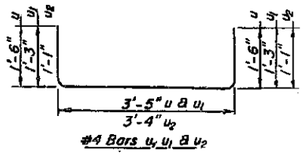
The dimensions of the angle iron frames shall be as shown except that the 3½" leg dimension may vary according to type of grating used. In all cases, the surface shall be flush with the top edge of frame, sidewalls and headwall. All frames shall be galvanized and anchored in concrete. They shall be factory assembled and all joints shall be welded per detail.



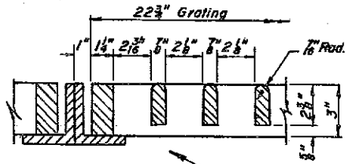
Detail showing exit from side (or sides)

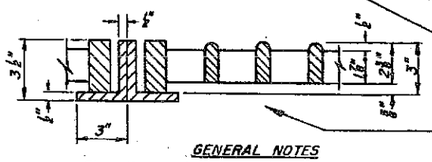


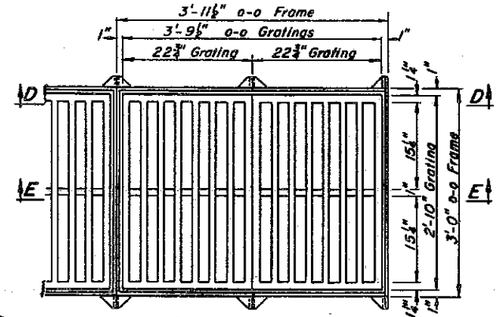
Sketch showing location and direction of main bearing bars in relation to ℄ Median.
(showing exit from end)



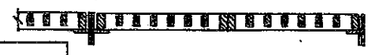
#4 Bars u, u1 & u2



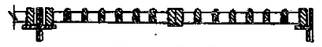




TYPICAL CAST GRATING



SECTION D-D



SECTION E-E

GENERAL NOTES

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.

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 unit, and all voids around pipe entrance, both inside and outside, shall be sealed with mortar.

Exposed edges shall be beveled ¾".

Shop drawings shall not be required for these inlet boxes.

The steel grating shall have the main bearing bars running perpendicular to the centerline of the inlet box. The main bearing bars shall have a minimum section modulus of 2.47 inches cube per foot width of grating. The grating shall seat firmly in the frame but shall not be secured to the frame. The length and width of grating shall be such as to leave no more than ⅛" clearance on either side when in place in the frame. The grating shall be cut in such manner that all riveted or welded connections are left intact. Grating shall be approved by the Engineer.

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

The cast grating shall conform to Article 710.18 of the Standard Specifications (Grade 60-40-18) or Article 710.17 of the Std. Specs and proof-load tested in accordance with Federal Specifications RR-F-621. The proof-load shall be 25,000 lbs. on a 9" x 9" cast block.

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

For backfilling and embankment, see Standard Specifications.

Minimum bar laps shall be 1'-1" unless otherwise specified.

The main bearing bars of steel grating shall be rectangular or a modified "I" in shape (cross section) but shall not have any flanges which would retain trash. The edges of the main bearing bars shall be laterally supported by transverse bars.

Pressure lock type steel grating and riveted steel grating with reticuline bars will be accepted for galvanizing in accordance with AASHTO Specification M 111.

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

The contract unit price "Each" for INLET BOX STANDARD 2358 in place, shall include the frames and grating, class X or precast concrete, reinforcement bars, and bedding when required.

Material required for one Inlet Box

Bar	No.	Size	Length
h	10	#4	20'-0"
u	17	#4	6'-5"
u1	6	#4	5'-11"
u2	1	#4	5'-6"
v	2	#4	2'-9"
v1	6	#4	2'-6"
v2	10	#4	2'-0"
v3	10	#4	1'-6"
Concrete Class X or Precast		Cu. Yds.	3.2
Reinf Bars		Lbs.	270
Grating		Sq. Ft.	56.0

Illinois Department of Transportation

PASSED Dec. 31, 1979
Engineer of Bridge and Traffic Structures

APPROVED Dec. 31, 1979
Engineer of Design

ISSUED 4-25-75

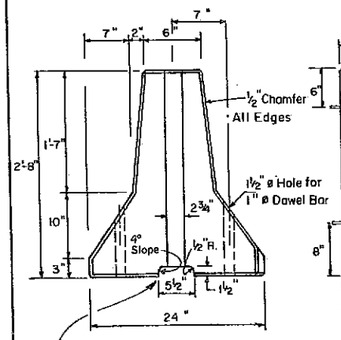
INLET BOX for MEDIAN DITCH CHECK (10:1 Slope) with 24" I.D. CULVERT

(Flow line of box is below flow line of median.)

B-4.27c

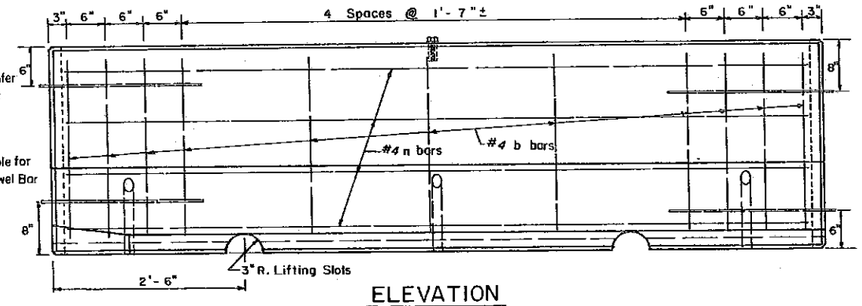
STANDARD 2358-3

(Full Size)

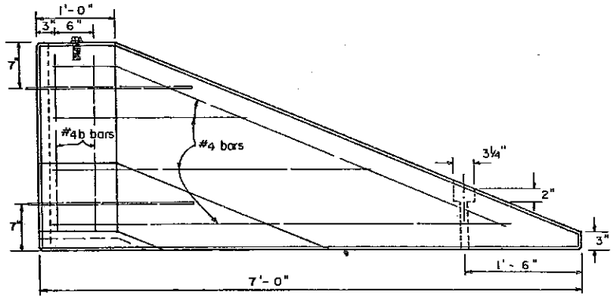


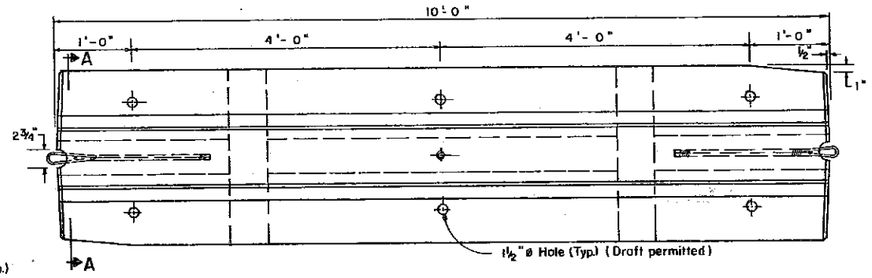
END VIEW

Optional Keyway shown

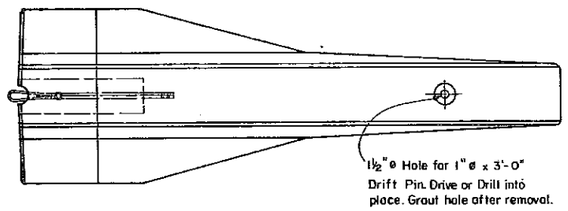


ELEVATION

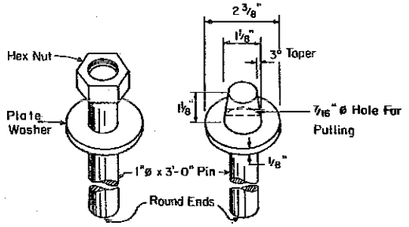




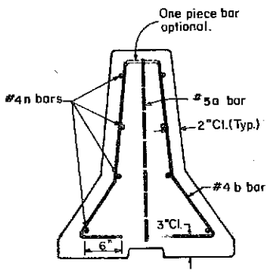
PLAN



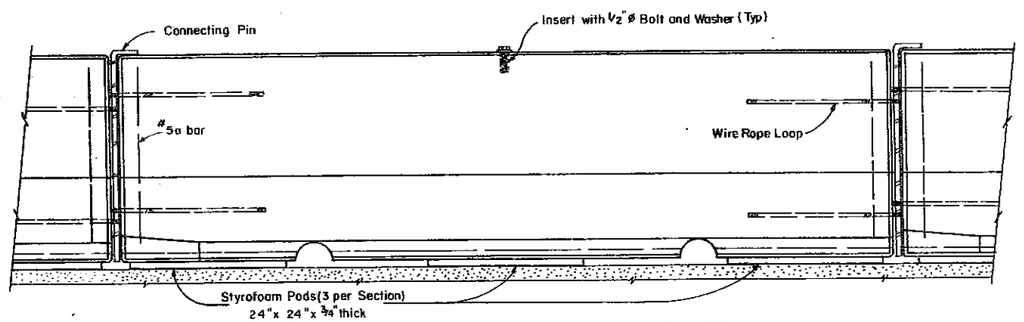
TERMINAL SECTION



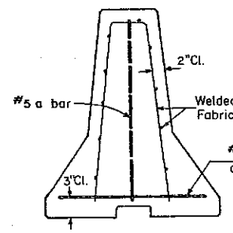
ALTERNATE DRIFT PINS



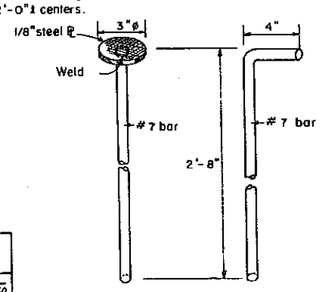
SECTION A-A
(Showing Bar Reinforcement)



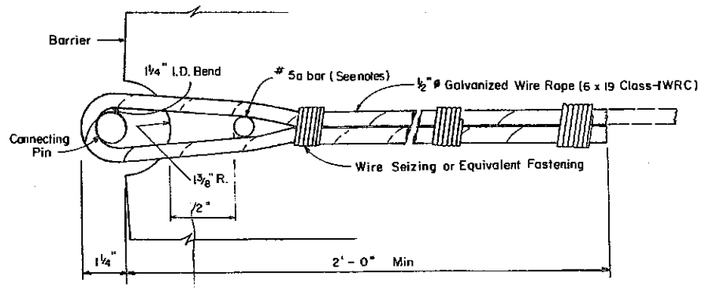
TYPICAL INSTALLATION WITH STYROFOAM PADS



SECTION A-A
(Showing Alternate Welded Wire Reinforcement)



ALTERNATE CONNECTING PINS



WIRE ROPE LOOP DETAIL
(20,000 lbs. min. breaking strength)

Not to scale

Design Notes will not appear in the contract plans.

GENERAL NOTES

Barrier units shall be pinned one to another in continuous smooth line at the exact locations provided by the Engineer.

The wall units shall be reinforced with either bar reinforcement or welded wire fabric. Welded Wire Fabric shall be 6x6-W4 x W4, weighing approximately 58lbs. per 100 sq.ft., conforming to the requirements of AASHTO M-55.

Barrier units placed on rigid pavement or median surfaces shall be seated with styrofoam pads. Units placed on flexible pavement or shoulders shall be secured with dowel bars. Dowel bars shall be one inch in diameter, at least 12 inches long, shall be embedded at least 8 inches into base material, and shall not project above the outer surface of the barrier. After pin removal all holes in the base shall be grout filled.

Alternate lifting devices meeting the approval of the Engineer may be substituted for the lifting slots shown.

When the Terminal Section is used, the hex nut on the drift pin shall be threaded half way onto the pin and tack welded, or a coupling nut tightened sufficiently to prevent loosening may be used. Fill nut with grease to exclude contaminants.

Inserts for ½" ø bolts shall be capable of 3000 lbs. pull out strength and shall be furnished with a galvanized bolt and washer.

The #5 bar may be omitted if 2 continuous wire ropes are substituted for the 4 wire rope loops shown. The continuous ropes shall be looped and fastened on each end as shown in the wire rope loop detail.

The Contractor shall have the option to furnish Barrier with or without the longitudinal keyway unless otherwise specified.

Illinois Department of Transportation

PASSED Oct 22 1991
John Eberspacher
Engineer of Policy and Procedures

APPROVED Oct 22 1991
Engineer of Design

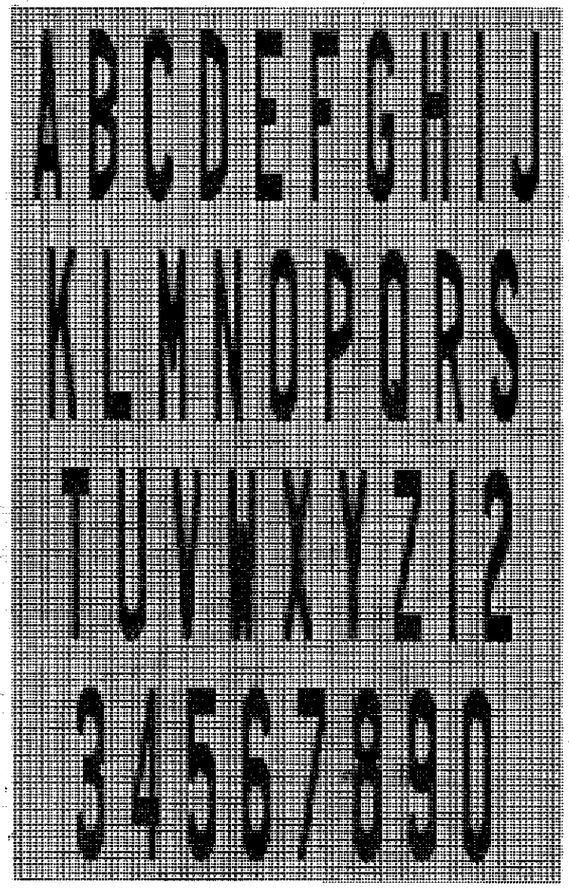
ISSUED 6-18-79

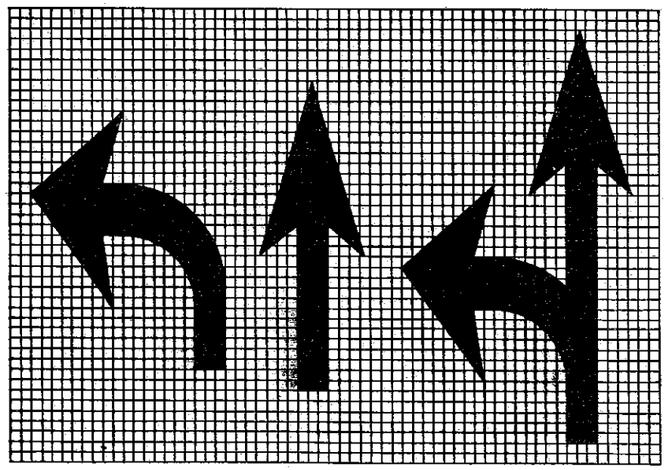
TEMPORARY CONCRETE BARRIER

STANDARD 2383-3

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

F-7.05c

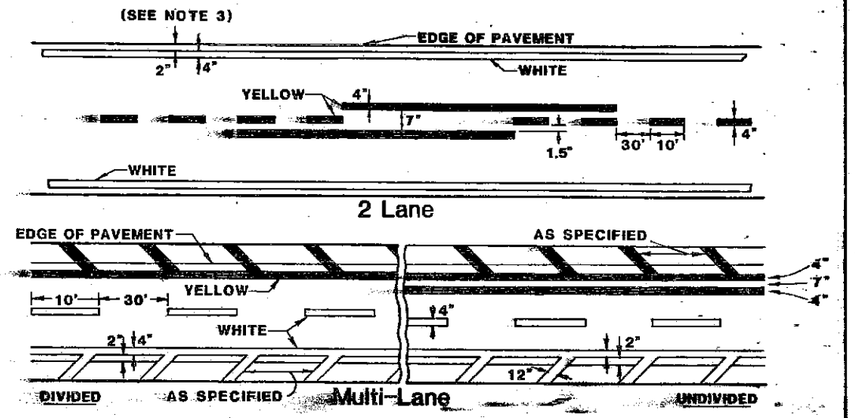




a	Legend Height	Arrow Size	a
a	6'	Small	2.9"
	8'	Large	3.8"

The space between adjacent letters or numerials should be approximately 3 inches for 6 foot legend and 4 inches for 8 foot legend.

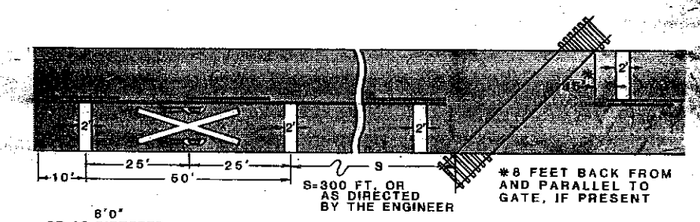
LETTER AND ARROW GRID SCALE

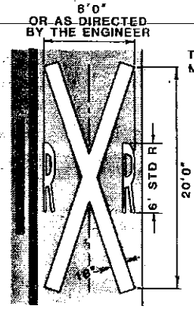


TYPICAL LANE AND EDGE LINES

NOTES:

1. Diagonals shall be used only where specified in the plans.
2. Unless directed by the Engineer, lines shall not be laid directly over a longitudinal crack or joint nor over a tar or asphalt painted line. The edge of a center line or lane line shall be offset a minimum of two inches from a longitudinal crack or joint.
3. Edge lines shall be placed on the shoulder, 2 inches from the edge of pavement when specified in the plans.

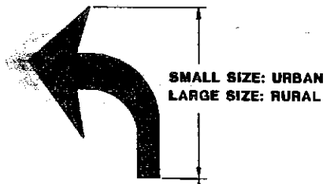




THE TRANVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

On multi-lane roads, the stop lines shall extend across the right-hand lanes only to the center line, and separate RXR symbols shall be placed adjecent to each other in each lane.

STANDARD PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING



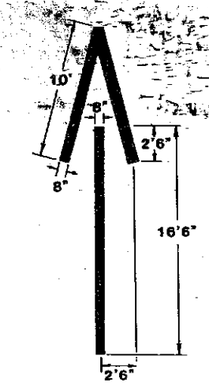
TYPICAL WORD AND ARROW LAYOUT

20 FT. URBAN
50 FT. RURAL
(Between arrow and word or between words)

ONLY

6 FT. URBAN
8 FT. RURAL

FREEWAY ARROW



Illinois Department of Transportation

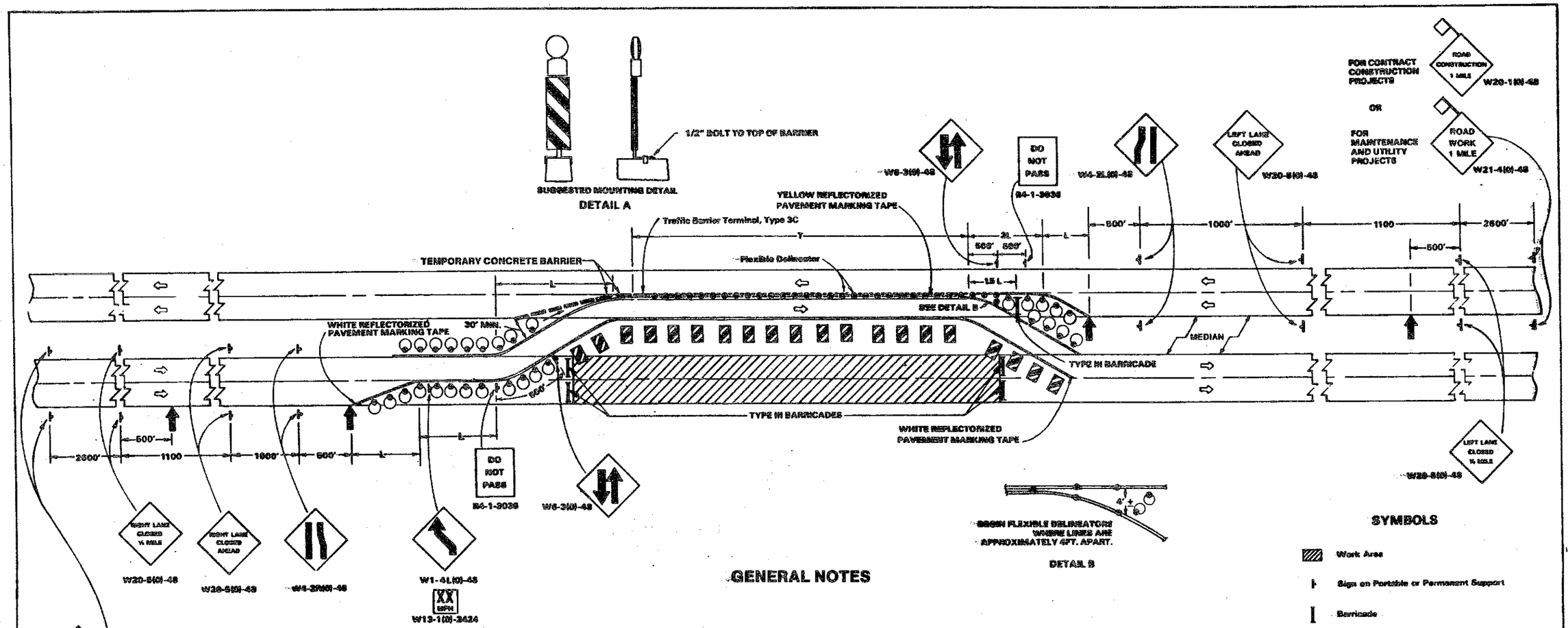
Approved 4-8-85

R. W. Jones
Engineer of Traffic

Issued 4-3-85

TYPICAL PAVEMENT MARKINGS
STANDARD 2396

F-6.04



GENERAL NOTES

1. Reflective, solid edge lines and a double yellow centerline shall be used when the closure time exceeds four days or when the normal posted speed outside the area of operations exceeds 50 miles per hour. Reflectorized pavement marking tape shall be used for marking the edge lines and center line on existing pavement. Either tape or reflectorized pavement marking paint may be used for markings on the paved crossovers. Raised reflective pavement markers at 25 ft. centers shall also be installed to provide additional delineation. All existing pavement markings which conflict with the revised traffic pattern shall be removed.
2. Two-Way Traffic sign(s) shall be repeated every one-quarter mile in each direction through the tangent distance.
3. All drums and vertical panels shall be at 50 ft. centers. Where the tangent distance "T" on the temporary runaround exceeds 500 ft., clear delineators at 50 ft. centers may be substituted for the vertical panels, or spacing between vertical panels may be increased to 100 ft. within the limits of the tangent.
4. Cones may be substituted for drums or flexible delineators at half the spacing during day operations. On fully access-controlled facilities, cones shall be a minimum of 28 in. in height.
5. Reflectorized flexible delineators are to be attached to the pavement at 50 ft. centers for the first 250 feet at each end of "T", and at 100 ft. centers throughout the remainder of "T".
6. The impact attenuator shall be positioned so as not to encroach onto the outer lane. Vertical panels (See detail A) shall be attatched to the concrete barriers where available space prohibits use of drums.
7. The speed limit to be shown on the advisory speed plate shall be 10 miles per hour below the normal posted speed limit or 45 MPH, whichever is less. The signs shall not be used where the normal posted speed limit is less than 45 miles per hour.
8. A curve sign will be required 300 ft. in advance of the exit end of the runarounds if "T" is equal to or greater than 1,000 feet.
9. The "L" distance equals the lane width times the taper ratio.

Normal Posted Speed m.p.h.	Taper Ratio ft./ft.
65	65/1
55	55/1
50	50/1
45 or less	45/1

10. Signs mounted in the median may be omitted when the median is less than 10 feet wide. Arrow boards mounted in the median may be omitted when the median is less than 20 feet wide.
11. Steady burning lights will not be required on drums for day operations. All drum lights shall be monodirectional.
12. All signs shall be post mounted if the closure time exceeds four days.
13. 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.
14. Longitudinal dimensions may be adjusted to fit field conditions.
15. Form BT 725 is required.

SYMBOLS

- Work Area
- Sign on Portable or Permanent Support
- Barricade
- Drum with Steady Burning Light
- Vertical Panel
- Arrow Board
- 18 in. X 18 in. (minimum) Orange Flag
- Flexible Delineator
- Temporary Concrete Barrier

Illinois Department of Transportation

Approved 21 March 1989

Engineer of Traffic

Issued 93-6-es

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

MULTILANE, DIVIDED, RURAL DAY OR NIGHT OPERATIONS

Where at any time, any vehicle, equipment, workers or their activities require the closure of two adjacent lanes and a temporary crossover is provided by making use of one lane of pavement normally used by the opposing flow of traffic and positive barrier is used in the transition to separate the opposing traffic.

STANDARD 2417-2

612.6