STRUCTURES

082-0004 - POPLAR ST. BRIDGE - ORTHOTROPIC - 5 SPAN
LIMITS - RIVER PIER #1 TO RIVER PIER #6

082-0005 - 82-3 VB - 6 SPAN CONTINUOUS, MULTI BEAM, PLATE GIRDER
LIMITS - RIVER PIER #6 TO PIERS A1, BC1, AND D1

Start 2-GIRDER "POPLAR STREET COMPLEX"

082-0141 - RDWY "A" 45 SPAN 13TH ST. NORTH TO (C.D. WB)
LIMITS - PIER A-1 ----- ABUT. A-46

082-0252 - RDWY "B" 28 SPAN MAINLINE WEST BOUND
LIMITS - PIER B-1 ----- ABUT. B-29

082-0251 - RDWY "C" 28 SPAN MAINLINE EAST BOUND
LIMITS - PIER C-1 ----- ABUT. C-29

082-0144 - RDWY "D" 45 SPAN ST. LOUIS TO 13TH ST. (C.D. EB)
LIMITS - PIER D-1 ----- ABUT. D-46

082-0205 - RDWY "E" 10 SPAN TO ILL.-3 SB
LIMITS - PIER O-17. O-18. E-1 ----- ABUT. E-9

082-0204 - RDWY "F" 12 SPAN FROM ILL.-3 NB TO RAMP "P" EAST
LIMITS ABUT. F-1 ----- F-12 TO PIER P-1

082-0254 - RDWY "G" 13 SPAN (C.D. WB)
LIMITS - ABUT. G-14 ----- PIER G-1

082-0256 - RDWY "H" 4 SPAN (C.D. EB)
LIMITS - PIER H-1 ----- ABUT. H-5

082-0145 - RAMP "M" 15 SPAN ILL.-3 TO W.B. CD
LIMITS - PIER P-1 TO ABUT. M-1 ----- PIER M-14 TO A-5

082-0202 - RAMP "N" 8 SPAN EB CD TO ILL-3 SOUTH
LIMITS - PIER D-11 TO N-1 ----- N-7 T0 0-17

082-0201 - RAMP "O1" 10 SPAN WB CD TO ILL.-3 SOUTH
LIMITS - PIER G-1 TO O-1 ----- ABUT. 0-10

082-0143 - RAMP "O2" 6 SPAN WB CD TO ILL.-3 SOUTH
LIMITS - ABUT. O-11 ----- PIER O-17

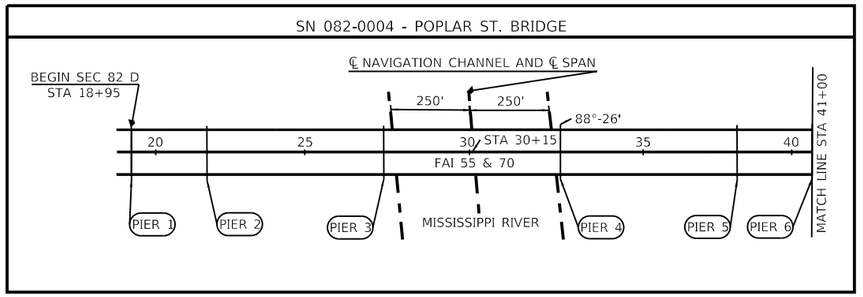
082-0203 - RAMP "P" 15 SPAN RTE. ILL.-3 TO EB CD
LIMITS - PIER P-1 ----- P-15 TO H-1

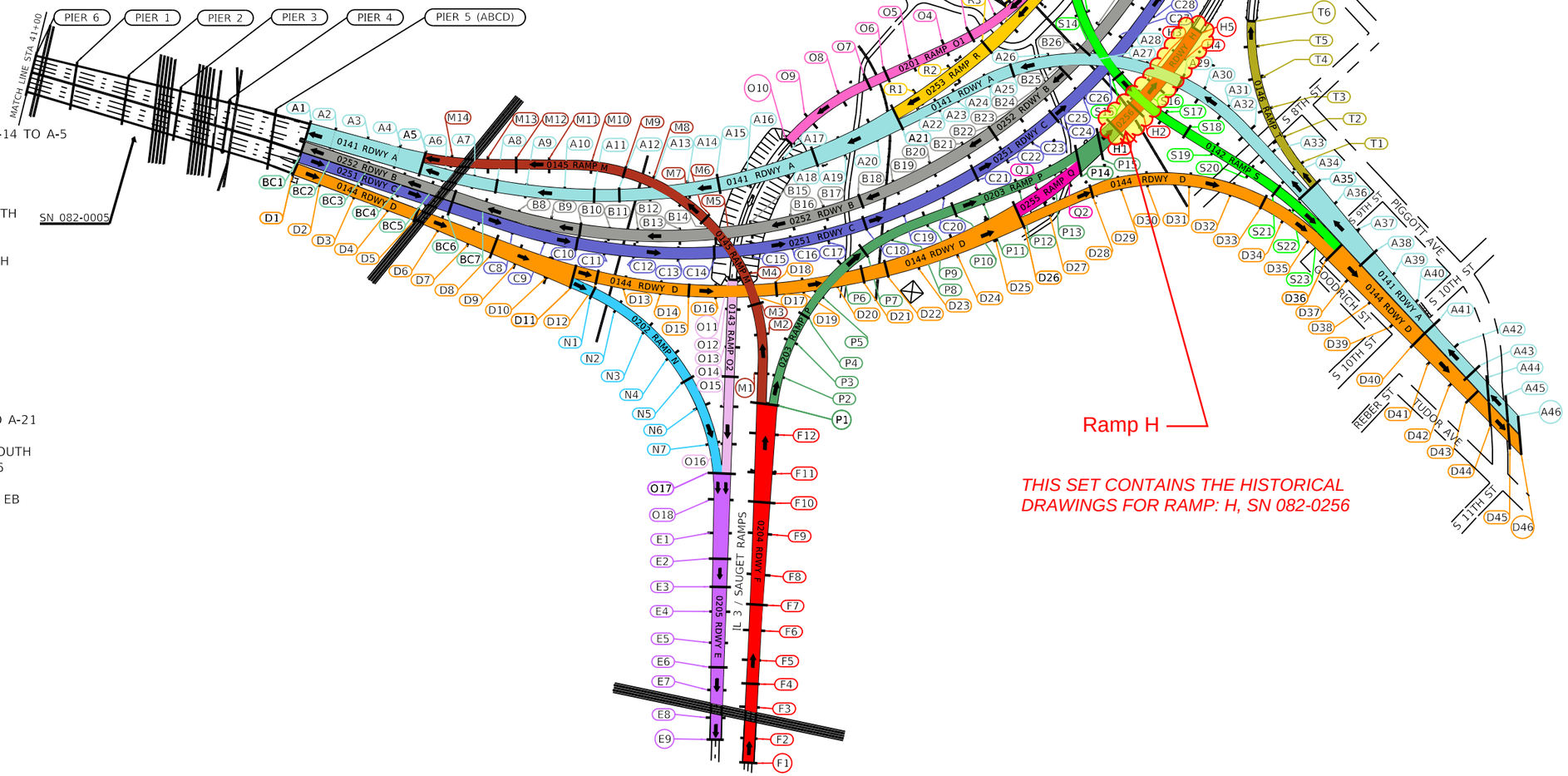
082-0255 - RAMP "Q" 3 SPAN EB CD
LIMITS - PIER D-26 TO Q-1 TO Q-2 TO P-14

082-0253 - RAMP "R" 6 SPAN WB CD
Limits - PIER G-1 TO O-1 TO R-4 ----- R-1 TO A-21

082-0142 - RAMP "S" 24 SPAN WB CD TO 13TH ST. SOUTH
LIMITS - PIER G-12 TO S-1 ----- S-23 TO D-36

082-0146 - RAMP "T" 6 SPAN 13TH ST. NORTH TO CD EB
LIMITS - PIER A-35 TO T-1 ----- ABUT. T-6





THIS SET CONTAINS THE HISTORICAL DRAWINGS FOR RAMP: H, SN 082-0256

LEGEND

- ABUTMENT
- DIRECTION OF TRAFFIC
- PIER

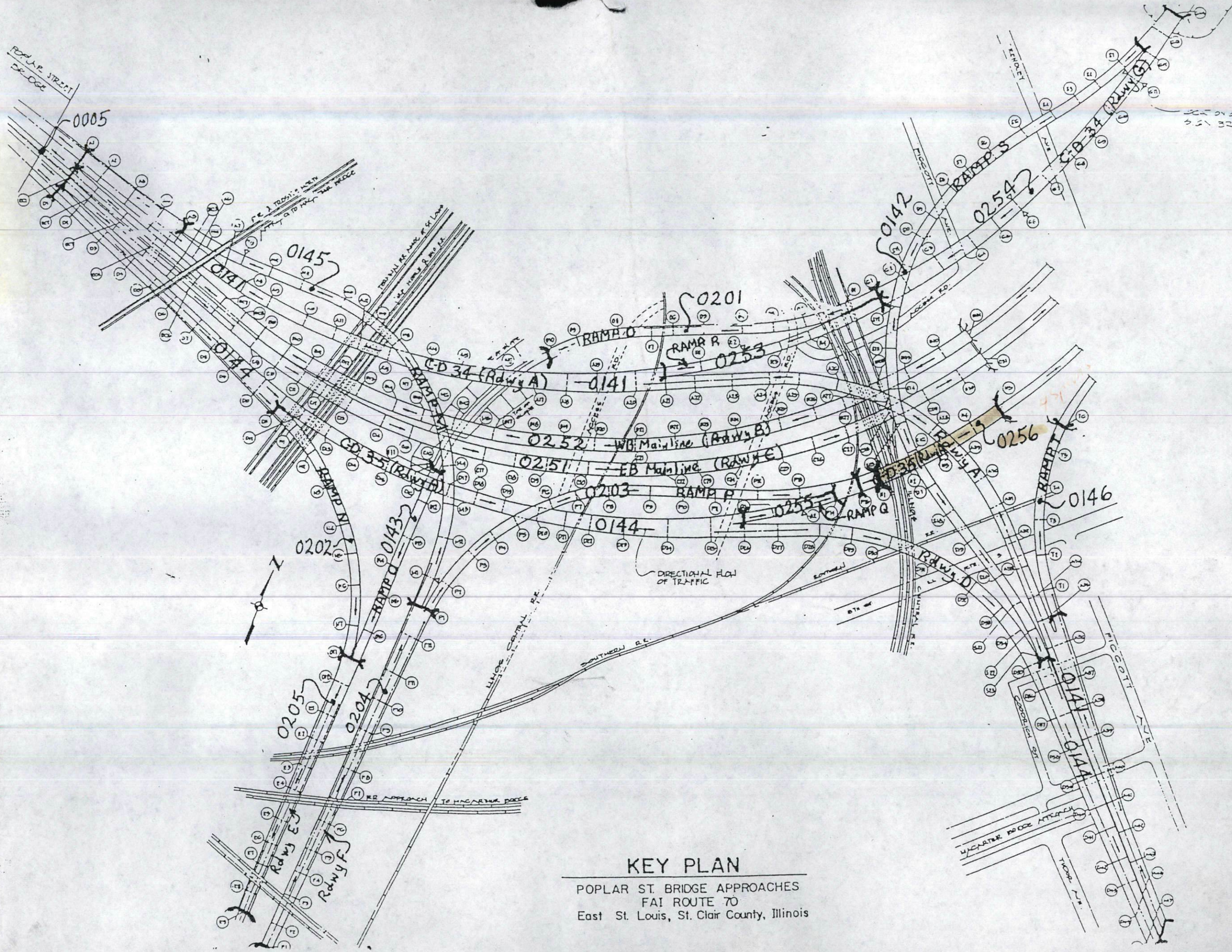
MODEL: $MODELNAME$
FILE NAME: $FILEL$

USER NAME = HEPPJD	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = $SCALE$	CHECKED -	REVISED -	
PLOT DATE = 11/14/2018	DATE -	REVISED -	

POPLAR STREET COMPLEX

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		ST CLAIR	1	1
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



KEY PLAN

POPLAR ST. BRIDGE APPROACHES
FAI ROUTE 70
East St. Louis, St. Clair County, Illinois

97-0256

Rdwy H Post Scarification

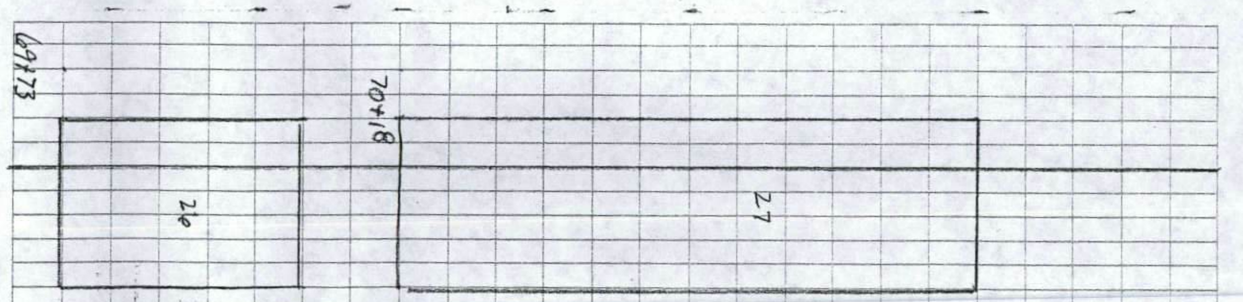
Patch	Sta.	Loc	Dia.	Part/Full
26	69+73	4'L/10'R	14x23x.10 = 32.2	P
27	70+18	4'L/10'R	14x81x.10 = 113.4	P
			145.6 ft³	

1,456 ft² / 9 = 161.78 yd²

Total For Rdwy H 145.6 ft³

Total: 145.6 / 27 = 5.39 C.Y.

	INITIAL(S)	DATE
MEASURED BY	GMM/DWS	9/21/04
CALCULATED BY	GMM	9/21/04
CHECKED BY	AAH	9/24/04



(64)

Illinois Department of Transportation

Report of Bridge Deck Patching Quantities

County St Clair
Section (82-3HVB-2R-1)-2
Route FAI 70
District 8
Contract No. 76210
Job No. C-98-088-01
Project ACIM-ACBHI-1/178/1

Structure Number Ø82-Ø256 (Rdwy H)

Plan Quantity: Partial Depth Ø Full Depth Ø

Final Quantity: Partial Depth 161.8 sy Full Depth Ø

Date Patching Completed 9-23-Ø4

Please attach documentation showing patch size, type (PD or FD) and location.

Resident [signature]

CC: Bureau of Bridges & Structures
District Bridge Maintenance Engineer

Printed 1/9/2007

BC 2544 (6/02)

TOTALS:

RDWY E

Z0016200- DECK SLAB REPAIR (PARTIAL)

61.97 ~ 62 S.Y.

~ 3.44 C.Y.

SLC F.B 3A PGS 72-78 ; PGS 1-9 ; 25-41 BK 3B

RDWY F

Z0016200 - DECK SLAB REPAIR (PARTIAL)

= 131.60 S.Y. ~ 131.7 S.Y.

~ 5.39 C.Y.

PGS 57-59, 72-75

RAMP N

Z0016200- DECK SLAB REPAIR (PARTIAL)

= 510.99 S.Y. ~ 511 S.Y.

~ 17.3 C.Y.

SLC PGS 10-24

RAMP P

Z0016200- DECK SLAB REPAIR (PARTIAL)

= 427.16 S.Y. ~ 427.2 S.Y. ~ 17.68 C.Y.

PGS 61-65 ; 67-68

Z0016001- DECK SLAB REPAIR (F.D. TYI)

1 S.F./9 = 0.1 S.Y. PG 65

ROADWAY H

Z0016200 - DECK SLAB REPAIR (PARTIAL)

= 161.78 S.Y. ~ 161.8 S.Y.

~ 5.39 C.Y.

PG 66

RAMP N (FULL DEPTH)

Z0016001- DECK SLAB REPAIR (FULL DEPTH TYII)
Q120-X131-2A

= 9.46 ~ 9.5 S.F./9 = 1.05

~ 1.1 S.Y.

X9801200- DECK SLAB REPAIR (FULL DEPTH TYII)
Q120-X131-2A

= 217.75 S.F./9 = 24.18 ~ 24.2 S.Y.

PGS 10-11, 13-14, 17

MEAS BY: GMM 11/10/04

CALC. BY: SAG 9/16/06

↳ BY: DAS "

76210 #106 1-16-04 FAI 70 ST. CLAIR Sec (82-3HVB-2R-1)2 JAR #10

106

99.9%
9-24-2005

CONTENTS

STRUCTURE	DESCRIPTION
--	Traffic Control
Ramp O (SN. 082-0143)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp M (SN. 082-0145)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp O (SN. 082-0201)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp N (SN. 082-0202)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
Ramp P (SN. 082-0203)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
ROADWAY F (SN. 082-0204)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.
ROADWAY E (SN. 082-0205)	Siesmic Retrofit, Redundancy Retrofit, Deck rehabilitation and General Repair of Deteriorations of the Substructure and Superstructure for this Structure.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED REHABILITATION

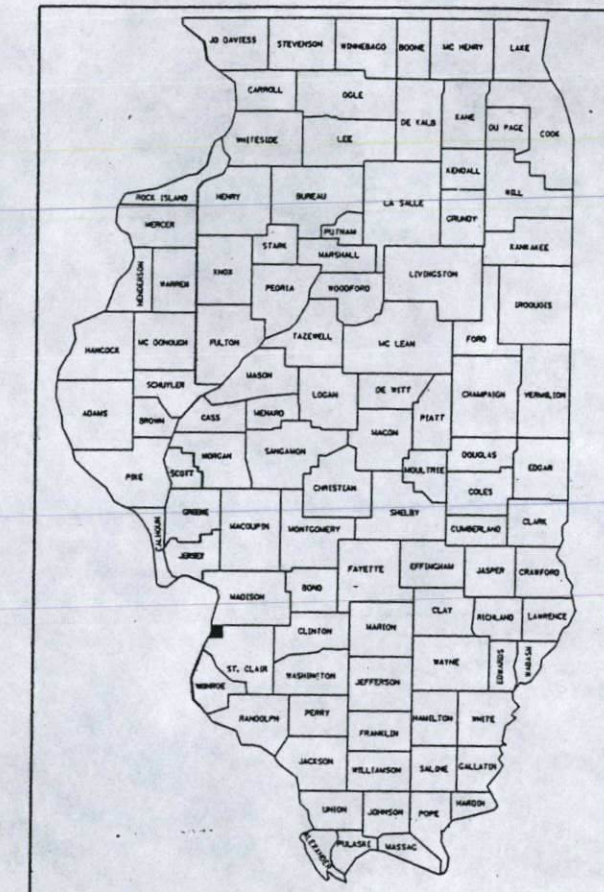
PROJECT ACIM-ACBHI-070-1(178)001
FAI ROUTE 70 (I-55/70/64
SECTION (82-3HVB-2R-1)-2
ILLINOIS ROUTE 3
TO AND FROM
POPLAR STREET BRIDGE COMPLEX
ST. CLAIR COUNTY
C-98-088-01

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	1

SHEET NO. 1 OF 388 SHEETS

*ACIM-ACBHI-070-1(178)001 *(82-3HVB-2R-1)-2

D-98-025-99



LOCATION OF SECTION INDICATED THUS:-

RAMP O
2001 ADT = 6000 (actual)
2003 ADT = 6200 (estimated)
2003 DHV = 620 (estimated)
2023 ADT = 8350 (estimated)
2023 DHV = 840 (estimated)
SU = 4.0%
MU = 8.0%

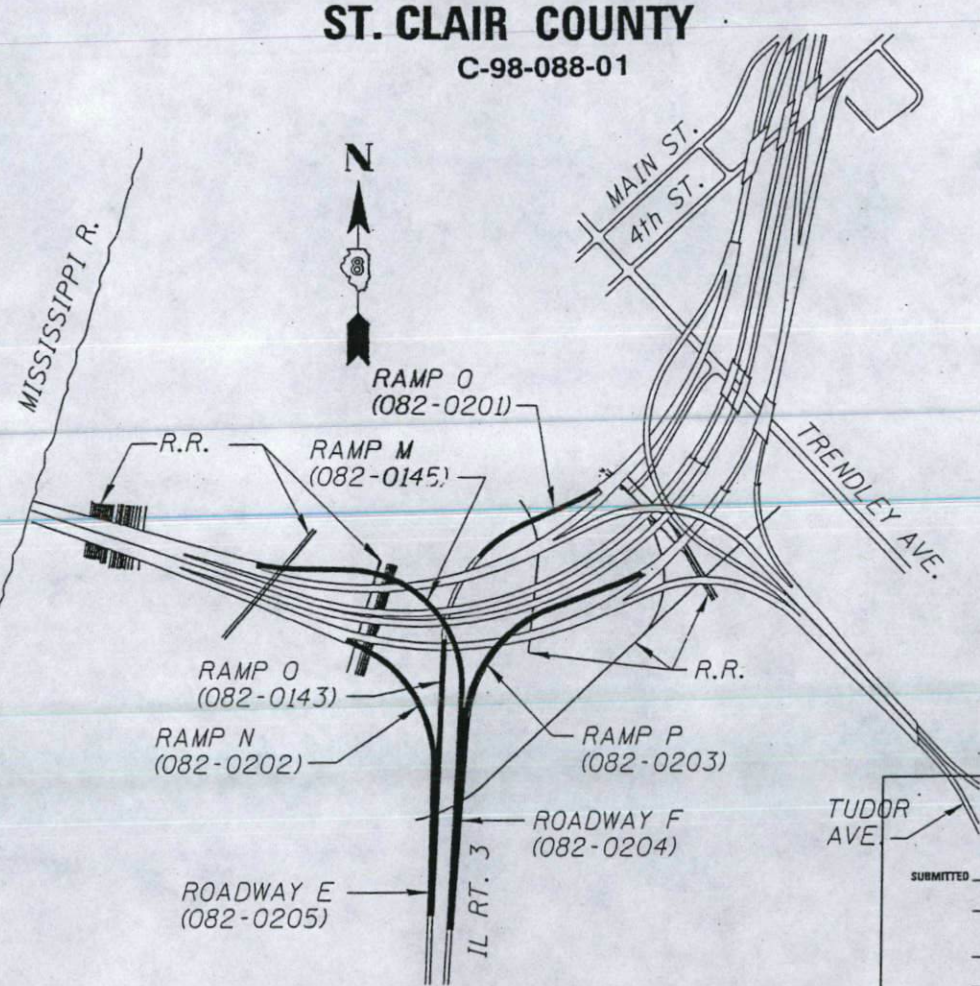
RAMP M
2001 ADT = 9900 (actual)
2003 ADT = 10200 (estimated)
2003 DHV = 1020 (estimated)
2023 ADT = 13700 (estimated)
2023 DHV = 1370 (estimated)
SU = 4.0%
MU = 8.0%

RAMP N
2001 ADT = 8700 (actual)
2003 ADT = 9000 (estimated)
2003 DHV = 900 (estimated)
2023 ADT = 12100 (estimated)
2023 DHV = 1240 (estimated)
SU = 4.0%
MU = 8.0%

RAMP P
2001 ADT = 4300 (actual)
2003 ADT = 4400 (estimated)
2003 DHV = 440 (estimated)
2023 ADT = 5900 (estimated)
2023 DHV = 590 (estimated)
SU = 4.0%
MU = 8.0%

ROADWAY F
2001 ADT = 14200 (actual)
2003 ADT = 14600 (estimated)
2003 DHV = 1460 (estimated)
2023 ADT = 19600 (estimated)
2023 DHV = 1960 (estimated)
SU = 4.0%
MU = 8.0%

ROADWAY E
2001 ADT = 14600 (actual)
2003 ADT = 15000 (estimated)
2003 DHV = 1500 (estimated)
2023 ADT = 20200 (estimated)
2023 DHV = 2020 (estimated)
SU = 4.0%
MU = 8.0%



GROSS LENGTH OF PROJECT = 7403.3 FEET = 1.40 MILES
NET LENGTH OF PROJECT = 7403.3 FEET = 1.40 MILES

PROJECT LEADER: TOM MANNINO (618)346-3159
SQUAD LEADER: GREG HANCOCK (618)346-3195

CONTRACT NO. 76210

DESIGNED	--
CHECKED	--
DRAWN	E. Bazzell
CHECKED	S. Kaemmerer

082-0256

PREPARED BY: JACOBS CIVIL INC. ST. LOUIS, MO

P:\CIX11900\700cadd\709STR\082-0143\143NT01.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 24 2003
DISTRICT ENGINEER

December 5, 2003
ENGINEER OF DESIGN AND ENVIRONMENT

December 5, 2003
DIRECTOR, DIVISION OF HIGHWAYS

LICENSED STRUCTURAL ENGINEER JOHN E. FINKE 081-005608 ST. LOUIS, MISSOURI STATE OF ILLINOIS
EXPIRES 11-30-20 04
9/3/04
JOHN E. FINKE, S.E.
STRUCTURAL/SEISMIC RETROFIT

LANCE G. PETERMAN, JR. 5448 LICENSED STRUCTURAL ENGINEER OF ILLINOIS
9/2/04
LANCE PETERMAN, S.E.
REDUNDANCY RETROFIT
LICENSE EXPIRES 11-30-04

ANDREW P. FREY 062-056018
SEP 3, 2003
ANDREW P. FREY, P.E.
TRAFFIC CONTROL

8-260

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	2

*(82-3R,3-2R-1)-2

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	PROJECT TOTAL	URBAN — ACIM 90% FED. 10% STATE — ROADWAY 1000	URBAN — ACIM 90% FED. 10% STATE — TRAFFIC CONTROL 1000-2A	URBAN — ACBHI 80% FED. 20% STATE — RAMP O STRUCTURE NO. 082-0143 X531-2A	URBAN — ACBHI 80% FED. 20% STATE — RAMP M STRUCTURE NO. 082-0145 X531-2A	URBAN — ACBHI 80% FED. 20% STATE — RAMP O STRUCTURE NO. 082-0201 X131-2A	URBAN — ACBHI 80% FED. 20% STATE — RAMP N STRUCTURE NO. 082-0202 X131-2A	URBAN — ACIM 90% FED. 10% STATE — RAMP P STRUCTURE NO. 082-0203 X531-2A	URBAN — ACBHI 80% FED. 20% STATE — ROADWAY F STRUCTURE NO. 082-0204 X131-2A	URBAN — ACBHI 80% FED. 20% STATE — ROADWAY E STRUCTURE NO. 082-0205 X131-2A	100% STATE — ROADWAY H STRUCTURE NO. 082-0256 SFTY-2A
44000910	BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	21,594	--	--	1,479	3,845	2,499	1,927	3,462	4,801	3,443	138
50102400	CONCRETE REMOVAL	CU YD	3,398.3 [2]	--	--	275.5	694.9	418.6	356.7	621.9	574.1	437.1	19.5
50300150	NEOPRENE EXPANSION JOINT - 2"	FOOT	135	--	--	--	--	27	--	--	35	73	--
50300155	NEOPRENE EXPANSION JOINT - 2.5"	FOOT	209	--	--	--	27	--	--	27	62	93	--
50300160	NEOPRENE EXPANSION JOINT - 4"	FOOT	163	--	--	--	--	26	--	27	65	45	--
50300225	CONCRETE STRUCTURES	CU YD	7.8	--	--	2.1	--	2.3	--	--	1.7	1.7	--
50300255	CONCRETE SUPERSTRUCTURE	CU YD	2,670.0	--	--	215.3	561.7	342.8	286.5	493.9	427.6	327.2	15.0
50300260	BRIDGE DECK GROOVING	SQ YD	[2] 22,285	--	--	1,536	3,991	2,591	2,002	3,596	4,906	3,521	142
50300300	PROTECTIVE COAT	SQ YD	5,842	--	--	491	1,275	680	640	1,113	923	685	35
50300310	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	[1] 14	--	--	--	6 [1]	--	--	2 [1]	6 [1]	--	--
50300320	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	18	--	--	--	--	8	2	--	2	6	--
50301245	FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	3,771 [3]	--	--	11 [3]	1,077	222	490 [3]	215	381 [3]	1,375	--
50301250	FORMED CONCRETE REPAIR (DEPTH GREATER THAN 5")	SQ FT	4	--	--	1	3	--	--	--	--	--	--
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	--	--	0.1	0.2	0.1	0.1	0.2	0.2	0.1	--
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	[1] 32	--	--	--	6 [1]	8	2	2 [1]	8 [1]	6	--
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	523,210 [2]	--	--	43,290	107,980	59,280	55,490	96,580	88,410	69,040	3,140
54002500	EXPANSION BOLTS (SPECIAL)	EACH	1,752 [3]	--	--	92	502 [3]	154	164	390 [3]	218	232	--
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	24	24	--	--	--	--	--	--	--	--	--
67100100	MOBILIZATION	L SUM	1	1	--	--	--	--	--	--	--	--	--
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	6	--	6	--	--	--	--	--	--	--	--
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	--	2	--	--	--	--	--	--	--	--
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	--	1	--	--	--	--	--	--	--	--
70300220	TEMPORARY PAVEMENT MARKING LINE 4"	FOOT	15,759	--	15,759	--	--	--	--	--	--	--	--
70300240	TEMPORARY PAVEMENT MARKING LINE 6"	FOOT	5,493	--	5,493	--	--	--	--	--	--	--	--
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	4,061	--	4,061	--	--	--	--	--	--	--	--
70400500	TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	1,451	--	1,451	--	--	--	--	--	--	--	--
70400600	RELOCATE TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	4,042	--	4,042	--	--	--	--	--	--	--	--
* 7800310	POLYUREA PAVEMENT MARKING TYPE II - LINE 4 INCH	FOOT	17,019	14,840	2,179	--	--	--	--	--	--	--	--
* 7800340	POLYUREA PAVEMENT MARKING TYPE II - LINE 8 INCH	FOOT	2,380	2,380	--	--	--	--	--	--	--	--	--
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	74	74	--	--	--	--	--	--	--	--	--
78200100	MONODIRECTIONAL PRESMATIC BARRIER REFLECTOR	EACH	178	--	178	--	--	--	--	--	--	--	--
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1,672	--	1,672	--	--	--	--	--	--	--	--
X0321781	MECHANICAL SPLICE	EACH	618	--	--	50	150	50	50	50	179	89	--
X0322050	RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL	EACH	9	--	9	--	--	--	--	--	--	--	--
X0322549	COLUMN WRAP	SQ FT	17,149 [3]	--	--	950	3,668	1,916	1,385 [3]	4,243	3,123 [3]	1,864	--
X0322553	FOUNDATION WALL DOWEL MODIFICATION	EACH	18	--	--	6	2	--	1	3	2	4	--
X0322556	STIFFENER INTERSECTION MODIFICATION	EACH	1,976	--	--	272	--	408	344	--	544	408	--
X0322559	BOLT REPLACEMENT	EACH	514	--	--	10	109	6	30	2	273	84	--
X0322560	CRACK EXTENSION MODIFICATION	EACH	28	--	--	4	4	4	4	4	4	4	--
X0322563	VERTICAL WEB STIFFENER REMOVAL	EACH	3,668	--	--	316	801	482	360	691	628	390	--
X0323082	DRAINAGE SCUPPERS, DS-33	EACH	64	--	--	2	10	8	14	7	8	15	--
X0323558	BRIDGE JOINT SYSTEM (EXPANSION), $1\text{-}\frac{5}{8}$"	FOOT	[2] 134	--	--	26	--	26	26	39	--	--	17
[3] X0343400	REMOVE AND REINSTALL BEARINGS	EACH	10	--	--	--	--	--	4	--	2	4	--
X70151050	PORTABLE CHANGEABLE MESSAGE SIGN	CAL MO	126	--	126	--	--	--	--	--	--	--	--
Ø Z0076600	TRAINEES	HOUR	500	500									--
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY - $2\frac{1}{4}$"	SQ YD	[2] 23,879	--	--	1,670	4,340	2,777	2,177	3,896	5,159	3,709	151
Z0012100	CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ YD	23,879	--	--	1,670	4,340	2,777	2,177	3,896	5,159	3,709	151
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	3.1	--	--	0.4	0.7	0.4	0.4	0.3	0.7	0.2	
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	510.2	--	--	41.7	192.4	94.3	81.3	40.1	10.1	50.3	--
Z0018800	DRAINAGE SYSTEM	L SUM	1	--	--	0.125	0.375	0.125	0.125	0.125	0.125	--	--
Z0022400	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	237	--	--	27	79	27	27	27	50	--	--
Δ Z0029999	IMPACT ATTENUATOR REMOVAL	EACH	1	1	--	--	--	--	--	--	--	--	--
Δ Z0030150	IMPACT ATTENUATOR (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1	--	--	--	--	--	--	--	--	--
Z0047300	PROTECTIVE SHIELD	SQ YD	3,026	--	--	--	865	1,037	358	420	171	175	--
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1	--	--	--	--	--	--	--	--	--
Z0049100	RAISED PAVEMENT MARKER REFLECTOR REPLACEMENT	EACH	9	--	9	--	--	--	--	--	--	--	--
Δ Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	24	--	24	--	--	--	--	--	--	--	--
Δ Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	48	--	48	--	--	--	--	--	--	--	--
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	[1] 32	--	--	--	[1] 6	8	2	[1] 2	8	6	--
	REMOVE TIE BEAM (SPECIAL)	EACH	13	--	--	1	--	--	4	--	5	3	--
	REPLACE TIE BEAM (SPECIAL)	EACH	6	--	--	--	--	--	1	--	3	2	--
	REMOVE AND REPLACE COLUMN (SPECIAL)	EACH	6	--	--	--	--	--	3	--	1	2	--

DESIGNED	R. Victor
CHECKED	D. James
DRAWN	E. Bazzell
CHECKED	R. Victor

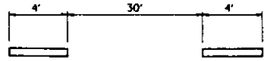
* SPECIALTY ITEM
Ø YOBO
Δ SFTY 3N

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

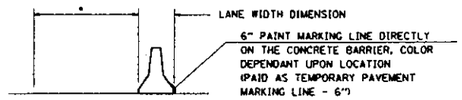
REHABILITATION FOR FAI 55/70 COMPLEX
SUMMARY OF QUANTITIES
(FAI-70) ST. CLAIR CO.

[1] REVISED 07-29-04, MRC [2] REVISED 08-05-04, MRC [3] REVISED [illegible]

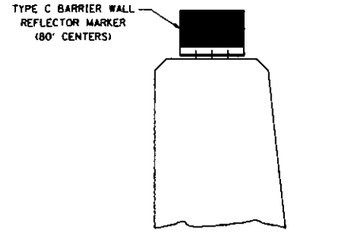
P:\CIX11900\700cadd\7095TR-082-0143-143-01.dgn



REFLECTORIZED PAVEMENT MARKING
SKIP-DASH DETAIL



* DIMENSION FROM EDGE OF PAVEMENT OR BRIDGE PARAPET TO CONCRETE BARRIER



TYPICAL MOUNTING DETAIL
FOR BARRIER WALL REFLECTOR

NOTES

1. ALL PAVEMENT MARKINGS FOR STAGE CONSTRUCTION SHALL BE PAINTED.

2. DELETED

3. PEAK HOURS IS DEFINED AS 6:00 AM TO 9:00 AM WESTBOUND AND 3:00 PM TO 6:00 PM EASTBOUND.

4. ANY ADDITIONAL SIGNAGE REQUIRED FOR ANY/ALL PHASES OF CONSTRUCTION THAT REQUIRE LANE CLOSURES SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM FOR TRAFFIC CONTROL STANDARD 701401.

5. NO LANE CLOSURE BETWEEN NOVEMBER 30 AND MAY 1 UNLESS APPROVED BY THE ENGINEER.

6. AN ESTIMATED QUANTITY OF SEVEN (7) PORTABLE CHANGEABLE MESSAGE SIGNS HAS BEEN INCLUDED IN THE PLANS FOR ADVANCED NOTICE OF DETOURS AND RAMP CLOSURES. FOUR (4) OF THE CHANGEABLE MESSAGE SIGNS WILL BE LOCATED IN MISSOURI ON INTERSTATES 44,55,64, AND 70. TWO (2) CHANGEABLE MESSAGE SIGNS WILL BE LOCATED ON INTERSTATE 255 IN ILLINOIS. ONE (1) CHANGEABLE MESSAGE SIGN WILL BE PROVIDED FOR EACH STAGE OF CONSTRUCTION. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

7. STATE OWNED CONCRETE BARRIER IS LOCATED NEAR THE INTERSECTION OF IL ROUTE 111 AND FAI 55/70. THE CONTRACTOR IS RESPONSIBLE FOR PICK UP AND RETURN OF STATE OWNED BARRIER.

8. SIGNS SHALL BE MOUNTED ON EXISTING TRUSS MEMBERS. SIGN TRUSS STRUCTURAL MEMBERS ARE NOT TO BE DRILLED, CUT OR OTHERWISE MODIFIED IN MOUNTING DETOUR SIGNS.

9. TAPERED END SECTION NO LONGER ALLOWED.

10. PAINT REMOVAL SHALL BE BY THE WATER-BLAST METHOD.

11. ONE-WAY TRAFFIC IN AND OUT OF ACCESS OPENINGS.

12. WARNING SIGNS READING "TRUCKS ENTERING AND LEAVING HIGHWAY" SHALL BE PLACED IN ADVANCE OF ACCESS OPENINGS.

13. BRIDGE DECK MICROSILICA CONCRETE OVERLAY SHALL REQUIRED THE DIRECT BOND METHOD.

14. IF ANY SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR DISTURBED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

15. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. AT (800)-892-0123, OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY.

16. ALL TEMPORARY PAVEMENT MARKINGS WILL BE PLACED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

17. ANY TEMPORARY CONCRETE BARRIER UNITS SHALL BE ANCHORED TO THE PAVEMENT TO PREVENT OVERTURNING AND LATERAL DEFLECTIONS GREATER THAN THOSE OBTAINED DURING THE NCHRP TESTS.

18. THE APPROACH END(S) OF TEMPORARY BARRIER SHALL BE PROTECTED WITH NCHRP TEST LEVEL 3 APPROACH DEVICE SUCH AS A MULTIPLE ARRAY OF SAND FILLED PLASTIC BARRELS OR A TYPE 3, SPECIAL TERMINAL.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	(82-3,4)VD-2R-11-2	ST. CLAIR	388	3
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
56 SHEETS

INDEX OF SHEETS

STANDARDS

000001-04
635006-02
635011-01
701401
701402-03
701426-01
702001-03
704001-02
780001-01
781001-02

INDEX OF SHEETS - PROJECT

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS

DRAWN BY A. Ledbetter
CHECKED BY A. Fray
DATE 17-NOV-2003

P:\CIVIL\900\700cadd\702civil\stage00_special_standard_02.dgn

Benchmark: #26 Elev. 404.396 X-cut in N.E. corner of concrete abutment at center pier of Ill. Central R.R Bridge over Ill. Rte. 3.

Existing Structure: SN 082-0256 was built as F.A.I. Route 70 Section 152 3HVB-2R-1)-2 in 1967. The roadway is striped for one lane. The Superstructure consists of one 3 span continuous unit with two welded steel plate girders, plate girder floor beams, rolled stringers, and non-composite R.C. slab, and one simple span with composite slab on rolled girders. The Substructure is R.C. piers on R.C. piles and one R.C. Pile bent abutment. Existing structure shall be rehabilitated with partial deck/barrier replacement.

Salvage: None.

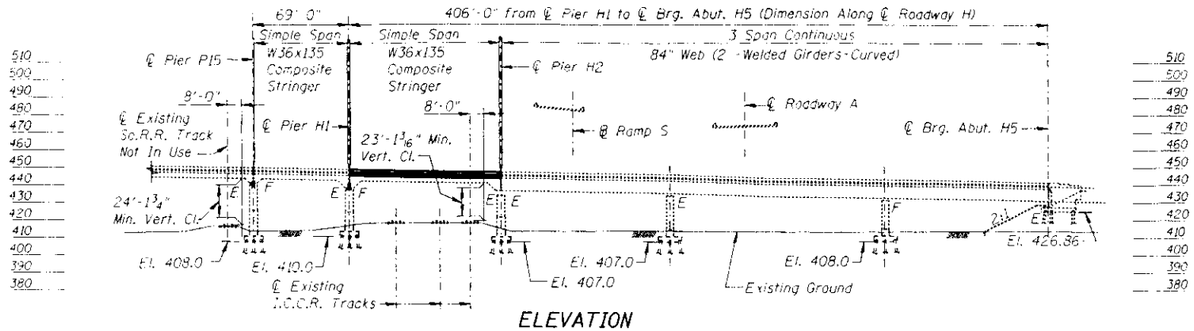
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
6 SHEETS

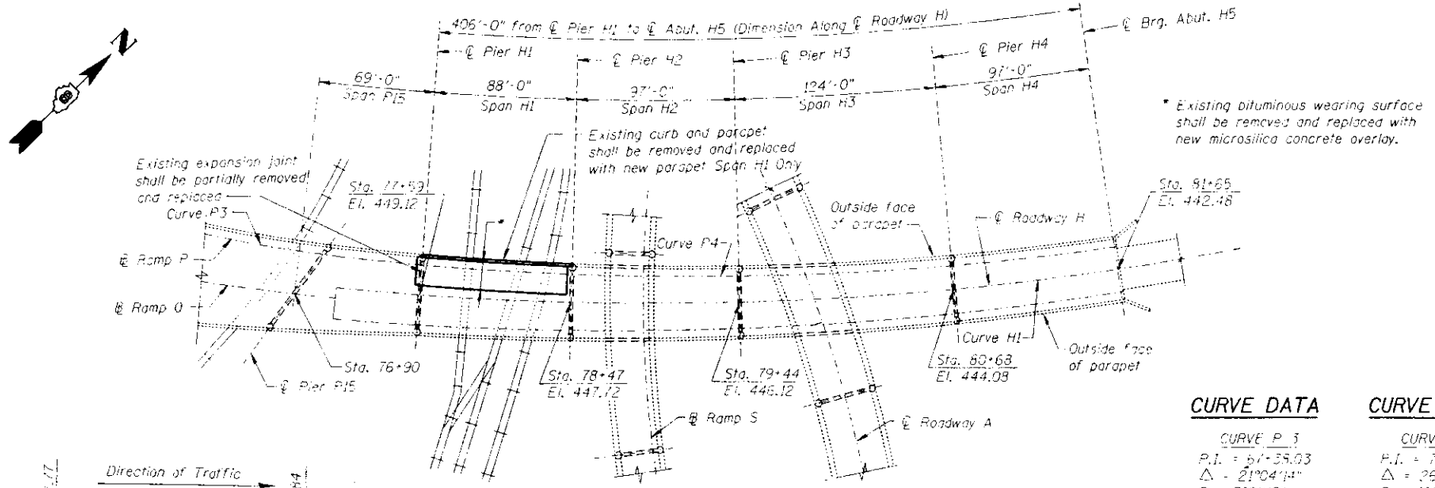
*(82-3HVB-2R-1)-2

INDEX OF SHEETS



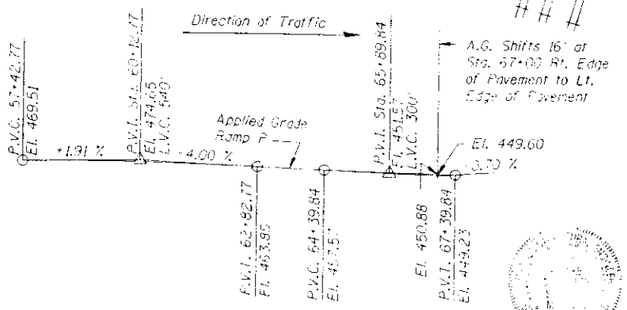
ELEVATION

Developed length along ℄ Roadway H

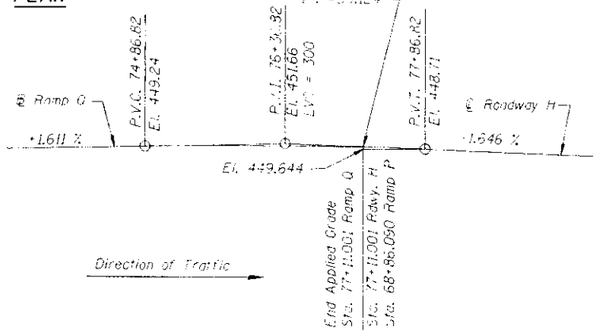


PLAN

* Existing bituminous wearing surface shall be removed and replaced with new microsilica concrete overlay.



PROFILE GRADE RAMP P



PROFILE GRADE RAMP Q AND ROADWAY H

DESIGNED	R. Victor
CHECKED	F. Combs
DRAWN	J. Smith
CHECKED	F. Combs

EXPIRES: 11-30-04
JOHN E. FINKE, S.E.
STRUCTURAL/SEISMIC RETROFIT

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

NOTES

Profile grade elevations are to top of original slab and do not take into account wearing surface or overlay thickness.

CURVE DATA

CURVE P-3
P.I. = 57+38.03
Δ = 21°04'14"
D = 7°01.15'
R = 816.00'
L = 300.06
T = 151.76'
E = 13.99'
S = 8.00%

CURVE DATA

CURVE P-4
P.I. = 72+93.10
Δ = 25°15'16"
D = 5°16'49"
R = 1,746.72'
L = 500.40'
T = 253.35'
E = 46.87'

CURVE DATA

CURVE H-1
P.I. = 83+19.82
Δ = 35°57'31"
D = 3°09.01'
R = 1,818.75'
L = 1,173.19'
T = 607.52'
E = 98.66'
S = 8.00%

DESIGN SPECIFICATIONS:

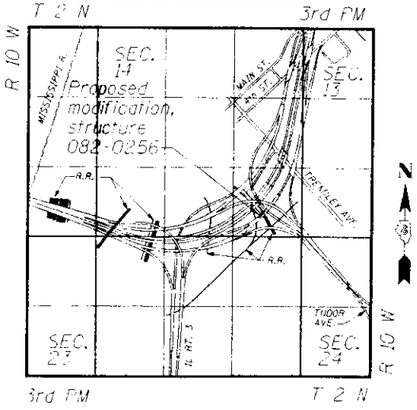
1996 AASHTO with 1997 thru 2002 interims.
FHWA-RD-94-052 "Seismic Retrofitting Manual for Highway Bridges", 1995

DESIGN STRESSES:

New Construction:
Reinforced concrete: f'c = 3,500 psi
Reinforcement bars: fy = 60,000 psi

Existing Structure:
Reinforced concrete: fc = 1,400 psi n = 10
Structural Steel: Fs=20,000 psi

LOCATION SKETCH



REHABILITATION FOR FAI 55/70 COMPLEX ROADWAY H - STRUCTURE NO. 082-0256
GENERAL PLAN AND ELEVATION
SPANS P15 THRU H4

STA. 76+90.00 THRU STA. 81+65 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair		

SHEET NO. 2
6 SHEETS

*(82-3HVB-2R-1)-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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 shall be paid for the quantity actually furnished at the unit price for the work.

All transverse and longitudinal dimensions are measured horizontally. All dimensions are measured at a temperature of 50° F.

All existing operational electrical and I.T.S. equipment shall remain in operation during construction unless approved otherwise by the Engineer.

Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53, Grade 60.

Fasteners shall be high strength bolts.

Field welding of construction accessories will not be permitted to beams or girders.

All construction joints shall be bonded.

Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.

All existing construction accessories welded to the top flange over the pier(s) between the quarter points of the beams or girders shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that can not be removed by grinding approximately ¼ inch deep shall be indentified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work shall be paid for according to Article 109.04.

Expansion joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTRUCTURE	SUBSTRUCTURE	TOTAL
BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	138	- -	138
CONCRETE REMOVAL	CU YD	19.5	- -	19.5
CONCRETE SUPERSTRUCTURE	CU YD	15.0	- -	15.0
BRIDGE DECK GROOVING	SQ YD	142	- -	142
PROTECTIVE COAT	SQ YD	35	- -	35
REINFORCEMENT BARS, EPOXY COATED	POUND	3,140	- -	3,140
BRIDGE JOINT SYSTEM (EXPANSION) - 1⅝"	FOOT	17	- -	17
BRIDGE DECK MICROSILICA CONCRETE OVERLAY - 2¼"	SQ YD	151	- -	151
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ YD	151	- -	151

SCOPE OF WORK

GENERAL:
The detailed drawings presented herein are for Roadway H - Structure Number 082-0256 in St. Clair County, Illinois. Work relating to Span H1 and Span P15 (partial) is included within this Scope. Work to be performed is associated with a General Rehabilitation of the Deck and Substructure.

GENERAL REHABILITATION:
1. Perform a Type 2 Deck Rehabilitation (including Overlay Removal, Scarification and Installation of a Microsilica Concrete Overlay) on Span H1, Westside.
2. Remove and Replace Expansion Joints at Pier: H1 (partial).
3. Remove Existing Curbs and Barriers and Replace with New Parapets on Span H1.

DESIGNED	R. Victor
CHECKED	G. Doe
DRAWN	J. Smith
CHECKED	F. Combs

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX
ROADWAY H - STRUCTURE NO. 082-0256
GENERAL NOTES,
TOTAL BILL OF MATERIAL
AND SCOPE OF WORK
(FAI-70) ST. CLAIR CO.

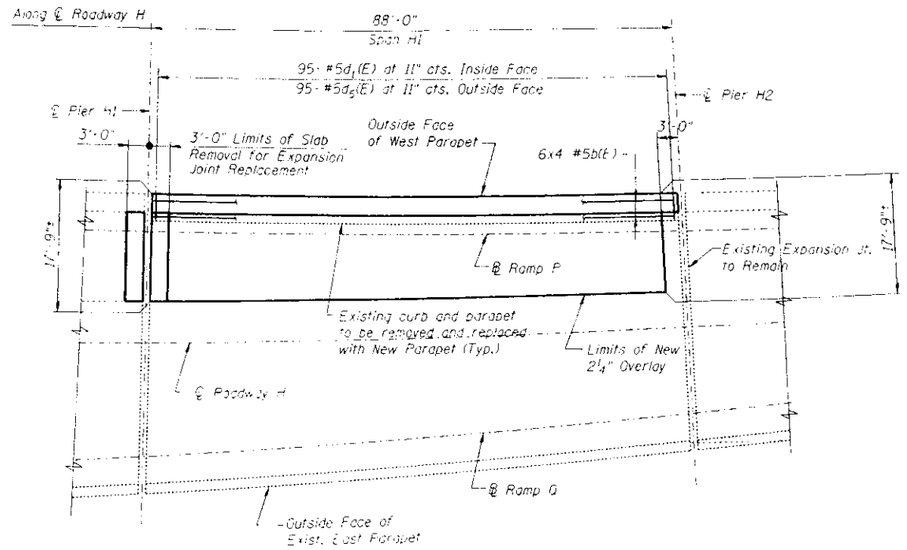
P:\CIX11400\700CADD\703STR\...\...25...02.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
6 SHEETS

*(82-3HVB-2R-1)-2



PLAN

NOTES

Lap splices:
#5 longitudinal bars 2'-7" min.

For Superstructure Bill of Material, see Sheet 4.

For Parapet details, see Sheet 4.

For Expansion Joint details, see Sheets 5 and 6.

Bars indicated thus 6 x 7-#5 etc. indicates 6 lines of bars with 7 lengths per line.

For Concrete Removal details, see Sheet 5.

DESIGNED	R. Victor
CHECKED	E. Cambo
DRAWN	J. Smith
CHECKED	E. Cambo

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX
ROADWAY H - STRUCTURE NO. 082-0256
SLAB
SPAN H1

(FAI 70) ST. CLAIR CO.

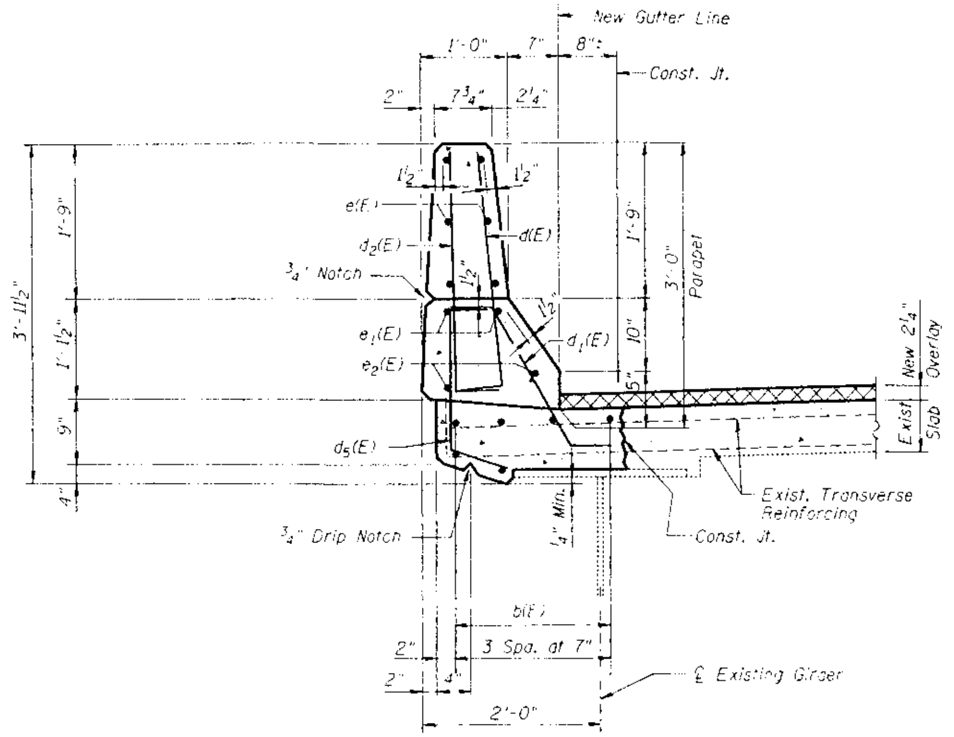
P:\C1X11900\700CADD\7095TR\RDWY H\S2dr01.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

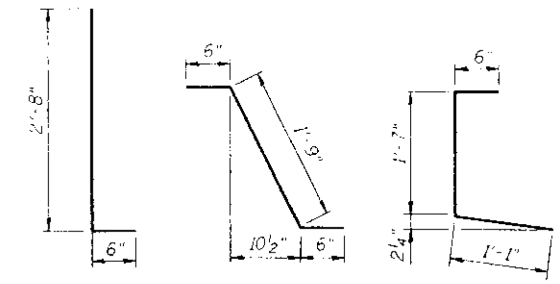
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 4
6 SHEETS

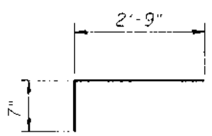
*(82-3HVB-2R-I)-2



TYPICAL SECTION THRU SLAB AND PARAPET



BARS d(E) & d_2(E)　BAR d_1(E)　BAR d_5(E)

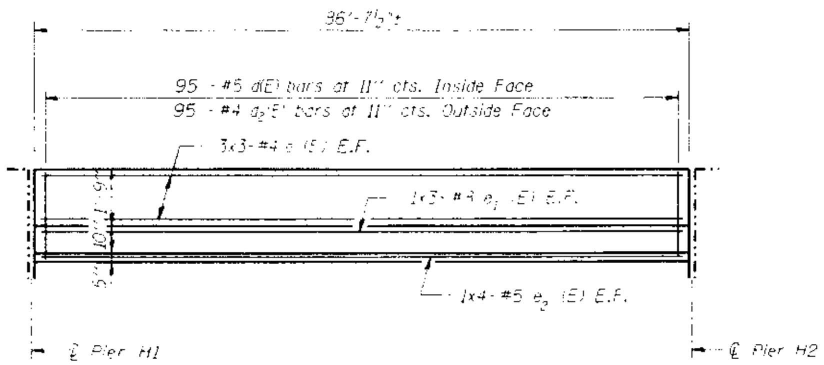


BAR x(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	12	#5	17'-3"	
a_3(E)	12	#5	17'-3"	
b(E)	24	#5	24'-0"	
d(E)	95	#5	3'-2"	
d_1(E)	95	#5	2'-9"	
d_2(E)	95	#4	3'-2"	
d_5(E)	95	#4	3'-2"	
e (E)	18	#4	29'-10"	
e_1(E)	6	#8	32'-5"	
e_2(E)	8	#4	23'-7"	
x(E)	16	#5	3'-4"	
x_2(E)	16	#5	3'-4"	
Reinforcement Bars, Epoxy Coated			Pound	3,140
Concrete Superstructure			Cu. Yd.	15
Concrete Removal			Cu. Yd.	19.5

Reinforcement bars designated (E) shall be epoxy coated.



INSIDE ELEVATION - WEST PARAPET

PARAPET NOTES

Parapet lengths are taken from the plans prepared by H.W. Lochner for the original structure. Adjustment shall be made to accomodate new expansion device.

Lap splices:
- #4 longitudinal bars 1'-7" min.
- #5 longitudinal bars 2'-7" min.
- #8 longitudinal bars 5'-6" min.

E.F. indicates each face.

All edges shall have a ¾" chamfer, unless otherwise noted.

Bars indicated thus 1x2 #5 etc. indicates 1 line of bars with 2 lengths per line.

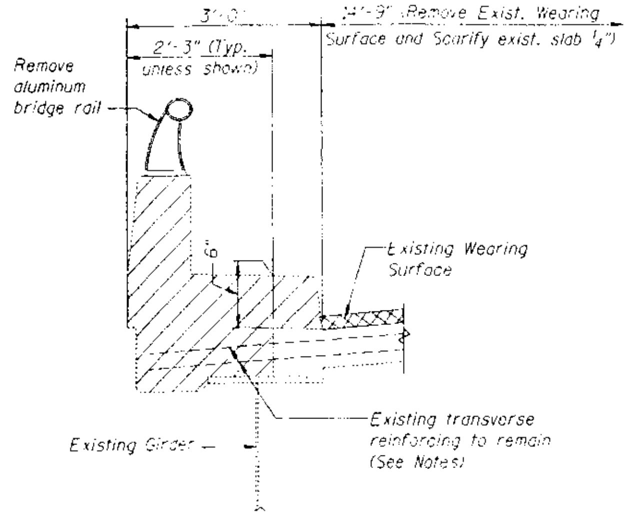
For expansion joint details, see Sheets 5 and 6.

DESIGNED	R. Victor
CHECKED	F. Camba
DRAWN	J. Smith
CHECKED	F. Camba

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX
ROADWAY H - STRUCTURE NO. 082-0256
PARAPET DETAILS AND
SUPERSTRUCTURE BILL OF MATERIAL
(FAI-70) ST. CLAIR CO.

P:\C1X11900\700CADD\CASTR\RDWY H\...

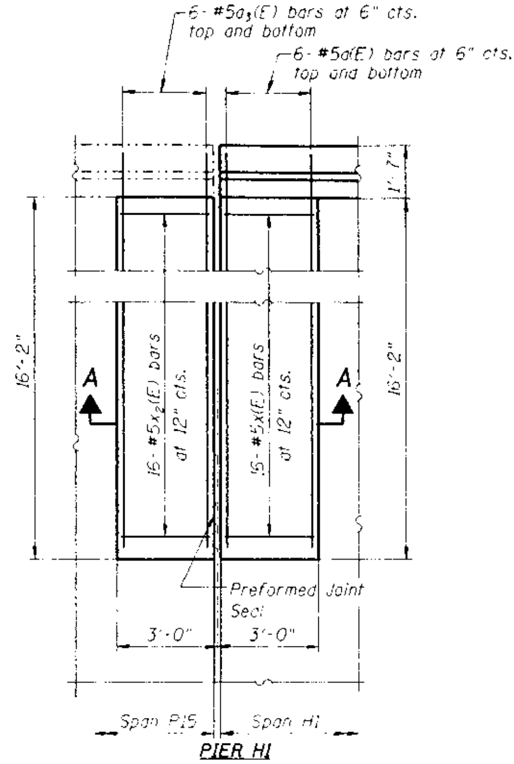


CROSS SECTION - DEMOLITION

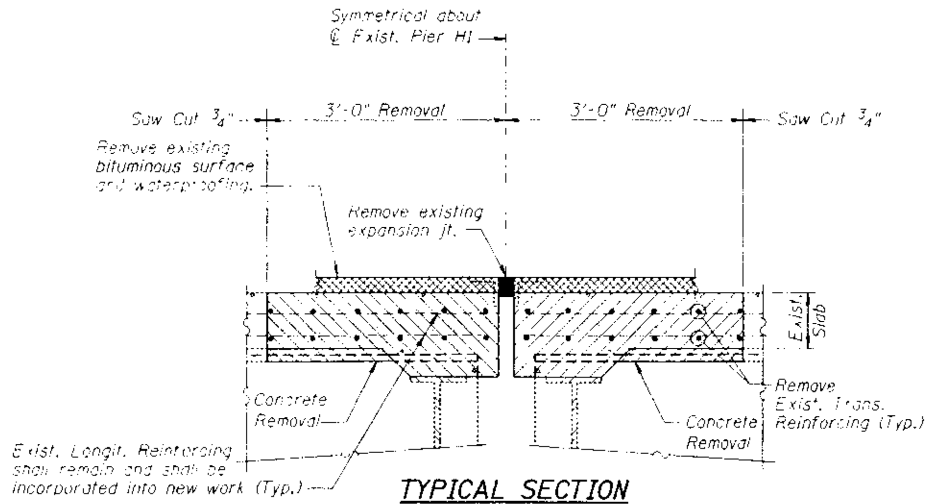
Notes:

Remove existing curb, parapet and portion of slab to limits shown by hatched areas.

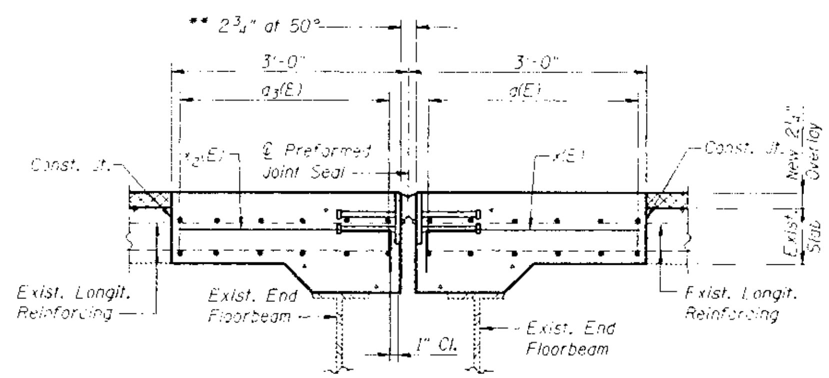
Remove all existing full length longitudinal bars at concrete removal areas unless otherwise noted.



EXPANSION JOINT REPLACEMENT PLAN



TYPICAL SECTION DEMOLITION AT EXPANSION JOINTS



SECTION A-A

** Dimensions are based on PJS joint. If the contractor elects to use the alternate strip seal, deck dimensions may require adjustments to satisfy the details on page 2 of 2 of the Base Sheet EJ-BJS.

NOTES

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

Contractor shall provide and install a Temporary Slab Support as required. Temporary Slab Support shall be in place before deck removal. See Special Provisions.

DESIGNED	P. Victor
CHECKED	F. Cambu
DRAWN	J. Smith
CHECKED	F. Cambu

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

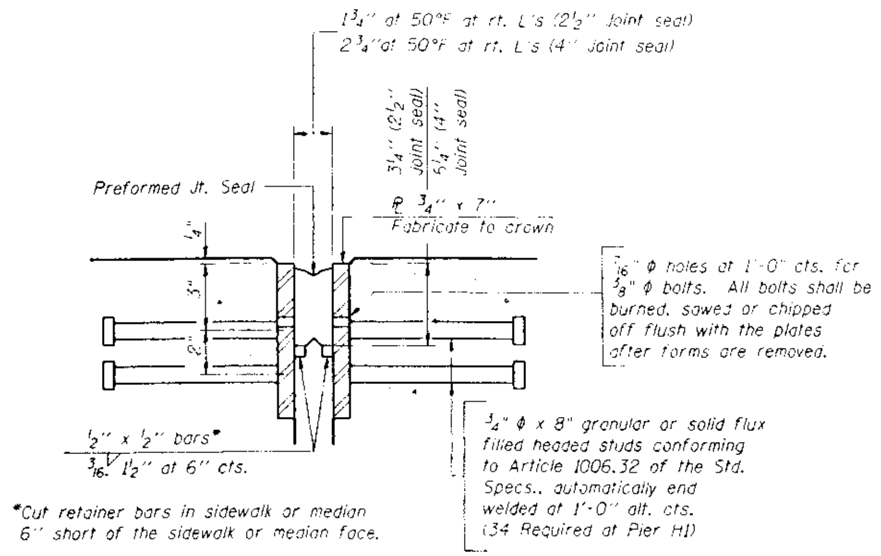
REHABILITATION FOR FAI 55/70 COMPLEX
ROADWAY H - STRUCTURE NO. 082-0256
DEMOLITION DETAILS AND
EXPANSION JT. REPLACEMENT DETAILS
(FAI-70) ST. CLAIR CO.

Route No.	Section	County	Total Sheets	Sheet No.
FAI-70	*	St. Clair		
Fed. Road Dist. No. 7		Illinois	Fed. Aid Project -	

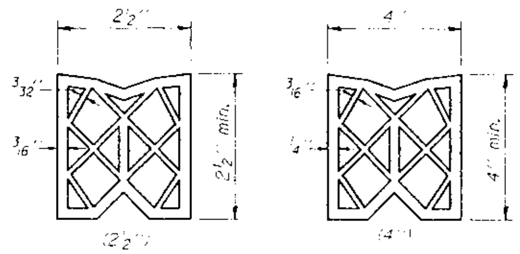
SHEET NO. 6
6 SHEETS

*(82-3HVB-2R-1)-2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU EXPANSION JOINT
(2½" and 4" joint seals)

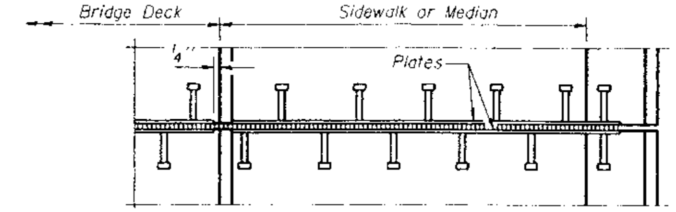


PREFORMED JOINT SEAL

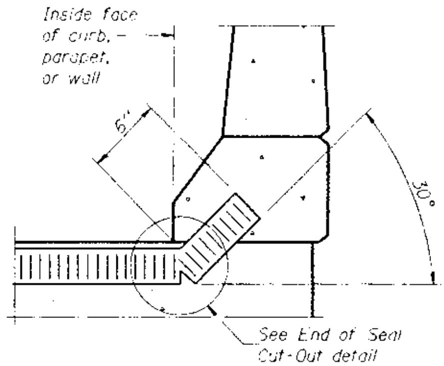
Bridge Joint System (Expansion)		
DESIGN MOVEMENT	Required Preformed Joint Seal Size	Required Strip Seal rated movement
1"	2½"	1"
1⅝"	4"	2"

GENERAL NOTES

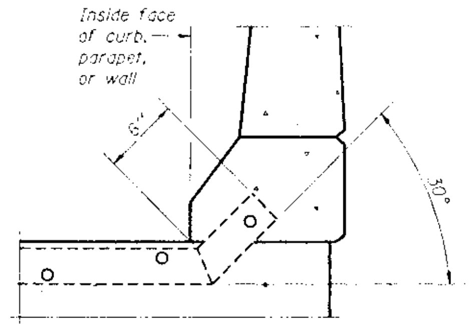
Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.



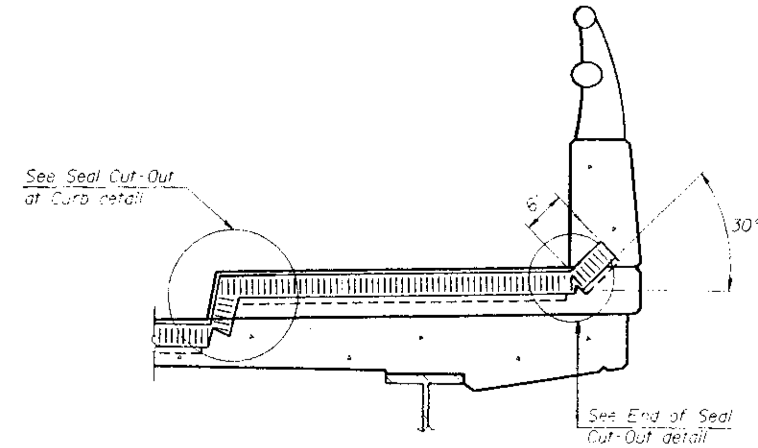
PLAN AT SIDEWALK OR MEDIAN



AT CURB, PARAPET, OR WALL
(Showing seal)



AT CURB, PARAPET, OR WALL
(Showing plate)

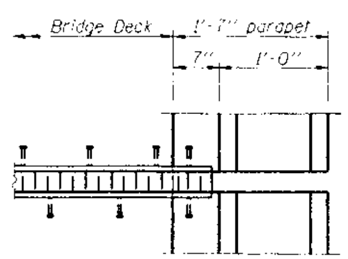


AT SIDEWALK OR MEDIAN
(Showing plate and seal)

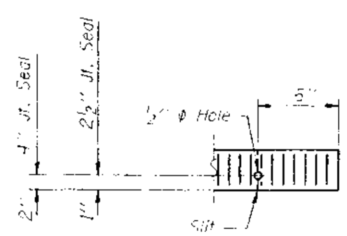
TYPICAL END TREATMENTS

BILL OF MATERIAL

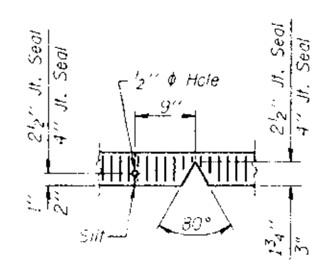
Item	Unit	Total
Bridge Joint System (Expansion) - 1⅝"	Foot	17



PLAN AT PARAPET



END OF SEAL CUT-OUT



SEAL CUT-OUT AT CURB

DESIGNED	M. Capron
CHECKED	R. Victor
DRAWN	J. Smith
CHECKED	R. Victor

EJ-BJS

PREPARED BY:
JACOBS CIVIL INC.
ST. LOUIS, MO

REHABILITATION FOR FAI 55/70 COMPLEX
ROADWAY H - STRUCTURE NO. 082-0256
PJS EXPANSION JOINT DETAILS
PIER H1
(FAI-70) ST. CLAIR CO.

#96680 #143 1-31-98 F.A.I. RTE. 70 (I-55/70) ST. CLAIR CO. SEC. 82-3HVB-2R-1-I

143

95% 6-17-2000

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

THIS CONTRACT CONSISTS OF 4 SETS

PLANS FOR PROPOSED SEISMIC AND REDUNDANCY RETROFIT REPAIRS

FAI ROUTE 70

SECTION 82-3HVB-2R-1-I

POPLAR STREET BRIDGE APPROACHES

PROJECT ACIM-70-1(171)1

ST. CLAIR COUNTY

C-98-083-97

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	51	1

SHEET NO. S-1 SHEETS

* 82-3HVB-2R-1-I **ACIM-70-1(171)1

SET 1 OF 4
- STRUCTURE NO. 082-0141 (ROADWAY A)
- STRUCTURE NO. 082-0253 (RAMP R)
- STRUCTURE NO. 082-0201 (RAMP O)
- STRUCTURE NO. 082-0254 (ROADWAY G)

SET 2 OF 4
- STRUCTURE NO. 082-0144 (ROADWAY D)
- STRUCTURE NO. 082-0255 (RAMP O)
- STRUCTURE NO. 082-0203 (RAMP P)
- STRUCTURE NO. 082-0256 (ROADWAY H)

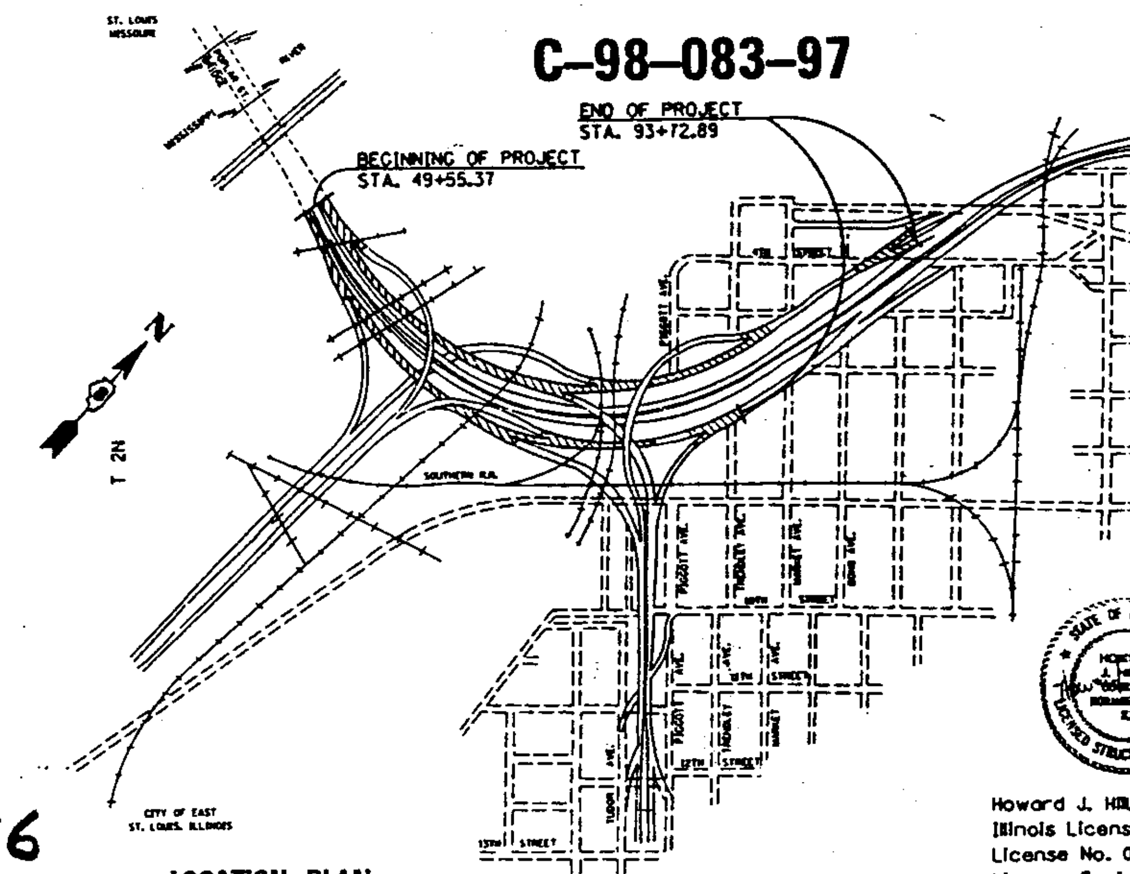
SET 3 OF 4
- STRUCTURE NO. 082-0206 (RAMP G OVER 4TH ST.)

SET 4 OF 4
- STRUCTURE NO. 082-0140 (RAMP H OVER TRENDLEY AVE.)

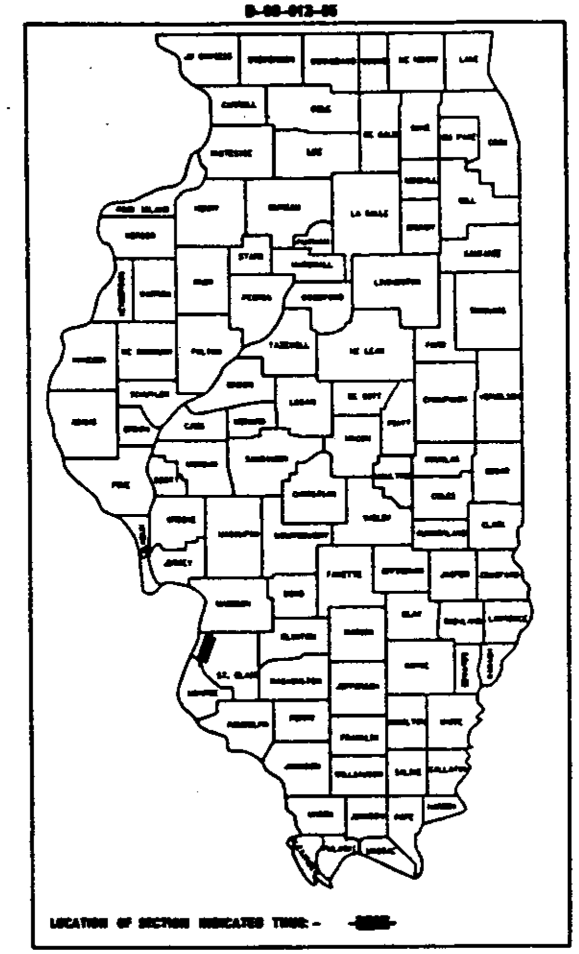
STANDARDS
701406
702001

PROJECT LEADER: BILL LIVI (618)346-3...G
ROAD LEADER: STEVE JINES (618)346-319...

082-0256



LOCATION PLAN



8-231

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

PROJECT NET LENGTH : 0.79 MI. = 4178.58 FT.

PROJECT GROSS LENGTH : 0.84 MI. = 4417.52 FT.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Feb 5 19 98
James Easterly (MCL)
DISTRICT ENGINEER

______ 19 ___
ENGINEER OF PROJECT DEVELOPMENT AND IMPLEMENTATION

June 26 19 98
ENGINEER OF DESIGN AND ENVIRONMENT

June 26 19 98
DIRECTOR, DIVISION OF HIGHWAYS

Howard J. Hill, Ph.D., SE
Illinois Licensed Structural Engineer
License No. 081-004819
License Expires: 11/30/98

WJE Wiss, Janney, Elstner Associates, Inc.
Engineers, Architects, Material Scientists
330 Pfingsten Road, Northbrook, Illinois 60062
(847) 272-7400 FAX (847) 291-4813

082-~~0253, 0254,~~

CONTRACT NO. 96680 ~~0255,~~ 0256

082-0256
Rdwy H

DEC 02 1997

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1-I F.A.I. ROUTE 70

URBAN

90% FED.
10% STATE
SFTY-2A

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
50102400	Concrete removal	CU YD	310
50200200	Structure Excavation (Special)	CU YD	70
50500405	Furnish & erect structural steel	LBS.	230760
50301245	Formed concrete repair (depth equal to less than 5")	SQ. FT.	570
X0322549	Column wrap	SQ. FT.	10303
X0322550	Wire rope	FT.	206.3
X0322551	Epoxy grouted dowels	EACH	1099
X0322552	Embankment protection	SQ. FT.	150
X0322553	Foundation wall dowel modification	EACH	544
X0322554	Foundation wall modification	SQ. FT.	1915
X0322555	Cross frame removal	EACH	23
X0322556	Stiffener intersection modification	EACH	1920
X0322557	Long span floor beam retrofit	EACH	64
X0322558	Bottom flange splice - bolt replacement	EACH	22
X0322559	Bolt replacement	EACH	18
X0322560	Crack extension modifications	EACH	6
X0322561	Cross beam retrofit	EACH	10
X0322562	Steel girder web reinforcement plate	LBS.	~~807900~~ 998,300
X0322563	Vertical web stiffener removal	EACH	2797
X0322564	Column wrap protection	EACH	4
70101800	Traffic Control and Protection, Special	L Sum	1
2006600	Railroad Protective Liability Insurance	L Sum	1
X7010310	Changeable Message Sign	CAL MO	12
1670400	Engineer's Field Office, Type A	CAL MO	12

△ * Sheet 2A & 2B Traffic Control and Protection, Special

540

△ ** Sheets 21A & 61A Redundancy Retrofit Details

F.A.I. RTE.	SECTION	SHEET NO.	SHEETS
70	St. Clair	91	2

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 *	QUANTITIES AND INDEX OF SHEETS
3	SET 1 - TITLE SHEET
4	GENERAL NOTES
5	SCOPE OF WORK
6	PROJECT PLAN (F-0141, F-0254, F-0253, F-0251)
7	KEY PLAN ROADWAYS A, G, R & O
8	ELEVATION ROADWAYS A, G, R & O
9	TYPICAL SUBSTRUCTURE DETAILS
10	SEISMIC RETROFIT DETAILS
11	SEISMIC RETROFIT DETAILS
12	SEISMIC RETROFIT DETAILS
13	SEISMIC RETROFIT DETAILS
14	SEISMIC RETROFIT DETAILS
15	SEISMIC RETROFIT DETAILS
16	SEISMIC RETROFIT DETAILS
17	SEISMIC RETROFIT DETAILS
18	STIFFENER INTERSECTION MODIFICATION DETAIL
19	LONG SPAN FLOOR BEAM RETROFIT & BOLT REPLACEMENT
20	CRACK EXTENSION RETROFITS
21**	REDUNDANCY RETROFIT DETAILS
22	REDUNDANCY RETROFIT DETAILS
23	REDUNDANCY RETROFIT DETAILS
24	CONCRETE REPAIR DETAILS
25	SEISMIC RETROFIT DETAILS
26	TEMPORARY EMBANKMENT PROTECTION
27	PIER A2 RETROFIT
28	PIER A5 RETROFIT
29	PIERS A7 & A8 RETROFIT
30	PIERS A9 & A11 RETROFIT
31	PIERS A12 & A15 RETROFIT
32	PIERS A16 & A18 RETROFIT
33	PIER A19 RETROFIT
34	PIER A21 RETROFIT
35	PIERS R1-1 & R2-1 RETROFIT
36	PIER R3-1 RETROFIT
37	PIERS R4-1 & O1-R RETROFIT
38	PIER G1 RETROFIT
39	PIERS G2 & G5 RETROFIT
40	PIERS G9 & G11 RETROFIT
41	PIER G12 RETROFIT
42	PIER G13 RETROFIT
43	SET 2 - TITLE SHEET
44	GENERAL NOTES
45	SCOPE OF WORK
46	PROJECT PLAN
47	KEY PLAN ROADWAYS D, H, Q &P
48	ELEVATION ROADWAYS D, H, Q &P
49	TYPICAL SUBSTRUCTURE DETAILS
50	SEISMIC RETROFIT DETAILS
51	SEISMIC RETROFIT DETAILS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
52	SEISMIC RETROFIT DETAILS
53	SEISMIC RETROFIT DETAILS
54	SEISMIC RETROFIT DETAILS
55	SEISMIC RETROFIT DETAILS
56	SEISMIC RETROFIT DETAILS
57	SEISMIC RETROFIT DETAILS
58	STIFFENER INTERSECTION MODIFICATION DETAIL
59	LONG SPAN FLOOR BEAM RETROFIT & BOLT REPLACEMENT
60	CRACK EXTENSION & CROSS BEAM RETROFITS
61**	REDUNDANCY RETROFIT DETAILS
62	REDUNDANCY RETROFIT DETAILS
63	REDUNDANCY RETROFIT DETAILS
64	CONCRETE REPAIR DETAILS
65	SEISMIC RETROFIT DETAILS
66	PIERS D2 & D5 RETROFIT
67	PIERS D8 & D9 RETROFIT
68	PIER D11 RETROFIT
69	PIERS D12 & D13 RETROFIT
70	PIERS D15 & D17 RETROFIT
71	PIERS D18 & D21 RETROFIT
72	PIERS D22 & D23 RETROFIT
73	PIER D24 RETROFIT
74	PIER D26 RETROFIT
75	PIERS Q1-1 & Q2-1 RETROFIT
76	PIER P14 RETROFIT
77	PIERS P15 & H1 RETROFIT
78	PIERS H2 & H3 RETROFIT
79	PIER H4 RETROFIT
80	SET 3 - TITLE SHEET
81	GENERAL NOTES
82	PROJECT PLAN/SCOPE OF WORK
83	KEY PLAN AND ELEVATION FOR RAMP G OVER 4TH STREET
84	SEISMIC RETROFIT DETAILS
85	PIER NO. 1 & NO. 2 RETROFIT
86	SET 4 - TITLE SHEET
87	GENERAL NOTES
88	PROJECT PLAN/SCOPE OF WORK
89	KEY PLAN AND ELEVATION FOR RAMP H OVER TRENDLEY AVE.
90	SEISMIC RETROFIT DETAILS
91	PIER NO. 1 & NO. 2 RETROFIT

QUANTITIES AND INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE: NONE — DRAWN BY JH
DATE 1-23-98 — CHECKED BY MH

△ Revised 10/21/98 JCM

△ Revised 1-9-98 R.S.

* ENCOMPASSING THE FOLLOWING ROADWAYS

- ROADWAY D. STRUCTURE NO. 082-0144
- RAMP O. STRUCTURE NO. 082-0255
- RAMP P. STRUCTURE NO. 082-0203
- ROADWAY H. STRUCTURE NO. 082-0256

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
S-1	SET 2 - TITLE SHEET
S-2	GENERAL NOTES
S-3	SCOPE OF WORK
S-4	PROJECT PLAN
S-5	KEY PLAN ROADWAYS D, H, O & P
S-6	ELEVATION ROADWAYS D, H, O & P
S-7	TYPICAL SUBSTRUCTURE DETAILS
S-8	SEISMIC RETROFIT DETAILS
S-9	SEISMIC RETROFIT DETAILS
S-10	SEISMIC RETROFIT DETAILS
S-11	SEISMIC RETROFIT DETAILS
S-12	SEISMIC RETROFIT DETAILS
S-13	SEISMIC RETROFIT DETAILS
S-14	SEISMIC RETROFIT DETAILS
S-15	SEISMIC RETROFIT DETAILS
S-16	STIFFENER INTERSECTION MODIFICATION DETAIL
S-17	LONG SPAN FLOOR BEAM RETROFIT & BOLT REPLACEMENT
S-18	CRACK EXTENSION & CROSS BEAM RETROFITS
S-19	REDUNDANCY RETROFIT DETAILS
S-20	REDUNDANCY RETROFIT DETAILS
S-21	REDUNDANCY RETROFIT DETAILS
S-22	NOT USED
S-23	NOT USED
S-24	NOT USED
S-25	NOT USED
S-26	CONCRETE REPAIR DETAILS
S-27	SEISMIC RETROFIT DETAILS
S-28	NOT USED
S-29	PIERS D2 & D5 RETROFIT
S-30	PIERS D8 & D9 RETROFIT
S-31	PIER D11 RETROFIT
S-32	PIERS D12 & D13 RETROFIT
S-33	PIERS D15 & D17 RETROFIT
S-34	PIERS D18 & D21 RETROFIT
S-35	PIERS D22 & D23 RETROFIT
S-36	PIER D24 RETROFIT
S-37	PIER D26 RETROFIT
S-38	PIERS O1-1 & O2-1 RETROFIT
S-39	PIER P14 RETROFIT
S-40	PIERS P15 & H1 RETROFIT
S-41	PIERS H2 & H3 RETROFIT
S-42	PIER H4 RETROFIT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SET 2 OF 4 SETS

PLANS FOR PROPOSED SEISMIC AND REDUNDANCY RETROFIT REPAIRS *

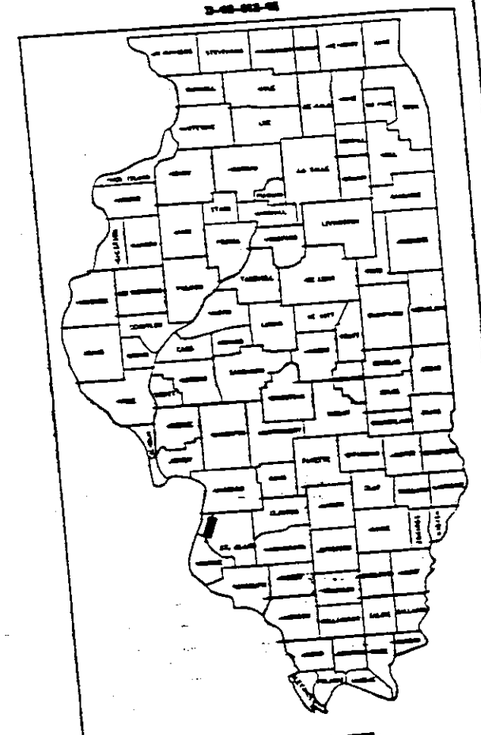
Ⓐ** S-19A: Redundancy Retrofit Details

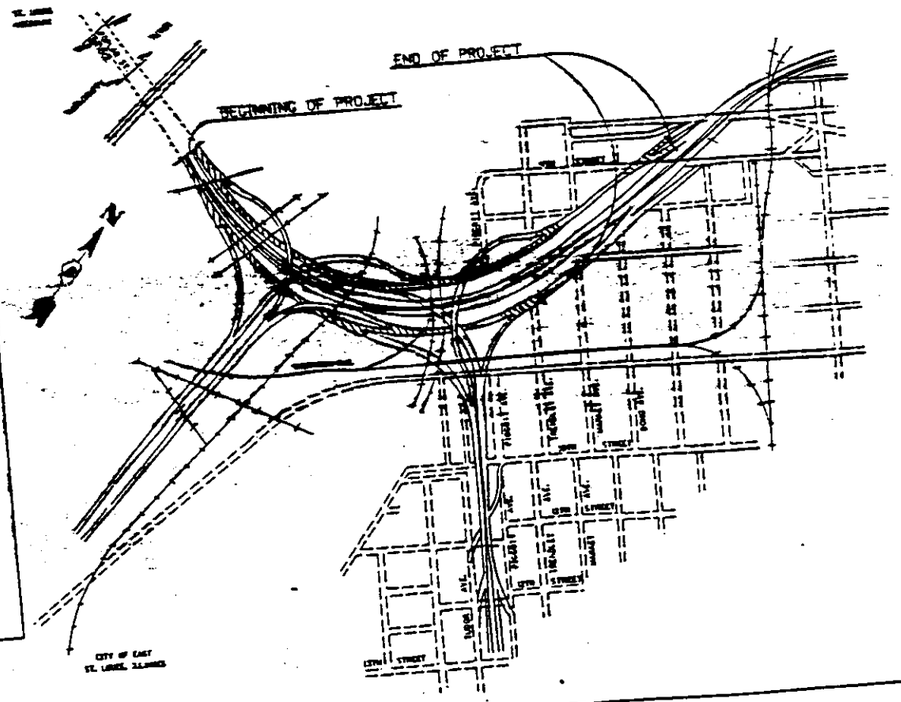
FAI ROUTE 70

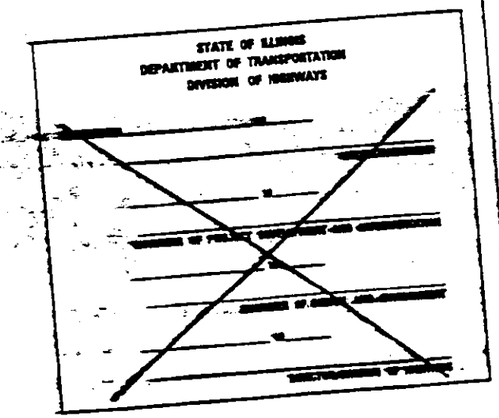
SECTION 82-3HVB-2R-1-1

POPLAR STREET BRIDGE APPROACHES

ST. CLAIR COUNTY







Ⓐ Revised 10/21/98 JCM

CONTRACT NO. 96680

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1-1 F.A.I. ROUTE 70

GENERAL NOTES:

1. 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 materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

2. This project addresses selected seismic, redundancy and fatigue issues related only to those structures that are listed on the drawings. Related hazards associated with nearby structures or roadways that pass over the subject structures were not considered.

3. Unless noted otherwise, all materials and workmanship shall conform to :
   a. The Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction", January 1, 1997.
   b. Bridge Welding Code, American Welding Society, AWS D1.5-95.
   c. Surface Texture, American Society of Mechanical Engineers, ANSI B46.1-Latest Edition.

STEEL NOTES:

1. Actual dimensions may vary slightly from the design drawings. The Contractor shall field verify existing dimensions prior to starting work. Dimensions of new members shall be adjusted as required to fit as-built conditions.

2. All new steel assemblies and pieces shall be shop painted with inorganic zinc rich primer/ Acrylic/ Acrylic paint system. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5 G 4/8. Locations to receive field welding shall be masked off prior to shop painting and field painted after welding.

3. Unless noted otherwise, all bolts shall be high strength bolts (AASHTO M164). All threaded rods and dowels shall conform to the mechanical properties and thread configuration of AASHTO M164 bolts. All bolts, threaded rods, wire rope and hardware shall be galvanized according to IDOT galvanized bolt provisions. In bolted applications, threads shall not be permitted in shear planes, unless noted otherwise. AASHTO M253 bolts shall not be galvanized.

4. Unless noted otherwise, all new steel shall be AASHTO M270 Grade 36 and have a minimum CVN impact toughness of 25 Ft.-Lb. at 40° F. All rods with upset ends shall have a maximum yield strength of 45 ksi.

5. ~~Welding electrodes shall be low hydrogen E70XX, unless noted otherwise. Weld metal shall have a minimum CVN of 25 Ft.-Lb. at 20° F.~~

6. All turnbuckles, clevises and pins shall be galvanized and capable of developing the ultimate strengths of the corresponding assemblies.

7. All wire ropes shall be galvanized and shall have a minimum effective modulus of elasticity of 10,000 ksi. All wire rope fittings shall be capable of developing the ultimate strength of the corresponding rope.

8. Threads on all bolts, rods, and dowels, not installed per AISC specifications shall be deemed.

9. Turnbuckles located in cross frame retrofits shall be tightened to achieve a torque of 1000 Ft.-Lbs. in the turnbuckle.

10. The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project. Lead based paint will not be removed from the structure except as necessary to remove transverse stiffeners and perform fatigue retrofits.

11. ~~At locations of transverse stiffener removal, existing girder webs shall be primed with an inorganic zinc rich primer and painted with a paint system compatible with the existing paint.~~

12. No welding, flame cutting or carbon-arc cutting is permitted unless specified in a repair detail or approved by the Engineer.

13. Alternative procedures for the structural modifications will be considered by the Engineer if submitted in writing for approval. The work shall be performed in the sequence listed in the Procedures unless otherwise approved by the Engineer. Where a procedure calls for approval of an Engineer before acceptance, it is anticipated that visual examinations or non-destructive tests will be conducted, and that additional grinding or other work may be required.

14. Where magnetic particle (MT) inspection is called for on the drawings, the minimum qualifications of the inspector shall meet ASNT Level II requirements. The Engineer will observe the final test acceptance.

15. To avoid bolt clearance installation difficulties, the bumper assemblies shall be installed prior to the installation of the web reinforcement plate(s).

CONCRETE NOTES:

1. The Engineers' intent is to repair only large areas of unsound concrete or unsound areas receiving column wraps. The contract quantities do not include all of the unsound concrete on the piers. Areas of unsound concrete to be repaired shall be approved by the Engineer.

2. The extent of deteriorated concrete in columns and walls shall be determined by hammer tapping. The concrete removal shall extend a minimum of 4 in. beyond the edge of the unsound area, be as nearly rectangular as possible, and conform to the concrete repair details included in the drawings.

3. Concrete removal equipment consisting of pneumatic chipping hammers shall not exceed a maximum nominal weight of 30 lb. and shall be equipped with a cutting edge not less than ¾ in. or greater than 2½ in. in width. During concrete removal, exercise reasonable care to avoid cracking of underlying sound concrete.

REVISIONS	
NAME	DATE
JCM	10/21/98

GENERAL NOTES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY S) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0256 (ROADWAY N) STRUCTURE NO. 082-0255 (RAMP G)
SCALE: NONE DRAWN BY: JM

SCOPE OF WORK

SEISMIC RETROFIT

1. Install column wraps on the following piers.
   - Structure No. 082-0144 (Roadway D, 22 locations)

     D2 **D8 D14 D19 D25
     D4 D9 D15 D20 D26
     D5 D10 D16 **D21
     D6 **D12 D17 D23
     D7 D13 D18 D24
   - Structure No. 082-0255 (Ramp D, 2 locations)

     D1-1 D2-1
   - Structure No. 082-0203 (Ramp P, 2 locations)

     P14 P15
   - Structure No. 082-0256 (Roadway H, 3 locations)

     H1 H3 H4
2. Install tie beam wraps on the following piers (excluding piers with cross frames)
   - Structure No. 082-0144 (Roadway D, 6 locations)

     D4 D7 D16
     D6 D10 D19
3. Install cross frame assembly including tie beam wraps, column bands and stub/floor beam connections on the following piers.
   - Structure No. 082-0144 (Roadway D, 6 locations)

     D2 D13 D23
     D9 D17 D24
   - Structure No. 082-0256 (Ramp H, 2 locations)

     H3 H4
4. Install stub/floor beam connections on the following piers (excluding piers with cross frames).
   - Structure No. 082-0144 (Roadway D, 12 locations)

     D3 D7 D14 D20
     D4 D10 D16 D22 (East)
     D6 D11 (West) D19 D25
5. Remove existing cross frames and install new cross frames at the following piers.
   - Structure No. 082-0255 (Ramp D, 2 locations)

     D1-1 D2-1
6. Install bumper/tie assembly on the following piers.
   - Structure No. 082-0144 (Roadway D, 7 locations)

     D5 D11 D15 D22
     D8 D12 D18
   - Structure No. 082-0203 (Ramp P, 1 location)

     P15
   - Structure No. 082-0256 (Roadway H, 1 location)

     H1
7. Install foundation wall dowel modifications on the following piers.
   - Structure No. 082-0144 (Roadway D, 13 locations)

     D4 D9 D11 D26
     D5 D13 D19
     D6 D15 D24
     D8 D17 D25
   - Structure No. 082-0203 (Ramp P, 1 location)

     P14
   - [illegible]

     H2 H4
8. Install shear transfer assembly at the following piers.
   - Structure No. 082-0144 (Roadway D, 2 locations)

     D11 D22
9. Install bumper assembly on the following piers.
   - Structure No. 082-0144 (Roadway D, 2 locations)

     D9 D24
   - Structure No. 082-0203 (Ramp P, 1 location)

     P14
10. Install girder tie assembly on the following piers.
    - Structure No. 082-0144 (Roadway D, 2 locations)

      D22 D26
    - Structure No. 082-0256 (Roadway H, 1 location)

      H2
11. Install roadway tie assembly on the following piers.
    - Structure No. 082-0144 (Roadway D, 2 locations)

      D11 D26
    - Structure No. 082-0203 (Ramp P, 1 location)

      P14
12. Install bumper column bands on the following piers.
    - Structure No. 082-0144 (Roadway D, 6 locations)

      D5 D9 D18
      D8 D15 D24
13. Install foundation wall saw cut on the following piers.
    - Structure No. 082-0144 (Roadway D, 2 locations)

      D12 D21
    - Structure No. 082-0203 (Ramp P, 1 location)

      P15

FATIGUE & REDUNDANCY RETROFIT

1. Perform stiffener intersection modifications on the structures.
   - Structure No. 082-0144 (Roadway D, 23 spans)

     D1 thru D10, D12 thru D20 & D22 thru D25
   - Structure No. 082-0256 (Roadway H, 3 spans)

     H2 H3 H4
2. Perform long span floor beam retrofits on the following structures.
   - Structure No. 082-0144 (Roadway D, 4 spans)

     D8 D10 D24 D25
3. Perform bottom flange splice - bolt replacement on the following structures.
   - Structure No. 082-0144 (Roadway D, 6 spans)

     D1 D3 D9
     D2 D4 D22
4. Perform bolt replacement retrofits on the following structures.
   - Structure No. 082-0144 (Roadway D, 3 spans)

     D22 D23 D24
   - Structure No. 082-0256 (Roadway H, 1 span)

     H3
5. Perform cross extension retrofits on the following structures.
   - Structure No. 082-0256 (Roadway H, 2 spans)

     H3 H4
6. Perform cross beam retrofits on the following structures.
   - Structure No. 082-0144 (Roadway D, 1 span)

     D21
   - Structure No. 082-0203 (Ramp P, 1 span)

     P15
   - Structure No. 082-0256 (Roadway H, 1 span)

     H1
7. Install redundancy web plates on the following structures.
   - Structure No. 082-0144 (Roadway D, 23 locations)

     D1 thru D10, D12 thru D20 & D22 thru D25
   - Structure No. 082-0256 (Roadway H, 3 locations)

     H2 H3 H4

**Wrapping of these columns by others (PTP-Research Project) are not part of this contract. See Special provisions. (Revision 1)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	96	45

SHEET NO. S-3

SHEETS

82-3WB-2R-1-1

SCOPE OF WORK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

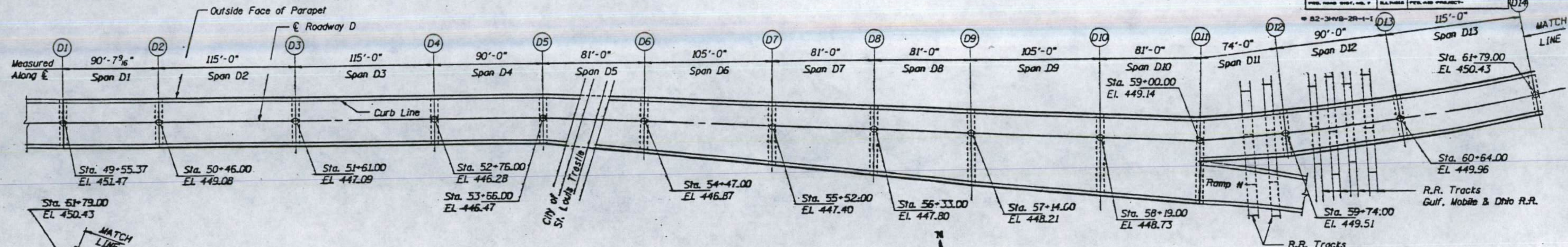
STRUCTURE NO. 082-0144 ROADWAY D STRUCTURE NO. 082-0203 RAMP P
STRUCTURE NO. 082-0256 ROADWAY H STRUCTURE NO. 082-0255 RAMP D
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

Revision 1: Revised 7-9-98 P.S.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	47

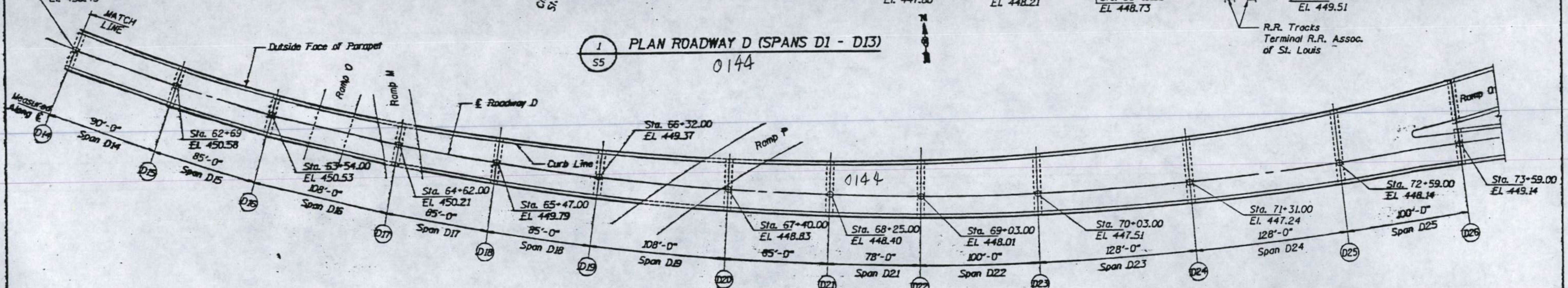
SHEET NO. S-5
SHEETS

* 82-3HVB-2R-1-1



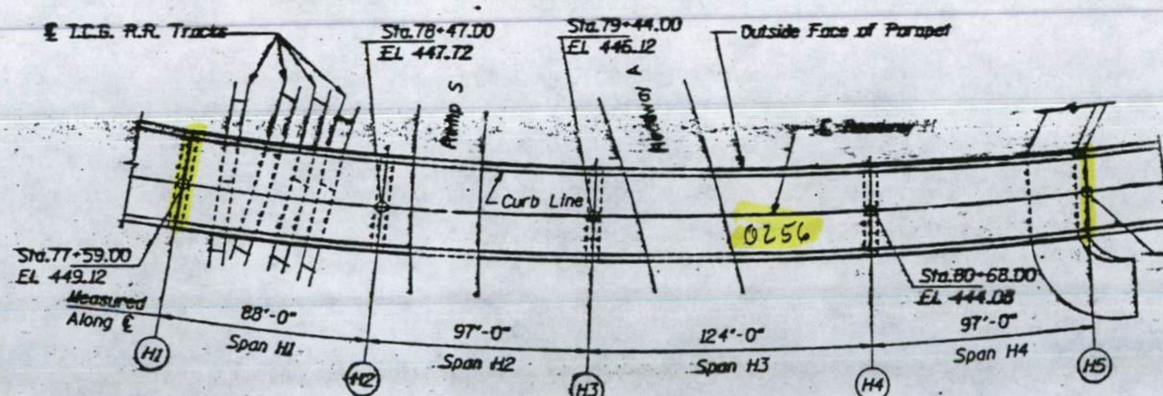
1/S5 PLAN ROADWAY D (SPANS D1 - D13)

0144



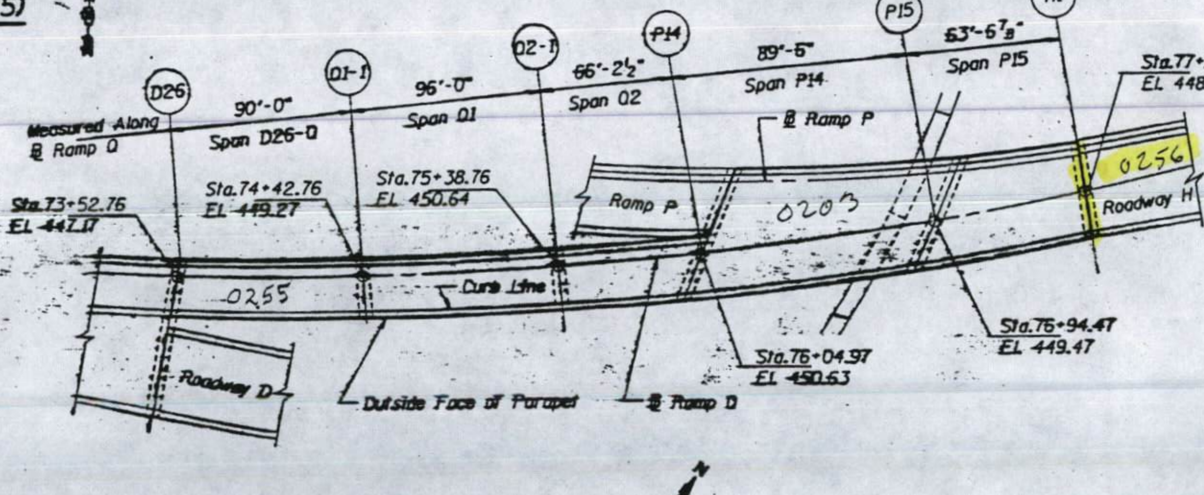
2/S5 PLAN ROADWAY D (SPANS D14 - D25)

0144



3/S5 PLAN ROADWAY H

0256



4/S5 PLAN RAMPS Q & P

0255 & 0203

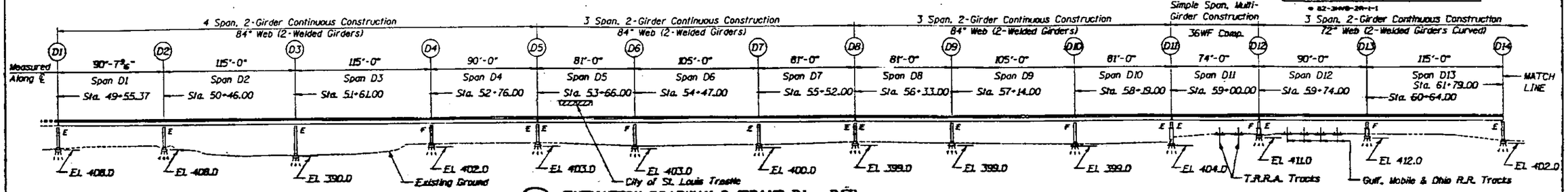
KEY PLAN FOR ROADWAYS D & H AND RAMPS Q & P

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

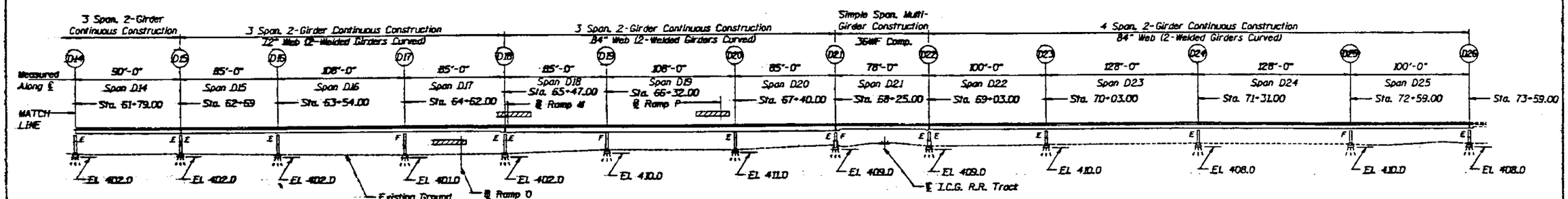
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP Q)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	9	ST. CLAIR	92	48
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

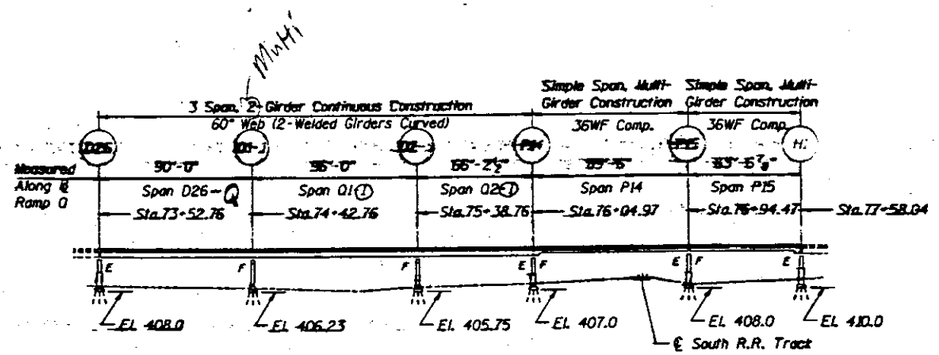
SHEET NO. S-6
SHEETS



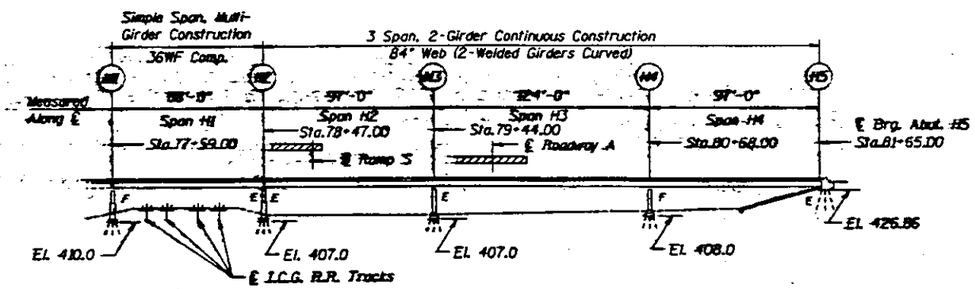
1/S6 ELEVATION ROADWAY D (SPANS D1 - D13)



2/S6 ELEVATION ROADWAY D (SPANS D14 - D25)



3/S6 ELEVATION RAMPS Q & P



4/S6 ELEVATION ROADWAY H

ELEVATION OF SPAN UNITS FOR ROADWAYS D & H AND RAMPS Q & P

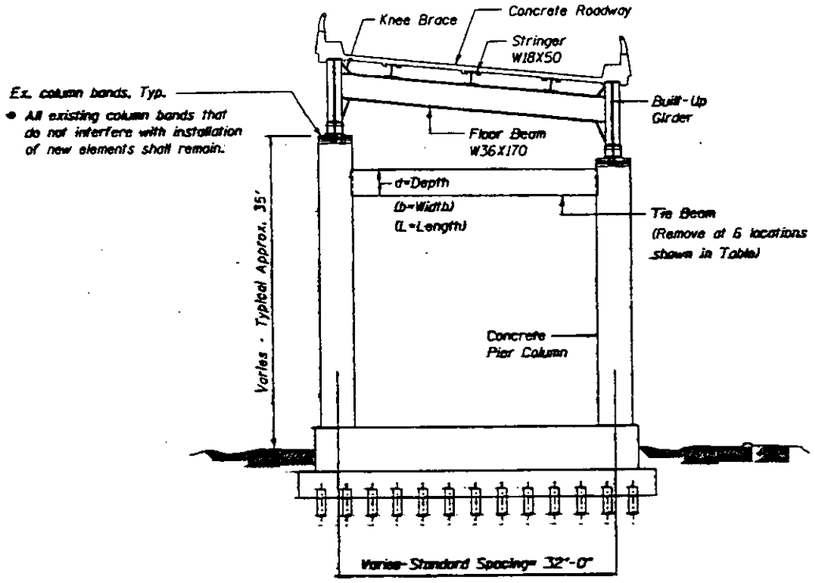
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0255 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP S)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

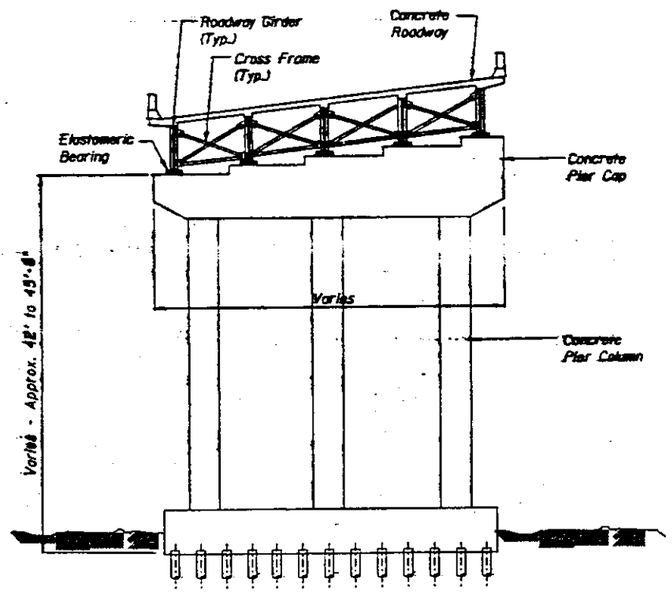
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	92	49
PROJ. FEDER. CONT. NO. 7	ILLINOIS	FED. AID PROJECT=		

SHEET NO. S-7
SHEETS

= 82-2HVB-2R-1-1



1/57 TYPICAL SECTION THROUGH TWO GIRDER ROADWAY
(Section through Ramp Similar)



2/57 TYPICAL SECTION THROUGH MULTI - GIRDER ROADWAY

TIE BEAM REMOVAL PARAMETERS

Pier	d (in.)	b (in.)	L (Ft,-in.)	Comments
D5	36	15	28'-0"	
D8	36	21	40'-2"	
D15	36	15	28'-0"	
D18	36	15	28'-1"	
D26	36	15 & 24	57'-0"	See Note 4
P14	36	15	42'-10"	See Note 3

Notes:

1. Cut tie beam ends flush with inside faces of columns, such that horizontal ledge is eliminated.
2. Coat exposed ends of reinforcement bars with IDOT approved epoxy. Epoxy shall overlap a minimum of 1" onto surrounding concrete.
3. Length (L) includes 2 tie beams to be removed.
4. Includes 9'-0" of 24" x 36" tie beam and 48'-0" of 15" x 36" tie beam, in 3 sections.

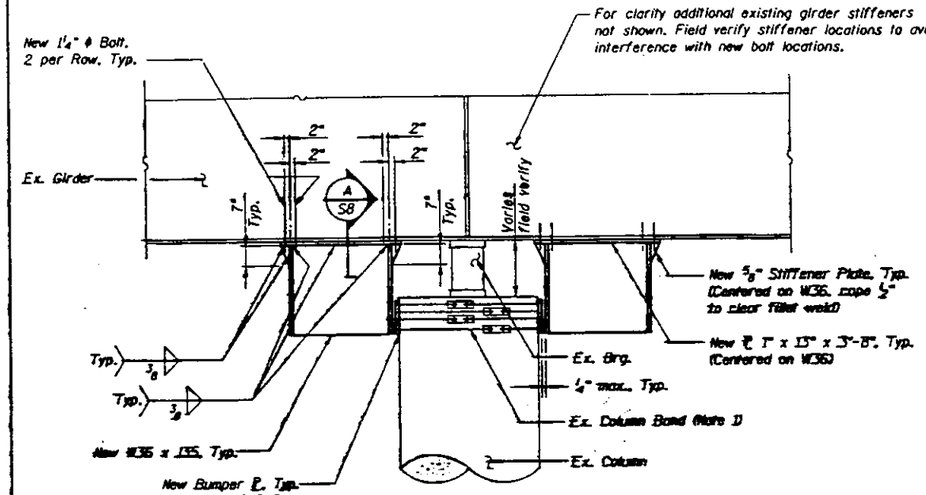
TYPICAL SUBSTRUCTURE DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

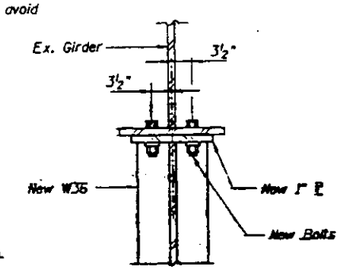
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0255 (ROADWAY B) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY JR
DATE 1-23-98 CHECKED BY HR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	∞	ST. CLAIR	92	S8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

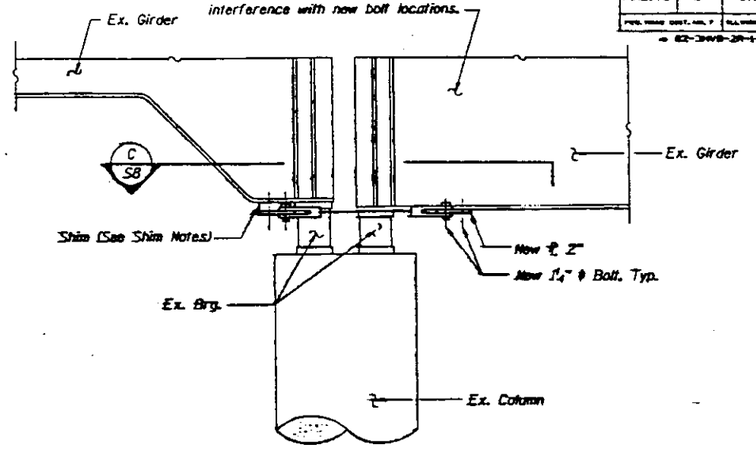
SHEET NO. S-8
SHEETS



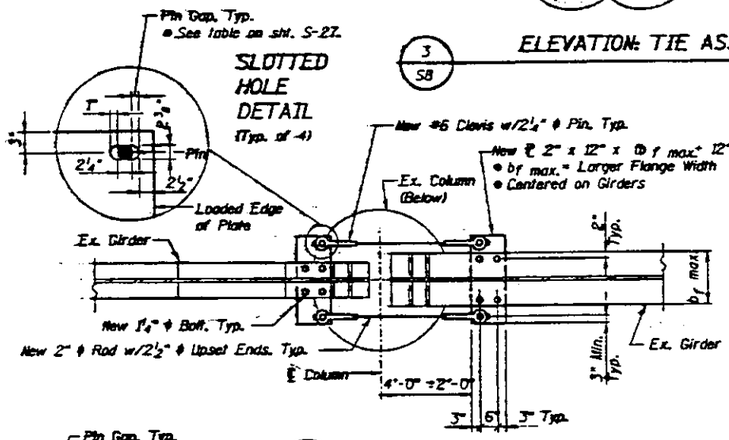
1/S8 ELEVATION: BUMPERS AT CONTINUOUS GIRDER



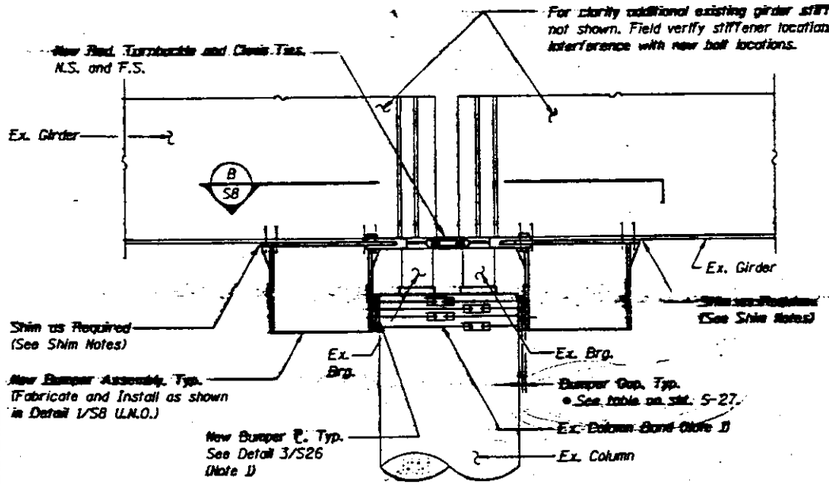
A/S8 SECTION



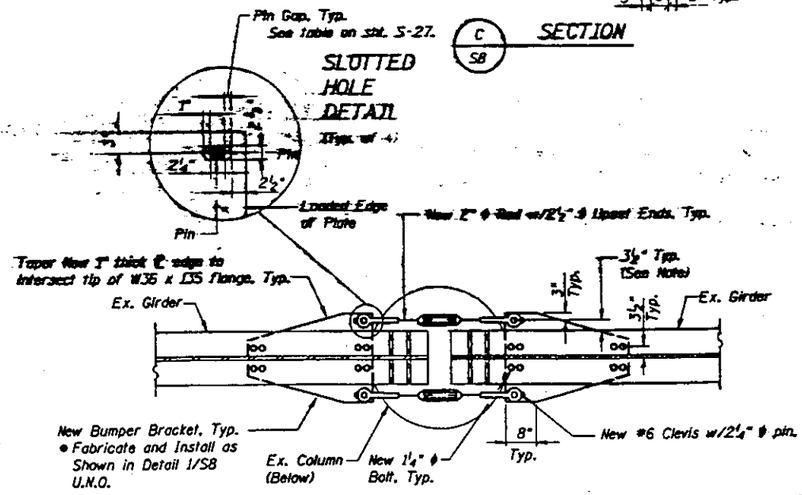
3/S8 ELEVATION: TIE ASSEMBLY



C/S8 SECTION



2/S8 ELEVATION: BUMPER/TIE ASSEMBLY



B/S8 SECTION

Note: Centerline of pin to centerline of girder for new 1" thick ℄ shall be 18" at pier P3-L

SHIM NOTES:

1. Shim higher flange so that elevation difference between ends of rod is no more than ½".
2. Shim Plate length shall match the smaller length of the plates being shimmed, and shim plate width shall match the smaller width of the plates being shimmed.
3. Field verify shim requirements.

BUMPER/TIE ROD NOTES:

1. All bolt holes shall be standard round holes (ϕ+1/16") Unless Noted Otherwise.
2. All bumpers and tie rod connection plates shall be centered on the existing girder.
3. Tie Rods may be multiple bar sections with turnbuckles or single rods without turnbuckles.
4. The total length of the unthreaded portion of each tie rod assembly shall not be less than 1'-8".
5. Tie rods may extend 0" min. to ¾" max. into clevis and turnbuckle openings U.N.O.

SEISMIC RETROFIT DETAILS

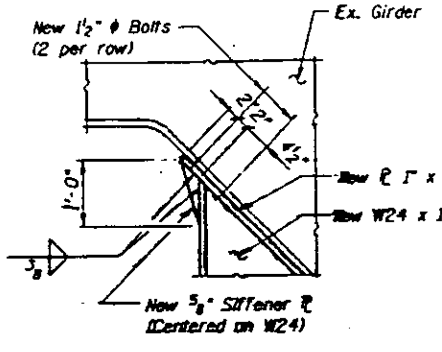
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0255 (ROADWAY G) STRUCTURE NO. 082-0255 (RAMP G)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY MH

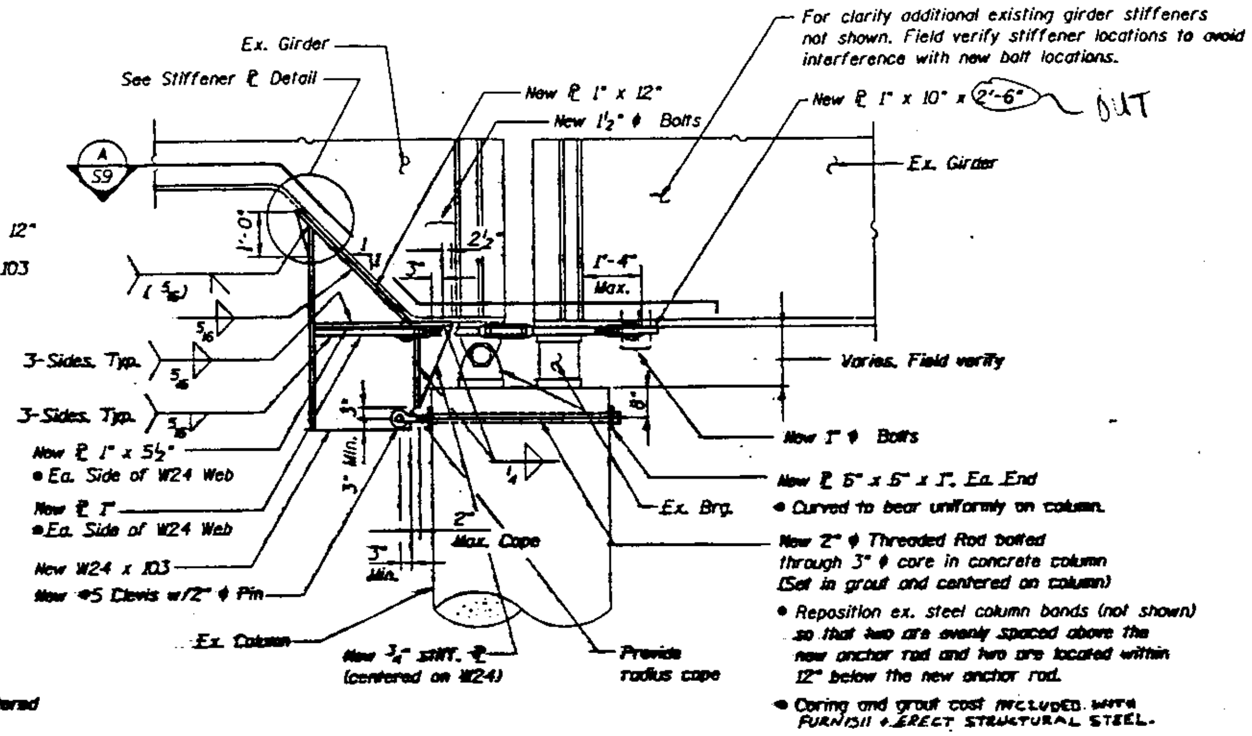
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70		ST. CLAIR	91	51

SHEET NO. S-9

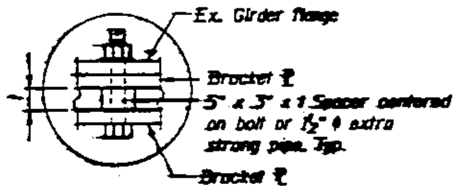
SHEETS



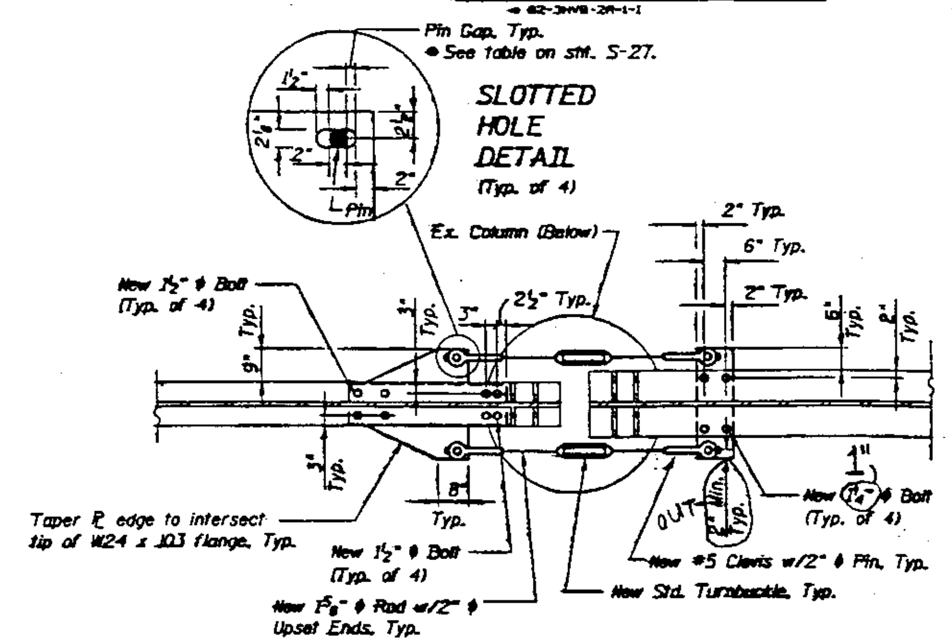
STIFFENER ℞ DETAIL



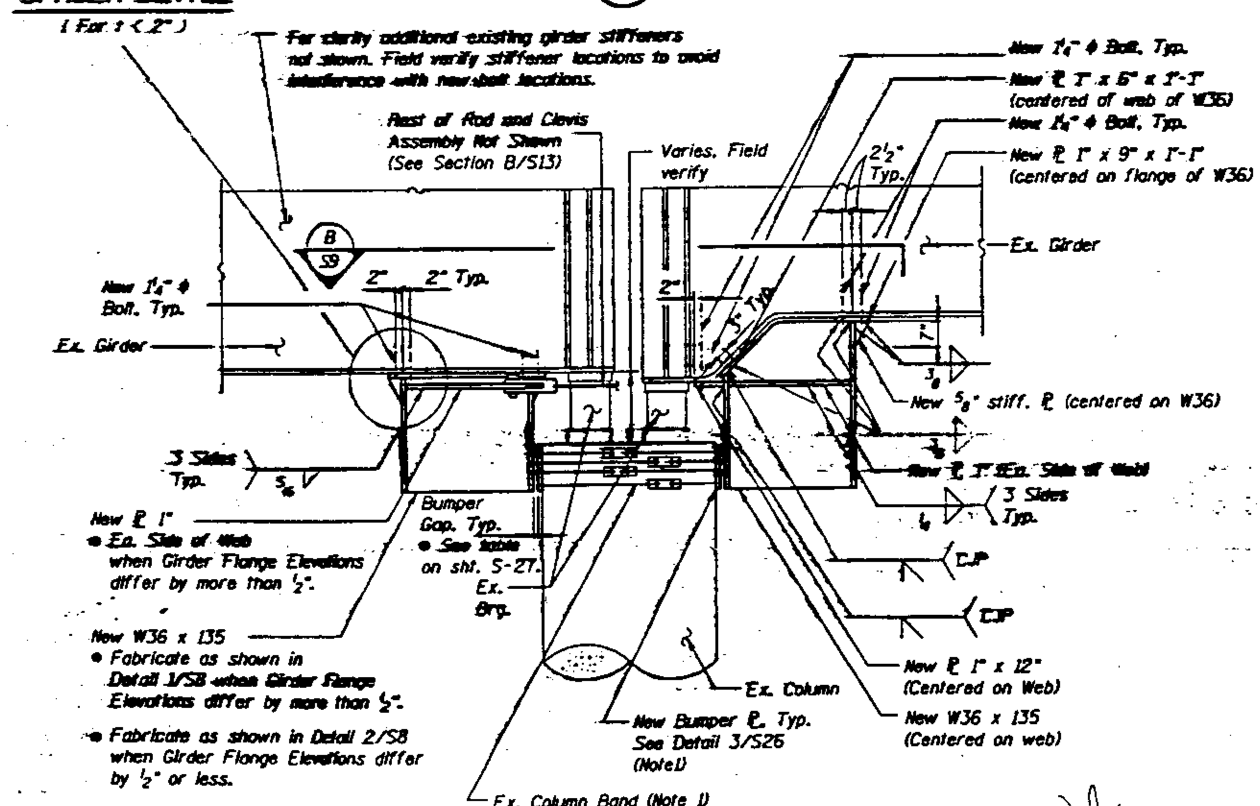
ELEVATION: BUMPER/TIE AT HAUNCHED GIRDER WITH FIXED BEARING (1/S9)



SPACER DETAIL
(For t < 2")



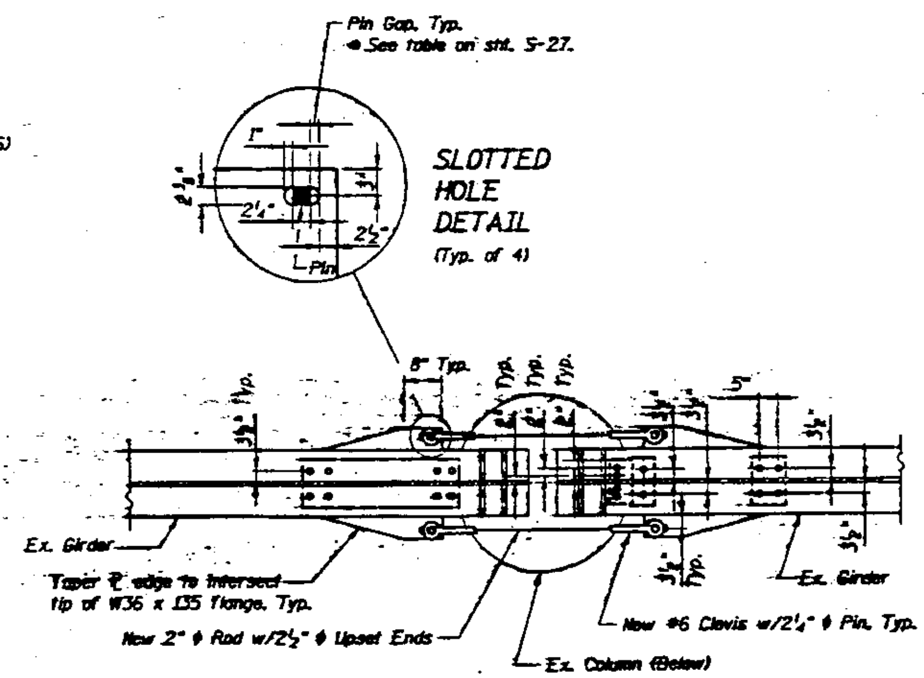
SECTION A/S9



Note:

1. Some locations will require new band and bumper ℞ assembly. Appropriate details are called out on elevations of affected piers.

ELEVATION: BUMPER/TIE AT HAUNCHED GIRDER (2/S9)



SECTION B/S9

BUMPER/TIE ROD NOTES:

1. All bolt holes shall be standard round holes (ϕ+$\frac{1}{16}$") Unless Noted Otherwise.
2. All bumpers and tie rod connection plates shall be centered on the existing girder.
3. Tie Rods may be multiple bar sections with turnbuckles or single rods without turnbuckles.
4. The total length of the unthreaded portion of each tie rod assembly shall not be less than 1'-8".
5. Tie rods may extend 0" min. to $\frac{3}{4}$" max. into clevis and turnbuckle openings U.N.O.

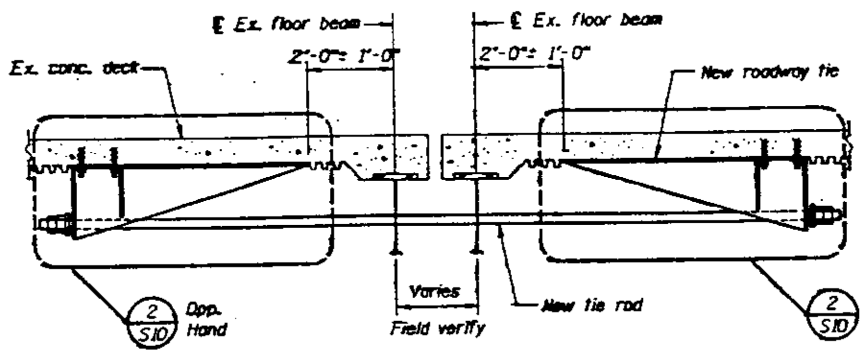
SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

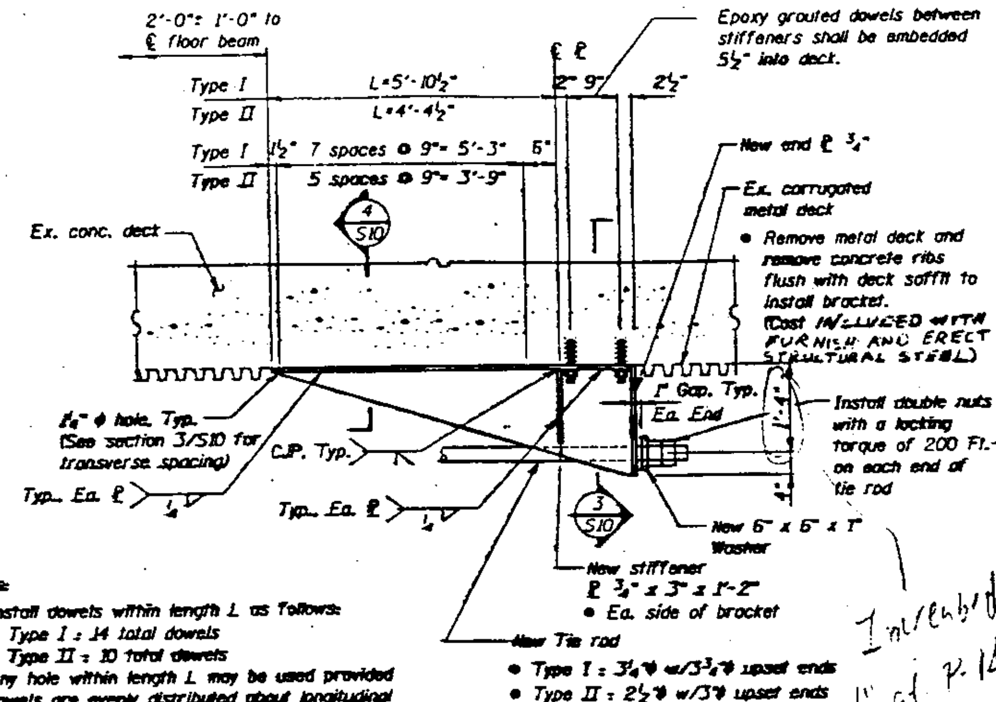
SCALE: NONE
DATE 1-23-98
CHECKED BY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	52

SHEET NO. S-10 SHEETS



ELEVATION - ROADWAY TIE (1/S10)



Notes:

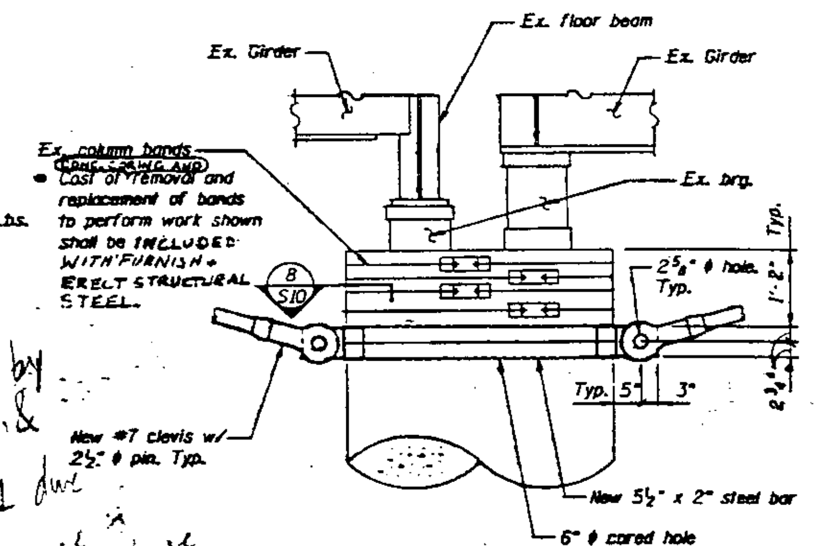
1. Install dowels within length L as follows:
   Type I : 14 total dowels
   Type II : 10 total dowels
   Any hole within length L may be used provided dowels are evenly distributed about longitudinal axis of bracket.
2. Unless noted otherwise, all dowels shall consist of 1" ϕ epoxy grouted dowels, embedded 4½" into deck.
3. Core drill 4" ϕ holes in floor beam webs to permit passage of rod.
4. Gap at end of tie rod was developed for an installation temperature of 50° F. For other installation temperatures decrease the gap by 0.05" for every 5° F below 50° F and increase the gap by 0.05" for every 5° F above 50° F.
5. Epoxy grouted dowel embedment shall be measured from the embedded end of the dowel to the smooth surface on the bottom of the concrete deck created by removing the concrete ribs.

ELEVATION - ROADWAY TIE (2/S10)

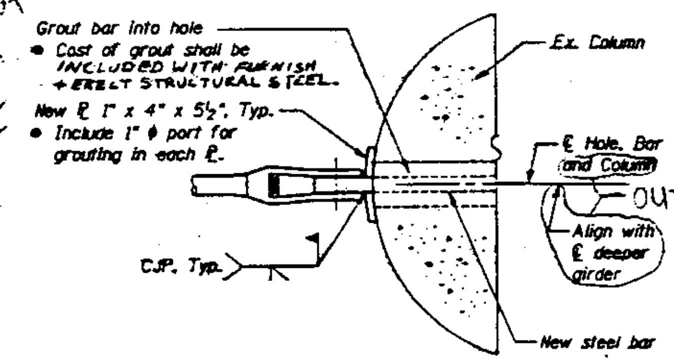
Added 1 x 1½ x 7 5/7 ℙ at 3/26 due to interference w/ top flange of floor beam

Increased by 1" at P14 & 5" at D11 due to interference of tie rod w/ top flange of floor beam. Bracket length & number of dowels increased from Type II to Type I at D11.

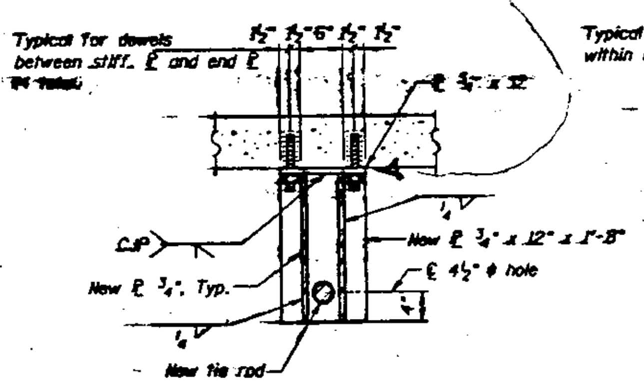
℄ Bracket & Rod may be skewed to ℄ girder.



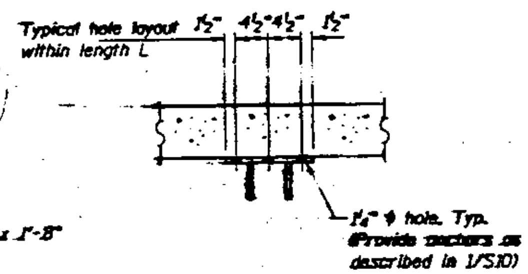
ELEVATION (7/S10)



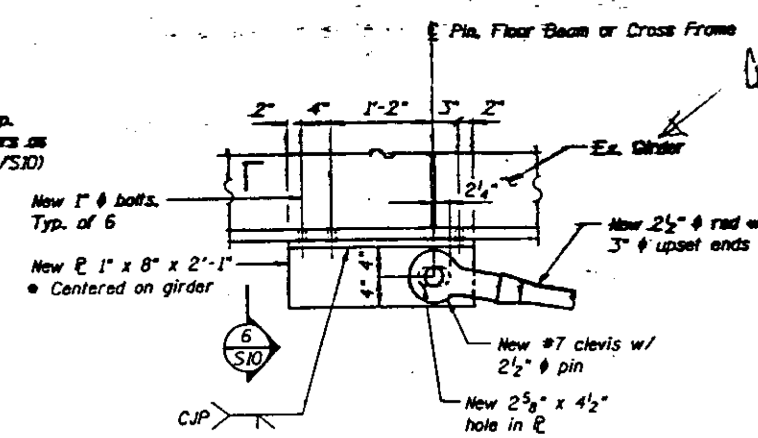
SECTION (8/S10)



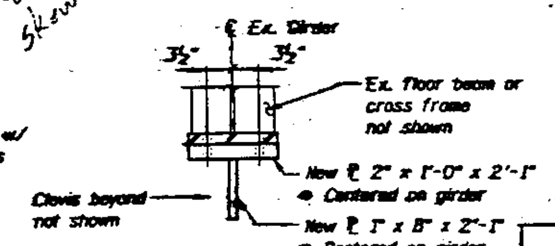
SECTION (3/S10)



SECTION (4/S10)



DETAIL (5/S10)



SECTION (6/S10)

SEISMIC RETROFIT DETAILS

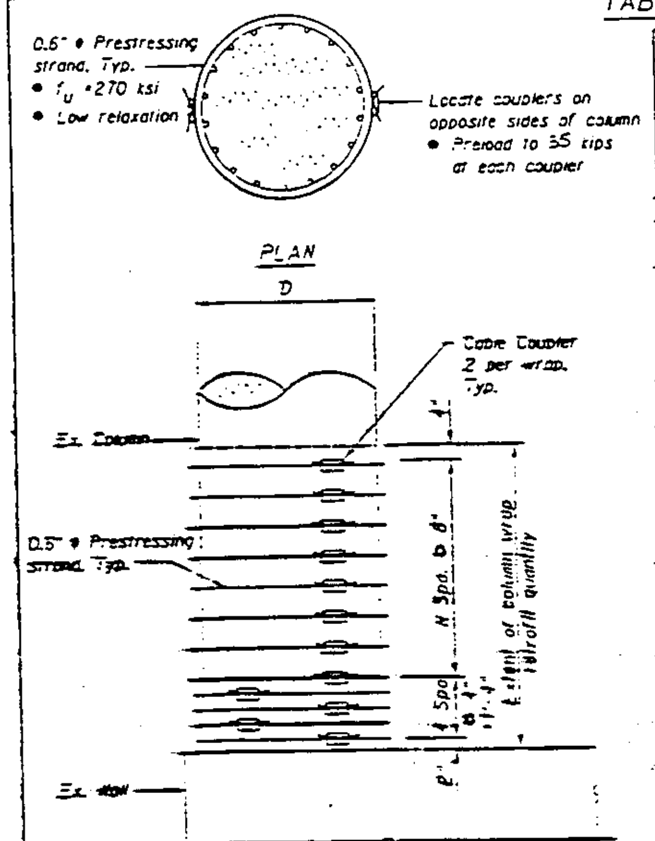
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY M) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

TABLE OF COLUMN WRAP AND TIE BEAM WRAP PARAMETERS

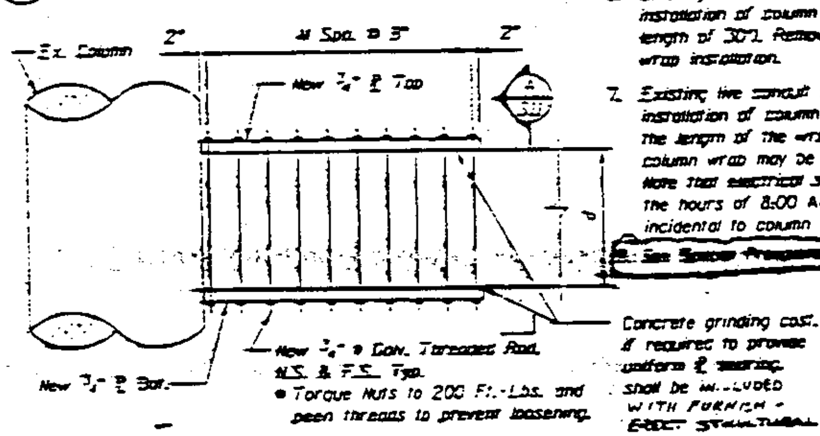
Pier	No. Cols.	D (in.)	N	M	b (in.)	a (in.)	Comments
D2	2	48	7	9	15	36	See Note 5
D4	2	54	8	9	15	36	
D5	2	48	7	—	—	—	
D6	2	48	7	9	18	36	
D7	2	48	7	9	21	36	
D8	2	48	7	—	—	—	
D9	2	48	7	9	24	36	See Note 5
D10	2	54	8	9	27	36	See Note 7
D12	2	48	—	—	—	—	See Note 4
D13	2	48	7	9	15	36	See Note 5
D14	2	48	7	—	—	—	See Note 5
D15	2	48	7	—	—	—	
D16	2	48	7	9	15	36	
D17	2	54	8	9	15	36	See Note 5
D18	2	48	7	—	—	—	
D19	2	48	7	9	15	35	
D20	2	48	7	—	—	—	
D21	2	48	—	—	—	—	See Note 4
D23	2	54	8	9	21	35	See Note 5
D24	2	54	8	9	24	36	See Note 5, 6 and 7
D25	2	54	8	—	—	—	See Note 7
D25	1	48	7	—	—	—	Wrap North Col. only
01-1	2	48	7	—	—	—	
02-1	2	48	7	—	—	—	
P14	2	48	7	—	—	—	Wrap Outside Cols. only
P15	2	54	—	—	—	—	See Note 4
H1	2	48	7	—	—	—	
H3	2	48	7	9	21	35	See Note 5
H4	2	48	7	9	18	35	See Note 5

Notes:
1. Complete all specified dowel bar modifications and concrete repairs at least 3 days before wrapping any member.
2. See detail 1/S11 for column wrap U.N.O.
3. See detail 2/S11 for tie beam wrap U.N.O.
4. See detail 6/S12 for column wrap.
5. See detail 2/S13 for modifications to the tie beam wrap.
6. Existing dead conduit along face of column interferes with installation of column wrap. Remove conduit (approximate length of 30'). Removal cost shall be incidental to column wrap installation.
7. Existing live conduit along face of column interferes with installation of column wrap. Conduit shall be rerouted over the length of the wrap by a qualified electrician such that column wrap may be installed (approximate length of 6'-2"). Note that electrical service may only be interrupted between the hours of 8:00 AM and 4:00 PM. Relocation cost shall be incidental to column wrap installation.
8. See Special Provisions for column wrap requirements.



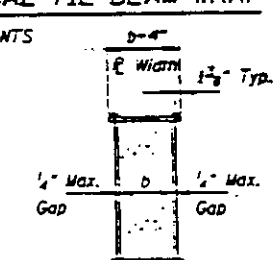
Note:
1. See table for dimensions not shown and additional notes.
2. Alternative column wraps may be used. See Special Provisions.

1/S11 ELEVATION - TYPICAL COLUMN WRAP
Scale : NTS

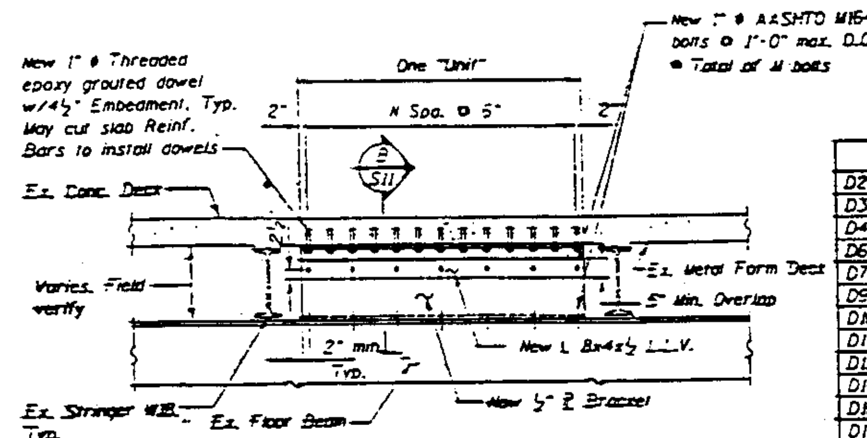


Notes: 1. See table for dimensions not shown and additional notes.
2. Wrap each end as shown.

2/S11 ELEVATION - TYPICAL TIE BEAM WRAP
Scale : NTS

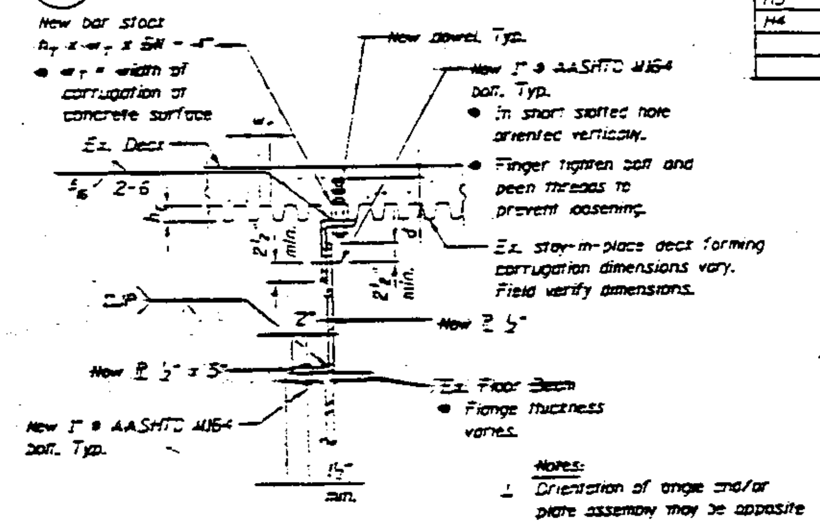


A/S11 SECTION
Scale : ½"=1'-0"



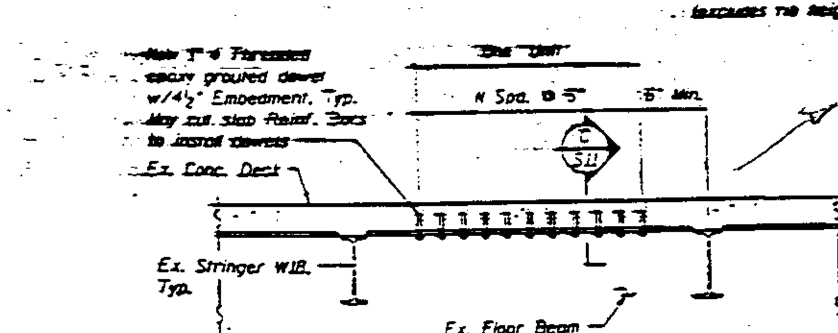
Notes: 1. See table for number of "units" per pier.
2. See table for N.

3/S11 ELEVATION - SLAB FLOOR BEAM CONNECTION



Notes:
1. Orientation of angle and/or plate assembly may be opposite hand to that shown.
2. Epoxy grouted dowel embedment length (d) shall be measured from the embedded end of the dowel to the bottom of the corrugation excludes the height.

B/S11 SECTION



Notes: 1. See table for number of "units" per pier.
2. See table for N.

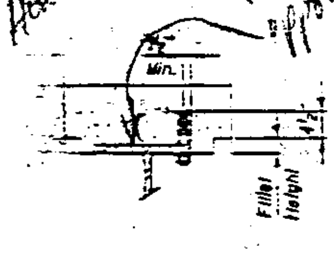
4/S11 ELEVATION - SLAB FLOOR BEAM CONNECTION

Per Howard Hill on 6/27/2005: These dowels can be placed in adjacent bays or on the opposite side of the stringer (Interference w/ finger plate stools at D-22.

TABLE OF SLAB/FLOOR BEAM CONNECTION

Pier	No. of Units	N Per Unit	M Per Unit	Ref. Detail	Comments
D2	2	9	5	3/S-11	
D3	1	5	3	3/S-11	
D4	2	8	5	3/S-11	
D6	2	8	5	3/S-11	
D7	2	5	3	3/S-11	
D9	2	7	4	3/S-11	
D10	2	7	4	3/S-11	
D11	1	7	4	4/S-11	See Note 1
D13	2	8	5	3/S-11	
D14	1	8	5	3/S-11	
D16	1	9	5	3/S-11	
D17	2	7	4	3/S-11	
D19	2	9	5	3/S-11	
D20	1	10	6	3/S-11	
D22	1	7	4	4/S-11	See Note 2
D23	4	7	4	3/S-11	
D24	4	7	4	3/S-11	
D25	2	8	5	3/S-11	
H3	2	8	5	3/S-11	
H4	2	10	6	3/S-11	

Notes:
1. West side expansion joint only.
2. East side expansion joint only.



Note: Epoxy grouted dowel embedment length shall be measured from the bottom of the concrete slab to the end of the dowel excluding the fillet height.

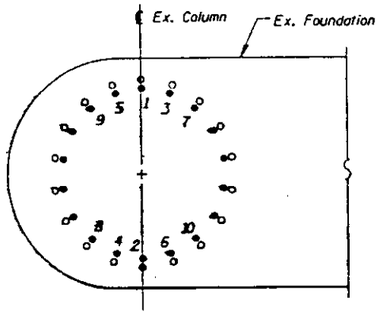
C/S11 SECTION

SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

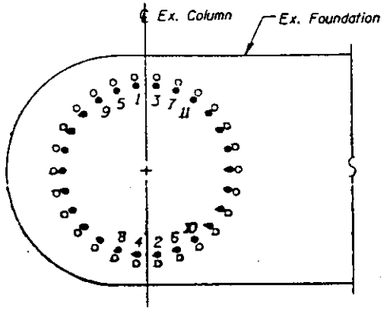
SCALE: AS NOTED
DATE 1-23-98

Revised 7-9-98 R.S.



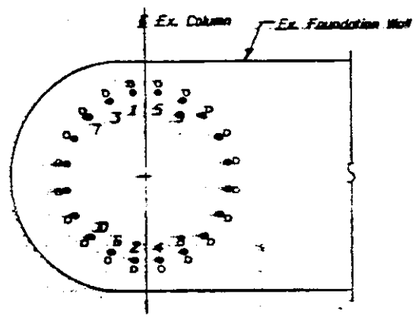
● Foundation Wall dowel bar (#10 or #11 bar)
○ Outline of column bar

1 / S12 SECTION - FOUNDATION WALL DOWELS
(18 Bar Layout)



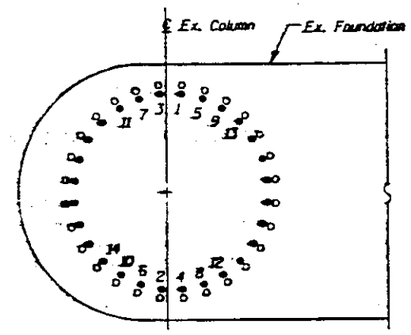
● Foundation Wall dowel bar (#11 bar)
○ Outline of column bar

4 / S12 SECTION - FOUNDATION WALL DOWELS
(26 Bar Layout)



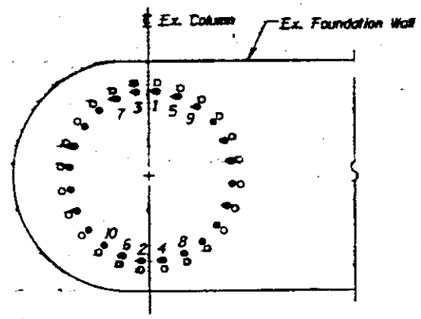
● Foundation Wall dowel bar (#10 or #11 bar)
○ Outline of column bar

2 / S12 SECTION - FOUNDATION WALL DOWELS
(20 Bar Layout)



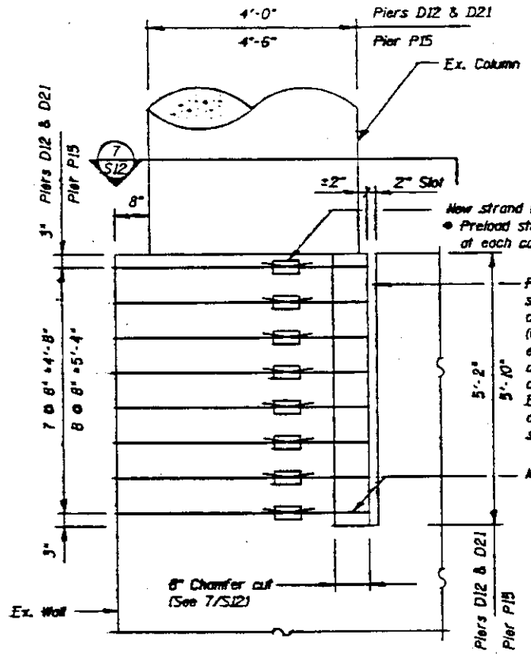
● Foundation Wall dowel bar (#11 bar)
○ Outline of column bar

5 / S12 SECTION - FOUNDATION WALL DOWELS
(28 Bar Layout)

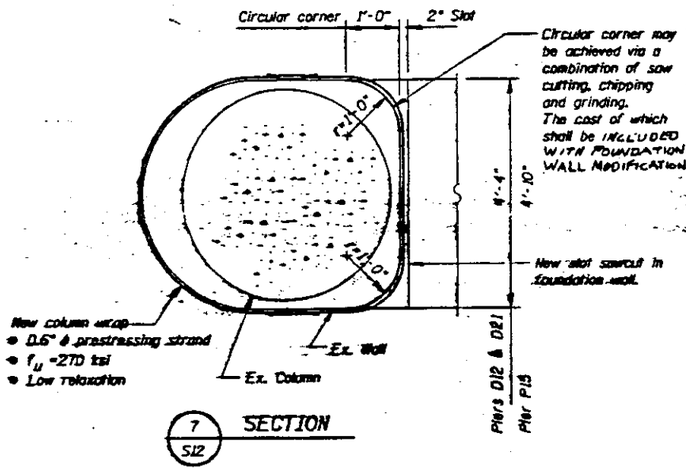


● Foundation Wall dowel bar (#11 bar)
○ Outline of column bar

3 / S12 SECTION - FOUNDATION WALL DOWELS
(24 Bar Layout)



6 / S12 ELEVATION - PIERS D12, D21 & P15



7 / S12 SECTION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	34
FED.ROAD DIST. NO. /	STATE	CONTRACT NO.		

SHEET NO. S-12
SHEETS

FOUNDATION WALL DOWEL MODIFICATION TABLE

Pier	Modifications per pier	Ref. Detail	No. of bars cut per modification	Comments
D4	2	1/S12	2	
D5	2	1/S12	8	
D6	2	1/S12	4	
D8	2	1/S12	8	
D9	2	1/S12	6	
D13	2	1/S12	6	
D15	2	1/S12	8	
D17	2	3/S12	6	
D18	2	1/S12	8	
D19	2	1/S12	4	
D24	2	1/S12	6	
D25	2	2/S12	6	
D26	2	1/S12	4	See Note 7
P14	2	1/S12	2	See Note 8
H1	2	2/S12	10	
H4	2	1/S12	4	

Notes:

1. Cut number of foundation dowel bars indicated. To determine which bars to cut, see reference detail and cut bars starting with number 1 and finishing with the number shown in the table.

   Example: Pier D6 cut dowel bars 1, 2, 3 and 4 as labeled in detail 1/S12.

2. The contractor shall positively discern between column longitudinal reinforcing bars and foundation wall dowel bars prior to cutting any bars.
3. Dowel bars to be cut must be cut within 2" of top of foundation wall. Corresponding column bars may also be cut at the same location.
4. Concrete removal areas shall be limited to 1'-6" in height and shall be no deeper than 1½" clear inside the vertical bars.
5. Concrete removal and repair costs shall be incidental to the foundation wall dowel modification. All unsound concrete caused by bar cutting shall be removed prior to concrete repair. See sheet S-25 for concrete removal and repair details.
6. Excavation required to perform foundation wall dowel modifications. See sheet S-28 for additional information.
7. Modify dowels for north column only.
8. ~~Modify dowels for south column only.~~

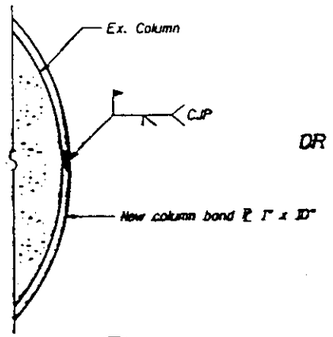
SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

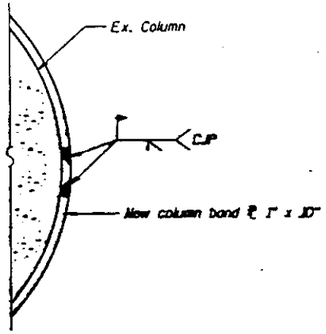
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0155 (ROADWAY B) STRUCTURE NO. 082-0156 (RAMP D)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY MH

F.A.L. 78	4R	ST. CLAIR	94	55

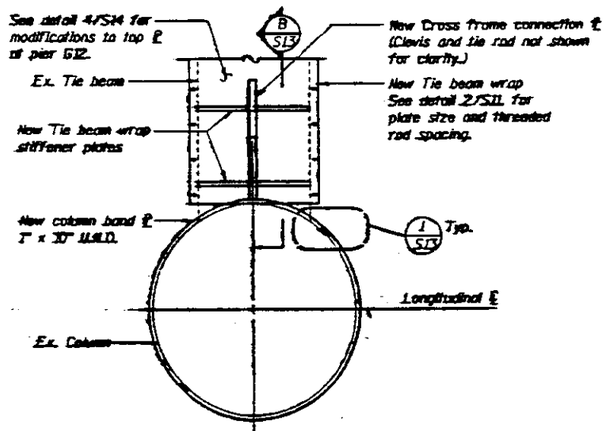
SHEET NO. S-13
SHEETS



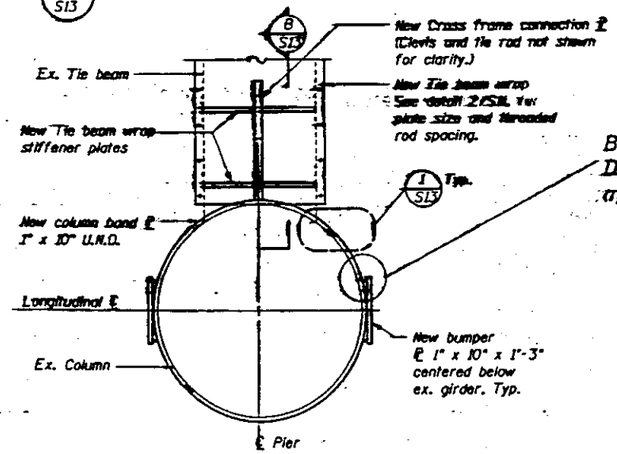
OR



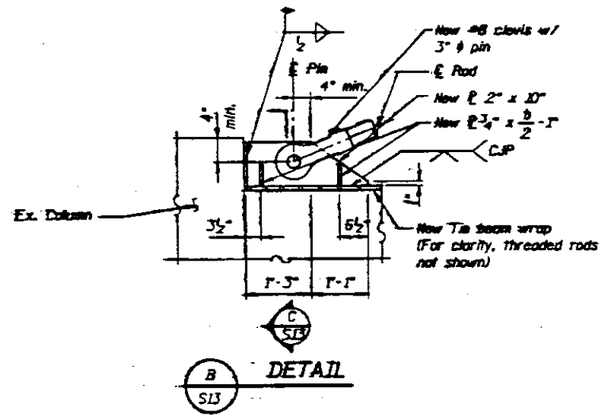
1 / S13 COLUMN BAND CONNECTION OPTIONS

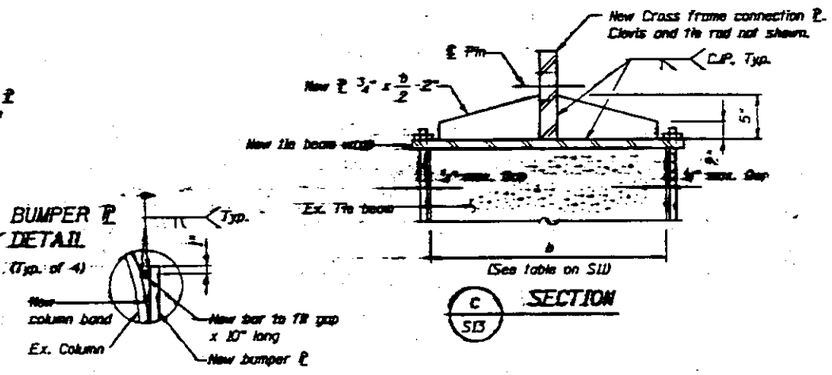


2 / S13 CROSS FRAME COLUMN BAND DETAIL



3 / S13 COLUMN BAND DETAIL AT PIERS WITH BUMPERS & CROSS FRAMES





Notes:

1. Ex. Column wraps at the top of the columns shall be removed prior to the installation of the new column bands. REMOVAL OF EX. WRAPS SHALL BE INCLUDED WITH ⊕
2. Joint sprue between the column band and concrete column surface to ensure uniform bearing of the band. The cost shall be INCLUDED WITH FURNISH & ERECT STRUCTURAL STEEL.
3. Prior to shop painting, mask off area of column band and cross frame connection plate interface. Field touch-up of paint shall be INCLUDED WITH FURNISH & ERECT STRUCTURAL STEEL.

⊕ FURNISH & ERECT STRUCTURAL STEEL.

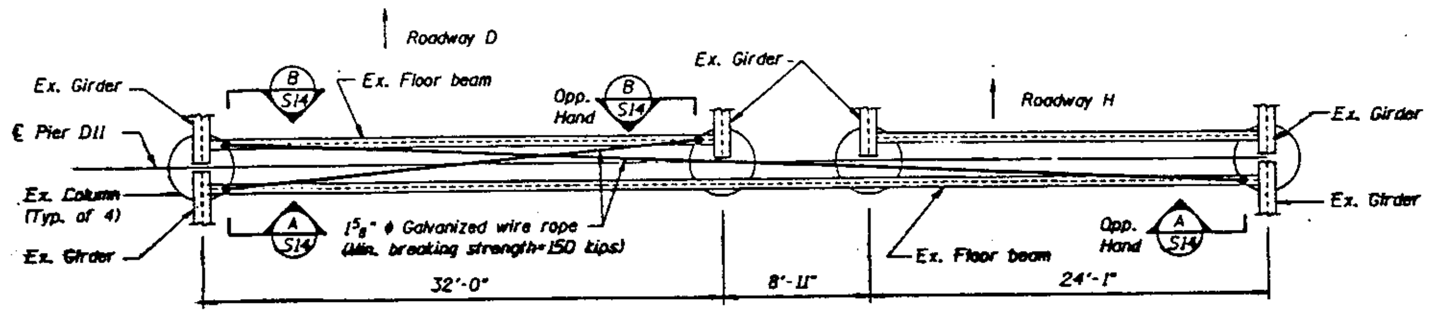
SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

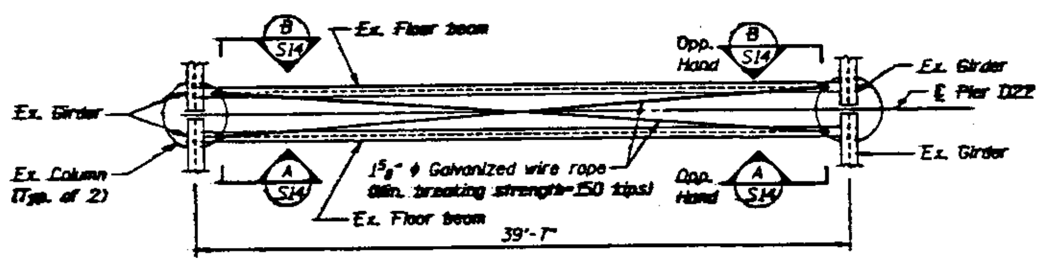
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0256 (ROADWAY B) STRUCTURE NO. 082-0255 (RAMP G)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY MK

F.A.I. 70	*	ST. CLAIR	91	56

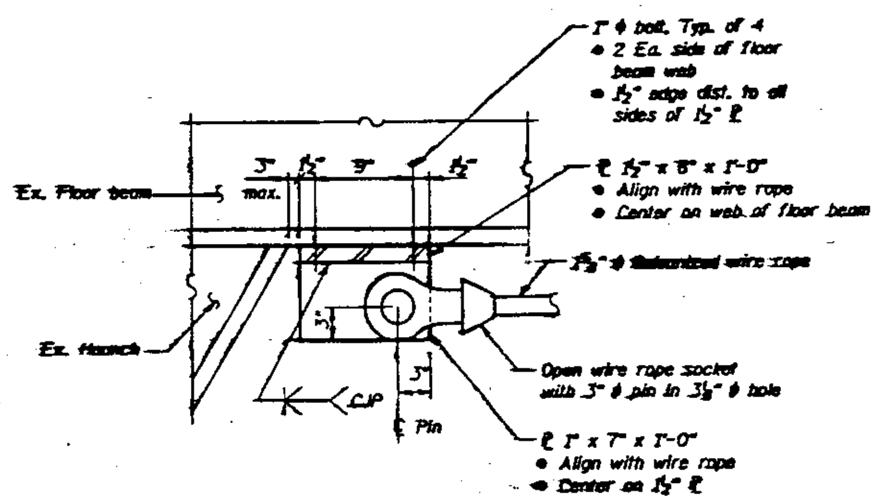
SHEET NO. S-14



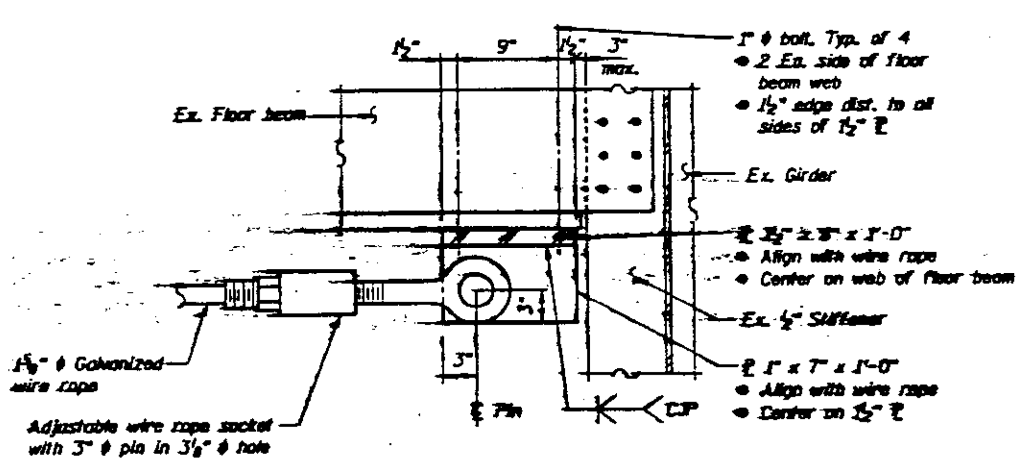
SHEAR TRANSFER ASSEMBLY AT PIER D11



SHEAR TRANSFER ASSEMBLY AT PIER D22



SECTION A

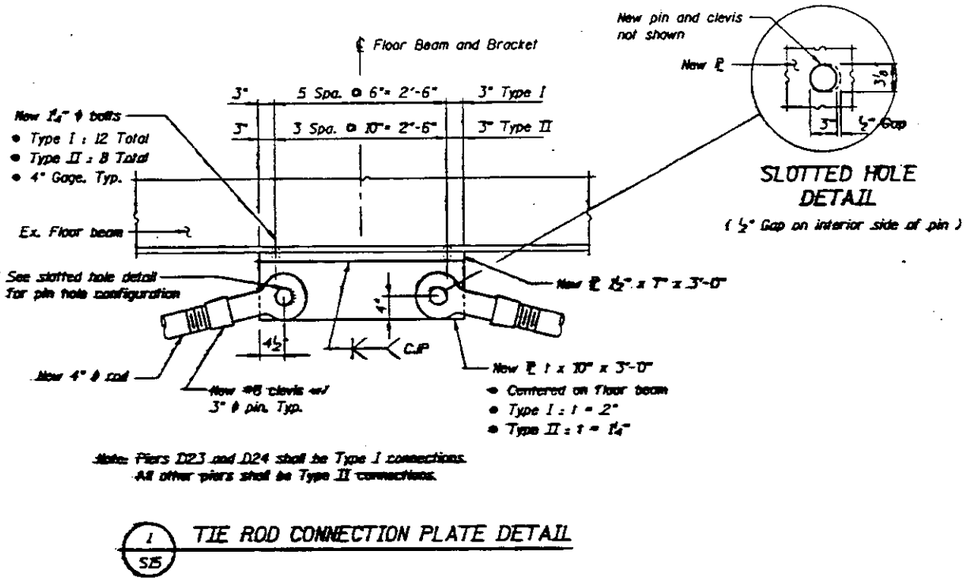


SECTION B

SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
SCALE: 3-23-98 DRAWN BY
DATE AS NOTED CHECKED BY

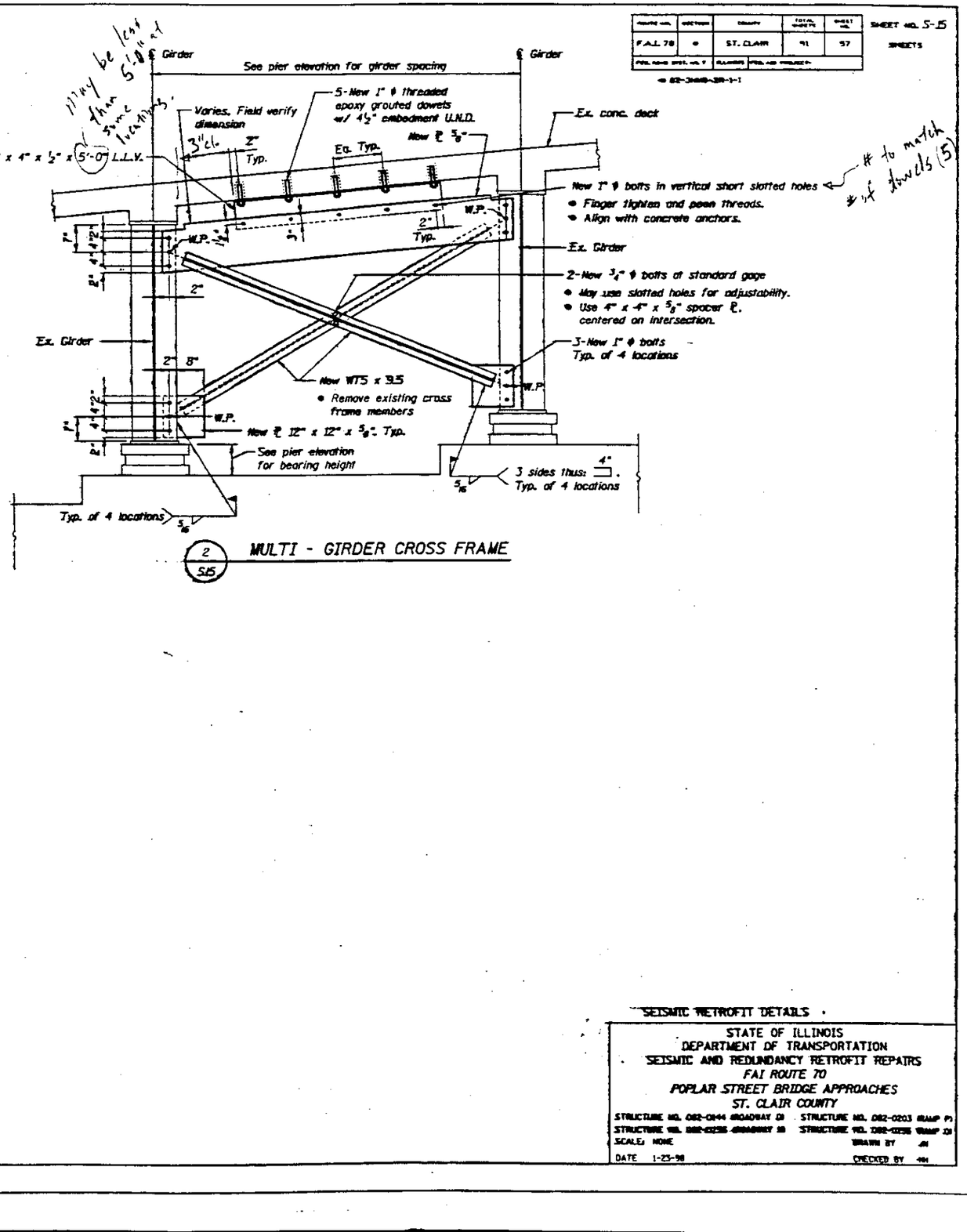


Note: Piers D23 and D24 shall be Type I connections. All other piers shall be Type II connections.

1 S15 TIE ROD CONNECTION PLATE DETAIL

SLOTTED HOLE DETAIL

(½" Gap on interior side of pin)



2 S15 MULTI - GIRDER CROSS FRAME

			TOTAL SHEETS	SHEET NO.
F.A.I. 70	0	ST. CLAIR	91	57
				SHEETS

SHEET NO. S-15

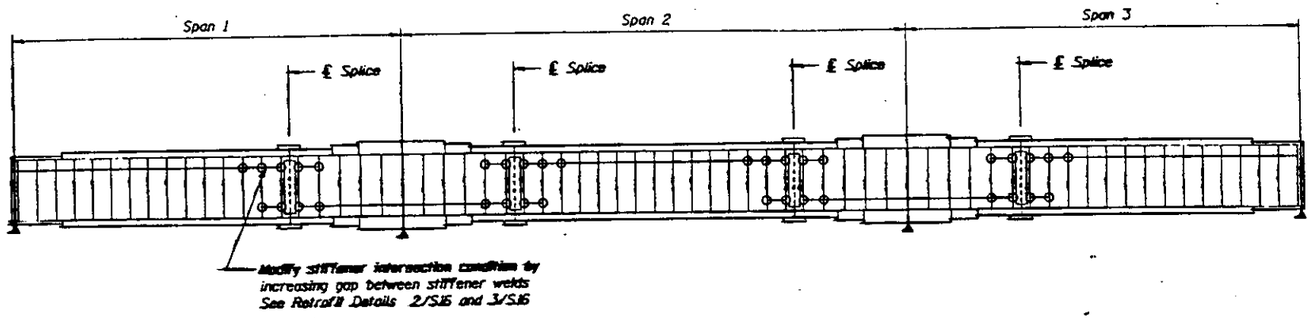
SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

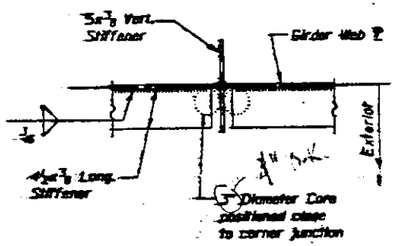
STRUCTURE NO. 082-0244 (BROADWAY EB) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0235 (BROADWAY WB) STRUCTURE NO. 082-0255 (RAMP J)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY MH

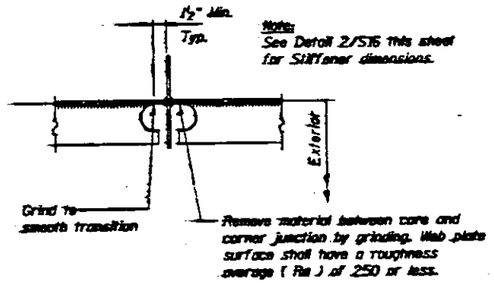
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	58

SHEET NO. S-16
SHEETS



1/S16 GIRDER ELEVATION INDICATING TYPICAL FRACTURE CONTROL MODIFICATION LOCATIONS





Procedure :

1. Core 3" diameter holes positioned close to corner junction through 1/2" thick longitudinal stiffener as shown in detail 2/S16.
2. Remove material between core and intersection junction by grinding with carbide tools and a dye grinder as shown in detail 3/S16. Web plate surface shall have a roughness average (R_a) of 250 or less.
3. Remove all burrs from cut edge and check for irregularities. Cored surface shall have an R_a equal to 500 or less.
4. After burr removal the modification shall be inspected using magnetic particle (MT) methods. Notify Engineer if a crack is detected. (cost incidental to stiffener intersection modification).
5. The exposed steel surfaces shall be cleaned and painted using an aluminum epoxy mastic primer.
6. Obtain approval of Engineer before proceeding.
7. Paint area with top coat.

2/S16 STIFFENER INTERSECTION MODIFICATION DETAIL

3/S16 STIFFENER INTERSECTION MODIFICATION DETAIL

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
Stiffener intersection modification	EACH	864

STIFFENER INTERSECTION MODIFICATION DETAIL

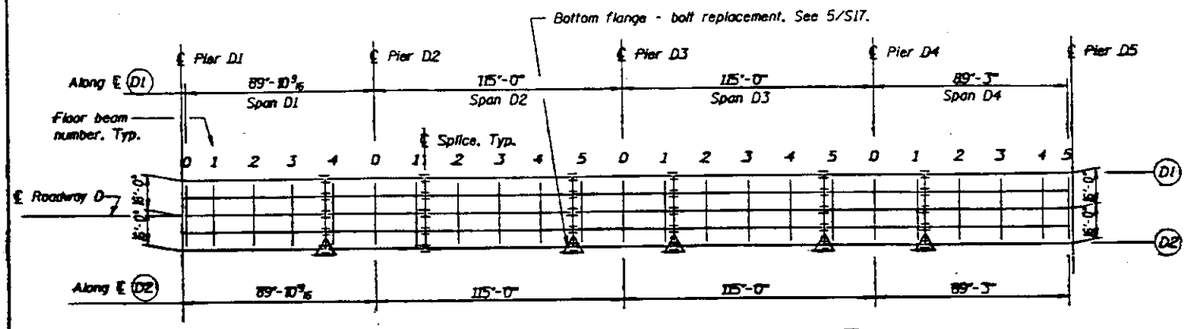
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY 2) STRUCTURE NO. 082-0203 (RAMP P1)
STRUCTURE NO. 082-0205 (ROADWAY 4) STRUCTURE NO. 082-0212 (RAMP 2)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY HH

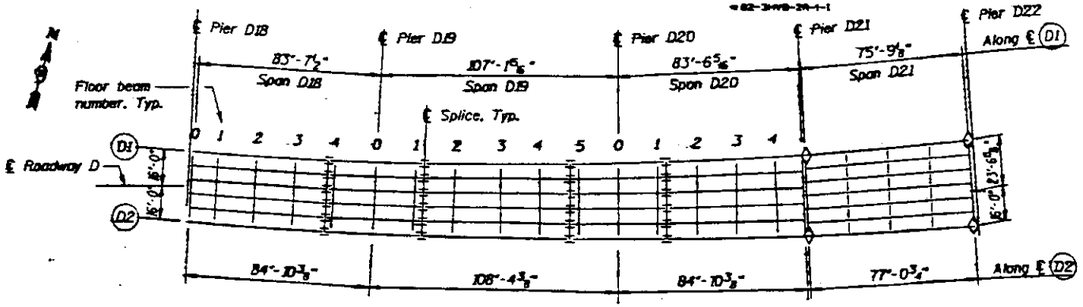
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	68
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

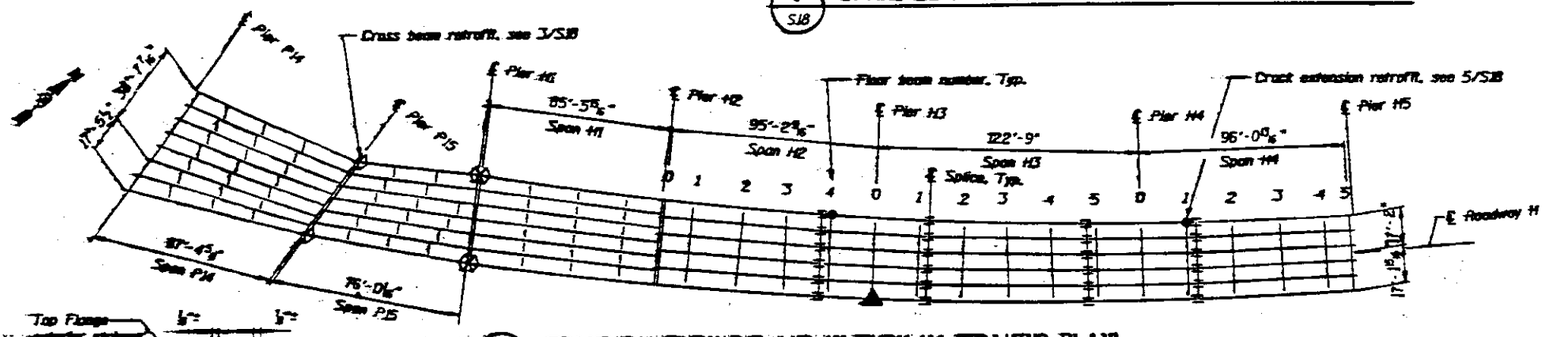
SHEET NO. S-18
SHEETS

* 82-3HRB-2R-1-1



1 / S18 SPANS D1 THRU D4 AND D18 THRU D21 (FRAMING PLAN)





2 / S18 SPANS P14 THRU P15 AND H1 THRU H4 (FRAMING PLAN)

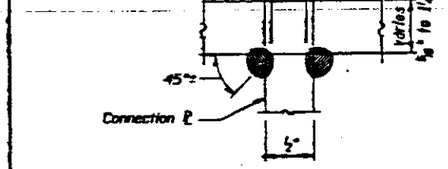
LEGEND

△ Bottom flange splice - bolt replacement (5 locations, this sheet). See 5/S17.

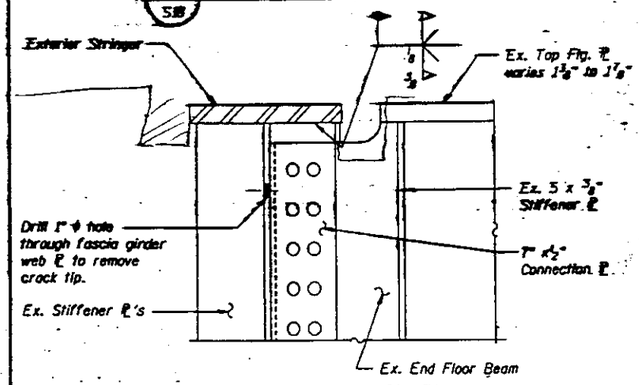
◇ Cross beam retrofit (10 locations). See 3/S18

● Crack extension retrofit (2 locations, this sheet). See 5/S18

▲ Bolt replacement (1 bolt this sheet) See Note 1, sheet S17.



4 / S18 WELD DETAIL

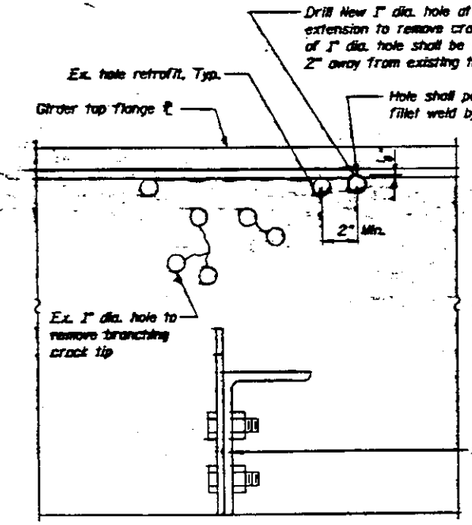


3 / S18 CROSS BEAM RETROFIT

Procedure:

1. Inspect floor beam connection region in the vicinity of the top flange for cracking and determine crack tip locations using magnetic particle (MT) inspection methods.*
2. Drill 1" diameter hole at end of crack extension to remove crack tip. Re-inspect area using MT methods to verify crack tip removal.*
3. Vacuum blast (SSPC SP-10) an area approximately 8" on each side of the connection plate at top flange determination. Note existing paint contains lead.
4. Grind ends of connection plate to obtain an approximate 1/4" bevel as shown in Detail 4/S18. Clean weld fit up area to remove contaminants.
5. Eliminate traffic from roadway lane adjacent to connection being welded. Install small groove and fillet welds at connection plate and top flange plate using SMAW low hydrogen E7018 electrodes as shown in Detail 4/S18. Minimum preheat and interpass temperature shall be followed in strict accordance with AWS D1.5-95. Preheat girder flange to a minimum of 150°F prior to any welding. Maintain 150°F as a minimum interpass temperature.
6. After welding is complete, open roadway to traffic.
7. Following cool-down period, the welds shall be visually and MT inspected.*
8. Obtain approval of Engineer before proceeding.
9. Clean exposed steel surfaces to remove any contaminants or rusting. Paint surfaces with an aluminum epoxy mastic primer/acrylic paint system.

* COST OF ALL MT TESTING SHALL BE INCIDENTAL TO CROSS BEAM RETROFIT.



5 / S18 CRACK EXTENSION RETROFIT AT FIRST INTERIOR FLOOR BEAMS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Crack extension MODIFICATIONS	EACH	2
Cross beam retrofit	EACH	10

Procedure:

1. Inspect girder web plate in region of welding retrofits to determine location of crack extensions and crack tip using magnetic particle inspection (MT) methods. (Cost incidental to crack extension MODIFICATIONS at pier)
2. Drill 1" diameter hole at end of crack extension to remove crack tip. Center of 1" diameter hole shall be positioned in accordance with detail 5/S18.
3. Cored surfaces shall have a Roughness Average (R_a) of 500 or less.
4. Re-inspect area using MT methods to verify crack does not extend past the newly drilled holes. (COST INCIDENTAL TO CRACK EXTENSION MODIFICATIONS).
5. Obtain approval of Engineer.
6. Clean exposed steel surface to remove contaminants and paint with an aluminum epoxy mastic primer.

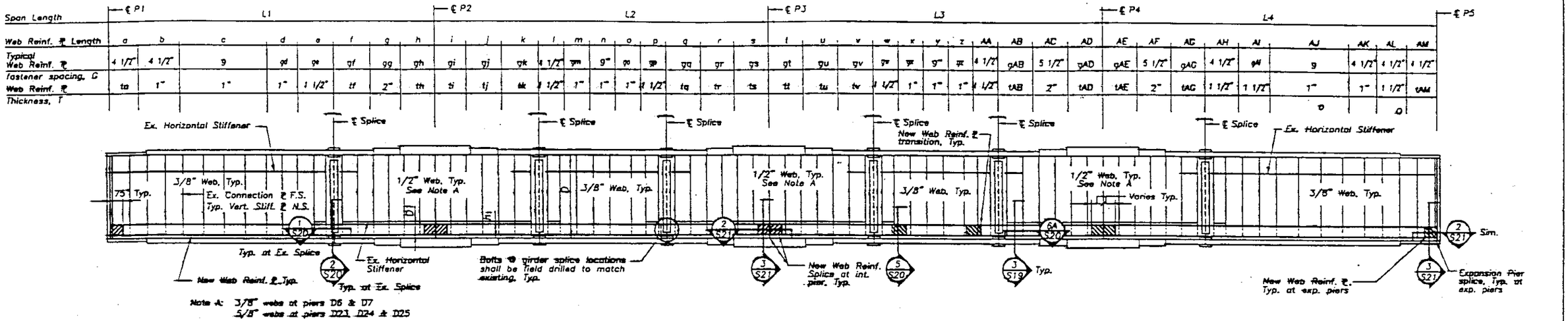
CRACK EXTENSION AND CROSS BEAM RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0266 (ROADWAY H) STRUCTURE NO. 082-0265 (RAMP H)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	4R	ST. CLAIR	81	57
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. S-19
SHEETS

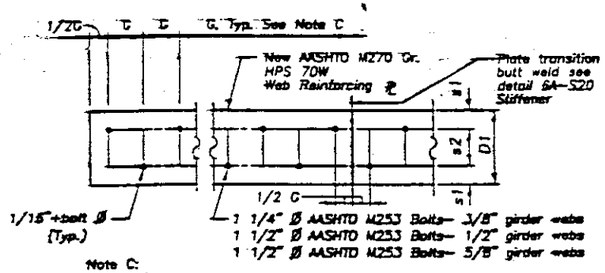


Note A: 3/8" webs at piers D6 & D7
5/8" webs at piers D23, D24 & D25

(1/S19) GIRDER 2 ELEVATION INDICATING TYPICAL REDUNDANCY RETROFIT LOCATIONS (1)

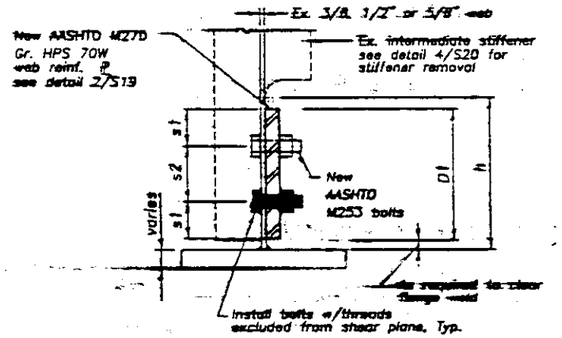
(Girder 1 Opposite Hand)

NOTE: SEE TABLE OF WEB REINFORCEMENT PLATE PARAMETERS SHEET S-19A



Note C:
Bolt hole locations must be field verified. Longitudinal hole positions will require adjustments in the vicinity of floor beam connections, interior stiffener plates and web splices. Where an interior stiffener plate interferes with bolt spacing, adjust spacing of bolt the minimum amount required to avoid stiffener and then resume spacing, G.

(2/S19) WEB REINFORCEMENT PLATE ELEVATION (1)



(3/S19) TYPICAL WEB REINFORCEMENT PLATE (1)

Roadway Spans	Web Reinforcement Plate					
	D	D1	s1	s2	h	h1
	in.	in.	in.	in.	in.	in.
D1-D4	84	14	4	6	15	17
D5-D7	84	14	4	6	15	17
D8-D10	84	14	4	6	15	17
D12-D14	72	12	3	6	13	15
D15-D17	72	12	3	6	13	15
D18-D20	84	14	4	6	15	17
D22-D25	84	14	4	6	15	17
H2-H4	84	14	4	6	15	17

BILL OF MATERIAL (1)

ITEM	UNIT	QUANTITY
Steel girder web reinforcement plate	Lbs.	459,700
Vertical web stiffener removal	EACH	1,226

MINIMUM BOLT LENGTH (1)

Bolt Diameter	Girder Web Plate	Total Reinforcement Plate Thickness							
		1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2
in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1 1/2	5/8	na	4.50	5.00	5.50	na	na	na	7.50
1 1/2	1/2	3.25	4.25	4.75	5.25	5.75	6.25	6.75	7.50
1 1/4	3/8	3.50	4.00	4.50	5.00	5.50	na	na	na

Note B : Includes (1) 5/32" hardened washer each end.

REVISIONS	
NAME	DATE
JDH	10/21/98

(1)

REDUNDANCY RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (NORTHBOUND) STRUCTURE NO. 082-0205 (RAMP F)
STRUCTURE NO. 082-0288 (SOUTHBOUND) STRUCTURE NO. 082-0289 (RAMP C)

SCALE: NONE
DATE 1-23-98
DRAWN BY JH
CHECKED BY HH

Route No.	Section	County	Total Sheets	Sheet No.
F.A.I. 70	[illegible]	ST. CLAIR	[illegible]	61A

SHEET NO. S-19A

SHEETS

TABLE OF WEB REINFORCEMENT PLATE PARAMETERS (A)

SPAN 1

Roadway	Girder	P1	L1	a	ta	b	c	d	gd	e	ge	f	gf	tf	g	gg	h	gh	th
			ft.	ft.	in.	ft.	ft.	ft.	in.	ft.	in.	ft.	in.	in.	ft.	in.	ft.	in.	in.
D	1	D1	88.88	11.25	1	0.00	45.75	8.50	6	0.00	—	10.50	6	1	0.00	—	12.50	6	1.50
D	2	D1	88.25	10.88	1	0.00	45.75	8.50	6	0.00	—	10.00	6	1	0.00	—	12.50	6	1.50
D	1	D5	80.25	10.88	1	0.00	38.25	18.50	4.50	0.00	—	0	—	—	0.00	—	14.63	4.50	1.50
D	2	D5	80.33	10.88	1	0.00	38.25	18.50	4.50	0.00	—	0	—	—	0.00	—	14.63	4.50	1.50
D	1	D8	80.25	17.25	1	0.00	24.75	12.38	4.50	0.50	6	11.00	6	1.50	0.00	—	14.00	6	2.00
D	2	D8	80.33	17.25	1	0.00	24.75	12.38	4.50	0.50	6	11.00	6	1.50	0.00	—	14.00	6	2.00
D	1	D12	88.45	13.13	1.50	12.00	17.25	12.38	4.50	10.50	4.50	0.50	6	1.50	10.00	6	13.00	6	2.50
D	2	D12	90.04	13.13	1.50	12.00	18.00	12.75	4.50	10.88	4.50	0.50	6	1.50	10.00	6	13.00	6	2.50
D	1	D15	83.50	12.00	1.50	11.25	17.25	12.00	4.50	8.38	4.50	1.00	6	1.50	9.50	6	11.00	6	2.50
D	2	D15	85.00	12.00	1.50	11.63	18.00	12.00	4.50	9.38	4.50	1.00	6	1.50	9.50	6	11.00	6	2.50
D	1	D18	83.63	10.50	1	0.00	42.00	8.00	6	0.00	—	8.50	6	1	0.00	—	12.00	6	1.50
D	2	D18	84.87	10.50	1	0.00	43.50	8.00	6	0.00	—	8.50	6	1	0.00	—	12.00	6	1.50
D	1	D22	98.18	12.00	1.50	13.13	23.25	13.50	4.50	10.88	4.50	0.82	5.50	1.50	10.54	5.50	13.75	5.50	2.50
D	2	D22	98.87	12.38	1.50	13.13	24.00	13.50	4.50	10.88	4.50	1.38	5.50	1.50	10.54	5.50	13.75	5.50	2.50
H	1	H2	86.21	17.63	1	0.00	38.00	15.75	4.50	0.50	6	14.00	6	1.50	0.00	—	10.50	6	2
H	2	H2	87.50	18.00	1	0.00	37.50	19.13	4.50	0.50	6	14.50	6	1.50	0.00	—	10.50	6	2

SPAN 2

Roadway	Girder	P2	L2	i	gi	ti	j	gj	tj	k	gk	tk	l	m	gm	n	o	go	p	gp	q	gq	tq	r	gr	tr	s	gs	ts
			ft.	ft.	in.	in.	ft.	in.	in.	ft.	in.	in.	ft.	ft.	in.	ft.	ft.	in.	ft.	in.	ft.	in.	in.	ft.	in.	in.	ft.	in.	in.
D	1	D2	115.00	12.50	6	1.50	0.00	—	—	10.50	6	1	0.00	10.00	6	48.00	10.00	6	0.00	—	10.50	6	1	0.00	—	—	12.50	6	1.50
D	2	D2	115.00	12.50	6	1.50	0.00	—	—	10.50	6	1	0.00	10.00	6	48.00	10.00	6	0.00	—	10.50	6	1	0.00	—	—	12.50	6	1.50
D	1	D6	105.00	18.50	4.50	1.50	0.00	—	—	0.00	—	—	0.00	12.75	4.50	38.25	16.50	4.50	0.00	—	0.00	—	—	0.00	—	—	17.63	4.50	1.50
D	2	D6	105.11	18.88	4.50	1.50	0.00	—	—	0.00	—	—	0.00	12.75	4.50	38.25	16.50	4.50	0.00	—	0.00	—	—	0.00	—	—	17.63	4.50	1.50
D	1	D9	104.18	15.00	6	2	0.00	—	—	4.50	6	1.50	2.00	12.38	4.50	22.50	12.38	4.50	3.50	6	7.50	6	1.50	0.00	—	—	19.00	6	2.00
D	2	D9	107.08	15.50	6	2	0.00	—	—	8.50	6	1.50	2.00	12.75	4.50	23.25	12.75	4.50	3.50	6	7.50	6	1.50	0.00	—	—	19.50	6	2.00
D	1	D13	113.98	13.00	6	2.50	9.50	6	2	0.75	4.50	2	10.88	13.50	4.50	17.25	13.50	4.50	10.88	4.50	0.75	4.50	2	9.50	6	2	13.00	6	2.50
D	2	D13	116.02	13.00	6	2.50	10.00	6	2	0.75	4.50	2	10.88	13.88	4.50	18.00	13.88	4.50	10.88	4.50	0.75	4.50	2	10.00	6	2	13.00	6	2.50
D	1	D16	107.95	11.00	6	2.50	10.00	6	2	0.50	6	1.50	10.13	13.13	4.50	17.25	13.13	4.50	10.13	4.50	0.50	6	1.50	10.00	6	2	11.00	6	2.50
D	2	D16	108.85	11.00	6	2.50	10.00	6	2	1.00	6	1.50	10.13	13.13	4.50	18.00	13.13	4.50	10.13	4.50	1.00	-6	1.50	10.00	6	2	11.00	6	2.50
D	1	D19	107.18	12.00	6	1.50	0.00	—	—	8.50	6	1	0.00	8.50	6	44.25	10.00	6	0.00	—	9.00	6	1	0.00	—	—	12.50	6	1.50
D	2	D19	108.78	12.00	6	1.50	0.00	—	—	8.50	6	1	0.00	9.50	6	45.00	10.00	6	0.00	—	9.00	6	1	0.00	—	—	12.50	6	1.50
D	1	D23	126.38	14.87	5.50	2.50	10.54	5.50	2	0.75	4.50	2	10.88	13.50	4.50	22.50	13.50	4.50	10.50	4.50	3.38	4.50	2	7.79	5.50	2	17.42	5.50	2.50
D	2	D23	128.83	14.67	5.50	2.50	11.00	5.50	2	0.75	4.50	2	10.88	13.88	4.50	23.25	13.88	4.50	10.88	4.50	3.38	4.50	2	7.79	5.50	2	17.88	5.50	2.50
H	1	H3	122.75	8.50	6	2	14.50	6	1.50	0.50	6	1	0.00	17.25	4.50	38.00	18.88	4.50	0.00	—	1.00	6	1	15.00	6	1.50	8.50	6	2
H	2	H3	125.28	9.50	6	2	15.00	6	1.50	0.50	6	1	0.00	17.63	4.50	38.75	18.88	4.50	0.00	—	1.00	6	1	15.00	6	1.50	9.00	6	2

SPAN 3

Roadway	Girder	P3	L3	t	gt	tt	u	gu	tu	v	gv	tv	w	gw	x	gx	y	z	gz	AA	AB	gAB	tAB	AC	AD	gAD	tAD
			ft.	ft.	in.	in.	ft.	in.	in.	ft.	in.	in.	ft.	in.	ft.	in.	ft.	ft.	in.	ft.	ft.	in.	in.	ft.	ft.	in.	in.
D	1	D3	115.00	12.50	6	1.50	0.00	—	—	10.50	6	1	0.00	—	10.00	6	48.00	10.00	6	0.00	10.50	6	1	0.00	12.50	6	1.50
D	2	D3	115.00	12.50	6	1.50	0.00	—	—	10.50	6	1	0.00	—	10.00	6	48.00	10.00	6	0.00	10.50	6	1	0.00	12.50	6	1.50
D	1	D7	80.25	17.25	4.50	1.50	0.00	—	—	0.00	—	—	0.00	—	15.00	4.50	35.25	0.00	—	0.00	0.00	—	—	0.00	12.75	4.50	1
D	2	D7	80.33	17.25	4.50	1.50	0.00	—	—	0.00	—	—	0.00	—	15.00	4.50	35.25	0.00	—	0.00	0.00	—	—	0.00	12.75	4.50	1
D	1	D10	78.54	18.00	6	2	0.00	—	—	7.00	6	1.50	3.50	6	10.88	4.50	20.25	10.13	4.50	0.00	0.00	—	—	0.00	8.38	4.50	1.50
D	2	D10	82.79	18.00	6	2	0.00	—	—	7.00	6	1.50	3.50	6	11.25	4.50	21.75	10.50	4.50	0.00	0.00	—	—	0.00	8.75	4.50	1.50
D	1	D14	88.45	13.00	6	2.50	10.00	6	2	0.00	—	—	10.50	4.50	12.38	4.50	17.25	12.00	4.50	0.00	0.00	—	—	0.00	13.13	4.50	1.50
D	2	D14	90.04	13.00	6	2.50	10.00	6	2	0.00	—	—	10.88	4.50	12.75	4.50	18.00	12.00	4.50	0.00	0.00	—	—	0.00	13.13	4.50	1.50
D	1	D17	83.50	11.00	6	2.50	9.50	6	2	1.00	6	1.50	8.38	4.50	12.00	4.50	17.25	11.63	4.50	0.00	0.00	—	—	0.00	12.00	4.50	1.50
D	2	D17	84.94	11.00	6	2.50	9.50	6	2	1.00	6	1.50	8.38	4.50	12.00	4.50	18.00	11.63	4.50	0.00	0.00	—	—	0.00	12.00	4.50	1.50
D	1	D20	83.53	13.00	6	1.50	0.00	—	—	8.50	6	1	0.00	—	9.38	4.50	41.25	0.00	—	0.00	0.00	—	—	0.00	11.63	4.50	1.50
D	2	D20	84.87	13.50	6	1.50	0.00	—	—	8.50	6	1	0.00	—	8.75	4.50	41.25	0.00	—	0.00	0.00	—	—	0.00	11.63	4.50	1.50
D	1	D24	125.40	18.33	5.50	2.50	8.88	5.50	2	3.75	4.50	2	9.75	4.50	12.75	4.50	20.25	12.38	4.50	9.75	5.83	4.50	2	4.50	20.63	5.50	2.50
D	2	D24	128.83	18.79	5.50	2.50	8.88	5.50	2	3.75	4.50	2	10.13	4.50	13.13	4.50	21.00	12.75	4.50	10.13	6.00	4.50	2	4.88	21.88	5.50	2.50
H	1	H4	96.07	8.50	6	2	14.50	6	1.50	1.50	6	1	0.00	—	15.75	4.50	38.25	0.00	—	0.00	0.00	—	—	0.00	18.88	4.50	1
H	2	H4	97.94	8.50	6	2	15.00	6	1.50	1.50	6	1	[illegible]	—	16.13	4.50	[illegible]	[illegible]	—	[illegible]	[illegible]	—	—	[illegible]	[illegible]	4.50	1

SPAN 4

Roadway	Girder	P4	L4	AE	gAE	tAE	AF	AG	gAG	tAG	AH	AI	gAI	AJ	AK	AL	AM	tAM	P5
			ft.	ft.	in.	in.	ft.	ft.	in.	in.	ft.	ft.	in.	ft.	ft.	ft.	ft.	in.	
D	1	D4	88.25	12.50	6	1.50	0.00	10.50	6	1	0.00	8.00	6	45.75	0.00	0.00	10.88	1	D5
D	2	D4	89.88	12.50	6	1.50	0.00	10.50	6	1	0.00	8.50	6	45.75	0.00	0.00	10.88	1	D5
D	1	D8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	2	D8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	1	D11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	2	D11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	1	D15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	2	D15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	1	D18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	2	D18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	1	D21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	2	D21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D	1	D25	124.40	27.04	5.50	2.50	4.58	7.50	4.50	2	11.25	13.50	4.50	20.25	18.13	9.75	10.88	2	D26
D	2	D25	99.34	22.00	5.50	2.50	3.21	6.00	4.50	2	9.00	10.88	4.50	15.75	15.38	7.88	8.63	2	D26
H	1	H5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H	2	H5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

WJE Memo 1-15-99 { 99.47 22.00 3.21 6.00 9.00 10.88 15.75 15.38 7.88 8.63

NOTE: FOR DIMENSION LOCATIONS SEE GIRDER ELEVATION 1/S19

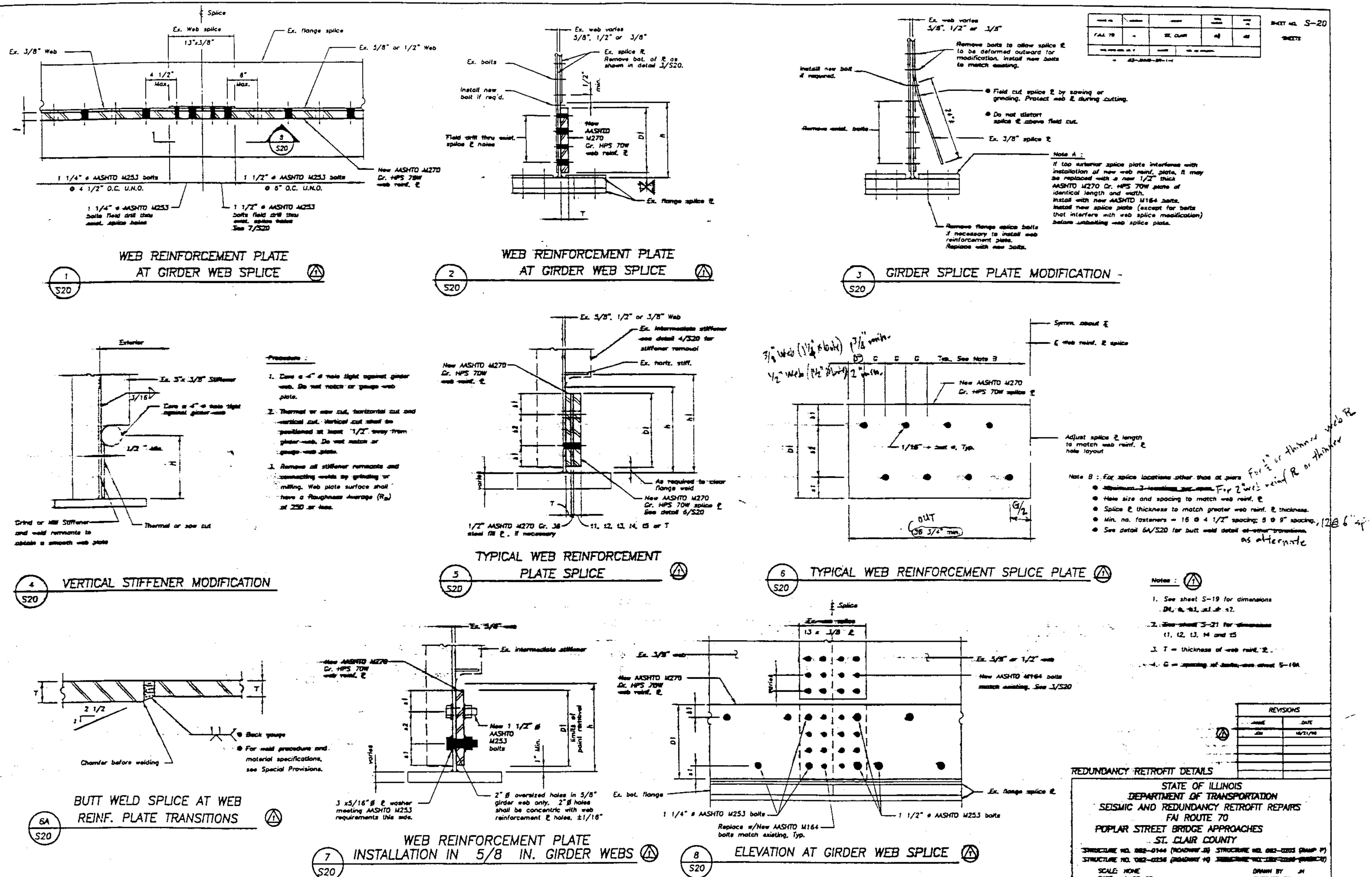
REVISIONS	
NAME	DATE
JCM	10/2/98

REDUNDANCY RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

[illegible]

SCALE: NONE
DATE 10/21/98
DRAWN BY BSB
CHECKED BY HH



1 — S20: WEB REINFORCEMENT PLATE AT GIRDER WEB SPLICE

2 — S20: WEB REINFORCEMENT PLATE AT GIRDER WEB SPLICE

3 — S20: GIRDER SPLICE PLATE MODIFICATION

4 — S20: VERTICAL STIFFENER MODIFICATION

5 — S20: TYPICAL WEB REINFORCEMENT PLATE SPLICE

6 — S20: TYPICAL WEB REINFORCEMENT SPLICE PLATE

6A — S20: BUTT WELD SPLICE AT WEB REINF. PLATE TRANSITIONS

7 — S20: WEB REINFORCEMENT PLATE INSTALLATION IN 5/8 IN. GIRDER WEBS

8 — S20: ELEVATION AT GIRDER WEB SPLICE

Notes :

1. See sheet S-19 for dimensions D1, h, t1, s1 & s2.
2. See sheet S-21 for dimensions t1, t2, t3, t4 and t5
3. T = thickness of web reinf. ℘.
4. G = spacing of bolts, see sheet S-19A

SHEET NO. S-20

F.A.I. 70 — ST. CLAIR

REVISIONS

REDUNDANCY RETROFIT DETAILS

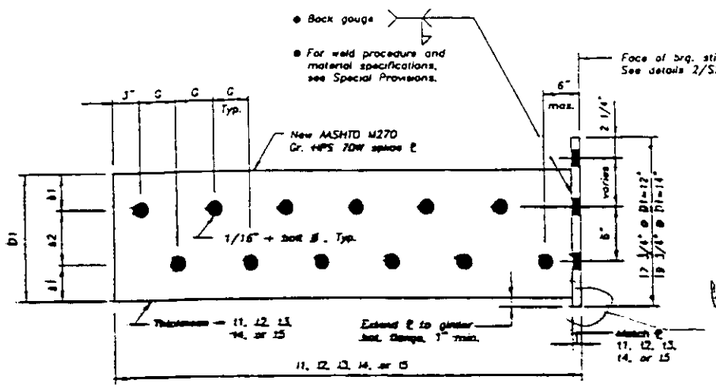
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY 8) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0156 (ROADWAY 10)

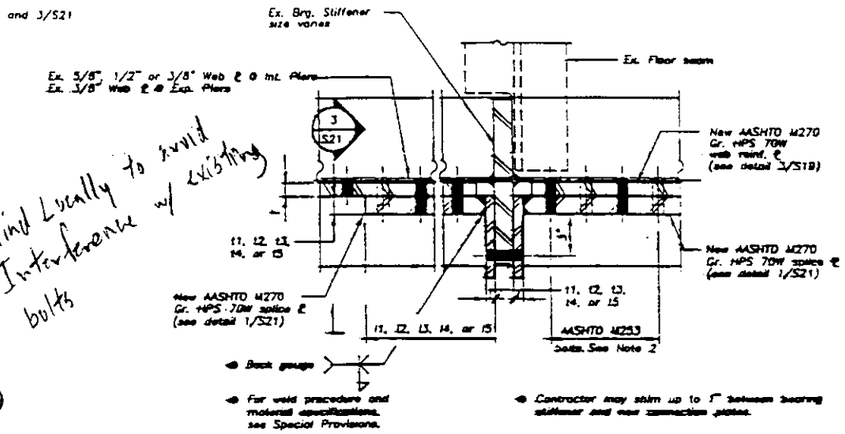
SCALE: NONE
DATE: 1-23-98
DRAWN BY: JH
CHECKED BY: HM

F.A.I. 70	—	ST. CLAIR	49	43

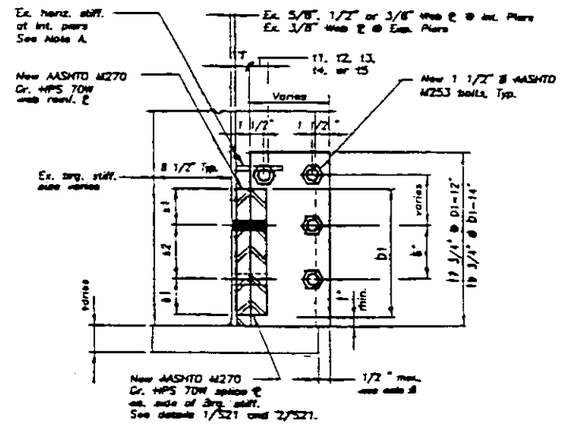
SHEET NO. S-21
SHEETS



1 / S21 TYPICAL WEB REINFORCEMENT SPLICE PLATE AT PIERS ⚠



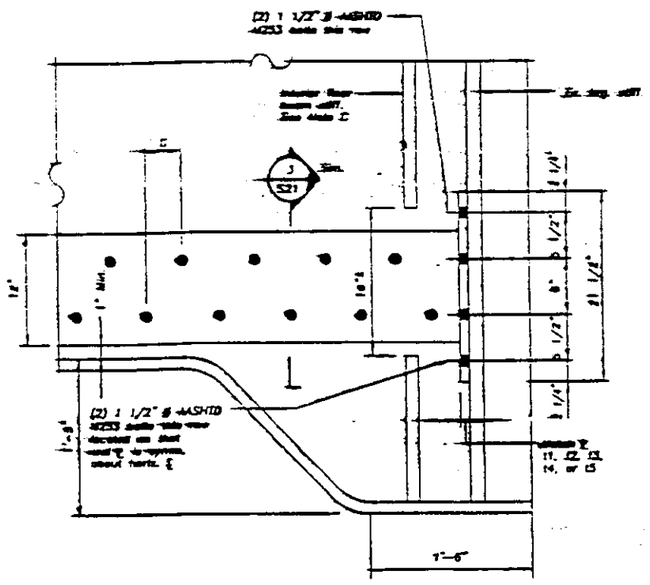
2 / S21 WEB REINFORCEMENT PLATE SPLICE AT BEARING STIFFENER ⚠



3 / S21 WEB REINFORCEMENT PLATE AT PIERS ⚠

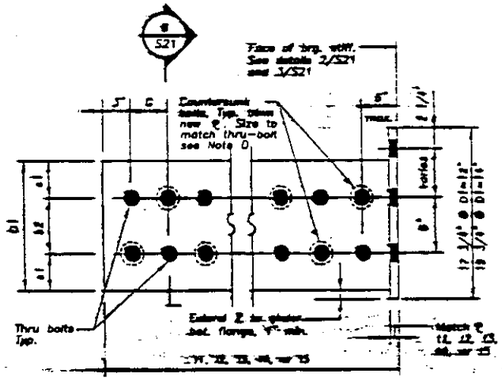
Note A : End of longitudinal stiffener to be removed if necessary to permit installation of splice plate.

Note B : No minimum edge requirements for holes in bearing stiffeners at interior piers. 1 1/2" max. edge distances for holes in bearing stiffeners at exterior piers.



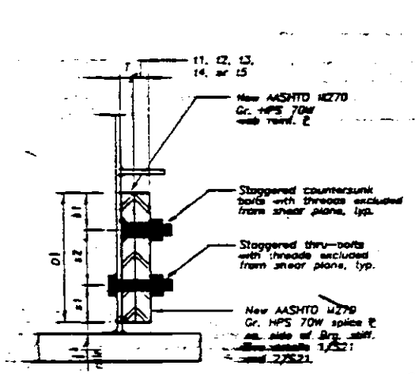
4 / S21 WEB REINFORCEMENT SPLICE PLATE AT HAUNCH ⚠

Note C : Remove vertical stiffener to permit installation of web reinforcement splice plate. See detail 4/S20. Two core holes through stiffener will be required for stiffener removal.



5 / S21 WEB REINFORCEMENT SPLICE PLATE WITH COUNTERSUNK BOLTS ⚠

Note D: See Splice Plate at Piers table for locations.



6 / S21 COUNTERSUNK HOLES ⚠

Roadway	Splice Plate									
	P1		P2		P3		P4		P5	
	t1	l1	t2	l2	t3	l3	t4	l4	t5	l5
	in	in	in	in	in	in	in	in	in	in
D1–D4	1	75	1	75	1	75	1	75	1	75
D5–D7	1	75	1.50	75	1.50	75	1	75		
D8–D10	1.50	75	2	87	2	87	1.50	*75		
D12–D14	2	75	2	87	2	87	2	75		
D15–D17	2	75	2	87	2	87	2	75		
D18–D20	1	75	1	75	1	75	1	75		
D22–D25	1.50	*75	2	*91	2	*124	2	*179	2	*75
H2–H4	1	75	1.50	87	1.50	75	1	75		

* See detail 3/S21 for locations of additional bolts

Notes:

1. Web reinforcement plate splice symmetric around interior bearing stiffener.
2. 1 1/2" Ø AASHTO M253 bolts in all 5/8" girder webs, threads excluded from shear plane. See detail 7/S20
   1 1/2" Ø AASHTO M253 bolts in all 1/2" girder webs, threads excluded from shear plane.
   1 1/4" Ø AASHTO M253 bolts in all 3/8" girder webs, threads excluded from shear plane.
3. Preload 1 1/2" Ø AASHTO M253 bolts to proof load.
   Preload 1 1/4" Ø AASHTO M253 bolts to proof load.

REVISIONS	
MARK	DATE
401	10/21/98

REDUNDANCY RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY B) — STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0298 (ROADWAY A) — STRUCTURE NO. 082-0235 (RAMP D)

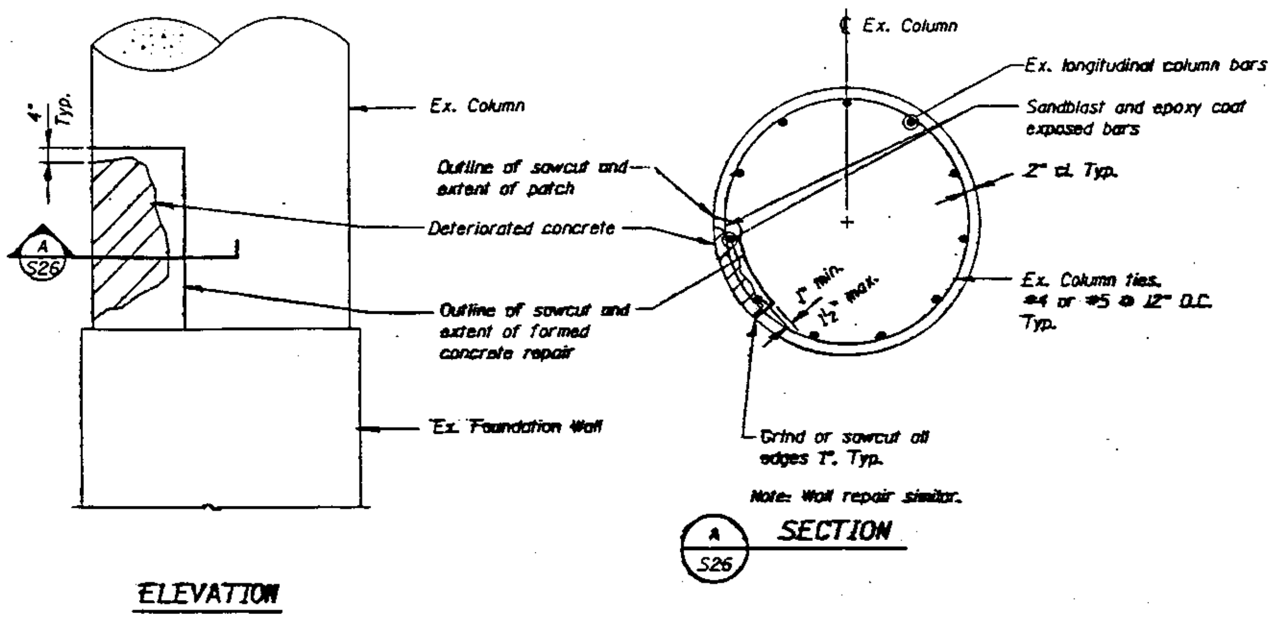
SCALE: NONE
DATE 1-23-98
DRAWN BY JH
CHECKED BY MH

\STRUCTURE\87423\ST20TS21.DGN

F.A.I. RTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	64

SHEET NO. S-26 SHEETS

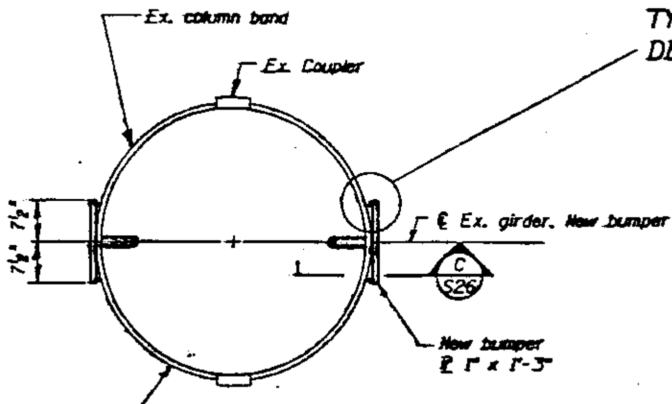
82-2HWB-2R-1-1

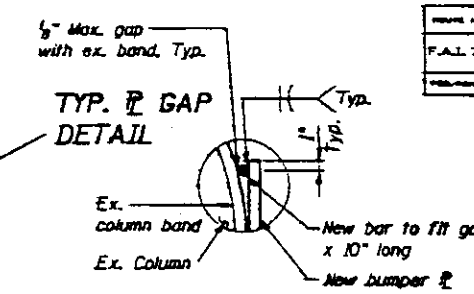


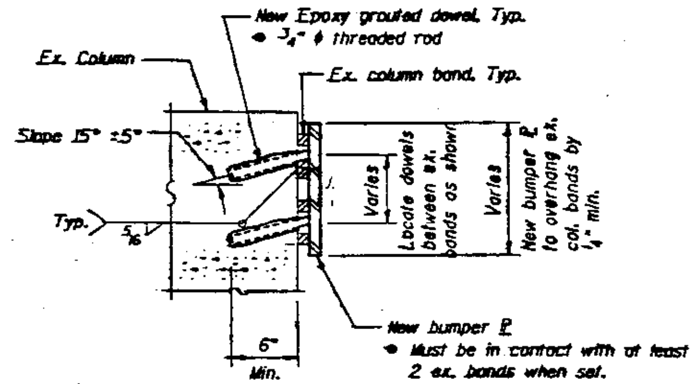
ELEVATION

A S26 SECTION

1 S26 TYPICAL CONCRETE COLUMN REPAIR





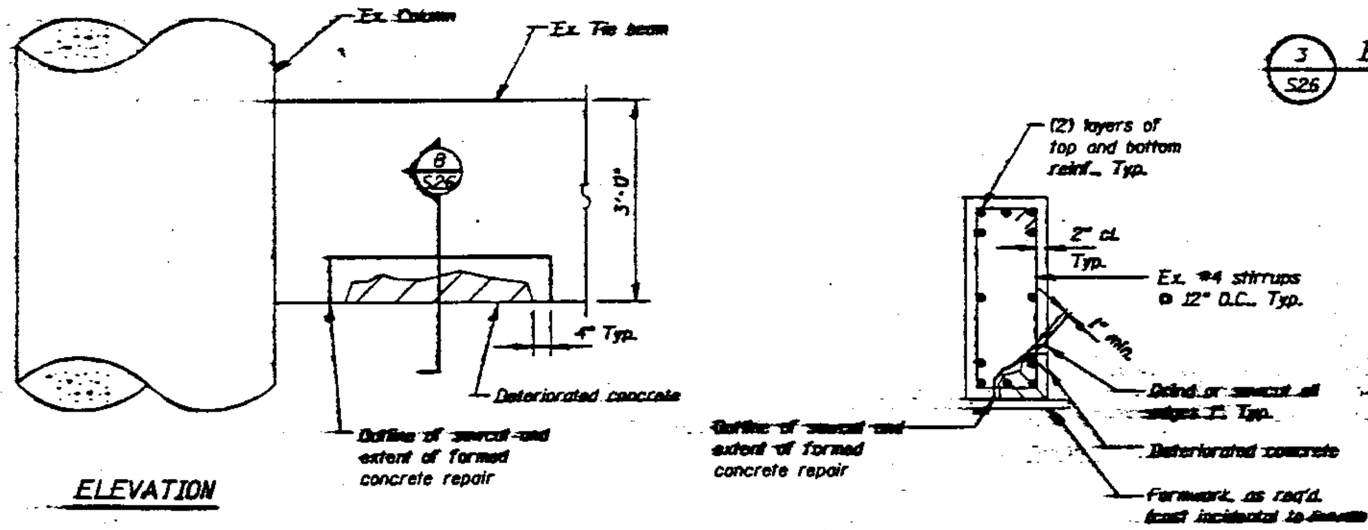


Loosen and reposition ex. column bands if necessary to eliminate interference between ex. coupler and new bumper ℙ. This work shall be INCLUDED WITH FURNISH + ERECT STRUCTURAL STEEL.

- Loosened bands shall be reinstalled from bottom up. The repositioned bands shall be evenly spaced as possible and be located with a space of 10" vertically. The top of the top band shall not be closer than 3¼" nor farther than 4" from the top of the column.
- The bolts shall be tightened in 55 Ft.-Lb. increments in a clockwise direction, to a final torque of 220 Ft.-Lbs.
- All of the threads in each of the four nuts shall be fully engaged upon final tightening.
- Once a final torque of 220 Ft.-Lbs. is reached in each nut, the band threads shall be peened to the nut to prevent loosening.

3 S26 BUMPER PLATE DETAIL

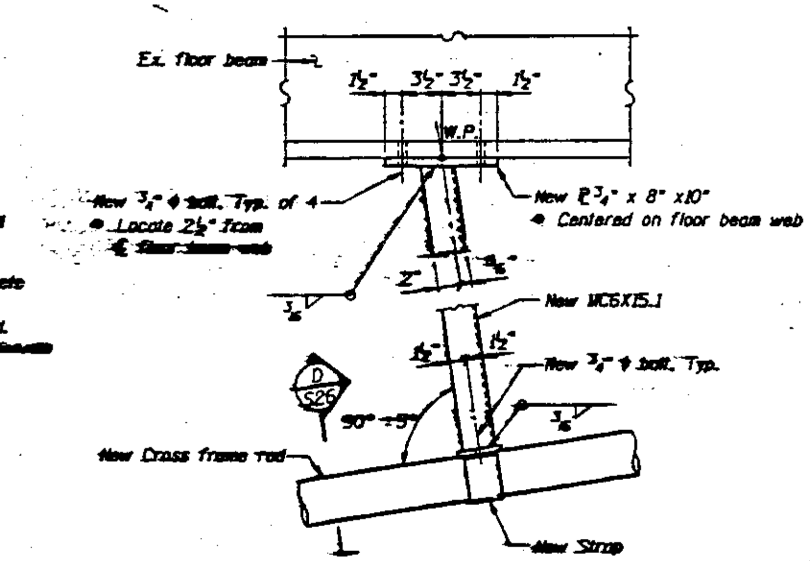
C S26 SECTION



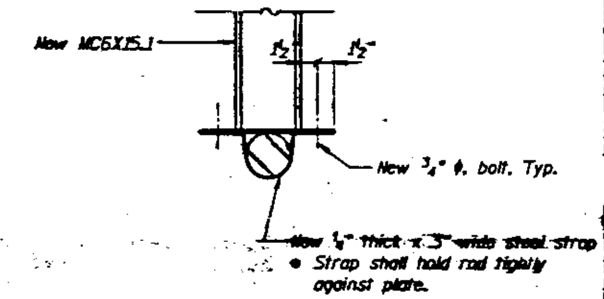
ELEVATION

B S26 SECTION

2 S26 TYPICAL CONCRETE TIE BEAM REPAIR



4 S26 TIE ROD SUPPORT DETAIL



D S26 SECTION

CONCRETE REPAIR DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0205 (ROADWAY E) STRUCTURE NO. 082-0256 (RAMP 3)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY HH

EXPANSION JOINT, BUMPER, PIN AND TIE ROD GAPS

Pier	East Side	West Side
D5	0.60"	1.05"
D8	0.95"	0.95"
D11	0.35"	0.65"
D12	0.55"	N/A
D15	0.95"	1.00"
D18	0.70"	0.60"
D21	N/A	0.95"
D22	1.75"	0.40"
D26	0.65"	1.20"
P14	N/A	0.60"
P15	N/A	0.45"
H1	N/A	0.35"
H2	1.10"	0.45"

Notes:

1. Gaps defined as follows:
   - Bumper Gap: Minimum clear distance between bumper and bumper plate.
   - Pin Gap: Minimum clear distance between clevis pin and edge of plate in direction of rod.
   - Tie Rod Gap: Clear distance between washer and end plate of bracket.

2. Gap dimensions shown were based upon roadway deck temperature of 50° F. If the roadway deck temperature (measured at mid-depth of concrete deck within 4 hours of installation) is greater than 50° F, decrease bumper gaps, and increase pin and tie rod gaps by the following amount:

$$\text{Gap change} = \left(\frac{\text{Actual Deck Temperature} - 50^\circ F}{70}\right) \times \text{Gap shown}$$

   If roadway deck temperature is less than 50° F, increase bumper gaps, and decrease pin and tie rod gaps by the following amount:

$$\text{Gap change} = \left(\frac{50^\circ F - \text{Actual Deck Temperature}}{70}\right) \times \text{Gap shown}$$

SEISMIC RETROFIT DETAILS

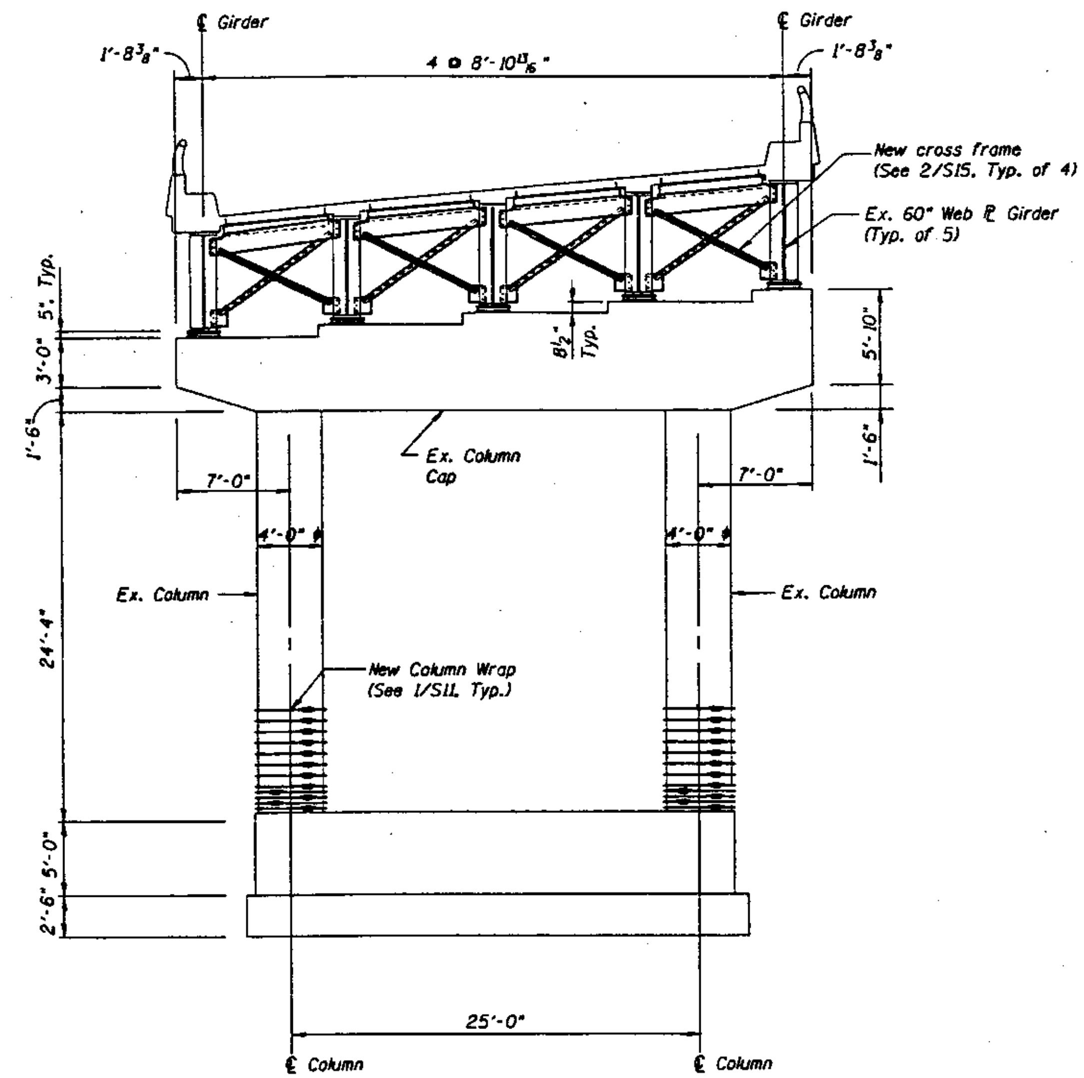
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. [illegible] STRUCTURE NO. [illegible]
SCALE: [illegible] DRAWN BY [illegible]
DATE 1-23-98 CHECKED BY [illegible]

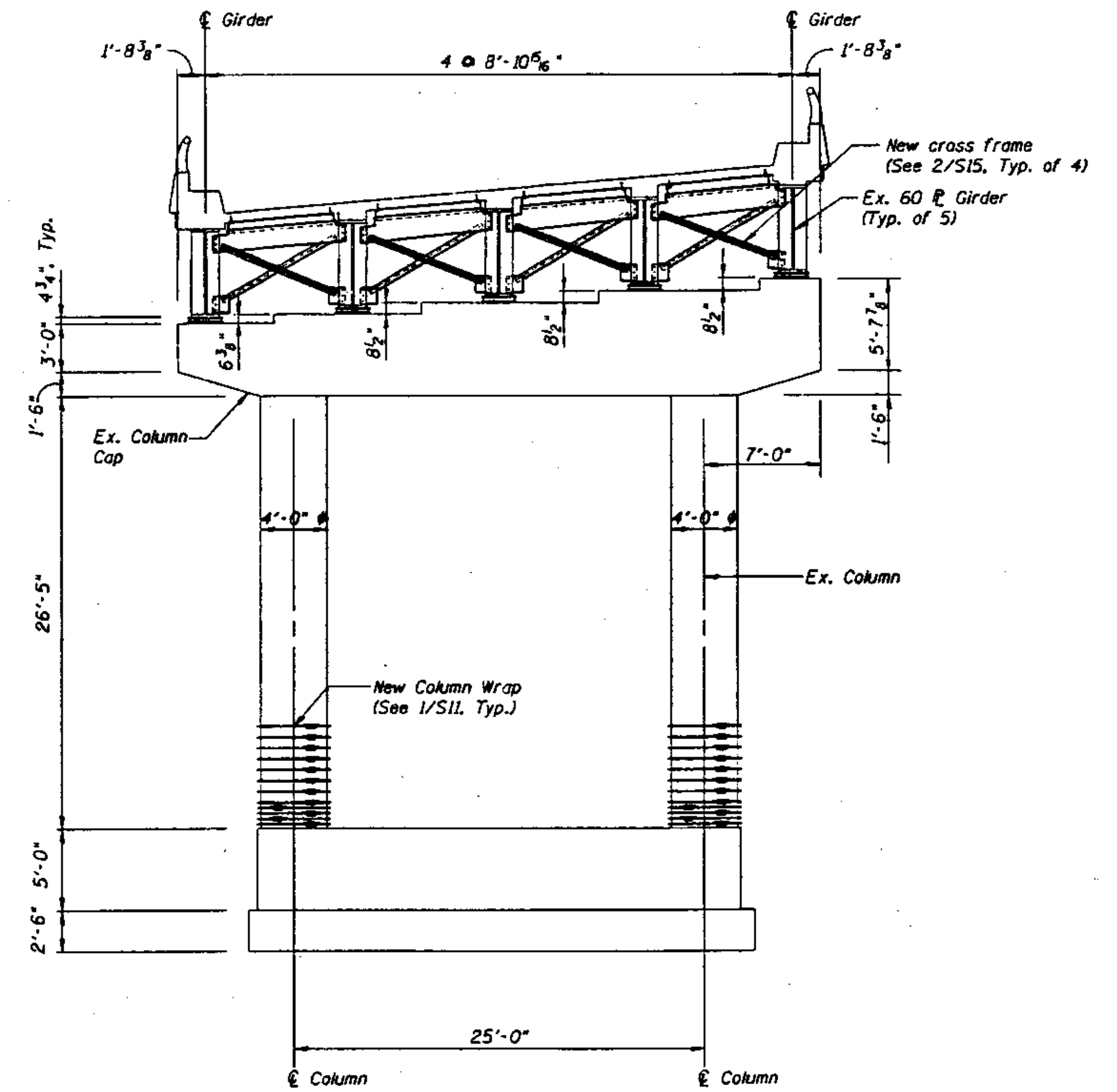
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	75
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-38 SHEETS

* 82-3HVB-2R-1-I



(1/S38) ELEVATION PIER Q1-1



(2/S38) ELEVATION PIER Q2-1

BILL OF MATERIAL - PIER Q1-1		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	2175
Steel cross frame removal	EACH	4
Epoxy grouted dowels	EACH	20
Column wrap	SQ. FT.	163.4

BILL OF MATERIAL - PIER Q2-1		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	2175
Steel cross frame removal	EACH	4
Epoxy grouted dowels	EACH	20
Column wrap	SQ. FT.	163.4

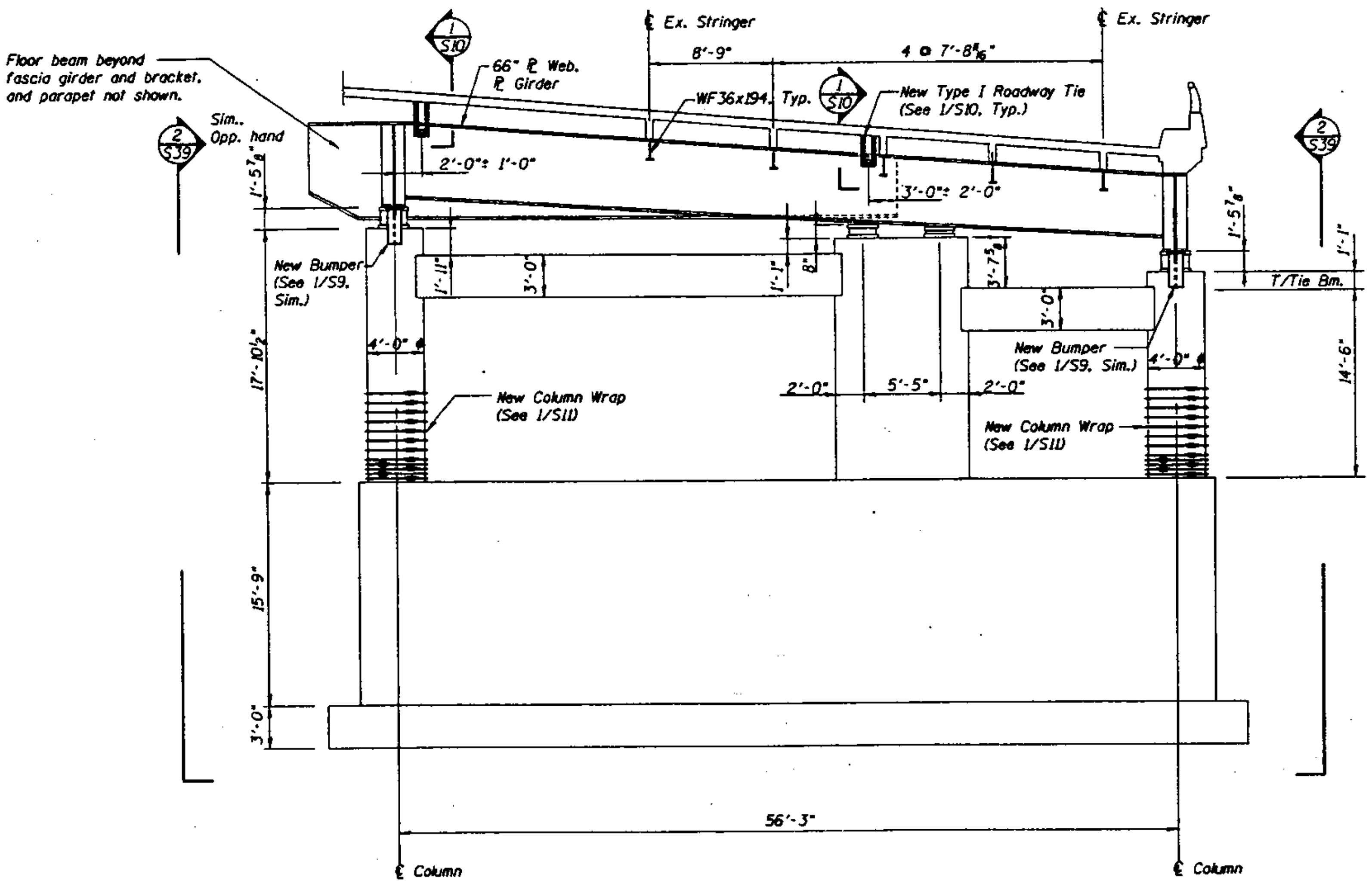
PIERS Q1-1 AND Q2-1 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

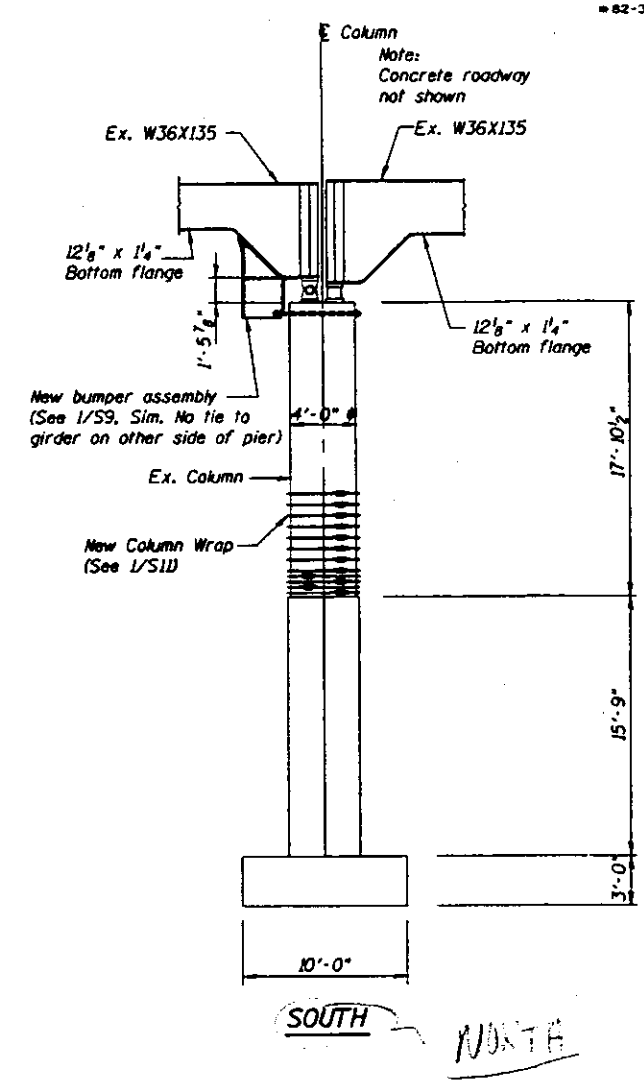
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP Q)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	76

SHEET NO. S-39
SHEETS



1/S39 ELEVATION PIER P14



2/S39 ELEVATION PIER P14

BILL OF MATERIAL - PIER P14

ITEM	UNIT	QUANTITY
Concrete removal	C.Y.	6
Furnish and erect structural steel	LBS.	6240
Epoxy grouted dowels	EACH	56
Foundation wall dowel modification	EACH	4
Column wrap	SQ. FT.	163.4

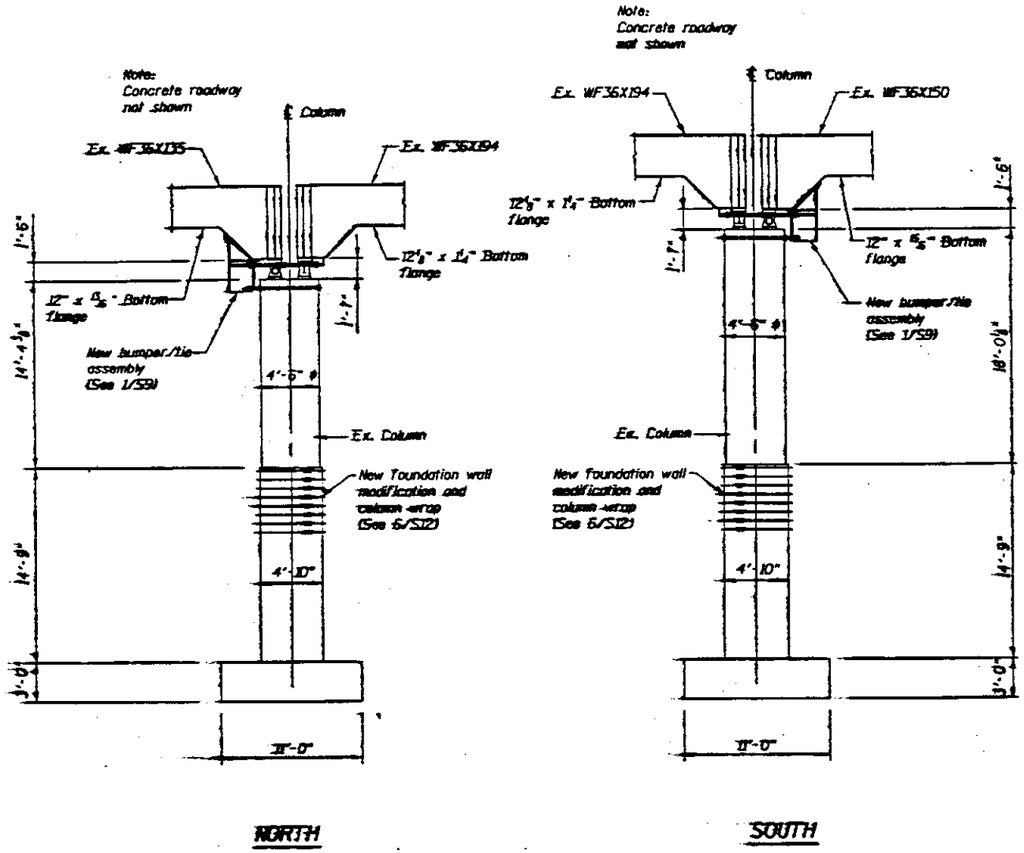
PIER P14 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

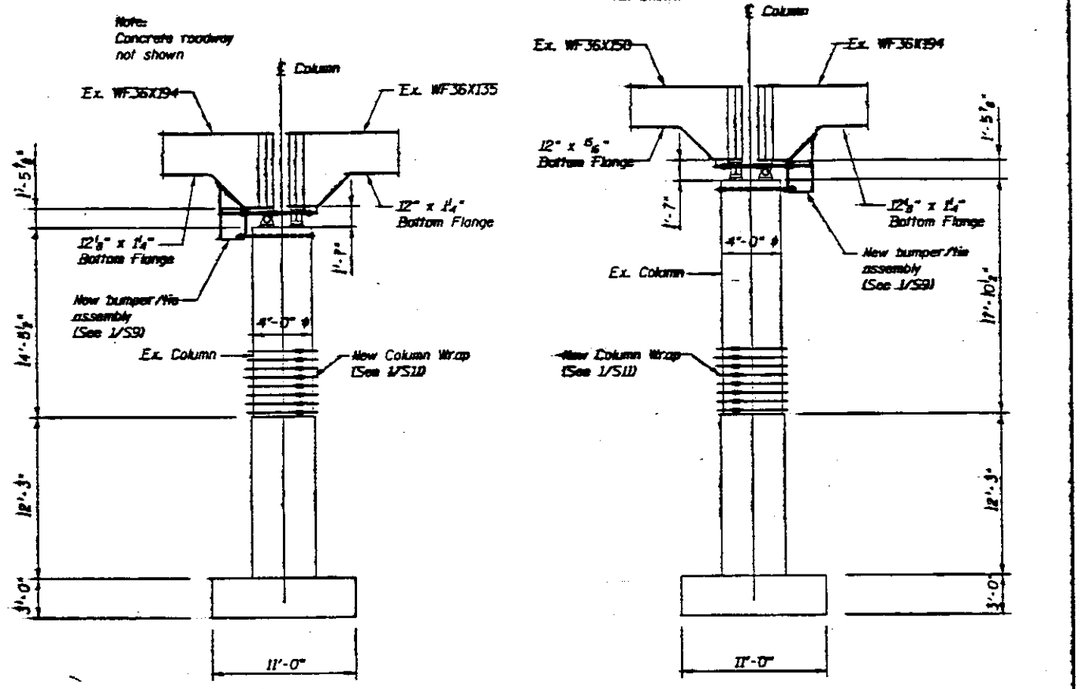
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP Q)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	48	ST. CLAIR	76	77
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

SHEET NO. S-40
SHEETS



1/S40 ELEVATIONS PIER P15



2/S40 ELEVATIONS PIER H1

BILL OF MATERIAL - PIER P15		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	2320
Foundation wall modification	SQ. FT.	56.5
Column wrap	SQ. FT.	221.4

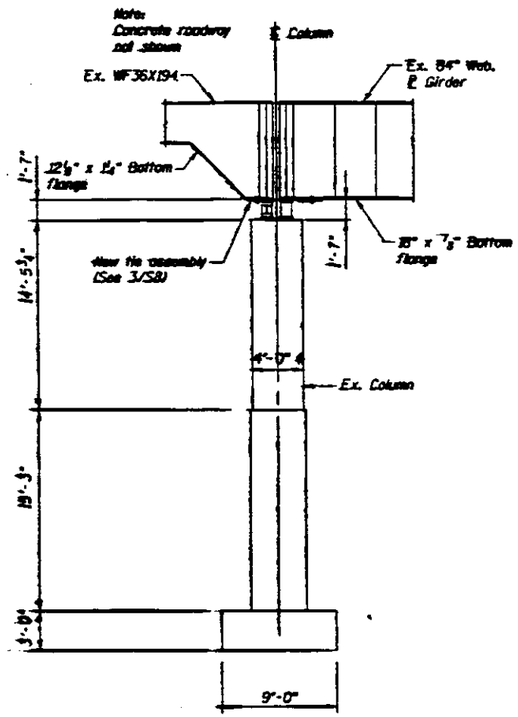
BILL OF MATERIAL - PIER H1		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	2320
Foundation wall dowel modification	EACH	20
Column wrap	SQ. FT.	163.4

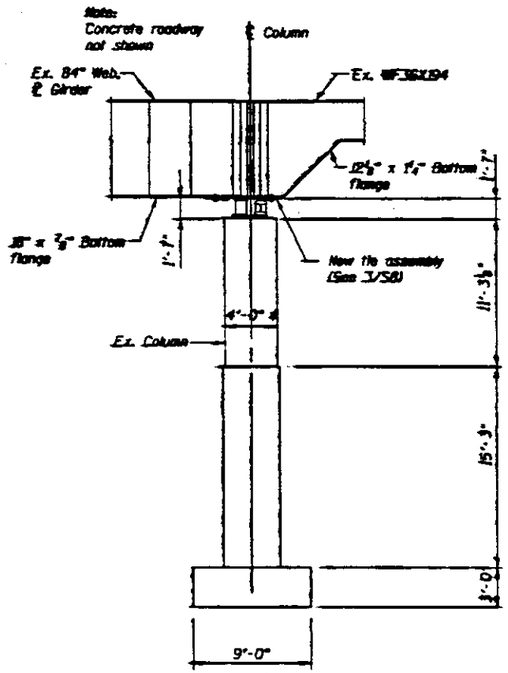
PIERS P15 AND H1 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP D)
STRUCTURE NO. 082-0255 (ROADWAY A) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY YH

				SHEET NO. S-41
F.A.I. 70	10	ST. CLAIR	76	76
				SHEETS

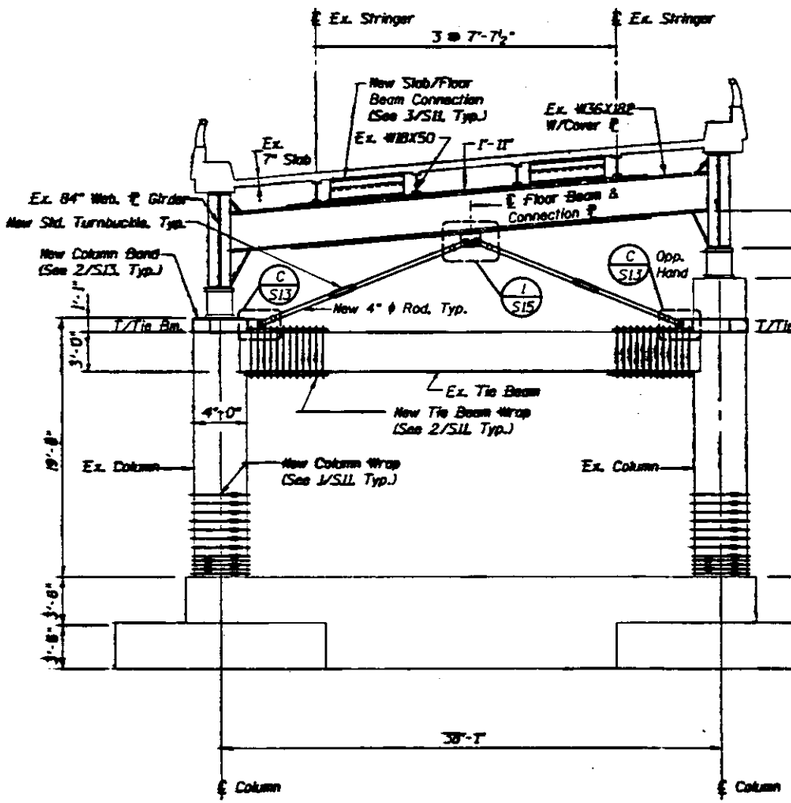




SOUTH

NORTH

1/S41 ELEVATIONS PIER H2



2/S41 ELEVATION PIER H3

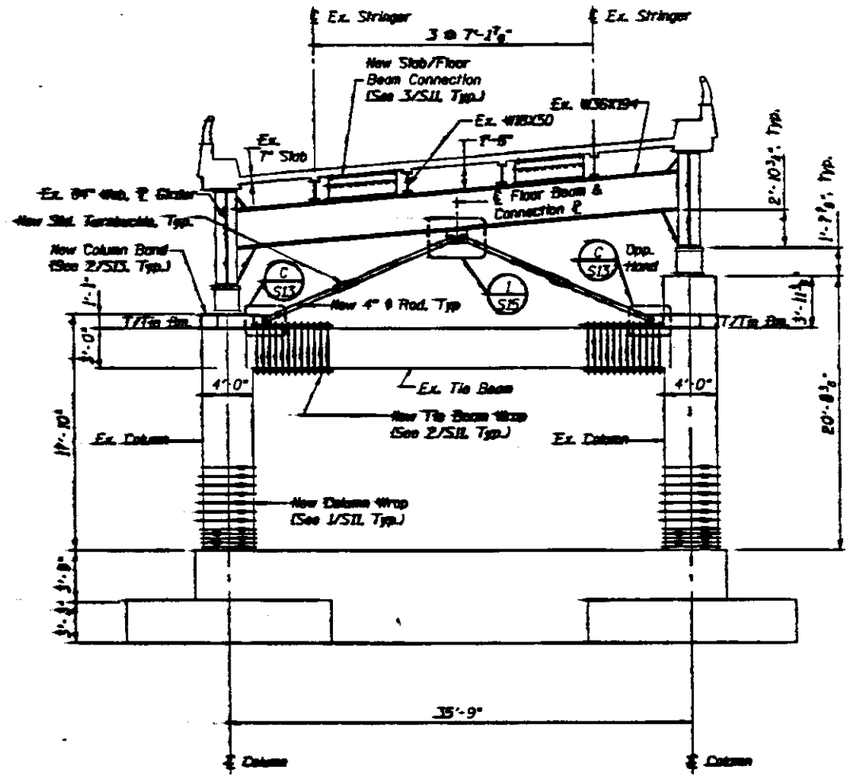
BILL OF MATERIAL - PIER H2		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	1605

BILL OF MATERIAL - PIER H3		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	5858
Epoxy grouted dowels	EACH	18
Column wrap	SQ. FT.	163.4

PIERS H2 AND H3 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (BROADWAY DR) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0255 (BROADWAY NB) STRUCTURE NO. 082-0255 (RAMP G)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY HH



1/S42 ELEVATION PIER H4

BILL OF MATERIAL - PIER H4

ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	5688
Epoxy grouted dowels	EACH	22
Foundation wall dowel modification	EACH	8
Column wrap	SQ. FT.	163.4

PIER H4 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 BROADWAY EB STRUCTURE NO. 082-0203 RAMP F1
STRUCTURE NO. 082-0205 BROADWAY WB STRUCTURE NO. 082-0255 RAMP E2
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

70	6	ST. CLAIR	320	1A

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SEE SHEET NO. 7 FOR
INDEX OF SHEETS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALE IN FEET

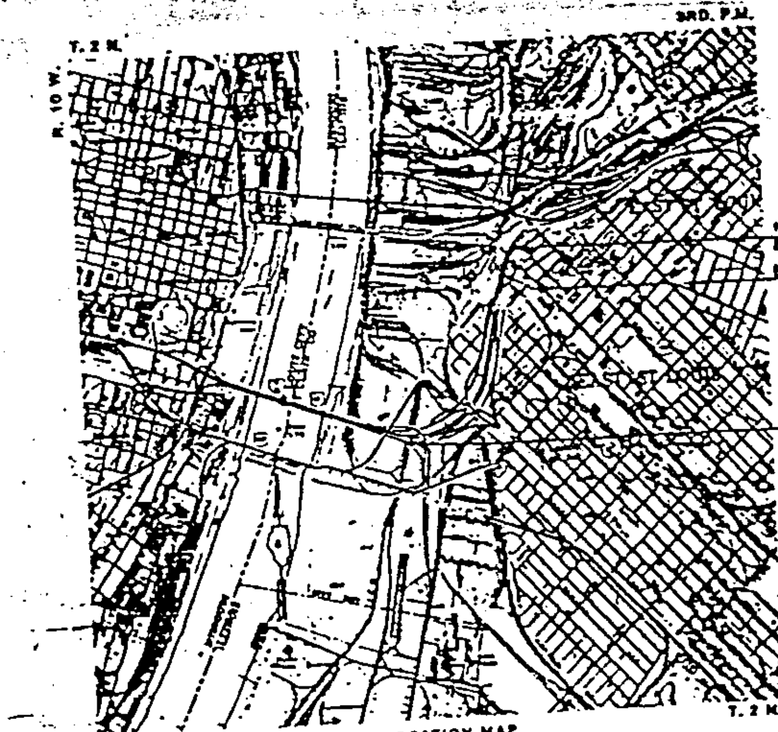
PLAN		1 INCH 60 FT.
PROFILE	HOR.	1 INCH 60 FT.
	VERT.	1 INCH 5 FT.
CROSS-SECTIONS		
	HOR.	1 INCH 10 FT.
	VERT.	1 INCH 5 FT.

THE STRUCTURES REHABILITATED IN THIS PROJECT WERE BUILT AS SECTIONS:

82-4HB
82-4HB-1
82-3HVF&E-1
82-4HVB

F.A.I. ROUTE 70
SECTION 82 – 3HVB – 2R – 1
PROJECT IR – 70 – 1(155)1
ST. CLAIR COUNTY
C-98-106-86

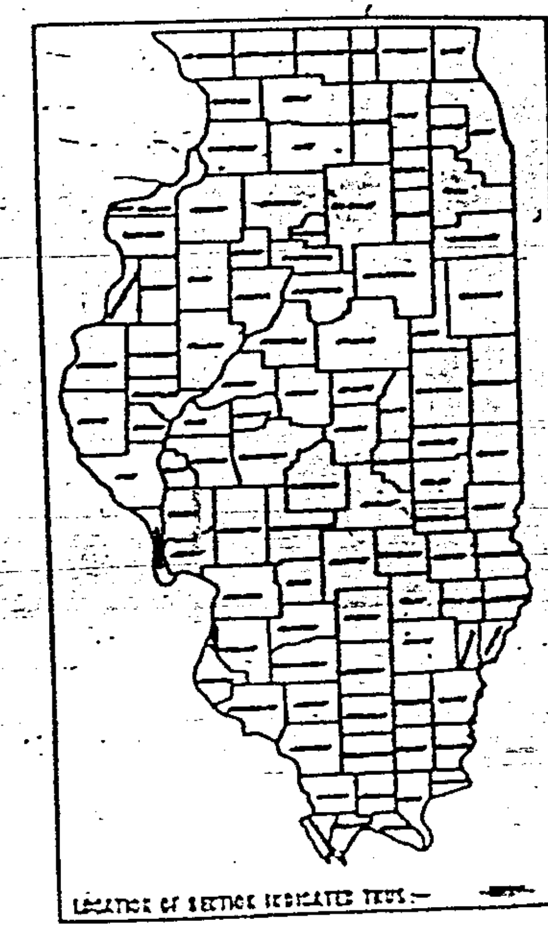
Construction Changes Sheets:
2A (246A OF 320)
4A (248A OF 320)
5A (249A OF 320)
6A (250A OF 320)
8A (252A OF 320)
9A (253A OF 320)
10A (254A OF 320)
11A (255A OF 320)
46A (290A OF 320)



LOCATION MAP

1000 0 1000 2000 3000
SCALE IN FEET

NET LENGTH OF PROJECT – 5,865.89 FT. – 1.111 MILES



MICROFILMED
REEL NUMBER
AWARDED
RESIDENT ENGINEER
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

DESIGN DESIGNATION
C-D'S 2 LANES: 1800(06) TRUNK 17.8(C-20)

AS REVISED

082-0256

ANTHONY W. NEMEYER
NO. 62-39027

CARLOS A. LIZAMA-ARIAS

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

Reel 8-171

DEPARTMENT OF TRANSPORTATION

CONTRACT NO. 42345

Revised 1-[redacted].B.

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1 F.A.I. ROUTE 70

FAP ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	7
		ALL HIGHWAYS / PROJECT		

• 82-3HVB-2R-1

INDEX OF SHEETS

STANDARDS

1527-9	2230-15	2308-4	2343-6
1683-4	2237-10	2314-5	2353-7
2113-2	2240-5	2323-9	2362-3
2130-9	2250-1	2324-6	2364-1
2135	2258-3	2326-3	2381
2143-3	2262-4	2327-10	
2168-11	2263-3	2336-4	2397-1
2203-14	2298-7	2337-2	2419
2213-4	2299-10	2340-4	
2215-3	2300-3	2341-1	
2217-3	2307-6	2342-5	
2228-4			

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

BITUMINOUS CONCRETE	112 LBS. / INCH / SQ. YD.
BITUMINOUS MATERIALS PRIME COAT	0.0003129 TONS / SQ. YD.
GRANULAR MATERIALS	2.05 TONS / CU. YD.
NITROGEN FERTILIZER NUTRIENT	120 LBS. / ACRE
PHOSPHORUS FERTILIZER NUTRIENT	72 LBS. / ACRE
POTASSIUM FERTILIZER NUTRIENT	48 LBS. / ACRE
MULCH	2 TONS / ACRE
EMULSIFIED ASPHALT	0.35 TON / TON OF MULCH

GENERAL NOTES

1. ALL ELEVATIONS ARE BASED ON U.S. G.S. DATUM.
2. THE STANDARDS WITH THE REVISION NUMBERS LISTED IN THE INDEX OF SHEETS SHALL APPLY TO THIS PROJECT.
3. ANY PARTIAL REMOVAL OF CONCRETE PAVEMENT OR ASPHALTIC CONCRETE PAVEMENT SHALL REQUIRE A SAW CUT.
4. SEED ALL DISTURBED AREAS THAT ARE NOT PAVED.
5. ALL TREES, BRUSH, AND SHRUBS WITHIN THE CONSTRUCTION LIMITS WILL BE REMOVED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS" AND SPECIAL PROVISIONS. ALL TREES BETWEEN THE CONSTRUCTION LIMITS AND THE EXISTING RIGHT-OF-WAY WILL BE PRESERVED UNLESS DESIGNATED TO BE REMOVED BY THE ENGINEER.
6. WHERE SECTION OR SUBSECTION MARKERS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED AGENT, OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
7. LENGTHS OF STORM SEWERS ARE MEASURED FROM CENTERLINE TO CENTERLINE OF STRUCTURES.
8. EXCEPT WHERE DESIGNATED OTHERWISE, THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM OFFICE RECORD INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE TO THE RESIDENT ENGINEER SO THAT UTILITIES CAN BE GIVEN NOTICE.
AGENCIES KNOWN TO HAVE UNDERGROUND FACILITIES WITHIN THE LIMITS OF THIS IMPROVEMENT ARE THE FOLLOWING (MEMBERS OF "JULIE", PHONE 1800892-0123, ARE INDICATED BY •):
   - • UNION ELECTRIC
   - • ILLINOIS AMERICAN WATER CO.
   - LACLEDE GAS CO.
   - EXPLORER PIPELINE CO.
   - • ILLINOIS BELL
9. IT HAS BEEN ESTIMATED THAT 100 SQ. YDS. OF PAVEMENT REMOVAL AND CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE REPLACEMENT, TYPE III IS REQUIRED FOR THE PROJECT AT LOCATIONS DETERMINED BY THE ENGINEER.
10. THE ANCHOR BOLT CAPSULES ARE NOT SUPPLIED BY THE FABRICATION CONTRACT. THE NUMBER AND SIZE OF CAPSULE REQUIRED MUST BE DETERMINED BY THE CONTRACTOR TO MATCH THE ANCHOR BOLT SIZES. IF THE FABRICATION CONTRACTOR ELECTS TO USE THE STATE EXPANSION BOLT, THE CAPSULES WILL NOT BE REQUIRED.
11. ANY INLETS AND PIPES TO BE REMOVED SHOWN IN THE PLANS AND NOT ITEMIZED AS PAY ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
12. IF PARAPET RECONSTRUCTION ALTERNATE 1 IS SELECTED BY THE CONTRACTOR, HE WILL BE ALLOWED TO USE A 90 lb. HAMMER TO REMOVE THE PORTION OF THE PARAPET AS SHOWN FOR ALTERNATIVES 2 AND 3.
13. THE CONTRACTOR SHALL SCHEDULE HIS BITUMINOUS OPERATIONS TO INSURE THAT THE PROJECT SCHEDULE IS MET AND THE BITUMINOUS IS PLACED AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

10136
86C11

F.A.P. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	8
		ALL PHASES	PROJECT	

• 82-3HVB-2R-1

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE										
				X 171-50 ROADWAY A BRIDGE OVER RAILROAD	X 271-2A ROADWAY G BRIDGE OVER ROAD	X 571-50 ROADWAY D BRIDGE OVER ROAD & R.R.	X 171-50 RAMPS Q & R BRIDGE OVER RAILROAD	X 171-50 RAMPS P,Q & H BRIDGE OVER RAILROAD	X 271-2A ROADWAY H SPANS H2 - H4 OVER ROAD	X 271-2A ROADWAY H OVER TRENDLEY AVE.	X 271-2A RAMP G BRIDGE OVER 4th STREET	X 271-2A ROADWAY C BRIDGE OVER 4th STREET	X 571-50 ROADWAYS B & C BRIDGES OVER BROADWAY.	SFTY-30 E.B. & W.B. C-D - RAMPS G & H
20100100	TREE REMOVAL (6 TO 15 INCH DIAMETER)	IN. DIA.	16											16
20100200	TREE REMOVAL (OVER 15 INCH DIAMETER)	IN. DIA.	40											40
20100600	HEDGE REMOVAL	UNIT	9											9
20200100	EARTH EXCAVATION	CU. YD.	1,575											1,575
20200200	BORROW EXCAVATION	CU. YD.	15,230											15,230
20400100	TRENCH BACKFILL	CU. YD.	552											552
21000100	AGGREGATE SHOULDERS, TYPE B	TON	1,832											1,832
21501200	STABILIZED SUB-BASE 4"	SQ. YD.	4,427											4,427
21800100	BITUMINOUS SHOULDERS 8"	SQ. YD.	3,209											3,209
21900600	PORTLAND CEMENT CONCRETE BASE COURSE 10"	SQ. YD.	3,084											3,084
30400500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SQ. YD.	365											365
30500500	BITUMINOUS BASE COURSE 8"	SQ. YD.	747											747
30800500	BITUMINOUS MATERIALS (PRIME COAT)	TON	10											10
40600200	AGGREGATE (PRIME COAT)	TON	18											18
40600300	LEVELING BINDER (MACHINE METHOD), TYPE 1	TON	1,066											1,066
40600510	BITUMINOUS CONCRETE BINDER COURSE, TYPE 1	TON	1,311					1.3						1,314.3
40600710	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE E; CLASS 1 TYPE 1	TON	1,309											1,307.7
40600830	STRIP REFLECTIVE CRACK CONTROL TREATMENT	LIN. FT.	2,651											2,651
65100200	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ. YD.	408											408
40800500	PAVEMENT FABRIC	SQ. YD.	408											408
40801200	BRIDGE APPROACH PAVEMENT (STANDARD 2353) SPECIAL	SQ. YD.	505											505
40801310	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	CU. YD.	1,303.6	149.2	66.3	134.6	84.6	153.8	12.3	168.2	22.0	80.4	432.2	266
40801500	CONCRETE REMOVAL	EACH	323								57	38	228	
50102400	EXPANSION BOLTS ¾ DIA. INCH X 12 INCH	EACH	1								1			
50103300	REMOVAL OF EXISTING CONCRETE DECK	EACH	1					1						
50104720	REMOVAL OF EXISTING STRUCTURE (RAMP Q) NO. 1	EACH	1				1							
50100300	REMOVAL OF EXISTING STRUCTURE (RAMP R) NO. 2	CU. YD.	1,440				597	180			19	223	421	
50100400	STRUCTURE EXCAVATION	EACH	73	8		2	12	8			3		40	
50200100	FLOOR DRAINS	EACH	6									6		
50300100	INSTALLING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	3									3		
X5033000	INSTALLING ELASTOMERIC BEARING ASSEMBLY, TYPE II	LIN. FT.	469				370	87					12	
X5033100	PREFORMED JOINT SEAL 1¼"	LIN. FT.	42					30					12	
50300108	PREFORMED JOINT SEAL 2½"	LIN. FT.	82					82						
50300120	PREFORMED JOINT SEAL 4"	SQ. YD.	6,771	1,945	1,049	2,048	460	276	260	35	196	92	410	9
50300130	PROTECTIVE COAT	EACH	9											
50300300	CONCRETE HEADWALL FOR PIPE DRAINS	CU. YD.	1,558.3				706.6	219.0			27.9	180.5	424.3	
50300400	CLASS X CONCRETE	CU. YD.	3,053.0	92.2	47	138.2	811.9	449.3	17.0	146.6	443.9	184.0	695.2	
50400300	CLASS X CONCRETE SUPERSTRUCTURE	POUND	59,925.0	5430.0	2704.0	4058.0	15,920.0	7630.0	1,330.0		673.0	340.0	1,820.0	
50300250	FURNISHING AND ERECTING STRUCTURAL STEEL	L. SUM	1	0.01	0.01	0.02	0.45	0.19		0.01	0.01	0.07	0.23	
50700400	ERECTING STRUCTURAL STEEL	EACH	18,839				7.983	3.573			7.209		74	
50700300	STUD SHEAR CONNECTORS	LIN. FT.	137											137
50700500	PIPE CULVERT, TYPE 1, RCCP 15"	LIN. FT.	36											36
51100430	PIPE CULVERTS, TYPE 2 RCCP 12"	LIN. FT.	106											106
51101267	PIPE CULVERTS, TYPE 2 RCCP 15"	LIN. FT.	18											18
51101270	PIPE CULVERTS, TYPE 2 RCCP 24"	LIN. FT.	44											44
51101279	PIPE CULVERTS, TYPE 2, CORRUGATED STEEL OR ALUMINUM CULVERT PIPE 15"	LIN. FT.	352											352
51101480	PIPE CULVERTS, TYPE 3 RCCP 36"	EACH	1											1
51102131	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	2											2
51113657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1											1
51113660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	5											5
51113669	END SECTIONS 12"	EACH	1											1
51113447	END SECTIONS 15"	POUND	250,603				128,620	37,330			4,130	19,530	42,550	18,443
51113450	REINFORCEMENT BARS	POUND	732,772	12,372	6,070	11,040	234,590	121,920	760	37,460	121,610	50,830	136,120	
51200100	REINFORCEMENT BARS, EPOXY-COATED	LIN. FT.	11,844				5,101	1,810			155	1,691	3,087	
51200200	FURNISHING CONCRETE PILES	LIN. FT.	11,844				5,101	1,810			155	1,691	3,087	
51302200	DRIVING CONCRETE PILES	EACH	13				4	2			2	2	3	
51302800	TEST PILE CONCRETE	EACH	6				1	1		1	1	1	1	
51304200	NAME PLATES	LIN. FT.	646											646
51400100	PIPE DRAINS, CORRUGATED STEEL OR ALUMINUM ALLOY 12"	LIN. FT.	7,715											7,715
60705000	PIPE UNDERDRAINS 4"	LIN. FT.	236											236
60707600	PIPE UNDERDRAINS 4" (SPECIAL)	EACH	7											7
60708100	MANHOLES, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1											1
61218400	FLUSH INLET BOX FOR MEDIAN (2240)	EACH	3											3
61244400	TYPE C INLET BOX, STANDARD 2324	EACH	7											7
61247000	TYPE D INLET BOX, STANDARD 2324													
61247100														

REV. 8/26/88

⊙ NON-PART.

10320 87C | FILE: SUMMARY.DGN | PRF: SUM1 | LEVELS PLOTTED 1,2,3,35 | DATE: 10-14-87

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE										
				X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X 271-2A	X 271-2A	X 271-2A	X 271-2A	X 571-50	SFTY-30
				ROADWAY A BRIDGE OVER RAILROAD	ROADWAY C BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMPS Q & R BRIDGE OVER RAILROAD	RAMPS P,O & N BRIDGE OVER RAILROAD	ROADWAY H-SPANS H2 - H4 OVER ROAD	ROADWAY H OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY B & C BRIDGES OVER BROADWAY	E.B. & W.B. C-D RAMPS G & H
61255500	MANHOLES TO BE ADJUSTED	EACH	1											1
61258200	MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	1											1
61260300	INLETS TO BE ADJUSTED WITH NEW TYPE 1 FRAME, OPEN LID	EACH	1											1
61260900	INLETS TO BE ADJUSTED WITH NEW TYPE 6 FRAME AND GRATE	EACH	1											1
61407910	GRATING FOR CONCRETE FLARED END SECTION 24"	EACH	1											1
61500100	FILLING EXISTING MANHOLES	LIN. FT.	180											180
62900300	CHAIN LINK FENCE, 6 FT.	EACH	3											3
X0320025	FURNISH AND MAINTAIN RADIO													
61605100	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 (ABUTTING EXISTING PAVEMENT)	LIN. FT.	88											88
61615200	PAVED DITCH, TYPE A-12	LIN. FT.	715											715
XG163901	TEMPORARY CONCRETE BARRIER, TTV	LIN. FT.	11,600											11,600
XG164101	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION, TTV	EACH	12											12
XG164001	RELOCATE TEMPORARY CONCRETE BARRIER, TTV	LIN. FT.	20,600											20,600
61700030	BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)	SQ. YD.	2,680											2,680
61700100	PAVEMENT REMOVAL	SQ. YD.	2,547											2,547
61700900	BITUMINOUS CONCRETE REMOVAL	SQ. YD.	747											747
61700920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SQ. YD.	584											584
61701000	BITUMINOUS CONCRETE SURFACE REMOVAL	SQ. YD.	25,118	9,632	4,839	8,597		407	1,248	395				
61701800	COMBINATION CURB AND GUTTER REMOVAL (PARTIAL)	LIN. FT.	88											88
61704000	PAVED DITCH REMOVAL	LIN. FT.	317											317
61704500	PAVEMENT REMOVAL (SURFACE COURSE)	SQ. YD.	457											457
61704800	SLOPE WALL REMOVAL	SQ. YD.	416							30				386
61800100	SLOPE WALL 4 INCH	SQ. YD.	1,189							30				1,159
62000545	CLASS A PATCHES TYPE III 9 INCH	SQ. YD.	100											100
62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	1											1
62800040	TRAFFIC BARRIER TERMINAL, TYPE 1A	EACH	1											1
62800045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3											3
62800070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	7											7
62800085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	6											6
62801900	REMOVAL AND REINSTALLATION OF EXISTING S.P.B. GUARD RAIL, SINGLE RAIL	LIN. FT.	2,725											2,725
62910400	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	LIN. FT.	845											845
63300300	STEEL PLATE BEAM GUARD RAIL REMOVAL	LIN. FT.	920											920
64200200	SEEDING, CLASS 2	ACRE	2.5											2.5
64300820	HAY OR STRAW BALES	EACH	400											400
64600401	ENGINEER'S FIELD OFFICE, TYPE A-1	CAL. MO.	12											12
64600600	ENGINEER'S FIELD LABORATORY	CAL. MO.	12											12
64801800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L. SUM	1											1
65000100	MOBILIZATION	L. SUM	1											1,120
• 66060200	BARE COPPER WIRE, I/C NO. 6	LIN. FT.	1,120											
• 66100300	UNIT DUCT, 2-600 VxLP #6, 1" POLYETHELENE	LIN. FT.	410											410
• 66100400	UNIT DUCT, 2-600 VxLP #4, 1" POLYETHELENE	LIN. FT.	710											710
• 66200100	TRENCH AND BACKFILL FOR ROADWAY LIGHTING	LIN. FT.	1,040											1,040
• 67000100	SIGN LIGHTING (HIGH PRESSURE SODIUM)	LIN. FT.	88											88
• T2030100	SIGN PANEL - TYPE 3	SQ. FT.	455											455
• T2070100	RELOCATE SIGN PANEL - TYPE 3	SQ. FT.	641.5											641.5
• T3094000	OVERHEAD SIGN STRUCTURE - SPAN, TYPE IV-A (6'-0" X 8'-0")	LIN. FT.	171.0											171.0
• T3110100	OVERHEAD SIGN STRUCTURE WALKWAY	LIN. FT.	125.25											125.25
• T3120200	DRILLED SHAFT CONCRETE FOUNDATIONS	CU. YD.	35.5											35.5
• T3170100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	2											2
• T3200200	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	4											4
• T5020200	PAINT PAVEMENT MARKING - LINE 4"	LIN. FT.	32,484											32,484
• T5020500	PAINT PAVEMENT MARKING - LINE 8"	LIN. FT.	6,810											6,810
• T5030800	PREFORMED PLASTIC PAVEMENT MARKING-LINE 12"	LIN. FT.	1,835											1,835
T5040100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	501	21	16	19	9	7	4	3	3	6	52	381
• L0008800	REMOVAL OF EXISTING LIGHTING UNIT	EACH	44	9	2	11	6	1	4	1	1	1	5	3
• L0669000	PULL UNIT DUCT FROM CONDUIT	LIN. FT.	60											60
XZ178900	INSTALLING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	224	37	41	146								
X5033800	INSTALLING ELASTOMERIC BEARING ASSEMBLY (SPECIAL)	EACH	50				36	14						
X0300100	PARAPET RECONSTRUCTION	LIN. FT.	12,138	4,611	2,336	4,465			726					
50701000	JACK AND REPOSITION BEARINGS	EACH	26							26				
Z0006010	BRIDGE DECK CONCRETE OVERLAY OPTION	SQ. YD.	26,786	10,453	5,142	9,054		420	1,322	395				
Z0012100	CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YD.	24,786	9,532	4,750	8,380		407	1,322	395				
Z0013500	CONCRETE THRUST BLOCKS	EACH	5											5

DIST.	SEC.	COUNTY	FED. PROJ. NO.	SHEET NO.
10	•	ST. CLAIR	320	9
		FED. PROJECT		

• 82-3HVB-2R-1

LEVELS PLOTTED | DATE: 10-14-87
1,2,3,35

FILE: SUMMARY.DGN
PRF: SUM2

10320
87C

• SPECIALTY ITEMS △ CONST. CODE Y080 ⊙ NON-PART.

REV. 8/26/88

SUMMARY OF QUANTITIES

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	10
	ILLINOIS	PROJECT		

• 82-3HVB-2R-1

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE										
				X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X 271-2A	X 271-2A	X 271-2A	X 271-2A	X 571-50	SFTY-3O
				ROADWAY A BRIDGE OVER RAILROAD	ROADWAY G BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMPS O & R BRIDGE OVER RAILROAD	RAMPS P,Q & N BRIDGE OVER RAILROAD	ROADWAY H SPANS H2 - H4 OVER ROAD	ROADWAY H OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY B & C BRIDGES OVER BROADWAY	E.B. & W.B. L C-D RAMPS G & H
		EACH	2											2
Z0013700	CONSTRUCTING TEST STRIP	SQ. YD.	827	272	153	375		7	4	16				
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ. YD.	4,328	2,014	353	1,750		60	105	46				
Z0016200	DECK SLAB REPAIR (PARTIAL)	EACH	104	39	12	33			6	4	6	4		
Z0017900	DRAINAGE SCUPPERS	CU. FT.	2.7								2.7			
Z0020400	EPOXY MORTAR REPAIR	EACH	1		1									
ⓃZ0029999	IMPACT ATTENUATOR REMOVAL	EACH	4		1		1	1						1
ⓃZ0030000	IMPACT ATTENUATORS	LIN. FT.	430											430
Z0033400	LOCATING UNDERGROUND CABLE	LIN. FT.	805	131	32	107			38	174	245	39	39	
50300150	NEOPRENE EXPANSION JOINT 2"	LIN. FT.	375	68	91	40	61					47	68	
50300155	NEOPRENE EXPANSION JOINT 2½"	LIN. FT.	407	125	37	72	41	80					52	
50300160	NEOPRENE EXPANSION JOINT 4"	LIN. FT.	12										12	
50300165	NEOPRENE EXPANSION JOINT 6½"	EACH	19											19
Z0039200	PERMANENT SURVEY MARKERS, TYPE I	LIN. FT.	137											137
Z0040500	PIPE CULVERT REMOVAL	EACH	7											7
X0702200	TRAFFIC BARRIER TERMINAL CONNECTOR	HOUR	1,500											1
▲Z0076600	TRAINEES	L. SUM	1	0.25		0.25	0.25	0.25						
Z0048655	RAILROAD PROTECTIVE LIABILITY INSURANCE	EACH	741	233	149	248			51					
X0300101	FLOOR DRAIN REMOVAL	EACH	1											1
X0974000	OFFICE COPY MACHINE	EACH	400											400
X0300109	TRAFFIC CONTROL AND PROTECTION (HOV LANE)	SQ. YD.	398	90	200	108								
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	EACH	1											1
X6163801	MOVABLE CONCRETE MEDIAN BARRIER TRANSFER AND TRANSPORT VEHICLE	CALMO	12											12
X0300103	FACSIMILE MACHINE													

• SPECIALTY ITEMS ▲ CONST. TYPE CODE: Y080 ⊗ CONST. CODE SFTY-3N ⊙ NON-PART.

REV. 8/26/88 Rev. 11-18-88

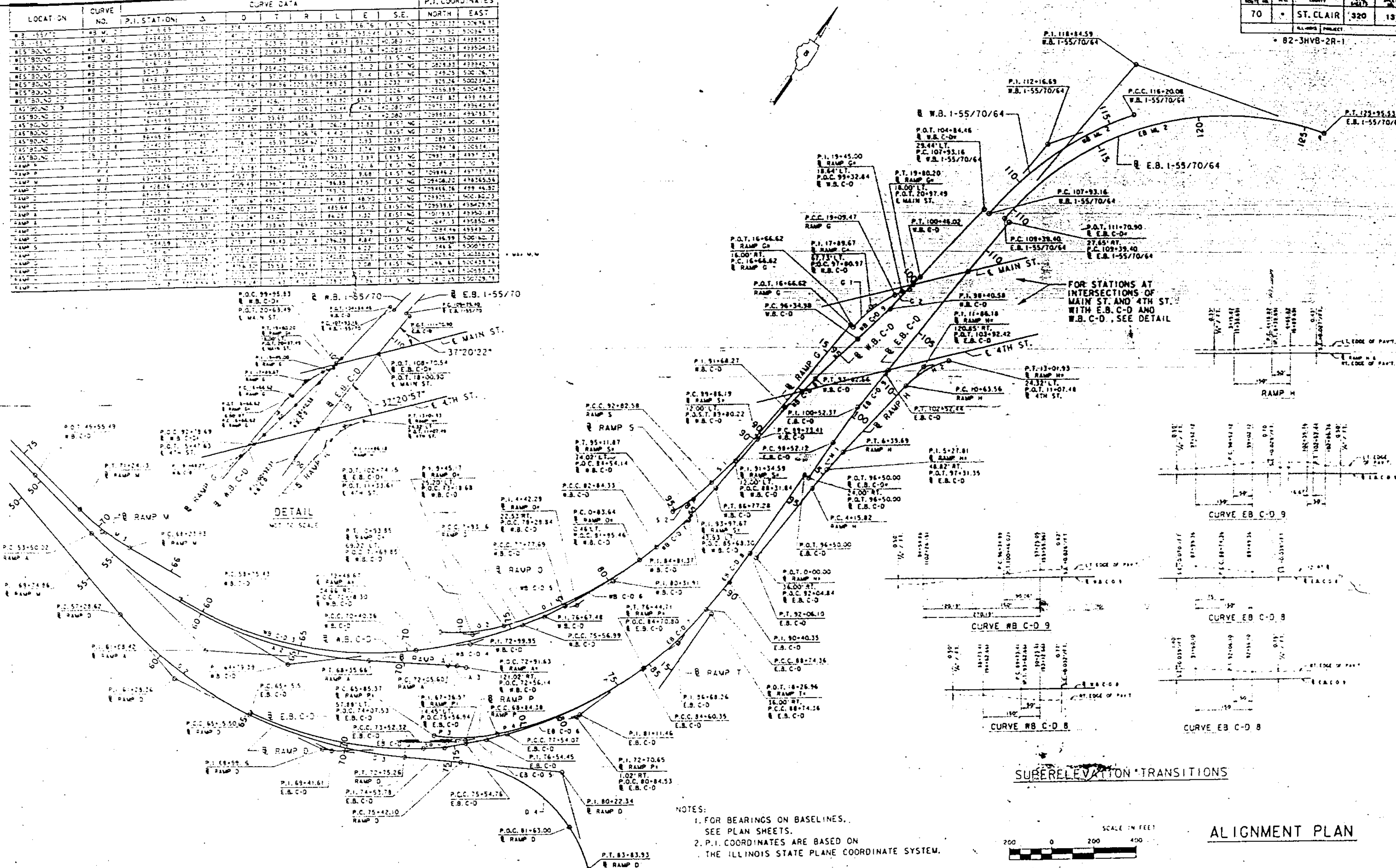
SUMMARY OF QUANTITIES

10320 87C | FILE: SUMMARY.DGN | PRF: SUM3 | LEVELS PLOTTED | DATE: 10-14-87 | 1,2,3,35

FAI ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	13

* 82-3HVB-2R-1

LOCATION	CURVE NO.	CURVE DATA								P.I. COORDINATES	
		P.I. STATION	Δ	D	T	R	L	E	S.E.	NORTH	EAST
W.B. I-55/70	WB ML 2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
E.B. I-55/70	EB ML 2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WESTBOUND C-D	WB C-D 9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EASTBOUND C-D	EB C-D 9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP P	P 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP P	P 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP M	M 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP D	D 2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP D	D 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP D	D 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP A	A 2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP A	A 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP S	S 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RAMP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



NOTES:

1. FOR BEARINGS ON BASELINES, SEE PLAN SHEETS.
2. P.I. COORDINATES ARE BASED ON THE ILLINOIS STATE PLANE COORDINATE SYSTEM.

ALIGNMENT PLAN

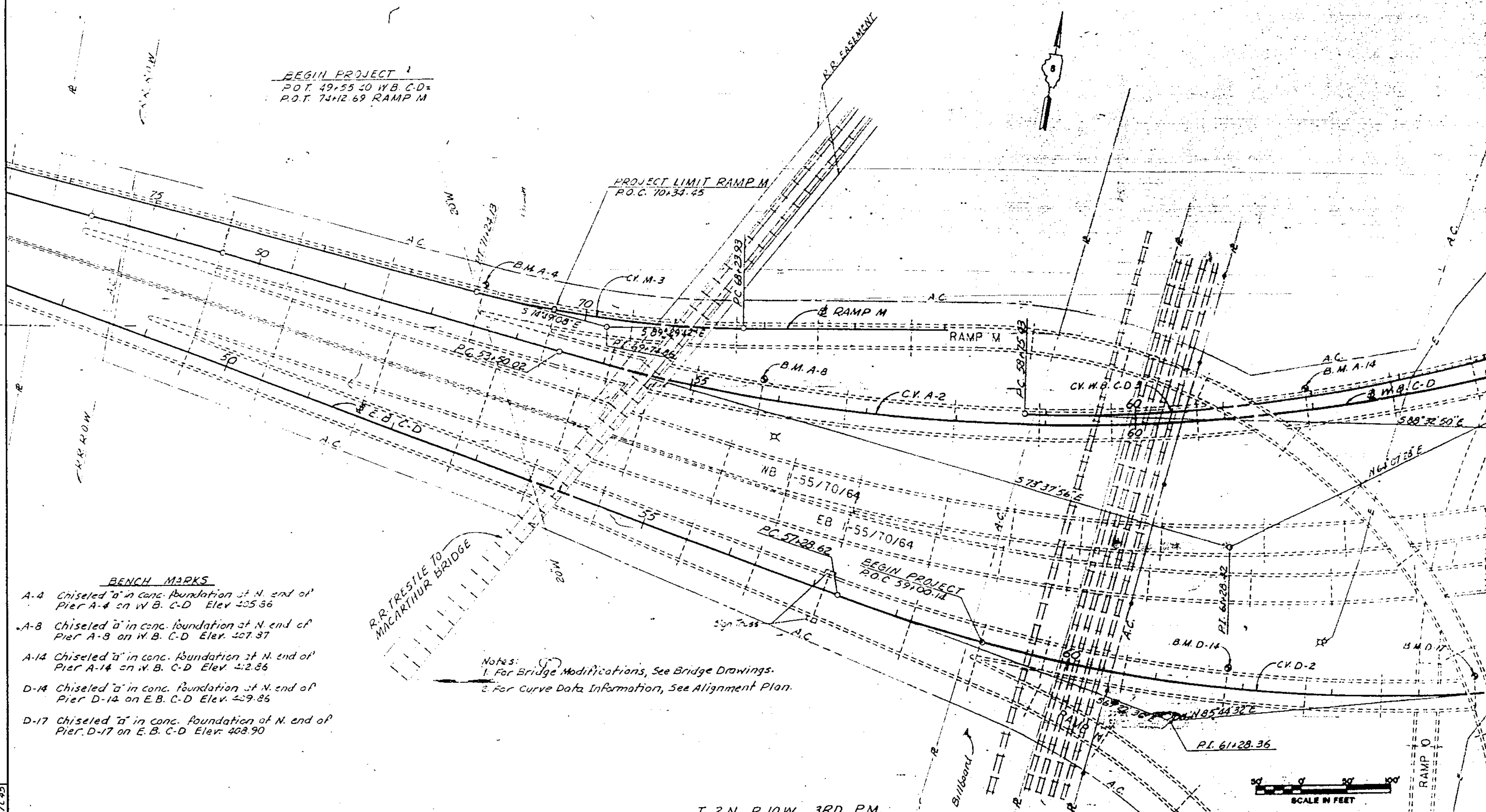
LEVELS PLOTTED: 1,2,3,4,5,10,20,30,40,60,61 DATE:

FILE: LON.DGN
PRF: LON

10136
86C89

70	*	ST. CLAIR	320	16

* 82-3HVB-2R-1



BENCH MARKS

A-4 Chiseled "□" in conc. foundation at N. end of Pier A-4 on W.B. C-D Elev 405.86

A-8 Chiseled "□" in conc. foundation at N. end of Pier A-8 on W.B. C-D Elev. 407.37

A-14 Chiseled "□" in conc. foundation at N. end of Pier A-14 on W.B. C-D Elev. 412.86

D-14 Chiseled "□" in conc. foundation at N. end of Pier D-14 on E.B. C-D Elev. 409.86

D-17 Chiseled "□" in conc. foundation at N. end of Pier D-17 on E.B. C-D Elev. 408.90

Notes:
1. For Bridge Modifications, See Bridge Drawings.
2. For Curve Data Information, See Alignment Plan.

10920
87C45

ROUTE NO.	SEC.	COUNTY	PROJECT NO.	SHEET NO.
70	•	ST. CLAIR	320	18
	ILL. FHWA	PROJECT		

• 82-3HVB-2R-1

Water Meter
MATCHLINE 75+00
Conc. Foundation
AG
BM. R-3
Ct. W.B. C-D 3
W.B. C-D
Pt. 72+89.95
RR Signal
RAMP O
RR Signal
ACCESS ROAD
I.C.G. R.R.
Conc. Slab
Gate
E.B. C-D
MATCHLINE 80+00
RAMP T
RAMP AI
Conc. Foundation
Pt. 72+68.67
N71°09'53"E
Ct. A3
W.B. C-D 70
BM. R-1
N64°07'28"E
RAMP A
Elect Panel Box
W.B. I-55/70/64
Conc. Slope Protection
Ct. W.B. C-D 3
BM. A-18
Ct. A2
65
N54°08'38"E
S88°52'50"E
I.C.G. R.R.
Pt. 68+36.46
E.B. I-55/70/64
B.M. C-22
RAMP P
Pt. 64+74.39
MATCH LINE
Pt. 72+23.26
RCC
Ct. E.B. C-D 4
N49°26'59"E
Pt. 74+53.78
BM D-27
N66°03'11"E
RAMP U
Ldg D-4
SOUTHERN R.R.
Not in Service
P.C.C. Elev. 3.00
Sign Truss
B.M. D-24
Ct. E.B. C-D 3
N59°03'55"E
RAMP D
Conc. Rubble
E.B. C-D
Ct. D3
N85°42'09"E
N85°44'38"E
P.C.C. 65+15.50
P.C. 65+15.50
Transmission Tower
P.I. 68+99.16
P.I. 69+41.61
Not in Service
Conc. Rubble
Ct. E.B. C-D 5
BM Q-2
N49°26'59"E
Pt. 74+53.78
RAMP S
S63°02'22"E
P.I. 80+22.54
P.C.C. Elev. 3.00

BENCH MARKS

A-18 Chiseled "a" in conc. foundation at N. end of Pier A-18 on WB C-D Elev. 410.91

C-22 Chiseled "a" in conc. foundation of Pier C-22 on E.B. I-55/70 approx. 150' NE. of I.C.G. Railroad Elev. 417.93

D-24 Chiseled "a" in conc. foundation at N. end of Pier D-24 on E.B. C-D Elev. 415.91

D-27 Chiseled "a" in conc. foundation at N. end of Pier D-27 on E.B. C-D Elev. 412.92

Q-2 Chiseled "a" in conc. foundation at N. end of Pier Q-2 on E.B. C-D Elev. 413.95

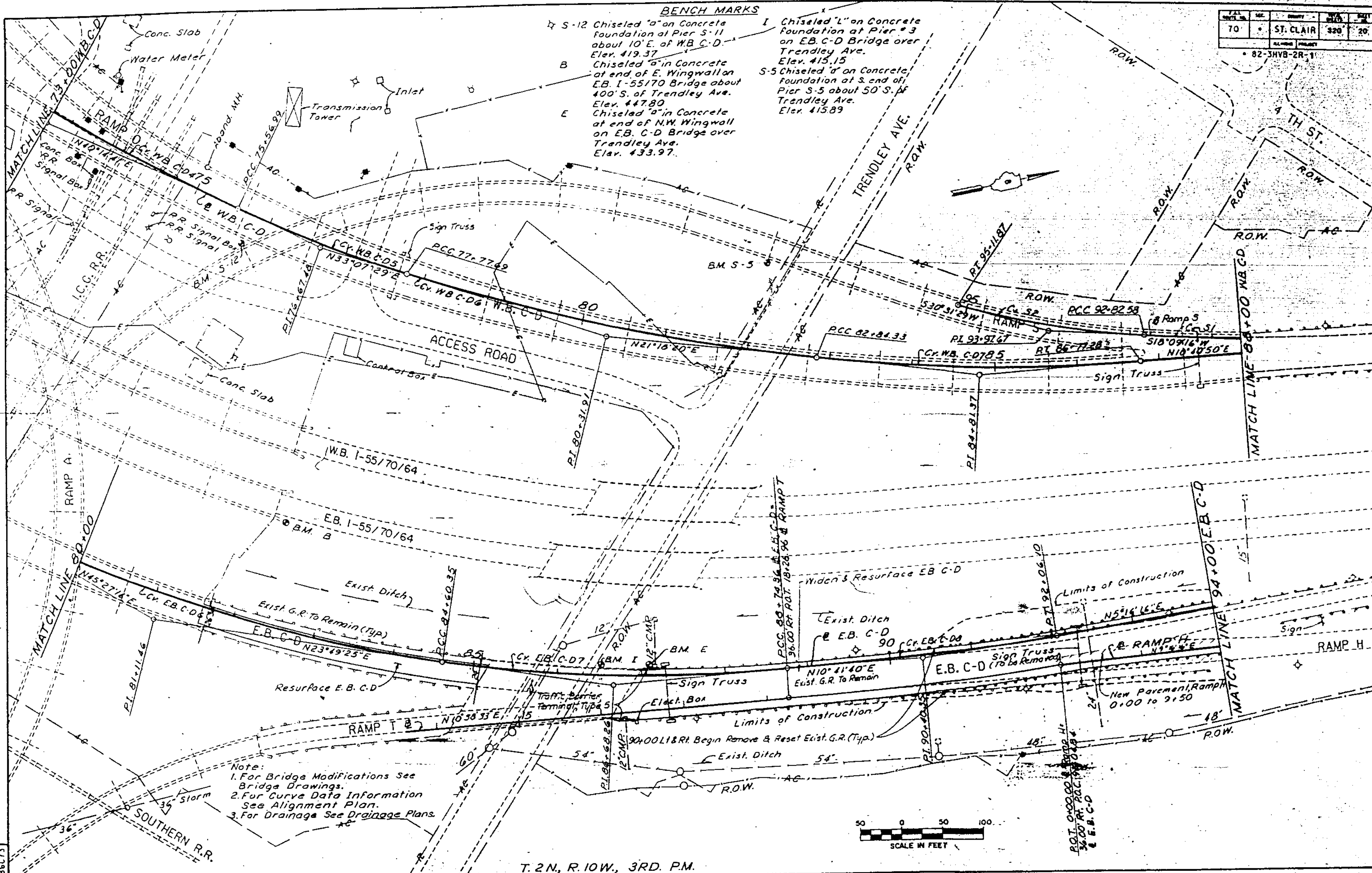
R-1 Chiseled "a" in conc. foundation at N. end of Pier R-1 on W.B. C-D Elev. 412.89

R-3 Chiseled "a" in conc. foundation at N. end of Pier R-3 on W.B. C-D Elev. 416.92

50 0 50 100
SCALE IN FEET

T. 2 N., R. 10 W., 3RD. P.M.

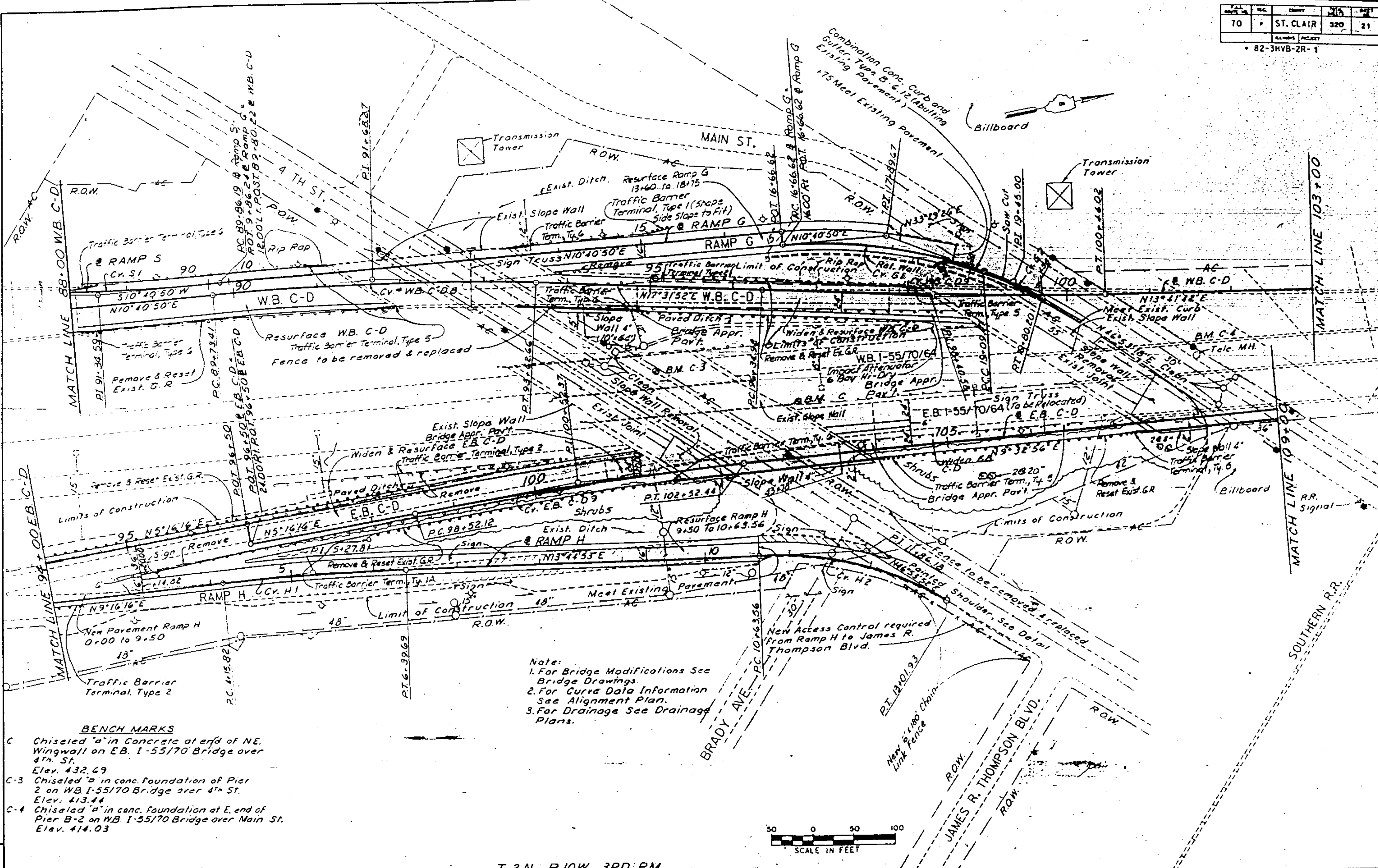
10136
86C72



70 | ST. CLAIR | 320 | 20
82-3HVB-2R-1
BENCH MARKS
S-12 Chiseled "a" on Concrete foundation at Pier S-11 about 10' E. of W.B. C-D. Elev. 419.37
B Chiseled "a" in Concrete at end of E. Wingwall on E.B. I-55/70 Bridge about 400' S. of Trendley Ave. Elev. 447.80
E Chiseled "a" in Concrete at end of N.W. Wingwall on E.B. C-D Bridge over Trendley Ave. Elev. 433.97
I Chiseled "L" on Concrete foundation at Pier # 3 on E.B. C-D Bridge over Trendley Ave. Elev. 415.15
S-5 Chiseled "a" on Concrete foundation at S. end of Pier S-5 about 50' S. of Trendley Ave. Elev. 415.89
MATCH LINE 73+00 W.B. C-D
MATCH LINE 88+00 W.B. C-D
MATCH LINE 80+00
MATCH LINE 94+00 E.B. C-D
Conc. Slab
Water Meter
Inlet
Transmission Tower
Aband. M.H.
RAMP D
Conc. Box
R.R. Signal Box
R.R. Signal
I.C.G. R.R.
W.B. C-D
ACCESS ROAD
Control Box
TRENDLEY AVE.
4 TH ST.
R.O.W.
Sign Truss
BM. S-12
BM. S-5
BM. B
BM. E
BM. I
W.B. I-55/70/64
E.B. I-55/70/64
RAMP A
RAMP S
RAMP T
RAMP H
E.B. C-D
Exist. Ditch
Exist. G.R. To Remain (Typ.)
Resurface E.B. C-D
Widen & Resurface EB C-D
Limits of Construction
Traffic Barrier Terminal, Type 5
Elect. Box
Sign Truss (To be Removed)
New Pavement, Ramp H 0+00 to 2+50
90+00 Lt & Rt. Begin Remove & Reset Exist. G.R. (Typ.)
Exist. G.R. To Remain
Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.
SOUTHERN R.R.
Storm
SCALE IN FEET
T. 2N., R. 10W., 3RD. P.M.
10136
86C73

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	21

* 82-3HVB-2R-1



MAIN ST.
4 TH ST.
Transmission Tower
Billboard
RAMP G
RAMP S
RAMP H
W.B. C-D
E.B. C-D
MATCH LINE 88+00 W.B. C-D
MATCH LINE 94+00 E.B. C-D
MATCH LINE 103+00
MATCH LINE 109+00
W.B. I-55/70/64
E.B. I-55/70/64
Combination Conc. Curb and Gutter, Type B-6.12 (Abutting Existing Pavement)
*75 Meet Existing Pavement
Resurface Ramp G 13+60 to 18+75
Traffic Barrier Terminal, Type 1 (Slope Side Slope to Fit)
Resurface W.B. C-D
Fence to be removed & replaced
Remove & Reset Exist. G.R.
Limits of Construction
Widen & Resurface E.B. C-D
Paved Ditch
Exist. Slope Wall
Bridge Appr. Pavt.
Impact Attenuator 6 Bay Hi-Dry
Sign Truss (To be Relocated)
Resurface Ramp H 9+50 To 10+63.56
New Pavement Ramp H 0+00 to 9+50
Traffic Barrier Terminal, Type 2
Painted Shoulder, See Detail
New Access Control required from Ramp H to James R. Thompson Blvd.
New 6' x 180' Chain Link Fence
BRADY AVE.
JAMES R. THOMPSON BLVD.
SOUTHERN R.R.
R.R. Signal
R.O.W.
SCALE IN FEET

Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.

BENCH MARKS

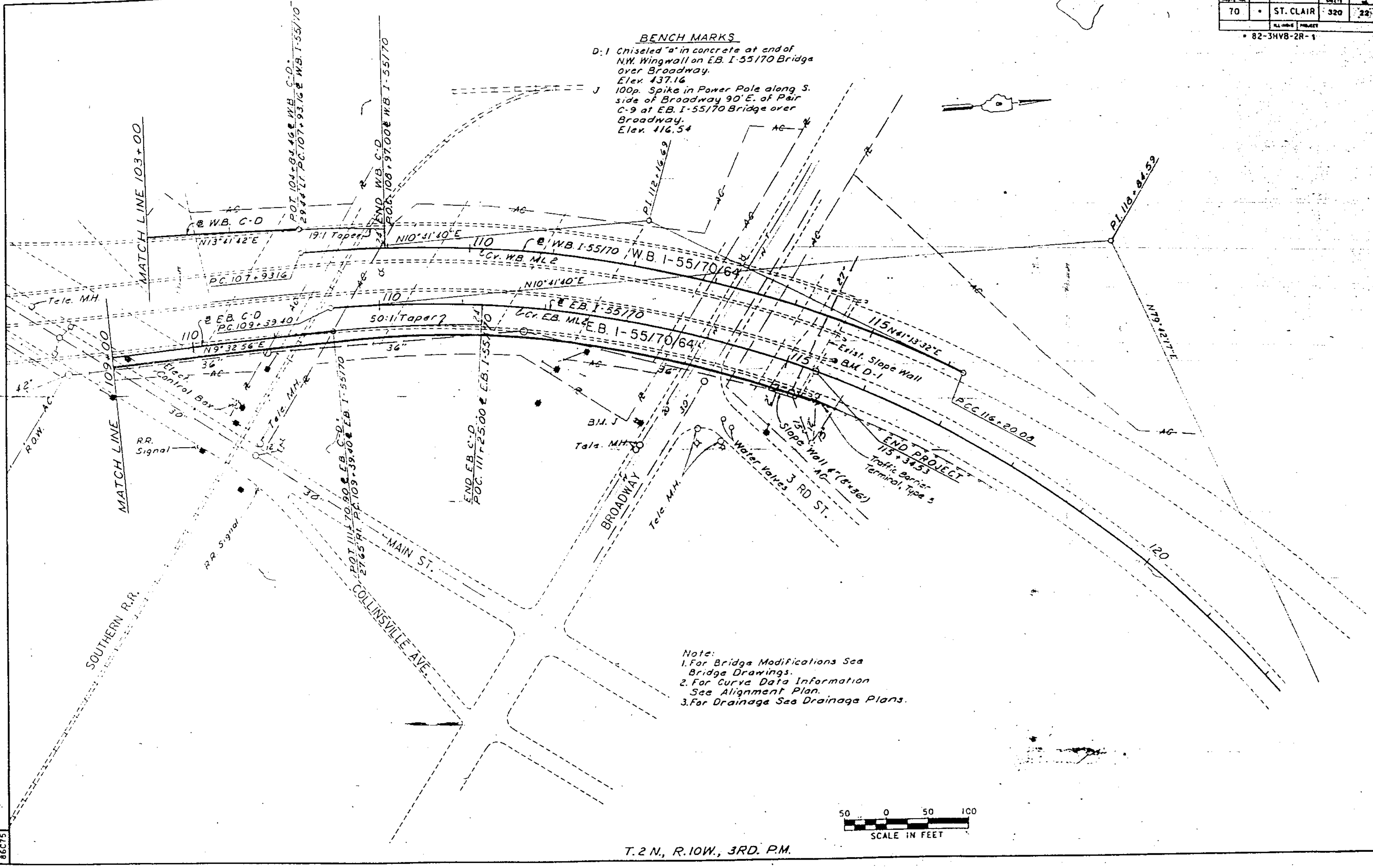
C Chiseled "□" in Concrete at end of N.E. Wingwall on E.B. I-55/70 Bridge over 4th St. Elev. 432.69

C-3 Chiseled "□" in conc. foundation of Pier 2 on W.B. I-55/70 Bridge over 4th St. Elev. 413.44

C-4 Chiseled "□" in conc. foundation at E. end of Pier B-2 on W.B. I-55/70 Bridge over Main St. Elev. 414.03

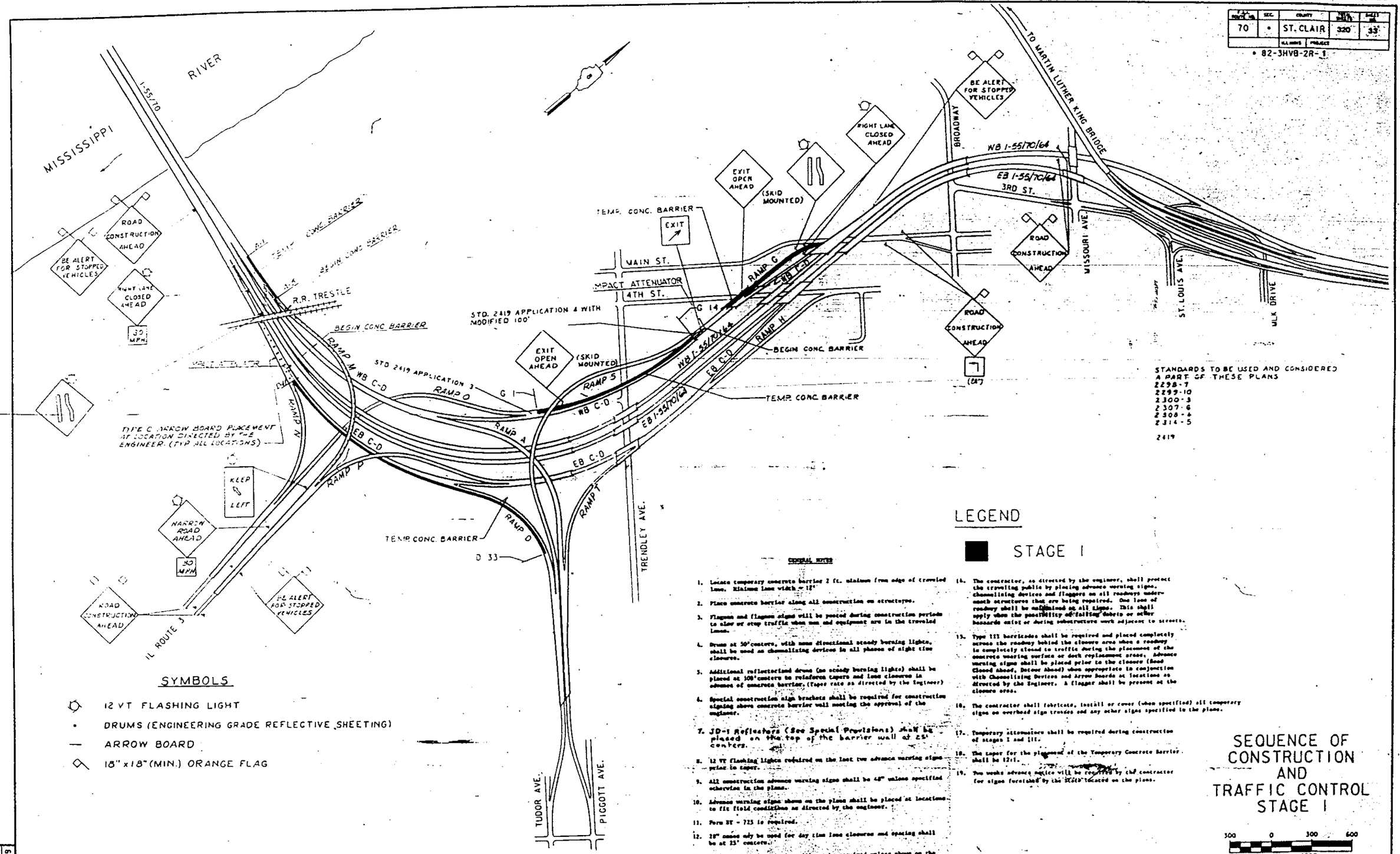
T. 2 N., R. 10 W. 3RD. P.M.

10136
86C74


70
ST. CLAIR
320
22
82-3HVB-2R-1
BENCH MARKS
D-1 Chiseled "a" in concrete at end of N.W. Wingwall on E.B. I-55/70 Bridge over Broadway. Elev. 437.16
J 100p. Spike in Power Pole along S. side of Broadway 90' E. of Pier C-9 at E.B. I-55/70 Bridge over Broadway. Elev. 416.54
MATCH LINE 103+00
MATCH LINE 109+00
℄ W.B. C-D
N13°41'42"E
19:1 Taper
N10°41'40"E
PC 107+93.16
℄ W.B. I-55/70
W.B. I-55/70/64
℄ E.B. C-D
PC 109+39.40
50:1 Taper
℄ E.B. I-55/70
E.B. I-55/70/64
N10°41'40"E
N9°32'56"E
PI 112+16.69
PI 118+84.59
N79°42'17"E
N41°13'32"E
PCC 116+20.08
Exist. Slope Wall
B.M. D-1
END PROJECT 115+34.53
Traffic Barrier Terminal, Type 5
Slope Wall 4" (8'x36')
Water Valves
3 RD ST.
BROADWAY
MAIN ST.
COLLINSVILLE AVE.
SOUTHERN R.R.
R.R. Signal
Tele. M.H.
Elect. Control Box
R.O.W.
B.M. J
END E.B. C-D POC 111+25.00 ℄ E.B. I-55/70
END W.B. C-D POC 108+97.00 ℄ W.B. I-55/70
110
115
120
Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.
50 0 50 100
SCALE IN FEET
T. 2 N., R. 10 W., 3RD. P.M.
10136
86C75

ROUTE	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	33
	ALL SHEETS	PROJECT		

• 82-3HVB-2R-1



SYMBOLS

- 12 VT FLASHING LIGHT
- • DRUMS (ENGINEERING GRADE REFLECTIVE SHEETING)
- — ARROW BOARD
- 18" x 18" (MIN.) ORANGE FLAG

STANDARDS TO BE USED AND CONSIDERED A PART OF THESE PLANS

2298-7
2299-10
2300-3
2307-6
2308-6
2314-5

2419

LEGEND

STAGE I

GENERAL NOTES

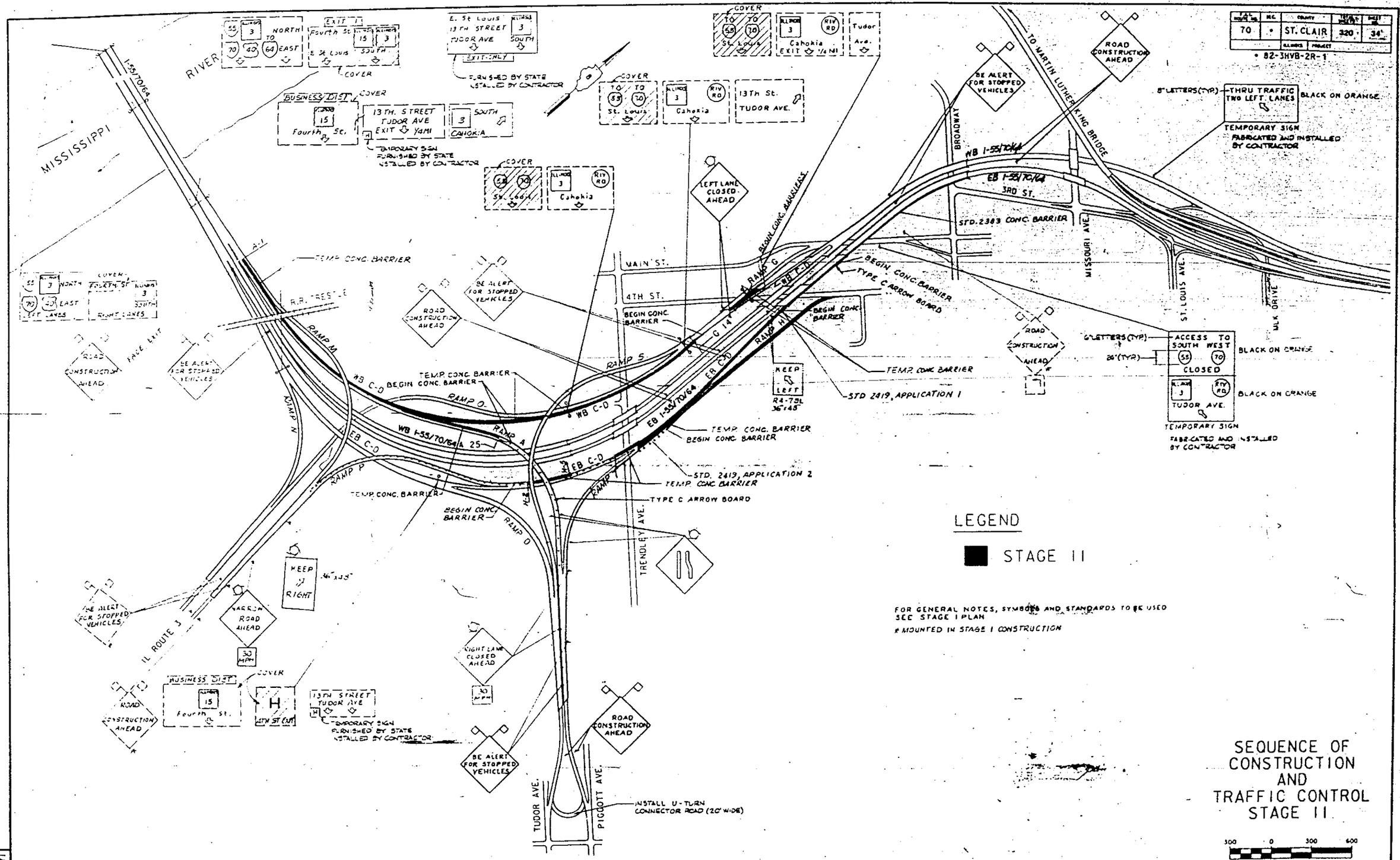
1. Locate temporary concrete barrier 2 ft. minimum from edge of traveled lane. Minimum lane width = 12'
2. Place concrete barrier along all construction on structures.
3. Flagmen and flagmen signs will be posted during construction periods to slow or stop traffic when men and equipment are in the traveled lanes.
4. Drums at 50' centers, with some directional steady burning lights, shall be used as channelizing devices in all phases of night time closures.
5. Additional reflectorized drums (no steady burning lights) shall be placed at 100' centers to reinforce tapers and lane closures in advance of concrete barrier. (Taper rate as directed by the Engineer)
6. Special construction sign brackets shall be required for construction signing above concrete barrier wall meeting the approval of the engineer.
7. JD-1 Reflectors (See Special Provisions) shall be placed on the top of the barrier wall at 25' centers.
8. 12 VT flashing lights required on the last two advance warning signs prior to taper.
9. All construction advance warning signs shall be 48" unless specified otherwise in the plans.
10. Advance warning signs shown on the plans shall be placed at locations to fit field conditions as directed by the engineer.
11. Form BT - 725 is required.
12. 28" cones only be used for day time lane closures and spacing shall be at 25' centers.
13. Dual construction signing will not be required unless shown on the plans.
14. The contractor, as directed by the engineer, shall protect the traveling public by placing advance warning signs, channelizing devices and flaggers on all roadways underneath structures that are being repaired. One lane of roadway shall be maintained at all times. This shall apply when the possibility of falling debris or other hazards exist or during substructure work adjacent to streets.
15. Type III barricades shall be required and placed completely across the roadway behind the closure area when a roadway is completely closed to traffic during the placement of the concrete wearing surface or deck replacement areas. Advance warning signs shall be placed prior to the closure (Road Closed Ahead, Detour Ahead) when appropriate in conjunction with Channelizing Devices and Arrow Boards at locations as directed by the Engineer. A flagger shall be present at the closure area.
16. The contractor shall fabricate, install or cover (when specified) all temporary signs on overhead sign trusses and any other signs specified in the plans.
17. Temporary attenuators shall be required during construction of stages I and III.
18. The taper for the placement of the Temporary Concrete Barrier shall be 12:1.
19. Two weeks advance notice will be required by the contractor for signs furnished by the State located on the plans.

SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE I

300 0 300 600
SCALE IN FEET

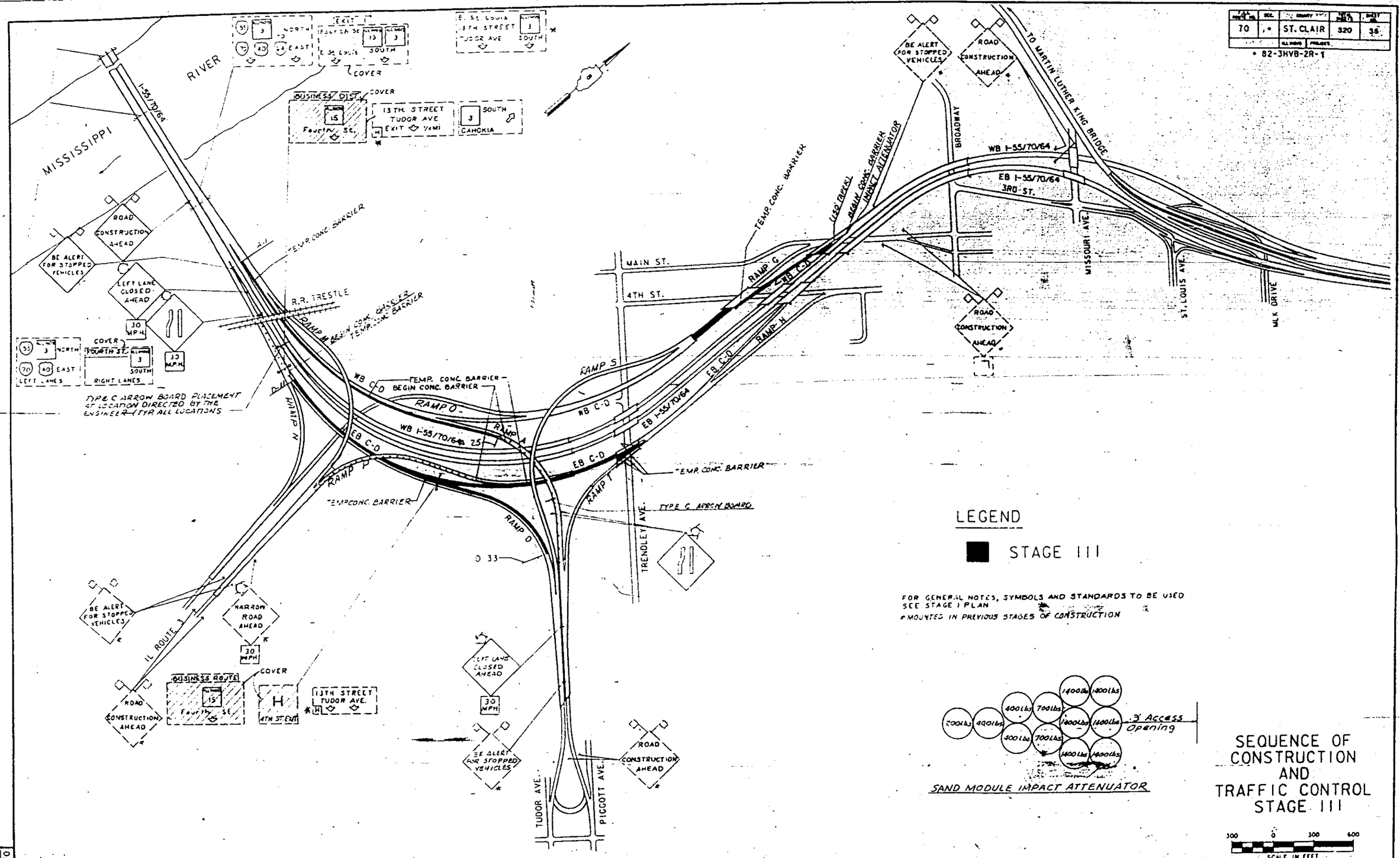
Rev. 11-18-88

10136
86C69


RIVER
MISSISSIPPI
I-55/70/64
NORTH
EAST
SOUTH
EXIT
Fourth St.
E. St. LOUIS
COVER
BUSINESS DIST.
13TH. STREET
TUDOR AVE
EXIT
YAMI
CAHOKIA
TEMPORARY SIGN FURNISHED BY STATE INSTALLED BY CONTRACTOR
E. St LOUIS
13TH STREET
TUDOR AVE
EXIT ONLY
FURNISHED BY STATE INSTALLED BY CONTRACTOR
St. Louis
Cahokia
EXIT 1/4 MI
Tudor Ave.
13Th St.
TUDOR AVE.
LEFT LANE CLOSED AHEAD
BEGIN CONC. BARRIER
TO MARTIN LUTHER KING BRIDGE
ROAD CONSTRUCTION AHEAD
BE ALERT FOR STOPPED VEHICLES
BROADWAY
WB I-55/70/64
EB I-55/70/64
3RD ST.
STD. 2383 CONC. BARRIER
MISSOURI AVE.
ST. LOUIS AVE.
MLK DRIVE
5" LETTERS (TYP)
THRU TRAFFIC TWO LEFT LANES
BLACK ON ORANGE
TEMPORARY SIGN
FABRICATED AND INSTALLED BY CONTRACTOR
6" LETTERS (TYP)
ACCESS TO SOUTH WEST
CLOSED
BLACK ON ORANGE
TUDOR AVE.
TEMPORARY SIGN
FABRICATED AND INSTALLED BY CONTRACTOR
70
ST. CLAIR
320'
34'
82-3HVB-2R-1
TEMP. CONC. BARRIER
FACE EXIT
RAMP M
RAMP N
RAMP P
RAMP O
RAMP S
RAMP G
RAMP H
WB C-D
EB C-D
WB I-55/70/64A 25-1
MAIN ST.
4TH ST.
BEGIN CONC. BARRIER
TYPE C ARROW BOARD
KEEP LEFT
R4-7SL
36"x48"
STD 2419, APPLICATION 1
STD. 2419, APPLICATION 2
TRENDLEY AVE.
IL ROUTE 3
KEEP RIGHT
ARROW ROAD AHEAD
30 MPH
RIGHT LANE CLOSED AHEAD
13TH STREET TUDOR AVE
INSTALL U-TURN CONNECTOR ROAD (20' WIDE)
PIGGOTT AVE.
LEGEND
STAGE II
FOR GENERAL NOTES, SYMBOLS AND STANDARDS TO BE USED SEE STAGE I PLAN
* MOUNTED IN STAGE I CONSTRUCTION
SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE II
300 0 300 600
SCALE IN FEET
10136
86C71

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	, •	ST. CLAIR	320	36
		ALL SHEETS	PROJECT	

• 82-3HV8-2R-1



LEGEND

■ STAGE III

FOR GENERAL NOTES, SYMBOLS AND STANDARDS TO BE USED SEE STAGE I PLAN

* MOUNTED IN PREVIOUS STAGES OF CONSTRUCTION

SAND MODULE IMPACT ATTENUATOR

SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE III

300 0 300 400
SCALE IN FEET

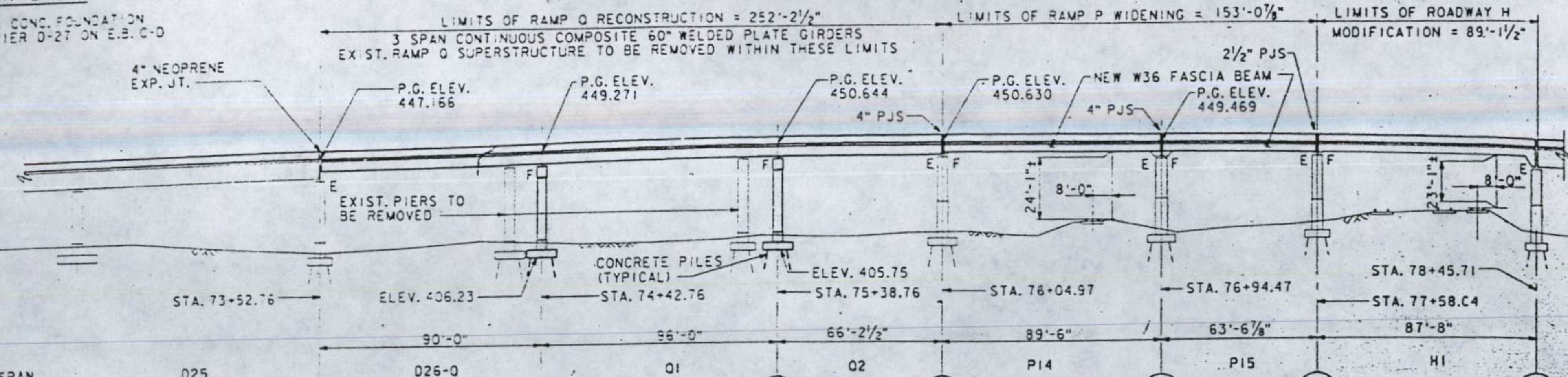
10136
86C70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	138

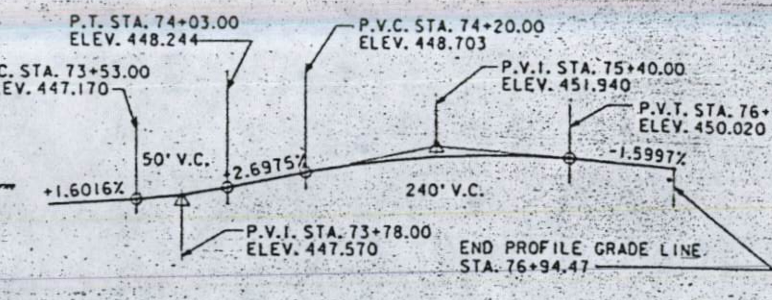
• 82-3HVB-2R-1

BENCH MARK D-27
CHISELED "□" IN CONC. FOUNDATION AT N. END OF PIER D-27 ON E.B. C-D
ELEV. 412.92

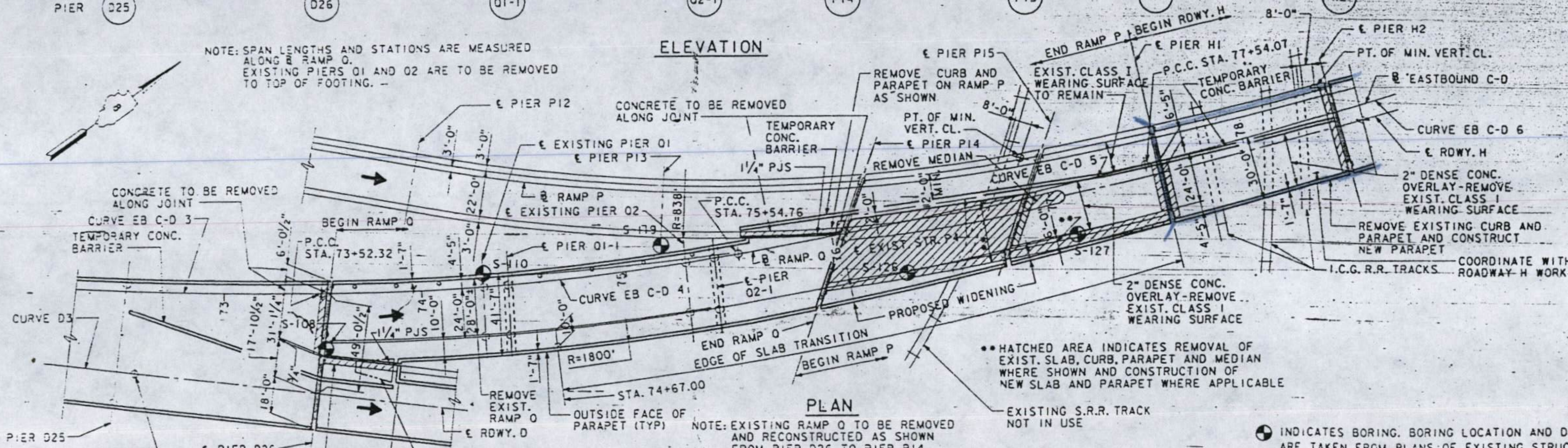


ELEVATION

NOTE: SPAN LENGTHS AND STATIONS ARE MEASURED ALONG ℄ RAMP Q.
EXISTING PIERS Q1 AND Q2 ARE TO BE REMOVED TO TOP OF FOOTING.



PROFILE - ℄ RAMP Q & ℄ EASTBOUND C-D



PLAN

NOTE: EXISTING RAMP Q TO BE REMOVED AND RECONSTRUCTED AS SHOWN FROM PIER D26 TO PIER P14.

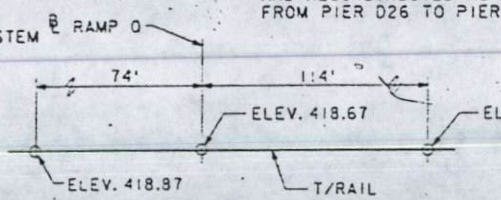
●● HATCHED AREA INDICATES REMOVAL OF EXIST. SLAB, CURB, PARAPET AND MEDIAN WHERE SHOWN AND CONSTRUCTION OF NEW SLAB AND PARAPET WHERE APPLICABLE

⊕ INDICATES BORING. BORING LOCATION AND DESIGNATION ARE TAKEN FROM PLANS OF EXISTING STRUCTURES.

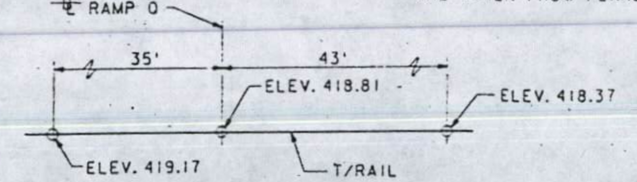
REBUILT 198_ BY
STATE OF ILLINOIS
F.A.I. 70 SEC. 82-3HVB-2R-1
PROJ. IR-70-1(155)1
LOADING HS20 AND ALT.
STR. NO. 082-0255 (RAMP Q)
STR. NO. 082-0203 (RAMP P)
STR. NO. 082-0256 (RDWY H)

NAME PLATE
(SEE ILL. STD. 2113)

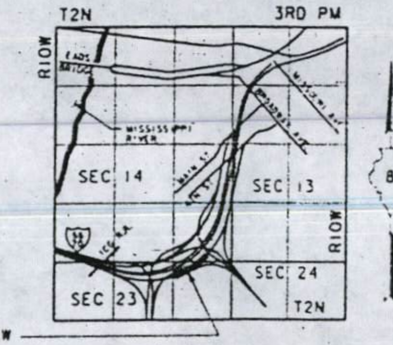
NOTE: LOCATION OF NEW NAME PLATE SHALL BE LOCATED ADJACENT TO EXISTING NAME PLATE ON WINGWALL OF ABUT. H5.



PROFILE - SOUTHERN R.R. TRACKS
SPAN P14



PROFILE - I.C.G.R.R. TRACKS - SPAN H1



PROPOSED NEW STRUCTURE & MODIFICATIONS

LOCATION SKETCH

DESIGN STRESSES - NEW STRUCTURES

DESIGN SPECIFICATIONS: AASHTO 1983 AND APPLICABLE 1984 THRU 1987 INTERIMS. AASHTO 1980 GUIDE TO HORIZONTALLY CURVED HIGHWAY BRIDGES AND 1981 & 1982 INTERIMS

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:
DECK SLAB f'c=3500 psi
SUBSTRUCTURE f'c=3500 psi
REINFORCING fy=60,000 psi

STRUCTURAL STEEL: fy=36,000 psi (M183)

FUTURE WEARING SURFACE = 25 psf

DESIGN STRESSES - WIDENING

LOAD FACTOR DESIGN (DECK ONLY)
SERVICE LOAD DESIGN ALL ELSE

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:
DECK SLAB f'c=3500 psi
SUBSTRUCTURE fc=1400 psi
• Vc=75 psi - FOOTINGS
REINFORCING fy=60,000 psi

STRUCTURAL STEEL: fs=20,000 psi (M183)

CURVE DATA - EB C-D 4

P.I. STA. = 74+53.78
Δ = 9° - 36' - 57" LT.
D = 4° - 45' - 00"
R = 1206.23'
T = 101.46'
L = 202.44'
E = 4.26'
P.C.C. STA. = 73+52.32
P.C.C. STA. = 75+54.76

CURVE DATA - EB C-D 5

P.I. STA. = 76+54.45
Δ = 3° - 59' - 43" LT.
D = 2° - 00' - 16"
R = 2858.27'
T = 99.69'
L = 199.31'
E = 1.74'
P.C.C. STA. = 75+54.76
P.C.C. STA. = 77+54.07

CURVE DATA - EB C-D 6

P.I. STA. = 81+11.46
Δ = 21° - 37' - 50" LT.
D = 3° - 03' - 45"
R = 1870.81'
T = 357.39'
L = 706.28'
E = 33.83'
P.C.C. STA. = 77+54.07
P.C.C. STA. = 84+60.35

NOTES

FOR PAY ITEM "TEMPORARY CONCRETE BARRIER", SEE ROADWAY PLANS
PILE DATA FOR CAPACITY AND LENGTH ARE ESTIMATED FROM THE ORIGINAL CONSTRUCTION PLANS.

APPROVED
FOR STRUCTURAL ... ONLY
James T. Rayburn

STATE OF ILLINOIS
CARLOS A. LIZANA-FARFAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P AND ROADWAY H
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 082-0256 (RDWY H)
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SHEET NO. 1 OF 32

DESIGNED	C. LIZANA
CHECKED	G.J. DEE
DRAWN	L. SCHURMAN/ S. STEGMAN
CHECKED	R.F. BECK

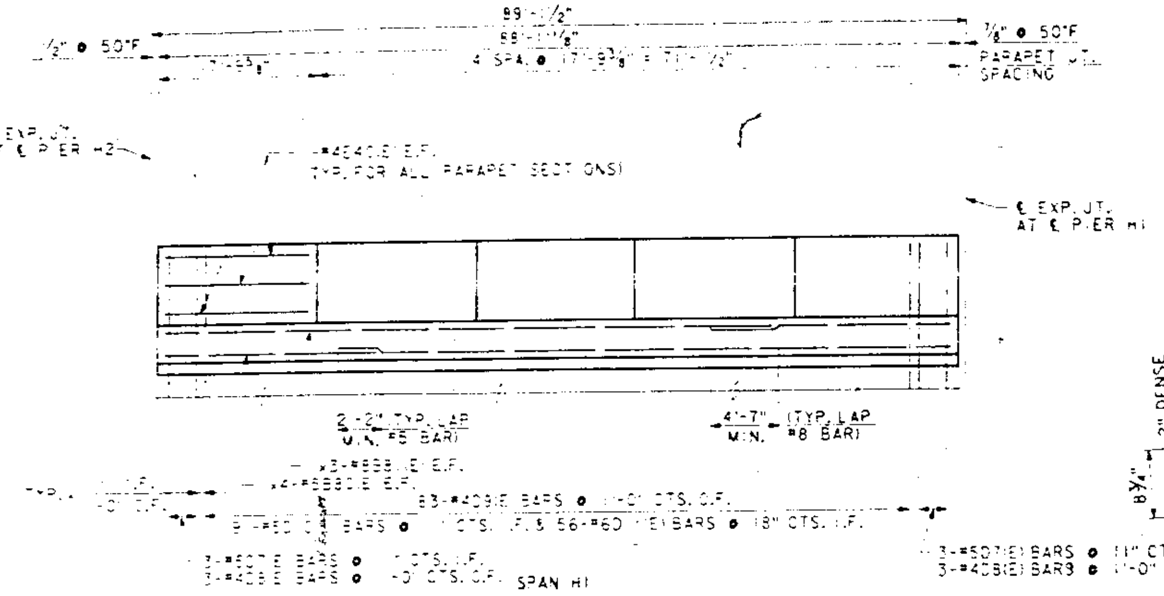
10320 875548 | FILE: 052(224) 1DET33E.DGN PRF: DET33E | LEVELS PLOTTED 2,3,20,24,26,35,38,39,42,50,54,55,63 | DATE: OCT. 14, 1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

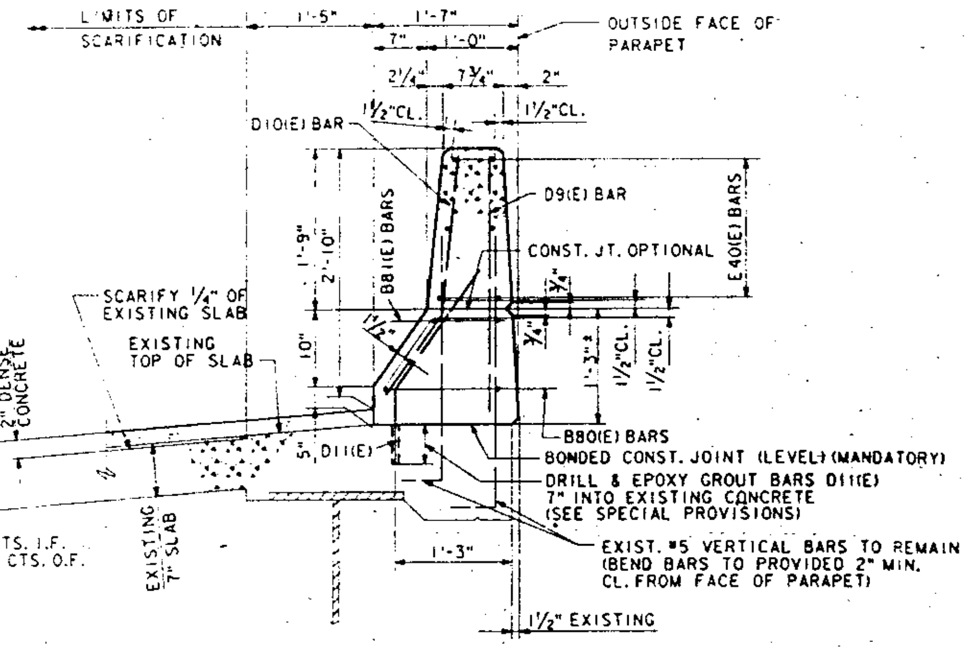
NOTE:
FOR PARAPET REMOVAL, 12.2 CU. YDS.
1740 LBS. REINFORCING BARS (EPOXY COATED) AND 9.9 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.

F.A.I. 70	P+F	ST. CLAIR	320	152

82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET



SECTION THRU PARAPET

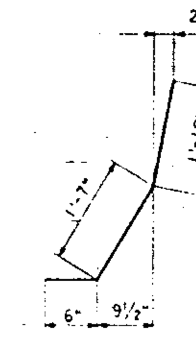
NOTE: ALL EDGES SHALL HAVE A 3/4" CHAMFER, EXCEPT AS SHOWN.
FOR SECTION THRU PARAPET NEAR EXP. JOINT AT PIER H2 SEE ROADWAY H PLANS.

BILL OF MATERIAL

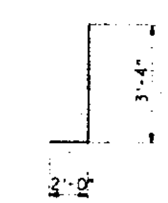
SPAN H1				
BAR	NO.	SIZE	LENGTH	SHAPE
* B80(E)	8	#5	23'-9"	—
* B81(E)	6	#8	32'-8"	—
* D7(E)	6	#5	3'-11"	
* D8(E)	6	#4	5'-4"	
* D9(E)	83	#4	2'-8"	—
* D10(E)	91	#5	2'-10"	
* D11(E)	56	#6	2'-5"	
* E40(E)	30	#4	17'-7"	—
BITUMINOUS CONCRETE SURFACE REMOVAL			SQ. YDS.	236
BRIDGE DECK CONCRETE OVERLAY OPTION			SQ. YDS.	249

* *Quantity of these bars included with Parapet Reconstruction - Alt. I*

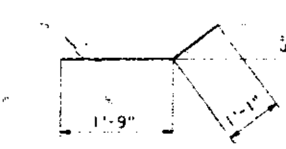
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



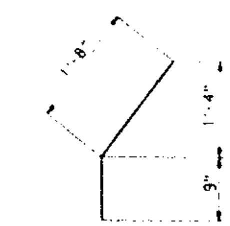
BAR D7(E)



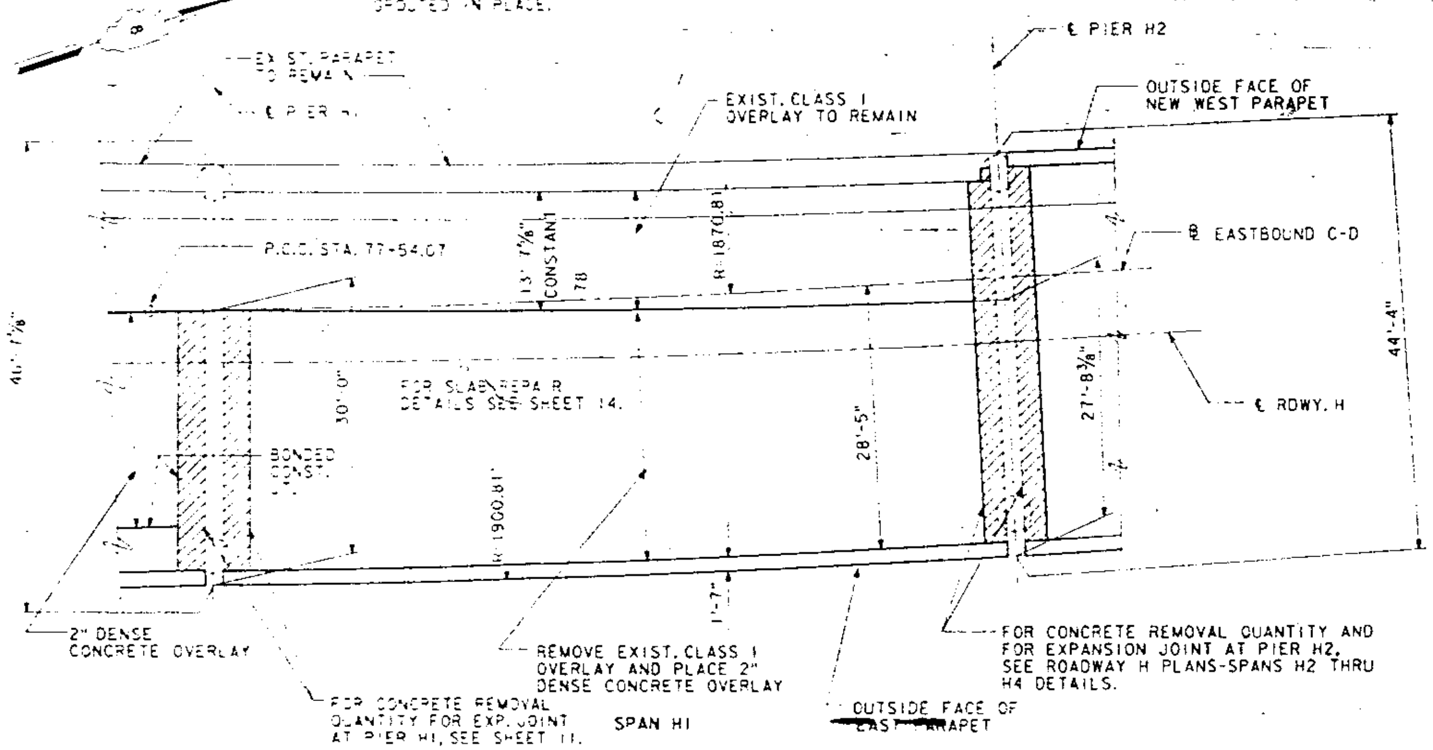
BAR D8(E)



BAR D10(E)



BAR D11(E)



LOCATION PLAN

NOTES

THE CONTRACTOR SHALL TEST 10% OF THE D11(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3k. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3k, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D5(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

T.V. DILLON	DESIGNED
C. LIZANA	CHECKED
L. SCHURMAN-JGC	DRAWN
P.W. CLARK	CHECKED

10320-8T5664 FILE: ZF3:[110.JDET147E.DGN PRF: DET147E LEVELS PLOTTED 35 54 56 57 63 DATE: OCT. 14, 1987

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H
EAST PARAPET - SPAN H1

STRUCTURE NO. 082-0256
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. 70	*	ST. CLAIR	320	154
		ILL. ROUTE	PROJECT	

* 82-3HV8-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
~~2"~~	~~2"~~	~~1½" Min.~~	
4"	3"	2⅛" Min.	Piers D26 & H2

INSTALLATION NOTES

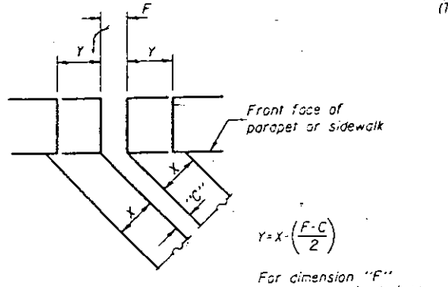
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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.

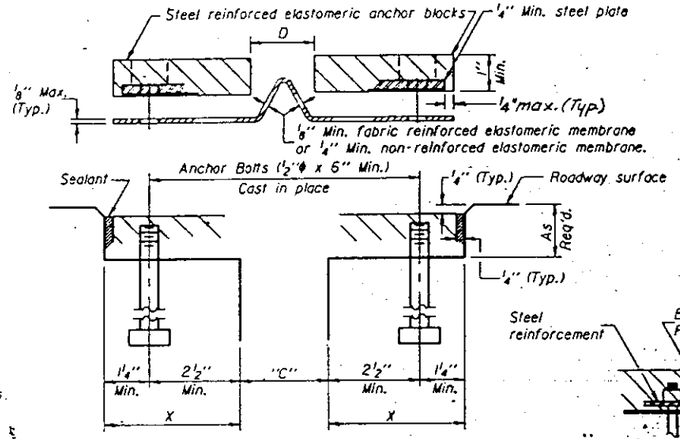
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of ½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at 12" cts.



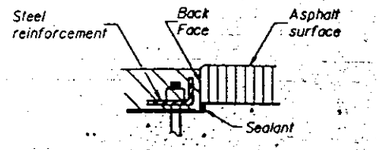
$Y = X - \left(\frac{F-C}{2}\right)$

For dimension "F" see parapet details.

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. See Special Provisions.

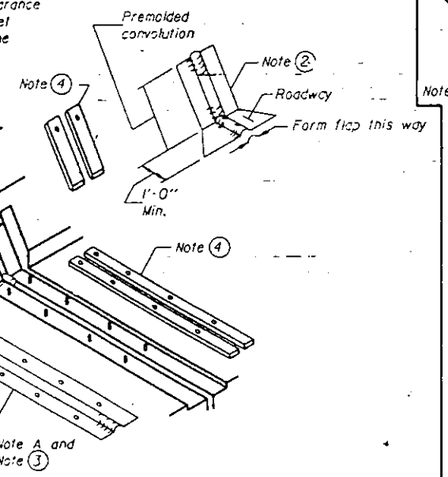
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

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

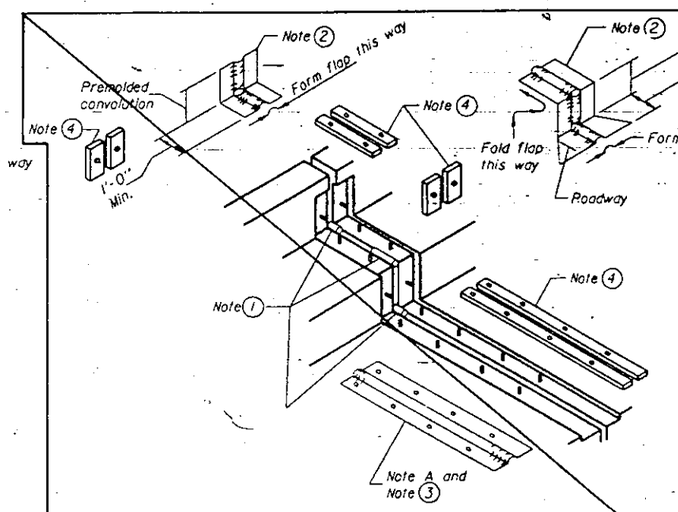
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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.

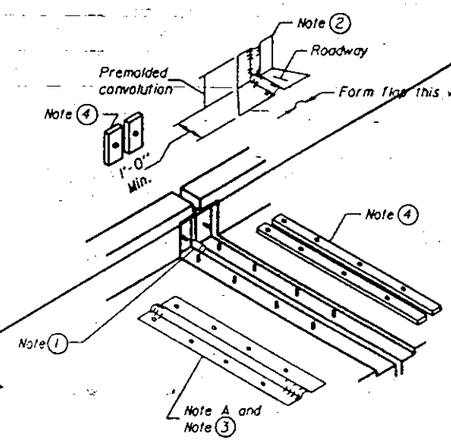
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



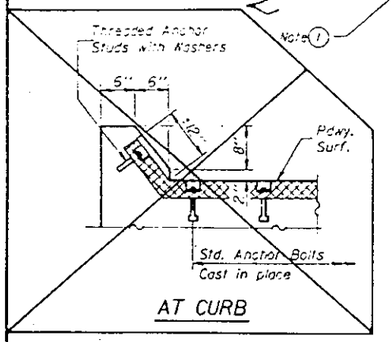
AT PARAPET



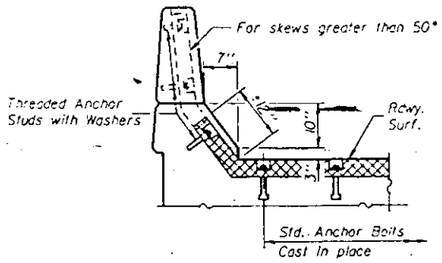
AT SIDEWALK OR MEDIAN



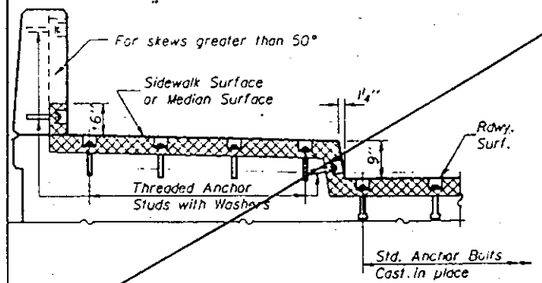
AT WALL



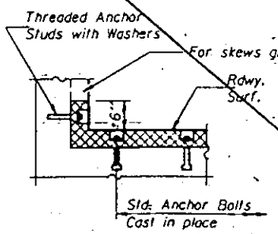
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

DESIGNED	
CHECKED	
DRAWN	
CHECKED	G.J. Oaa

EJ-CS 12-1-83

PREPARED BY: SVERDRUP CORPORATION

REHABILITATION FOR

FAI —55/70 COMPLEX

CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS FOR 4" MOVEMENT

STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (RDWY. H)

(FAI -70) ST. CLAIR CO.

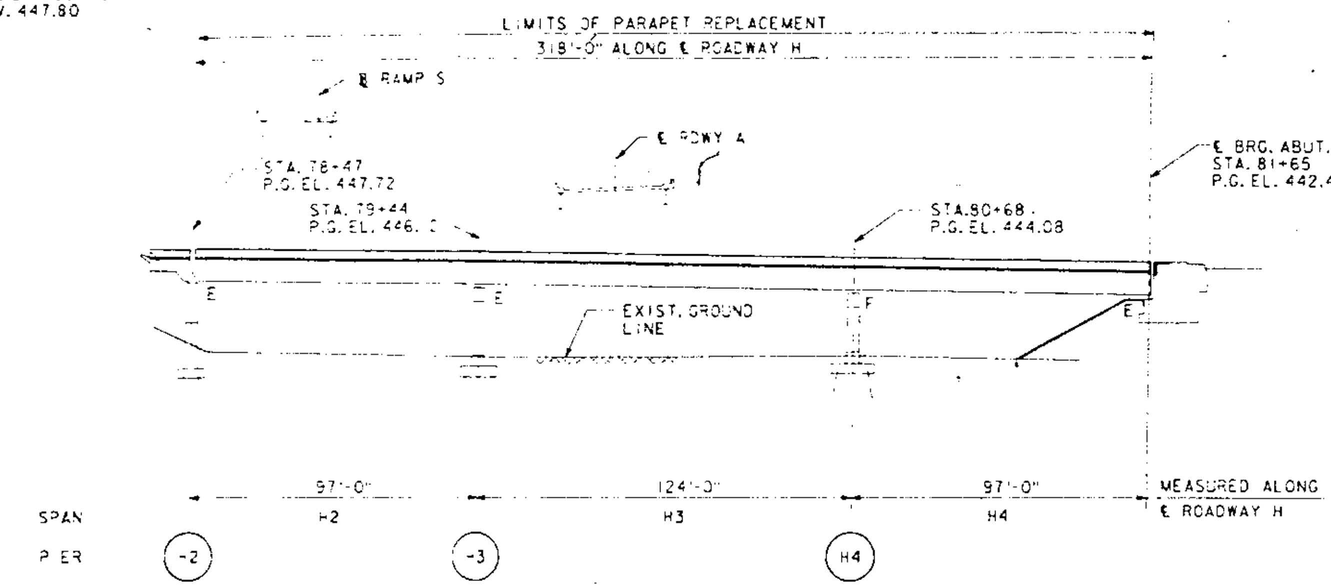
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	169

*82-3HVB-2R-1

BENCH MARK 3

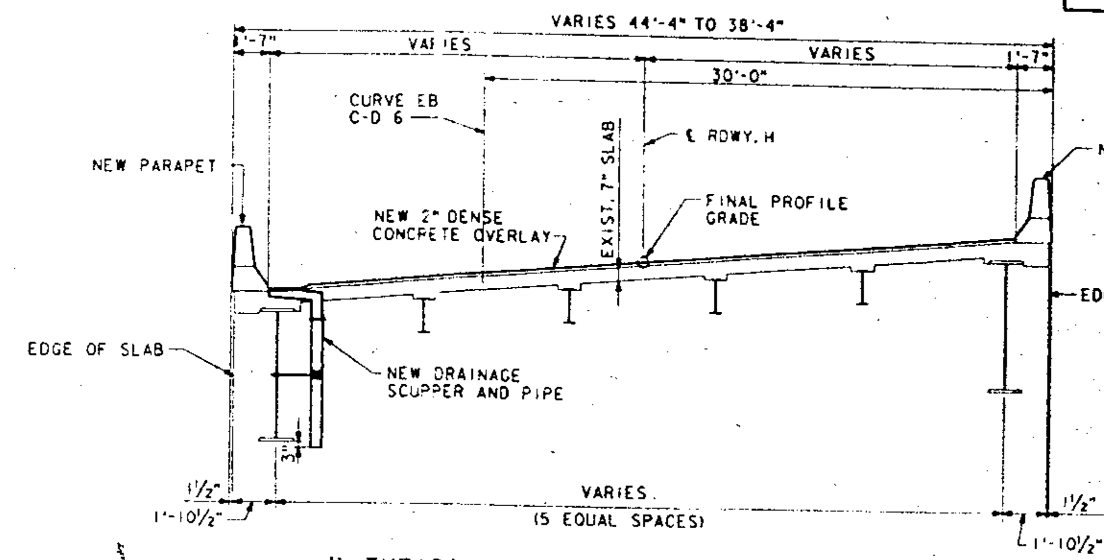
CHISELED "□" IN CONCRETE AT END OF EAST W. WALL ON E.B. I-55/70 BRIDGE ABUT. 400' S. OF TRENDLEY AVE. ELEV. 447.80



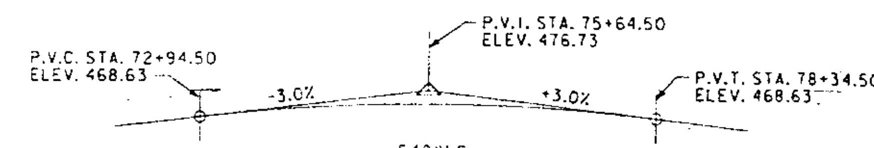
ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY H. P.G. ELEVATIONS SHOWN ARE AT TOP OF EXISTING 7" SLAB.

NOTE A: EXISTING NAME PLATE TO BE SALVAGED, CLEANED AND RELOCATED. (COST INCIDENTAL)

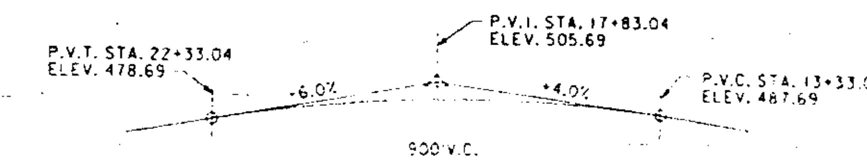


TYPICAL CROSS SECTION - SPAN H2-H4
(LOOKING AHEAD STATION)



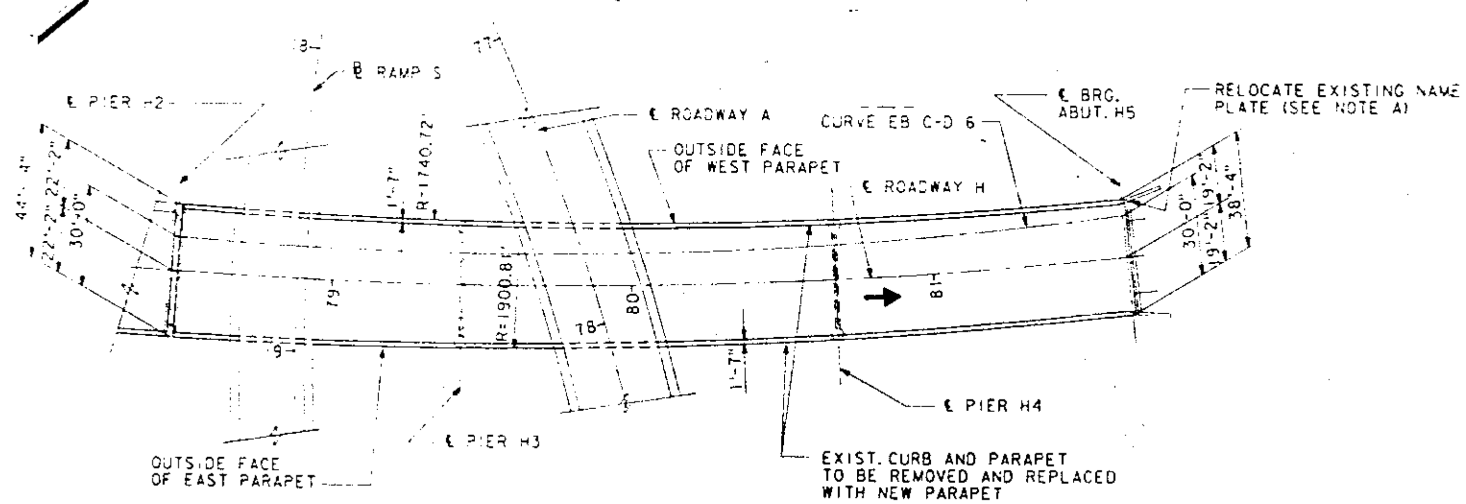
EXISTING PROFILE GRADE-℄ ROADWAY A

NOTE: ELEVATIONS SHOWN ARE AT TOP OF EXISTING SLAB.

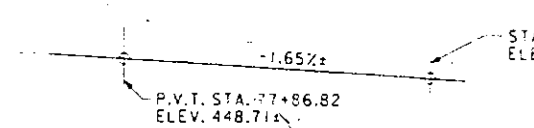


EXISTING PROFILE GRADE-℄ RAMP S

NOTE: ELEVATIONS SHOWN ARE AT TOP OF EXISTING SLAB.

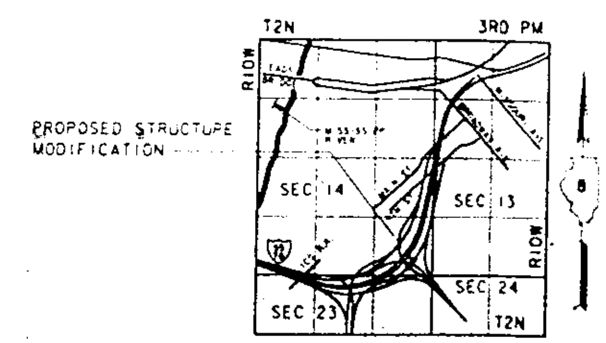


PLAN



EXISTING PROFILE GRADE-℄ ROADWAY H

NOTE: ELEVATION SHOWN IS AT TOP OF EXISTING SLAB.



LOCATION SKETCH

CURVE DATA - EB C-D 6

P.I. STA. = 81+11.46
Δ = 21°-37'-50" LT.
D = 3°-03'-45"
R = 1870.81'
T = 357.39'
L = 706.28'
E = 33.83'
P.C.C. STA. = 77+54.07
P.C.C. STA. = 84+60.35

DESIGN STRESSES

	EXIST. STRUCTURES	NEW CONSTRUCTION
DESIGN SPECIFICATIONS:	AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.	AASHTO 1983 AND APPLICABLE 1984 THRU 1987 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE	HS20-44 AND ALTERNATE
REINFORCED CONCRETE: DECK SLAB	fc=1400 psi n=10	fc=3500 psi
SUBSTRUCTURE	fc=1400 psi n=10 Vc=75 psi - FOOTINGS	
REINFORCING	fs=20,000 psi	fy=60,000 psi (REINFORCEMENT)
STRUCTURAL STEEL:	fs=20,000 psi	fy=36,000 psi (M183)

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

APPROVED
FOR STRUCTURAL ... ONLY

DESIGNED
CHECKED
D. RIEHL
DRAWN
P. HANSON
CHECKED

LEVELS PLOTTED 2 26 27 35 38 39 50 56 63 | DATE: OCT. 14, 1987
FILE: ZF3:[10,13]GPEH2.DGN | PRF: GPEH2
10320 | 875135

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS H2 THRU H4
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 8

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. 70	*	ST. CLAIR	320	170

*82-3HVB-2R-1

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: THE 1988 EDITION OF THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADDENDA AND THE SPECIAL PROVISIONS SHALL GOVERN.

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 BEFORE ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

ALL DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M42 OR M53, GRADE 60.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

TRAFFIC CONTROL ON ROADWAY H IS TO BE PART OF THE ROADWAY REHABILITATION CONTRACT BUT IT SHALL NOT EXEMPT THE CONTRACTOR FROM PROVIDING ADDITIONAL TRAFFIC CONTROL AND PROTECTION THAT MAY BE REQUIRED FOR THE SAFETY OF THE PUBLIC AND WORKMEN.

THE ZINC - SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUC. STEEL EXCEPT WHERE OTHERWISE NOTED.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES WHERE BRIDGE DECK CONCRETE OVERLAY IS APPLIED.

FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT DETAILS AND LOCATION SEE SHEET 292 OF 320.

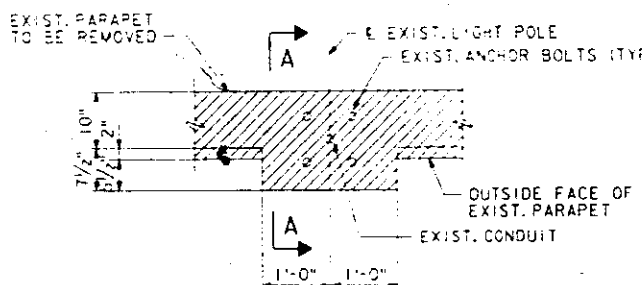
INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

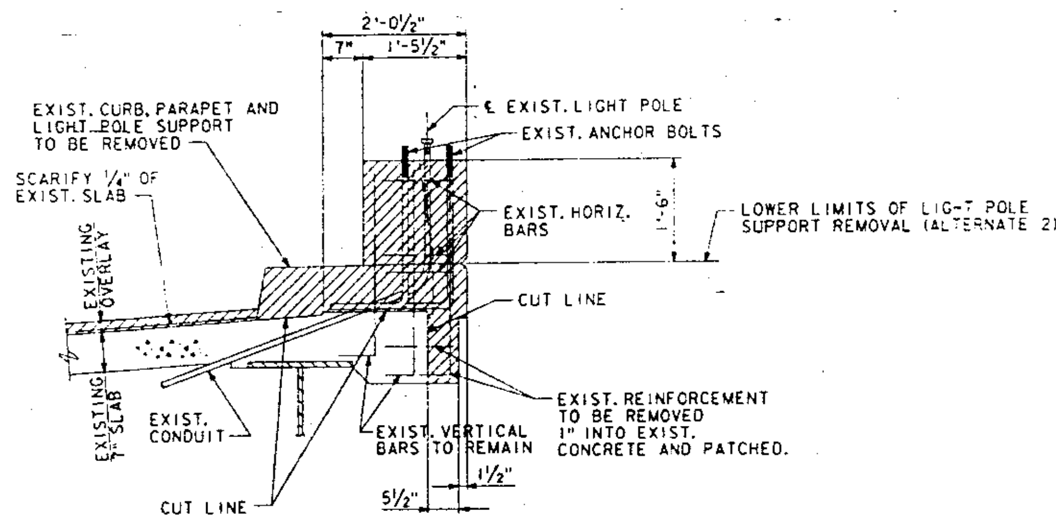
ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	26.9	—	26.9
REINFORCEMENT BARS, EPOXY COATED	LBS.	2,497	—	2,497
CONCRETE REMOVAL	CU. YDS.	24.5	—	24.5
BITUMINOUS CONCRETE SURFACE REMOVAL (BRIDGE DECK)	SQ. YDS.	1,248	—	1,248
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YDS.	1,322	—	1,322
PARAPET RECONSTRUCTION	LIN. FT.	726	—	726
DECK SLAB REPAIR (PARTIAL DEPTH)	SQ. YDS.	35	—	35
DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	1	—	1
BRIDGE DECK CONCRETE OVERLAY OPTION	SQ. YDS.	1,322	—	1,322
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	38	—	38
DRAINAGE SCUPPERS	EACH	6	—	6
PROTECTIVE COAT	SQ. YDS.	260	—	260
FLOOR DRAIN REMOVAL	EACH	51	—	51
FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	1350	—	1350

NOTE: PARAPET RECONSTRUCTION INCLUDES THE EAST PARAPET OF SPAN H1.

QUANTITY DOES NOT INCLUDE BRIDGE DECK SURFACE.



PLAN-EXISTING PARAPET AT LIGHT POLE



SECTION A-A

NOTE: DEMOLITION SHOWN FOR PARAPET RECONSTRUCTION ALTERNATE 1.
FOR ALTERNATE 2 REMOVE THE LIGHT POLE SUPPORT TO THE LIMITS SHOWN.
FOR ALTERNATE 3 THE LIGHT POLES SHALL BE REMOVED. LIGHT POLE SUPPORT TO REMAIN.
THE PORTION OF THE LIGHT POLE SUPPORTS TO REMAIN SHALL HAVE THE ROADWAY FACE REMOVED TO MATCH THE ADJACENT PARAPET REMOVAL AS SHOWN ON THE PARAPET RECONSTRUCTION DETAIL FOR ALTERNATES 2 AND 3.

LEVELS PLOTTED 35 56 57 58 63 | DATE: OCT. 14, 1987
FILE: 2-3(110,1)GENOTH.DGN | PRF: GENOTH
10320 87S758

G.J. DEE	DESIGNED
C. LIZANA	CHECKED
K. SCHULT	DRAWN
P. HANSON	CHECKED

PREPARED BY
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

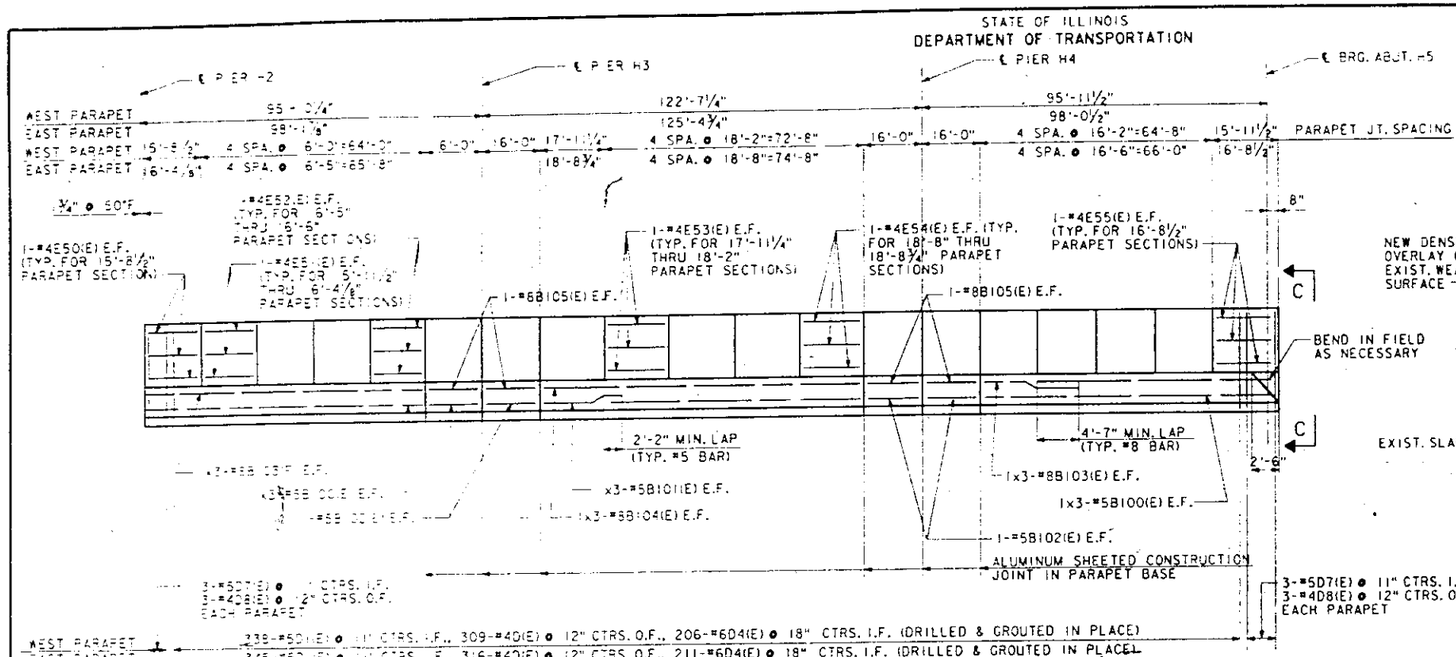
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
SPANS H2 THRU H4
GENERAL NOTES, ESTIMATED QUANTITIES
AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 2 OF 8

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

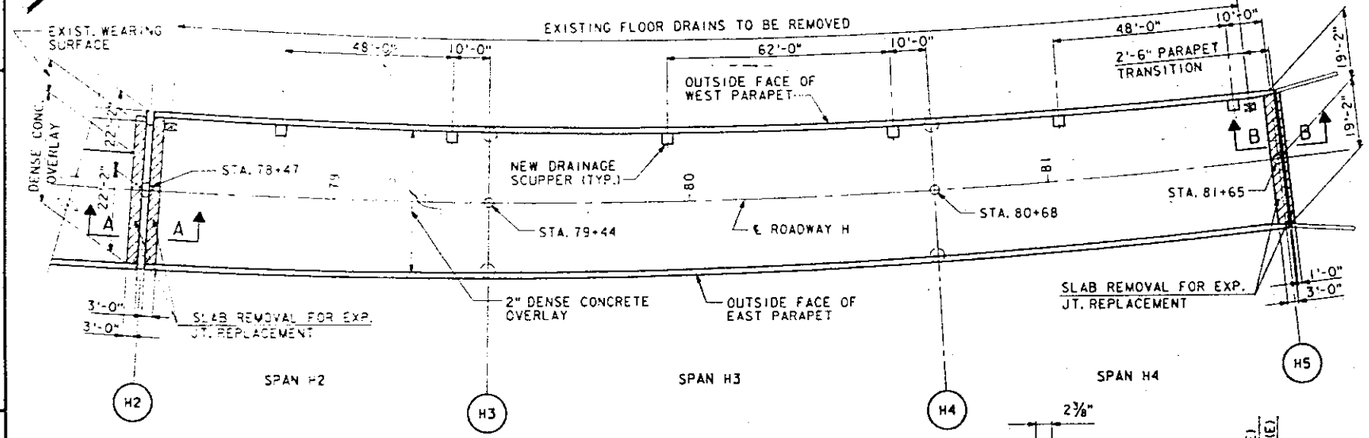
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	X-0-F	ST. CLAIR	320	171
	ALL WORK	PROJECT		

X-0-F 82-3HVB-2R-1



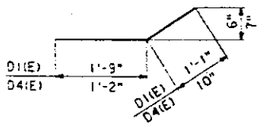
INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

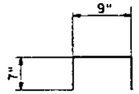


PLAN-SLAB AND PARAPET

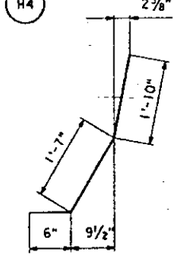
NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



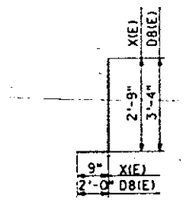
BARS D1(E) AND D4(E)



BAR U3(E)

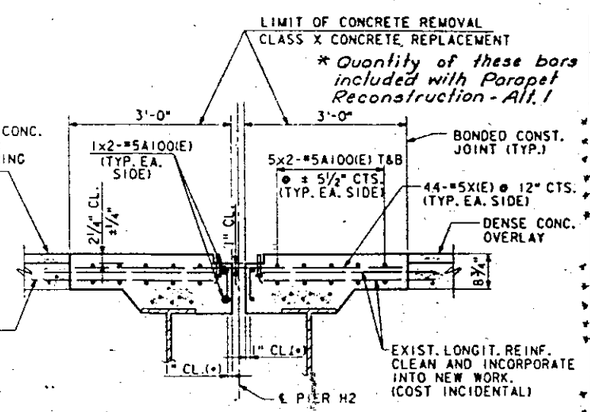


BAR D7(E)



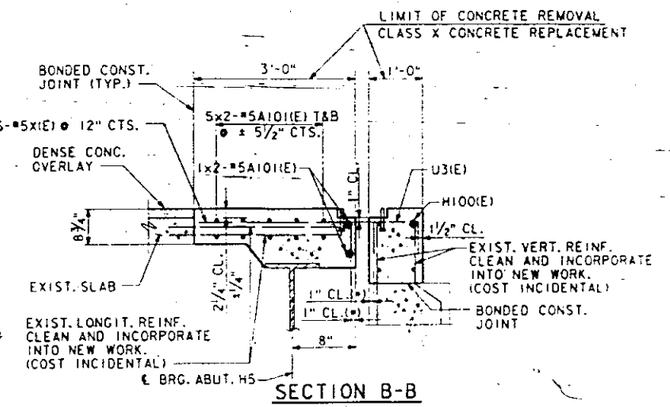
BARS D8(E) AND X(E)

NOTE: 88.5 CU. YDS. FOR PARAPET REMOVAL, 10,003 LBS. REINFORCING BARS (EPOXY COATED) AND 66.3 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.



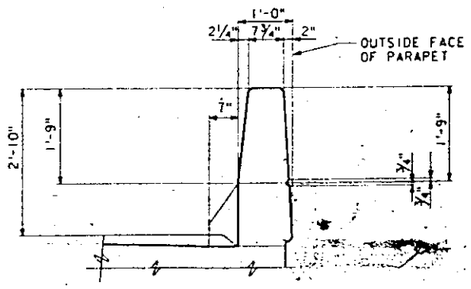
SECTION A-A

(*) PLACE A100(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A100(E) BARS.



SECTION B-B

(*) PLACE A100(E) AND H100(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A100(E) AND H100(E) BARS.



VIEW C-C

WEST PARAPET SHOWN, EAST PARAPET SIMILAR

BILL OF MATERIAL

SPANS H2 THRU H4

BAR	NO.	SIZE	LENGTH	SHAPE
A100(E)	48	#5	23'-0"	
A101(E)	24	#5	20'-0"	
B100(E)	12	#5	28'-11"	
B101(E)	6	#5	32'-6"	
B102(E)	16	#5	15'-9"	
B103(E)	12	#8	30'-7"	
B104(E)	6	#8	34'-2"	
B105(E)	16	#8	15'-9"	
BX(E)	24	#5	2'-10"	
D1(E)	625	#4	2'-8"	
D1(E)	683	#5	2'-10"	
D4(E)	417	#6	2'-0"	
D7(E)	12	#5	3'-11"	
D8(E)	12	#4	5'-4"	
E50(E)	6	#4	15'-5"	
E51(E)	108	#4	15'-8"	
E52(E)	48	#4	16'-2"	
E53(E)	30	#4	17'-8"	
E54(E)	30	#4	18'-5"	
E55(E)	6	#4	16'-5"	
H100(E)	8	#6	20'-2"	
U3(E)	37	#5	1'-11"	
X(E)	124	#5	3'-6"	

CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	86.9
REINFORCEMENT BARS (EPOXY COATED)	LBS.	2497
** DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	1
** DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	35.
BRIDGE DECK CONCRETE OVERLAY OPTION	SQ. YDS.	1,322
CONCRETE REMOVAL	CU. YDS.	28.5

** ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.
BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.
FOR DRAINAGE SCUPPER DETAILS SEE SHEET 7 OF 8.
FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 4 OF 8.
FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 6 OF 8.
FOR DETAILS OF EXPANSION JOINT AT ABUT. H5, SEE SHEET 5 OF 8.
FOR ABUTMENT MODIFICATIONS, SEE SHEET 8 OF 8.
FOR DETAILS OF EXPANSION JOINT AT PIER H2, SEE SHEET 18 OF 32 SPAN H1 DETAILS.

REHABILITATION FOR

FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
SPANS H2 THRU H4
PARAPETS

STRUCTURE NO. 082-0256

STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

B. CARLSON	DESIGNED
P. HANSON	CHECKED
K. SCHULT	DRAWN
P. HANSON	CHECKED

10320 | FILE: ZF3(110.1)PARH2.DGN | LEVELS PLOTTED | DATE: OCT. 14, 1987
8TS294 | PRF: PARH2 | 35 54 56 57 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

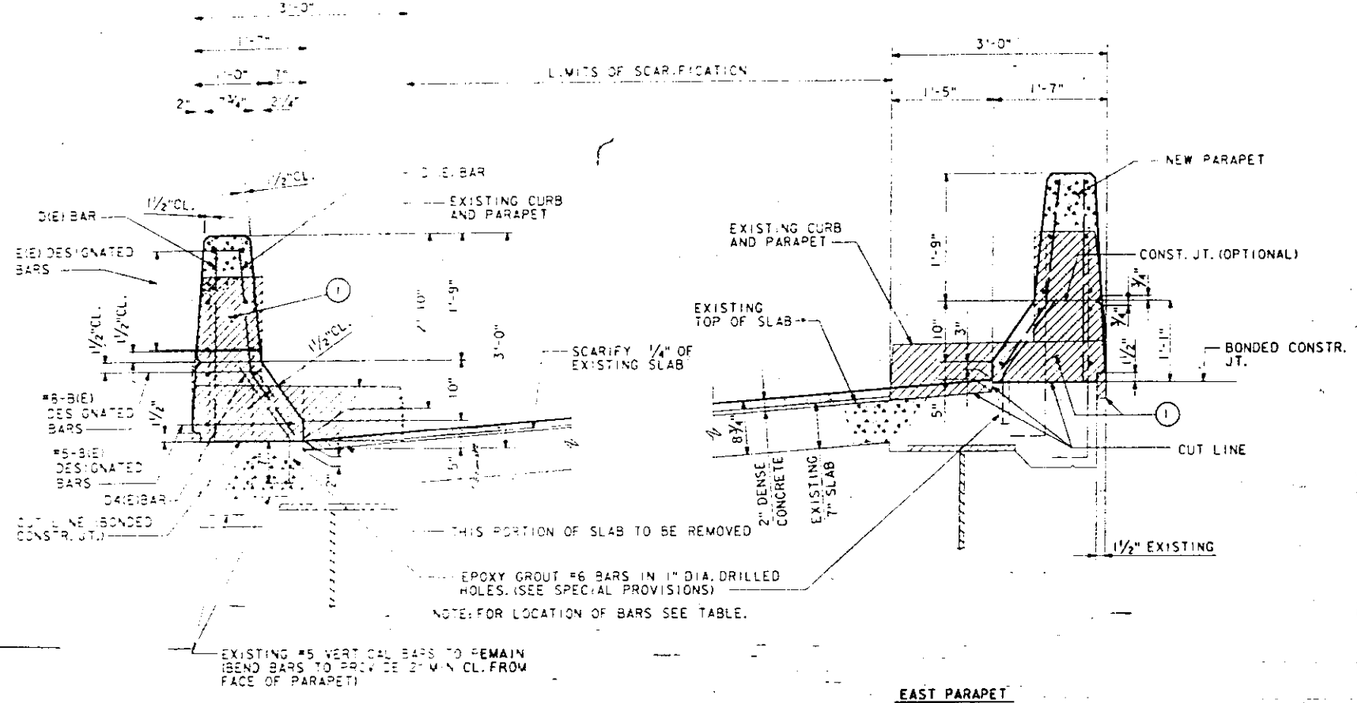
REV. 8/26/88

SHEET NO. 3 OF 8

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

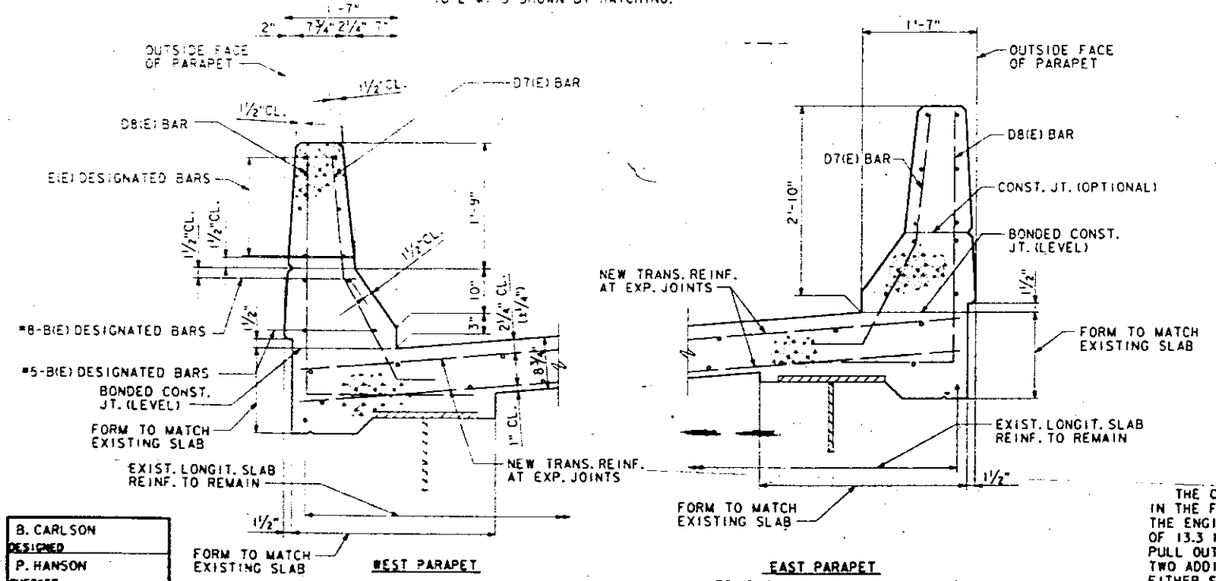
F.A.I. 70	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	*	ST. CLAIR	320	172
	ILLINOIS	PROJECT		

*82-3HVB-2R-1



SECTION THRU PARAPETS

① REMOVE EXISTING CURB, PARAPET AND PORTION OF EXISTING SLAB TO LIMITS SHOWN BY HATCHING.



SECTION THRU PARAPETS NEAR EXP. JOINT

DESIGNED	B. CARLSON
CHECKED	P. HANSON
DRAWN	D. RIEHL
CHECKED	P. HANSON

10320 | FILE: S2(4224.1)DTPARH.DGN | LEVELS PLOTTED 35 54 56 57 63 | DATE: OCT. 14, 1987
875717 | PRF: DTPARH

LOCATION - PARAPET REINFORCEMENT

SPANS	*4(E) BARS	*5(E) BARS	*6(E) BARS	*8(E) BARS
H2 THRU H4	D(E), D8(E), E50(E) THRU E55(E)	B100(E) THRU B102(E) D1(E) & D7(E)	D4(E)	B103(E) THRU B105(E)

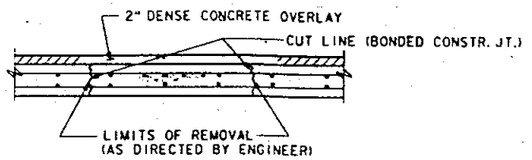
NOTE: SEE PARAPET ELEVATIONS FOR COMPLETE BAR BILLINGS.

PARAPET RECONSTRUCTION ALTERNATE I

SPANS H1 THRU H4

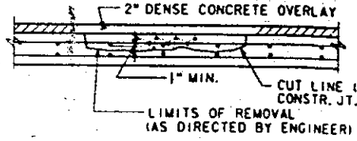
ITEM	UNIT	QUANTITY
PARAPET REMOVAL	CU. YDS.	100.7
REINFORCEMENT BARS (EPOXY COATED)	LBS.	11,740
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	76.2

NOTE: QUANTITIES SHOWN ARE FOR CONTRACTOR INFORMATION ONLY. PARAPET RECONSTRUCTION SHALL BE PAID FOR ON A LIN. FT. BASIS. FOR PARAPET RECONSTRUCTION FOR SPAN H1, SEE PARAPET DETAILS - SPAN H1.



FULL DEPTH PATCHING

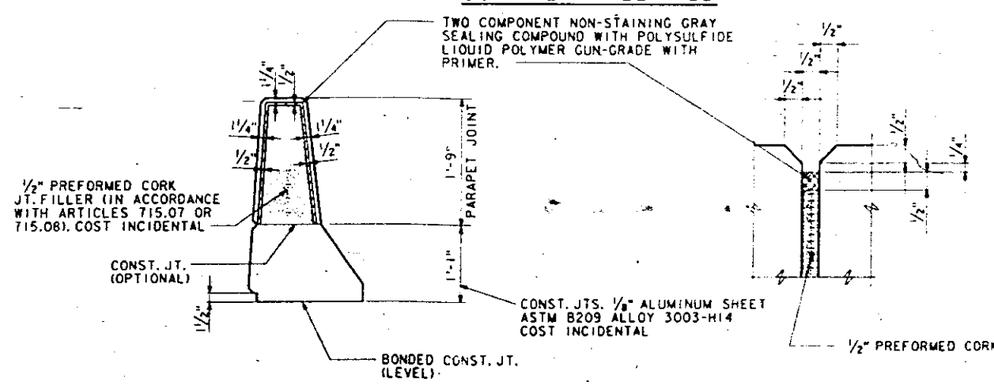
NOTES: AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK WITHOUT DAMAGING EXISTING REINFORCING BARS.
REMOVE STAY-IN-PLACE PANELS THAT ARE PRESENT WITHIN LIMITS OF FULL DEPTH PATCH.
CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
SEE SPECIAL PROVISIONS.



PARTIAL DEPTH PATCHING

NOTES: AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE TO A MINIMUM DEPTH OF 1" BELOW THE TOP REINFORCING BARS, LEAVING EXISTING REINFORCING BARS IN PLACE.
CLEAN EXISTING REINFORCING BARS AND INCORPORATE IN THE NEW WORK.
CLEAN PATCH AREA OF ANY LOOSE MATERIAL.
REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE TO THE LEVEL OF ADJOINING CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
SEE SPECIAL PROVISIONS.

SLAB REPAIR DETAILS



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

NOTE

THE CONTRACTOR SHALL TEST 10% OF THE D4(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3 KIPS. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3 KIPS, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D4(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
SPANS H2 THRU H4
PARAPET DETAILS

STRUCTURE NO. 082-0256

STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	173
	ILLINOIS	PROJECT		

* 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	1'2" Min.	Abut. 45

INSTALLATION NOTES

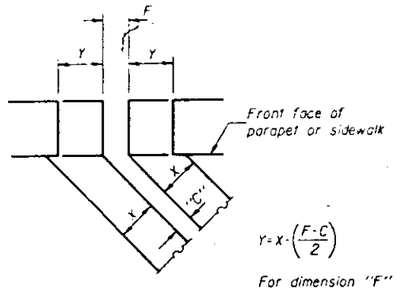
1. Install sponge materials into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

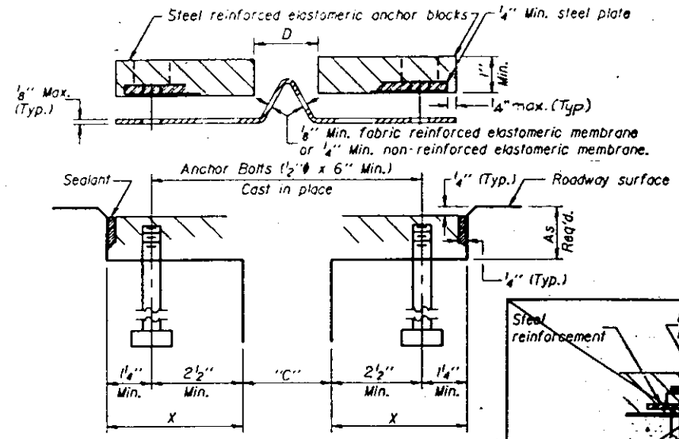
SKEW LIMITATIONS

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

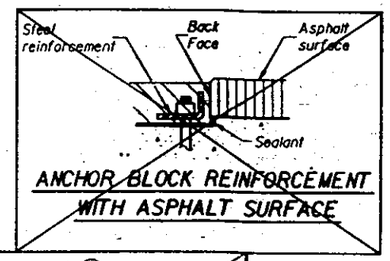
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at 12" cls.



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. See Special Provisions.

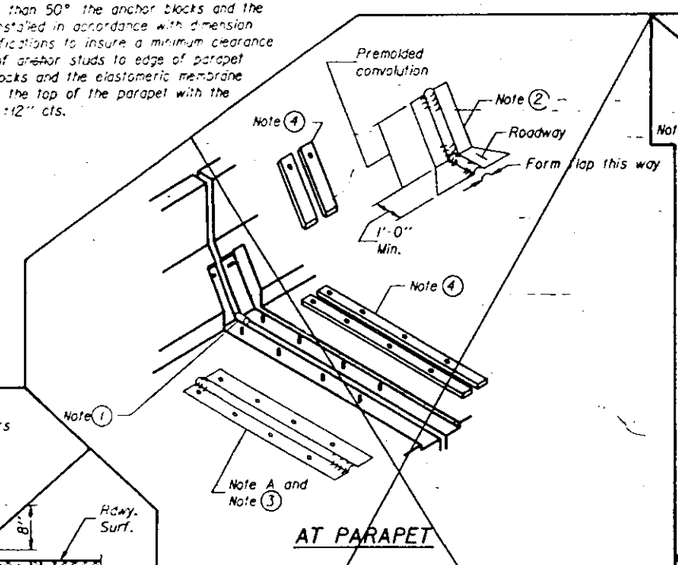
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

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

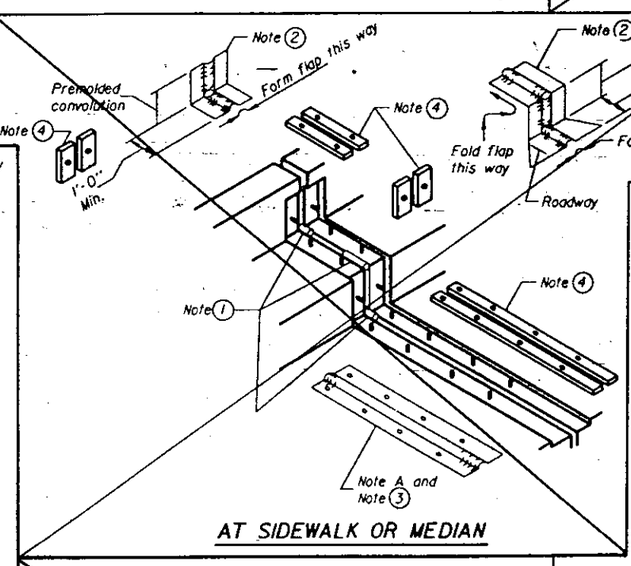
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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.

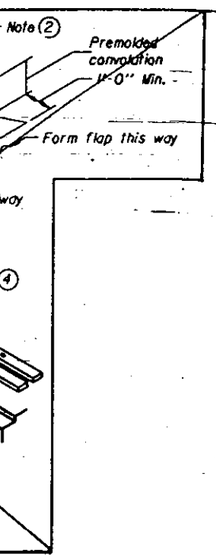
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



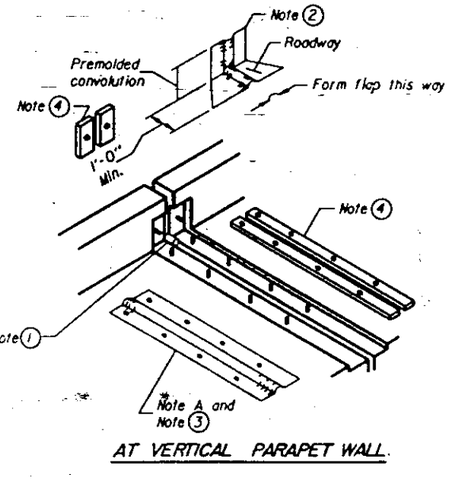
AT PARAPET



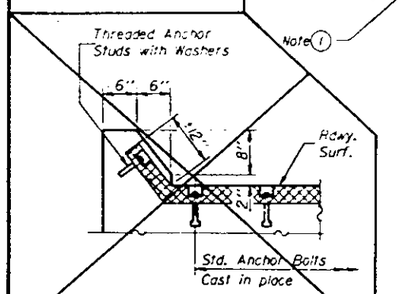
AT SIDEWALK OR MEDIAN



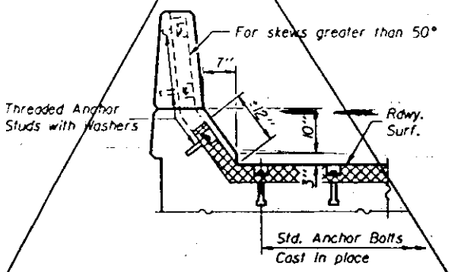
AT VERTICAL PARAPET WALL



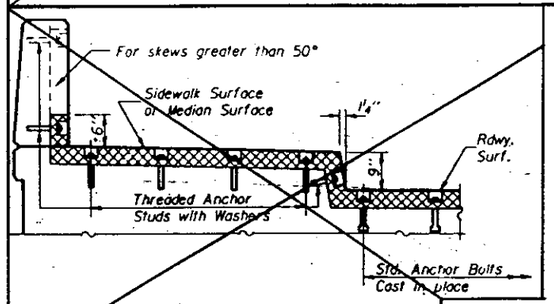
AT VERTICAL PARAPET WALL



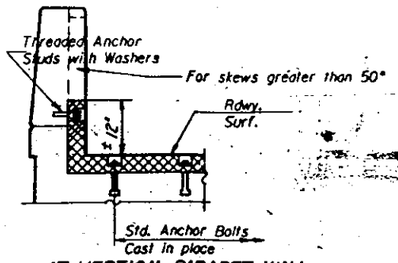
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS



AT VERTICAL PARAPET WALL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
(2") Neoprene Exp. Jt.	Lin. Ft.	38

DESIGNED	
CHECKED	
DRAWN	
CHECKED	P. Hanson

EJ-CS 12-1-83

PREPARED BY
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINT FOR 2" MOVEMENT

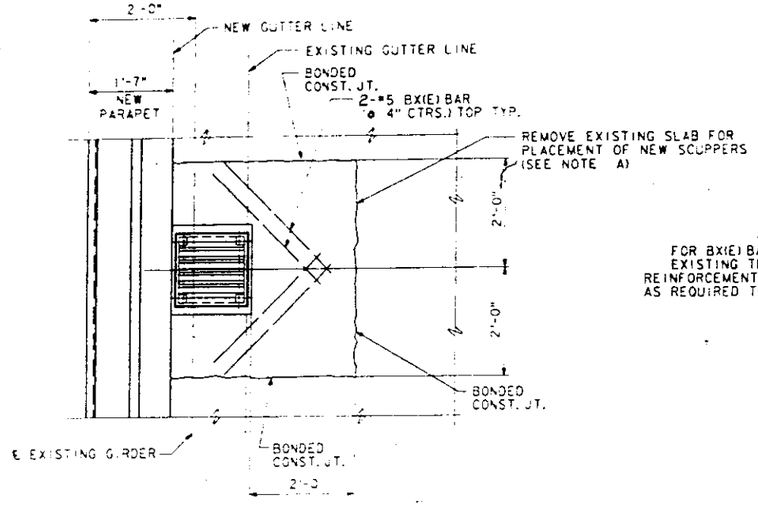
ROADWAY "H" STRUCTURE NO. 082-0256

STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. 70	*	ST. CLAIR	320	174

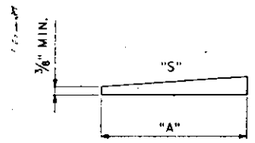
*82-3HVB-2R-1



PLAN

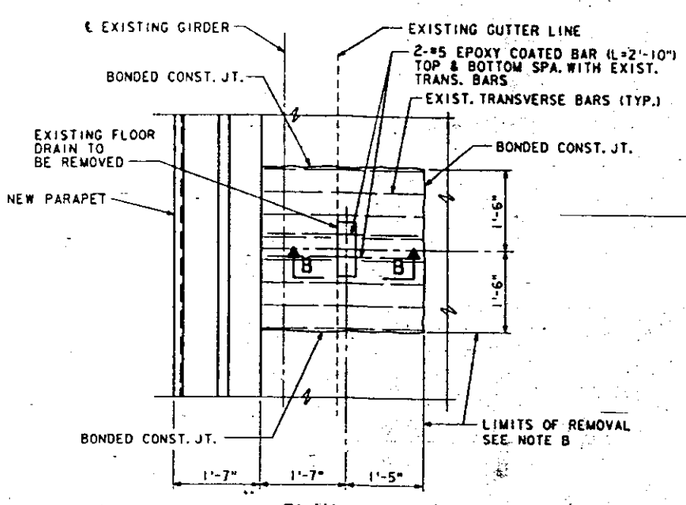
NOTE A

FOR BX(E) BAR QUANTITY, SEE SHEET 3 OF 8.
EXISTING TRANSVERSE AND LONGITUDINAL REINFORCEMENT BARS SHALL BE CUT OR BENT AS REQUIRED TO MISS THE SCUPPER.

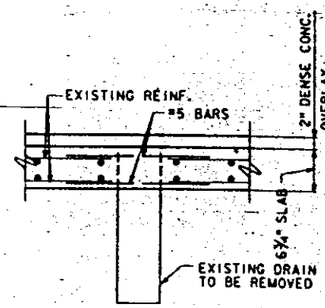


BEVELED WASHER DETAIL

NOTES: "S" EQUALS THE SLOPE OF THE SUPERELEVATION AT THE INDIVIDUAL SCUPPER LOCATION.
THE BEVEL SHALL BE AS REQUIRED FOR VERTICAL INSTALLATION OF DOWN-SPOUT.
DIMENSION "A" SHALL BE AS REQUIRED FOR THE PARTICULAR SCUPPER TYPE.



PLAN

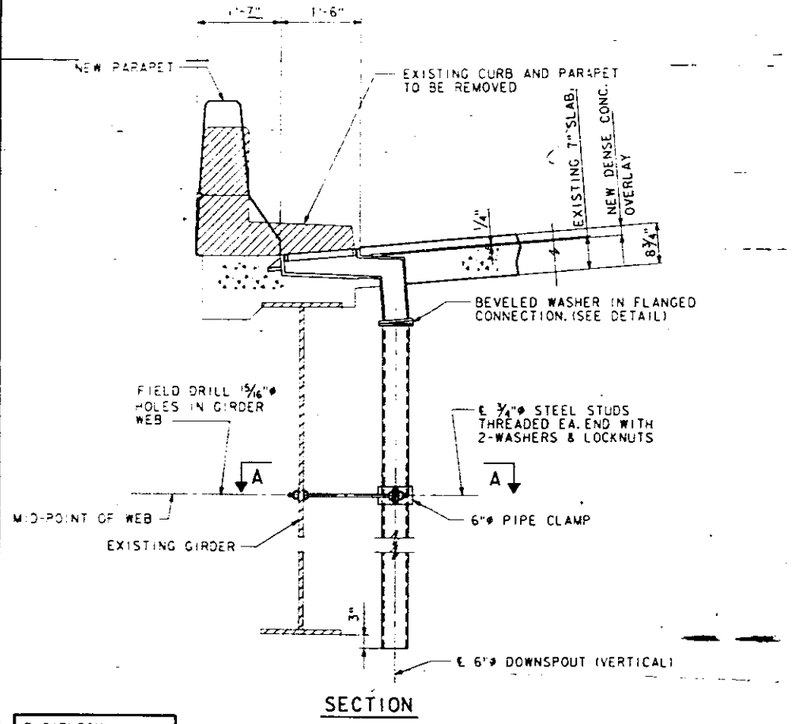


SECTION B-B

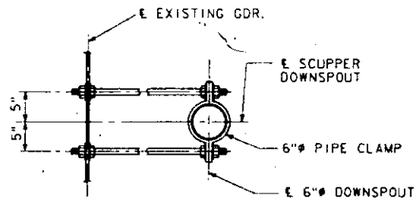
NOTE B

1. REMOVE THE EXISTING DRAIN TO LIMITS SHOWN WITHOUT DAMAGE TO EXISTING REINFORCEMENT BARS.
2. CLEAN EXISTING REINFORCEMENT BARS AND TIE NEW #5 BARS TO SPAN DRAIN HOLE.
3. REPLACE REMOVED CONCRETE WITH CLASS X CONCRETE TO THE LEVEL OF EXISTING CONCRETE.
4. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
5. COST OF NEW CLASS X CONCRETE AND #5 BARS TO BE INCIDENTAL TO DECK SLAB REPAIR (FULL DEPTH).
6. IT IS ESTIMATED THAT IN SPANS H2 THRU H4 THERE ARE 51 FLOOR DRAINS TO BE REMOVED.

FLOOR DRAIN REMOVAL



SECTION



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	6

NOTE: FOR SPACING OF DRAINAGE SCUPPERS, SEE SHEET 3 OF 8.

B. CARLSON	DESIGNED
P. HANSON	CHECKED
K. SCHULT	DRAWN
P. HANSON	CHECKED

FILE: 2F3(110,113)SCUPPERH.DGN
PRF: SCUPPERH
LEVELS PLOTTED 35 56 57 58 63
DATE: OCT. 14, 1987
1013L
87529

DRAINAGE SCUPPER

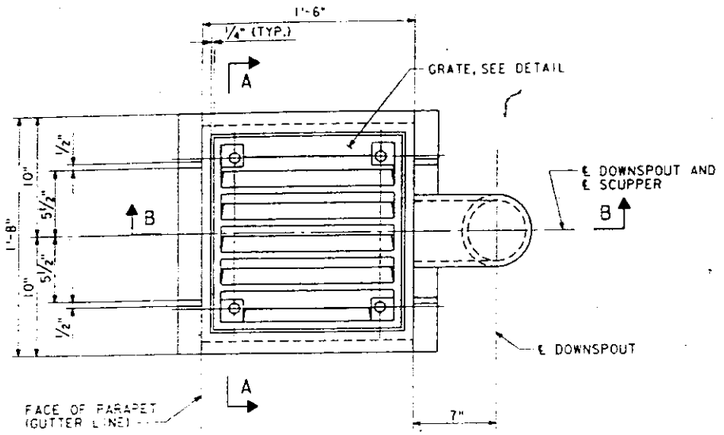
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H - DECK REHABILITATION
SCUPPER DETAILS
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

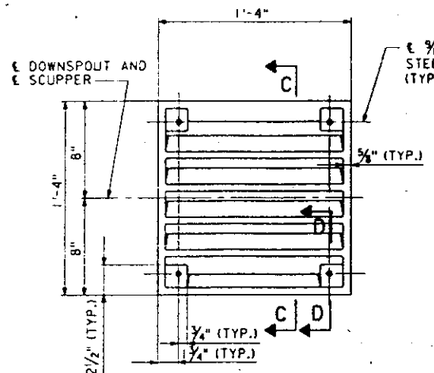
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. 70		ST. CLAIR	320	175

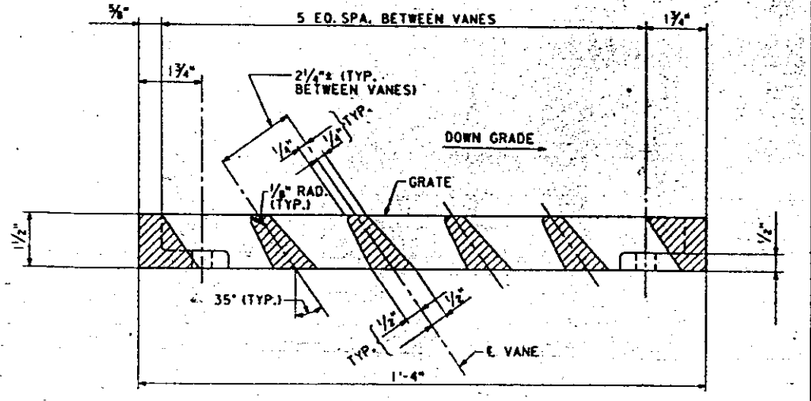
*82-3HV8-2R-1



PLAN



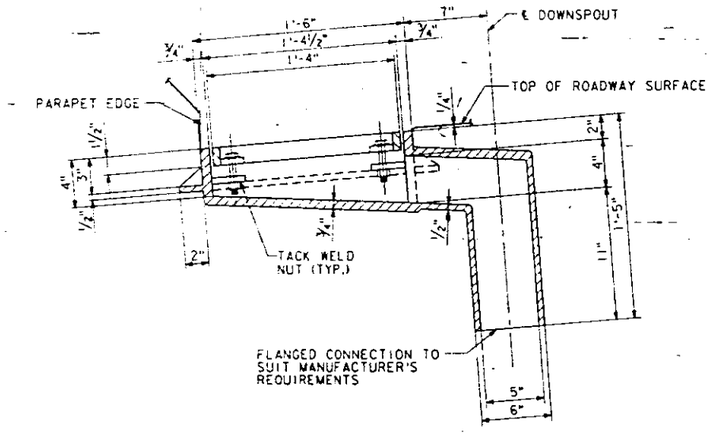
PLAN



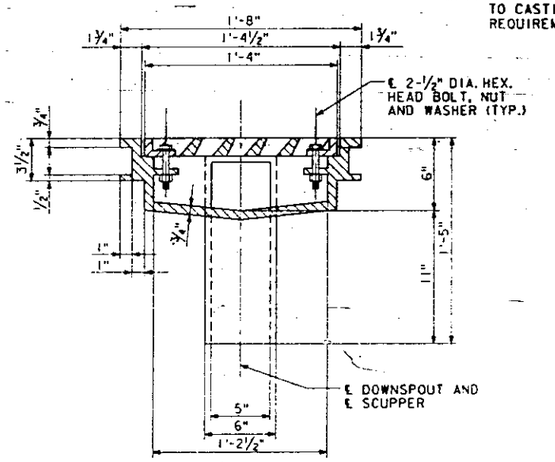
SECTION C-C

GRATE

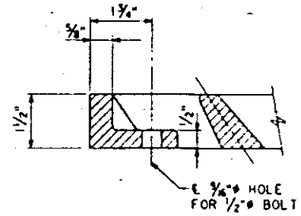
NOTE: LOCATION OF HOLES FOR FASTENING GRATE TO CASTING TO SUIT MANUFACTURER'S REQUIREMENTS.



SECTION B-B



SECTION A-A



SECTION D-D

DRAINAGE SCUPPER

NOTE: FOR CONNECTION OF SCUPPER TO DOWNSPOUT AND DOWNSPOUT TO GIRDER, SEE SHEET 6 SCUPPER DETAILS.

NOTES

ALL CAST IRON PARTS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 30.

BOLTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307.

ALL BOLTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.

AS AN ALTERNATE, BOLTS AND WASHERS MAY BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-193 TYPE 304.

COST OF THE GRATE, FRAME, DOWNSPOUT, BOLTS AND WASHERS INCLUDING COMPLETE INSTALLATION OF SCUPPER SHALL BE PAID FOR AT THE UNIT BID PRICE FOR "DRAINAGE SCUPPERS".

A MATERIAL SUCH AS GREASE SHOULD BE USED AS A TREATMENT FOR THE BOLTS ANCHORING THE GRATE TO THE FRAME.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	6

10320	FILE: ZF3(C110,10)CISCUPH.DGN
875812	PRF: CISCUPH
LEVELS PLOTTED	DATE: OCT. 14, 1987
35 56 57 58	

G.J. DEE	DESIGNED
	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55770 COMPLEX

CAST IRON DRAINAGE SCUPPER

STRUCTURE NO. 082-0256

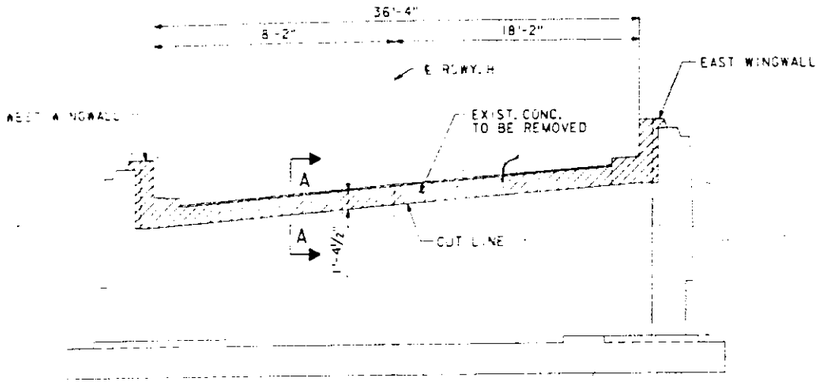
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

REV. 8/26/88

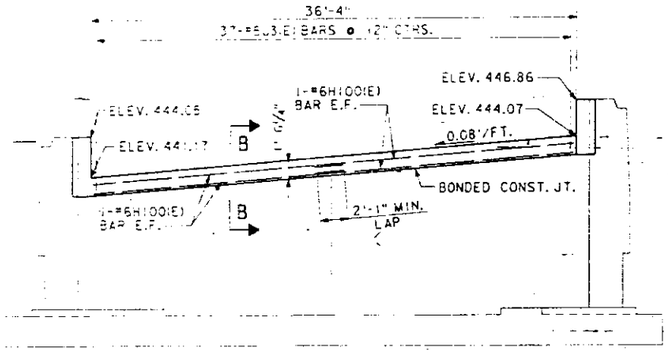
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	176
		ILL. MARK	PROJECT	

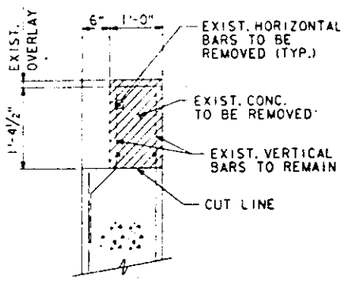
*82-3HVB-2R-1



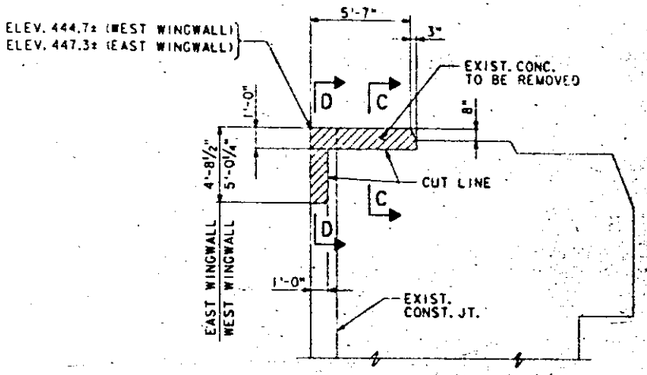
ELEVATION - ABUTMENT DEMOLITION
(LOOK NO. AHEAD STATION)



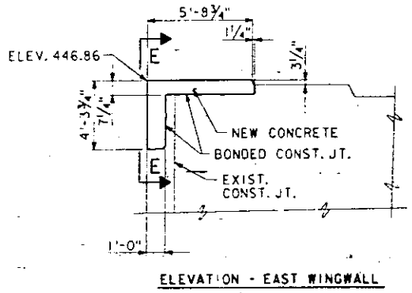
ELEVATION - ABUTMENT MODIFICATION
NOTE: ELEVATIONS SHOWN ARE AT FRONT FACE OF ABUTMENT BACKWALL.
E.F. INDICATES EACH FACE.



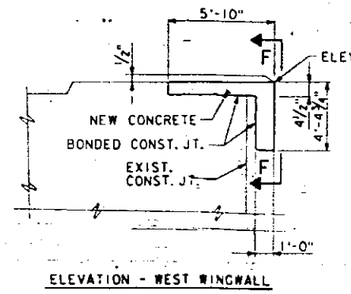
SECTION A-A



ELEVATION - WINGWALL DEMOLITION
NOTE: EAST WINGWALL SHOWN, WEST WINGWALL SIMILAR BUT OPPOSITE HAND.

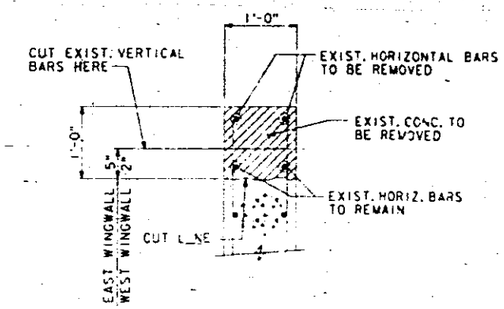


ELEVATION - EAST WINGWALL

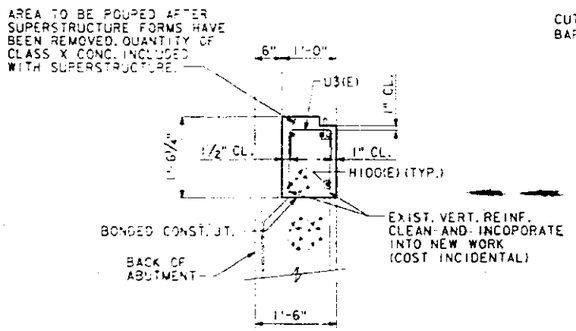


ELEVATION - WEST WINGWALL

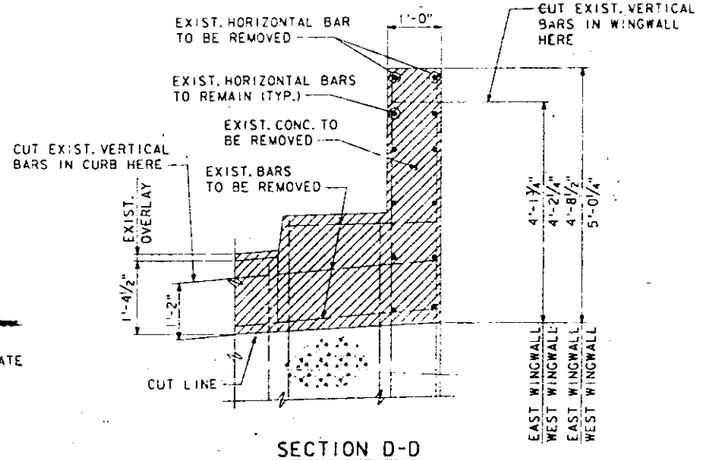
WINGWALL MODIFICATION
NOTE: CLEAN AND INCORPORATE EXISTING REINF. INTO NEW WORK. (COST INCIDENTAL).
EXISTING REINF. TO BE CUT OR BENT FOR INSTALLATION OF EXPANSION JOINT AT ABUTMENT.



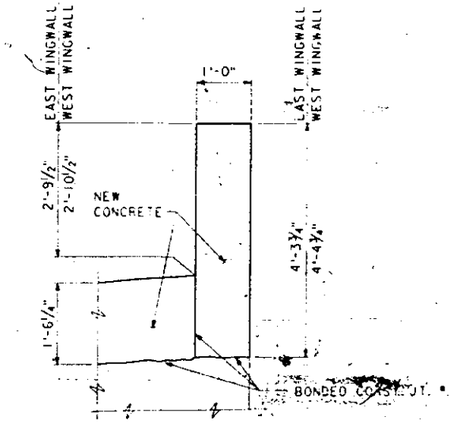
SECTION C-C



SECTION B-B



SECTION D-D
NOTE: EAST WINGWALL SHOWN, WEST WINGWALL SIMILAR BUT OPPOSITE HAND.



VIEW E-E
NOTE: VIEW E-E SHOWN, VIEW F-F SIMILAR BUT OPPOSITE HAND.

NOTES
FOR BILL OF MATERIAL FOR ABUTMENT, WINGWALL DEMOLITION & MODIFICATION AND BAR BENDING DETAILS, SEE SHEET 3 OF 8.

REHABILITATION FOR
FAI — 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
ABUTMENT MODIFICATIONS
ABUTMENT H5
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SHEET NO. 8 OF 8

B. CARLSON	DESIGNED
P. HANSON	CHECKED
K. SCHULT	DRAWN
P. HANSON	CHECKED

10320 | 87S718 | FILE: ZF3:[110,1]AB1MODH5.DGN | PRF: ABTMODH5 | LEVELS PLOTTED 35 56 57 58 63 | DATE: OCT. 14, 1987

SEE SHEET NO. ___ FOR INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	89	1
		ILLINOIS	PROJECT C-R-70-1(157)I	

* 82-3HVB-2R-1(F)

P-98-021-85

THE STRUCTURES REHABILITATED IN THIS PROJECT WERE BUILT AS SECTIONS:

82-4HB
82-4HB-1
82-3HVF&E-1
82-4HVB

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALE IN FEET

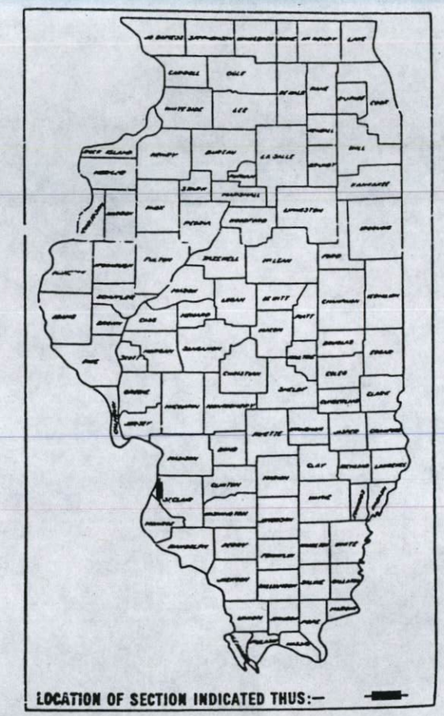
PLAN		1 INCH 50 FT.
PROFILE	HOR.	1 INCH 50 FT.
	VERT.	1 INCH 5 FT.
CROSS-SECTIONS		
	HOR.	1 INCH 10 FT.
	VERT.	1 INCH 5 FT.

F.A.I. ROUTE 70
SECTION 82 - 3HVB - 2R - 1(F)
PROJECT 70-1(157)I
ST. CLAIR COUNTY

C-98-005-88

INDEX OF SHEETS

Sec. 82-3HVB-2R-1(F)
82-4
82-4DRS
82-4HB
82-3HVB-2R-1



LOCATION MAP

PROJECT
ENDS 115 + 34.53 E.B. I-55/70

EQUATION: 111 + 70.90 E.B. C-D BK. =
109 + 39.40 E.B. I-55/70 AHD.

PROJECT
BEGINS 58+00.14 E.B. C-D

1000 0 1000 2000 3000
SCALE IN FEET

NET LENGTH OF PROJECT - 5,865.89 FT. - 1.111 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 7-24 87
DISTRICT ENGINEER
EXAMINED 7-24 87
ASSISTANT
PASSED 7-24 87
ASSISTANT
APPROVED 7-24 87
DIRECTOR OF HIGHWAYS

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____

AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

DESIGN DESIGNATION

C-D'S 2 LANES: 1800(06) TRUNK 17.6(C-20)

Reels 8-166
8-107
8-63
8-59
8-171

CARLOS A. LIZANA-FARIAS
NO. 81-3956

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REEL 8-166
082-0256

CONTRACT NO. 42835

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1(F) F.A.I. ROUTE 70

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

5/19/87

082-0110

F.A.I. 70	*	ST. CLAIR	89
		ILL. FED. PROJECT	

* 82-3HVB-2R-1(F)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE								
				X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X271-2A	X 271-2A	X 271-2A	X 571-50
				ROADWAY A BRIDGE OVER RAILROAD	ROADWAY G BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMP R BRIDGE OVER RAILROAD	RAMPS Q & P BRIDGE OVER RAILROAD	ROADWAY H BRIDGE OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER BROADWAY
X5032700	FURNISHING ELASTOMERIC BEARING ASSEMBLIES, TYPE 1	EACH	6	———	———	———	———	———	———	———	6	———
X5032800	FURNISHING ELASTOMERIC BEARING ASSEMBLIES, TYPE 2	EACH	3	———	———	———	———	———	———	———	3	———
50700200	FURNISHING STRUCTURAL STEEL	LUMP SUM	1	0.01	0.01	0.02	0.45	0.19	0.01	0.01	0.07	0.23
X0320235	FURNISHING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	224	37	41	146	———	———	———	———	———	———
X5033600	FURNISHING ELASTOMERIC BEARING ASSEMBLIES (SPECIAL)	EACH	36	———	———	———	36	———	———	———	———	———
X5072500	STORAGE OF STRUCTURAL STEEL	CAL. MONTH	12	0.5	0.5	1.0	3.0	2.0	0.25	0.75	1.5	2.5
X5072600	DELIVERY OF STRUCTURAL STEEL	LB.	1,817,535	11,520	12,940	44,455	823,780	341,480	5,840	25,100	131,440	420,980
C5000100	MOBILIZATION	L. SUM	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
				C82-0141	C82-0254	C82-0144	C82-0253	C82-0255 C82-0203 C82-0256	C82-~~0256~~ 0140			

SCHEDULE OF QUANTITIES - STRUCTURAL STEEL

ITEM	ROADWAY A	ROADWAY G	ROADWAY D	RAMP R	RAMPS Q & P	ROADWAY H OVER TRENDLEY	RAMP G OVER 4TH STREET	ROADWAY C OVER 4TH STREET	ROADWAY C OVER BROADWAY AND MAIN STREET	TOTAL (LBS.)
M-183	11,520	12,940	44,455	573,180	341,480	3525	25,100	131,440	420,000	1,563,640
M-223 (GRADE 50)	———	———	———	250,600	———	2315	———	———	980	253,895

10320	FILE: ZF3(110,13)SUMBRQ.DGN	LEVELS PLOTTED	DATE: JUNE 23, 1987
875461	PRF: SUMBRQ	1 2 63	

CHK. BY: G.F.D.

SUMMARY OF QUANTITIES

SHEET NO. 1 OF 1
Revised

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	85	3
		ILLINOIS PROJECT		

*82-3HVB-2R-1(F)

GENERAL NOTES

The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.

~~REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31, M-42 OR M 53, GRADE 60.~~ — NOT IN CONTRACT

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 BEFORE ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

~~IF SECTION MONUMENTS AND/OR PERMANENT BENCHMARKS ARE ENCOUNTERED WITHIN THE PAVEMENT OR PARAPET AREAS BEING REHABILITATED, THE CONTRACTOR SHALL ADJUST SAME AS DIRECTED BY THE ENGINEER PAYMENT TO BE MADE IN ACCORDANCE WITH ARTICLE 109.04 OF THE "STANDARD SPECIFICATIONS".~~ — NOT IN CONTRACT

THE ROADWAY EXPANSION PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 507.04 (1) OF THE STANDARD SPECIFICATIONS.

CALCULATED WEIGHT OF STRUCTURAL STEEL (M-183):

ROADWAY A = 11,520 LB.
ROADWAY G = 12,940 LB.
ROADWAY D = 44,455 LB.

* INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

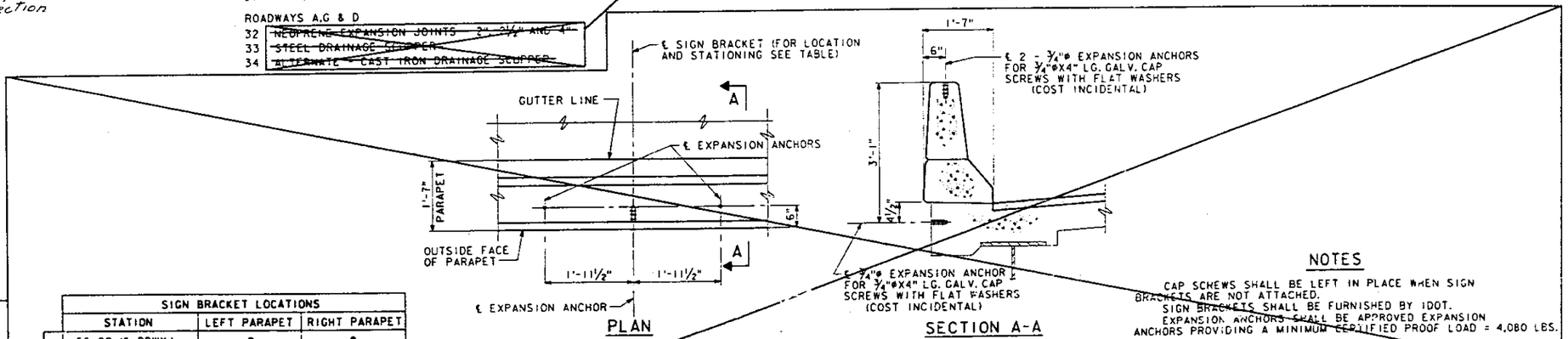
ITEM	UNIT	ROADWAY A SUPERSTR. TOTAL	ROADWAY G SUPERSTR. TOTAL	ROADWAY D SUPERSTR. TOTAL
FURNISHING STRUCTURAL STEEL	LUMP SUM	.01	.01	.02
FURNISHING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	37	41	146

NOT IN CONTRACT

SIGN BRACKET LOCATIONS

	STATION	LEFT PARAPET	RIGHT PARAPET
RDWY. A	66+90 (℄ RDWY.)	•	•
	69+95 (℄ RDWY.)	•	•
	72+90 (℄ RDWY.)	•	•
RDWY. D	69+10 (℄ RDWY.)	•	•
	72+55 (℄ RDWY.)	•	•
	75+45 (℄ RDWY.)	•	•
	79+15 (℄ RDWY.)	•	•
RDWY. G	76+50 (℄ RDWY.)	•	•
	80+50 (℄ RDWY.)	•	•
	83+65 (℄ RDWY.)	•	•
	87+30 (℄ RDWY.)	—	•

NOTE: LEFT AND RIGHT PARAPETS ARE ORIENTED LOOKING AHEAD STATIONING.



NOTES

CAP SCREWS SHALL BE LEFT IN PLACE WHEN SIGN BRACKETS ARE NOT ATTACHED.
SIGN BRACKETS SHALL BE FURNISHED BY IDOT.
EXPANSION ANCHORS SHALL BE APPROVED EXPANSION ANCHORS PROVIDING A MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.

PARAPET EXPANSION ANCHOR DETAILS FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT BRACKETS

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLE[illegible]
ROADWAYS A,G AND D-DECK REHAB[illegible]ON
GENERAL NOTES, ESTIMATED QUANT[illegible]ES AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0141 (ROADWAY A)
STRUCTURE NO. 082-0254 (ROADWAY G)
STRUCTURE NO. 082-0144 (ROADWAY D)
(FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 34

DESIGNED	
CHECKED	
DRAWN	D. RIEHL
CHECKED	G. DEE

10320 B75305 | FILE: ZF3:(110,1)DET1.DGN | PRF: DET1 | LEVELS PLOTTED 35, 56, 58, 63 | DATE: JUNE 23, 1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	89	39
		ILLINOIS PROJECT		

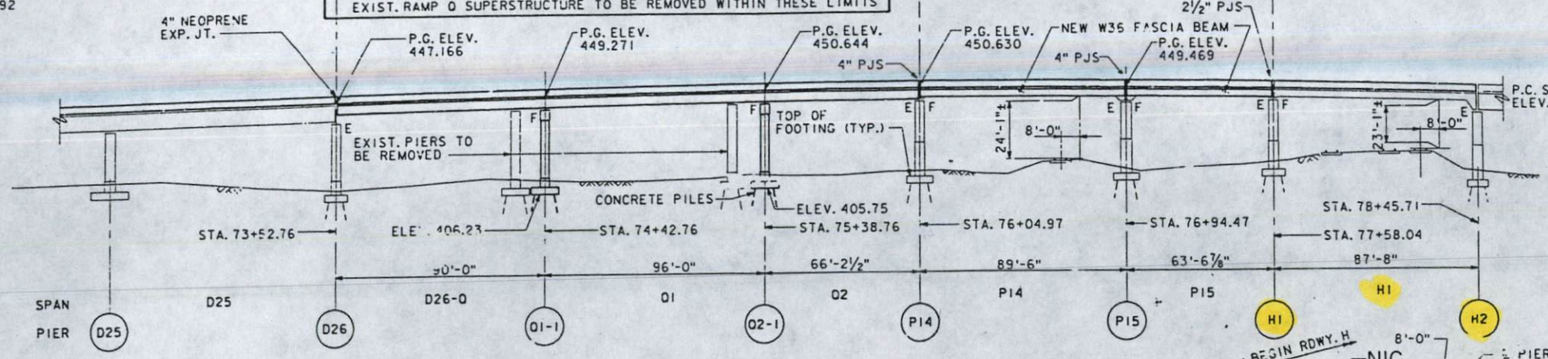
*82-3HVB-2R-1 (F)

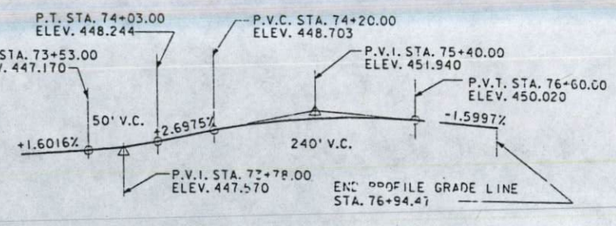
BENCH MARK D-27
CHISELED "D" IN CONC. FOUNDATION AT N. END OF PIER D-27 ON E.B. C-D
ELEV. 412.92

LIMITS OF RAMP Q RECONSTRUCTION = 252'-2½"
3 SPAN CONTINUOUS COMPOSITE 60" WELDED PLATE GIRDERS
EXIST. RAMP Q SUPERSTRUCTURE TO BE REMOVED WITHIN THESE LIMITS

LIMITS OF RAMP P WIDENING = 153'-0⅞"

NIC

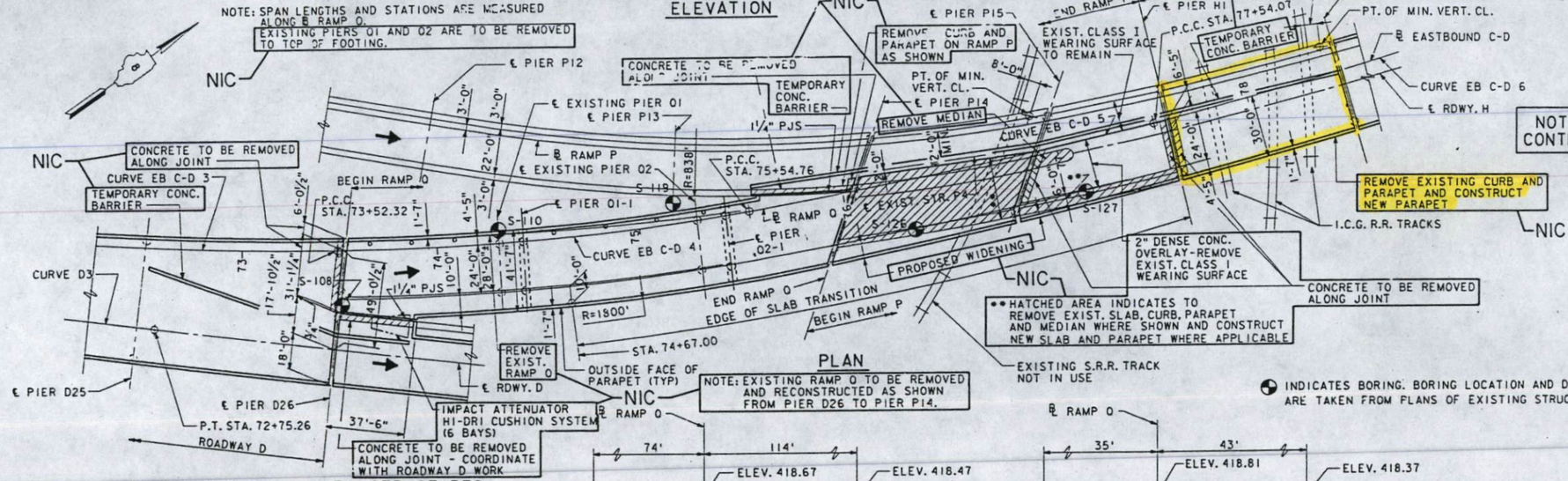




PROFILE - ℄ RAMP Q & ℄ EASTBOUND C-D

ELEVATION

NOTE: SPAN LENGTHS AND STATIONS ARE MEASURED ALONG ℄ RAMP Q.
EXISTING PIERS O1 AND O2 ARE TO BE REMOVED TO TOP OF FOOTING.



NOT IN CONTRACT

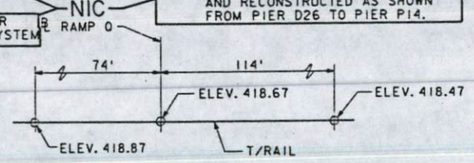
BUILT 198_ BY
STATE OF ILLINOIS
F.A.I. 70 SEC. 82-3HVB-2R-1
PROJ. FRI-70-1(155)
LOADING HS20 AND ALT.
STR. NO. 082-0255 (RAMP O)
STR. NO. 082-0203 (RAMP P)

NAME PLATE
(SEE ILL. STD. 2113)
NOTE: LOCATION OF NEW NAME PLATE SHALL BE LOCATED ADJACENT TO EXISTING NAME PLATE ON WINGWALL OF ABUT. H5.

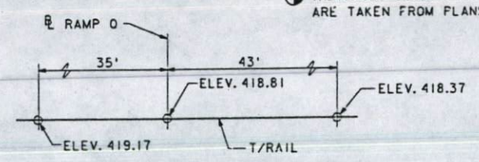
PLAN

NOTE: EXISTING RAMP Q TO BE REMOVED AND RECONSTRUCTED AS SHOWN FROM PIER D26 TO PIER P14.

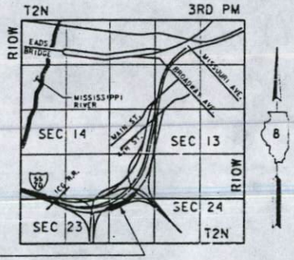
INDICATES BORING. BORING LOCATION AND DESIGNATION ARE TAKEN FROM PLANS OF EXISTING STRUCTURES.



PROFILE - SOUTHERN R.R. TRACKS SPAN P14



PROFILE - I.C.G.R.R. TRACKS - SPAN H1



PROPOSED NEW STRUCTURE & MODIFICATIONS

LOCATION SKETCH

DESIGN STRESSES - NEW STRUCTURES

DESIGN SPECIFICATIONS: AASHTO 1983 AND APPLICABLE 1984 AND 1985 INTERIMS. AASHTO 1980 GUIDE TO HORIZONTALLY CURVED HIGHWAY BRIDGES AND 1981 & 1982 INTERIMS

LOADING: HS20-44 AND ALTERNATE

NIC

REINFORCED CONCRETE:	
DECK SLAB	f'c=3500 psi
SUBSTRUCTURE	f'c=3500 psi
REINFORCING	fy=60,000 psi

STRUCTURAL STEEL: fy=36,000 psi (M183)

FUTURE WEARING SURFACE = 25 psf

DESIGN STRESSES - WIDENING

LOAD FACTOR DESIGN (DECK ONLY)
SERVICE LOAD DESIGN ALL ELSE

LOADING: HS20-44 AND ALTERNATE

NIC

REINFORCED CONCRETE:	
DECK SLAB	f'c=3500 psi
SUBSTRUCTURE	fc=1400 psi
	Vc=75 psi - FOOTINGS
REINFORCING	fy=60,000 psi

STRUCTURAL STEEL: fs=20,000 psi (M183)

CURVE DATA - EB C-D 4

P.I. STA. = 74+53.78
Δ = 9°- 36'- 57" LT.
D = 4° - 45' - 00"
R = 1206.23'
T = 101.46'
L = 202.44'
E = 4.26'
P.C.C. STA. = 73+52.32
P.C.C. STA. = 75+54.76

CURVE DATA - EB C-D 5

P.I. STA. = 76+54.45
Δ = 3°- 59'- 43" LT.
D = 2° - 00'- 16"
R = 2858.27'
T = 99.69'
L = 199.31'
E = 1.74'
P.C.C. STA. = 75+54.76
P.C.C. STA. = 77+54.07

CURVE DATA - EB C-D 6

P.I. STA. = 81+11.46
Δ = 21°- 37'- 50" LT.
D = 3° - 03'- 45"
R = 1870.81'
T = 357.39'
L = 706.28'
E = 33.83'
P.C.C. STA. = 77+54.07
P.C.C. STA. = 84+60.35

NOTES

NIC

FOR PAY ITEM "TEMPORARY CONCRETE BARRIER", SEE ROADWAY PLANS

NIC = NOT IN CONTRACT

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Rayburn
Engineer of Bridges & Structures

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLE

RAMPS Q AND P & RDWY. H
GENERAL PLAN AND ELEVATION

STRUCTURE NO. 082-0256 (RDWY H)
STRUCTURE NO. 082-0255 (RAMP O)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 32

DESIGNED	
CHECKED	L. SCHURMAN/
DRAWN	S. STEGMAN
	R.F. BECK
CHECKED	

10320 | FILE: 052-(224,1)DET33.DGN | PRF: DET33
87S345 | LEVELS PLOTTED | DATE: JUNE 23, 1987 | 2,3,20,24,26,35,38,39,42,50,54,55,63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED SUPERSTRUCTURE REPAIRS

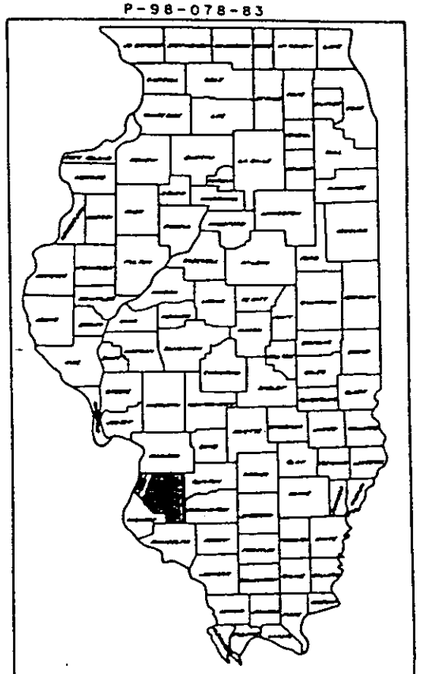
FAI ROUTE 70
SECTION 82-3HVB-IR
PROJ. ACIR-70-1(147)1
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

C-98-115-85

F.A.I. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	11	1

* 82-3HVB-IR

P-98-078-83



LOCATION OF SECTION INDICATED THUS:—

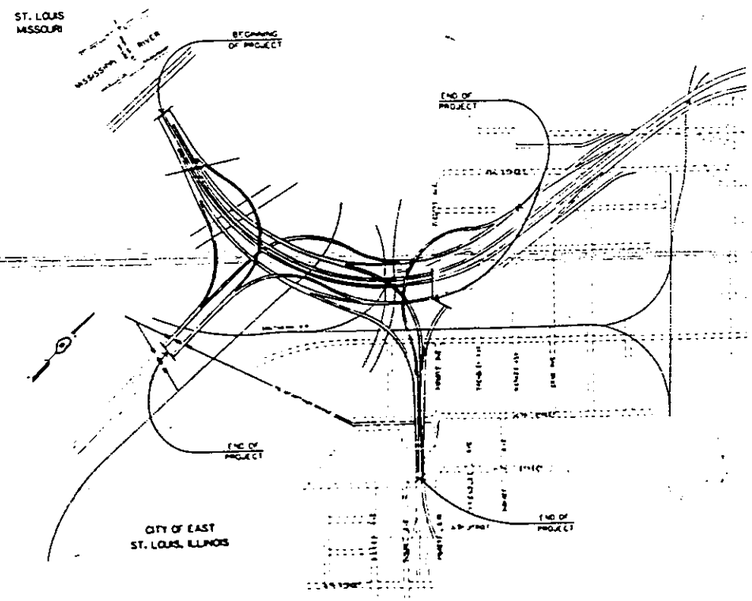
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PROJECT KEY PLAN
3	KEY PLAN FOR ROADWAYS A - H
4	KEY PLAN FOR RAMPS M - T
5	BEARING STIFFENER RETROFIT DETAILS
6	INTERIOR, NON BEARING STIFFENER RETROFIT DETAILS
7	REPAIR DETAIL LOCATIONS; ROADWAYS A,B,C
8	REPAIR DETAIL LOCATIONS; ROADWAYS D - H
9	REPAIR DETAIL LOCATIONS; RAMPS M - R
10	REPAIR DETAIL LOCATIONS; RAMPS S, T + MISCELLANEOUS DETAILS
11	TRAFFIC CONTROL AND PROTECTION
	STANDARDS: 2298-7, 2299-10, 2300-3

Sec, 82-3HVB-IR
82-3HVB-R-5
82-3HVB-R-2
82-3-3DRS
82-3HVB-R-4

Reels 8-110
8-112
8-147
8-151
8-159

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
3/5/84
March 27, 84
March 27, 84
March 27, 84

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR — DATE

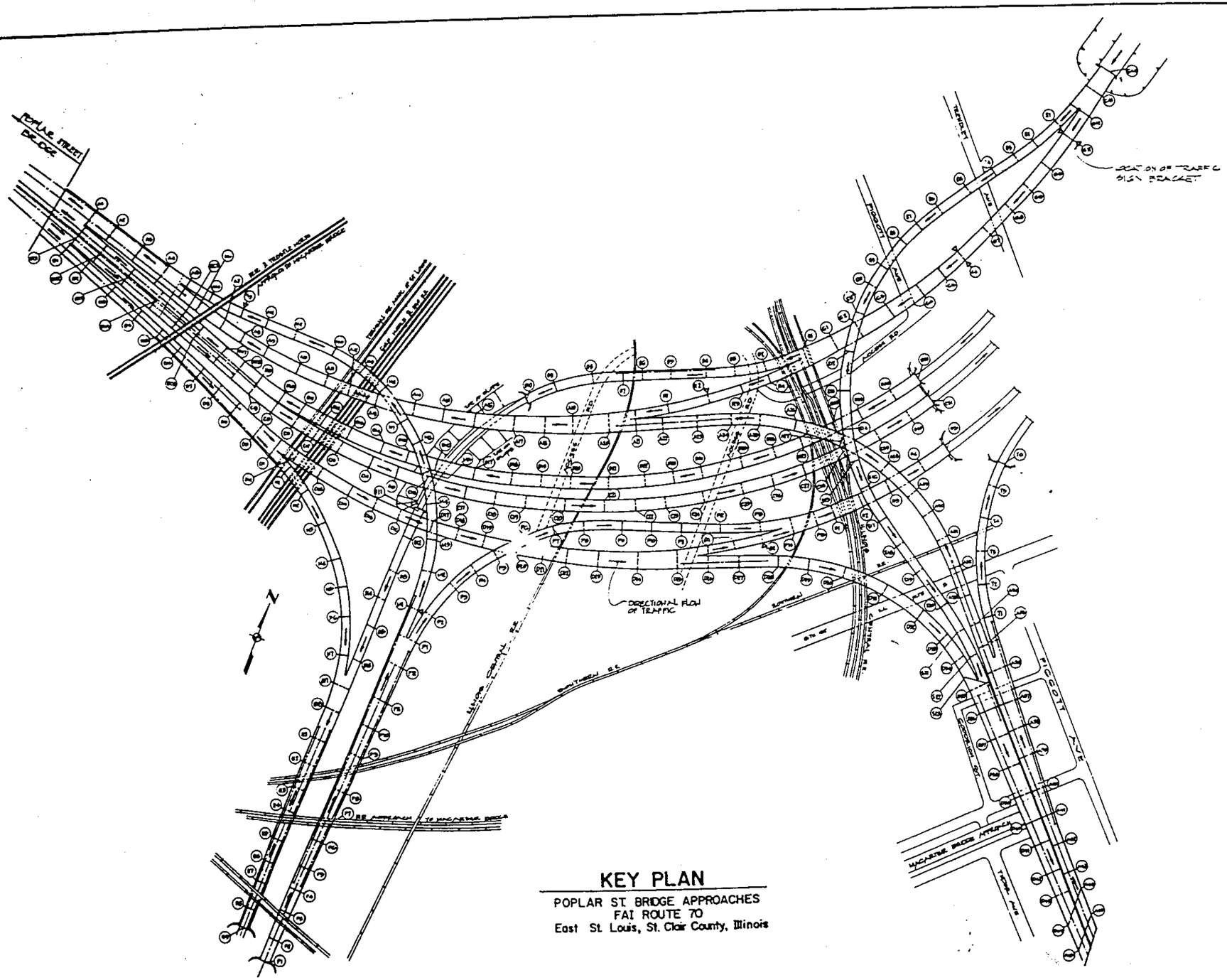
8-159

CONTRACT NO. 40769

ST. CLAIR COUNTY SECTION 82-3HVB-IR F.A.I. ROUTE 70

NET LENGTH OF PROJECT = 1.66 MILES

70	[illegible]	ST. CLAIR	11	2



KEY PLAN

POPLAR ST. BRIDGE APPROACHES
FAI ROUTE 70
East St. Louis, St. Clair County, Illinois

SUMMARY OF QUANTITIES

SFTY-3R

CODE No.	ITEM	UNIT	QUANTITY
X09954	Structural Steel Repairs, Type 1	Each	355
X09955	Structural Steel Repairs, Type 2	Each	732
X09956	Removal and Replacement of Existing Traffic Signs	Each	8
X09957	Cleaning and Painting Previously Repaired Connections	Each	20
X09958	Traffic Control for Repair Locations Above Another Roadway	Each	36
Z10527	TRAINEES	HOUR	1,000
650001	MOBILIZATION	L SUM	1

* CONST. CODE 70BO

GENERAL NOTES

1. Design criteria=A.A.S.H.T.O. Standard Specifications for Highway Bridges, 1983 Edition.
2. New fasteners shall be high-strength bolts, 7/8 inch ϕ, unless noted otherwise.
3. Plan conditions, dimensions, and details relative to the existing structure have been taken from existing plans and are subject to normal construction variations. It shall be the Contractor's responsibility to verify such conditions, dimensions, and details in the field, and make necessary approved adjustments prior to construction. Such variations shall not be cause for additional compensation for a change in scope of work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

MAJOR WORK ITEMS

1. Installation of structural steel repair Type I at bearing stiffener connections between floor beams above piers and main girders above piers at continuous supports.
2. Installation of structural steel repair Type 2 at non-bearing stiffener connections between first interior floor beams and main girders.
3. Removal and replacement of existing traffic signs and support brackets where they interfere with Type 1 repairs.
4. Cleaning and painting of connections between floor beams and main girder which have been previously retrofitted with trial repairs.
5. Provide traffic control and protection for repair locations which are located above another roadway.

PROJECT KEY PLAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE : NONE — DRAWN BY : GSA
DATE 2/26/86 — CHECKED BY TLR

70	82-3H-88	ST. CLAIR	11	3

ROADWAY A

ROADWAY B

ROADWAY G

ROADWAY H

ROADWAY C

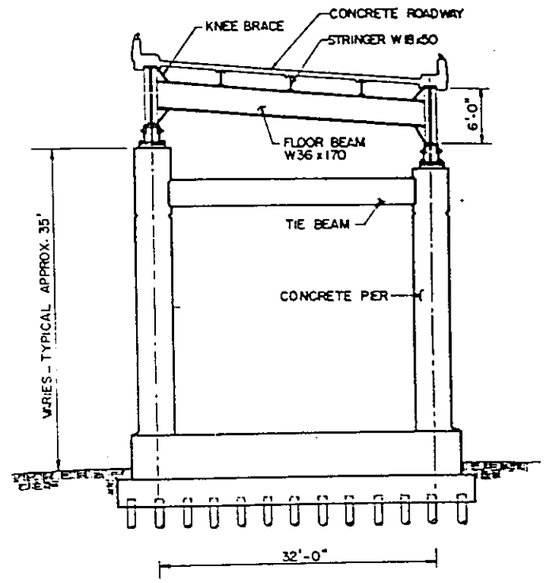
ROADWAY D

ROADWAY E

ROADWAY F

DIRECTIONAL FLOW OF TRAFFIC

KEY PLAN FOR ROADWAYS A-H



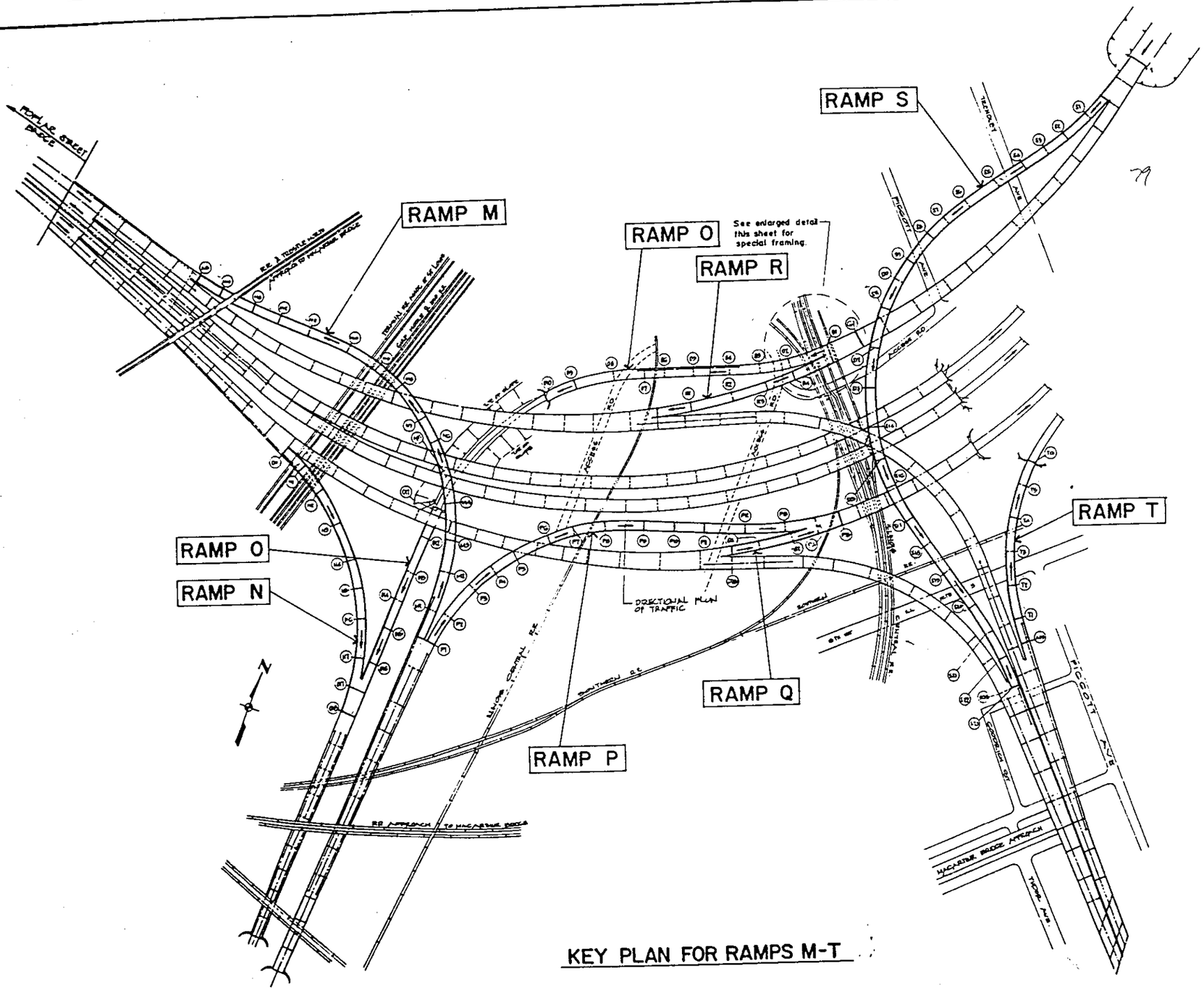
TYPICAL SECTION THROUGH ROADWAY
(Section through Ramp Similar)

KEY PLAN FOR ROADWAYS A-H

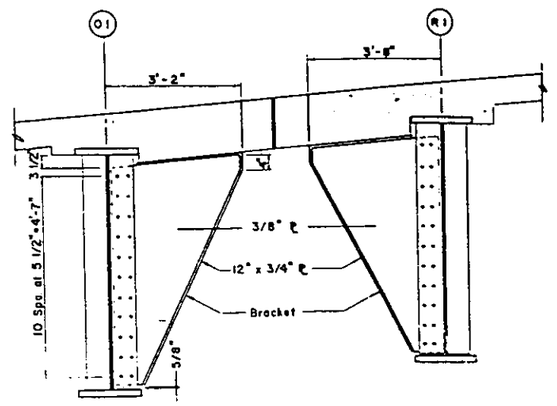
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE : NONE
DRAWN BY : GSA
DATE 2/26/86
CHECKED BY : TLR

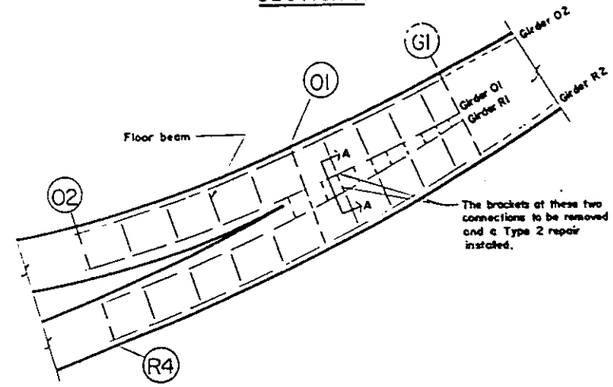
70	[illegible]	ST. CLAIR	11	4



KEY PLAN FOR RAMPS M-T



SECTION A



PLAN

EXISTING BRACKETS AT RAMP O AND RAMP R INTERSECTION

NOTE: Brackets are to be removed at two locations (OIN int - IE and OIS int - IE) and the Type 2 retrofit detail installed.

1. Remove all existing high strength bolts between the existing bracket and stiffener.
2. Remove bracket.
3. Install Type 2 retrofit detail.

KEY PLAN FOR RAMPS M-T

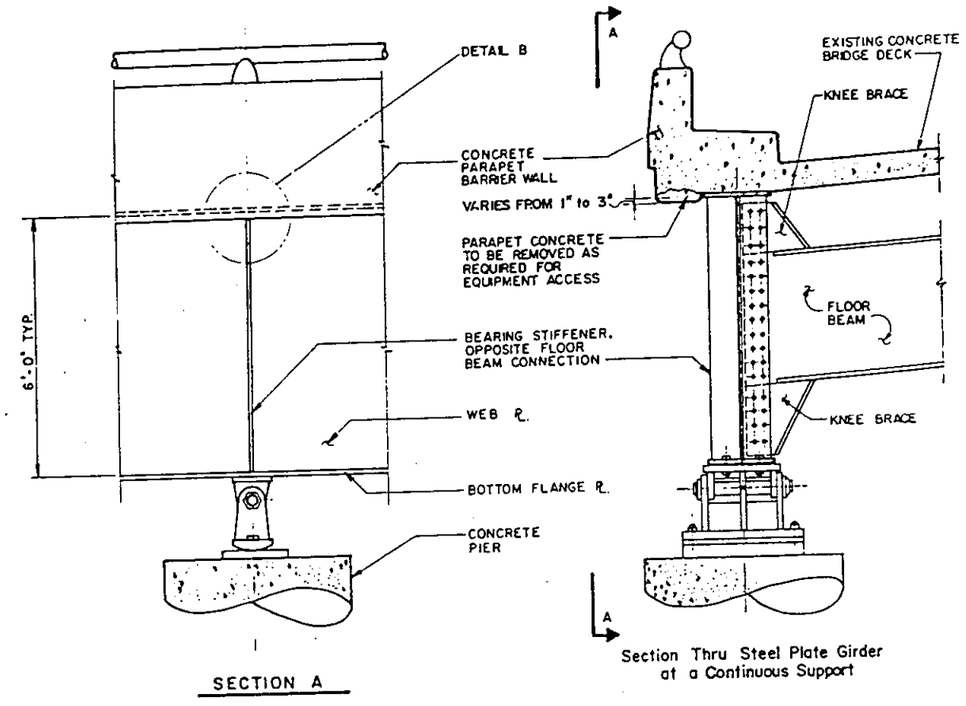
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIRS

FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE : NONE — DRAWN BY : GSA

DATE : 2/26/86 — CHECKED BY : TLR



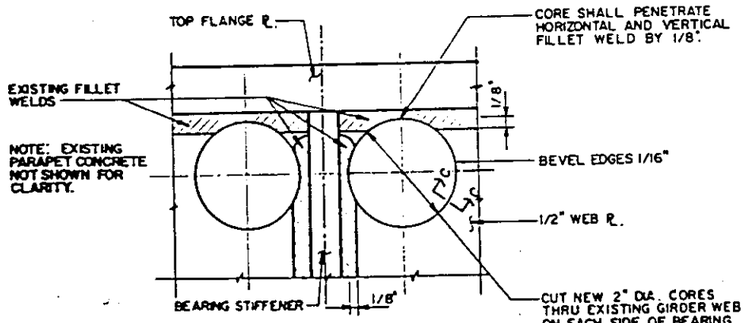
SECTION A

Section Thru Steel Plate Girder at a Continuous Support

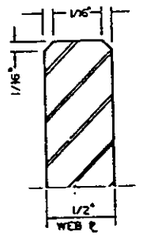
DETAILS FOR REPAIR OF GIRDER WEB CRACKING AT A FLOOR BEAM-TO-BEARING STIFFENER GIRDER CONNECTION

TYPE 1 REPAIR

Note: Refer to Sheet Nos. 7 through 10 for repair detail locations.



DETAIL B



SECTION C

REPAIR PROCEDURE FOR INSTALLATION OF BEARING STIFFENER RETROFIT

1. Remove existing parapet concrete, as required, for equipment access.
2. Core 2 in. diameter holes through web plate adjacent to the top flange as positioned in Detail B. Core hole shall penetrate horizontal and vertical fillet welds approximately 1/8 in. If core does not penetrate weld by 1/8 in., remove additional material by grinding. Remove all burrs from core surface and surface shall have a Roughness average (Ra) of 500 or less. Bevel edges of cored holes 1/16".
3. Obtain approval of engineer before proceeding.
4. Clean surface to remove any cutting oils or contaminants.
5. Clean and paint all areas of existing structural steel affected by this repair process, in accordance with the Special Provisions.
6. Patch parapet concrete at the direction of the Engineer, in accordance with the Special Provisions.

F.A. Route	Section	County	Total Sheets in Contract	Contract No.
70	82-3RVB-BR	ST. CLAIR	11	5

QUANTITIES

ITEM	UNIT	QUANTITY
Structural Steel Repairs, Type 1	Each	355
Removal and Replacement of Existing Traffic Signs	Each	8
Cleaning and Painting Previously Repaired Connections	Each	12
Traffic Control for Repair Locations Above Another Roadway	Each	8

BEARING STIFFENER RETROFIT DETAILS

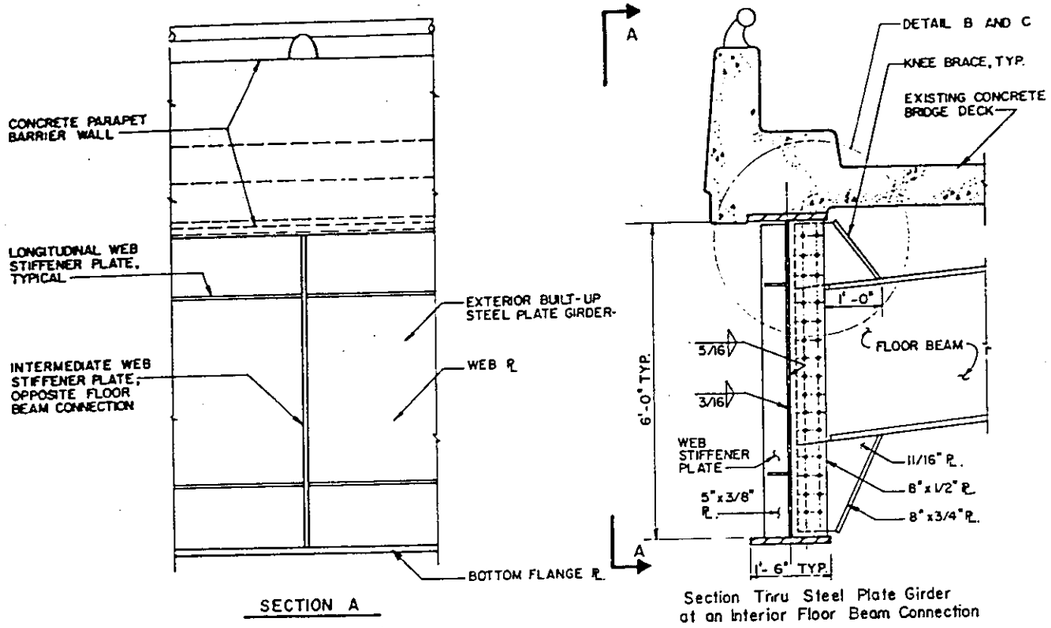
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIRS

FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE : NONE — DRAWN BY : GSA
DATE 2/26/86 — CHECKED BY : TLR

70	82-3046-PR	ST. CLAIR	11	6



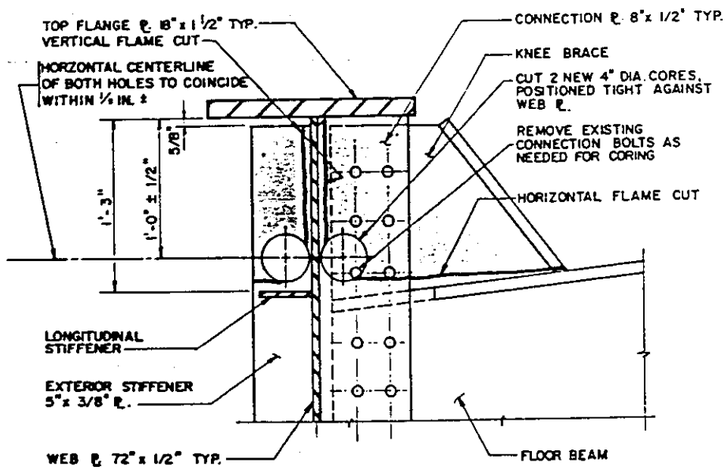
SECTION A

Section Thru Steel Plate Girder at an Interior Floor Beam Connection

DETAILS FOR REPAIR OF GIRDER WEB CRACKING AT FIRST INTERIOR FLOOR BEAM - TO - GIRDER CONNECTION

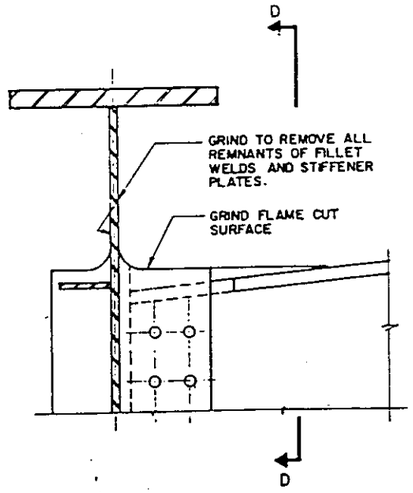
TYPE 2 REPAIR

Note: Refer to Sheet Nos. 7 through 10 for repair detail locations.



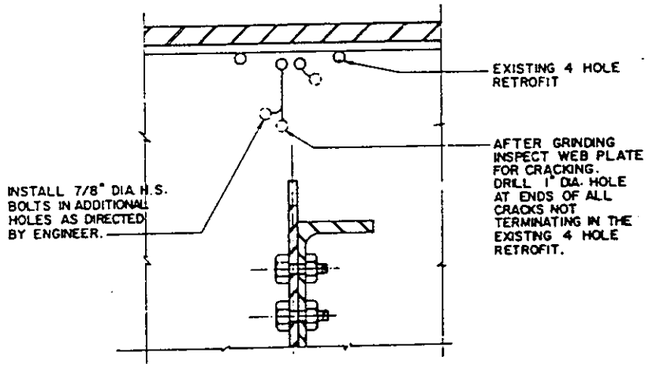
DETAIL B

Illustrating Steps 1 thru 3 of the Repair Sequence



DETAIL C

Illustrating Steps 4 and 5 of the Repair Sequence



SECTION D

Illustrating Steps 6 thru 9 of the Repair Sequence

REPAIR PROCEDURE FOR INSTALLATION OF INTERIOR NON-BEARING STIFFENER RETROFIT:

1. Remove existing bolts between floor beam and connection plate that will interfere with coring operation. Core 4 in. diameter holes through the interior and exterior stiffeners as shown in Detail B.
2. Make horizontal flame cuts through knee brace and exterior stiffener as shown in Detail B. Refer to Special Provisions.
3. Make vertical flame cuts through the exterior stiffener and interior connection plate. These cuts shall be sufficiently away from the girder web to avoid gouging of the web plate. Also, utmost care shall be taken to not gouge the top flange plate during the cutting operation. Temperature of web plate shall not exceed 800° F. Refer to Special Provisions.
4. Grind surfaces immediately after flame cutting. Roughness of all flame cut surfaces shall be (Rg) 1000 or less before leaving the location.
5. Remove remnants of vertical fillet welds and stiffener plates so that the web plate has a surface roughness of (Ra) 250 or less. The final grinding shall be done parallel to the flange. Refer to Special Provisions.
6. Inspect web plate in region of repairs. Drill 1" holes at ends of all cracks that do not terminate at an existing drilled hole.
7. Obtain approval of Engineer before proceeding.
8. Install 7/8" diameter high strength A325 bolts in crack retrofit holes as specified in the Special Provisions. Hardened washers shall be installed under both nut and bolt head. Tighten bolts to the minimum fastener tension, using the "turn-of-the-nut method", as specified in the AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
9. Clean exposed steel surface to remove any contaminants or rust.
10. Clean and paint all areas of existing Structural Steel affected by this repair process, in accordance with the Special Provisions.

QUANTITIES

ITEM	UNIT	QUANTITY
Structural Steel Repairs, Type 2	Each	732
Cleaning and Painting Previously Repaired Connections	Each	8
Traffic Control for Repair Locations Above Another Roadway	Each	28

INTERIOR NON-BEARING STIFFENER RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE : NONE — DRAWN BY : GSA
DATE 2/26/86 — CHECKED BY : TLR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 70

SECTION 82-3HVB-R-5

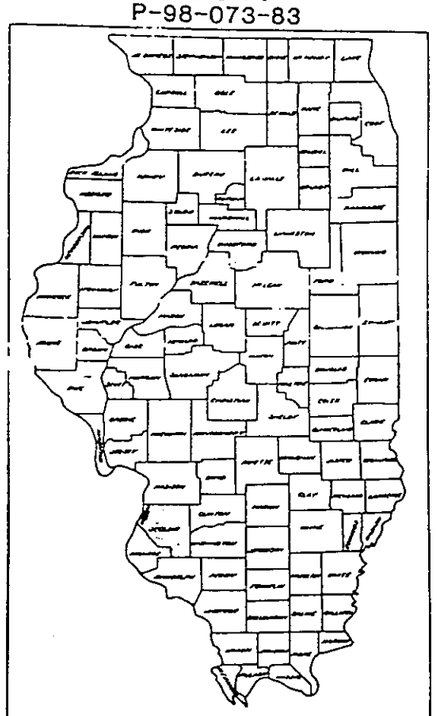
PROJECT IR-70-1(145)0

ST. CLAIR COUNTY

C-98-050-84

	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	4	1
F.A.I. RTE.		ILLINOIS	PROJECT IR-70-1(145)0	

* 82-3HVB-R-5
P-98-073-83



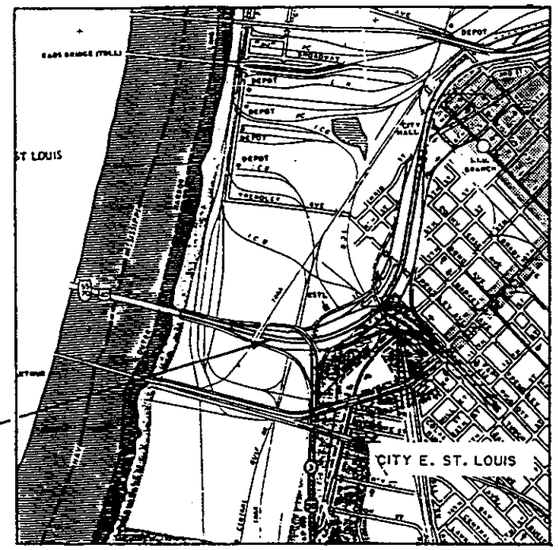
LOCATION OF SECTION INDICATED THUS:—

INDEX

SUMMARY OF QUANTITIES

	CODE NO.	PAY ITEM	UNIT	QUANTITY
*	X04748	MOBILIZATION	L SUM	1
*	X07723	PIER COLUMN REPAIR TYPE I	EACH	270
*	X07724	PIER COLUMN REPAIR TYPE II	EACH	151
**	Z10527	TRAINEES	HOURS	4,000

* CONSTRUCTION TYPE CODE Y007
** CONSTRUCTION TYPE CODE Y080



THIS PROJECT CONSISTS OF THE PIER CAP REPAIR AT VARIOUS LOCATIONS IN THE POPLAR STREET BRIDGE COMPLEX

LOCATION MAP

0' 1200 2400

SCALE: 1"=1200FT.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 11-20-97
EXAMINED 12-20-97
PASSED 12-20-97
APPROVED 12-22-97
DIRECTOR OF HIGHWAYS

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____

AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

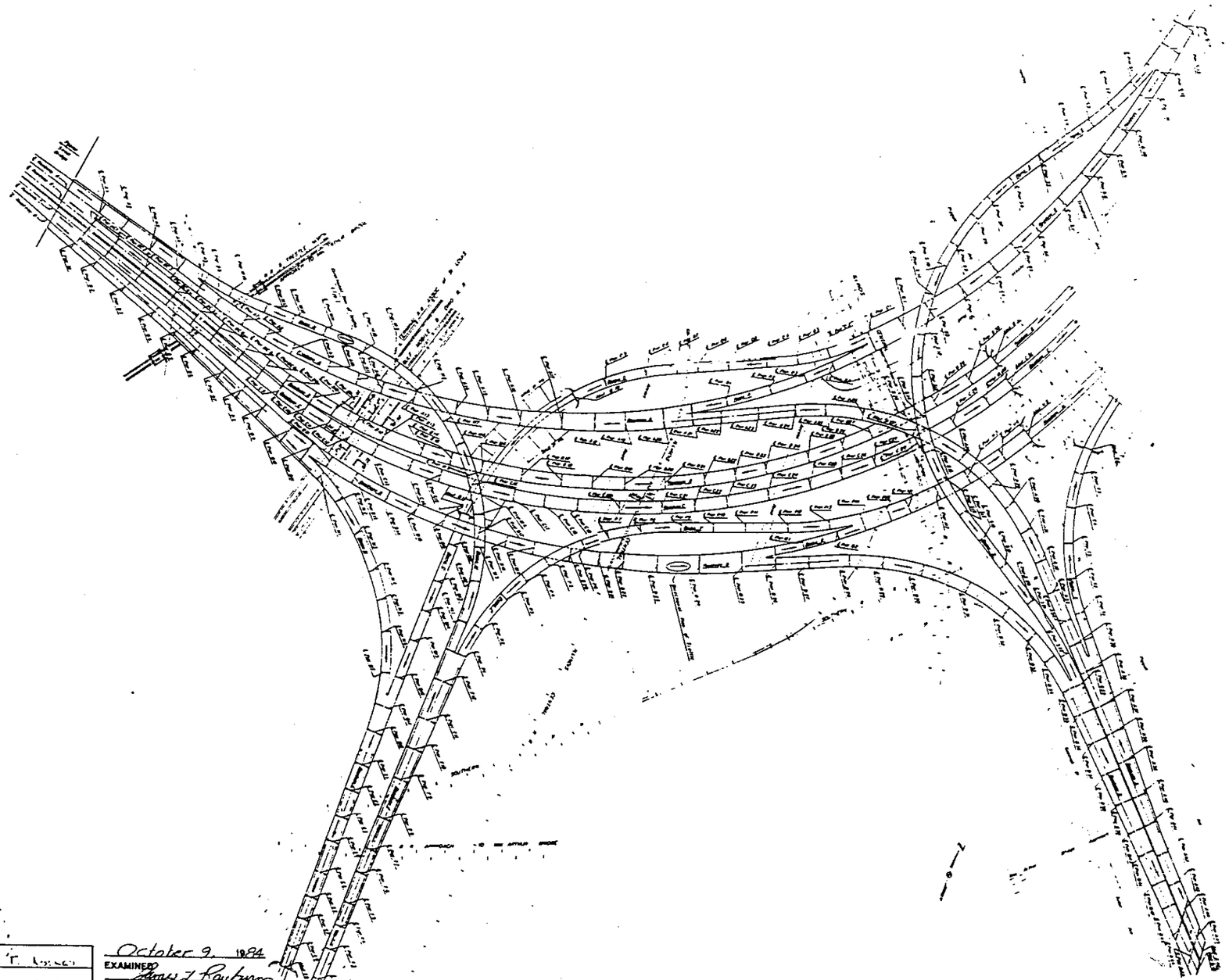
CONTRACT NO. 38649

ST. CLAIR COUNTY SECTION 82-3HVB-R-5 F.A.I. ROUTE 70

REEL 8-151

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Sheet No. 1
3 Sheets



TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
*Pier Column Repair – Type I	Each	27
*Pier Column Repair – Type II	Each	15

*For pier locations see special provisions

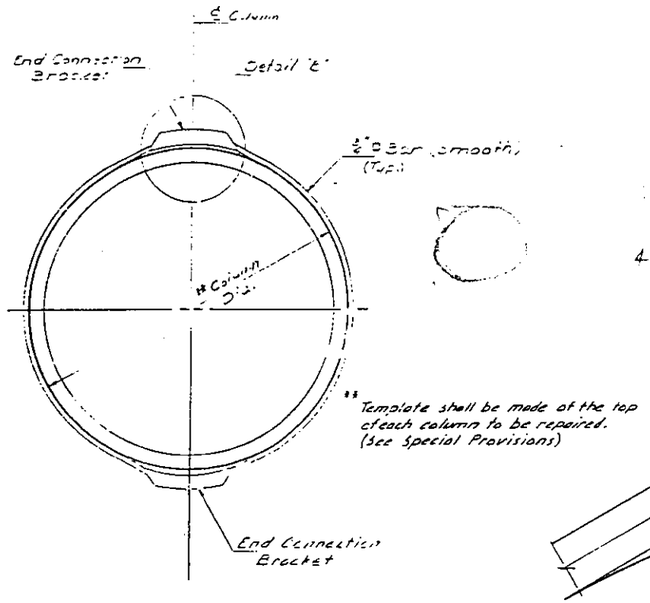
DESIGNED	[illegible]
CHECKED	[illegible]
DRAWN	R. Sommer
CHECKED	[illegible]

October 9, 1984
EXAMINED James T. Rayburn
ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

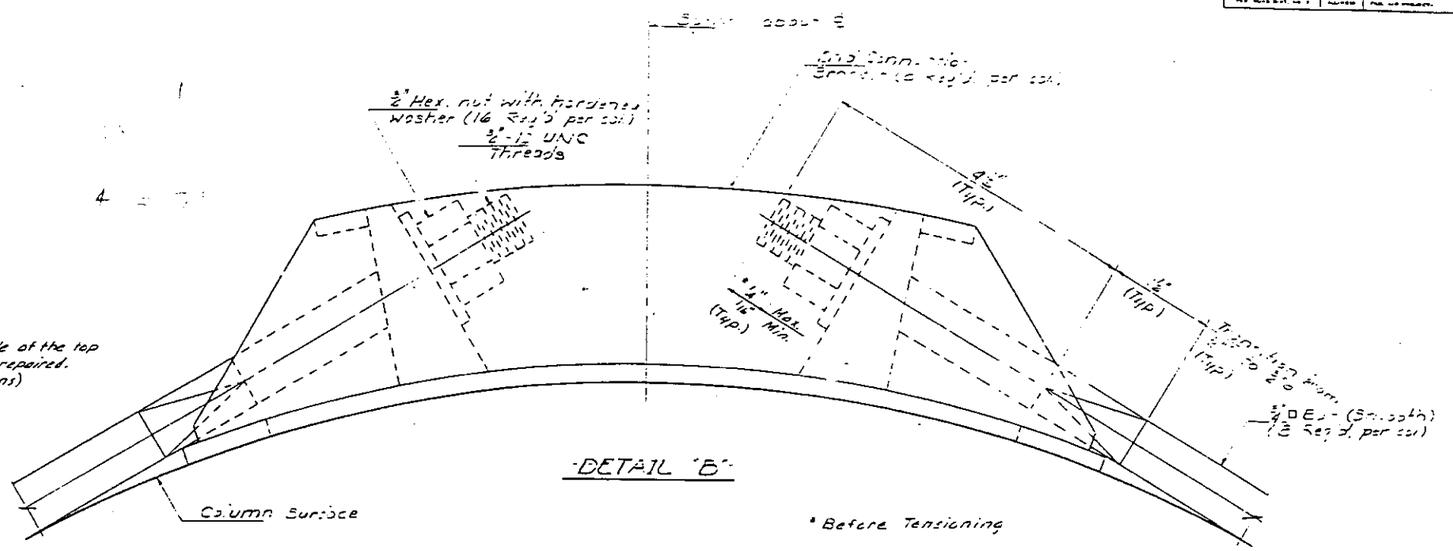
GENERAL PLAN
F.A.I. RT. 70 SEC. 82-3H[illegible]-R-5
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2
3 SHEETS

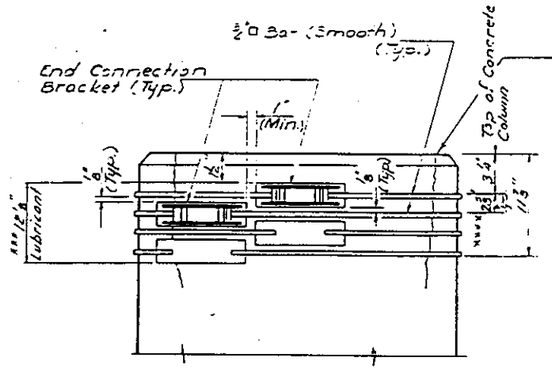


** Template shall be made of the top of each column to be repaired. (See Special Provisions)



DETAIL "B"

* Before Tensioning

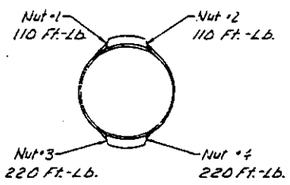


TOP OF PIER COLUMNS
For locations see Special Provisions

Clean and epoxy grout cracks before bar tensioning. See Special Provisions.

BAR TENSIONING PROCEDURE

The ¾" ø bars shall be tensionsd in sequence from the bottom bar to the top bar. Each bar shall be tensioned by tightening the nuts to the given torques according to the following sequence:



After tightening all four nuts on a bar they shall all be checked for 220 Ft.-Lb. Torque according to the same above sequence. The Engineer shall then verify the 220 Ft.-Lb. torque on all the nuts and the threads shall be set.

*** A petroleum base lubricant approved by the Engineer shall cover the entire surface area between the ¾" ø bars and the concrete surface. This shall be accomplished by placing lubricant on the concrete surface in the area shown around the entire circumference of the column.

**** The spacing of the Post Tensioning Bars shall be maintained throughout the perimeter of the columns, as shown, by using templates.

QUANTITY OF STRUCTUEAL STEEL PER COLUMN IN LBS.

COL. DIA.	AASHTO M-223	AISI 4140	TOTAL
4'-0"	113	96	209
4'-6"	113	108	221
5'-0"	113	120	233
5'-6"	113	132	245
6'-0"	113	144	257
6'-6"	113	156	269
7'-0"	117	168	285

All Structural Steel is incidental to "Pier Column Repair -Type I" or "Pier Column Repair -Type II" as applicable.

GENERAL NOTES

End Connection Bracket shall conform to the requirements of A.A.S.H.T.O. M223 Grade 50.

The ¾" ø bar shall conform to the requirements of AISI 4140, quenched and tempered to a minimum yield strength of 100,000 psi. and a maximum yield strength of 120,000 psi.

The hardened washer shall conform to the requirements of A.S.T.M. F-436.

The end connection brackets, ¾" ø bars, nuts and washers shall receive one shop coat of red lead paint and two shop coats of aluminum paint.

The ¾" hex. nut shall conform to the requirements of A.S.T.M. A-563, Grade D H.

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 Contractors 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.

Concrete surfaces to receive Post-Tensioning System shall be smoothed by stoning or grinding as required to eliminate projections.

DESIGNED	R. F. [illegible]
CHECKED	R. L. S. M. [illegible]
DRAWN	Collins J. SCHNEIDER
CHECKED	P.S.M. R.F.R.

October 9 1964
EXAMINED James F. Rayburn ENGINEER OF BRIDGE DESIGN
PASSED James F. Rayburn ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

POST-TENSIONING SYSTEM
PIER COLUMNS - REPAIR
F.A.I. RT. 70 SEC. 82-3-HVS-P-5
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

			4	1

SHEET NO. 3
3 SHEETS

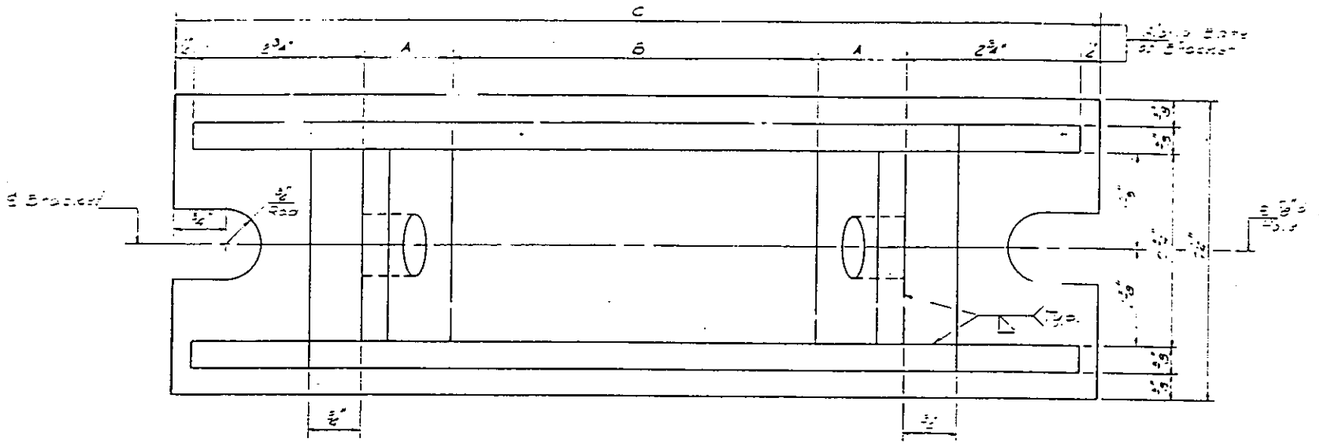
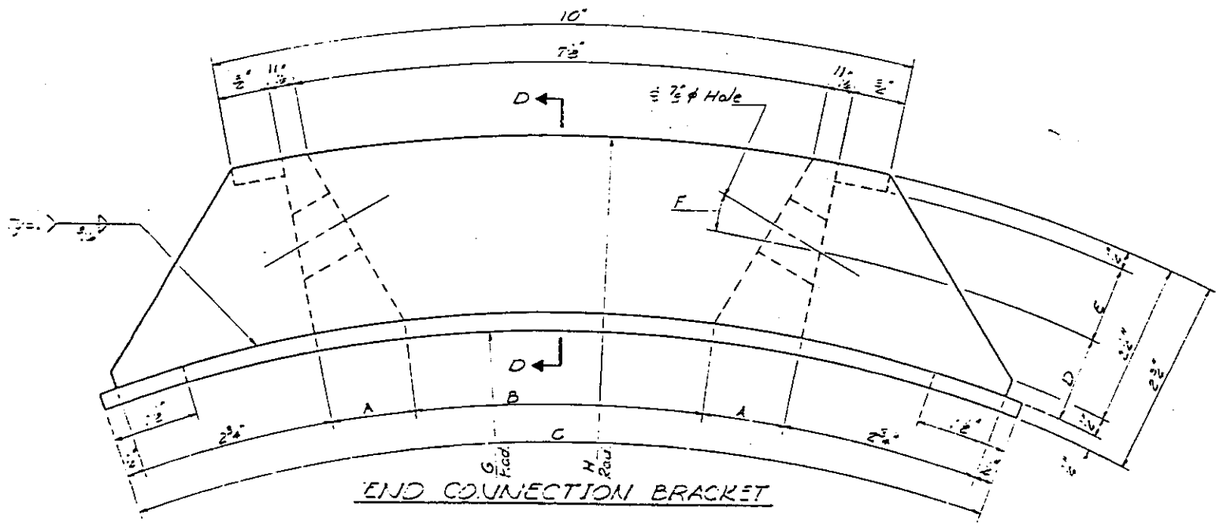
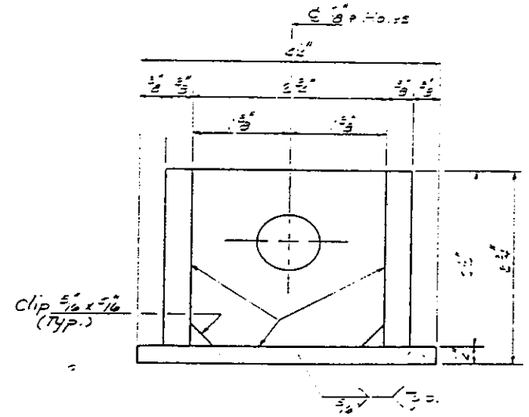


TABLE OF DIMENSIONS

COL. DIA	A	B	C	D	E	F	G	H
4'-0"	1 7/16"	2 3/8"	13 5/8"	1 3/16"	1 1/16"	4° 20'30"	24"	26 3/4"
4'-6"	1 3/8"	4 5/16"	13 11/16"	1 3/16"	1 1/16"	10°-30'-25"	27"	29 3/4"
5'-0"	1 3/8"	5"	13 3/4"	1 1/4"	1"	15°28'-01"	30"	32 3/4"
5'-6"	1 5/16"	5 1/8"	13 7/8"	1 1/4"	1"	14°-06'-31"	33"	35 3/4"
6'-0"	1 5/16"	5 1/4"	13 7/8"	1 1/4"	1"	14°-10'-15"	36"	38 3/4"
6'-6"	1 5/16"	5 5/16"	13 15/16"	1 5/16"	15/16"	13°-45'-10"	39"	41 3/4"
7'-0"	1 1/16"	5 1/2"	14"	1 5/16"	15/16"	13°-09'-07"	42"	44 3/4"



END CONNECTION BRACKET



SECTION D-D

DESIGNED	R F Kelley
CHECKED	Paul S. McCauley, Collins Sommer
DRAWN	J. SCHNELLER
CHECKED	PSMc RFK

October 9 1984
EXAMINED James T Rankin
BUREAU OF BRIDGE DESIGN
PASSED James T Rankin
BUREAU OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

END CONNECTION BRACKET
POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HVS-R-5
ST. CLAIR COUNTY

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St.Clair	4	1

*82-3HVB-R-4

P-98-066-82

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 70
SECTION 82-3HVB-R-4
PROJECT IR-70-1(141)0
ST. CLAIR COUNTY

C-98-074-83

INDEX

STANDARDS:

2298-7

2299-10

2300-3

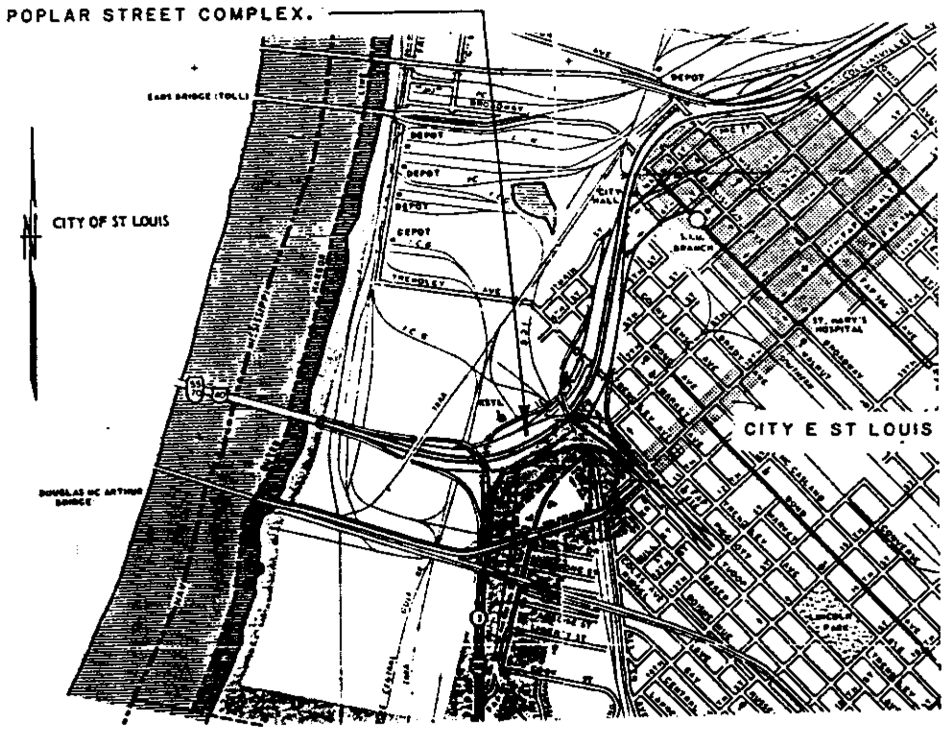
2307-6

SUMMARY OF QUANTITIES

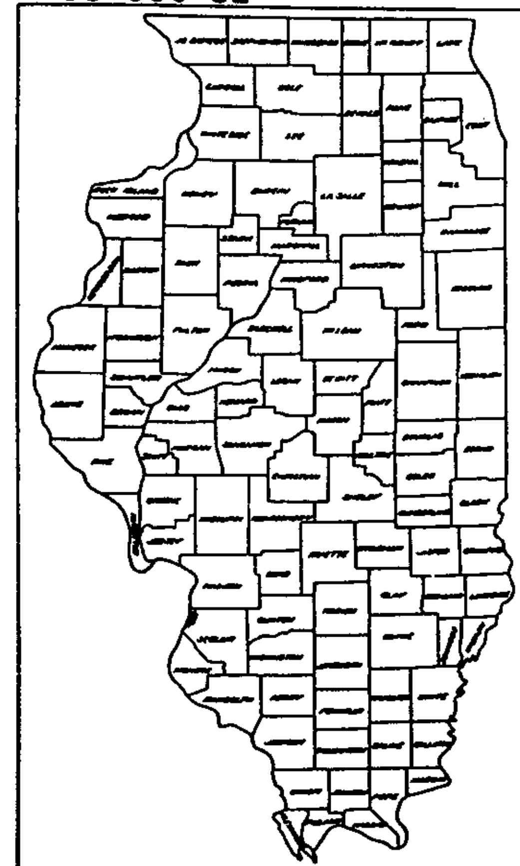
CODE NO.	PAY ITEM	UNIT	QUANTITY*
X04748	MOBILIZATION	L SUM	1
X07723	PIER COLUMN REPAIR, TYPE I	EACH	80
X07724	PIER COLUMN REPAIR, TYPE II	EACH	28

* CONSTRUCTION TYPE CODE Y007

THIS PROJECT CONSISTS OF THE PIER CAP REPAIR AT VARIOUS LOCATIONS IN THE POPLAR STREET COMPLEX.



0 1200 2400
Scale 1" = 1200'



LOCATION OF SECTION INDICATED THUS:—

MICROFILMED ____________
REEL NUMBER ____________
AWARDED ____________
RESIDENT ENGINEER ____________
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED 1/21 '84
EXAMINED 2-3 '84
PASSED 2-3 '84
APPROVED 2-13 '84
DIRECTOR OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

8-447

CONTRACT NO. 36877

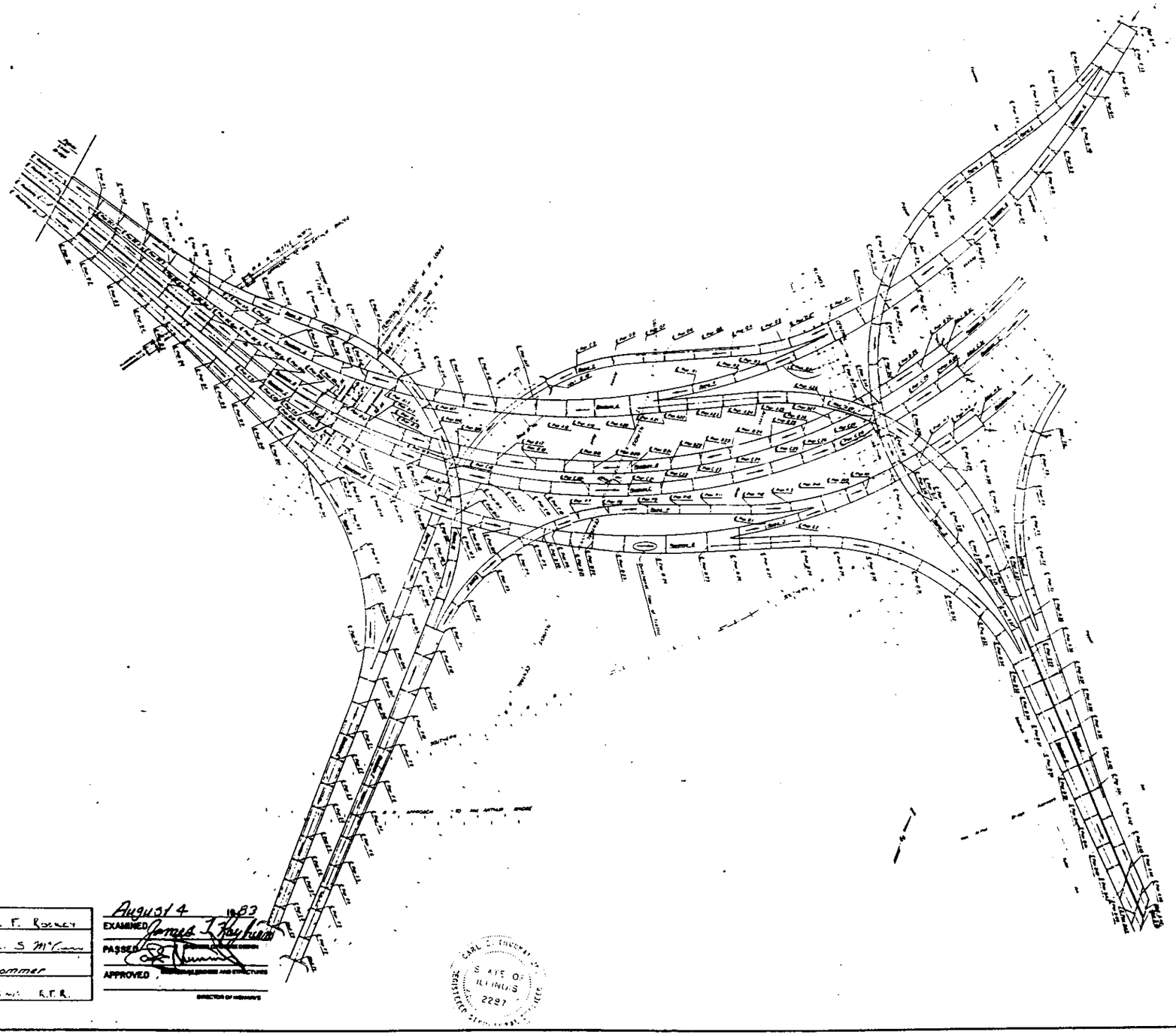
Rev. 2-3-84

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	4	2
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

*82-3HVB-R-4

Sheet No. 1
3 Sheets



TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
Pier Column Repair - Type I	Each	80
Pier Column Repair - Type II	Each	28

*for pier locations see special provisions

DESIGNED	R. F. Rosner
CHECKED	R. S. McCann
DRAWN	R. Sommer
CHECKED	R. F. R.

August 4 1983
EXAMINED James J. Hayhurst
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

CARL J. THURMAN
STATE OF ILLINOIS
2297
REGISTERED STRUCTURAL ENGINEER

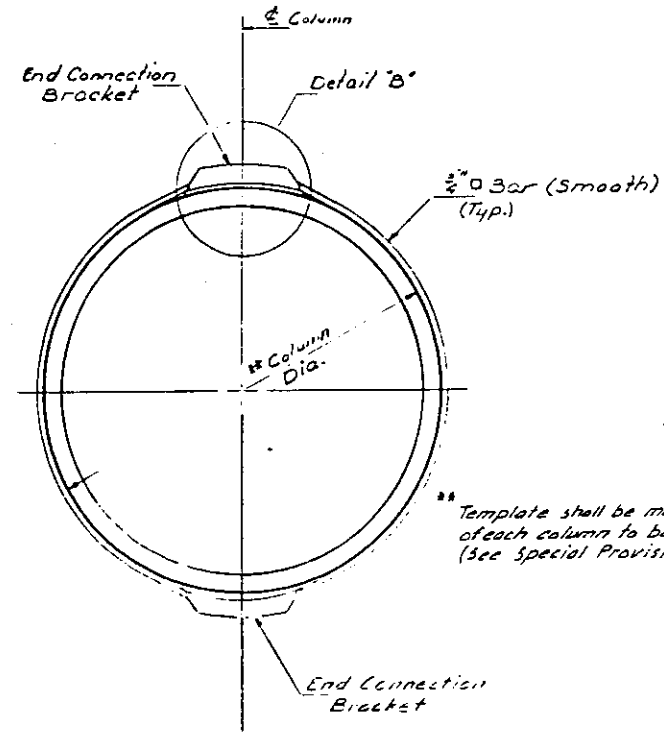
GENERAL PLAN
F.A.I. RT. 70 SEC. 82-3HVB-R-4
ST. CLAIR COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	4	3

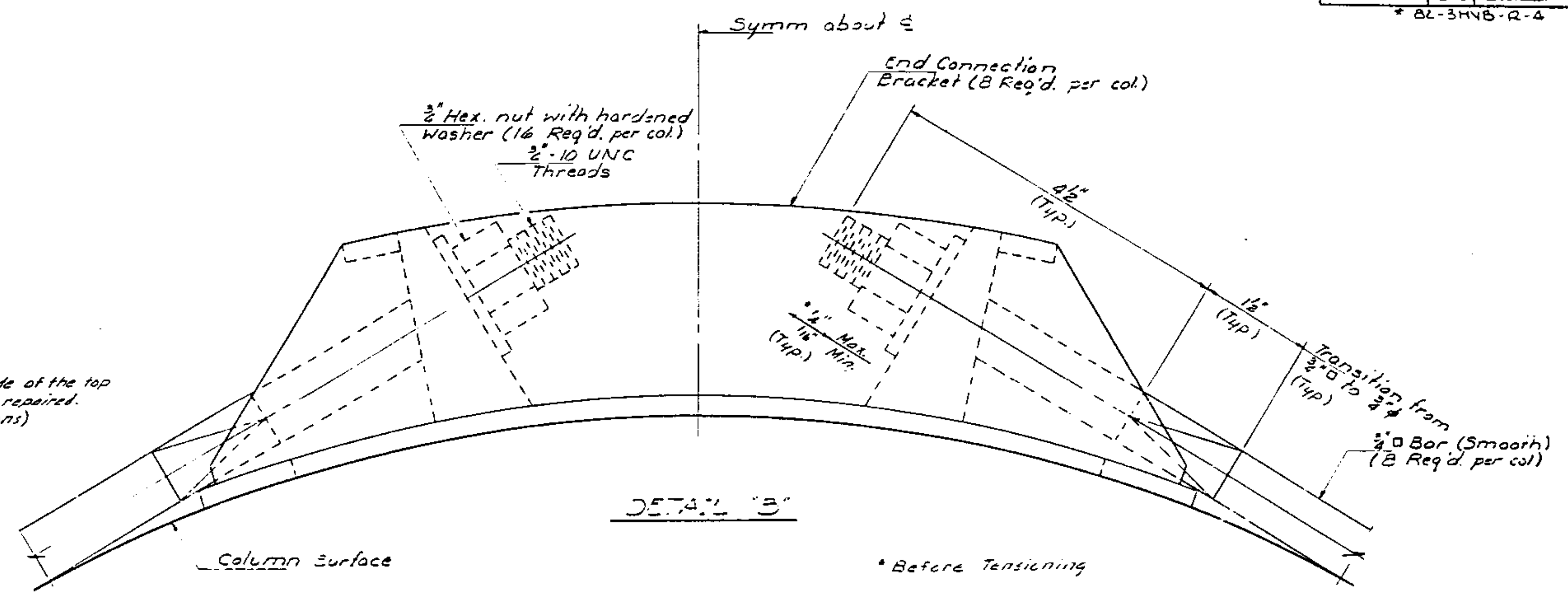
SHEET NO. 2
3 SHEETS

* 82-3HVB-R-4

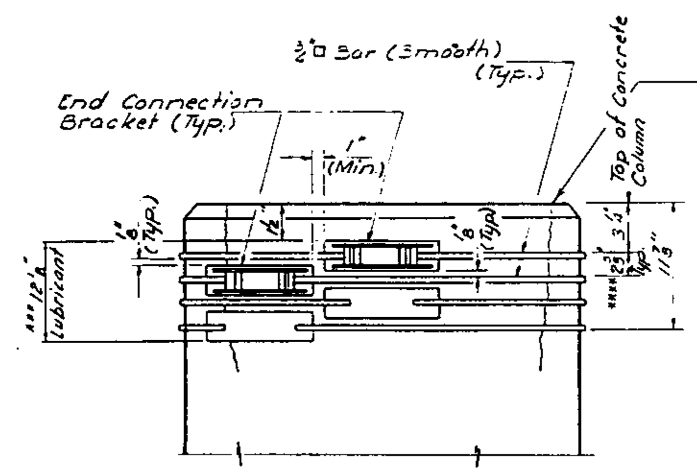
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



** Template shall be made of the top of each column to be repaired. (See Special Provisions)



DETAIL "B"

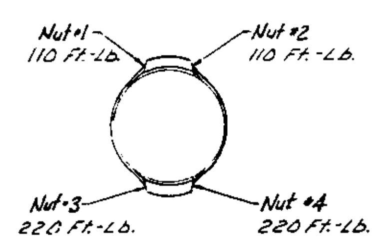


TOP OF PIER COLUMNS

For locations see Special Provisions

BAR TENSIONING PROCEDURE

The 3/4" ▫ bars shall be tensioned in sequence from the bottom bar to the top bar. Each bar shall be tensioned by tightening the nuts to the given torques according to the following sequence:



After tightening all four nuts on a bar they shall all be checked for 220 Ft.-Lb. Torque according to the same above sequence. The Engineer shall then verify the 220 Ft.-Lb. torque on all the nuts and the threads shall be set.

QUANTITY OF STRUCTURAL STEEL PER COLUMN IN LBS.

COL. DIA.	AASHTO M-223	AISI 4140	TOTAL
4'-0"	118	96	214
4'-6"	118	108	226
5'-0"	118	120	238
5'-6"	118	132	250
6'-0"	118	144	262
6'-6"	118	156	274
7'-0"	117	168	285

All Structural Steel is incidental to "Pier Column Repair — Type I" or "Pier Column Repair — Type II" as applicable.

***A petroleum base lubricant approved by the Engineer shall cover the entire surface area between the 3/4" ▫ bars and the concrete surface. This shall be accomplished by placing lubricant on the concrete surface in the area shown around the entire circumference of the column.

**** The spacing of the Post-Tensioning bars shall be maintained throughout the perimeter of the Columns, as shown, by using templates.

GENEPAL NOTES

Concrete surfaces to receive Post-Tensioning System shall be smoothed by stoning or grinding as required to eliminate projections.

End Connection Bracket shall conform to the requirements of A.A.S.H.T.O. M223 Grade 50.

The 3/4" ▫ bar shall conform to the requirements of AISI 4140, quenched and tempered to a minimum yield strength of 100,000 psi. and a maximum yield strength of 120,000 psi.

The hardened washer shall conform to the requirements of A.S.T.M. F-436.

The end connection brackets, 3/4" ▫ bars, nuts and washers shall receive one shop coat of red lead paint and two shop coats of aluminum paint.

The 3/4" hex. nut shall conform to the requirements of A.S.T.M. A-563, Grade DH.

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 constrtuction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work.

DESIGNED	R. F. Rozaci
CHECKED	Paul S. McCamey / Collins R. Sommer
DRAWN	J. Schneider
CHECKED	PSMc KFK

August 4, 1983

EXAMINED — Engineer of Bridge Design

PASSED — Engineer of Bridges and Structures

APPROVED — Director of Highways

POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HVB-R-
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	4	4

* 82-3HVB-R-4

SHEET NO. 3
3 SHEETS

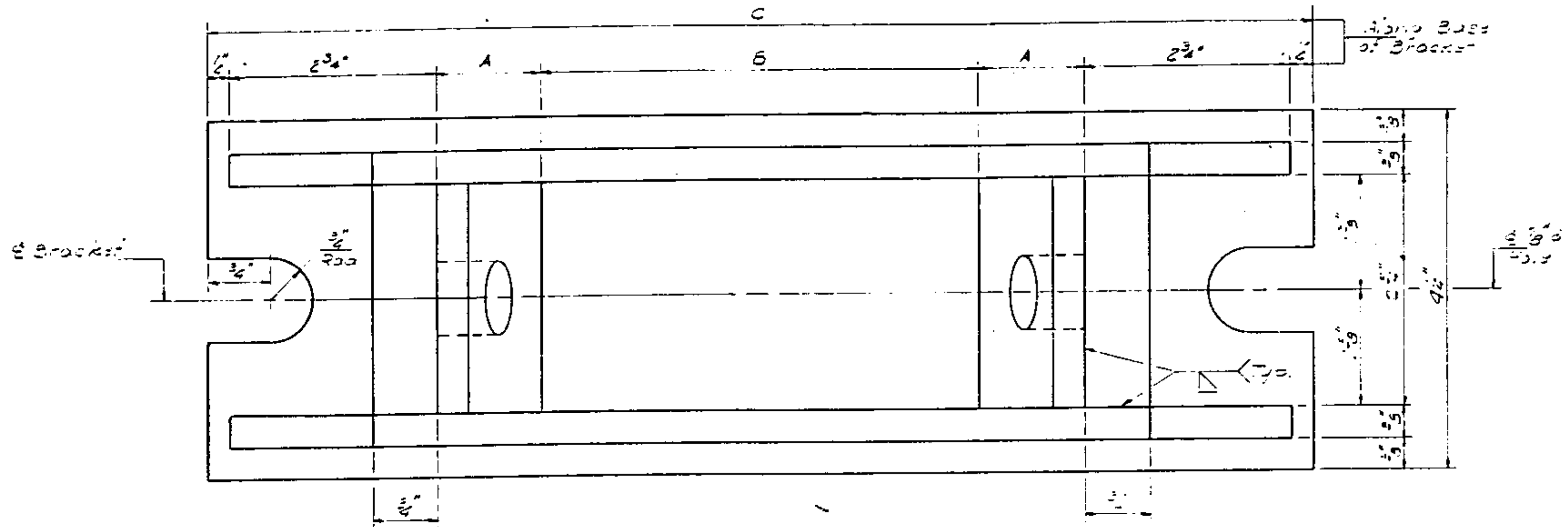
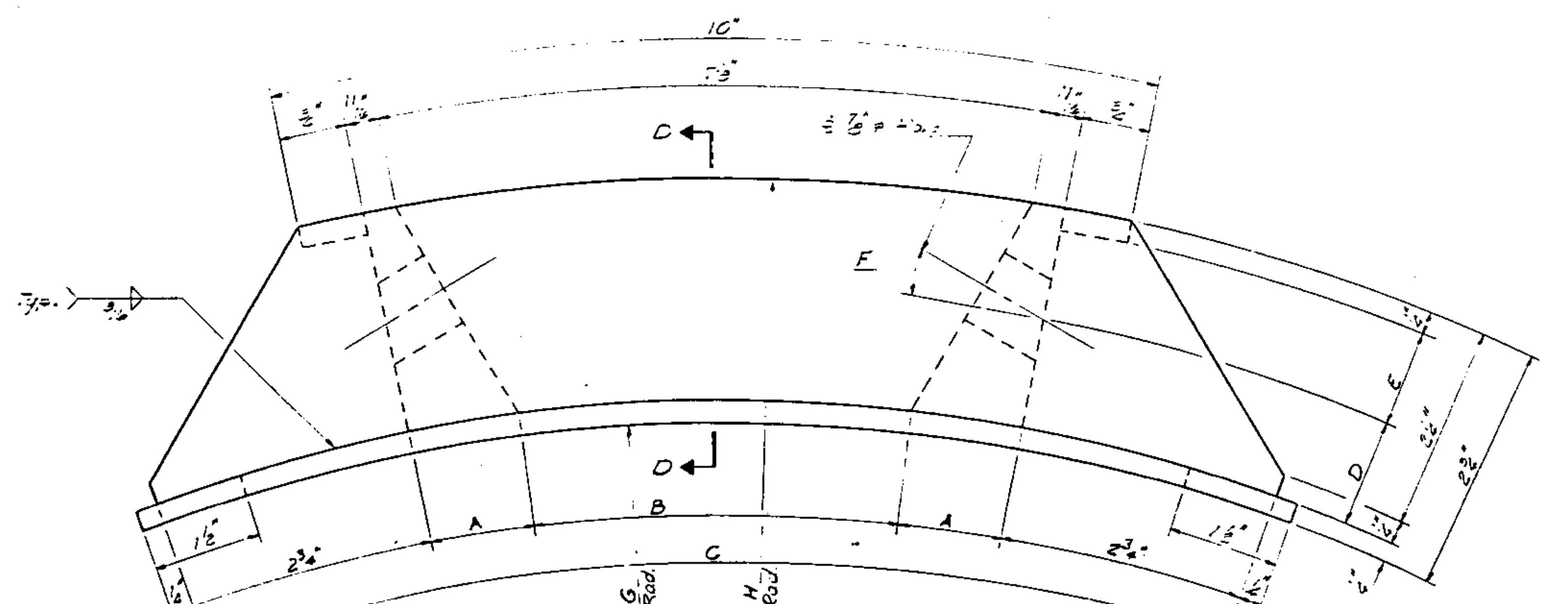
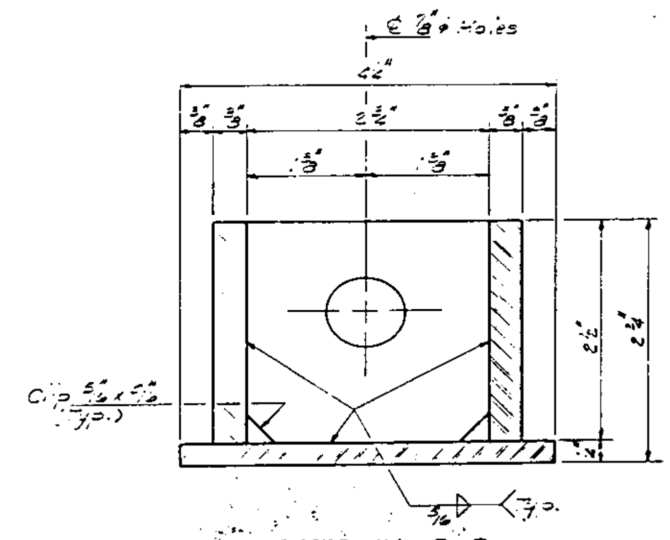


TABLE OF DIMENSIONS

COL. DIA.	A	B	C	D	E	F	G	H
4'-0"	1 7/16"	4¾"	13⅝"	1 3/16"	1 1/16"	16°-40'-30"	24"	26¾"
4'-6"	1⅜"	4 15/16"	13 11/16"	1 3/16"	1 1/16"	15°-50'-23"	27"	29¾"
5'-0"	1⅜"	5"	13¾"	1¼"	1"	15°-28'-01"	30"	32¾"
5'-6	1 5/16"	5¼"	13⅞"	1¼"	1"	14°-46'-31"	33"	35¾"
6'-0"	1 5/16"	5¼"	13⅞"	1¼"	1"	14°-14'-13"	36"	38¾"
6'-6"	1 5/16"	5 5/16"	13 15/16"	1 5/16"	15/16"	13°-48'-10"	39"	41¾"
7'-0"	1¼"	5½"	14"	1 5/16"	15/16"	13°-09'-07"	42"	44¾"



END CONNECTION BRACKET



SECTION D-D

DESIGNED	R F Rotney
CHECKED	Paul S. McCunny
	Collins Sommer
DRAWN	J. SCHNELLER
CHECKED	PSMcC LFR

August 4, 1983
EXAMINED James T. Reyburn
PASSED
APPROVED

END CONNECTION BRACKET
POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HVB-R-4
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

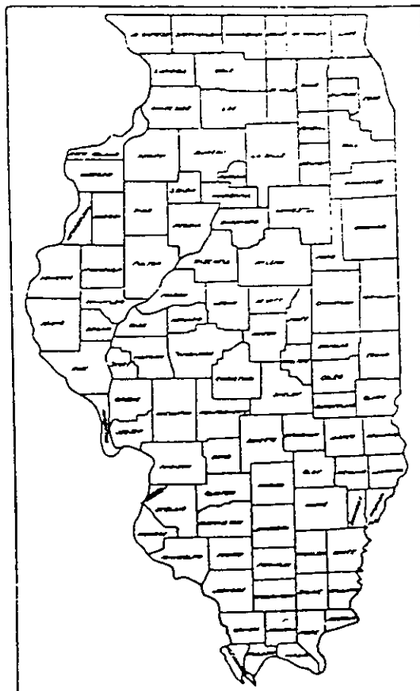
F.A.I. ROUTE 70
SECTION 82-3HVB-R-2

ST. CLAIR COUNTY
BRIDGE REPAIRS

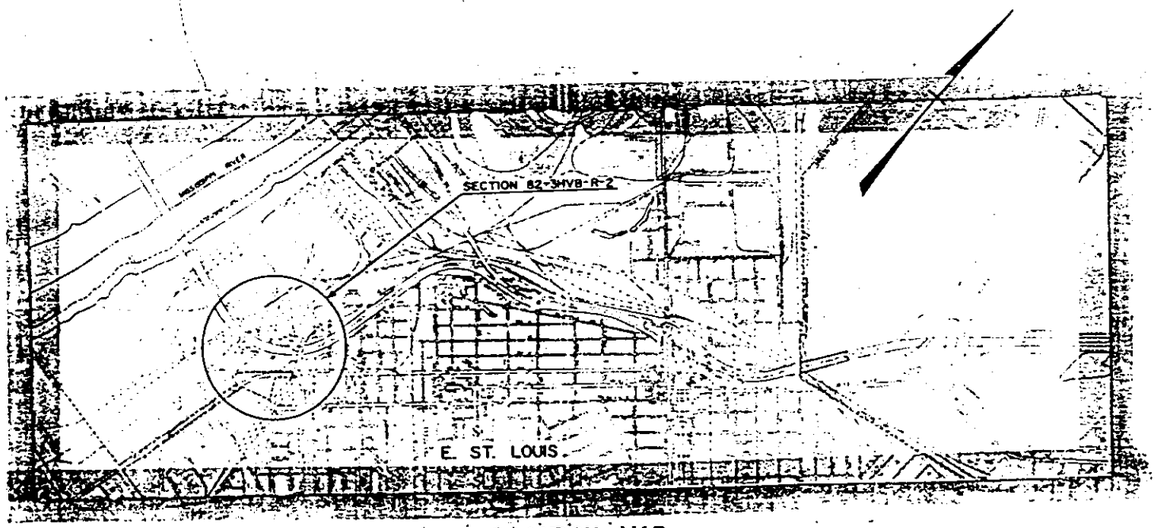
C-98-126-77

INDEX OF SHEETS

P-98-025-76



LOCATION OF SECTION INDICATED THUS:—



LOCATION MAP

0 1600 3200 4800
SCALE: 1 INCH = 1600 FEET

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
2-28 77
March 24 77
March 24 77
March 24 77

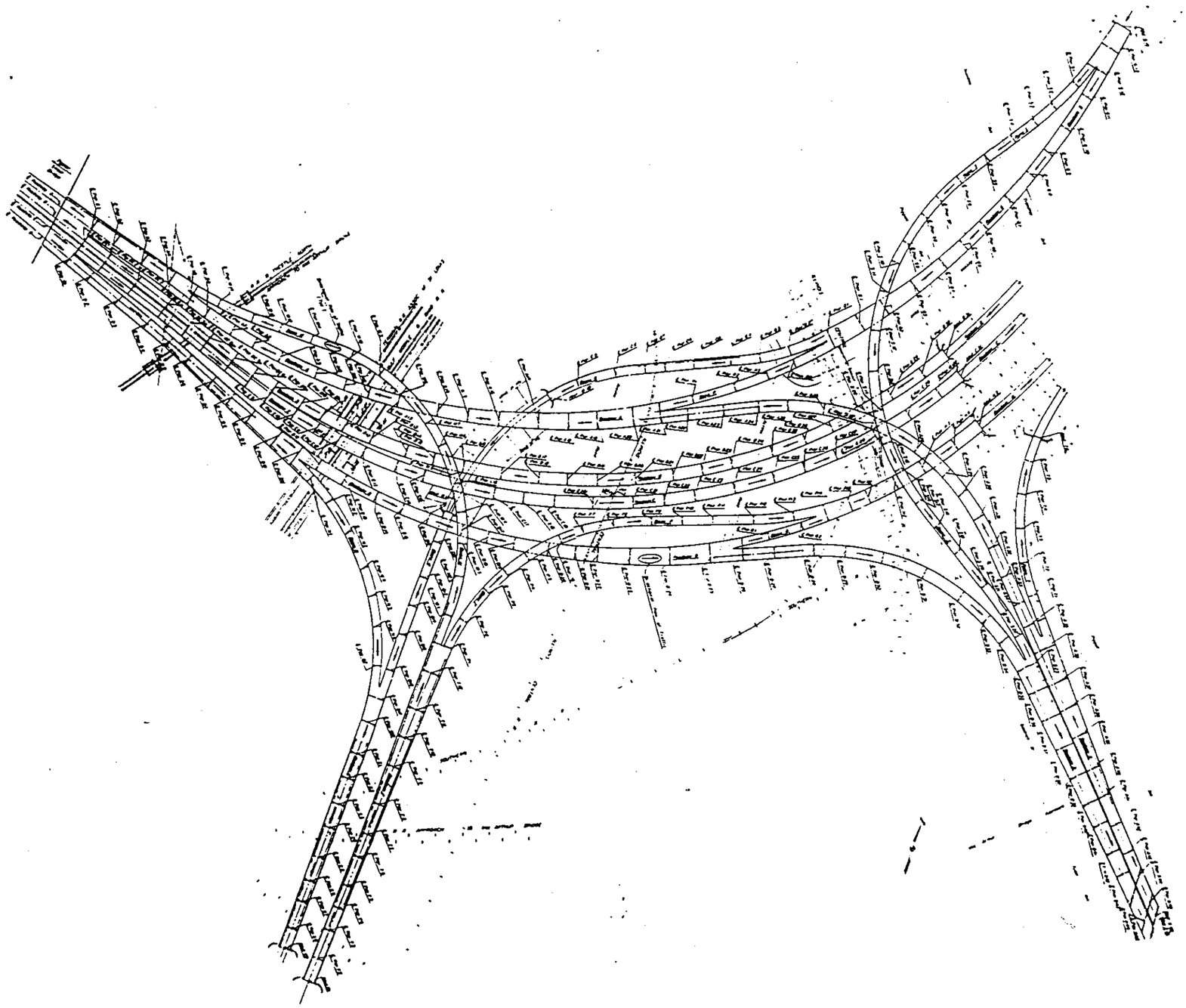
MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

8-112

CONTRACT NO. 32613

ST. CLAIR COUNTY SECTION 82-3HVB-R-2 F.A.I. ROUTE 70

F.A.I.-70	82-3HVB-R-2	ST. CLAIR	4	2



SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	TOTAL QUANTITY
X05384	PIER COLUMN REPAIR	EACH	145
X06105	ABUT REPAIR	EACH	2
X64601	ENGR. FIELD OFFICE TYPE-A	CAL MO.	33

GENERAL PLAN
FAI RTE. 70
SEC. 82-3HVB-R-2
ST. CLAIR CO.

SUMMARY OF QUANTITIES

TABLE OF COLUMNS TO BE REPAIRED CRACKS (LESS THAN 15")

Pier No.		Diameter	Length Of Crack (Inches)	As Built	Method Of Banding
A-3	N	4'-6"	8-12	82-3HVB-1	Method 1
A-4	S	4'-0"	12		Method 2
A-9	S	4'-0"	6		Method 2
A-11	N	4'-0"	11		Method 2
A-17	S	4'-6"	8-10		Method 1
A-21	N	4'-0"	10		Method 1
A-33	N	4'-0"	4	82-3HVB-3	Method 1
A-34	N	4'-3"	3-5		Method 2
A-37	S	4'-6"	12		Method 2
A-38	S	4'-0"	9		Method 2
B-11	N	4'-0"	6	82-3HVB	Method 1
B-13	N	4'-0"	8		Method 1
B-24	N	4'-0"	12		Method 1
B-28	N	4'-0"	10		Method 2
B-29	S	4'-0"	10-12	82-3HVB	Method 1
C-12	N	4'-0"	3-4-7		Method 1
C-14	N	4'-0"	12		Method 2
C-16	S	4'-6"	13		Method 1
C-25	N	4'-0"	8	82-3HVB	Method 1
D-1	S	4'-0"	10	82-3HVB-1	Method 1
D-5	S	4'-0"	9		Method 2
D-9	S	4'-0"	4		Method 2
D-11	S	4'-0"	12-12		Method 2
D-15	S	4'-6"	8	82-3HVB	Method 1
D-17	N	4'-0"	11-12	82-3HVB-1	Method 2
D-18	S	4'-6"	11		Method 1
D-23	N	4'-0"	13		Method 1
D-26	N	4'-0"	9		Method 1
D-26	S	4'-0"	7		Method 2
D-29	N	4'-0"	10	82-3HVB-3	Method 2
D-39	N	4'-0"	4-11	82-3HVB-2	Method 2
E-3	W	4'-0"	7		Method 1
E-5	W	4'-0"	11		Method 1
E-6	W	4'-0"	14		Method 1
E-7	E	4'-0"	14		Method 1
E-8	E	4'-0"	4		Method 1
E-9	W	4'-0"	8		Method 1
E-10	E	4'-6"	9		Method 1
E-11	E	4'-6"	9		Method 1
E-11	W	4'-0"	14	82-3HVB-1	Method 1
G-1	S	4'-0"	13		Method 2
G-6	S	4'-0"	5		Method 2
H-2	S	4'-0"	13		Method 2
H-8	S	4'-0"	11	82-3HVB-2	Method 1
M-1	W	6'-0"	4	82-3HVB	Method 1
M-3	W	4'-0"	12	82-3HVB-1	Method 1
M-12	W	4'-0"	12		Method 1
M-13	W	4'-0"	13	82-3HVB-2	Method 2
N-6	N	4'-0"	10		Method 1
N-6	S	4'-0"	6-7		Method 1
N-7	S	4'-6"	8	82-3HVB-1	Method 1
O-13	S	4'-0"	13		Method 1
O-14	S	4'-0"	5	82-3HVB-2	Method 2
O-16	N	4'-0"	9	82-3HVB-1	Method 1
P-10	E	4'-0"	14		Method 1
Q-1	N	4'-0"	8		Method 1
P-1	N	4'-6"	12		Method 2
P-3	S	4'-0"	10		Method 2
P-4	S	4'-0"	7-7		Method 2
S-1	E	4'-0"	6-10		Method 2
S-4	E	4'-6"	5		Method 1
S-5	E	4'-0"	6		Method 1
S-5	W	6'-0"	7		Method 2
S-6	W	4'-6"	9		Method 2
S-9	W	6'-0"	10	82-3HVB	Method 1
S-10	W	7'-0"	5		Method 1
S-14	E	7'-0"	13	82-3HVB-3	Method 1
S-22	W	4'-0"	6		Method 2
S-23	E	4'-6"	8		Method 1
S-24	W	6'-6"	4		Method 2
T-1	W	4'-0"			

SUBTOTAL 70 EACH

ABUTMENT REPAIR

Abut No.	Total	Remarks
E-1-W	1	See Spec. Prov. & Detail On Sheet #4 In Plans
E-1-E	1	
	2 EACH	

TABLE OF COLUMNS TO BE REPAIRED CRACKS (15" OR LARGER)

Pier No.		Diameter	Length Of Crack (Inches)	As Built	Method Of Banding
A-11	S	4'-0"	30-30-36	82-3HVB-1	Method 2
A-13	S	4'-0"	16		Method 2
A-15	S	4'-0"	15		Method 2
A-18	S	4'-0"	23	82-3HVB-3	Method 1
A-35	S	4'-0"	10-17		Method 2
A-36	S	4'-6"	12-18		Method 2
A-40	S	4'-0"	15		Method 2
A-41	N	4'-0"	15		Method 2
A-45	N	4'-6"	19	82-3HVB	Method 1
B-9	N	4'-0"	18-18		Method 2
B-11	S	4'-0"	18		Method 1
B-12	N	4'-0"	8-24		Method 2
B-12	S	4'-0"	36		Method 2
B-13	S	4'-0"	18		Method 2
B-14	S	4'-0"	22		Method 2
B-15	S	4'-0"	29		Method 1
B-16	N	4'-0"	16		Method 2
B-26	S	4'-6"	17		Method 1
B-27	N	4'-0"	19		Method 2
B-27	S	4'-0"	16		Method 1
B-28	N	4'-0"	28-36-39		Method 1
B-30	N	4'-0"	24	82-3HVB	Method 1
C-5	S	4'-0"	10-15-15		Method 1
C-11	N	4'-0"	10-24		Method 1
C-13	N	4'-0"	21		Method 2
C-13	S	4'-0"	22		Method 1
C-15	N	4'-0"	18		Method 1
C-16	N	4'-0"	17	82-3HVB-1	Method 2
D-8	S	4'-0"	21		Method 2
D-12	N	4'-0"	6-18		Method 2
D-13	S	4'-0"	12-19		Method 2
D-22	S	4'-0"	25		Method 2
D-25	N	4'-6"	18		Method 2
D-27	N	4'-0"	24-38		Method 2
D-28	N	4'-0"	36		Method 2
D-30	N	4'-0"	2-16		Method 2
D-31	N	4'-6"	7-18-23	82-3HVB-3	Method 2
D-37	N	4'-6"	18		Method 2
D-40	N	4'-0"	17		Method 2
D-40	S	4'-0"	9-20		Method 2
D-44	S	4'-6"	16	82-3HVB-2	Method 1
E-6	E	4'-0"			
E-4	W	4'-0"	12-17		Method 1
E-9	W	4'-0"	18		Method 2
E-10	W	4'-0"	21		Method 1
E-12	W	5'-0"	18-24		Method 1
G-2	S	5'-0"	20	82-3HVB	Method 2
G-5	S	4'-0"	16	82-3HVB-1	Method 2
G-7	N	4'-0"	33		Method 1
G-7	S	4'-0"	19		Method 2
G-13	N	4'-0"	22-24		Method 2
H-1	N	4'-0"	12-18		Method 2
H-1	S	4'-0"	18		Method 2
H-2	N	4'-0"	15-19		Method 2
M-9	E	4'-0"	26		Method 2
M-10	E	4'-0"			Re-bar exposed (Pier #)
N-2	S	4'-0"	16		Method 1
O-3	N	4'-0"	33	82-3HVB-1	Method 1
O-7	S	4'-0"	16		Method 1
O-17	N	4'-0"	8-15-25	82-3HVB-2	Method 1
O-17	S	4'-0"	16		Method 1
O-18	N	4'-6"	23-30		Method 1
P-1	W	4'-6"	9-40		Method 1
P-10	W	4'-0"	17	82-3HVB-1	Method 1
P-14	E	4'-0"	18		Method 2
P-15	E	4'-6"	24		Method 2
P-15	W	4'-6"	21-30		Method 2
S-2	E	4'-0"	15		Method 1
S-3	E	4'-0"	20		Method 2
S-3	W	4'-0"	21		Method 2
S-8	E	5'-6"	9-24		Method 2
S-16	E	7'-0"	5-33		Method 1
S-17	E	6'-6"	6-36-60		Method 1
S-18	E	6'-0"	22-23		Method 2
S-18	W	6'-0"	14-65		Method 1
T-2	W	4'-6"	27	82-3HVB-3	

SUBTOTAL 75 EACH

TOTAL COLUMNS TO BE REPAIRED EACH 145

F.A.I. 70	6	St. Clair	4	3

6 82-3HVB-R-2

GENERAL NOTES

1. For details of method 1&2 see Sheet #4
2. See Special Provisions for treatment of cracks in Pier Columns.
3. It will be the responsibility of the contractor to verify the Dia. of all pier columns prior to the fabrication of the bands.
4. Steel bands shall receive one shop coat of red lead paint and two field coats of Alum. Paint.

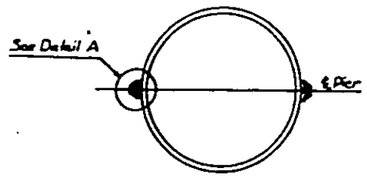
* See Spec. Prov for work involved and unit of Pay

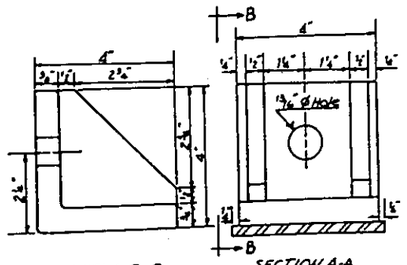
SCHEDULE OF REPAIRS PIER COLUMNS & ABUT'S F.A.I. ROUTE 70 SEC. 82-3HVB-R-2

FAI-70	82-3HVB-R-2	ST CLAIR	4	4

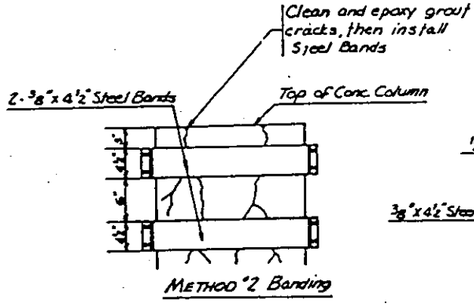
REPAIR OF CRACKED PIER COLUMNS

See table - Taole A&B for pier columns that need to be repaired. See Sheet #3

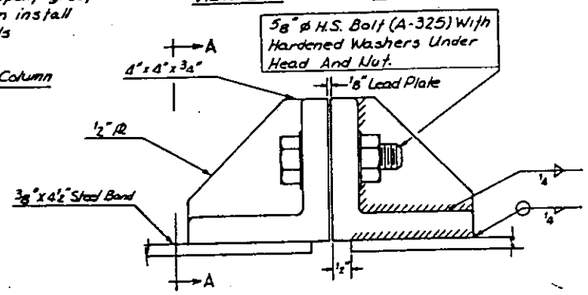




VIEW B-B SECTION A-A

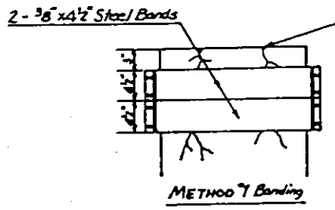


METHOD "2 Banding



DETAIL "A"

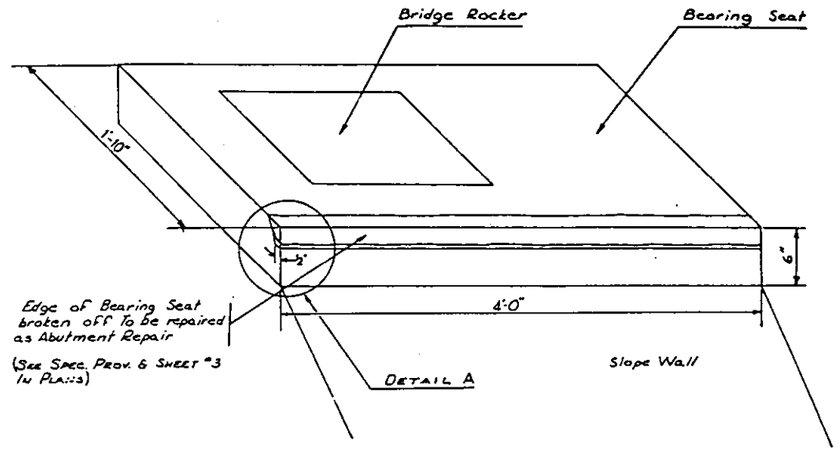
Cracks On Top of Columns to be Vee'd by use of a chipping hammer or other suitable method approved by the Engineer



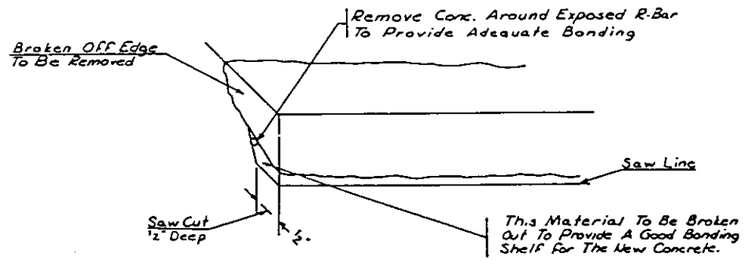
METHOD "1 Banding

Top of Conc. Column to be cleaned by use of a small air chipping hammer or other suitable method approved by the Engineer to remove all laitents & unsound conc. area to be final cleaned by compressed air.

No Scale

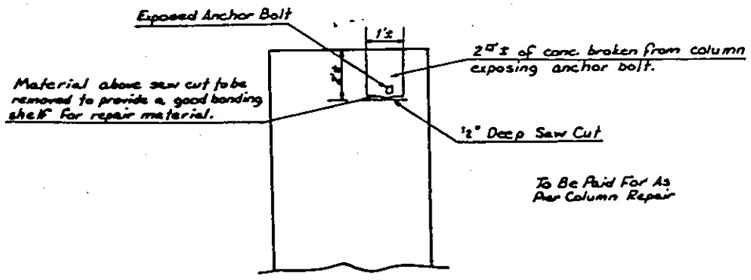


ABUTMENT REPAIR DETAIL
ABUT. NO. F-1-W & F-1-E

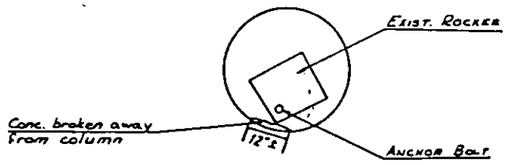


DETAIL A

No Scale



PIER COLUMN No. M-10-E



TOP VIEW OF PIER COLUMN
M-10-E

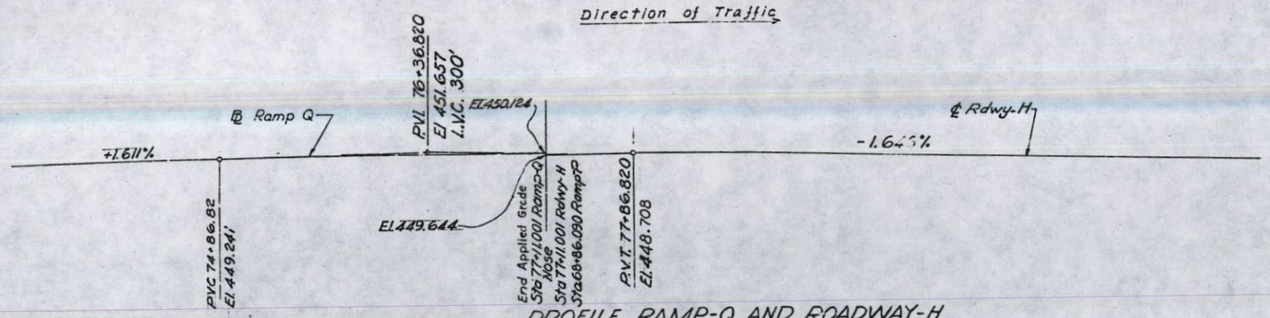
No Scale

GENERAL PLAN
FAI RTE. 70
SEC. 82-3HVB-R-2
ST. CLAIR CO.

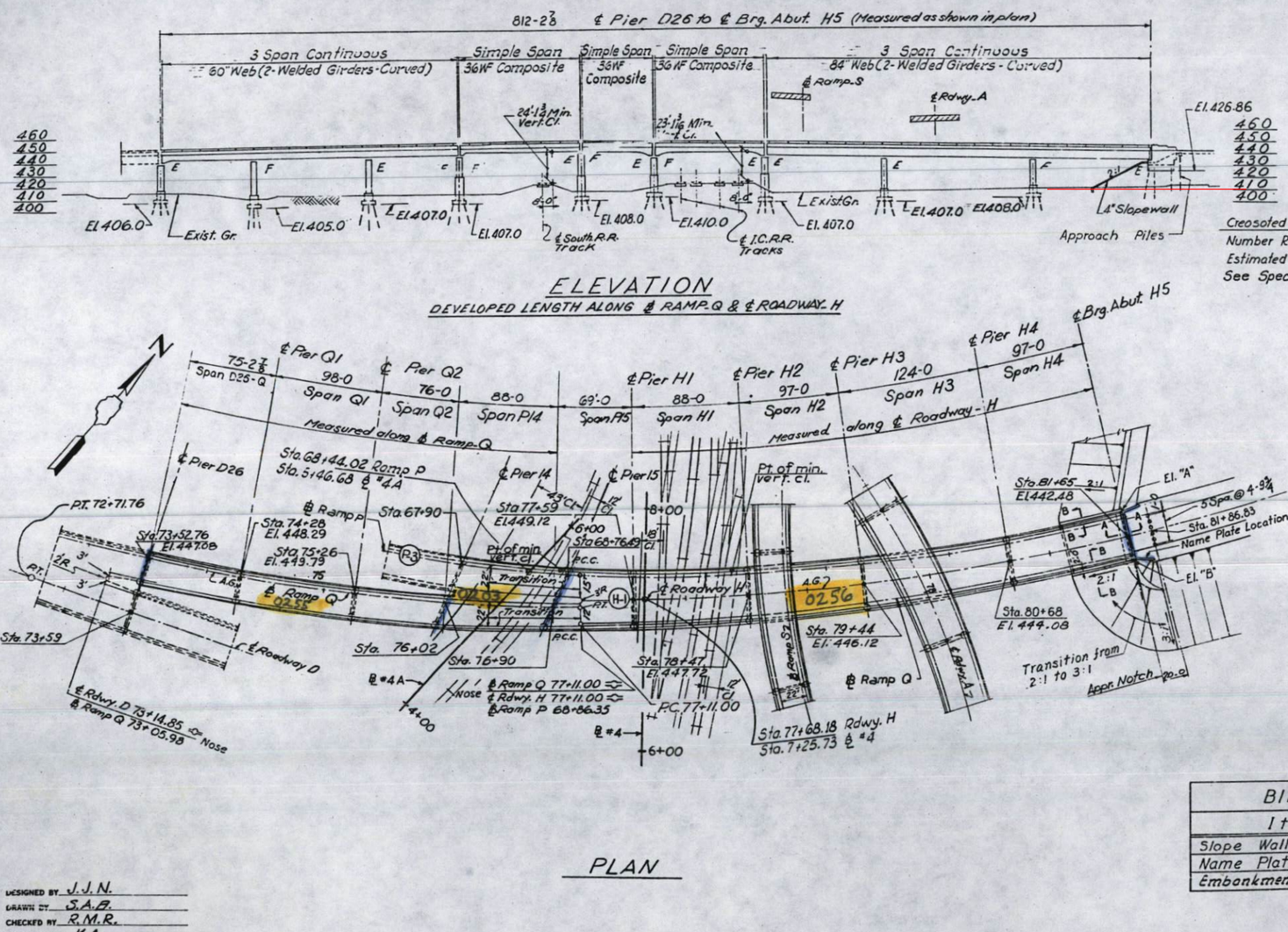
DETAILS OF CONSTRUCTION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-1	ST. CLAIR	-	
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF&E-1 33
82-3HVD-1 68 of 258



PROFILE RAMP-Q AND ROADWAY-H

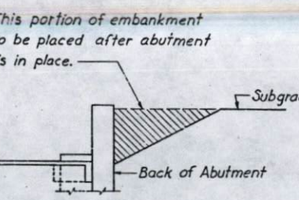


ELEVATION

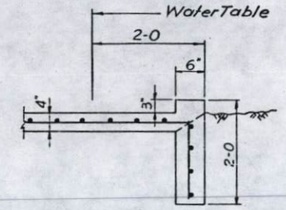
DEVELOPED LENGTH ALONG ℄ RAMP-Q & ℄ ROADWAY-H

Creosoted Approach Piles
Number Required - 6
Estimated Length - 25'
See Special Provisions

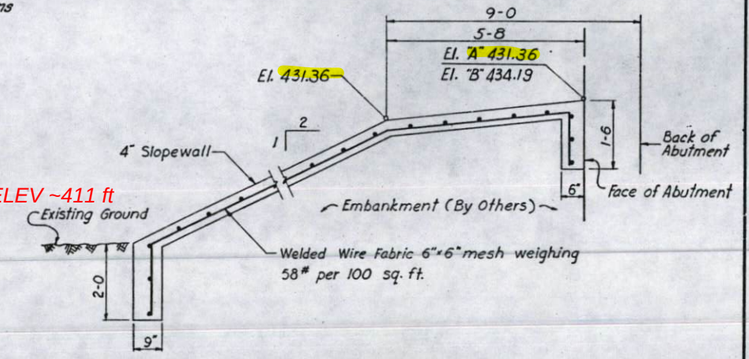
PLAN



SECTION A-A



SECTION B-B



TYPICAL CROSS SECTION OF SLOPE WALL

BILL OF MATERIAL

Item	Unit	Quantity
Slope Wall 4"	S.Y.	282
Name Plate	Ea.	1
Embankment	C.Y.	100

DESIGNED BY J.J.N.
DRAWN BY S.A.B.
CHECKED BY R.M.R.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
PLAN AND ELEVATION
SPANS D26-Q, Q1, Q2, P14, P15, H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "Q"
SECTIONS 82-3HVB-1, 82-3HVF&E-1, 82-3HVD-1
F.A.I. RT. 70 ST. CLAIR CO.
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS
SHEET 15 OF 526

Ramp P - SN 082-0203
Ramp Q - SN 082-0255
Rdwy H - SN 082-0256

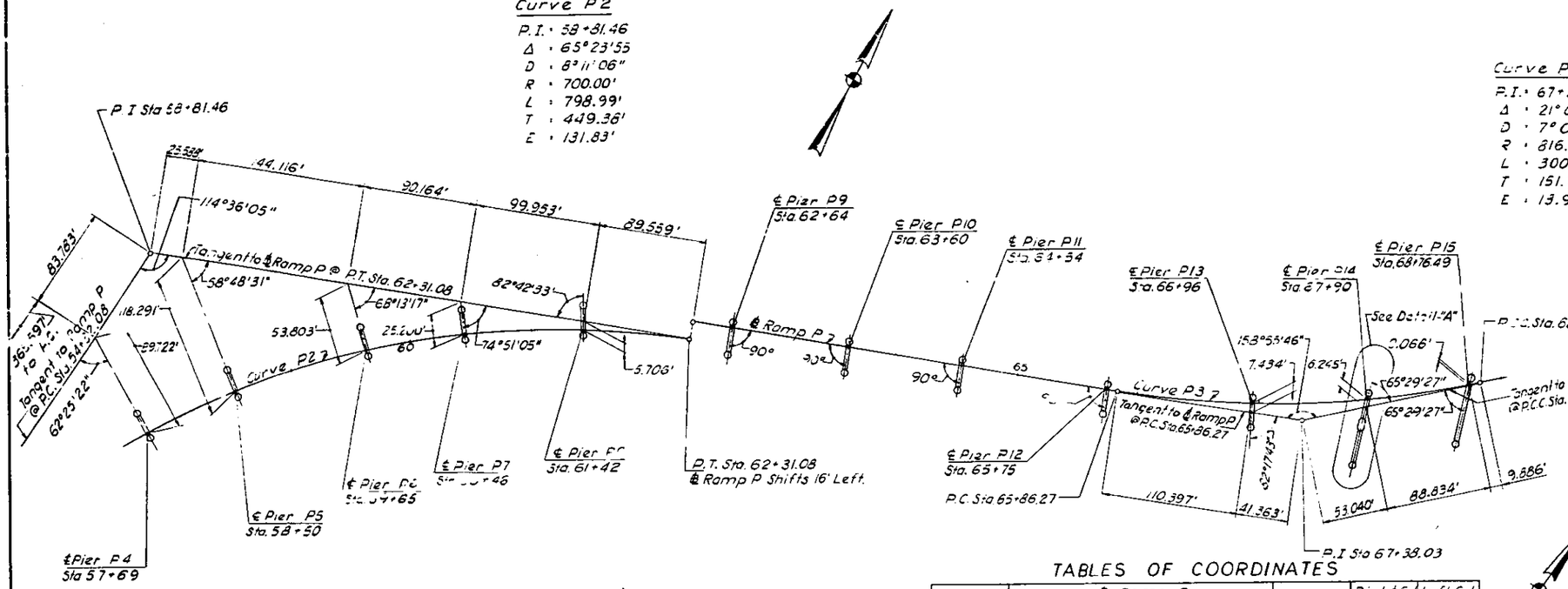
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-1	ST.CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVFBE-1
82-3HVD-1

49
84 of 258

Curve P2

P.I. = 58+81.46
Δ = 65°23'55"
D = 8°11'06"
R = 700.00'
L = 798.99'
T = 449.36'
E = 131.83'



Curve P3

P.I. = 67+38.03
Δ = 21°04'14"
D = 7°01'18"
R = 816.00'
L = 300.08'
T = 151.76'
E = 13.99'

Curve Q1

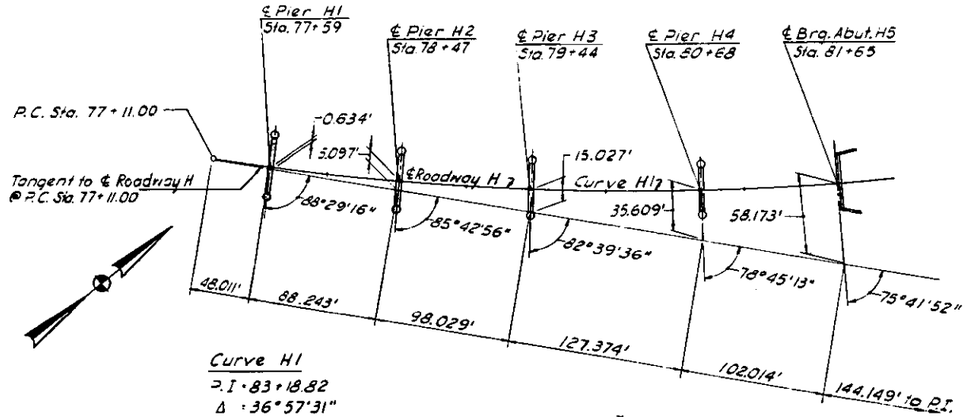
P.I. = 71+34.70
Δ = 38°09'55"
D = 3°10'59"
R = 1,800.00'
L = 1,199.00'
T = 622.70'
E = 104.67'

TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
P4	57+69	8704.826	32408.504	122°10'24"	4-0	20-0
P5	58+50	8770.742	32455.501	128°48'12"	4-0	20-0
P6	59+65	8854.053	32534.587	138°12'58"	4-0	20-0
P7	60+46	8904.414	32597.970	144°50'46"	4-0	20-0
P8	61+42	8954.141	32679.999	152°42'14"	4-0	20-0
P9	62+64	9016.149	32787.002	159°59'41"	20-0	4-0
P10	63+60	9048.991	32877.210	159°59'41"	20-0	4-0
P11	64+54	9081.149	32965.538	159°59'41"	20-0	4-0
P12	65+75	9122.544	33079.237	159°59'41"	20-0	4-0
P13	66+96	9170.748	33190.105	152°17'24"	20-0	4-0
P14	67+90	9219.149	33270.626	163°26'00"	52-0	4-3
P15	68+76.49	9271.595	33339.354	163°26'00"	45-4	3-4

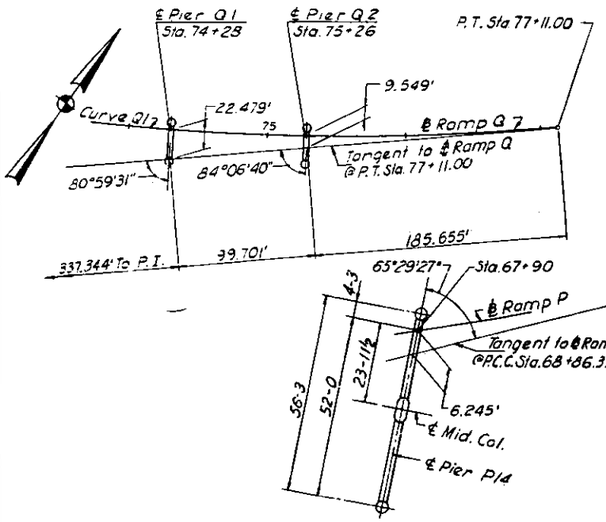
Pier No.	℄ Roadway H Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
H1	77+39	9296.990	33393.945	136°34'31"	21-4	21-4
H2	78+47	9359.004	33456.369	133°48'11"	20-2	20-2
H3	79+44	9430.767	33521.613	130°44'51"	19-0½	19-0½
H4	80+68	9527.394	33599.287	126°50'28"	17-10½	17-10½
℄ Brg Abut. H5	81+65	9606.537	33655.351	123°47'07"	17-1 15/16	17-2

Pier No.	℄ Ramp Q Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
Q1	74+28	9088.251	33133.091	147°05'44"	20-0	4-0
Q2	75+26	9143.701	33218.886	143°58'35"	20-0	4-0



Curve H1

P.I. = 83+18.82
Δ = 36°57'31"
D = 3°09'01"
R = 1,818.76'
L = 1,173.19'
T = 607.32'
E = 98.88'



DETAIL - "A"

DESIGNED BY R.M.R.
DRAWN BY I.M.
CHECKED BY S.Q.B.
APPROVED BY K.A.

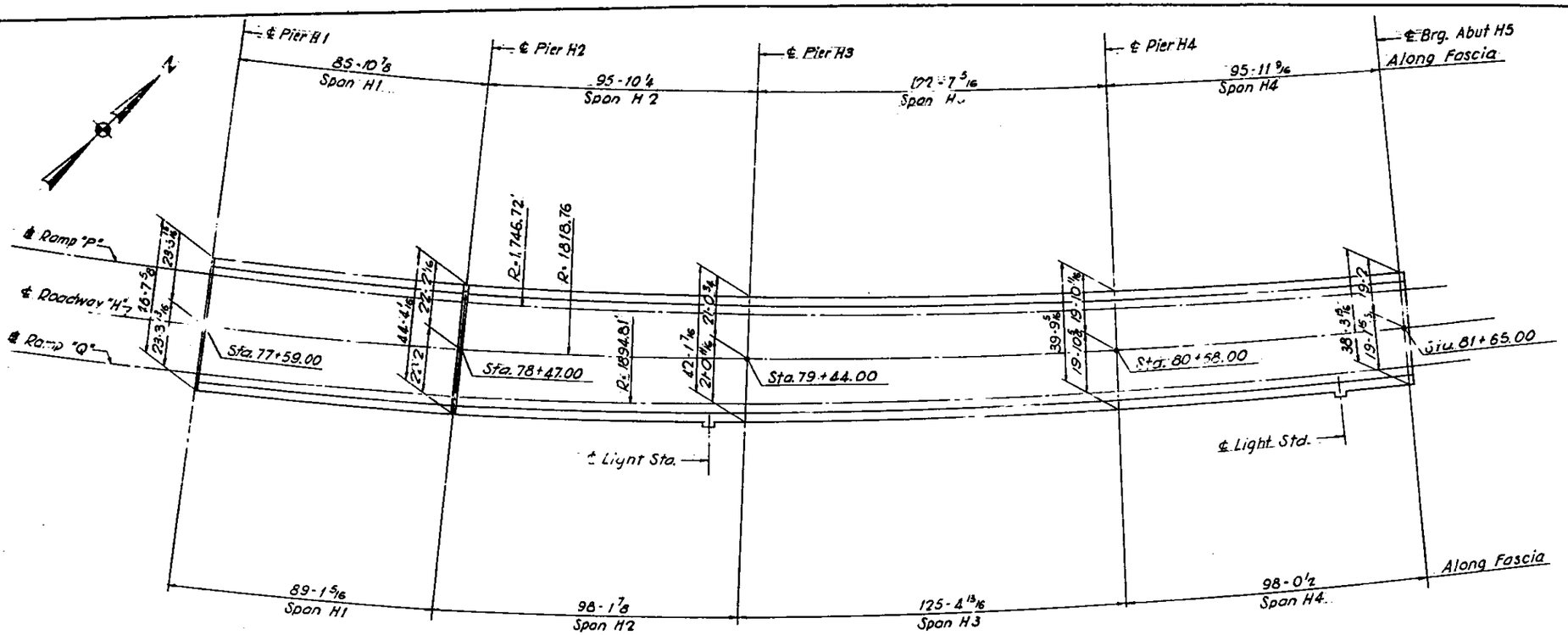
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
GEOMETRIC LAYOUT
PIERS P4 THRU P15, Q1 & Q2, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"
SECTIONS 82-3HVB-1, 82-3HVFBE-1, 82-3HVD-1
F.A.I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

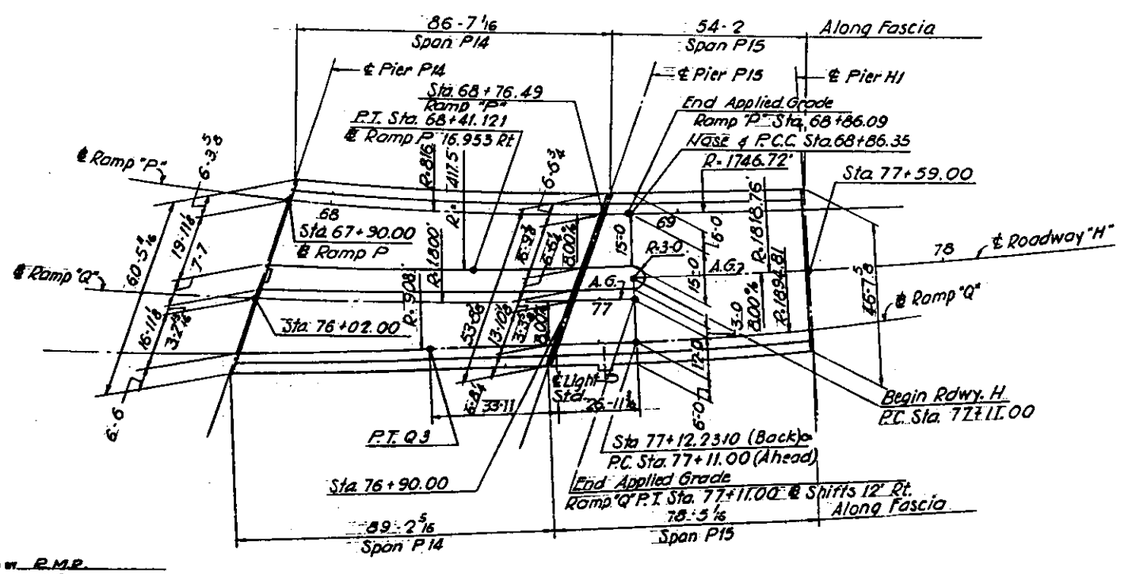
SHEET 31 OF 526

P - 082-0203
Q - 082-0255
H - 082-0256

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.–70	82–3HVD–1	ST. CLAIR	258	116
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
Spans H1 thru H4



PLAN
Spans P14 & P15

CURVE DATA Q3
P.I. 76+07.7806504
Δ = 5° 30' 24.738"
R = 908.00'
Dc = 6° 18' 36.368
L = 87.2706422'
T = 43.6689430
E = 1.0482769

DESIGNED BY R.M.P.
DRAWN BY K.R.
CHECKED BY M.J.F.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

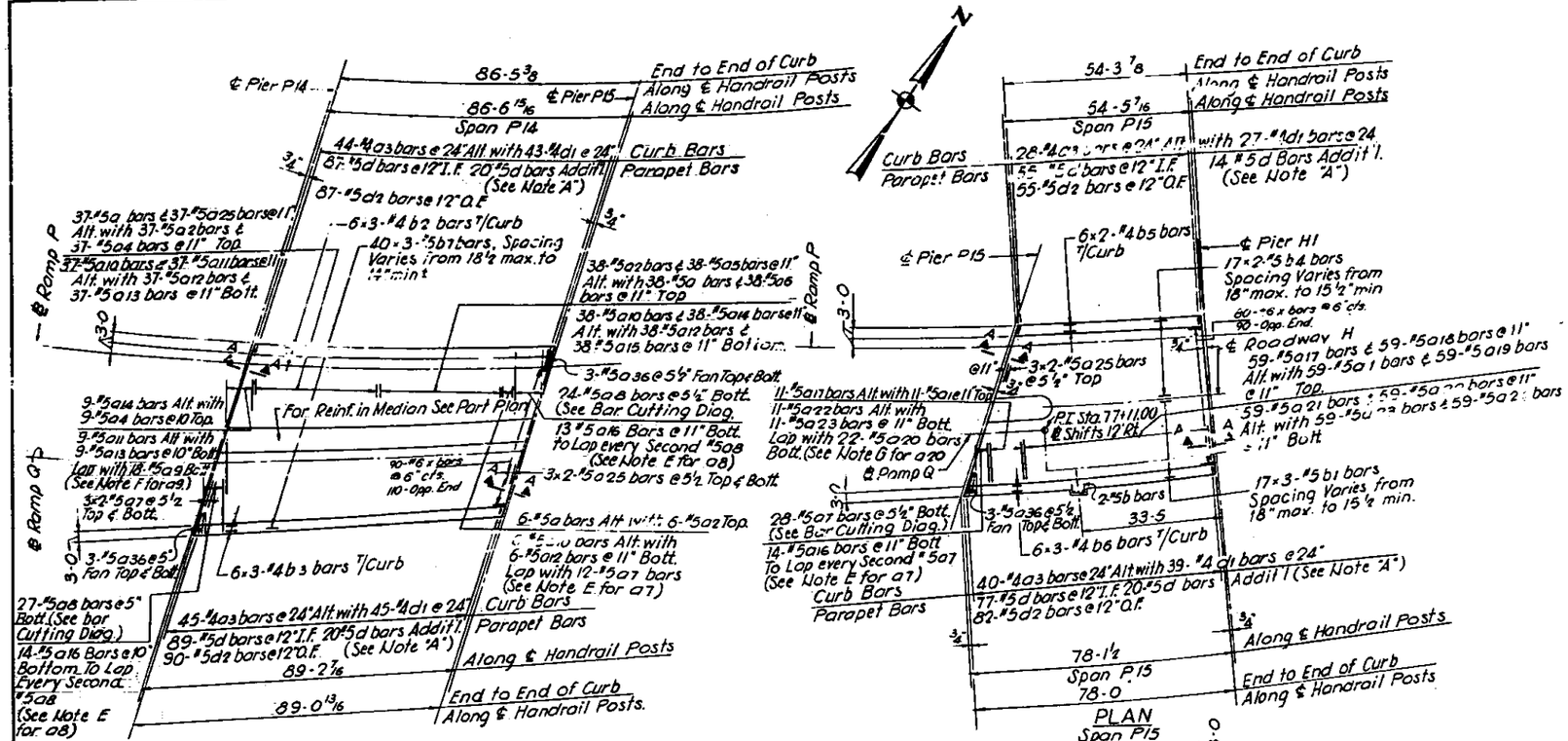
SLAB
DIMEMENSION PLAN— SPANS H1 THRU H4; P14 & P15
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82–3HVD–1

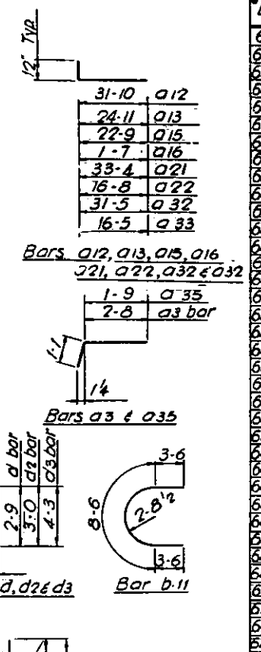
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 63 OF 128

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	117
FED. ROAD DIV. NO. 4	ILLINOIS.	PROJECT		



Note:
For Cross Section see Sheet No. 65
For Notes & Misc. Details See Sheet No. 35
For Section "A-A" See Sheet No. 362



BILL OF MATERIAL

*Bar	NO P14	NO P15	NO H1	Size	Length	Shape
64 a	81			#5	28-9	
64 a1		70		#5	27-10	
64 a2	81			#5	35-6	
64 a3	69	28	85	#4	3-9	
64 a4	46			#5	21-3	
64 a5	38			#5	19-3	
64 a6	38			#5	26-0	
64 a7	24	28		#5	30-6	
64 a8	51			#5	33-6	
64 a9	18			#5	35-11	
64 a10	81			#5	24-6	
64 a11	46			#5	33-0	
64 a12	81			#5	32-10	
64 a13	46			#5	25-11	
64 a14	47			#5	30-0	
64 a15	38			#5	23-9	
64 a16	27	14		#5	2-7	
64 a17		70		#5	20-5	
64 a18		59		#5	29-7	
64 a19		59		#5	22-2	
64 a20		22		#5	35-10	
64 a21		59		#5	34-4	
64 a22		70		#5	17-8	
64 a23		70		#5	24-2	
64 a24		59		#5	25-10	
64 a25	49	12		#5	28-0	
64 a26			97	#5	27-9	
64 a27			97	#5	20-0	
64 a28			97	#5	20-8	
64 a29			97	#5	27-3	
64 a30			97	#5	24-4	
64 a31			97	#5	23-8	
64 a32			97	#5	32-7	
64 a33			97	#5	17-3	
64 a34	89	20		#4	5-6	
64 a35	178	37		#4	2-10	
64 a36	12	6		#5	5-0	
64 b		2		#5	3-8	
64 b1		150		#5	26-9	
64 b2	18			#4	29-3	
64 b3	18		18	#4	30-3	
64 b4		104		#5	33-10	
64 b5		12		#4	27-6	
64 b6		18		#4	26-8	
64 b7	342		285	#5	30-4	
64 b8			18	#4	29-6	
64 b9	22			#4	31-0	
64 b10		7		#4	16-0	
64 b11		1		#4	15-6	
64 x	200	170	150	#6	6-9	
64 c	216	166	216	#5	3-3	
64 d1	88	66	89	#4	1-1	
64 d2	177	137	176	#5	3-6	
64 d3	8			#5	4-9	

*See Note "X" Sh. No. 35

ITEM	UNIT	TOTAL P14	TOTAL P15	TOTAL H1
Class "X" Concrete	Cu. Yds.	140.9	90.1	109.7
Reinforcement Bars	Lbs.	34030	26720	32060
Protective Coat	Sq. Yds.	488	384	488
3/4 ø Stud Shear Connectors	Each	3465	2427	3069

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

SLAB
SPANS P14, P15 AND H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMPS "P" & "Q"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

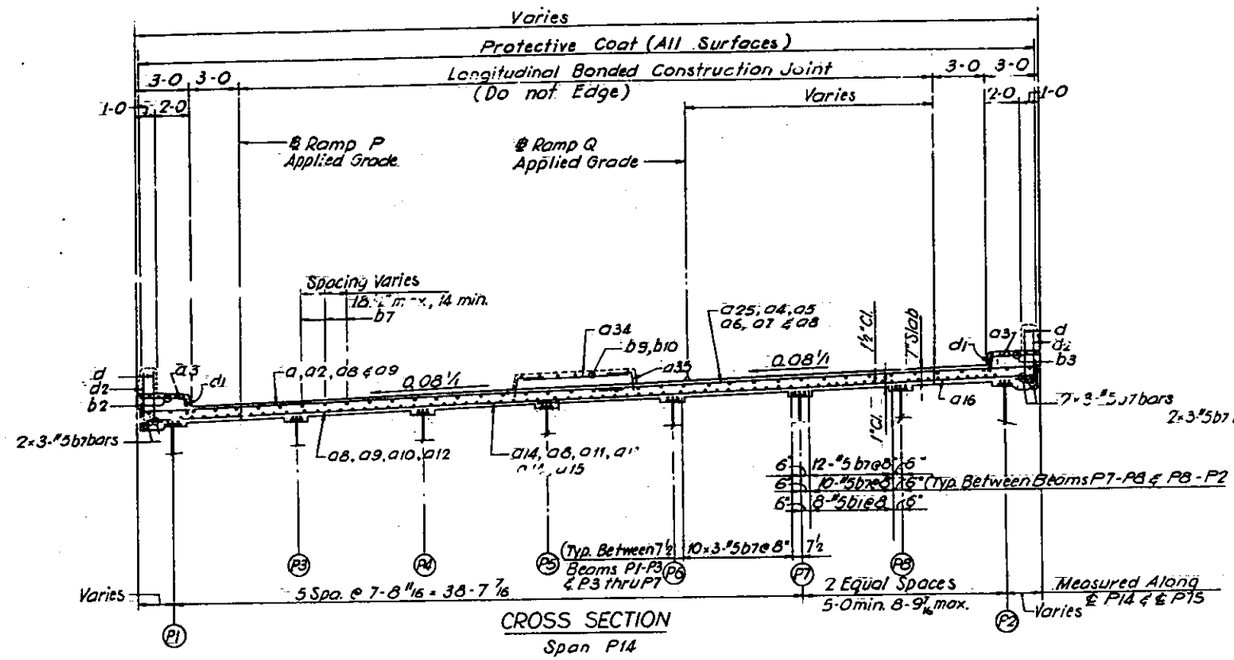
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

SHEET 64 of 258

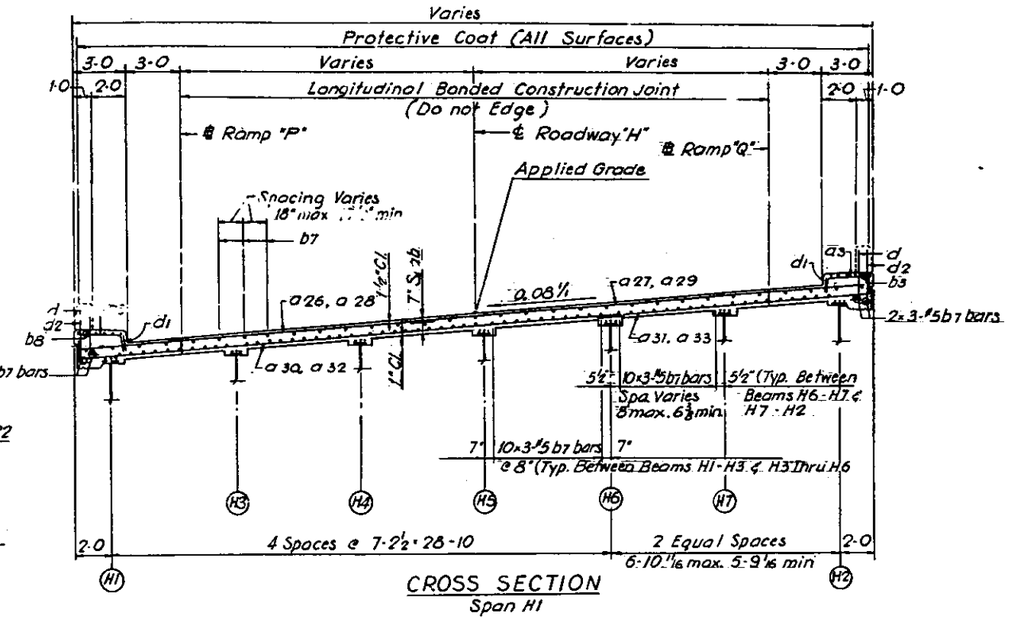
DESIGNED BY R.M.G.
DRAWN BY K.R.
CHECKED BY W.J.K.
APPROVED BY K.B.

H1 Rev. Reinf. from 30,990# to 32,060# Added bars 64x. 6-3-66 N.A.F.
Added shear conn. in B. of M.
P14 Rev. Reinf. from 37,600# to 37,030# Added bars 64x
P15 Rev. Reinf. from 25,510# to 26,720# Added bars 64x

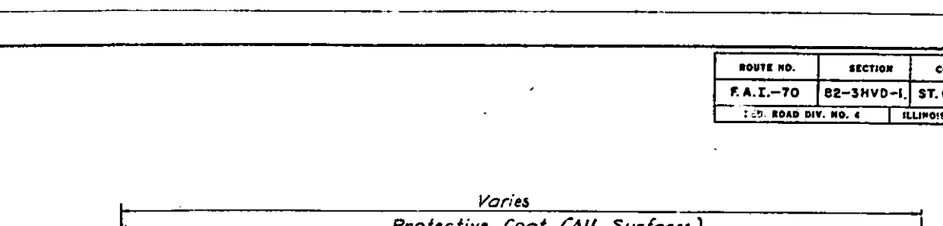
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	118
U.S. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



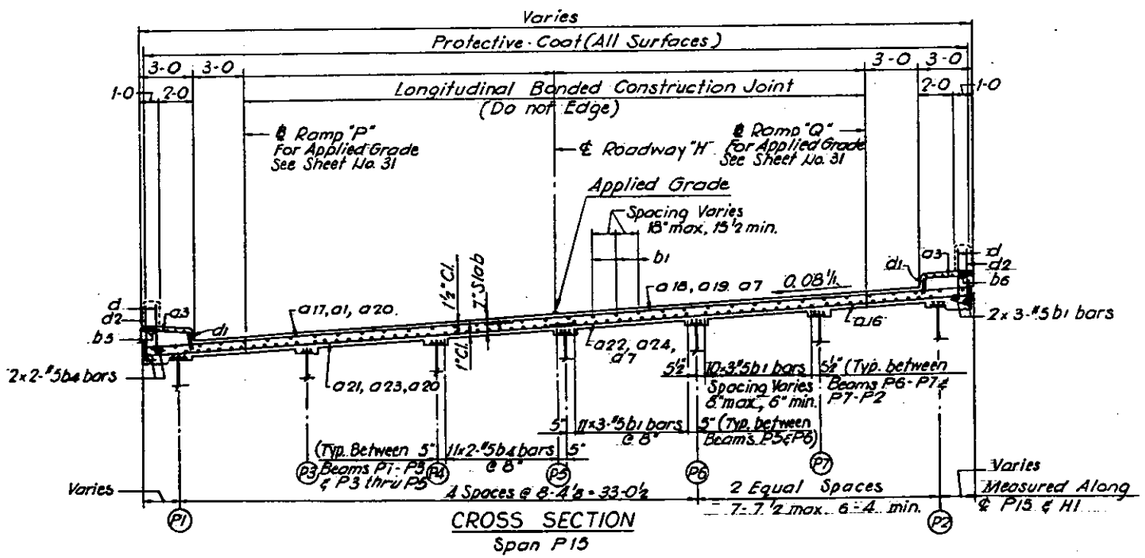
CROSS SECTION
Span P14



CROSS SECTION
Span H1



DEAD LOAD DEFLECTION DIAGRAMS
(Weight of Concrete Only)



CROSS SECTION
Span P15

Note:
For Notes & Location of Section See Sheet No. 64

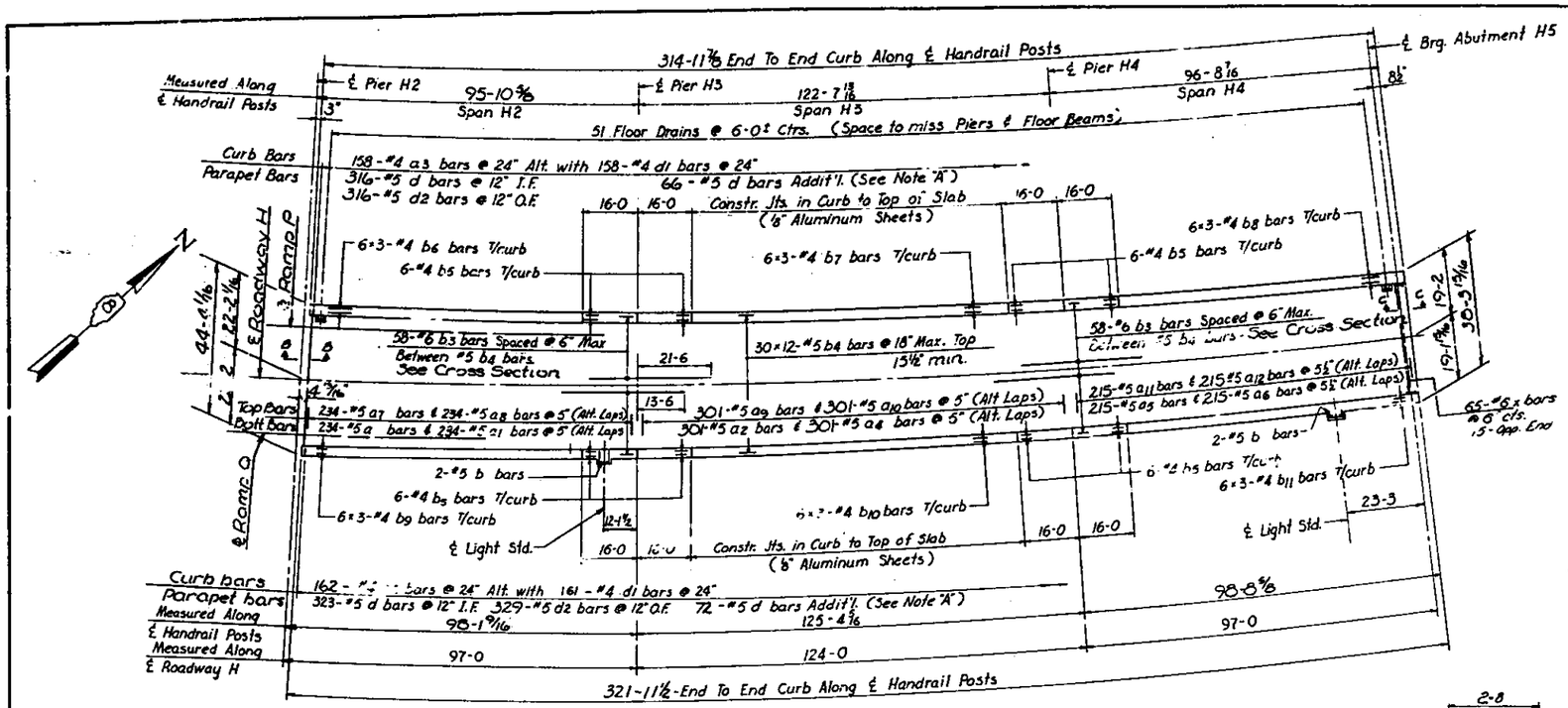
DESIGNED BY R.M.P.
DRAWN BY V.R.
CHECKED BY W.J.F.
APPROVED BY K.B.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
SLAB
SPANS P14, P15 AND H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMPS "P" & "Q"
F.A.I.RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

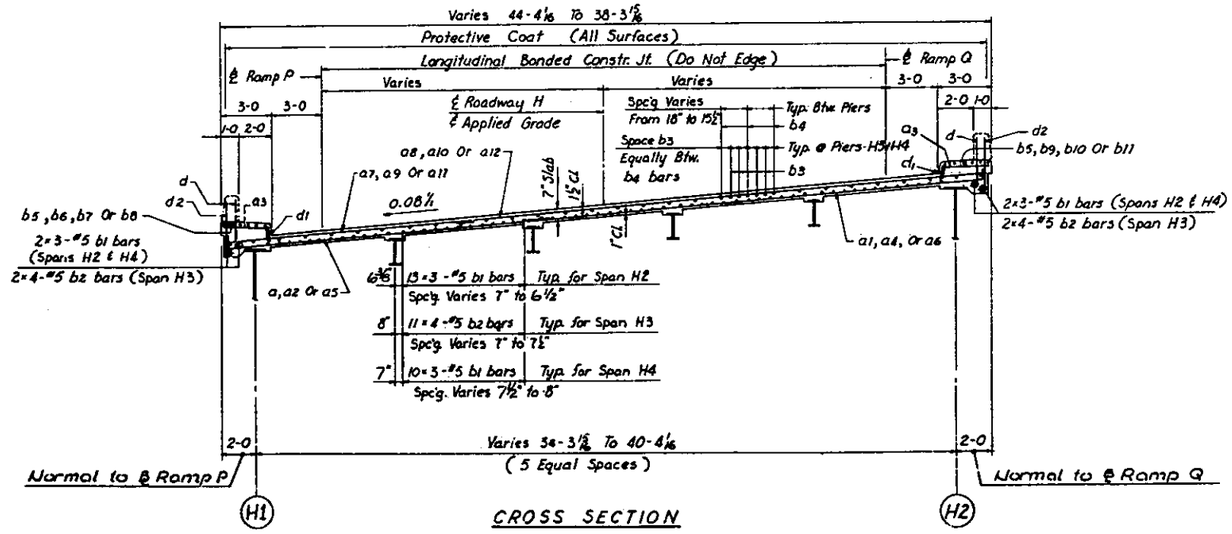
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 65 OF 525

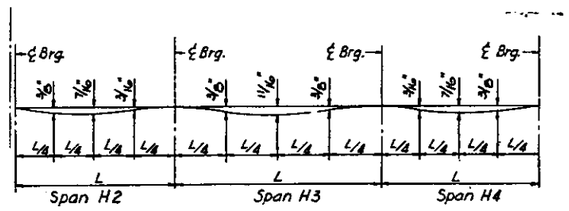
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82—3HVD—1	ST. CLAIR	258	119
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



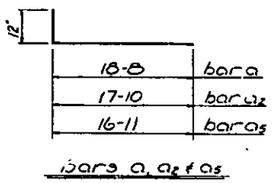
PLAN
SPANS H2 THRU H4

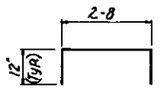


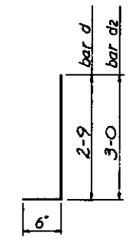
CROSS SECTION

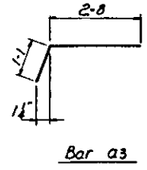


DEAD LOAD DEFLECTION DIAGRAM
FASCIA GIRDERS (Wt Of Concrete Only)









BILL OF MATERIAL

•BAR	NO.	SIZE	LENGTH	SHAPE
66a	234	#5	19-8	
66a1	234	#5	26-9	
66a2	301	#5	18-10	
66a3	320	#4	3-9	
66a4	301	#5	25-3	
66a5	215	#5	17-11	
66a6	215	#5	24-0	
66a7	234	#5	14-4	
66a8	234	#5	30-7	
66a9	301	#5	14-0	
66a10	301	#5	29-3	
66a11	215	#5	15-3	
66a12	215	#5	27-8	
66b	4	#5	3-8	
66b1	369	#5	33-7	
66b2	236	#5	32-3	
66b3	116	#6	35-0	
66b4	360	#5	27-9	
66b5	24	#4	15-9	
66b6	18	#4	27-2	
66b7	18	#4	30-11	
66b8	18	#4	27-6	
66b9	18	#4	27-11	
66b10	18	#4	31-7	
66b11	18	#4	28-2	
66d	777	#5	3-3	
66d1	319	#4	1-1	
66d2	645	#5	3-6	
66x	140	#6	4-9	

• See Note X Sh. No 35

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	368.3
Reinforcement Bars	Lbs.	114,790
Protective Coat	Sq. Yds.	1602

Note:
For Notes & Misc. Details See Sh. No 35
For Section B-B & CC, See Sh. No 362 & 363

DESIGNED BY R.M.P.
DRAWN BY D.F.
CHECKED BY W.J.F.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

SLAB
SPANS H2 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

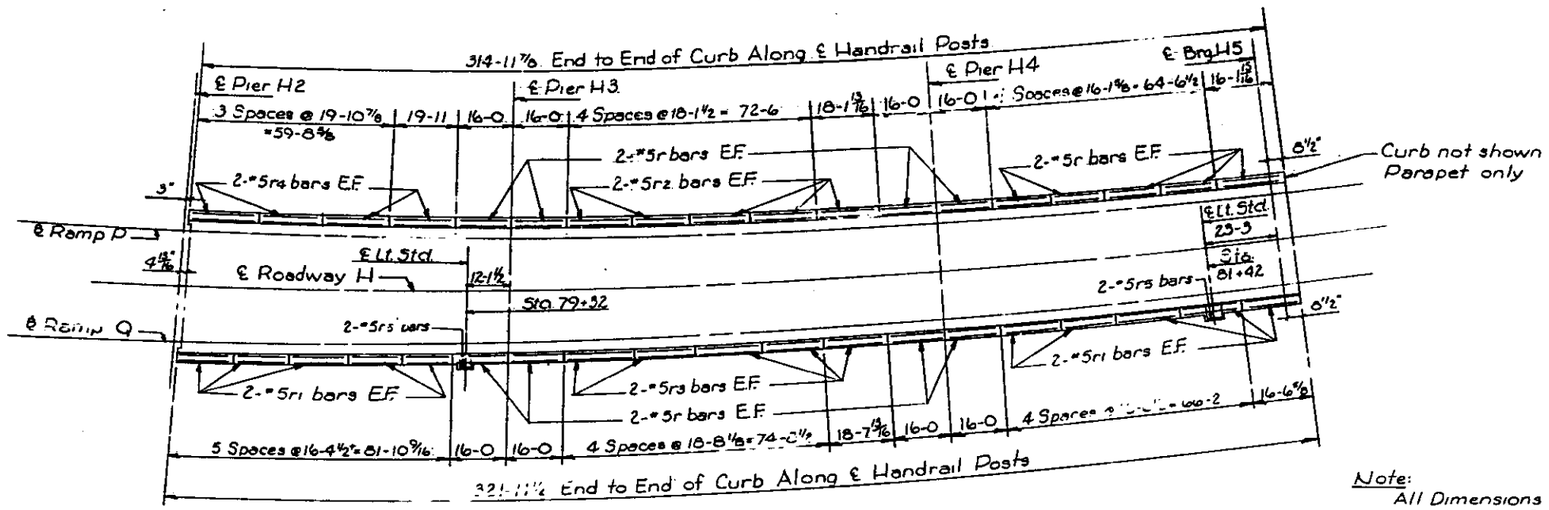
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 66 OF 526

Rev. Reinf. from 113,790# to 114,790# Added bars 66x. 6-3-66 N.R.F.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	160
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



Note:
All Dimensions in Plan are along ℄ of Post

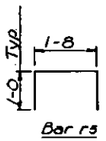
PLAN
Parapet Joint Spacing
Rdwy H
Spans H2-H4

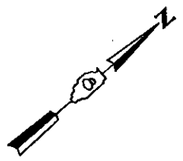
BILL OF MATERIAL

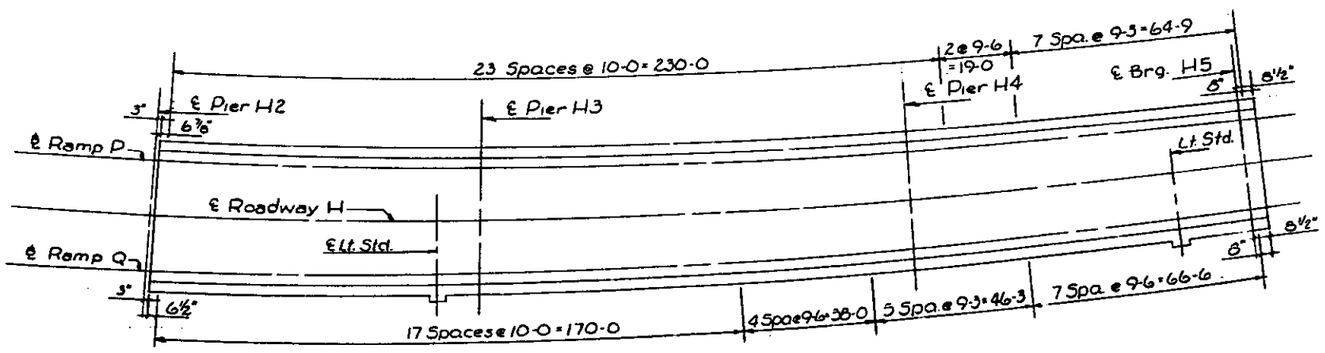
●BAR	NO.	SIZE	LENGTH	SHAPE
107r	52	#5	15-0	
107r1	40	#5	11-0	
107r2	20	#5	17-8	
107rs	20	#5	18-2	
107rs	16	#5	19-5	
107rs	4	#5	3-8	⊓

ITEM	UNIT	TOTAL
Class X Concrete	Cu. Yds.	326
Reinforcement Bars	Lbs.	26600
Aluminum Handrails	Lin. Ft.	637

●See Note 'X' Sh. No 135







PLAN
Handrail Post Spacing
Rdwy H

Note:
For Detail of Lt. Std. see sh. No 33
For Detail of Handrail & Parapet Joint see sh. No 125

DESIGNED BY R.M.P.
DRAWN BY J.W.A.
CHECKED BY W.J.E.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS LDGS.
DIVISION OF HIGHWAY

PARAPET AND HANDRAIL
SPANS H2 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET NO. 160 OF 258

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	212
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1	7760.349	– 21.316	447.401	447.401
	7760.344	– 14.108	447.978	447.978
	7760.338	– 6.900	448.555	448.555
	7760.333	.309	449.132	449.132
	7760.328	7.517	449.708	449.708
	7760.323	14.401	450.259	450.259
	7760.318	21.285	450.810	450.810

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+10'	7770.468	– 21.391	447.268	447.339
	7770.422	– 14.183	447.843	447.900
	7770.376	– 6.975	448.421	448.477
	7770.331	.234	448.998	449.055
	7770.287	7.442	449.576	[illegible]
	7770.[illegible]	14.195	450.116	450.173
	7770.204	20.948	450.657	450.739

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+20'	7780.587	– 21.410	447.098	447.233
	7780.500	– 14.202	447.676	447.780
	7780.415	– 6.994	448.254	448.358
	7780.330	.213	448.832	448.936
	7780.246	7.421	449.410	449.513
	7780.159	14.043	449.941	450.044
	7780.093	20.666	450.472	450.621

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+30'	7790.706	– 21.374	446.934	447.112
	7790.579	– 14.166	447.513	447.650
	7790.453	– 6.959	448.091	448.228
	7790.329	.248	448.670	448.808
	7790.205	7.455	449.248	449.385
	7790.095	13.945	449.770	449.895
	7789.985	20.438	450.291	450.487

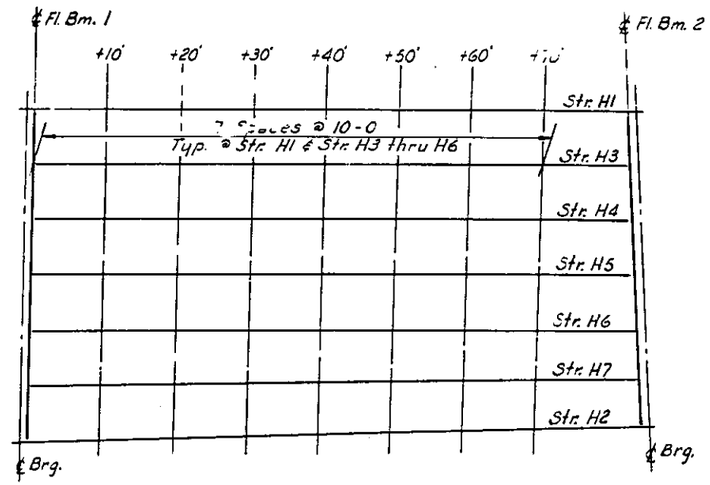
FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+40'	7800.824	– 21.281	446.775	446.971
	7800.657	– 14.075	447.354	447.505
	7800.491	– 6.869	447.934	448.085
	7800.327	.338	448.513	448.664
	7800.164	7.544	449.092	449.243
	7800.021	13.903	449.603	449.742
	7799.879	20.264	450.114	450.331

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+50'	7810.941	– 21.134	446.820	446.810
	7810.733	– 13.958	447.200	447.347
	7810.528	– 6.723	447.780	447.927
	7810.323	.483	448.360	448.507
	7810.121	7.588	448.940	449.087
	7809.967	13.914	449.441	[illegible]
	7809.775	20.145	449.942	450.155

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+60'	7821.056	– 20.930	446.470	446.628
	7820.808	– 13.725	447.051	[illegible]
	7820.562	– 6.522	447.631	[illegible]
	7820.318	.682	448.211	448.334
	7820.076	7.886	448.792	448.915
	7819.873	13.981	449.282	449.396
	7819.671	20.080	449.774	449.954

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+70'	7831.168	– 20.671	446.324	446.426
	7830.880	– 13.469	446.905	446.986
	7830.594	– 6.266	447.486	447.569
	7830.311	.937	448.067	448.151
	7830.029	8.140	448.648	448.733
	7829.798	14.102	449.129	449.215
	7829.568	20.070	449.610	449.737

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
2	7845.652	– 20.203	446.123	446.123
	7845.657	– 12.991	446.700	446.700
	7845.662	– 5.778	447.277	447.277
	7845.668	1.435	447.854	447.854
	7845.673	8.648	448.431	448.431
	7845.677	14.409	448.892	448.892
	7845.681	20.170	449.353	449.353



LOCATION PLAN
Span H1

Note

Stringers are identified in the Tables by their offset.

DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC [illegible]RKS & BLDGS.
DIVISION OF [illegible]AYS

TABLES OF ELEVATIONS

SPAN H1

POPLAR STREET BRIDGE APPROACHES

ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 159 OF 326

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	213
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
3.0	7848.349	- 20.156	446.083	446.083
	7848.343	- 12.095	446.728	446.728
	7848.337	- 4.033	447.373	447.373
	7848.331	4.028	448.018	448.018
	7848.325	12.089	448.663	448.663
	7848.320	20.151	449.308	449.308
3.5	7854.833	- 20.077	445.982	445.993
	7854.833	- 12.088	446.621	446.632
	7854.833	- 4.058	447.264	447.275
	7854.833	3.971	447.906	447.917
	7854.833	12.001	448.549	448.560
	7854.833	20.071	449.194	449.205
4.0	7861.333	- 19.998	445.882	445.902
	7861.333	- 12.059	446.517	446.538
	7861.333	- 4.060	447.157	447.177
	7861.333	3.938	447.797	447.817
	7861.333	11.937	448.436	448.457
	7861.333	19.995	449.081	449.102
4.5	7871.667	- 19.875	445.721	445.755
	7871.667	- 11.965	446.354	446.388
	7871.667	- 4.016	446.990	447.024
	7871.667	3.933	447.626	447.660
	7871.667	11.882	448.262	448.295
	7871.667	19.869	448.901	448.934
5.0	7882.000	- 19.753	445.561	445.601
	7882.000	- 11.898	446.190	446.229
	7882.000	- 3.997	446.822	446.861
	7882.000	3.903	447.454	447.493
	7882.000	11.804	448.086	448.125
	7882.000	19.747	448.721	448.761
5.5	7892.333	- 19.634	445.401	445.440
	7892.333	- 11.890	446.020	446.059
	7892.333	- 4.037	446.648	446.688
	7892.333	3.816	447.277	447.316
	7892.333	11.669	447.905	447.944
	7892.333	19.628	448.541	448.581

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
6.0	7902.667	- 19.516	445.240	445.273
	7902.667	- 11.824	445.855	445.889
	7902.667	- 4.018	446.480	446.513
	7902.667	3.788	447.104	447.138
	7902.667	11.594	447.729	447.762
	7902.667	19.510	448.362	448.395
6.5	7913.000	- 19.400	445.079	445.102
	7913.000	- 11.700	445.695	445.718
	7913.000	- 3.941	446.316	446.339
	7913.000	3.818	446.937	446.960
	7913.000	11.578	447.557	447.580
	7913.000	19.394	448.183	448.206
7.0	7923.333	- 19.286	444.918	444.930
	7923.333	- 11.628	445.531	445.542
	7923.333	- 3.914	446.148	446.160
	7923.333	3.799	446.765	446.777
	7923.333	11.513	447.382	447.394
	7923.333	19.280	448.003	448.015
7.5	7933.667	- 19.174	444.757	444.760
	7933.667	- 11.650	445.359	445.362
	7933.667	- 3.980	445.972	445.976
	7933.667	3.689	446.586	446.589
	7933.667	11.359	447.200	447.203
	7933.667	19.168	447.824	447.827
8.0	7944.000	- 19.063	444.596	444.596
	7944.000	- 11.613	445.192	445.192
	7944.000	- 3.988	445.802	445.802
	7944.000	3.638	446.412	446.412
	7944.000	11.264	447.022	447.022
	7944.000	19.057	447.645	447.645
8.5	7954.333	- 18.955	444.434	444.440
	7954.333	- 11.519	445.029	445.035
	7954.333	- 3.955	445.636	445.641
	7954.333	3.646	446.242	446.248
	7954.333	11.228	446.849	446.854
	7954.333	18.949	447.467	447.472

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
9.0	7964.667	- 18.849	444.273	444.289
	7964.667	- 11.365	444.87[illegible]	444.884
	7964.667	- 3.827	445.475	445.491
	7964.667	3.712	446.078	446.094
	7964.667	11.251	446.681	446.697
	7964.667	18.843	447.288	447.305
9.5	7975.000	- 18.744	444.111	444.142
	7975.000	- 11.307	444.706	444.737
	7975.000	- 3.810	445.306	445.336
	7975.000	3.687	445.906	445.936
	7975.000	11.184	446.505	446.536
	7975.000	18.738	447.110	447.140
10.0	7985.333	- 18.641	443.949	443.993
	7985.333	- 11.300	444.535	444.580
	7985.333	- 3.843	445.133	445.177
	7985.333	3.613	445.730	445.773
	7985.333	11.069	446.326	446.370
	7985.333	18.636	446.931	446.975
10.5	7995.667	- 18.541	443.787	443.840
	7995.667	- 11.234	444.372	444.425
	7995.667	- 3.818	444.965	445.018
	7995.667	3.598	445.558	445.612
	7995.667	11.014	446.151	446.205
	7995.667	18.535	446.753	446.807
11.0	8006.000	- 18.442	443.625	443.682
	8006.000	- 11.111	444.211	444.268
	8006.000	- 3.735	444.802	444.858
	8006.000	3.641	445.392	445.448
	8006.000	11.017	445.982	446.038
	8006.000	18.436	446.575	446.632
11.5	8016.333	- 18.345	443.463	443.516
	8016.333	- 11.053	444.046	444.100
	8016.333	- 3.715	444.633	444.687
	8016.333	3.622	445.220	445.274
	8016.333	10.959	445.807	445.861
	8016.333	18.339	446.397	446.451

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
12.0	8026.667	- 18.250	443.300	443.345
	8026.667	- 11.025	443.878	443.923
	8026.667	- 3.726	444.462	444.507
	8026.667	3.574	445.046	445.091
	8026.667	10.873	445.630	445.675
	8026.667	18.244	446.220	446.264
12.5	8037.000	- 18.157	443.137	443.169
	8037.000	- 10.940	443.715	443.747
	8037.000	- 3.678	444.296	444.327
	8037.000	3.584	444.877	444.908
	8037.000	10.846	445.458	445.489
	8037.000	18.152	446.042	446.074
13.0	8047.333	- 18.066	442.975	442.992
	8047.333	- 10.896	443.548	443.566
	8047.333	- 3.670	444.126	444.144
	8047.333	3.556	444.704	444.722
	8047.333	10.782	445.282	445.300
	8047.333	18.061	445.865	445.882
13.5	8057.667	- 17.976	442.812	442.818
	8057.667	- 10.931	443.375	443.381
	8057.667	- 3.740	443.951	443.957
	8057.667	3.450	444.526	444.532
	8057.667	10.641	445.101	445.107
	8057.667	17.971	445.688	445.694
14.0	8068.000	- 17.889	442.649	442.649
	8068.000	- 10.909	443.207	443.207
	8068.000	- 3.752	443.780	443.780
	8068.000	3.404	444.352	444.352
	8068.000	10.560	444.925	444.925
	8068.000	17.884	445.511	445.511
14.5	8078.333	- 17.804	442.485	442.488
	8078.333	- 10.828	443.043	443.046
	8078.333	- 3.706	443.613	443.616
	8078.333	3.416	444.183	444.185
	8078.333	10.538	444.753	444.755
	8078.333	17.799	445.334	445.336

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
15.0	8088.667	- 17.720	442.322	442.332
	8088.667	- 10.688	442.885	442.895
	8088.667	- 3.601	443.452	443.462
	8088.667	3.487	444.019	444.029
	8088.667	10.575	444.586	444.596
	8088.667	17.716	445.157	445.167
15.5	8099.000	- 17.639	442.158	442.179
	8099.000	- 10.643	442.718	442.739
	8099.000	- 3.608	443.282	443.303
	8099.000	3.467	443.847	443.868
	8099.000	10.522	444.411	444.432
	8099.000	17.635	444.980	445.001
16.0	8109.333	- 17.559	441.995	442.025
	8109.333	- 10.650	442.547	442.578
	8109.333	- 3.626	443.109	443.140
	8109.333	3.398	443.671	443.702
	8109.333	10.422	444.233	444.264
	8109.333	17.555	444.804	444.835
16.5	8119.667	- 17.482	441.831	441.867
	8119.667	- 10.593	442.381	442.418
	8119.667	- 3.606	442.941	442.977
	8119.667	3.387	443.500	443.537
	8119.667	10.380	444.060	444.096
	8119.667	17.478	444.628	444.664
17.0	8130.000	- 17.406	441.667	441.704
	8130.000	- 10.489	442.220	442.257
	8130.000	- 3.527	442.777	442.814
	8130.000	3.435	443.334	443.371
	8130.000	10.397	443.891	443.928
	8130.000	17.402	444.451	444.489

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
17.5	8140.333	- 17.333	441.503	441.535
	8140.333	- 10.441	442.054	442.086
	8140.333	- 3.508	442.609	442.640
	8140.333	3.425	443.163	443.195
	8140.333	10.357	443.718	443.750
	8140.333	17.329	444.275	444.307
18.0	8150.667	- 17.261	441.338	441.359
	8150.667	- 10.420	441.885	441.906
	8150.667	- 3.516	442.438	442.458
	8150.667	3.389	442.990	443.011
	8150.667	10.293	443.543	443.563
	8150.667	17.257	444.100	444.120
18.5	8157.542	- 17.214	441.229	441.240
	8157.542	- 10.374	441.776	441.787
	8157.542	- 3.488	442.327	442.338
	8157.542	3.397	442.878	442.889
	8157.542	10.282	443.429	443.439
	8157.542	17.211	443.983	443.994
19.0	8164.410	- 17.169	441.119	441.119
	8164.412	- 10.302	441.669	441.669
	8164.415	- 3.435	442.218	442.218
	8164.417	3.432	442.767	442.767
	8164.419	10.298	443.317	443.317
	8164.421	17.165	443.866	443.866

Note: For Notes see Sheet No. 126

DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

TABLES OF ELEVA
SPANS H2 THRU 5
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

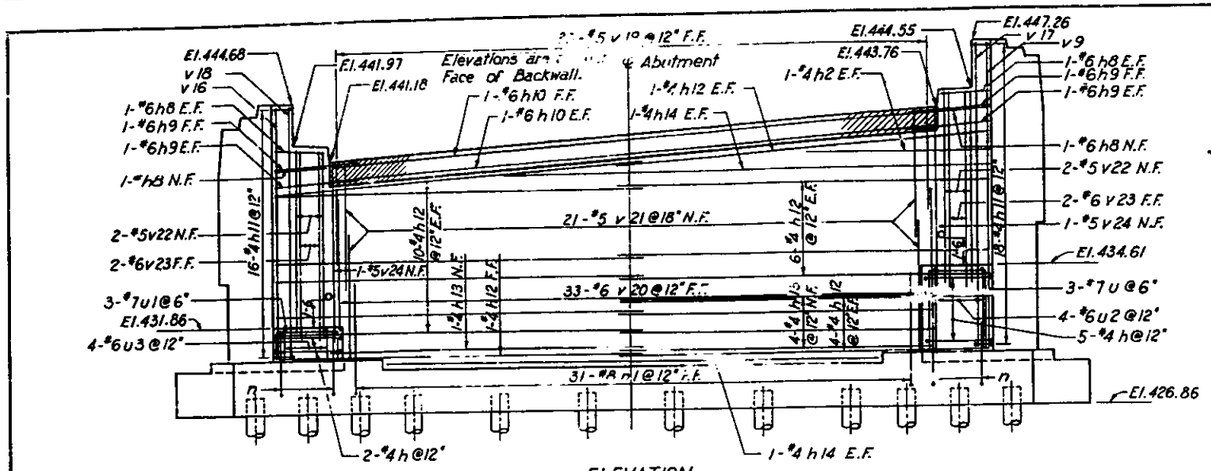
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

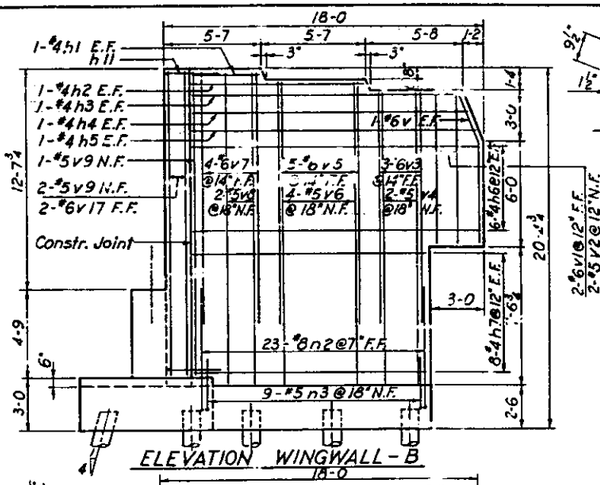
SHEET 160 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HV8-1	ST. CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

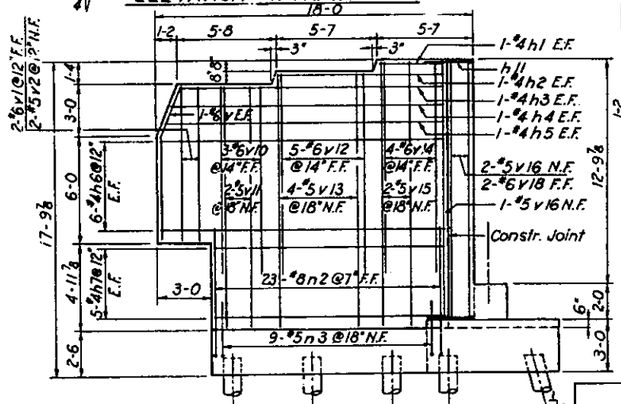
82-3HV8-1 238 241



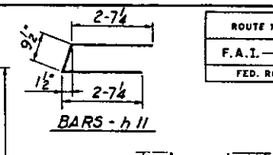
ELEVATION



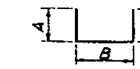
ELEVATION WINGWALL - B



ELEVATION WINGWALL - A

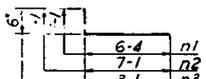


BARS - h11

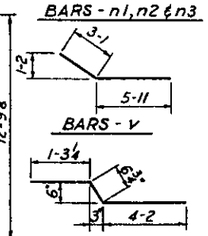


BARS - h,n,u,u1,u2 & u3

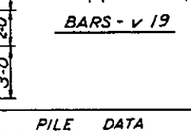
BAR	A	B
h	3-0	3-8
n	3-10	3-0
u	4-6	3-7
u1	1-9	3-1
u2	4-6½	3-0
u3	1-9½	3-0



BARS - n1, n2 & n3



BARS - v



BARS - v 19

BILL OF MATERIAL

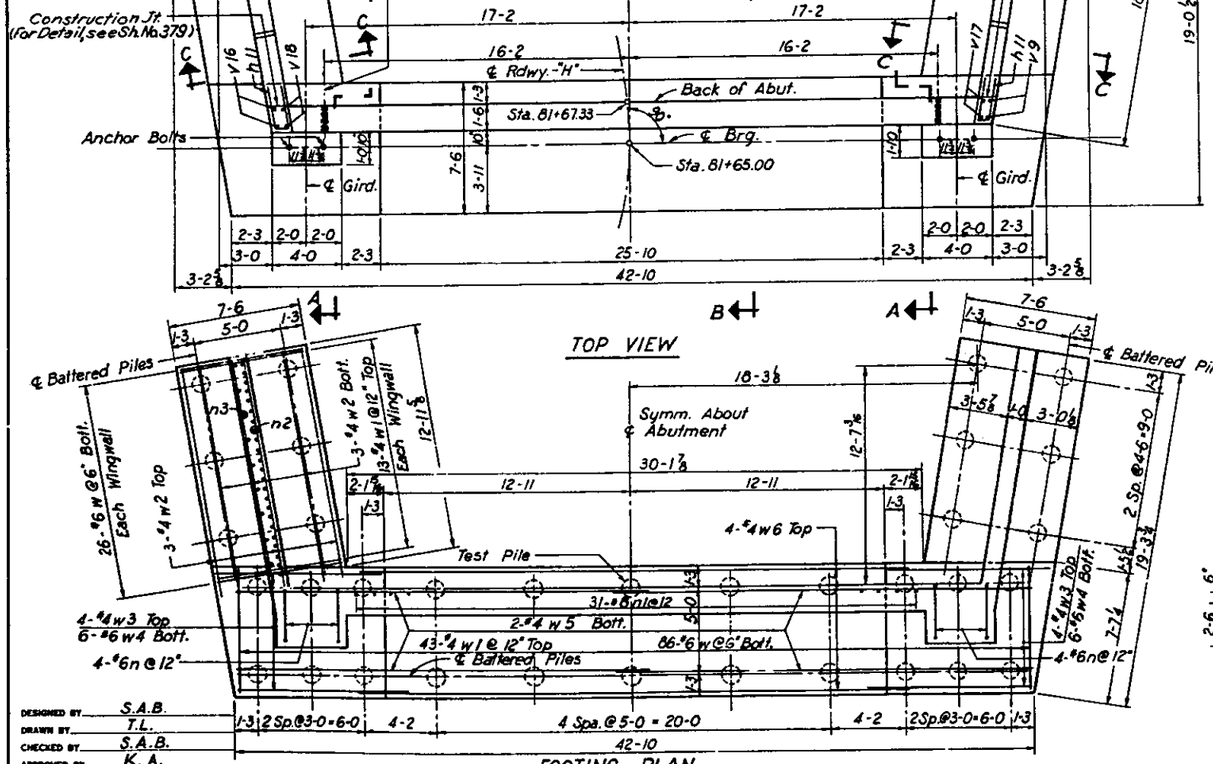
BAR	NO.	SIZE	LENGTH	SHAPE
h	7	#4	9-8	
h1	4	#4	4-0	
h2	6	#4	9-7	
h3	4	#4	15-3	
h4	4	#4	15-7	
h5	4	#4	15-11	
h6	24	#4	16-4	
h7	26	#4	13-4	
h8	6	#6	6-10	
h9	6	#6	4-5	
h10	3	#6	32-2	
h11	22	#7	6-0	
h12	46	#4	19-7	
h13	5	#4	16-2	
h14	4	#4	25-7	
n	8	#6	10-8	
n1	31	#8	7-5	
n2	46	#8	8-2	
n3	18	#5	3-7	
u	3	#7	12-7	
u1	3	#7	7-1	
u2	4	#6	12-1	
u3	4	#6	6-7	
v	4	#6	9-0	
v1	4	#6	8-10	
v2	4	#5	8-10	
v3	3	#6	13-5	
v4	2	#5	16-6	
v5	5	#6	14-1	
v6	4	#5	17-2	
v7	4	#6	14-9	
v8	2	#5	17-10	
v9	3	#5	17-4	
v10	3	#6	10-10	
v11	2	#5	13-11	
v12	5	#6	11-6	
v13	4	#5	14-7	
v14	4	#6	12-2	
v15	2	#5	15-3	
v16	3	#5	14-9	
v17	2	#6	17-4	
v18	2	#6	14-9	
v19	33	#5	6-0	
v20	33	#6	7-9	
v21	42	#5	7-4	
v22	4	#5	11-2	
v23	4	#6	11-4	
v24	2	#5	10-4	
W	136	#6	7-2	
W1	69	#4	7-2	
W2	12	#4	13-3	
W3	8	#4	9-6	
W4	12	#6	9-6	
W5	4	#4	22-3	
W6	4	#4	28-10	

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	94.9
Reinforcement Bars	Lbs.	6,130
Concrete Piles	Lin. Ft.	1,650*
Test Piles (Concrete)	Each	1

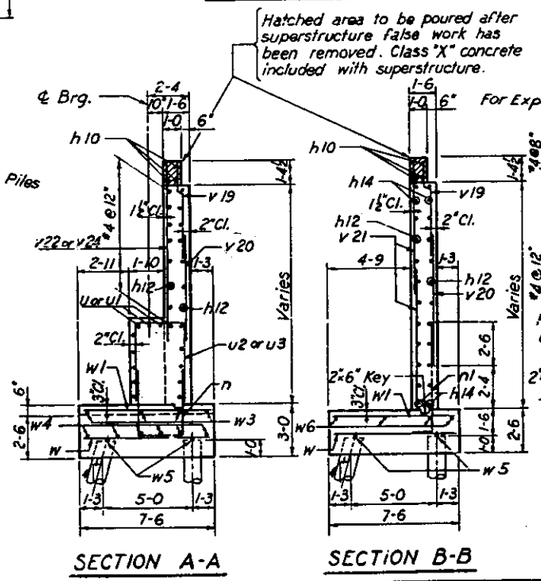
PILE DATA	
Type	— Concrete
Capacity	— 28 T.
Est. length	— 50 Ft.
No. Req'd.	— 33 *
Test Piles	— 1

* Does not include test pile.

For Expansion Device Details, see Sh. No. 362 (Not Applicable to 82-3HV8-1)



FOOTING PLAN



SECTION A-A SECTION B-B SECTION C-C

DESIGNED BY S.A.B.
DRAWN BY T.L.
CHECKED BY S.A.B.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

ABUTMENT H5

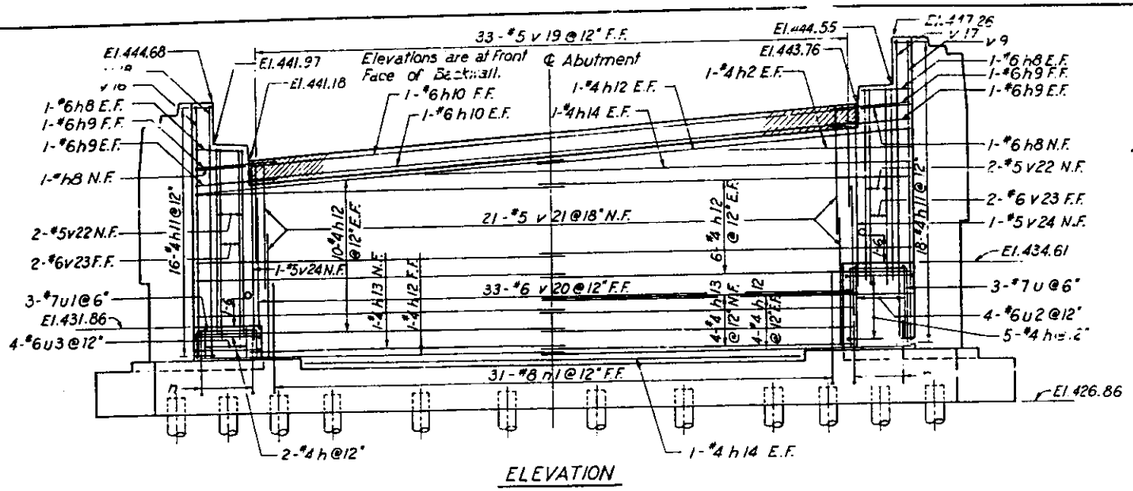
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

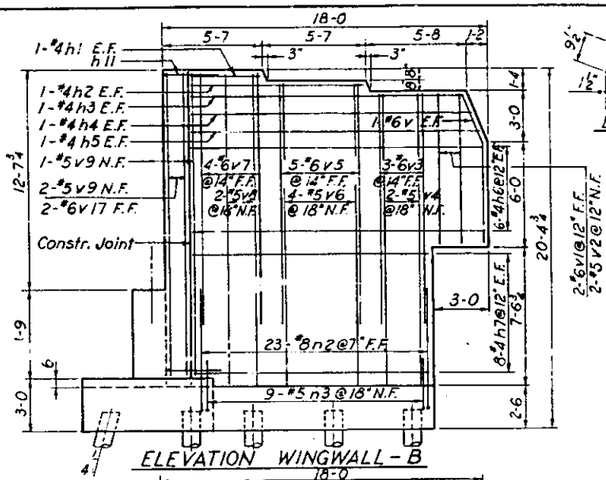
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82—3HV8-1

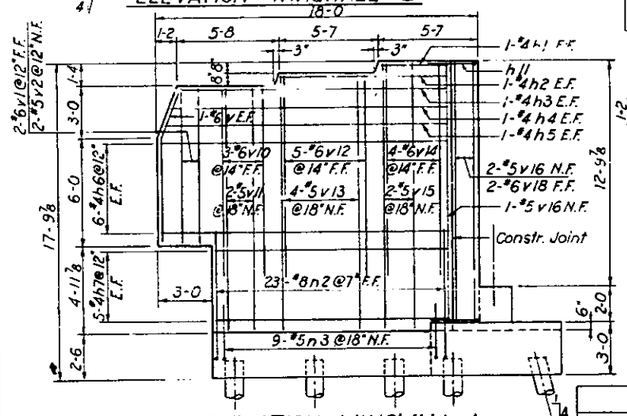
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

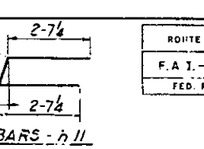
SHEET 375 OF 586

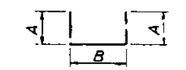
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. — 70	82-3HVB-1	ST. CLAIR	207	56
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		





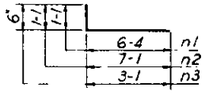


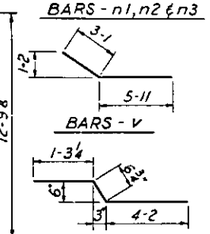




BARS - h,n,u,ul,u2 & u3

BAR	A	B
h	3-0	3-8
n	3-10	3-0
u	4-6	3-7
u1	1-9	3-7
u2	4-6½	3-0
u3	1-9½	3-0





BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	1	#4	9-8	
h1	4	#4	4-0	
h2	6	#4	9-7	
h3	4	#4	15-3	
h4	4	#4	15-1	
h5	4	#4	15-11	
h6	24	#4	16-4	
h7	26	#4	13-4	
h8	6	#6	6-10	
h9	6	#6	4-5	
h10	3	#6	32-2	
h11	34	#4	6-0	
h12	39	#4	19-7	
h13	5	#4	16-2	
h14	4	#4	25-7	
n	8	#6	10-8	
n1	31	#8	7-5	
n2	46	#8	7-2	
n3	12	#8	3-7	
u	3	#7	12-7	
u1	3	#7	7-1	
u2	4	#6	12-1	
u3	4	#6	6-7	
v	4	#6	9-0	
v1	4	#6	8-10	
v2	4	#5	8-10	
v3	3	#6	13-5	
v4	2	#5	16-6	
v5	5	#6	14-1	
v6	4	#5	17-2	
v7	4	#6	14-9	
v8	2	#5	17-10	
v9	3	#5	17-4	
v10	3	#6	10-10	
v11	2	#5	13-11	
v12	5	#6	11-6	
v13	4	#5	14-7	
v14	4	#6	12-2	
v15	2	#5	15-3	
v16	3	#5	14-9	
v17	2	#6	17-4	
v18	2	#6	14-9	
v19	33	#5	6-0	
v20	33	#6	7-9	
v21	42	#5	7-4	
v22	4	#5	11-2	
v23	4	#6	11-4	
v24	2	#5	10-4	
w	138	#6	7-2	
w1	69	#4	7-2	
w2	12	#4	13-3	
w3	6	#4	8-6	
w4	12	#6	9-6	
w5	4	#4	22-3	
w6	4	#4	28-10	

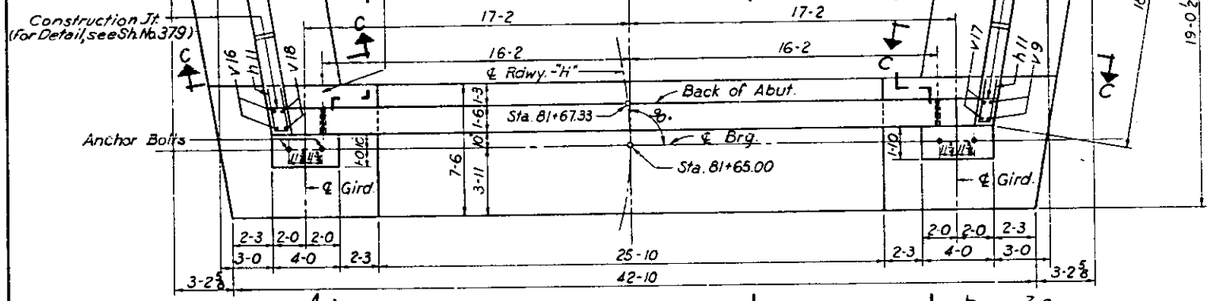
ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	94.9
Reinforcement Bars	Lbs.	3,130
Concrete Piles	Lin. Ft.	1,650*
Test Piles (Concrete)	Each	1

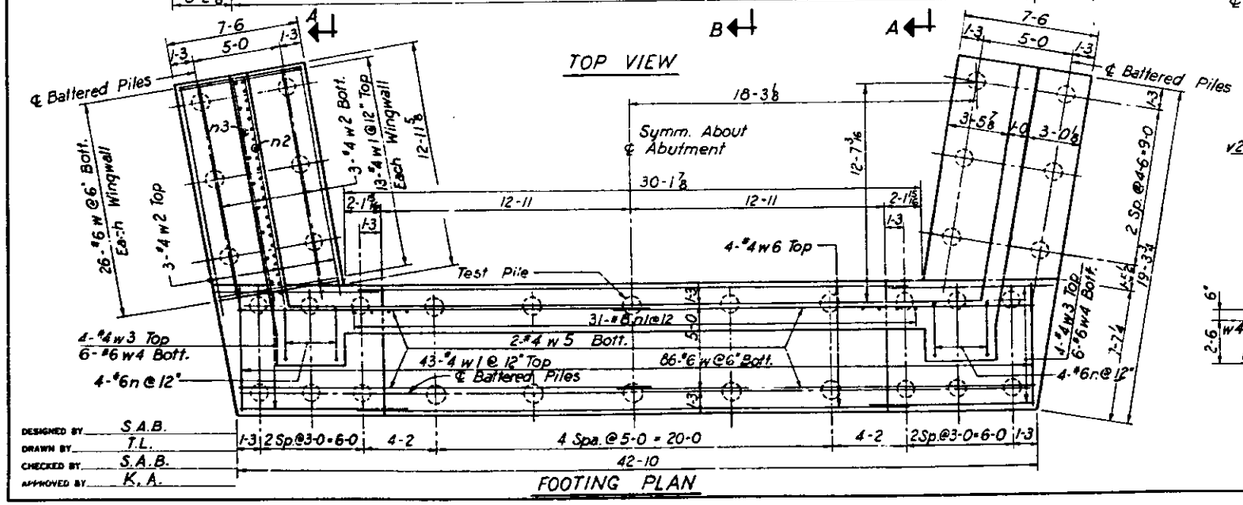
PILE DATA		
Type	—	Concrete
Capacity	—	28 T.
Est. length	—	50 ft.
No. Req'd.	—	33 *
Test Piles	—	1

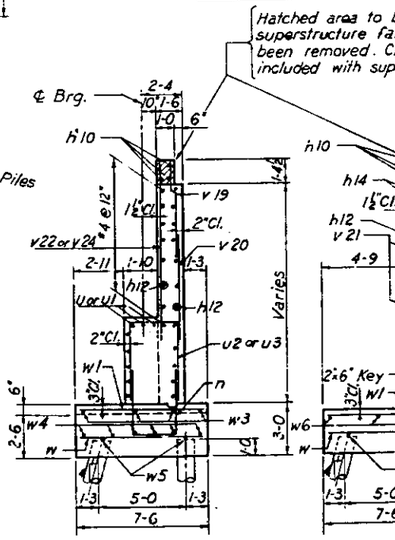
* Does not include test pile.

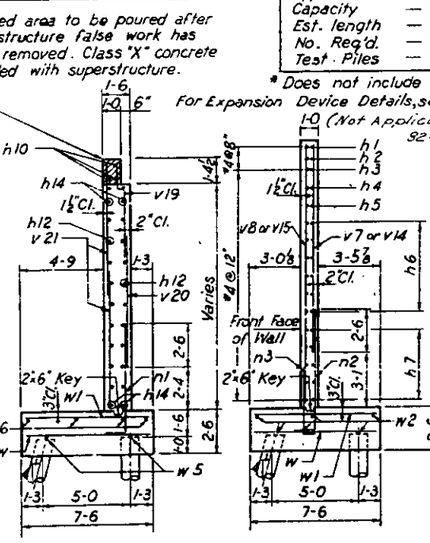
For Expansion Device Details, see Sh. No. 362

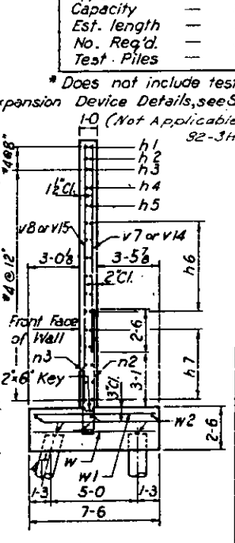
1-0 (Not Applicable to 92-3HVB-1)











DESIGNED BY S.A.B.
DRAWN BY T.L.
CHECKED BY S.A.B.
APPROVED BY K.A.

STATE OF ILL
DEPARTMENT OF PUBLIC & BLDGS.
DIVISION OF HI S

ABUTMENT H5

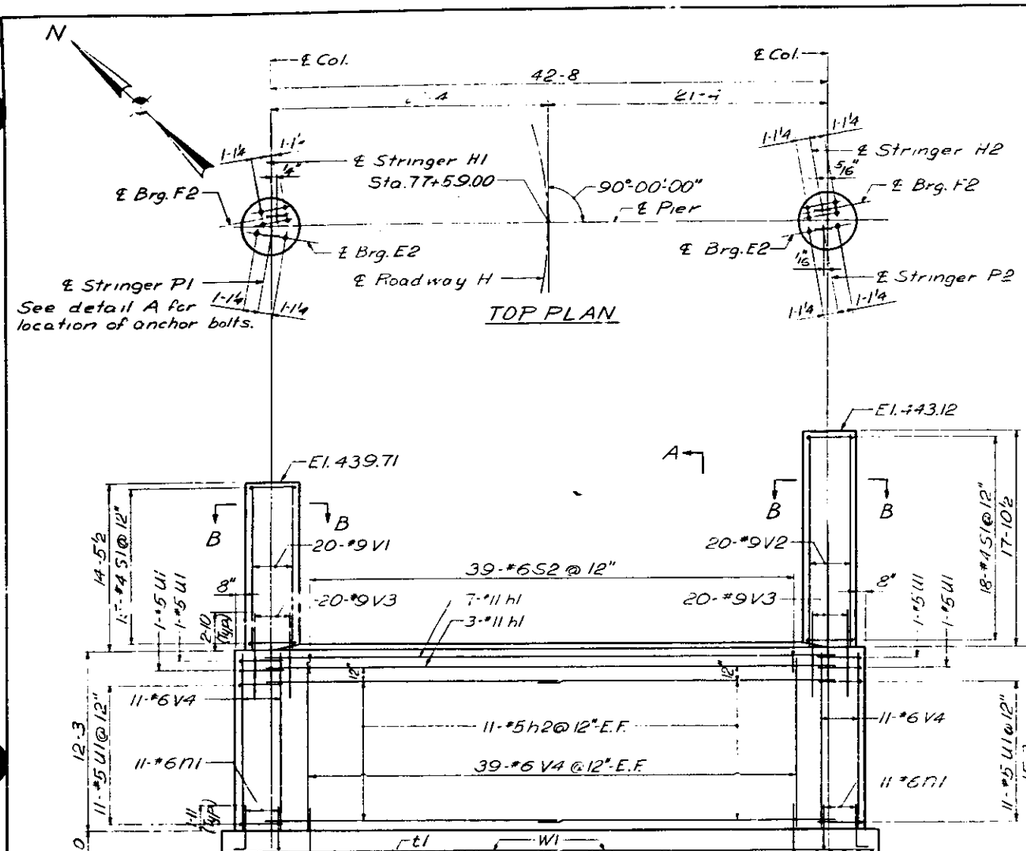
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

SHEET 57 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I—70	82—3HVB-1	ST. CLAIR	207	104
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



BILL OF MATERIAL

• Mark	No. Reqd.	Size	Length	Shape
426 h1	10	#11	43-8	—
426 h2	44	#5	22-8	—
426 M1	22	#6	4-11	⌐
426 S1	33	#4	12-9	○
426 S2	39	#6	6-0	⊏
426 S3	39	#6	11-10	⊏
426 t1	51	#7	9-8	—
426 U1	26	#5	9-5	⌐
426 V1	20	#9	14-3	—
426 V2	20	#9	17-8	—
426 V3	40	#9	6-8	—
426 V4	100	#6	12-1	—
426 W1	22	#6	25-11	—
426 W2	6	#4	25-7	—
• See Note "X" Sh. No. 95				

Item	Unit	Total
Class "X" Concrete	C.Y.	162.6
Reinforcement Bars	Lbs.	11,960
Concrete Piles	L.F.	1421 *
Test Piles (Concrete)	Ea.	1

PILE DATA:

Type: Concrete.
Reqd. Capacity: 33T
Est. Length: 49-0
No. Reqd: 29*
Test Piles: 1

* Does not include test pile.

DESIGNED BY E.W.
DRAWN BY S.A.
CHECKED BY S.K.
APPROVED BY K.A.

Indicates battered pile.

Indicates test pile.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & DIVISION OF HIGHWAYS

PIER H1

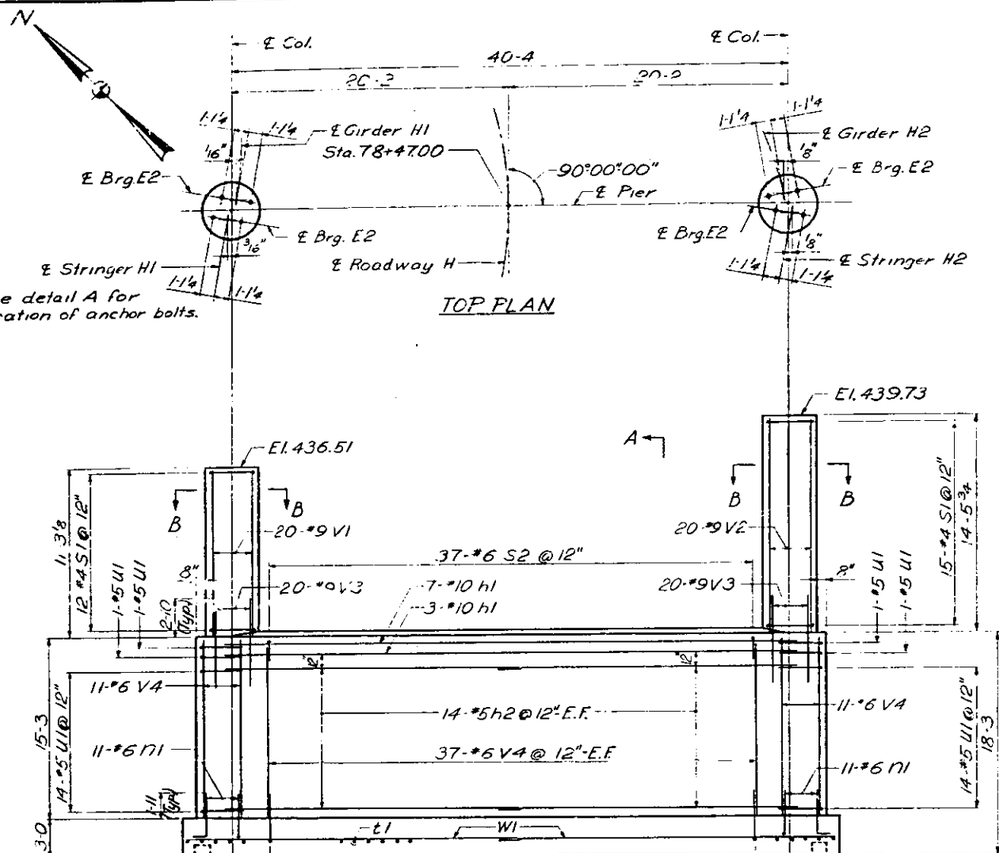
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

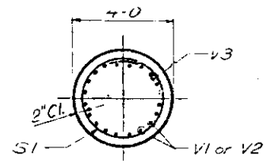
F.A.I. RT. 70 ST. CLAIR CO SECTION 82-3HVB-1

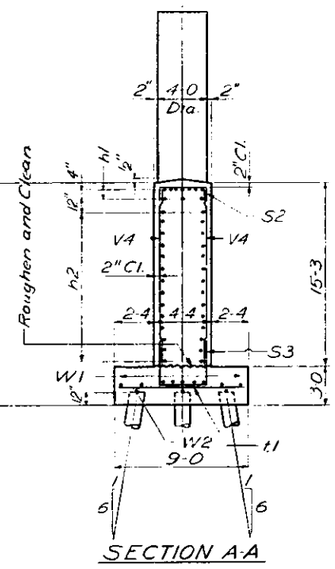
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

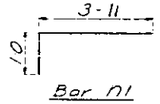
SHEET 426 OF 526

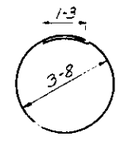
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I—70	82-3HV8-1	ST. CLAIR	207	105
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

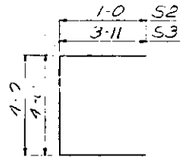


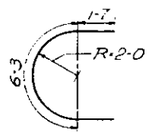








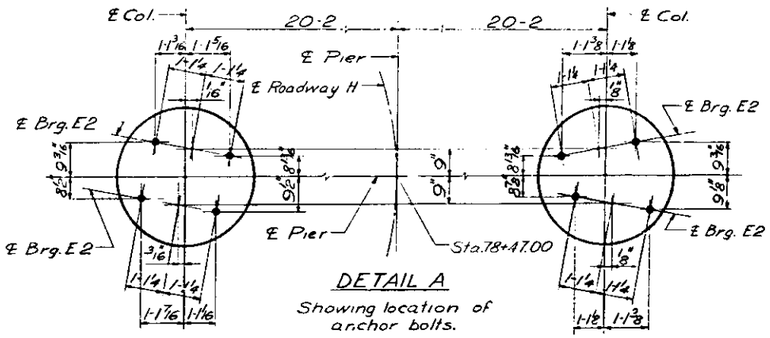


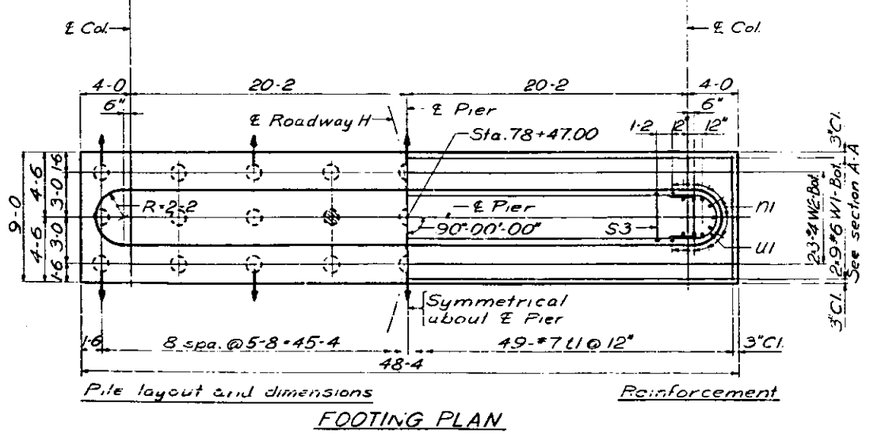


BILL OF MATERIAL

Mark	No. Reqd.	Size	Length	Shape
427 h1	10	#10	41-4	
427 h2	56	#5	21-6	
427 M1	22	#6	4-11	
427 S1	27	#4	12-9	
427 S2	37	#6	6-0	
427 S3	37	#6	11-10	
427 t1	49	#7	8-8	
427 U1	32	#5	9-5	
427 V1	20	#9	11-1	
427 V2	20	#9	14-3	
427 V3	40	#9	6-8	
427 V4	96	#6	15-1	
427 W1	18	#6	25-0	
427 W2	6	#4	24-8	
*See Note "X" Sh No. 35				

Item	Unit	Total
Class "X" Concrete	C.Y.	169.5
Reinforcement Bars	Lbs.	11,180
Concrete Piles	L.F.	1040*
Test Piles (Concrete)	Ea.	1





PILE DATA:

Type: Concrete.
Reqd. Capacity: 35 T
Est. Length: 40-0
No. Reqd: 26*
Test Piles: 1

* Does not include test pile.

DESIGNED BY E.W.
DRAWN BY S.A.
CHECKED BY S.K.
APPROVED BY K.A.

Indicates battered pile. Indicates test pile.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WOR ELDGS.
DIVISION OF HIGHW

PIER H2

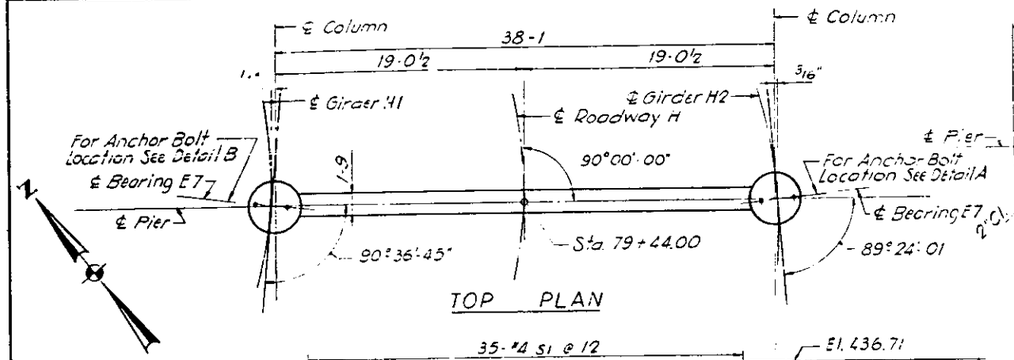
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HV8-1

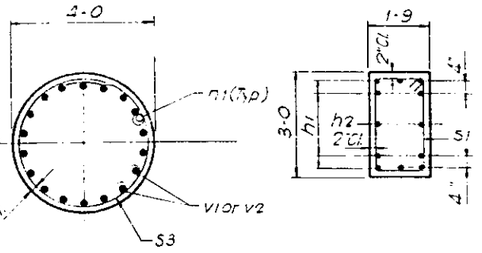
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 427 of 526

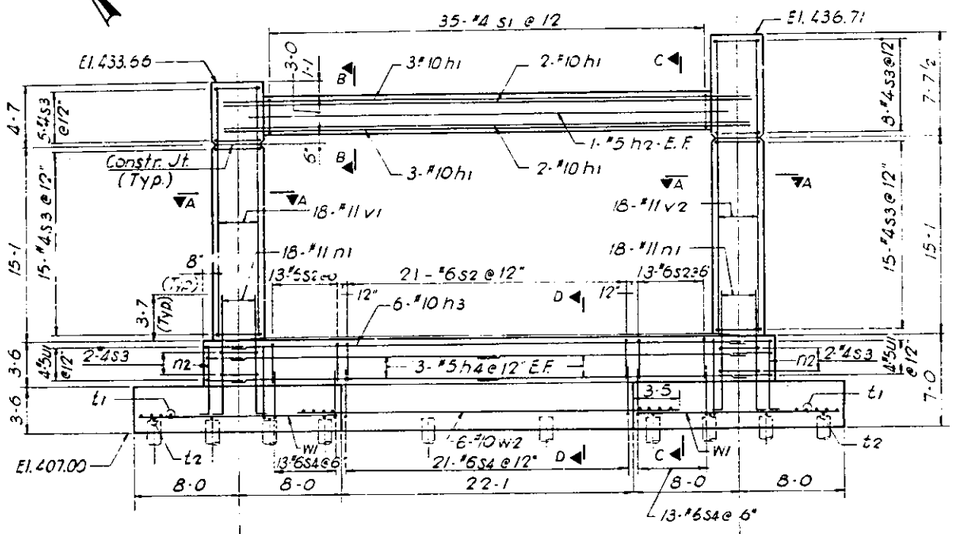
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I-70	82-3HV8-1	ST. CLAIR	207	106
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



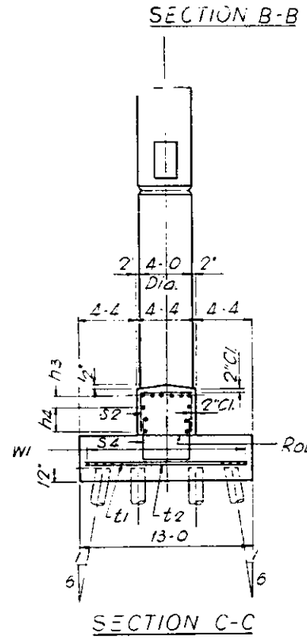
TOP PLAN



SECTION A-A

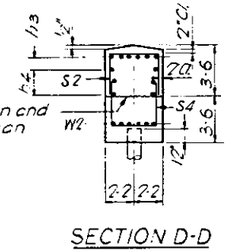


ELEVATION

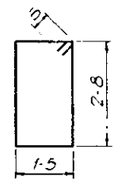


SECTION B-B

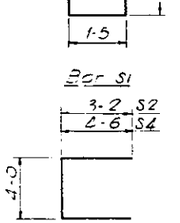
SECTION C-C



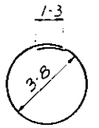
SECTION D-D



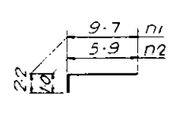
Bar S1



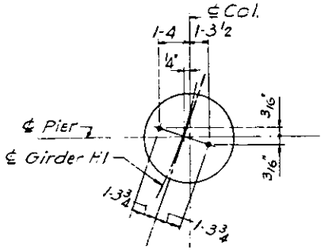
Bars S2 & S4



Bar S3

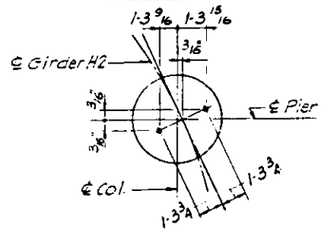


Bars n1 & n2



DETAIL B

Bar U1



DETAIL A

BILL OF MATERIAL

• Mark	No Req'd	Size	Length	Shape
428h1	10	#10	40-5	—
428h2	2	#5	36-7	—
428h3	5	#10	39-1	—
428h4	12	#5	20-4	—
428n1	36	#11	11-9	—
428n2	18	#6	6-9	⌐
428s1	35	#4	9-0	□
428s2	47	#6	10-4	⌊
428s3	47	#4	12-0	○
428s4	47	#6	13-0	⌊
428t1	42	#8	12-8	—
428t2	8	#4	12-8	—
428u1	8	#5	9-5	⊂
428v1	18	#11	19-6	—
428v2	18	#11	22-6	—
428w1	52	#10	15-8	—
428w2	6	#10	28-11	—

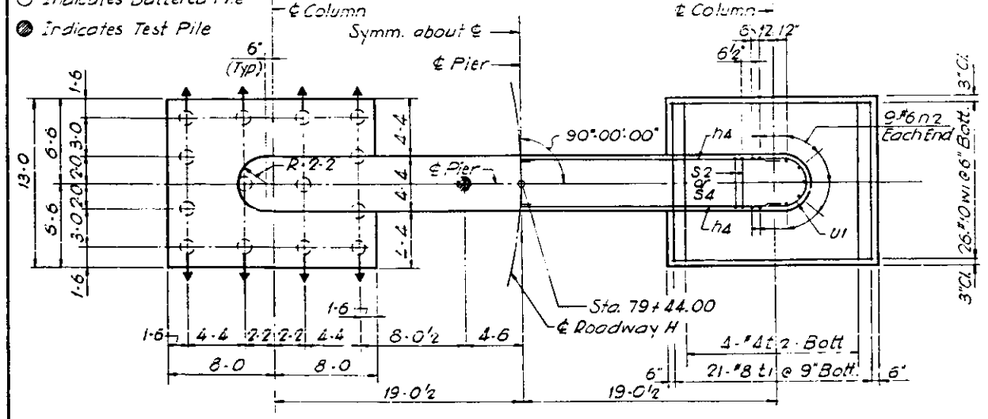
• See Note "X" Sh. No. 35

Item	Unit	Total
Class "X" Concrete	C.Y.	115.7
Reinforcement Bars	Lbs.	17,600
Concrete Piles	L.F.	1189 *
Test Piles (Concrete)	Ea.	1

PILE DATA

Type :	Concrete
Req'd. Capacity :	35 T.
Est. Length :	41-0
No. Req'd :	29 *
Test Pile :	1

* Does not Include Test Pile



Pile Layout and Dimensions

Reinforcement

FOOTING PLAN

DESIGNED BY E.W.
DRAWN BY K.R.
CHECKED BY K.K.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS [illegible]DGS.
DIVISION OF HIGHWA[illegible]

PIER H3

POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HV8-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 428 OF 526

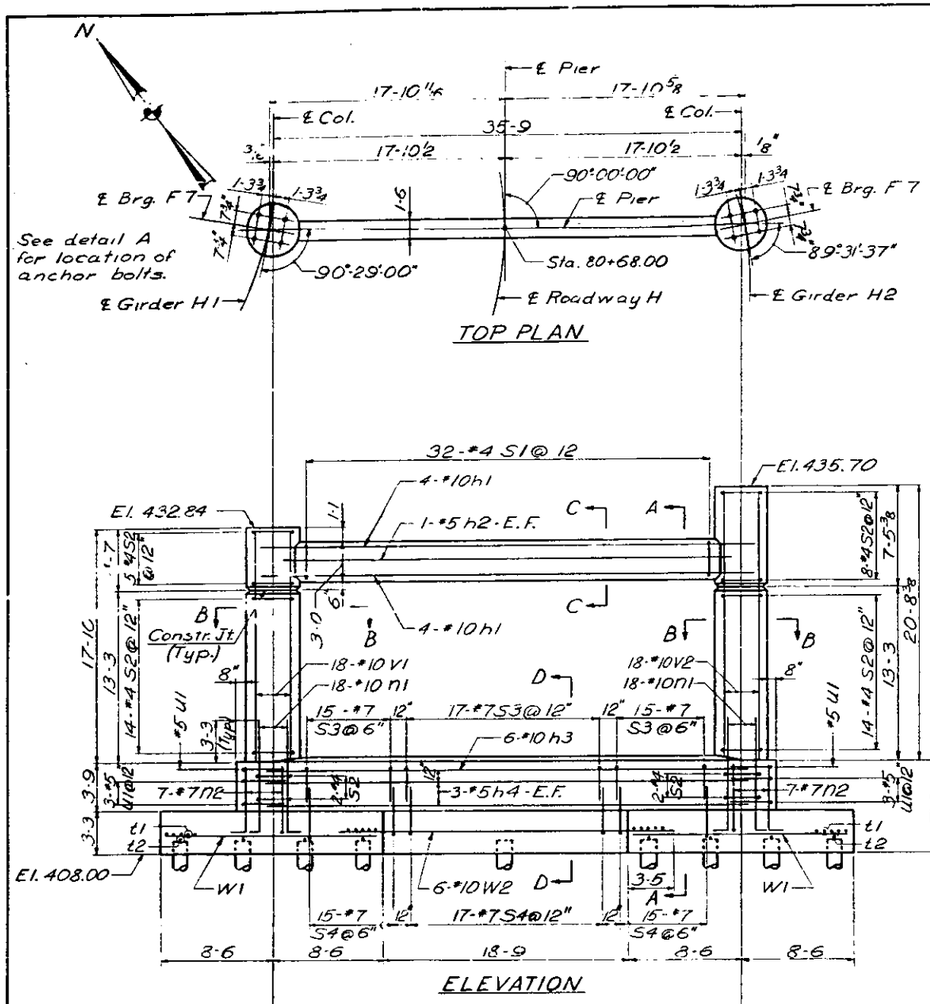
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I-70	62-3HVB-1	ST. CLAIR	207	107
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BILL OF MATERIAL

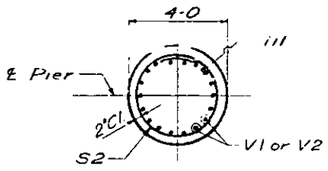
• Mark	No. Reqd.	Size	Length	Shape
429 h1	8	#10	38-1	
429 h2	2	#5	34-3	
429 h3	6	#10	36-9	
429 h4	6	#5	36-9	
429 n1	36	#10	10-11	
429 n2	14	#7	7-0	
429 s1	32	#4	8-6	
429 s2	45	#4	12-9	
429 s3	47	#7	11-2	
429 s4	47	#7	13-0	
429 t1	58	#8	13-8	
429 t2	8	#4	13-8	
429 u1	8	#5	9-5	
429 v1	18	#10	17-8	
429 v2	18	#10	20-6	
429 w1	56	#10	16-8	
429 w2	6	#10	25-7	

• See Note "X" Sh. No. 35

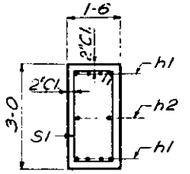
Item	Unit	Total
Class "X" Concrete	C.Y.	113.6
Reinforcement Bars	Lbs	17,240
Concrete Piles	L.F.	1120 *
Test Piles (Concrete)	Ea.	1



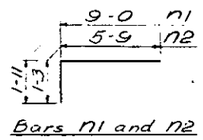
TOP PLAN



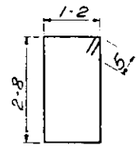
SECTION B-B



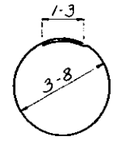
SECTION C-C



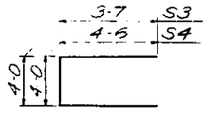
Bars n1 and n2



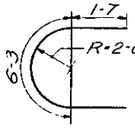
Bar S1



Bar S2

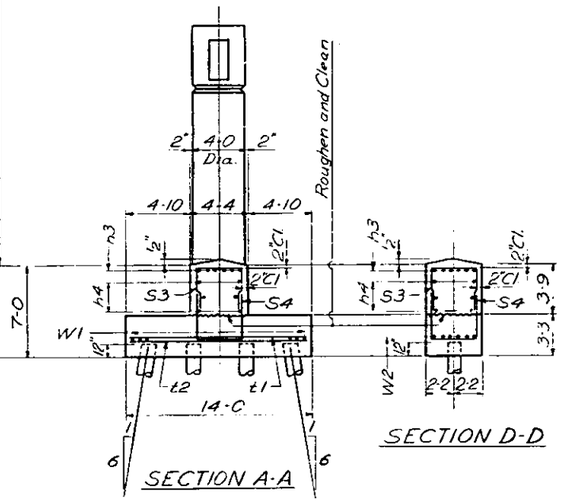


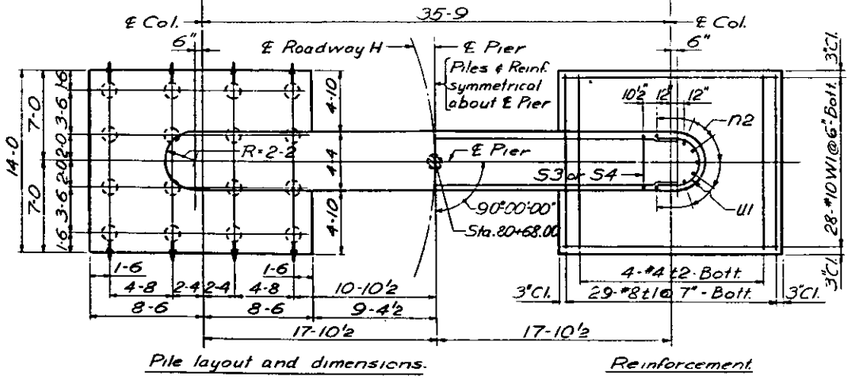
Bars S3 and S4



Bar U1

ELEVATION



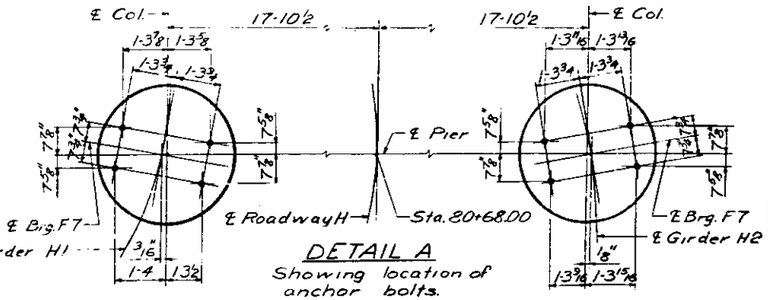


Pile layout and dimensions.

Reinforcement.

FOOTING PLAN

Indicates battered pile. Indicates test pile.



DETAIL A
Showing location of anchor bolts.

PILE DATA:

Type:	Concrete
Reqd. Capacity:	34T
Est. Length:	35-0
No. Reqd:	32*
Test Pile:	1

*Does not include test pile.

DESIGNED BY E.W.
DRAWN BY S.A.
CHECKED BY S.K.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS ...DGS.
DIVISION OF HIGHWA...

PIER H4

POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 429 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.–70	82–3HVD–I	ST. CLAIR	258	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT I–IG–70–1(82)0		

P–98–087–00

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

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 70 SECTION 82–3HVD–I
PROJECT I–IG–70–1(82)0

POPLAR STREET BRIDGE APPROACHES

ST. CLAIR COUNTY

C–98–033–65

DESCRIPTION OF PROJECT:

SECTION 82-3HVD-1 INCLUDES THE COMPLETE CONSTRUCTION OF THE REINFORCED CONCRETE DECK SLAB FOR THE FOLLOWING:

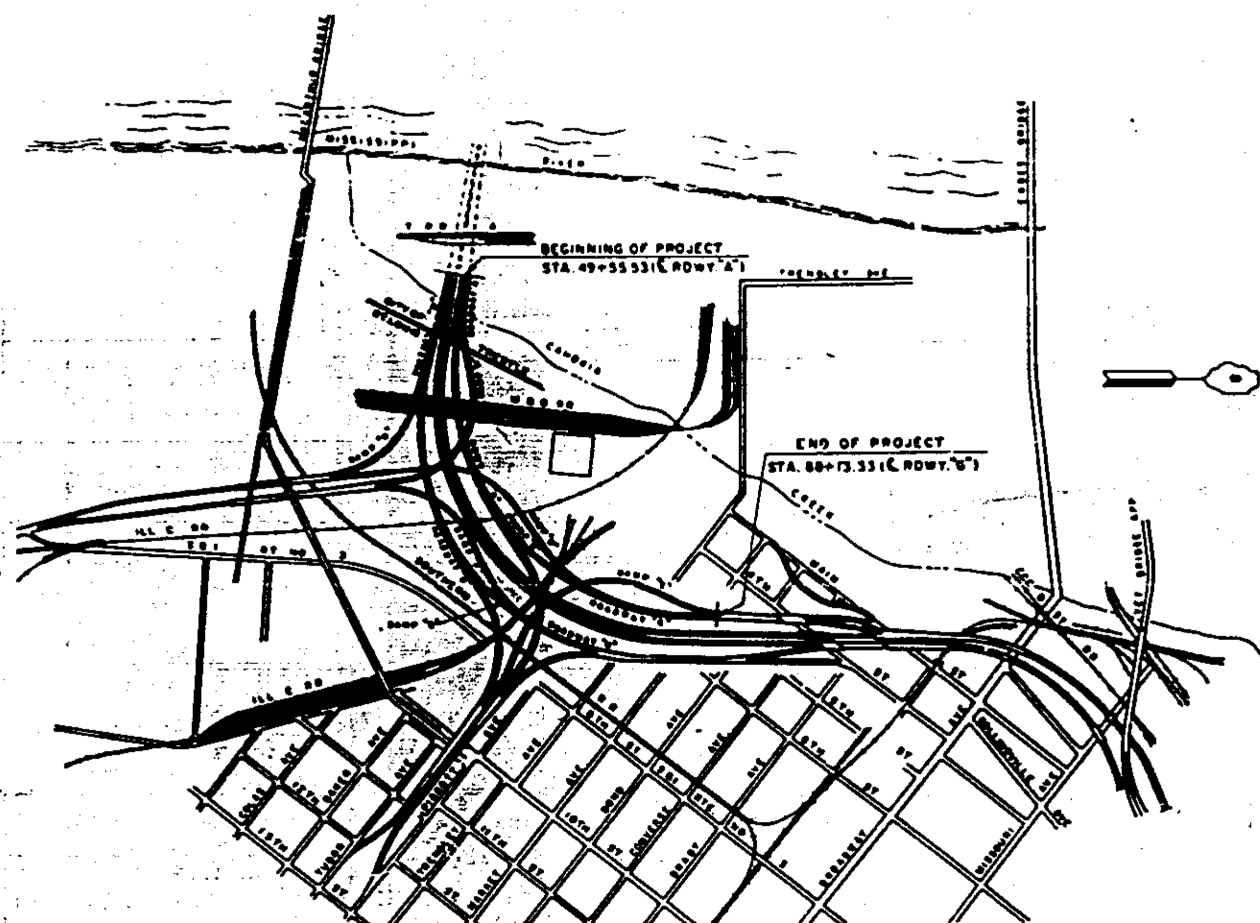
ROADWAY A	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 EACH @ 83-5 5/8, 106'-106'-83; 87'-110'-110'-87'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 97'-124'-97' 1 EACH @ 75'-96'-75' 95'-122'-95' 89'-114'-89'
	ONE SIMPLE SPAN - 80'
ROADWAY D	TWO 4-SPAN CONTINUOUS UNIT SPANS: 1 @ 90-7 9/16, 115'-115'-90' 1 @ 100'-128'-128'-100'
	ONE 5-SPAN CONTINUOUS UNIT SPANS: 107'-137'-137'-137'-107'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 85'-108'-85' 2 @ 81'-105'-81' 1 @ 90'-115'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 89-6, 89-6
	TWO SIMPLE SPANS SPANS 1 @ 74' 1 @ 78'
ROADWAY G	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 @ 88'-113'-113'-88' 1 @ 87'-110'-110'-87'
	ONE 3-SPAN CONTINUOUS UNIT SPANS: 90'-116'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 76'-76'
ROADWAY H	ONE 3-SPAN CONTINUOUS UNIT SPAN: 97'-124'-97'
	ONE SIMPLE SPAN - 88'
RAMP M	THREE 3-SPAN CONTINUOUS UNITS SPANS: 1 @ 90'-115'-90' 1 @ 105'-134'-105' 1 @ 90'-115'-85-10 11/16
RAMP N	ONE 4-SPAN CONTINUOUS UNIT SPANS: 90'-115'-115'-90'
	ONE SIMPLE SPAN - 73-3 5/16
RAMP O	FOUR 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 97-5 3/4, 130'-101' 1 @ 90'-115'-90' 1 @ 95'-121'-95' 1 @ 94'-120'-94'
	ONE SIMPLE SPAN - 65'
RAMP P	ONE 4-SPAN CONTINUOUS UNIT SPANS: 94'-121'-121'-94'
	TWO 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 81'-115'-81' 1 @ 96'-122'-96'
	TWO SIMPLE SPANS 1 @ 88' 1 @ 69'

RAMP Q	ONE 3-SPAN CONTINUOUS UNIT SPANS: 75-2 7/8, 98'-76'
RAMP R	TWO 3-SPAN CONTINUOUS UNITS SPANS 1 @ 104-4 5/16, 134'-106 1 @ 101'-130'-101'
RAMP S	ONE 4-SPAN CONTINUOUS UNIT SPANS: 85'-108'-108'-85'
	THREE 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 73-2 7/8, 95'-74' 1 @ 69'-97'-69' 1 @ 88'-113'-88'

THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

ROADWAY A OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP O;
ROADWAY D OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, ILLINOIS CENTRAL AND SOUTHERN RAILROADS, RAMP O AND ILLINOIS ROUTE 3;
ROADWAY G OVER TRENDLEY AND PIGGOTT AVENUES;
ROADWAY H OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP M OVER ROADWAY A AND THE TRACKS OF THE TERMINAL R.R. ASSOCIATION AND THE GULF, MOBILE AND OHIO RAILROADS;
RAMP N OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION AND GULF, MOBILE AND OHIO RAILROAD;
RAMP O OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP P OVER ROADWAY D, FUTURE ACCESS ROADS AND THE ILLINOIS CENTRAL RAILROAD;
RAMP Q OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP R OVER THE ILLINOIS CENTRAL RAILROAD AND A FUTURE ACCESS ROAD;
RAMP S OVER TRENDLEY AVENUE AND ROADWAY H.

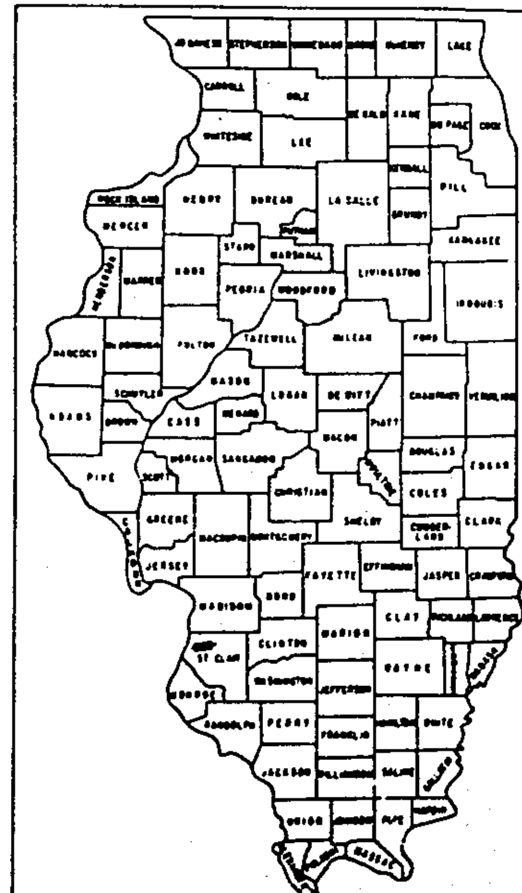
THIS SECTION ALSO INCLUDES THE INSTALLING AND TESTING OF COMPLETE HIGHWAY LIGHTING SYSTEMS, THE FURNISHING AND ERECTING OF HIGHWAY SIGNS, THE FINISH GRADING, THE PAVING, FIELD PAINTING ALL STRUCTURAL STEEL, AND ALL APPURTENANT AND COLLATERAL WORK NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS.



CITY OF EAST ST. LOUIS

LOCATION PLAN

LENGTH OF PROJECT
4261.16 FT. = .807 MILES



LOCATION OF SECTION INDICATED THUS:

NOTE:
FOR INDEX OF SHEETS AND SUMMARY OF QUANTITIES SEE SHEET NO. 2

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

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

11-30-65 Robert E. Kront
5-9-67
5-9-67 W.E. Baumann
5-9-67
6-9-67

8-67

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER DATE

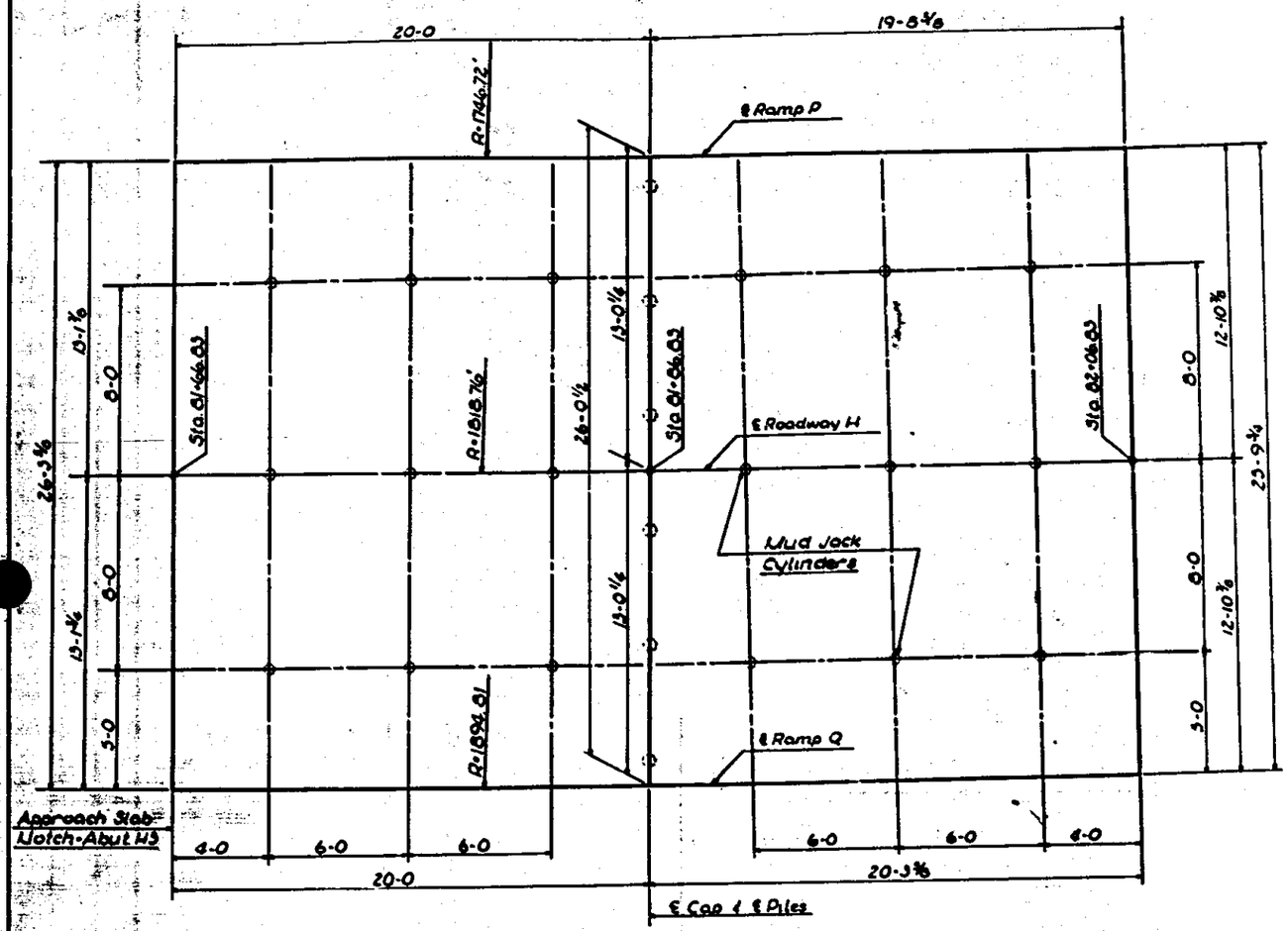
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

2259
Aug. 27, 1965

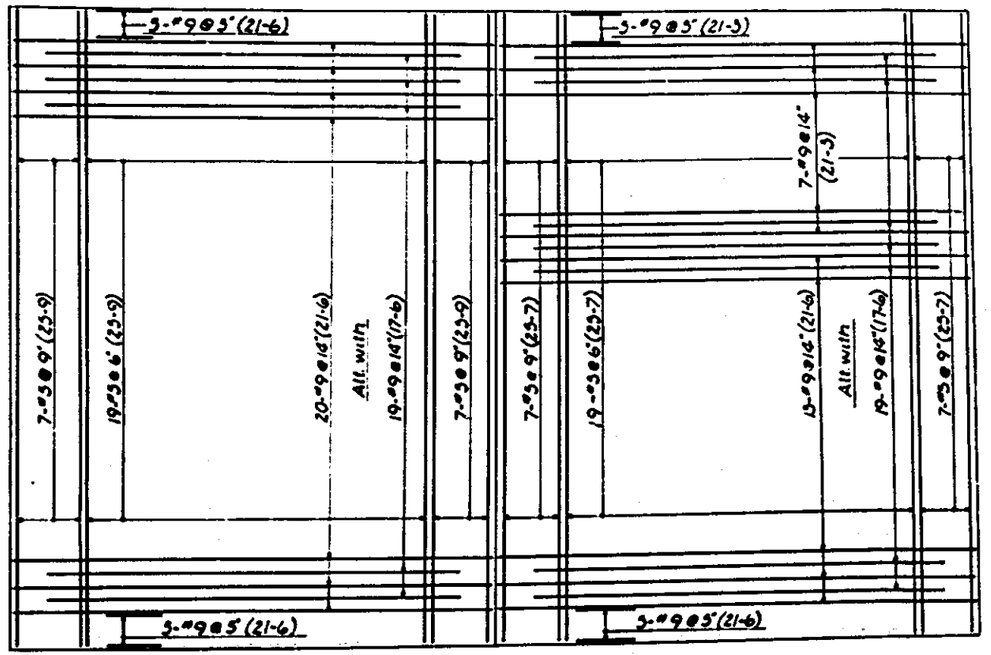
CONTRACT NO. 25092

082-0256

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	4
FED. ROAD DIV. No. 4	ILLINOIS	PROJECT		



DIMENSION PLAN



REINFORCEMENT PLAN

Note:
For Details and Sections not shown see Approach Slab Standards 2158-4 (Method II)

QUANTITIES

	Reinforcement			
	No.	Size & Length	Weight	
Slab	33	#5 x 25-9	8,410 Lbs.	Pavement 16½-12-16½ 116 Sq. Yds.
	33	#5 x 21-7		
	48	#9 x 21-6		
	12	#9 x 21-3		
	38	#9 x 17-6		
Cap	8	#8 x 25-9	630 Lbs.	Class X Concrete 1.8 Cu. Yds.
	22	#4 x 5-0		

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

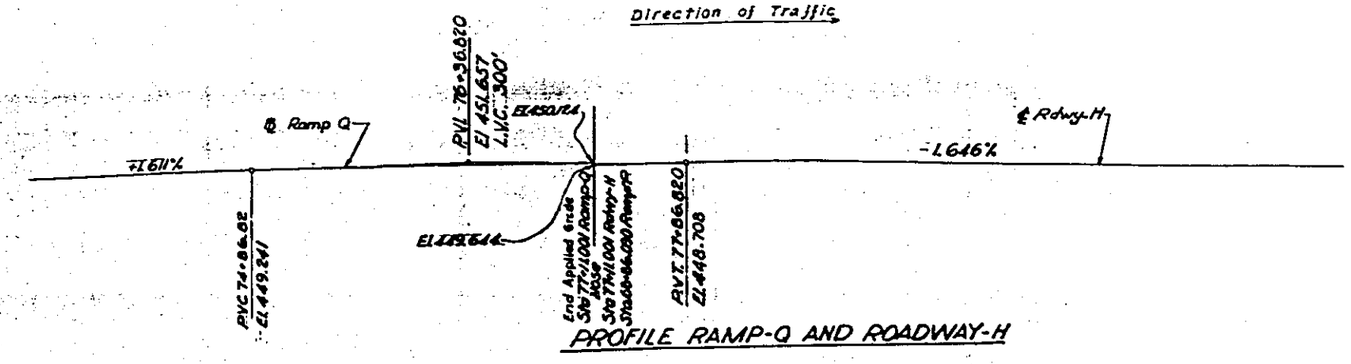
APPROACH SLAB
ROADWAY 'H'

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILL.

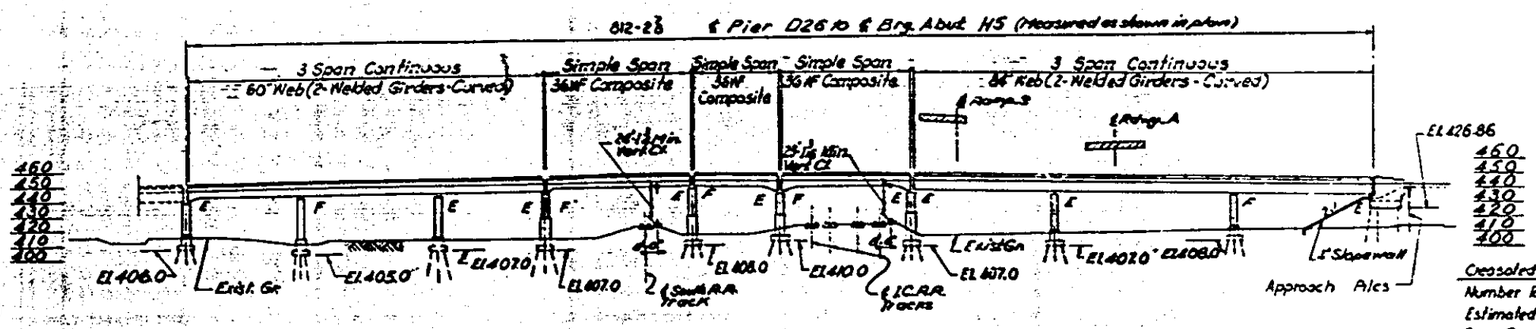
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HV8-1	ST. CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF8E-1
82-3HVD-1

33
68 of 258

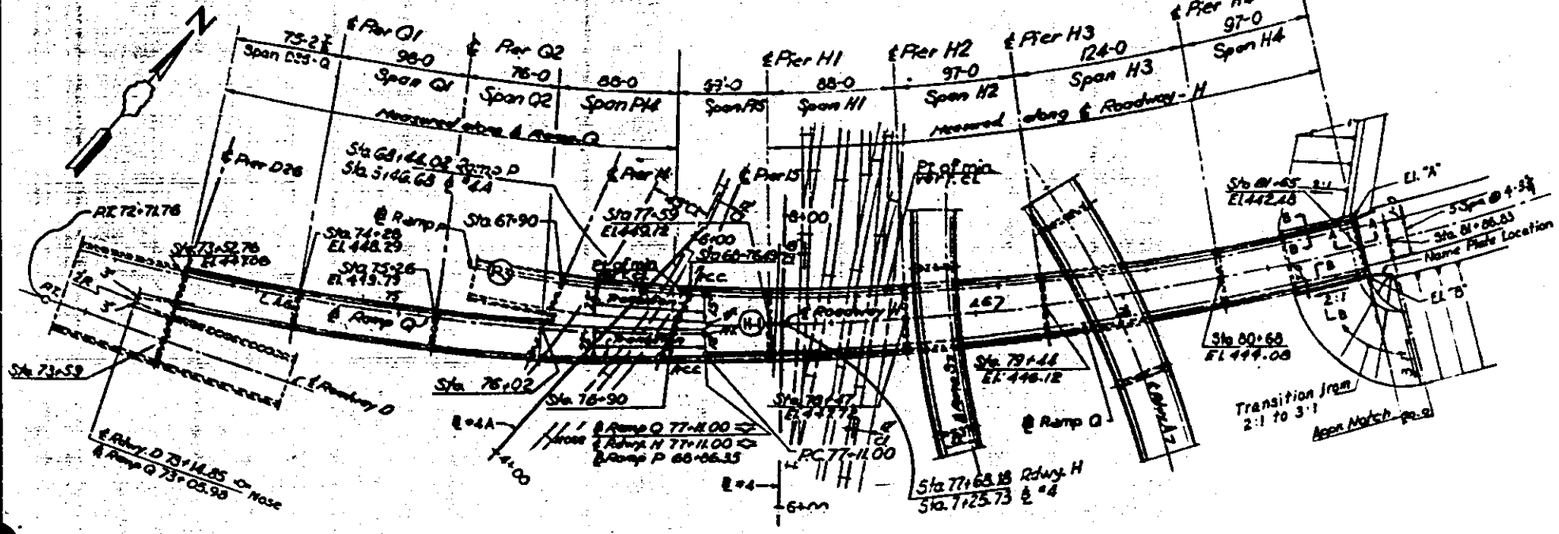


PROFILE RAMP-Q AND ROADWAY-H

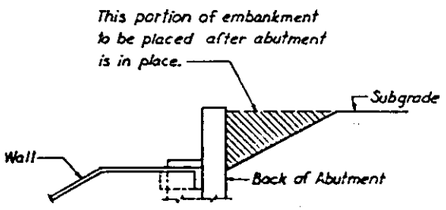


ELEVATION

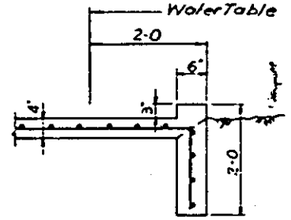
DEVELOPED LENGTH ALONG ℄ RAMP Q & ℄ ROADWAY H



PLAN

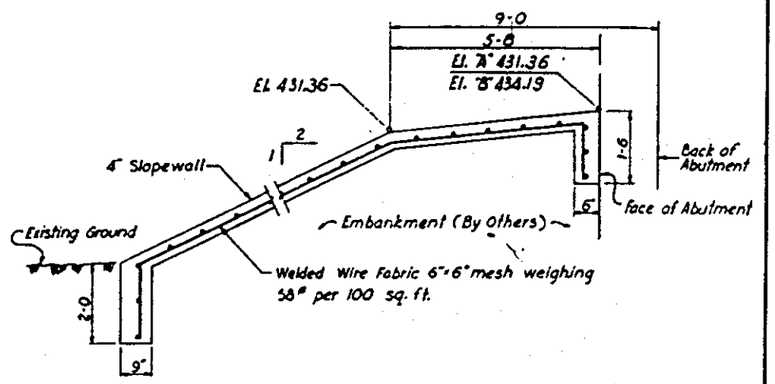


SECTION A-A



SECTION B-B

Creosoted Approach Piles
Number Required - 6
Estimated Length - 25'
See Special Provisions



TYPICAL CROSS SECTION OF SLOPE WALL

BILL OF MATERIAL

Item	Unit	Quantity
Slope Wall 4"	S.Y.	282
Name Plate	Ea.	1
Embankment	C.Y.	100

DESIGNED BY J.J.N.
DRAWN BY S.A.P.
CHECKED BY P.M.R.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
PLAN AND ELEVATION
SPANS D26-Q, Q1, Q2, P14, P15, H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "Q"
SECTIONS 82-3HV8-1
82-3HVF8E-1
82-3HVD-1
F.A.I.RT. 70 ST. CLAIR CO.

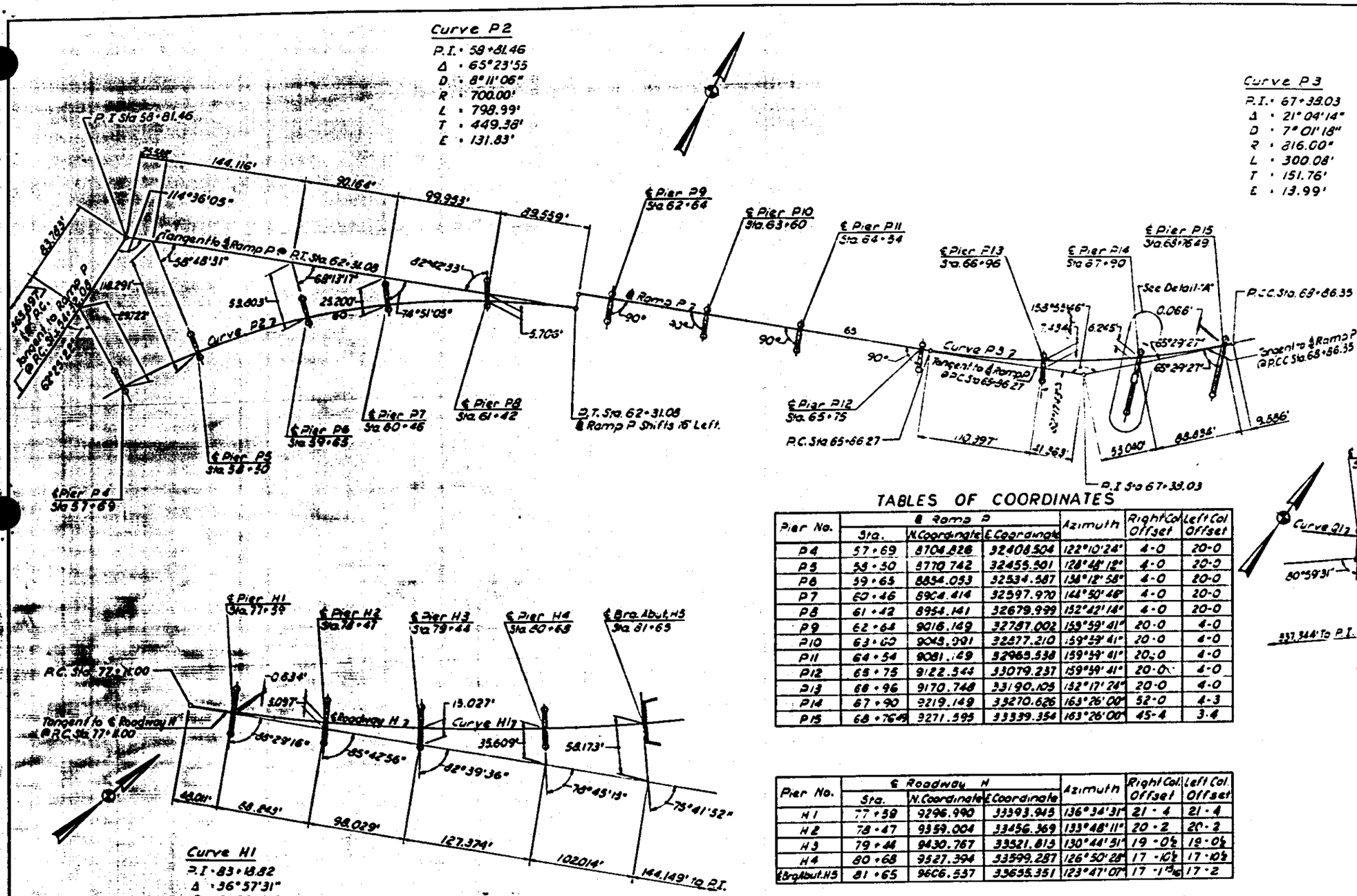
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 15 OF 52

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-1	ST.CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF&E-1
82-3HVD-1

49
84 of 258



TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col Offset
P4	57+69	8704.826	32408.504	122°10'24"	4-0	20-0
P5	58+30	8719.742	32455.501	128°48'12"	4-0	20-0
P6	59+65	8854.053	32534.587	138°18'58"	4-0	20-0
P7	60+46	8904.414	32597.970	144°50'46"	4-0	20-0
P8	61+42	8954.141	32679.999	152°42'14"	4-0	20-0
P9	62+64	9016.149	32781.002	159°59'41"	20-0	4-0
P10	63+60	9063.991	32877.210	159°59'41"	20-0	4-0
P11	64+54	9081.149	32965.538	159°59'41"	20-0	4-0
P12	65+75	9122.543	33079.237	159°59'41"	20-0	4-0
P13	66+96	9170.748	33190.105	152°17'24"	20-0	4-0
P14	67+90	9219.149	33270.626	163°26'00"	52-0	4-3
P15	68+76.49	9271.595	33339.354	163°26'00"	45-4	3-4

Pier No.	℄ Roadway H Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
H1	77+39	9296.990	33393.945	136°34'31"	21-4	21-4
H2	78+47	9359.004	33456.369	133°48'11"	20-2	20-2
H3	79+44	9430.767	33521.613	130°44'51"	19-0½	19-0½
H4	80+68	9527.394	33599.287	126°50'28"	17-10½	17-10½
℄ Bra. Abut. H5	81+65	9606.537	33635.351	123°47'07"	17-1 15/16	17-2

Pier No.	℄ Ramp Q Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
Q1	74+28	9088.251	33139.091	147°05'44"	20-0	4-0
Q2	75+26	9143.701	33219.686	143°58'35"	20-0	4-0

DESIGNED BY R.M.R.
DRAWN BY I.M.
CHECKED BY S.Q.R.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GEOMETRIC LAYOUT

PIERS P4 THRU P15, Q1 & Q2, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"

SECTIONS 82-3HVB-1
82-3HVF&E-1
82-3HVD-1

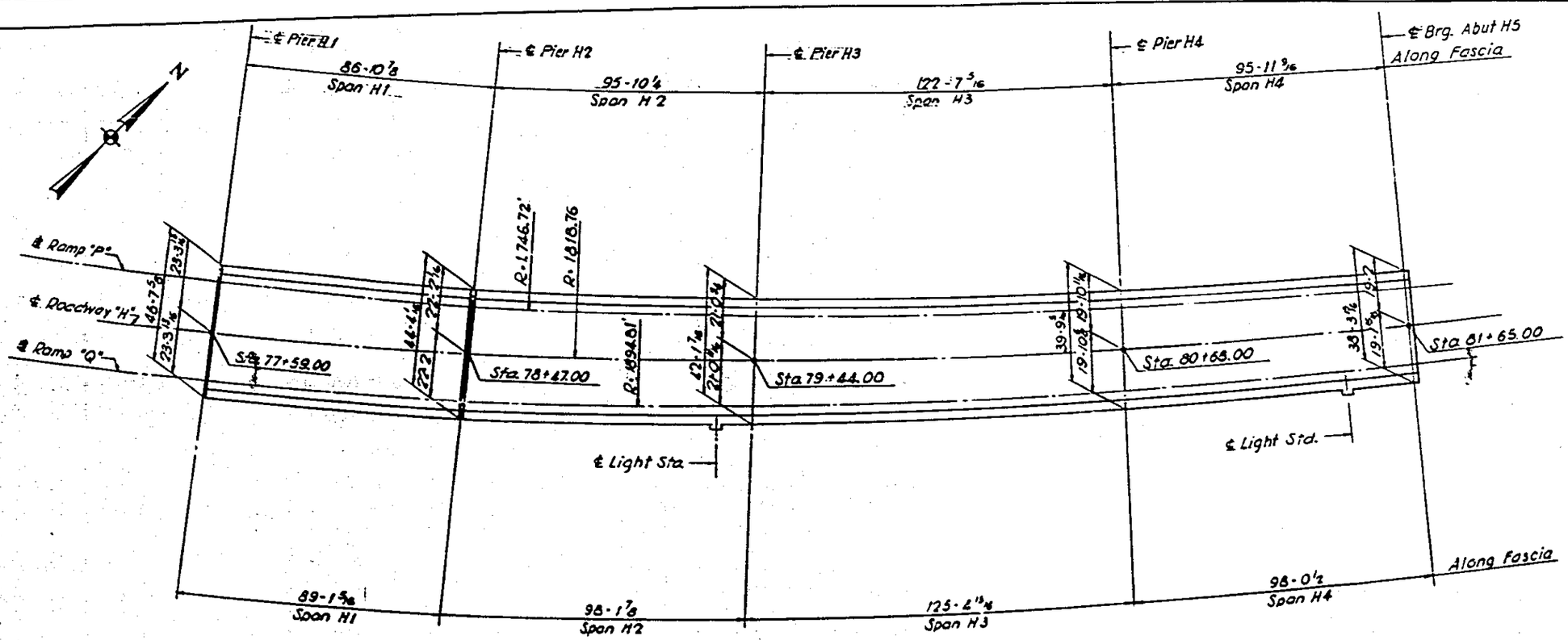
F.A.I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

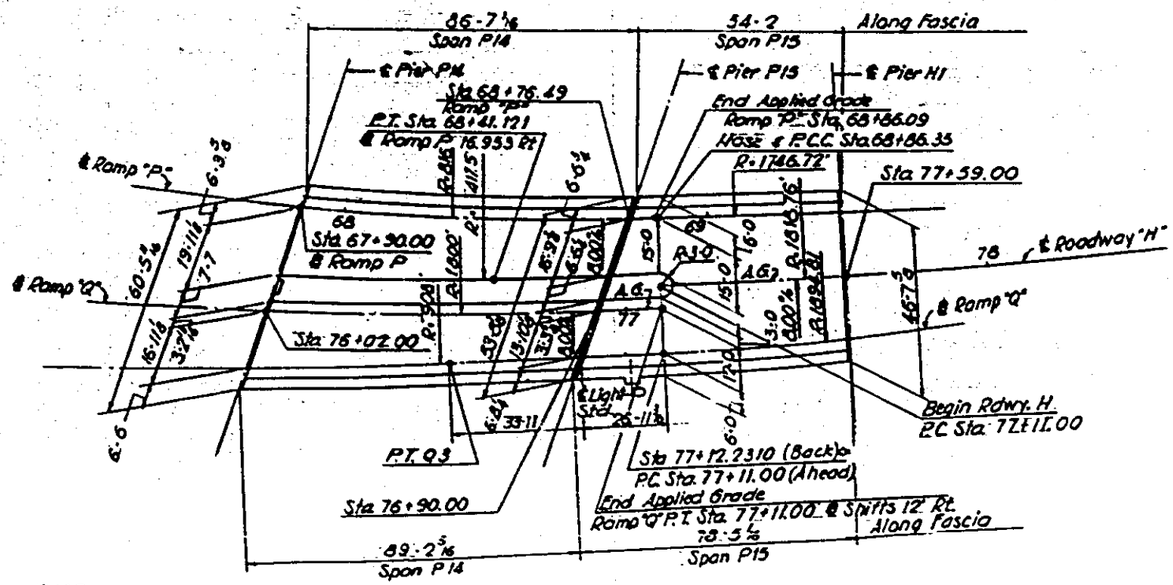
SHEET 31 OF 526

DETAIL - 'A'

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.–70	82–3HVD–1	ST. CLAIR	258	116
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
Spans H1 thru H4



CURVE DATA Q3
P.I. 75+07.7806504
Δ = 5° 30' 24.738"
R = 908.00'
Dc = 6° 18' 36.388
L = 87.2706422'
T = 43.6689430
E = 1.0482769

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

SLAB

DIMEMENSION PLAN — SPANS H1 THRU H4; P14 & P15

POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "P"

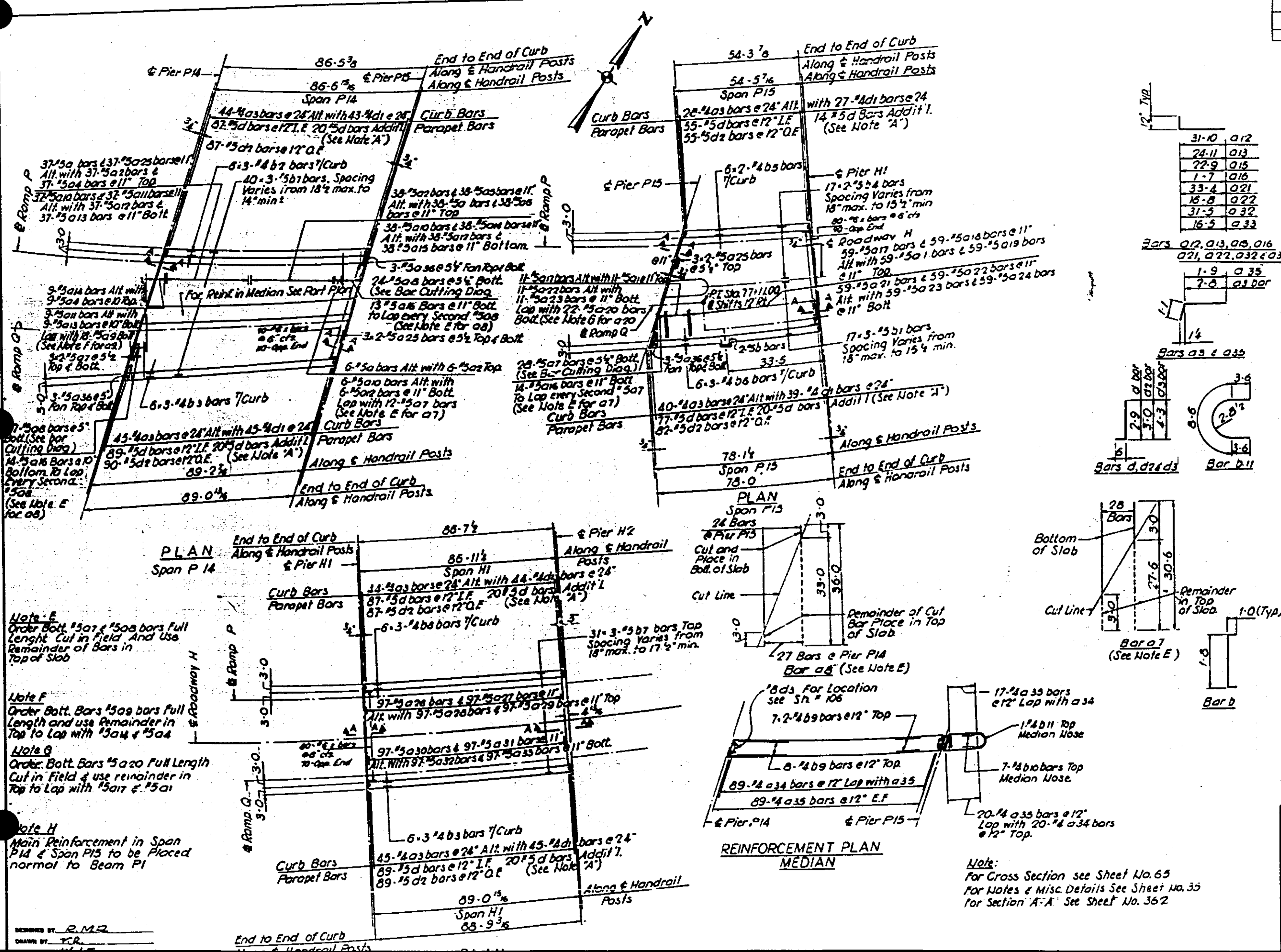
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

DESIGNED BY R.M.P.
DRAWN BY T.R.
CHECKED BY W.J.E.

H. W. LOCHNER, INC.
ENGINEERS

SHEET

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	117
FED. ROAD DIV. NO. 4		ILLINOIS. PROJECT		



Note E
Order Bott. #5a7 & #5a8 bars Full Lenght Cut in Field And Use Remainder of Bars in Top of Slab

Note F
Order Bott. Bars #5a9 bars Full Length and use Remainder in Top to Lap with #5a14 & #5a4

Note G
Order Bott. Bars #5a20 Full Length Cut in Field & use remainder in Top to Lap with #5a17 & #5a1

Note H
Main Reinforcement in Span P14 & Span P15 to be Placed normal to Beam P1

Note:
For Cross Section see Sheet No. 65
For Notes & Misc. Details See Sheet No. 35
For Section A-A See Sheet No. 362

BILL OF MATERIAL

*Bar	NO P14	NO P15	NO H1	Size	Length	Shape
64a	81			#5	28-9	
64a1		70		#5	27-10	
64a2	81			#5	35-6	
64a3	89	68	89	#4	3-9	
64a4	46			#5	21-3	
64a5	38			#5	19-3	
64a6	38			#5	26-0	
64a7	24	28		#5	30-6	
64a8	51			#5	36-0	
64a9	18			#5	35-11	
64a10	81			#5	24-6	
64a11	46			#5	33-0	
64a12	81			#5	32-10	
64a13	46			#5	25-11	
64a14	47			#5	30-0	
64a15	38			#5	23-9	
64a16	27	14		#5	2-7	
64a17		70		#5	20-5	
64a18		59		#5	29-7	
64a19		59		#5	22-2	
64a20		22		#5	35-10	
64a21		59		#5	34-4	
64a22		70		#5	17-8	
64a23		70		#5	24-2	
64a24		59		#5	25-10	
64a25	49	12		#5	28-0	
64a26			97	#5	27-9	
64a27			97	#5	20-0	
64a28			97	#5	20-8	
64a29			97	#5	27-3	
64a30			97	#5	24-4	
64a31			97	#5	23-8	
64a32			97	#5	32-7	
64a33			97	#5	17-5	
64a34	89	20		#4	5-6	
64a35	178	37		#4	2-10	
64a36	12	6		#5	5-0	
64b		2		#5	3-8	
64b1		150		#5	26-9	
64b2	16			#4	29-5	
64b3	16		16	#4	30-3	
64b4		104		#5	33-10	
64b5		12		#4	27-6	
64b6		18		#4	26-8	
64b7	342		283	#5	30-4	
64b8			16	#4	29-6	
64b9	22			#4	31-0	
64b10		7		#4	16-0	
64b11		1		#4	15-6	
64x	200	170	150	#6	4-9	
64d	216	166	216	#5	3-3	
64d1	88	66	89	#4	1-1	
64d2	177	137	176	#5	3-6	
64d3	8			#5	4-9	

*See Note "X" Sh. No. 35

ITEM	UNIT	TOTAL P14	TOTAL P15	TOTAL H1
Class "X" Concrete	Cu. Yds.	140.9	90.1	109.7
Reinforcement Bars	Lbs.	39,030	26,720	32,060
Protective Coat	Sq. Yds.	488	384	488
3/4" Stud Shear Connectors	Each	3465	2427	3069

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

SLAB
SPANS P14, P15 AND H1

POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMPS "P" & "Q"

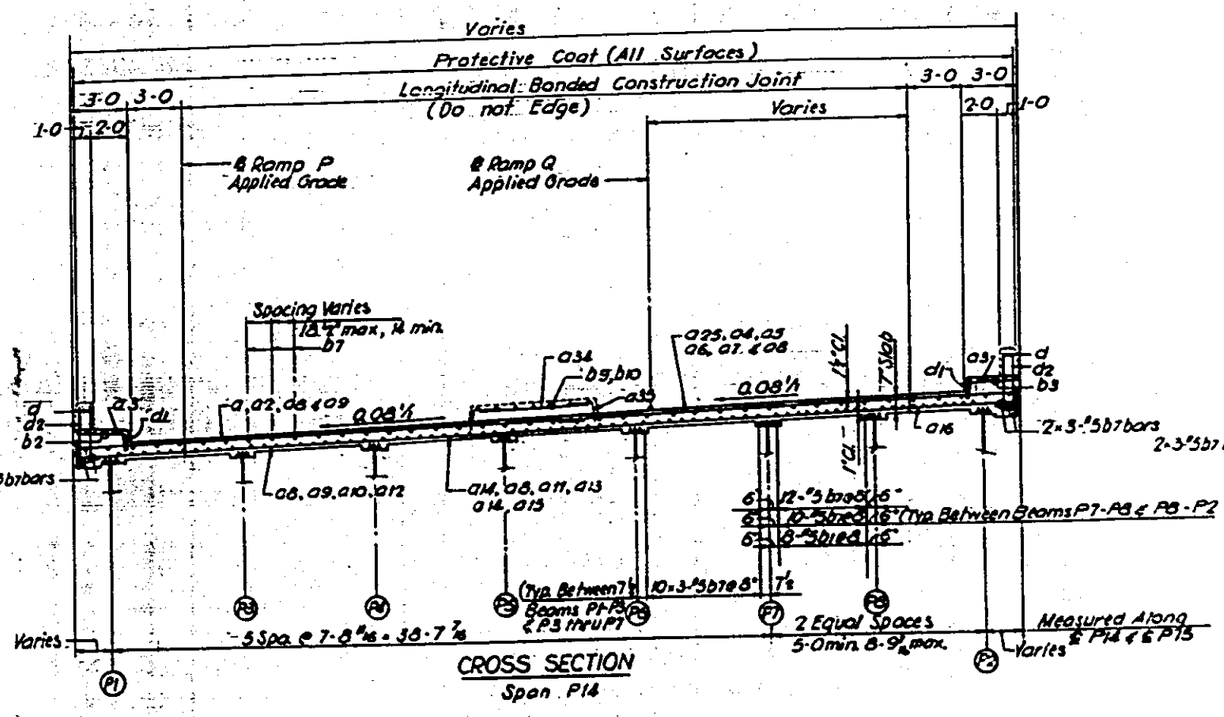
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

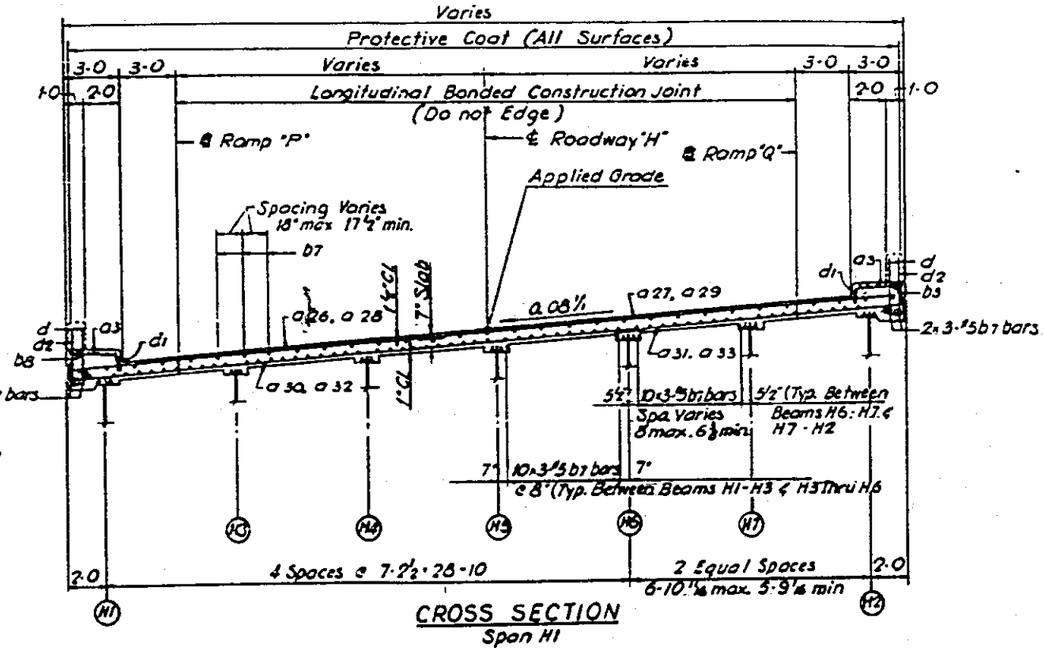
SHEET 64 of 526

DESIGNED BY R.M.R.
DRAWN BY T.R.

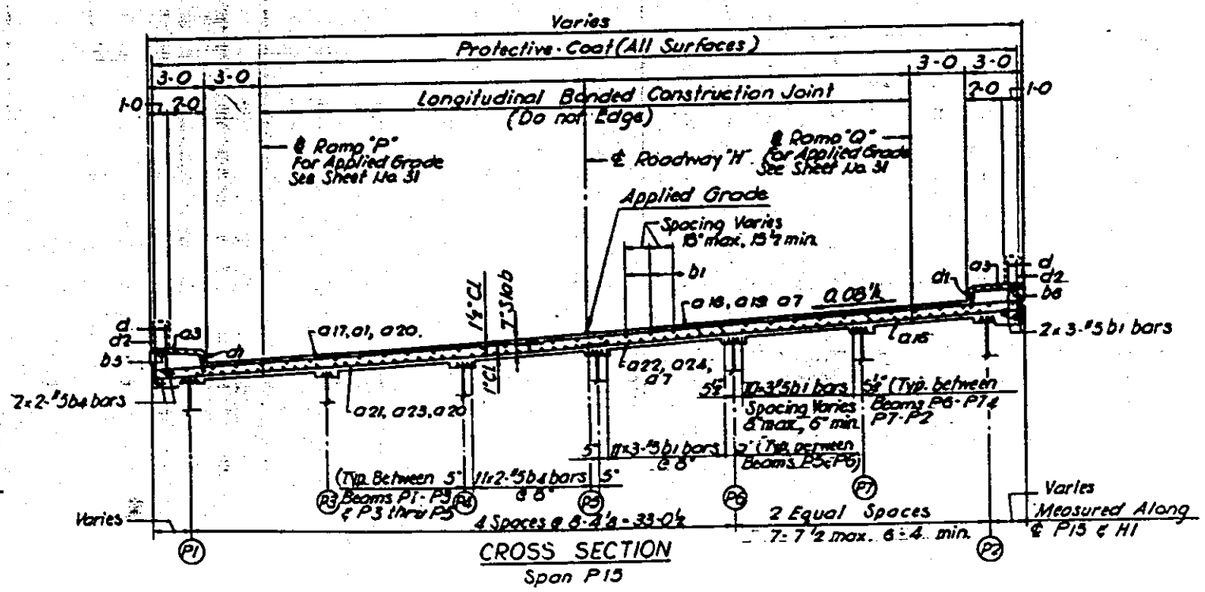
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HVD-1.	ST. CLAIR	258	118
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



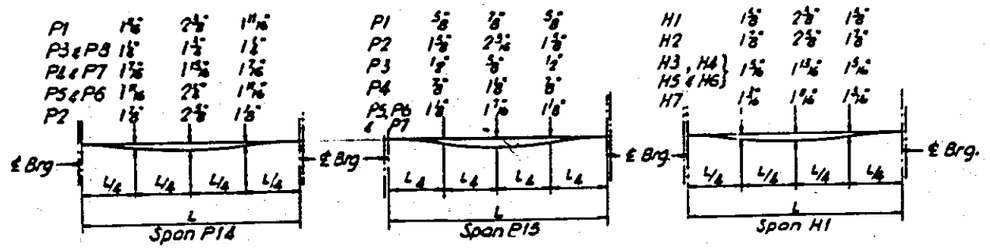
CROSS SECTION
Span P14



CROSS SECTION
Span H1



CROSS SECTION
Span P15



DEAD LOAD DEFLECTION DIAGRAMS
(Weight of Concrete Only)

Note:
For Notes & Location of Section See Sheet No. 64

DESIGNED BY R.M.P.
DRAWN BY T.R.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

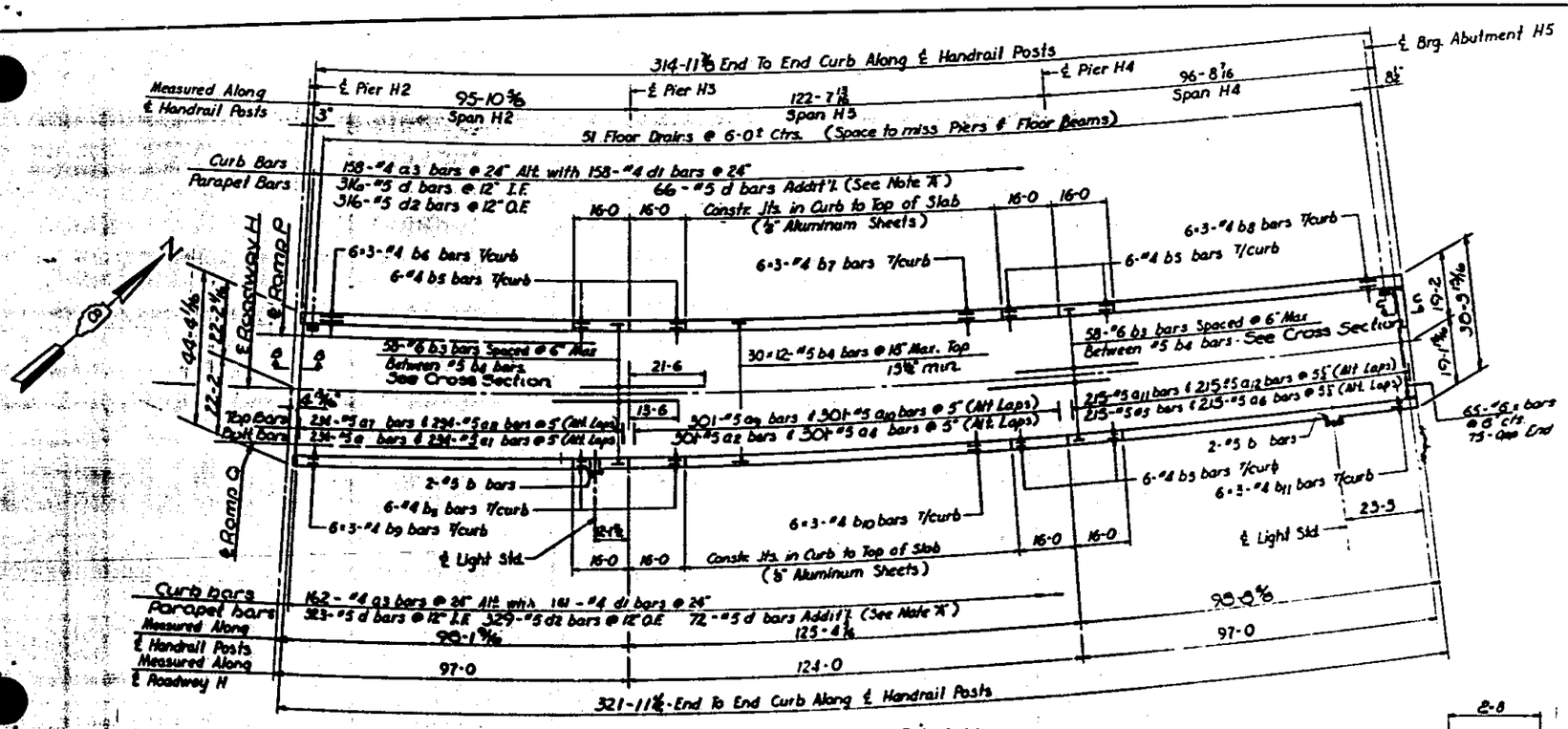
SLAB
SPANS P14, P15 AND H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMPS "P" & "Q"

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

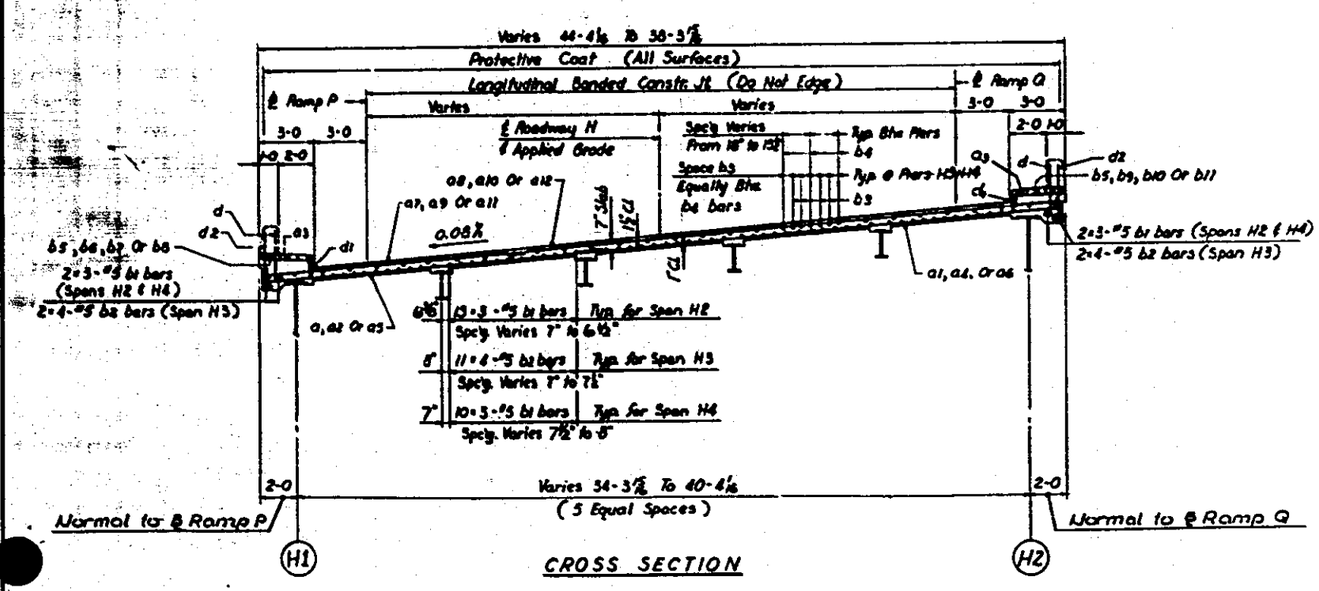
H. W. LOCHNER, INC.
ENGINEERS

SHEET 65 OF 525

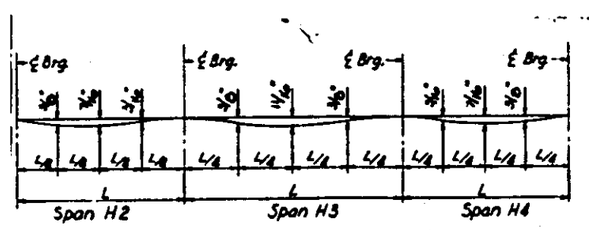
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVD-1	ST. CLAIR	258	119
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



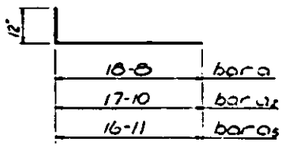
PLAN
SPANS H2 THRU H4



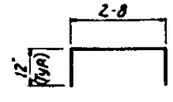
CROSS SECTION



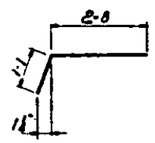
DEAD LOAD DEFLECTION DIAGRAM
FASCIA GIRDERS (Wt Of Concrete Only)



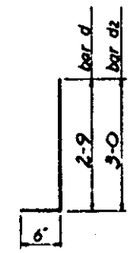
Bars a, a2 & a5



Bar b



Bar a3



Bars d & d2

Note:
For Notes & Misc. Details See Sh. No 35
For Section B-B & CC, See Sh. No 362 & 363

BILL OF MATERIAL

*BAR	NO	SIZE	LENGTH	SHAPE
66a	234	#5	19-8	L
66a1	234	#5	26-9	
66a2	301	#5	18-10	L
66a3	320	#4	3-9	
66a4	301	#5	25-3	
66a5	215	#5	17-11	L
66a6	215	#5	24-0	
66a7	234	#5	14-4	
66a8	234	#5	30-9	
66a9	301	#5	14-0	
66a10	301	#5	29-3	
66a11	215	#5	15-3	
66a12	215	#5	27-8	
66b	4	#5	3-8	
66b1	369	#5	35-7	
66b2	236	#5	32-3	
66b3	116	#6	33-0	
66b4	360	#5	27-9	
66b5	24	#4	15-9	
66b6	18	#4	27-2	
66b7	18	#4	30-11	
66b8	18	#4	27-6	
66b9	18	#4	27-11	
66b10	18	#4	31-7	
66b11	18	#4	28-2	
66d	777	#5	3-3	
66d1	319	#4	1-1	
66d2	645	#5	3-6	
66x	140	#6	6'-9"	

* See Note X Sh. No 35

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	368.3
Reinforcement Bars	Lbs.	114,790
Protective Coat	Sq. Yds.	1602

DESIGNED BY R.M.R.
DRAWN BY O.K.
CHECKED BY M.J.F.
APPROVED BY K.R.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

SLAB
SPANS H2 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

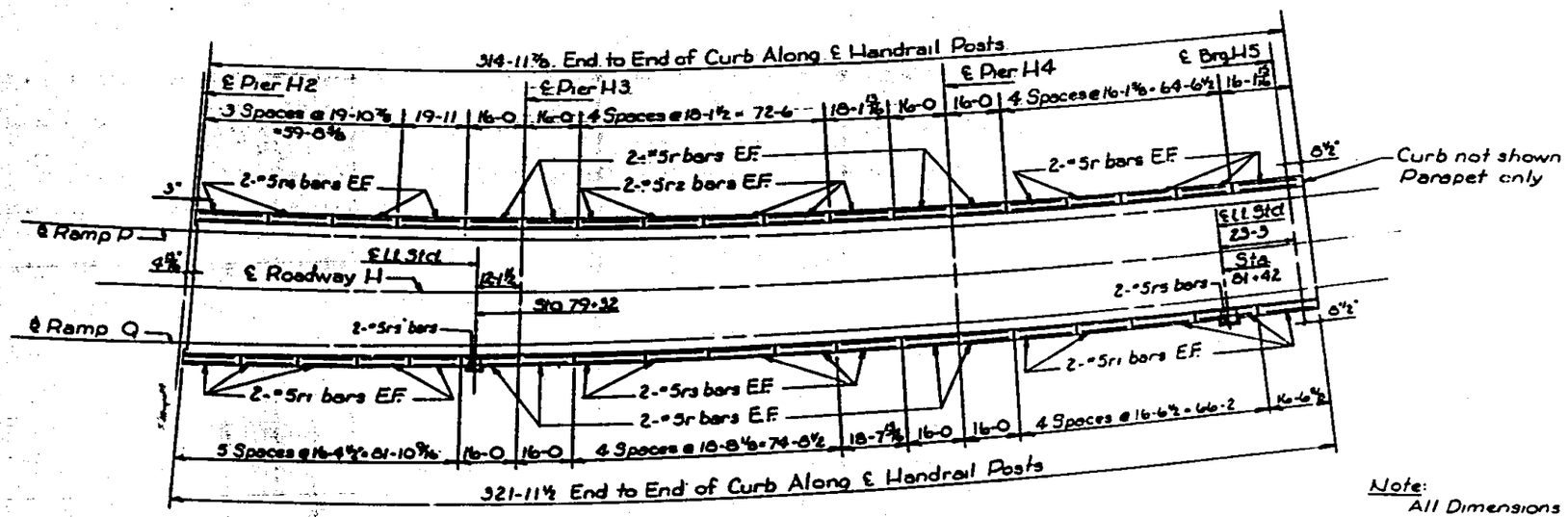
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 66 of 526

Rev. Reinf. from 113,790# to 114,790# Added bars 66x 6-3-65 N.R.S.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	238	160
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
Parapet Joint Spacing
Rdwy H
Spans H2-H4

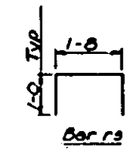
Note:
All Dimensions in Plan are along ℄ of Post

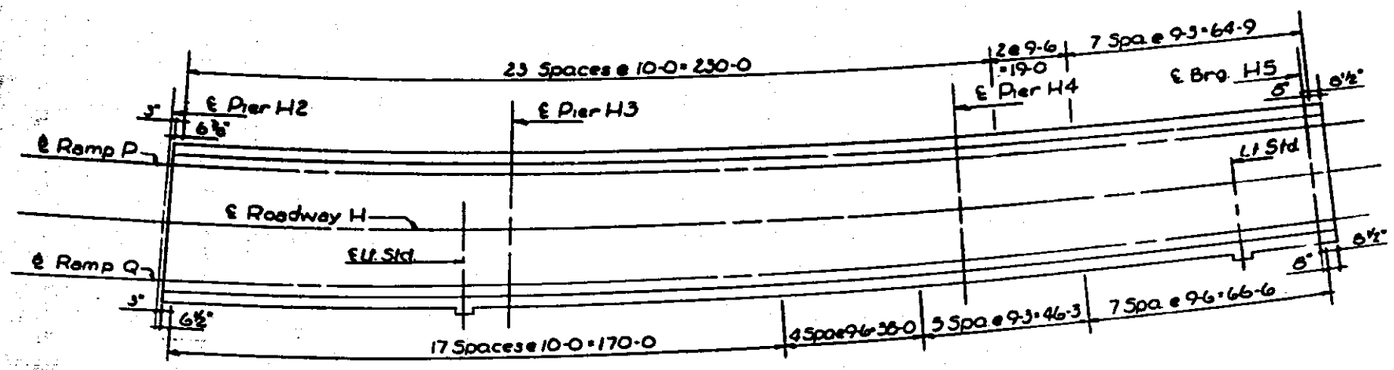
BILL OF MATERIAL

●BAR	NO	SIZE	LENGTH	SHAPE
107r	52	#5	15-8	
107r1	40	#5	16-0	
107r2	20	#5	17-8	
107r3	20	#5	18-2	
107r4	16	#5	19-5	
107r5	4	#5	3-8	

ITEM	UNIT	TOTAL
Class X Concrete	Cu Yds.	326
Reinforcement Bars	Lbs.	2600
Aluminum Handrails	Lin. Ft.	637

●See Note X Sh. No 135





PLAN
Handrail Post Spacing
Rdwy H

Note
For Detail of Lt Std see sh. No 33
For Detail of Handrail & Parapet Joint see sh. No 125

DESIGNED BY R.M.P.
DRAWN BY J.M.A.
CHECKED BY W.J.F.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

PARAPET AND HANDRAIL

SPANS H2 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 107 OF 238

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	212
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1	7760.348	- 21.316	447.401	447.401
	7760.344	- 14.108	447.976	447.976
	7760.338	- 6.900	448.556	448.556
	7760.333	.308	449.132	449.132
	7760.328	7.517	449.708	449.708
	7760.323	14.401	450.258	450.258
	7760.318	21.285	450.810	450.810

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+10'	7770.468	- 21.381	447.266	447.330
	7770.422	- 14.163	447.843	447.900
	7770.376	- 6.975	448.421	448.477
	7770.331	.234	448.998	449.055
	7770.287	7.442	449.576	449.632
	7770.245	14.196	450.116	450.173
	7770.204	20.946	450.657	450.730

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+20'	7780.587	- 21.410	447.099	447.220
	7780.500	- 14.862	447.676	447.760
	7780.415	- 6.904	448.254	448.366
	7780.330	.213	448.832	448.906
	7780.246	7.421	449.410	449.513
	7780.160	14.063	449.951	450.044
	7780.080	20.666	450.472	450.621

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+30'	7790.708	- 21.374	446.935	447.118
	7790.579	- 14.166	447.513	447.680
	7790.453	- 6.960	448.091	448.258
	7790.329	.246	448.670	448.806
	7790.205	7.456	449.249	449.386
	7790.088	13.945	449.770	449.898
	7789.966	20.436	450.291	450.467

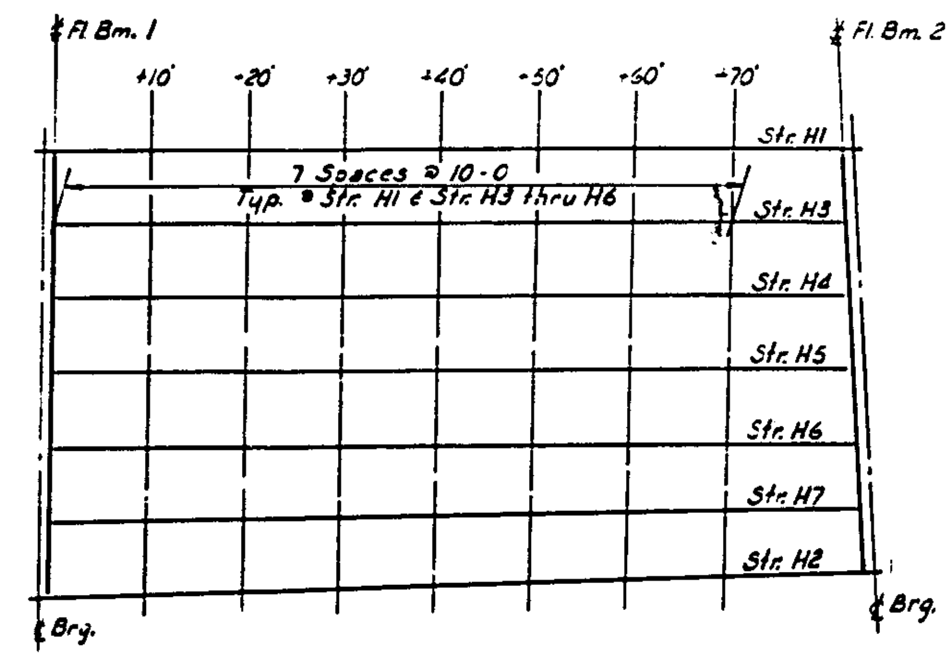
FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+40'	7800.824	- 21.281	446.775	446.971
	7800.657	- 14.075	447.354	447.556
	7800.491	- 6.869	447.934	448.086
	7800.327	.336	448.513	448.664
	7800.164	7.344	449.092	449.243
	7800.021	13.508	449.609	[illegible]
	7799.879	20.284	450.114	450.331

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+50'	7810.941	- 21.136	446.680	446.810
	7810.738	- 13.928	447.300	447.347
	7810.529	- 6.723	447.780	447.927
	7810.323	.483	448.360	448.507
	7810.121	7.688	448.940	449.087
	7809.947	13.914	449.441	449.575
	7809.775	20.140	449.942	450.150

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+60'	7821.006	- 20.930	446.470	446.624
	7820.808	- 13.726	447.051	447.172
	7820.592	- 6.522	447.631	447.750
	7820.376	.682	448.211	448.334
	7820.076	7.888	448.792	448.915
	7819.873	13.981	449.282	449.386
	7819.671	20.080	449.774	449.904

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1+70'	7831.166	- 20.671	446.324	446.426
	7830.889	- 13.469	446.905	446.996
	7830.594	- 6.266	447.486	447.569
	7830.311	.937	448.067	448.151
	7830.029	8.140	448.649	448.733
	7829.798	14.102	449.129	449.215
	7829.568	20.070	449.610	449.727

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
2	7840.882	- 20.369	446.123	446.123
	7840.687	- 12.991	446.700	446.700
	7840.482	- 5.776	447.277	447.277
	7840.288	1.436	447.854	447.854
	7840.073	8.646	448.431	448.431
	7839.877	14.469	448.992	448.992
	7839.681	20.170	449.368	449.353



LOCATION PLAN
Span H1

Note
Stringers are identified in the Tables by their offset.

DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

TABLES OF ELEVATIONS
SPAN H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 159 OF 326

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	213
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL. BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
3.0	7840.349	- 20.130	446.083	446.083
	7840.343	- 12.088	446.788	446.788
	7840.337	- 4.083	447.373	447.373
	7840.331	4.029	448.018	448.018
	7840.325	12.089	448.683	448.683
	7840.320	20.151	449.308	449.308
3.5	7850.833	- 20.077	445.982	445.983
	7850.833	- 12.000	446.821	446.832
	7850.833	- 4.008	447.284	447.275
	7850.833	3.971	447.906	447.917
	7850.833	12.001	448.349	448.380
	7850.833	20.071	449.198	449.208
4.0	7861.333	- 19.996	445.882	445.902
	7861.333	- 12.000	446.517	446.538
	7861.333	- 4.000	447.157	447.177
	7861.333	3.996	447.797	447.817
	7861.333	11.997	448.438	448.457
	7861.333	19.993	449.081	449.102
4.5	7871.667	- 19.878	445.721	445.738
	7871.667	- 11.906	446.354	446.380
	7871.667	- 4.016	446.988	447.024
	7871.667	3.983	447.686	447.680
	7871.667	11.882	448.262	448.218
	7871.667	19.860	448.901	448.934
5.0	7882.000	- 19.753	445.581	445.604
	7882.000	- 11.898	446.190	446.220
	7882.000	- 3.977	446.822	446.851
	7882.000	3.908	447.454	447.483
	7882.000	11.804	448.086	448.125
	7882.000	19.747	448.721	448.761
5.5	7892.333	- 19.636	445.401	445.440
	7892.333	- 11.890	446.020	446.050
	7892.333	- 4.037	446.640	446.680
	7892.333	3.816	447.277	447.316
	7892.333	11.669	447.905	447.944
	7892.333	19.626	448.541	448.581
6.0	7902.667	- 19.516	445.240	445.273
	7902.667	- 11.684	445.885	445.880
	7902.667	- 4.018	446.480	446.513
	7902.667	3.700	447.104	447.138
	7902.667	11.584	447.729	447.762
	7902.667	19.510	448.352	448.385
6.5	7913.000	- 19.400	445.079	445.102
	7913.000	- 11.700	445.685	445.718
	7913.000	- 3.941	446.316	446.350
	7913.000	3.818	446.937	446.980
	7913.000	11.578	447.557	447.590
	7913.000	19.394	448.183	448.205
7.0	7923.333	- 19.288	444.918	444.980
	7923.333	- 11.880	445.591	445.542
	7923.333	- 3.914	446.140	446.180
	7923.333	3.790	446.786	446.777
	7923.333	11.813	447.382	447.384
	7923.333	19.280	448.008	448.015
7.5	7933.667	- 19.174	444.757	444.780
	7933.667	- 11.850	445.380	445.382
	7933.667	- 3.800	445.982	445.998
	7933.667	3.800	446.586	446.580
	7933.667	11.380	447.200	447.200
	7933.667	19.160	447.824	447.827
8.0	7944.000	- 19.083	444.588	444.588
	7944.000	- 11.813	445.192	445.192
	7944.000	- 3.700	445.802	445.802
	7944.000	3.630	446.412	446.412
	7944.000	11.284	447.022	447.022
	7944.000	19.057	447.646	447.646
8.5	7954.333	- 18.938	444.436	444.440
	7954.333	- 11.519	445.029	445.035
	7954.333	- 3.922	445.636	445.641
	7954.333	3.646	446.242	446.248
	7954.333	11.228	446.849	446.854
	7954.333	18.949	447.467	447.472
9.0	7964.667	- 18.889	444.273	444.289
	7964.667	- 11.388	444.873	444.889
	7964.667	- 3.627	445.475	445.491
	7964.667	3.712	446.078	446.094
	7964.667	11.251	446.680	446.697
	7964.667	18.843	447.290	447.305
9.5	7975.000	- 18.744	444.111	444.142
	7975.000	- 11.307	444.705	444.737
	7975.000	- 3.610	445.306	445.336
	7975.000	3.667	445.908	445.938
	7975.000	11.104	446.508	446.536
	7975.000	18.730	447.110	447.140
10.0	7985.333	- 18.641	443.960	443.983
	7985.333	- 11.300	444.558	444.580
	7985.333	- 3.643	445.138	445.177
	7985.333	3.613	445.730	445.773
	7985.333	11.000	446.386	446.370
	7985.333	18.636	446.984	446.975
10.5	7995.667	- 18.541	443.787	443.840
	7995.667	- 11.236	444.372	444.425
	7995.667	- 3.618	444.985	445.018
	7995.667	3.598	445.588	445.07
	7995.667	11.014	446.181	446.205
	7995.667	18.536	446.780	446.807
11.0	8006.000	- 18.442	443.625	443.682
	8006.000	- 11.111	444.211	444.268
	8006.000	- 3.736	444.802	444.880
	8006.000	3.641	445.382	445.440
	8006.000	11.017	445.962	446.080
	8006.000	18.436	446.575	446.632
11.5	8016.333	- 18.346	443.463	443.516
	8016.333	- 11.053	444.046	444.100
	8016.333	- 3.715	444.630	444.687
	8016.333	3.622	445.220	445.274
	8016.333	10.958	445.807	445.861
	8016.333	18.339	446.397	446.453
12.0	8026.667	- 18.250	443.300	443.345
	8026.667	- 11.025	443.870	443.923
	8026.667	- 3.786	444.462	444.507
	8026.667	3.574	445.046	445.091
	8026.667	10.873	445.630	445.675
	8026.667	18.244	446.220	446.264
12.5	8037.000	- 18.157	443.137	443.169
	8037.000	- 10.940	443.715	443.747
	8037.000	- 3.678	444.296	444.327
	8037.000	3.584	444.877	444.908
	8037.000	10.846	445.458	445.453
	8037.000	18.152	446.042	446.074
13.0	8047.333	- 18.066	442.975	442.992
	8047.333	- 10.896	443.548	443.566
	8047.333	- 3.670	444.126	444.144
	8047.333	3.586	444.704	444.722
	8047.333	10.782	445.282	445.300
	8047.333	18.061	445.866	445.882
13.5	8057.667	- 17.976	442.812	442.818
	8057.667	- 10.851	443.375	443.381
	8057.667	- 3.740	443.951	443.957
	8057.667	3.490	444.526	444.532
	8057.667	10.841	445.101	445.107
	8057.667	17.971	445.680	445.686
14.0	8068.000	- 17.889	442.649	442.649
	8068.000	- 10.900	443.207	443.207
	8068.000	- 3.732	443.780	443.780
	8068.000	3.404	444.352	444.352
	8068.000	10.580	444.925	444.925
	8068.000	17.884	445.511	445.511
14.5	8078.333	- 17.804	442.485	442.488
	8078.333	- 10.828	443.063	443.066
	8078.333	- 3.706	443.613	443.616
	8078.333	3.416	444.183	444.185
	8078.333	10.538	444.753	444.756
	8078.333	17.739	445.334	445.336
15.0	8088.667	- 17.720	442.322	442.332
	8088.667	- 10.680	442.885	442.875
	8088.667	- 3.601	443.452	443.462
	8088.667	3.487	444.019	444.029
	8088.667	10.575	444.586	444.596
	8088.667	17.716	445.157	445.167
15.5	8099.000	- 17.639	442.158	442.179
	8099.000	- 10.843	442.718	442.739
	8098.070	- 3.588	443.282	443.303
	8099.000	3.467	443.847	443.868
	8099.000	10.522	444.411	444.432
	8099.000	17.635	444.980	445.001
16.0	8109.333	- 17.559	441.975	442.025
	8109.333	- 10.850	442.547	442.578
	8109.333	- 3.626	443.108	443.140
	8109.333	3.398	443.671	443.702
	8109.333	10.422	444.233	444.264
	8109.333	17.986	444.804	444.835
16.5	8119.667	- 17.482	441.831	441.867
	8119.667	- 10.503	442.381	442.418
	8119.667	- 3.606	442.941	442.977
	8119.667	3.387	443.500	443.537
	8119.667	10.380	444.060	444.096
	8119.667	17.478	444.628	444.664
17.0	8130.000	- 17.406	441.667	441.704
	8130.000	- 10.469	442.220	442.257
	8130.000	- 3.527	442.777	442.814
	8130.000	3.435	443.334	443.371
	8130.000	10.397	443.891	443.928
	8130.000	17.402	444.451	444.489
17.5	8140.333	- 17.333	441.503	441.535
	8140.333	- 10.441	442.054	442.086
	8140.333	- 3.508	442.609	442.640
	8140.333	3.425	443.163	443.195
	8140.333	10.357	443.718	443.750
	8140.333	17.329	444.275	444.307
18.0	8150.667	- 17.261	441.338	441.359
	8150.667	- 10.420	441.885	441.906
	8150.667	- 3.518	442.438	442.458
	8150.667	3.389	442.990	443.011
	8150.667	10.293	443.543	443.563
	8150.667	17.257	444.100	444.120
18.5	8157.542	- 17.214	441.229	441.240
	8157.542	- 10.376	441.776	441.787
	8157.542	- 3.488	442.327	442.338
	8157.542	3.397	442.878	442.889
	8157.542	10.298	443.429	443.439
	8157.542	17.211	443.983	443.994
19.0	8164.410	- 17.169	441.119	441.119
	8164.412	- 10.302	441.669	441.669
	8164.415	- 3.435	442.218	442.218
	8164.417	3.432	442.767	442.767
	8164.419	10.298	443.317	443.317
	8164.421	17.165	443.866	443.866

Note: For Notes see Sheet No. 126

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

TABLES OF ELEVATIONS

SPANS H2 THRU H4

POPLAR STREET BRIDGE APPROACHES

ROADWAY "H"

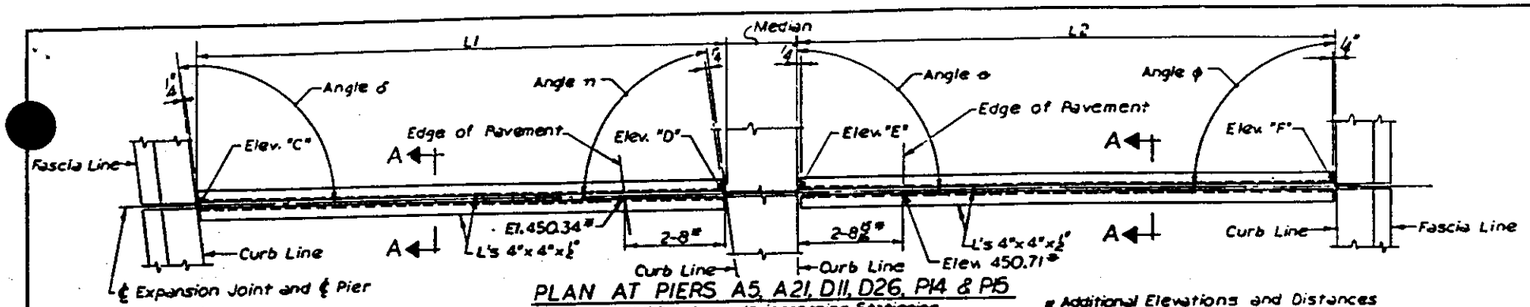
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 160 OF 526

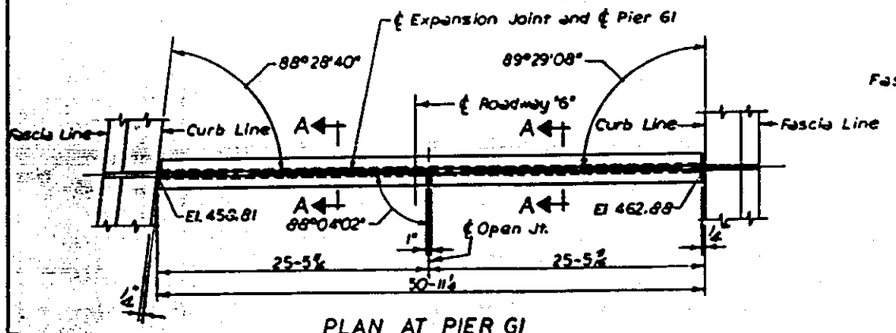
DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY.	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1	ST. CLAIR		
	82-3HVD-1		258	237
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

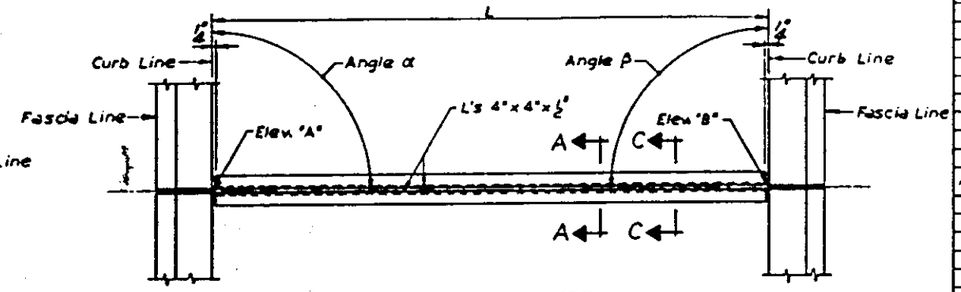


PLAN AT PIERS A5, A21, D11, D26, P14 & P15
Looking towards increasing Stationing
(See Table II)

* Additional Elevations and Distances for Expansion Device at Pier D11 only.



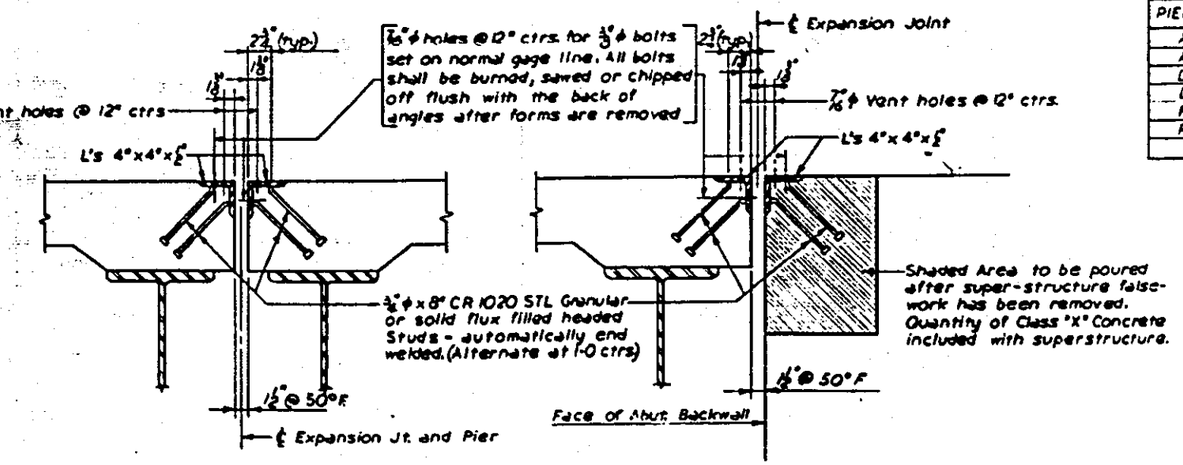
PLAN AT PIER G1
Looking towards increasing Stationing



PLAN AT PIERS
A11, A12, D5, D12, D18, D21, G9, H1, M9, N1, O6, P7, S3 & ABUTMENTS G14, H5, O10 & O11
Looking towards increasing Stationing
(See Table I)

TABLE I
FOR ELEVATIONS, LENGTHS, ANGLES & WEIGHTS

PIER NO.	ANGLE α	ELEV. "A"	L	ELEV. "B"	ANGLE β	WEIGHT
A11	90°03'16"	448.05	30-0	450.45	90°00'00"	830 Lbs.
A12	90°19'37"	448.43	30-3¼	450.85	90°00'00"	830 Lbs.
D5	90°00'00"	446.70	30-0¼	446.23	92°36'23"	830 Lbs.
D12	90°00'00"	448.31	30-0	450.71	90°00'00"	830 Lbs.
D18	90°12'05"	448.70	30-0⅜	450.88	90°00'00"	830 Lbs.
D21	91°47'46"	446.96	34-10½	449.49	90°00'00"	960 Lbs.
G9	90°00'00"	455.58	30-0	457.98	90°00'00"	830 Lbs.
H1	89°12'02"	447.50	40-7⅞	450.75	89°12'59"	1120 Lbs.
M9	90°00'00"	465.31	22-0	467.07	90°00'00"	610 Lbs.
N1	90°00'00"	451.32	22-0	450.44	90°00'00"	610 Lbs.
O6	90°00'00"	449.26	22-0	449.81	90°00'00"	610 Lbs.
P7	90°00'00"	471.78	22-0	470.02	90°00'00"	610 Lbs.
S3	90°00'00"	457.36	22-0	455.91	90°00'00"	610 Lbs.
G1		"See Details This Sheet"				1380 Lbs.
ABUTMENT						
G14	85°35'35"	443.24	48-8½	443.39	90°00'00"	1340 Lbs.
H5	89°38'48"	441.18	32-3¾	443.76	89°36'07"	890 Lbs.
O10	90°00'00"	428.11	22-0	429.87	90°00'00"	610 Lbs.
O11	90°00'00"	424.74	22-0	426.12	90°00'00"	610 Lbs.



SECTION A-A
AT PIERS

SECTION C-C
AT ABUTMENTS

TABLE II
FOR ELEVATIONS LENGTHS ANGLES & WEIGHTS

PIER NO.	ANGLE δ	ELEV. "C"	L1	ELEV. "D"	ANGLE η	ANGLE σ	ELEV. "E"	L2	ELEV. "F"	ANGLE φ	WEIGHT
A5	95°43'07"	443.51	21-2⅝	445.31	96°33'29"	90°00'00"	445.68	30-0	447.24	90°00'00"	1410 Lbs.
A21	94°30'36"	454.20	19-4⅛	455.66	87°13'39"	90°00'00"	456.27	30-0	457.32	90°00'00"	1360 Lbs.
D11	90°00'00"	447.94	32-8	450.42	86°21'42"	78°59'21"	450.63	24-11⅝	450.45	98°04'36"	1590 Lbs.
D26	97°09'16"	446.84	22-2	448.56	82°59'54"	90°00'00"	448.90	30-0	449.37	90°00'00"	1440 Lbs.
P14	107°48'41"	448.63	23-0⅜	450.44	72°39'57"	111°54'53"	450.14	23-4⅞	451.85	67°23'40"	1280 Lbs.
P15	113°54'37"	448.02	20-1¼	449.55	64°39'15"	114°43'17"	450.02	20-5⅜	451.56	63°49'22"	1120 Lbs.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel	Lbs.	23,140

NOTE:

The Contractor for Section 82-3 HVF & E-1 will furnish all expansion devices shown on this sheet. See Special Provisions.
The Contractor for Section 82-3 HVD-1 will erect the expansion devices as shown on this sheet. See Special Provisions.

DESIGNED BY P.A.S.
DRAWN BY P.A.S.
CHECKED BY L.H.W.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

EXPANSION DEVICES
OPEN TYPE
POPLAR STREET BRIDGE APPROACHES

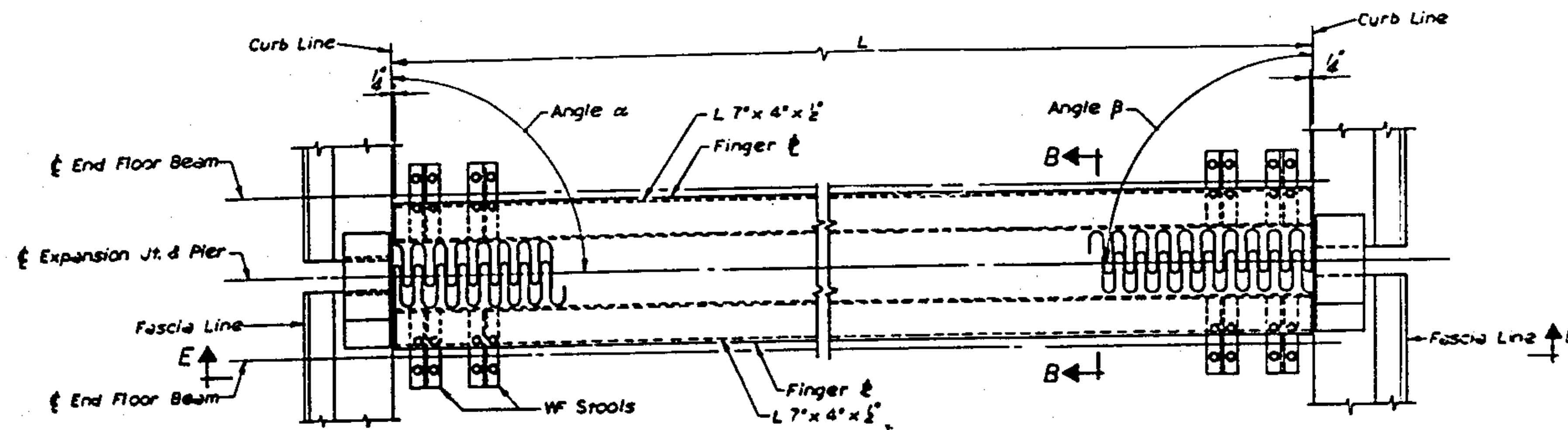
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

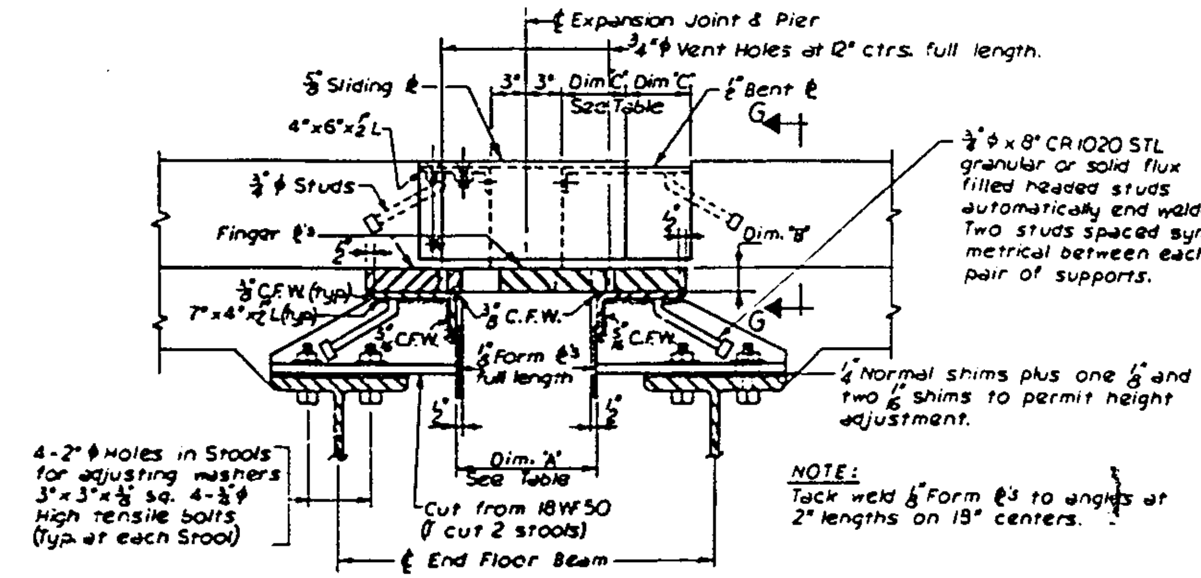
SHEET 362 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1 / 82-3HVD-1	ST. CLAIR	358	238
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

NOTE: Stool Spacing to be adjusted to miss Stiffener and Connection Plates on Floor Beams.



PLAN AT PIERS A8, A15, A18, D8, D15, D22, D28, D33, G5, H2, M12, N5, O3, O14, P4, P10, R3, S7 AND S18
LOOKING TOWARDS INCREASING STA.

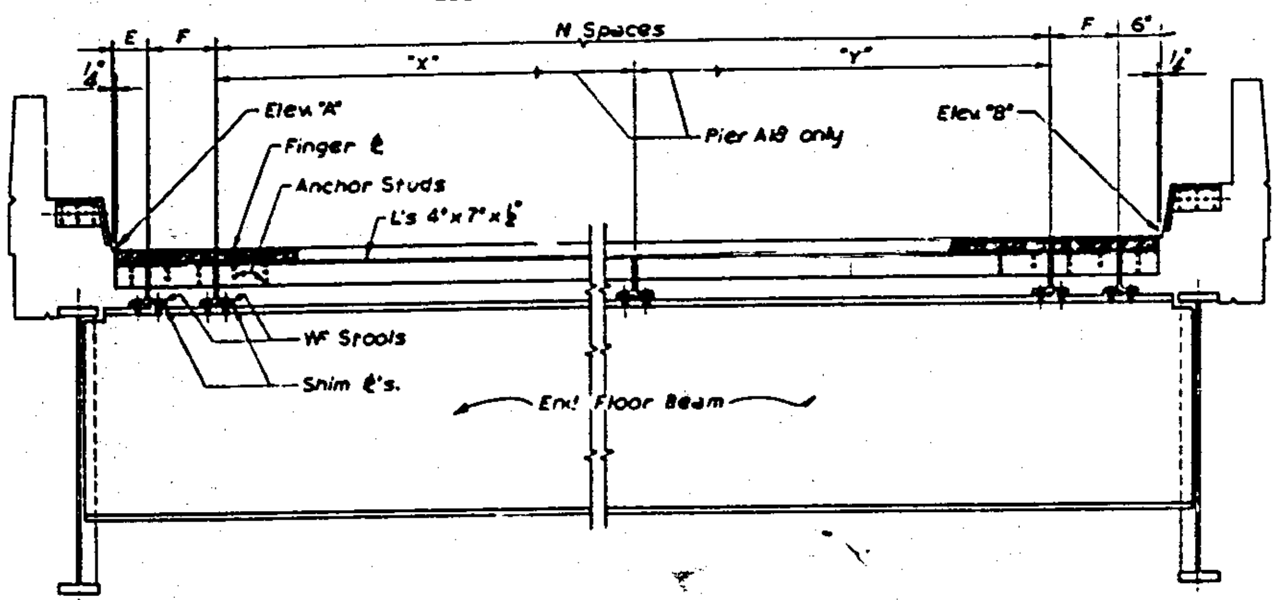


SECTION B-B

TABLE OF ELEVATIONS, LENGTHS, ANGLES AND WEIGHTS OF FINGER EXPANSION DEVICES

PIER NO.	ELEV. 'A'	ANGLE α	L	ANGLE β	ELEV 'B'	E	F	N SPACES	WEIGHT
A8	446.49	90°00'00"	30-0	90°00'00"	448.89	6"	1-6	13 Spaces @ 2-0 = 26-0	7920 lbs.
A15	449.64	91°24'03"	35-0 1/4	90°00'00"	452.44	7 1/4	1-9	15 Spaces @ 2-0 = 30-1 1/2	9250 lbs.
A18	450.39	92°26'25"	45-7	90°00'00"	454.03	8"	1-6	See Note 'A'	11290 lbs.
D8	447.67	90°00'00"	42-1 1/2	92°36'25"	447.89	1-0 1/4	1-6	21 Spaces @ 1-9 1/2 = 37-1 1/2	11450 lbs.
D15	449.38	90°00'00"	30-0	90°00'00"	451.78	6"	1-6	13 Spaces @ 2-0 = 26-0	7970 lbs.
D22	446.38	92°14'23"	37-7 1/4	90°00'00"	449.10	7 1/4"	1-9	17 Spaces @ 1-11 1/2 = 33-5 1/2	9990 lbs.
D28	451.70	90°00'00"	30-0	90°00'00"	450.16	6"	1-6	13 Spaces @ 2-0 = 26-0	8120 lbs.
D33	457.98	90°00'00"	30-0	90°00'00"	455.58	6"	1-6	13 Spaces @ 2-0 = 26-0	6070 lbs.
G5	457.41	87°20'08"	34-7 1/4	88°56'18"	460.18	7 1/4	1-9	15 Spaces @ 2-0 = 30-0	10760 lbs.
H2	446.18	89°17'21"	38-4 1/4	87°18'10"	449.25	10 1/4	1-6	17 Spaces @ 2-0 = 34-0	9030 lbs.
M12	445.39	90°00'00"	22-0	90°00'00"	446.98	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.
N5	449.68	90°00'00"	22-0	90°00'00"	447.52	6"	1-6	9 Spaces @ 2-0 = 18-0	6880 lbs.
O3	460.18	90°00'00"	22-0	90°00'00"	458.42	6"	1-6	9 Spaces @ 2-0 = 18-0	6010 lbs.
O14	435.32	90°00'00"	22-0	90°00'00"	436.77	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.
P4	471.49	90°00'00"	22-0	90°00'00"	469.73	6"	1-6	9 Spaces @ 2-0 = 18-0	5360 lbs.
P10	461.03	90°00'00"	22-0	90°00'00"	460.77	6"	1-6	9 Spaces @ 2-0 = 18-0	6860 lbs.
R3	461.57	90°00'00"	22-0	90°00'00"	463.28	6"	1-6	9 Spaces @ 2-0 = 18-0	6060 lbs.
S7	472.36	90°00'00"	22-0	90°00'00"	478.12	6"	1-6	9 Spaces @ 2-0 = 18-0	5960 lbs.
S18	488.02	90°00'00"	22-0	90°00'00"	488.75	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.

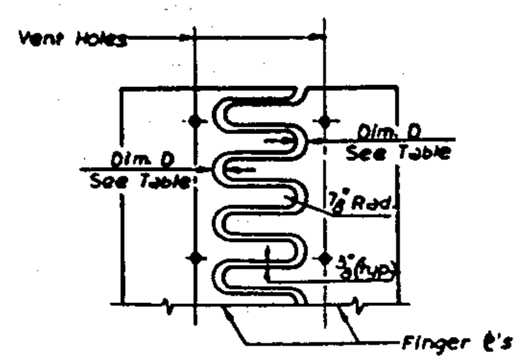
NOTE 'A': For Dim. "X" use 12 Spaces @ 1-11 = 23-0; for "Y" Dim. use 13 Spaces @ 1-5 = 18-5



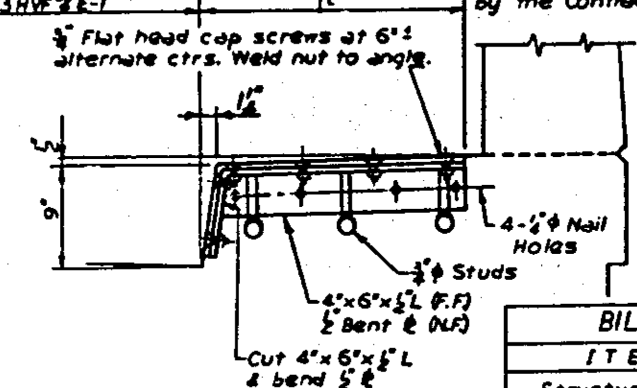
SECTION E-E

Portion of Expansion Device between Curbs to be furnished and erected by Contractor for Section 82-3HVF & E-1

The Curb Portion of the Expansion Device to be furnished by the Contractor for Section 82-3 HVF & E-1 and erected by the Contractor for Section 82-3 HVD-1.



FINGER ℄ CUTTING DETAIL



SECTION G-G

NOTE: Stool spacing to be adjusted to miss stiffener & connection plates on floor beams.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel	Lbs.	148,960

Temperature range = -30°F. to +130°F. with +50°F. = Normal.

EXPANSION DEVICE TABLE

PIER NO.	Dimen. "A" at 50° F.	Dimen. "B" ℄ Thickness	Dimen. "C" at 50° F.	Dimen. "D" at 50° F.
A8	11 1/8"	1 1/8"	3 1/2"	3 3/8"
A15	12 1/4"	1 1/8"	4"	3 1/2"
A18	9 5/8"	1 5/8"	3"	2 5/8"
D8	11 1/8"	1 1/8"	3 1/2"	3 1/8"
D15	11 1/8"	1 1/8"	3 1/2"	3 1/4"
D22	12 1/4"	1 1/8"	4"	3 1/2"
D28	13"	1 1/8"	4"	3 3/4"
D33	12 1/4"	1 1/8"	4"	3 1/2"
G5	15 5/8"	2 1/4"	5"	4 5/8"
H2	9 5/8"	1 5/8"	3"	2 5/8"
M12	12 1/4"	1 1/8"	4"	3 1/2"
N5	14 1/8"	2 1/4"	4 1/2"	4 1/8"
O3	12 1/4"	1 1/8"	4"	3 1/2"
O14	12 1/4"	1 1/8"	4"	3 1/2"
P4	9 1/4"	1 5/8"	3"	2 1/2"
P10	14 1/8"	2 1/4"	4 1/2"	4 1/8"
R3	13"	1 1/8"	4"	3 3/4"
S7	11 1/8"	1 1/8"	3 1/2"	3 3/8"
S18	10"	1 5/8"	3"	2 3/4"

NOTES: The Portions of the Expansion Devices for Piers A1, D1, A25, M6, S10 & S16 that have been stored by the Contractor for Section 82-3 HVB shall be erected by the Erection Contractor indicated in Section "6-6" on this sheet. See Special Provisions.

The Portions of the Expansion Devices for Piers D33, N5, O14, P4 & S18 that can be erected immediately shall be erected by the Erection Contractor indicated in Section "G-G" this Sheet. The Future portions shall be stored by the Contractor for Section 82-3HVF & E-1 until needed by the Contractors for Sections 82-3HVB-2 and 82-3HVB-3.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

EXPANSION DEVICES
FINGER PLATE

POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1 82-3HVD-1

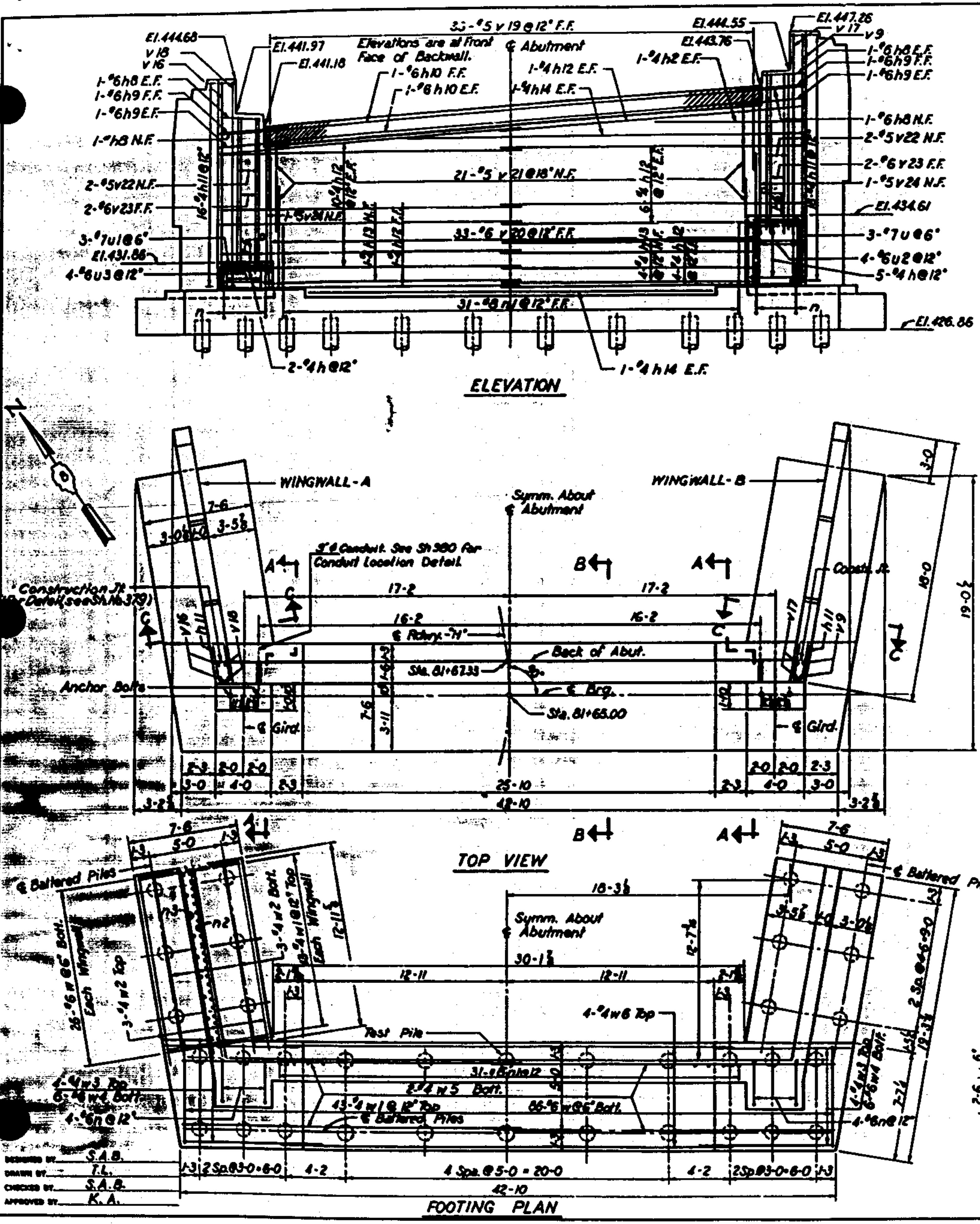
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

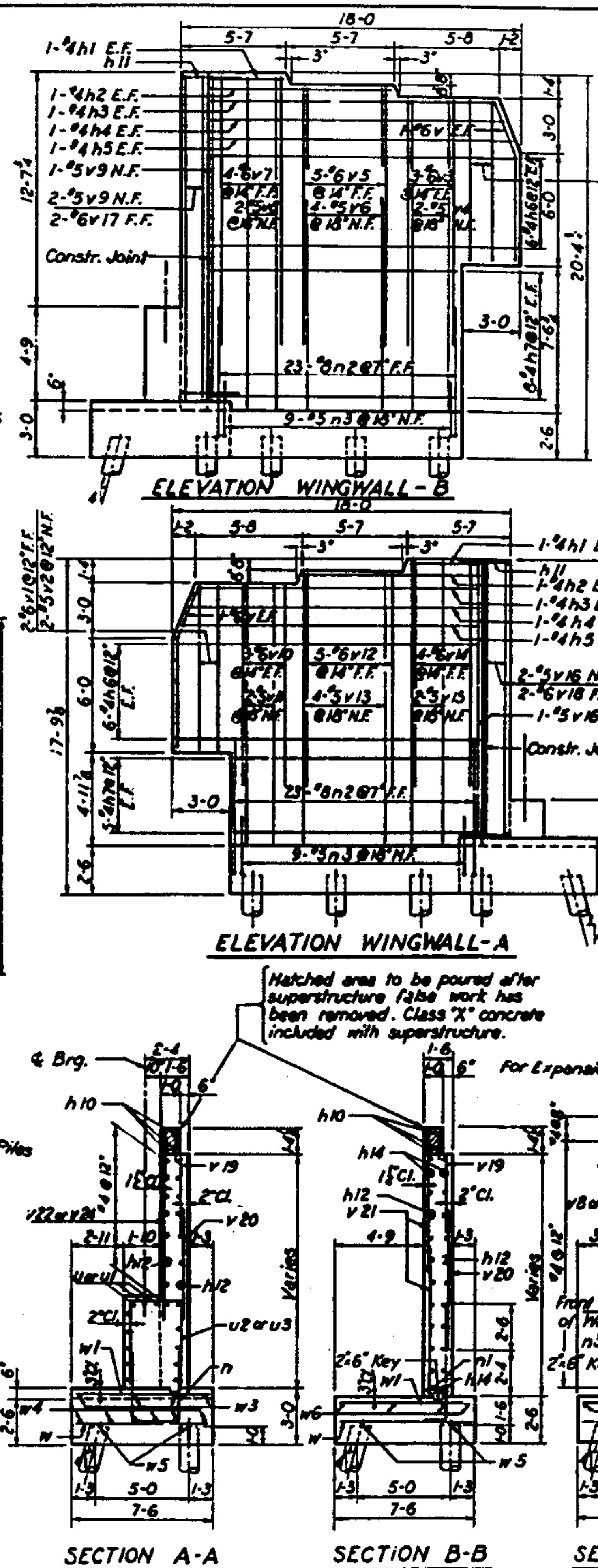
SHEET 363 OF 526

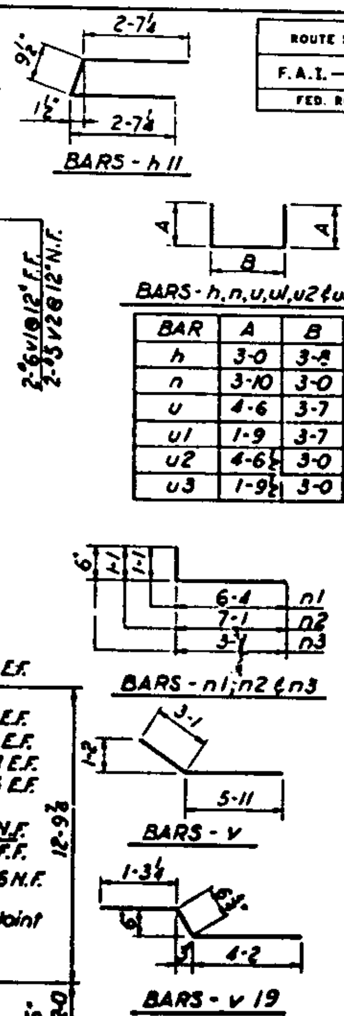
DESIGNED BY RAS
DRAWN BY RAS
CHECKED BY L.H.W.
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. — 70	82-3HVB-1	ST. CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVB-1 233 241







BAR	A	B
h	3-0	3-8
n	3-10	3-0
u	4-6	3-7
u1	1-9	3-7
u2	4-6½	3-0
u3	1-9½	3-0

PILE DATA		
Type	—	Concrete
Capacity	—	28 T.
Est. length	—	50 Ft.
No. Req'd.	—	33 *
Test Piles	—	1

* Does not include test pile.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	7	#4	9-8	
h1	4	#4	4-0	
h2	6	#4	9-7	
h3	4	#4	15-3	
h4	4	#4	15-7	
h5	4	#4	15-11	
h6	24	#4	16-4	
h7	26	#4	13-4	
h8	6	#6	2-10	
h9	6	#6	4-5	
h10	3	#6	32-2	
h11	34	#4	6-0	
h12	39	#4	19-7	
h13	5	#4	16-2	
h14	4	#4	25-7	
n	8	#6	10-6	
n1	31	#8	7-5	
n2	46	#8	8-2	
n3	18	#5	3-7	
u	3	#7	12-7	
u1	3	#7	9-1	
u2	4	#6	12-1	
u3	4	#6	6-7	
v	4	#6	9-0	
v1	4	#6	8-10	
v2	4	#5	8-10	
v3	3	#6	13-3	
v4	3	#5	16-6	
v5	3	#6	14-1	
v6	4	#5	17-2	
v7	4	#6	14-9	
v8	2	#5	17-10	
v9	3	#5	17-4	
v10	3	#6	10-10	
v11	2	#5	13-11	
v12	5	#6	11-6	
v13	4	#5	14-7	
v14	4	#6	15-2	
v15	2	#5	15-3	
v16	3	#5	14-9	
v17	2	#6	17-4	
v18	2	#6	14-9	
v19	33	#5	6-0	
v20	33	#6	7-9	
v21	42	#5	7-4	
v22	4	#5	11-2	
v23	4	#6	11-4	
v24	2	#5	10-4	
w	134	#6	7-2	
w1	69	#4	7-2	
w2	12	#4	13-3	
w3	6	#4	6-6	
w4	12	#6	9-6	
w5	4	#4	22-3	
w6	4	#4	28-10	

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	94.9
Reinforcement Bars	Lbs.	6,190
Concrete Piling	Lin. Ft.	1,650*
Test Piles (Concrete)	Each	1

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

ABUTMENT H5

POPLAR STREET BRIDGE APPROACHES ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

SHEET 318 of 376

DESIGNED BY S.A.B.
DRAWN BY T.L.
CHECKED BY S.A.B.
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF&E-I	ST. CLAIR	247	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT I-IG-70-1(78)0		

P-98-087-00

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED FEDERAL AID HIGHWAY
F.A.I. ROUTE 70 SECTION 82-3HVF&E-I
PROJECT I-IG-70-1(81)0
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY
C-98-032-65

DESCRIPTION OF PROJECT:

SECTION 82-3HVF & E-1 INCLUDES THE FURNISHING, FABRICATING AND ERECTING OF THE STRUCTURAL STEEL FOR THE FOLLOWING:

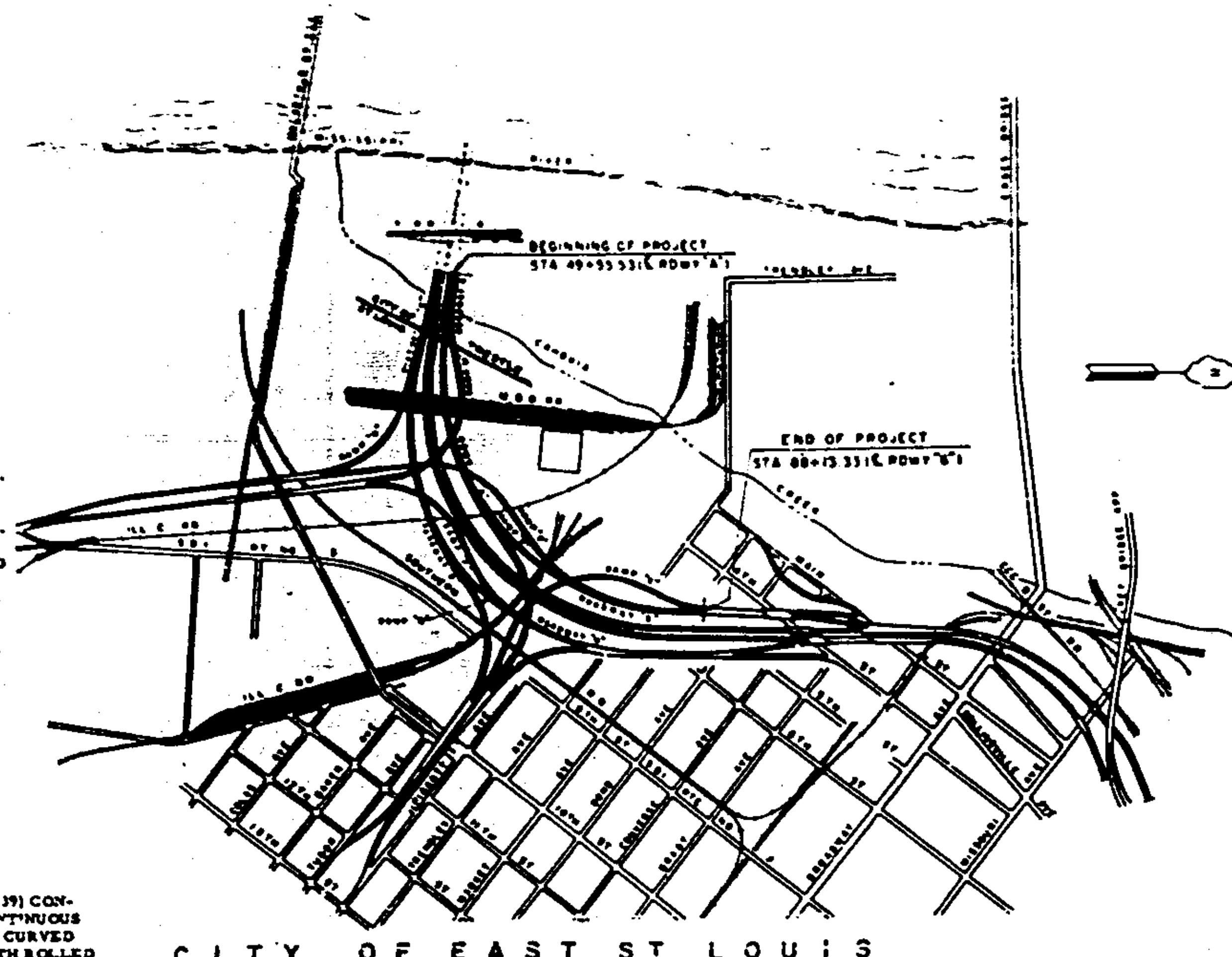
ROADWAY A	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 EACH @ 83-5 5/8, 106'-106'-83; 87'-110'-110'-87'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 97'-124'-97' 1 EACH @ 75'-96'-75' 95'-122'-95' 89'-114'-89'
	ONE SIMPLE SPAN - 80'
ROADWAY D	TWO 4-SPAN CONTINUOUS UNIT SPANS: 1 @ 90-7 9/16, 115'-115'-90' 1 @ 100'-128'-128'-100'
	ONE 5-SPAN CONTINUOUS UNIT SPANS: 107'-137'-137'-137'-107'
	FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 83'-106'-83' 2 @ 81'-105'-81' 1 @ 90'-115'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 89-6, 89-6
	TWO SIMPLE SPANS SPANS 1 @ 74' 1 @ 78'
ROADWAY G	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 @ 88'-113'-113'-88' 1 @ 87'-110'-110'-87'
	ONE 3-SPAN CONTINUOUS UNIT SPANS: 90'-116'-90'
	ONE 2-SPAN CONTINUOUS UNIT SPANS: 76'-76'
ROADWAY H	ONE 3-SPAN CONTINUOUS UNIT SPAN: 97'-124'-97'
	ONE SIMPLE SPAN - 88'
RAMP M	THREE 3-SPAN CONTINUOUS UNITS SPANS: 1 @ 90'-115'-90' 1 @ 105'-134'-105' 1 @ 90'-115'-85-10 11/16
RAMP N	ONE 4-SPAN CONTINUOUS UNIT SPANS: 90'-115'-115'-90'
	ONE SIMPLE SPAN - 73-3 5/16
RAMP O	FOUR 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 97-5 3/4, 110'-101' 1 @ 90'-115'-90' 1 @ 95'-121'-95' 1 @ 94'-120'-94'
	ONE SIMPLE SPAN - 65'
RAMP P	ONE 4-SPAN CONTINUOUS UNIT SPANS: 94'-121'-121'-94'
	TWO 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 81'-115'-81' 1 @ 96'-132'-96'
	TWO SIMPLE SPANS 1 @ 88' 1 @ 49'

RAMP Q	ONE 3-SPAN CONTINUOUS UNIT SPANS: 75-2 7/8, 98'-76'
RAMP R	TWO 3-SPAN CONTINUOUS UNITS SPANS 1 @ 104-4 5/16, 134'-106 1 @ 101'-130'-101'
RAMP S	ONE 4-SPAN CONTINUOUS UNIT SPANS: 85'-106'-106'-85' THREE 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 73-2 7/8, 95'-74' 1 @ 69'-97'-69' 1 @ 88'-113'-88'

THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

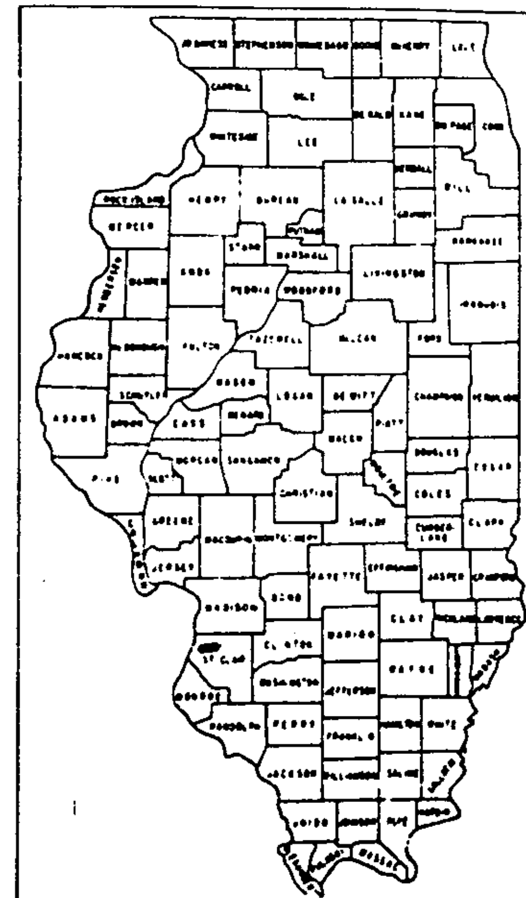
ROADWAY A OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP O;
ROADWAY D OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, ILLINOIS CENTRAL AND SOUTHERN RAILROADS, RAMP O AND ILLINOIS ROUTE 3;
ROADWAY G OVER TRENDLEY AND PIGGOTT AVENUES;
ROADWAY H OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP M OVER ROADWAY A AND THE TRACKS OF THE TERMINAL R.R. ASSOCIATION AND THE GULF, MOBILE AND OHIO RAILROADS;
RAMP N OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION AND GULF, MOBILE AND OHIO RAILROAD;
RAMP O OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP P OVER ROADWAY D, FUTURE ACCESS ROADS AND THE ILLINOIS CENTRAL RAILROAD;
RAMP Q OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP R OVER THE ILLINOIS CENTRAL RAILROAD AND A FUTURE ACCESS ROAD;
RAMP S OVER TRENDLEY AVENUE AND ROADWAY H.

THE SPANS DESCRIBED ABOVE INCLUDE THIRTY-NINE (39) CONTINUOUS UNITS AND EIGHT (8) SIMPLE SPANS. THE CONTINUOUS UNITS INCLUDE THIRTY-SIX (36) FULLY OR PARTIALLY CURVED AND THREE NON-CURVED WELDED PLATE GIRDERS WITH ROLLED AND WELDED PLATE FLOORBEAMS AND ROLLED STRINGERS. THE SIMPLE SPANS ARE ALL COMPOSITE WF.



LOCATION PLAN

LENGTH OF PROJECT
4261.16 FT. = .807 MILES



LOCATION OF SECTION INDICATED THUS:

NOTE:
FOR INDEX OF SHEETS AND SUMMARY OF QUANTITIES SEE SHEET NO. 2

APPROVED

11-30-66
12-20-66
12-20-66
12-20-66
12-20-66

8-64

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

2257

Contract No. 24962

ST. CLAIR COUNTY • SECTION 82-3HVF&E-1 F.A.I. ROUTE 70 PROJECT I-IG-70-1(78)0

082-0256

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF&E-1	ST. CLAIR	247	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

INDEX OF SHEETS
SECTION 82-3 HVF & E-1

SUMMARY OF QUANTITIES

SECTION 82-3HVF&E-1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200	ENGINEER'S FIELD OFFICE TYPE "A"	EACH	1
20400	RAILROAD PROTECTIVE SERVICES	L SUM	1
634001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	17,674,325
20023	BRIDGE SEAT SEALANT	L SUM	1

GENERAL NOTES

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 2, 1936, THE SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAY BRIDGES EFFECTIVE MARCH 1, 1963 AND THE SUPPLEMENTAL SPECIFICATIONS EFFECTIVE JANUARY 3, 1966.

ALL ELEVATIONS REFER TO U.S.C.S. MEAN SEA LEVEL DATUM.

THE PROFILE GRADE LINE REFERS TO THE GRADE ELEVATION AT THE POINT SHOWN ON THE TYPICAL SECTIONS AND PLANS.

POSITIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND HIGHER ELEVATIONS.

NEGATIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND LOWER ELEVATIONS.

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENTS:

EAST ST. LOUIS AND INTERURBAN WATER COMPANY
ILLINOIS POWER COMPANY
SOUTHWESTERN BELL TELEPHONE COMPANY
UNION ELECTRIC COMPANY
WESTERN UNION TELEGRAPH COMPANY

Weight of flange shear connectors is not included in quantity of structural steel
Cost of furnishing and placing flange shear connectors is included in section 82-3HVD-1

IG PORTION • 12.1%
I PORTION • 87.9%

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

INDEX OF SHEETS
SUMMARY OF QUANTITIES
GENERAL NOTES

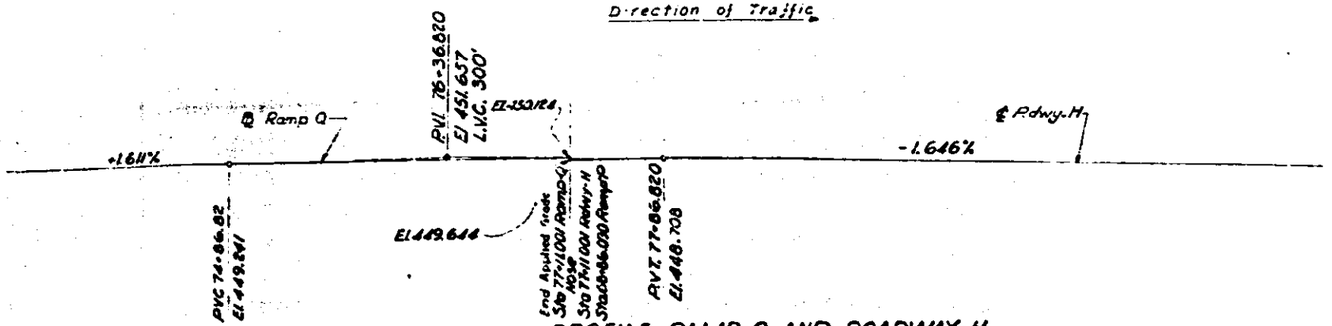
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

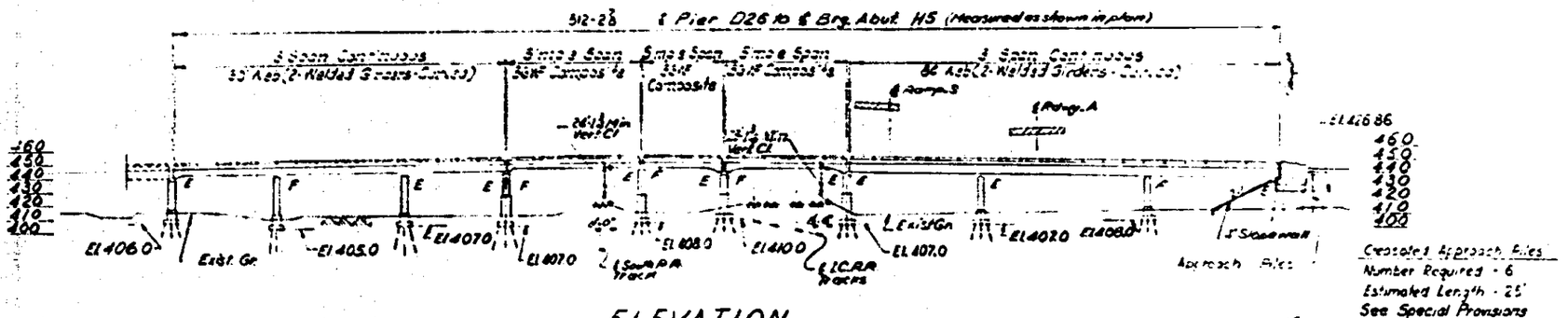
SHEET OF

Rev. Total Quard Str. Steel from 17,690,150# to 17,674,325# 6-3-66 N.R.F.

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I.70	82-3HVFB-1	ST. CLAIR	247	33
FED. ROAD DIV NO 4		ILLINOIS	PROJECT	

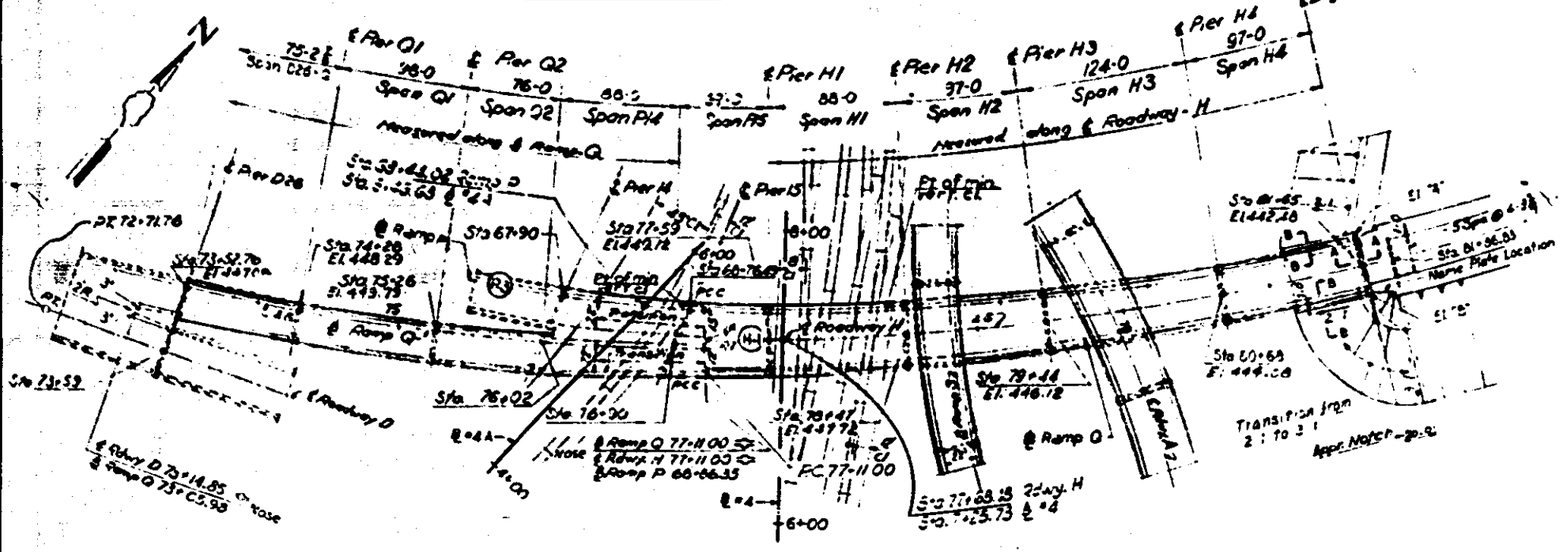


PROFILE RAMP-Q AND ROADWAY-H



ELEVATION

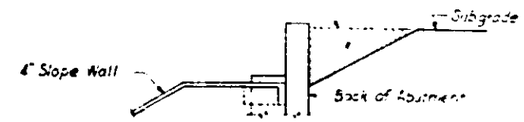
DEVELOPED LENGTH ALONG ℄ RAMP Q & ℄ ROADWAY H



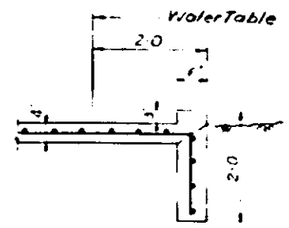
PLAN

Crossfield Approach Piles
Number Required - 6
Estimated Length - 25'
See Special Provisions

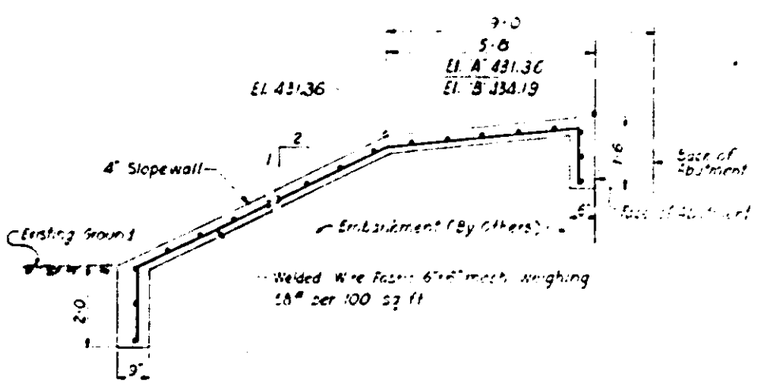
This portion of embankment to be placed after abutment is in place.



SECTION A-A



SECTION B-B



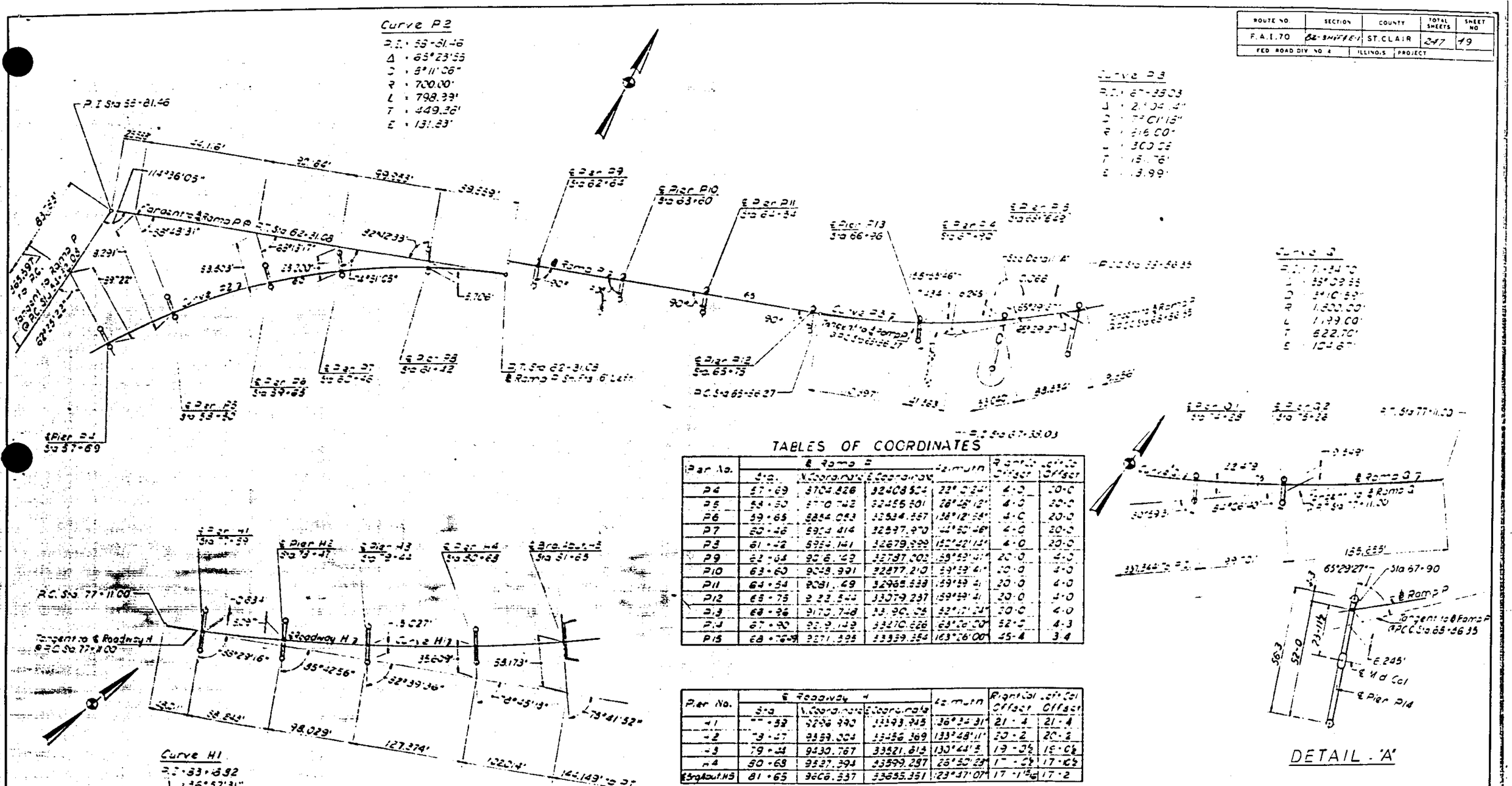
TYPICAL CROSS SECTION OF SLOPE WALL

BILL OF MATERIAL		
Item	Unit	Quantity
Slope Wall 4"	S.Y.	282
Name Plate	Ea.	1
Embankment	C.Y.	100

DESIGNED BY J.J.N.
DRAWN BY S.A.B.
CHECKED BY P.V.R.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
PLAN AND ELEVATION
SPANS D26-0, 01, 02, P14, P15, H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "Q"
SECTIONS 82-3HVFB-1
82-3HVFBE-1
82-3HVFB-1
F.A.I. RT. 70 ST. CLAIR CO
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO ILLINOIS
SHEET 15 OF 52

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVFBE-1	ST. CLAIR	247	19
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N Coordinate	E Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
P4	57+69	9704.826	32408.504	23°0'24"	4-0	20-0
P5	58+50	9770.742	32455.501	28°28'12"	4-0	20-0
P6	59+65	9854.093	32534.367	38°12'54"	4-0	20-0
P7	60+46	9904.414	32597.970	44°50'46"	4-0	20-0
P8	61+42	9954.141	32679.999	50°22'14"	4-0	20-0
P9	62+64	9016.162	32787.202	59°59'41"	20-0	4-0
P10	63+60	9068.991	32877.210	59°59'41"	20-0	4-0
P11	64+54	9081.469	32968.338	59°59'41"	20-0	4-0
P12	65+75	9123.543	33079.297	59°59'41"	20-0	4-0
P13	68+96	9170.748	33290.026	52°17'24"	20-0	4-0
P14	67+90	9229.149	33270.626	63°26'00"	52-0	4-3
P15	68+76.99	9271.595	33359.354	103°26'00"	45-4	3-4

Pier No.	℄ Roadway H Sta.	N Coordinate	E Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
H1	77+33	9296.990	33343.345	36°34'31"	21-4	21-4
H2	78+27	9359.304	33456.369	133°48'11"	20-2	20-2
H3	79+38	9430.767	33521.614	130°44'15"	19-0½	19-0½
H4	80+68	9527.394	33599.297	126°50'29"	17-0½	17-0½
Stgabut H5	81+65	9606.537	33655.351	123°47'07"	17-1½	17-2

Pier No.	℄ Ramp Q Sta.	N Coordinate	E Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
Q1	74+28	9288.251	33 39.097	147°05'41"	20-0	4-0
Q2	75+26	9143.701	33218.586	143°55'35"	20-0	4-0

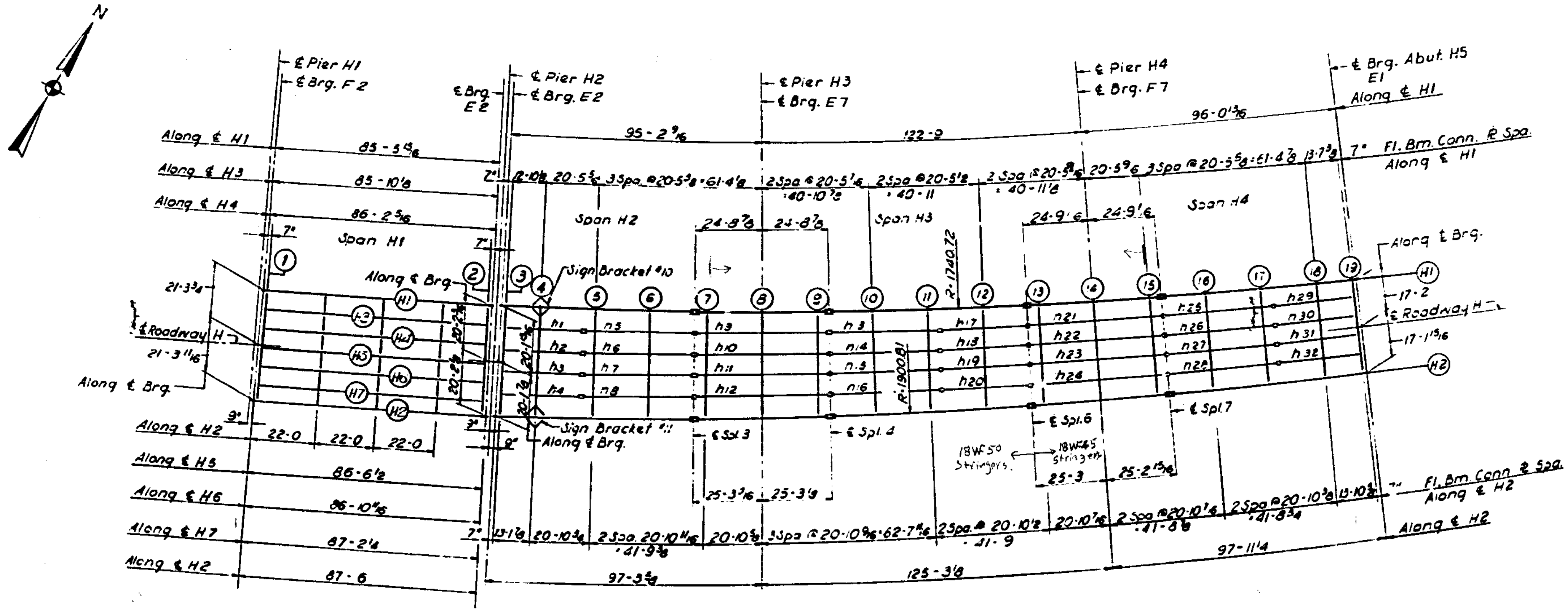
DESIGNED BY R.M.Q.
DRAWN BY I.M.
CHECKED BY S.Q.B.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
GEOMETRIC LAYOUT
PIERS P4 THRU P15, 01 & 02, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"
SECTIONS 82-3HVFB-1
82-3HVFBE-1
82-3HVD-1
F.A.I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 31 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A I - 70	82-3HVF BE-1	ST. CLAIR	247	135
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN

SPANS H1 THRU H4

ELEVATION TOP OF FLANGE

		STR H1	STR H2	DIFF.
CL. BRG.		446.701	450.110	3.409
FLOOR BEAM	1	446.692	450.100	3.408
FLOOR BEAM	2	445.416	448.645	3.229
CL. BRG.		445.407	448.636	3.229

ELEVATION TOP OF GIRDER WEB

		GIR. H1	GIR. H2	DIFF.
CL. BRG.		445.175	448.401	3.226
FLOOR BEAM	3	445.166	448.391	3.225
FLOOR BEAM	4	444.965	448.165	3.200
FLOOR BEAM	5	444.644	447.805	3.161
FLOOR BEAM	6	444.323	447.446	3.123
SPLICE	3	444.089	447.162	3.083
FLOOR BEAM	7	444.001	447.087	3.086
FLOOR BEAM	8	443.679	446.729	3.050
FLOOR BEAM	9	443.356	446.371	3.015
SPLICE	4	443.288	446.296	3.008
FLOOR BEAM	10	443.032	446.015	2.983
FLOOR BEAM	11	442.707	445.659	2.952

		GIR. H1	GIR. H2	DIFF.
FLOOR BEAM	12	442.383	445.304	2.921
SPLICE	6	442.186	445.082	2.896
FLOOR BEAM	13	442.058	444.948	2.890
FLOOR BEAM	14	441.728	444.604	2.862
FLOOR BEAM	15	441.405	444.240	2.835
SPLICE	7	441.337	444.166	2.829
FLOOR BEAM	16	441.077	443.888	2.811
FLOOR BEAM	17	440.749	443.536	2.787
FLOOR BEAM	18	440.421	443.184	2.763
FLOOR BEAM	19	440.203	442.949	2.746
CL. BRG.		440.193	442.939	2.746

Note: Dimensions locating Floor Beams are given to the Floor Beam Conn. Plate see sketch Sheet No. 183
For Sign Bracket Detail see Sh. No. 360.

BILL OF MATERIAL		
*Structural Steel	Lbs.	646,740

* Weight of Bearing Assemblies with Lead Plates and Anchor Bolts are Included as Structural Steel Est. Wt. 13,440 Lbs.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
FRAMING PLAN
SPANS H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF BE-1

H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

SHEET 265 of 526

DESIGNED BY R. M. R.
DRAWN BY L. M.
CHECKED BY A. A. S.
APPROVED BY A. A.

Rev. Str. Steel from 649,510# to 646,740# 5-3-66 N.R.F.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. – 70	82-3HVF & E-1	ST. CLAIR	247	136
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

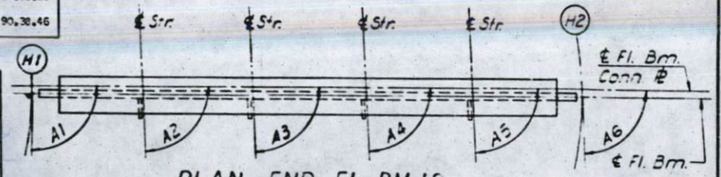
STRINGER DIMENSIONS

STR	L	S1	S2	S3	S4	B1	B2
1	29 1 9/16		12 10 7/8		16 2 3/4	89.54.39	89.07.23
2	29 3 3/16		12 11 5/8		16 3 9/16	89.38.00	89.24.02
3	29 4 13/16		13 3/8		16 4 7/16	89.21.29	89.40.33
4	29 6 7/16		13 1 1/8		16 5 5/16	89.05.08	89.56.54
5	41 13/16	4 3 11/16	20 6 3/8		16 2 3/4	89.44.34	88.57.18
6	41 2 15/16	4 3 7/8	20 7 7/16		16 3 9/16	89.28.47	89.13.06
7	41 5 1/16	4 4 1/8	20 8 1/2		16 4 7/16	89.13.07	89.28.45
8	41 7 3/16	4 4 3/8	20 9 5/8		16 5 1/4	88.57.36	89.44.17
9	49 8 3/16	4 3 11/16	20 6 7/16	20 6 7/16	4 3 11/16	89.34.42	88.50.47
10	49 10 3/4	4 3 7/8	20 7 7/16	20 7 1/2	4 3 7/8	89.20.02	89.05.27
11	50 1 1/4	4 4 1/8	20 8 1/2	20 8 1/2	4 4 1/8	89.05.30	89.20.00
12	50 3 3/4	4 4 5/16	20 9 9/16	20 9 9/16	4 4 5/16	88.51.04	89.34.25
13	41 15/16	16 2 13/16	20 6 1/2		4 3 11/16	89.41.12	89.00.40
14	41 3	16 3 9/16	20 7 1/2		4 3 7/8	89.27.40	89.14.12
15	41 5	16 4 3/8	20 8 1/2		4 4 1/8	89.14.15	89.27.37
16	41 7 1/16	16 5 1/4	20 9 1/2		4 4 5/16	89.00.56	89.40.56
17	32 5 5/8	16 2 13/16			16 2 13/16	89.48.01	89.10.14
18	32 7 3/16	16 3 5/8			16 3 5/8	89.35.25	89.22.51
19	32 8 13/16	16 4 3/8			16 4 3/8	89.22.54	89.35.21
20	32 10 3/8	16 5 3/16			16 5 3/16	89.10.30	89.47.45
21	49 8 7/16	4 3 11/16	20 6 1/2	20 6 9/16	4 3 11/16	89.30.05	88.55.25
22	49 10 13/16	4 3 7/8	20 7 1/2	20 7 1/2	4 3 7/8	89.18.31	89.05.58
23	50 1 3/16	4 4 1/8	20 8 1/2	20 8 1/2	4 4 1/8	89.07.08	89.18.27
24	50 3 1/2	4 4 5/16	20 9 7/16	20 9 7/16	4 4 5/16	88.55.39	89.29.50
25	41 1 1/8	16 2 7/8	20 6 9/16		4 3 11/16	89.38.33	89.05.20
26	41 3 1/16	16 3 5/8	20 7 1/2		4 3 7/8	89.26.08	89.15.44
27	41 4 15/16	16 4 3/8	20 8 7/16		4 4 1/8	89.15.48	89.26.04
28	41 6 7/8	16 5 1/8	20 9 7/16		4 4 5/16	89.05.33	89.36.19
29	29 10 7/8	16 2 7/8	13 8			89.45.49	89.16.13
30	30 5/16	16 3 5/8	13 8 11/16			89.36.19	89.25.43
31	30 1 11/16	16 4 3/8	13 9 5/16			89.26.53	89.35.09
32	30 3 1/8	16 5 1/8	13 9 15/16			89.17.31	89.44.31

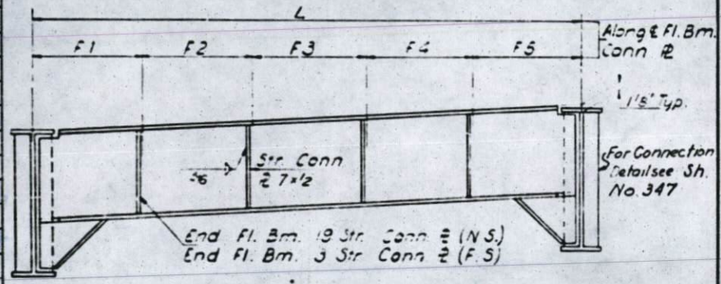
FLOOR BEAM DIMENSIONS

FL BM	L	F1	F2	F3	F4	F5	F6	A1	A2	A3	A4	A5	A6	A7
1	46 7 3/16	7 2 1/2	7 2 1/2	7 2 1/2	7 2 1/2	6 10 5/8	6 10 5/8	89.22.11	89.22.11	89.22.11	89.22.11	89.22.11	88.37.09	87.52.26
2	44 4 1/2	7 2 9/16	7 2 9/16	7 2 9/16	7 2 9/16	5 9 1/8	5 9 1/8	92.08.31	92.08.31	92.08.31	92.08.31	92.08.31	91.23.29	90.38.46

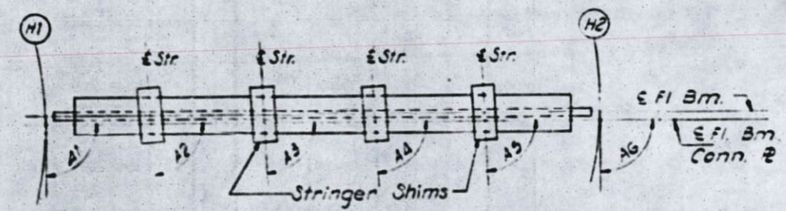
FL BM	L	F1	F2	F3	F4	F5	A1	A2	A3	A4	A5	A6	SECTION
3	40 3 11/16	8 3/4	8 3/4	8 3/4	8 3/4	8 3/4	90.40.04	89.54.39	89.38.00	89.21.29	89.05.08	89.15.47	36 W 160
4	39 11 7/8	7 11 1/4	8	8	8	8 11/16	90.41.50	90.21.45	90.05.05	89.48.35	89.32.13	89.19.03	36 WF 194 11-3 2T 1B
5	39 6	7 10 1/4	7 10 13/16	7 10 13/16	7 10 13/16	7 11 5/16	90.40.34	89.52.46	89.36.58	89.21.19	89.05.47	89.20.17	36 W 194 11-3 2T 1B
6	39 5/16	7 8 5/16	7 9 11/16	7 9 11/16	7 9 11/16	7 11	90.39.18	90.31.50	90.16.02	90.00.22	89.44.51	89.21.31	36 W 182 11-3 2T 1B
7	38 6 13/16	7 7 7/8	7 8 9/16	7 8 9/16	7 8 9/16	7 9 1/16	90.38.02	89.42.54	89.28.14	89.13.41	88.59.16	89.27.46	36 W 182 11-3 2T 1B
8	38 1 7/16	7 5 3/8	7 7 1/2	7 7 1/2	7 7 1/2	7 9 1/2	90.36.45	90.21.58	90.07.18	89.52.45	89.38.19	89.24.01	36 W 182 11-3 2T 1B
9	37 8 5/16	7 5 13/16	7 6 7/16	7 6 7/16	7 7 1/8	90.35.28	91.01.01	90.46.21	90.31.49	90.17.23	90.33.25	90.15.16	36 W 170 11-3 2T 1B
10	37 3 5/16	7 4 1/8	7 5 1/2	7 5 1/2	7 5 1/2	7 6 13/16	90.34.11	90.12.05	89.58.33	89.45.08	89.31.49	89.26.32	36 W 170 11-3 2T 1B
11	36 10 9/16	7 4	7 4 1/2	7 4 1/2	7 4 1/2	7 5	90.32.54	90.51.09	90.37.37	90.24.11	90.10.53	89.27.48	36 W 170 11-3 2T 1B
12	36 5 15/16	7 2 11/16	7 3 5/8	7 3 5/8	7 3 5/8	7 4 7/16	90.31.36	90.18.53	90.06.17	89.53.47	89.41.22	89.29.04	36 W 194
13	36 1 1/2	7 2 1/16	7 2 11/16	7 2 11/16	7 2 11/16	7 3 3/8	90.30.18	89.38.16	89.26.42	89.15.14	89.03.51	89.30.20	36 W 194
14	35 9 5/16	6 11 3/4	7 1 7/8	7 1 7/8	7 1 7/8	7 3 7/8	90.29.00	90.17.20	90.05.46	89.54.18	89.42.55	89.31.37	36 W 194
15	35 5 1/4	7 3/8	7 1 1/16	7 1 1/16	7 1 1/16	7 1 11/16	90.27.41	90.56.24	90.44.50	90.33.22	90.21.58	89.37.53	36 W 182
16	35 1 3/8	6 10 15/16	7 5/16	7 5/16	7 5/16	7 1 5/8	90.26.23	90.07.25	89.57.01	89.46.41	89 36.26	89.34.10	36 W 182
17	34 9 11/16	6 11	6 11 9/16	6 11 9/16	6 11 9/16	7 1/16	90.25.04	90.46.29	90.36.04	90.25.45	90.15.29	89.35.28	36 W 170
18	34 6 1/4	6 10 1/16	6 10 7/8	6 10 7/8	6 10 7/8	6 11 9/16	90.23.45	90.16.42	90.07.11	89.57.45	89.48.24	89.36.45	36 W 170
19	34 4	6 10 3/8	6 10 3/8	6 10 3/8	6 10 3/8	6 10 3/8	90.23.58	90.43.47	90.34.17	90.24.51	90.15.29	89.38.42	36 W 150



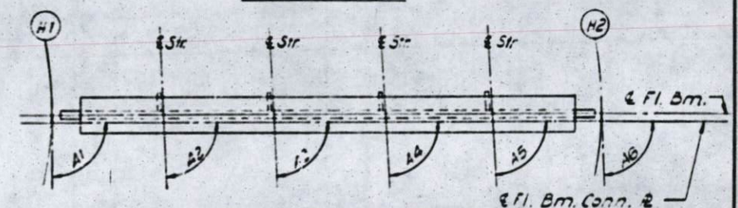
PLAN END FL. BM. 1 &



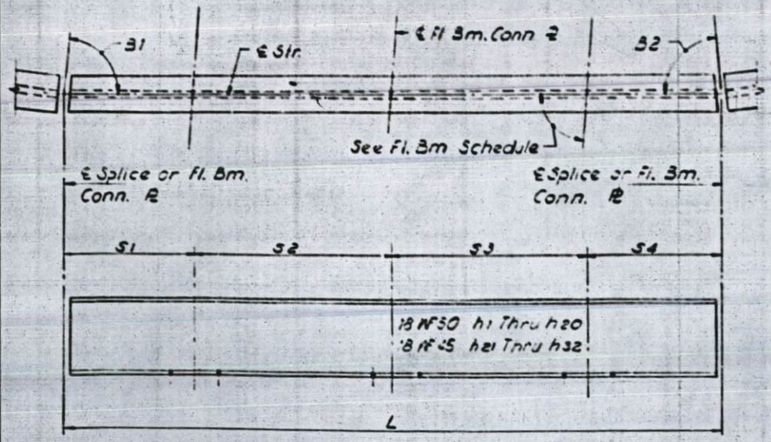
ELEVATION



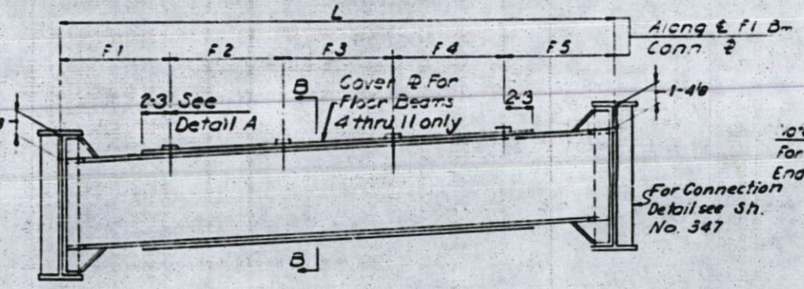
PLAN



PLAN END FL. BM. 3

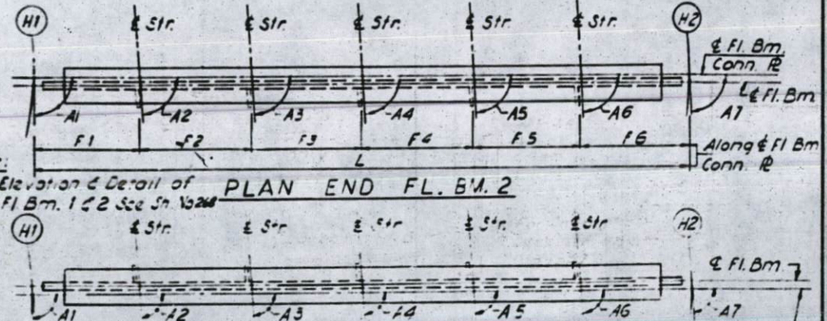


TYPICAL STRINGER



ELEVATION

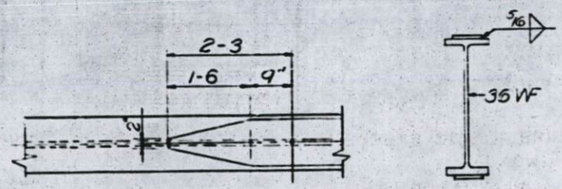
INTERIOR FLOOR BEAM 4 THRU 18



PLAN END FL. BM. 2

PLAN END FL. BM. 1

END FLOOR BEAM 1, 2, 3 AND 19



DETAIL A

SECTION B-B
For Floor Beams 4 thru 11 only

Notes:
Length L of Stringers and Fl Bms is correct as given in the table except the increment lengths are given to the nearest 1/16
All dimensions are in the horizontal plane
for Intermediate Stiffener, Brg. Stiffener and Connection Plate Details see Sh. No. 348

DESIGNED BY R.M.R.
DRAWN BY I.M.
CHECKED BY A.T.
APPROVED BY S.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
STRINGER AND FLOOR BEAM SCHEDULE
SPANS H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"
F.A.I. RT 70 ST. CLAIR CO. SECTION 82-3HVF & E-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 266 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF8E-1	ST. CLAIR	247	137
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

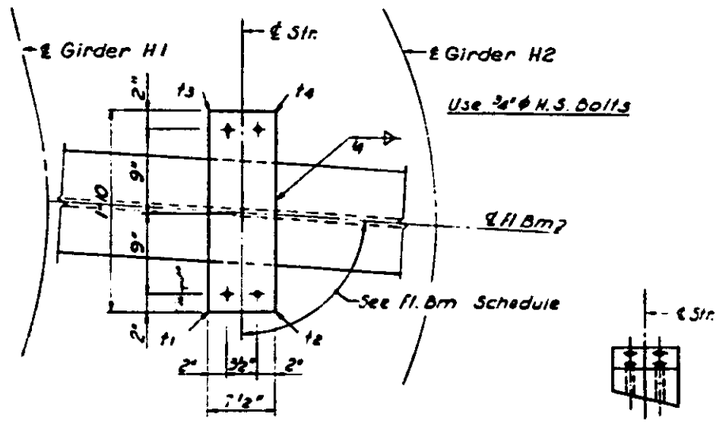
FLOOR BEAM 3 THRU 6	T1	T2	T3	T4
SHIM 1 THRU 6	1 3/8	3/4	1	3/8

FLOOR BEAM 7 THRU 9	T1	T2	T3	T4
SHIM 9 THRU 12	1 3/8	3/4	1	3/8

FLOOR BEAM 10 THRU 12	T1	T2	T3	T4
SHIM 13 THRU 20	1 3/8	3/4	1	3/8

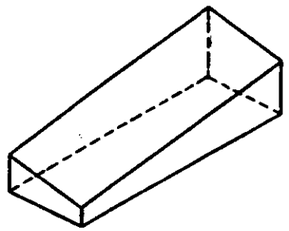
FLOOR BEAM 13 THRU 15	T1	T2	T3	T4
SHIM 21 THRU 24	1 3/8	3/4	1	3/8

FLOOR BEAM 16 THRU 18	T1	T2	T3	T4
SHIM 25 THRU 28	1 3/8	3/4	1	3/8

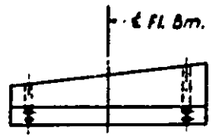


PLAN

END VIEW



ISOMETRIC VIEW



SIDE VIEW

SHIM DETAIL

Shim thickness t1, t2, t3 & t4 shown in the Table are orientated with the Plan View shown above.

DESIGNED BY R.M.R
DRAWN BY J.C.H.
CHECKED BY A.T.
APPROVED BY K.A.

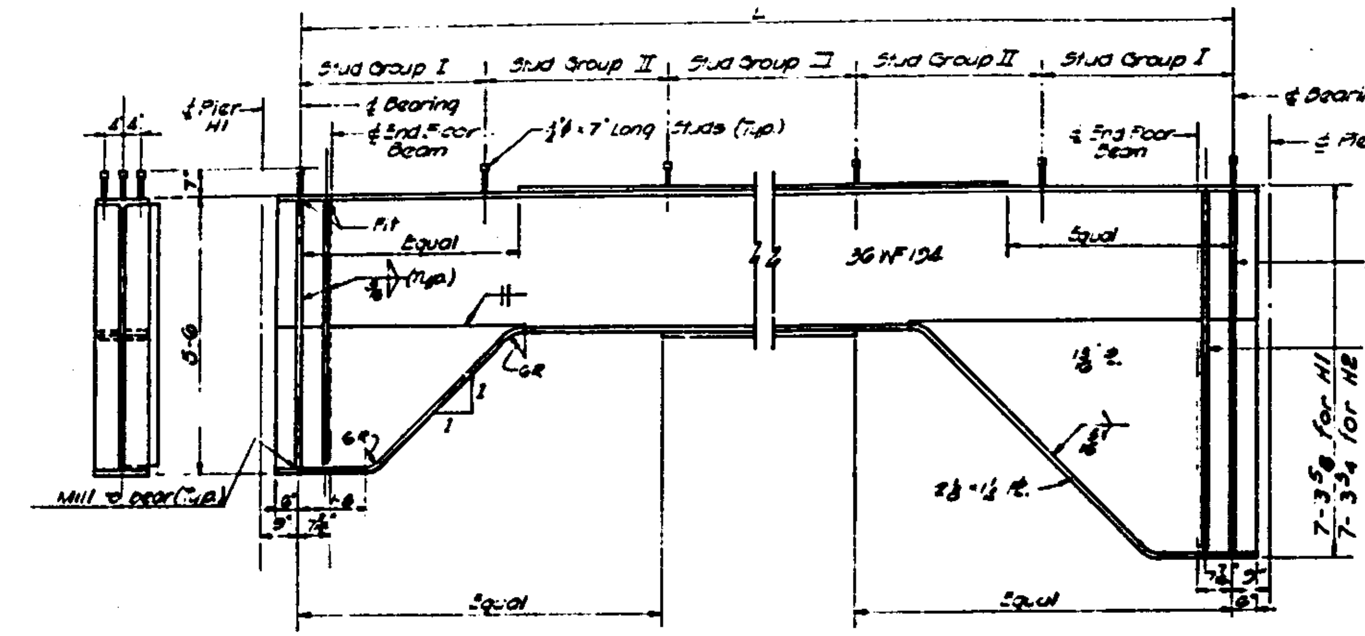
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

STRINGER SHIMS
SPANS H2 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

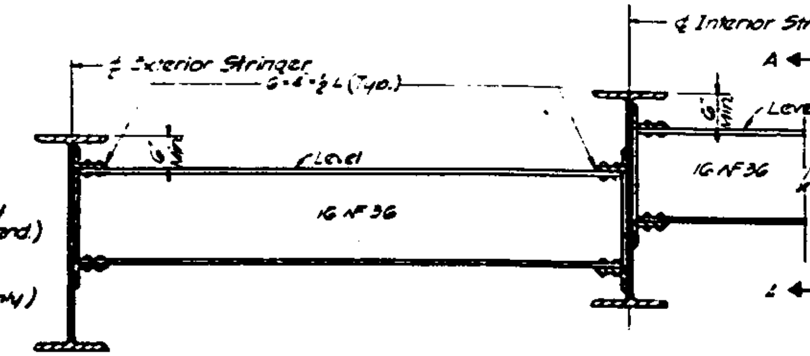
F.A.I RT. 70 ST. CLAIR CO SECTION 82-3HVF8E-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 267 of 526

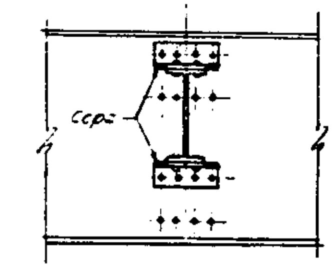


EXTERIOR STRINGERS (H1 & H2)

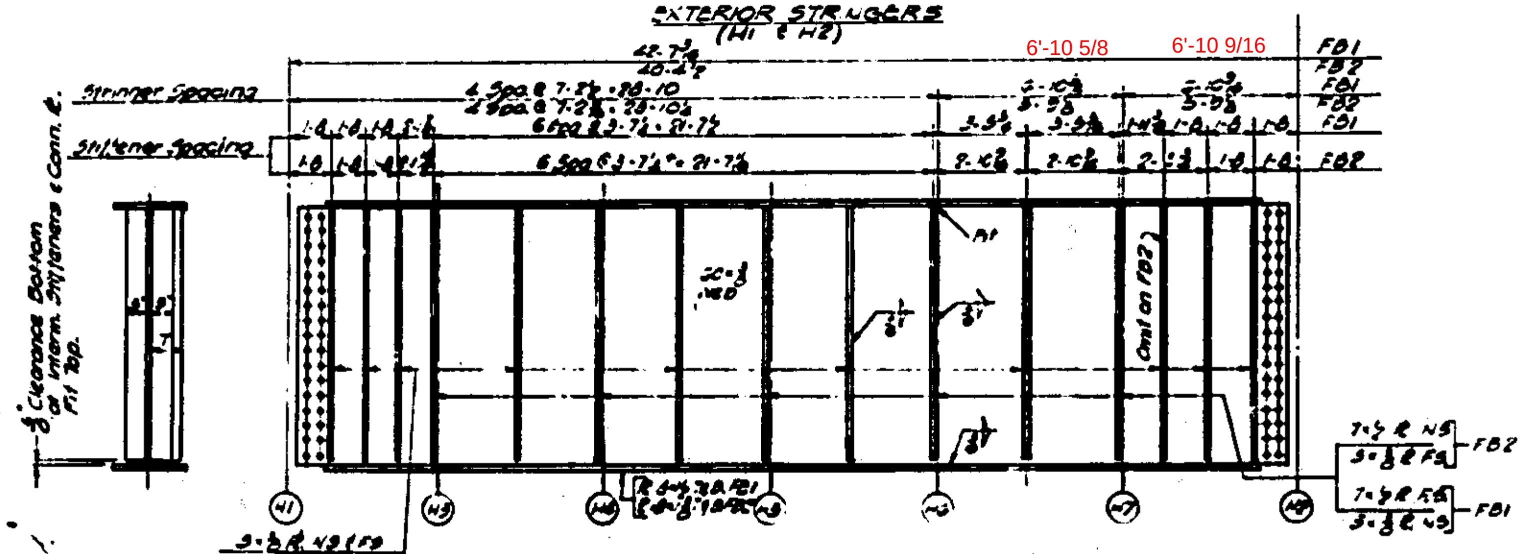


Typ. Connection for Interior Diaphragms D1

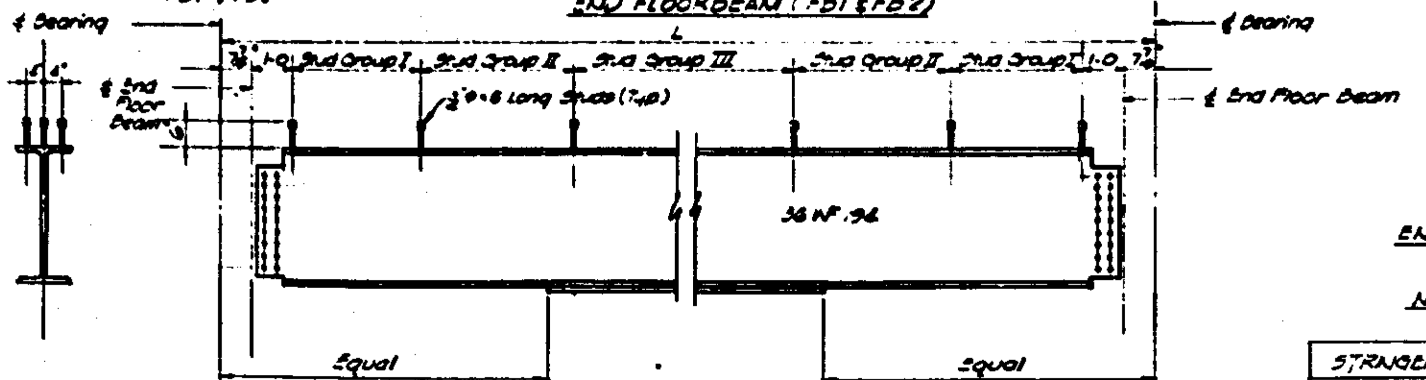
DIAPHRAGM DETAILS



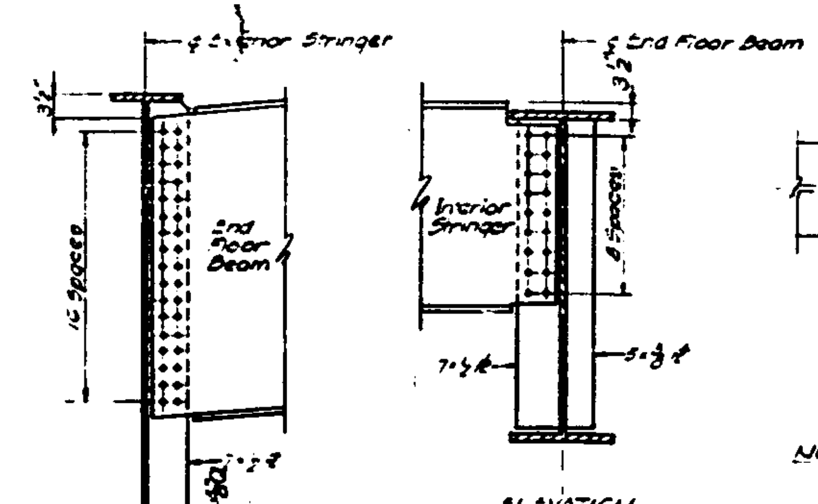
SECTION A-A



END FLOORBEAM (FB1 & FB2)

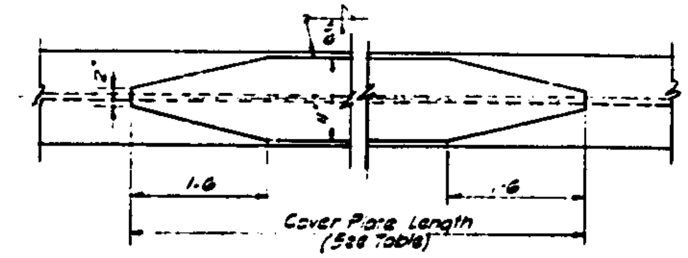


INTERIOR STRINGER (H3 thru H7)



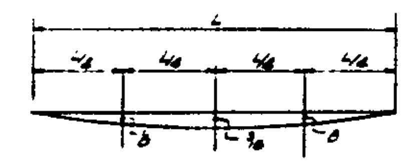
ELEVATION

ELEVATION

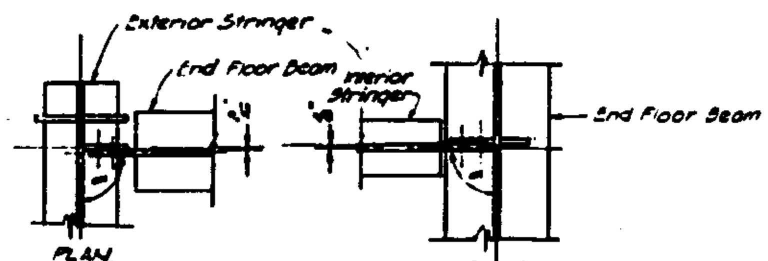


COVER PLATE DETAIL (Same - Top & Bottom)

NOTE: Clip all stiffeners and connection plates ½ x ½ at corners to clear welding of flange to web and to clear beam fillets.



DEFLECTION DIAGRAM FOR END FLOOR BEAMS (Wt. of Concrete Only)

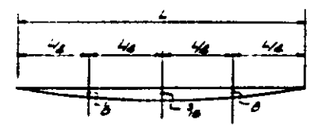


PLAN

PLAN

END FLOOR BEAM TO EXTERIOR STRINGER CONNECTION

INTERIOR STRINGER TO END FLOOR BEAM CONNECTION

NOTE: For Angle - see End Floor Beam Schedule Sheet No. 266

STRINGER & COVER ℄. LENGTHS-SHEAR CONN. SPACING

STRINGER	LENGTH L	TOP COV. ℄	BOTT. COV. ℄	STUD GROUP I	STUD GROUP II	STUD GROUP III
H1	85-5 5/8	—	11×1 7/8 ×62-0	36@3¼	24@7½	28@10¼*
H3	85-10⅛	—	11×1 7/8 ×66-3	36@3¼	24@7½	27@10¼*
H4	86-2 5/8	—	11×1 7/8 ×66-6	36@3¼	24@7½	27@10¼*
H5	86-6½	—	11×1 7/8 ×67-0	36@3¼	24@7½	28@10¼*
H6	86-10 3/8	—	11×1 7/8 ×67-3	36@3¼	24@7½	28@10¼*
H7	87-2¼	—	11×1 7/8 ×67-6	36@3¼	24@7½	28@10¼*
H2	87-6	11×½×37-6	11×1 7/8 ×66-0	36@3¼	24@7½	30@10¼*

NOTES:
For Expansion Device Detail see Sheet No. 363
For Framing Plan see Sheet No. 265

DESIGNED BY HJ
DRAWN BY K
CHECKED BY LW
APPROVED BY <A

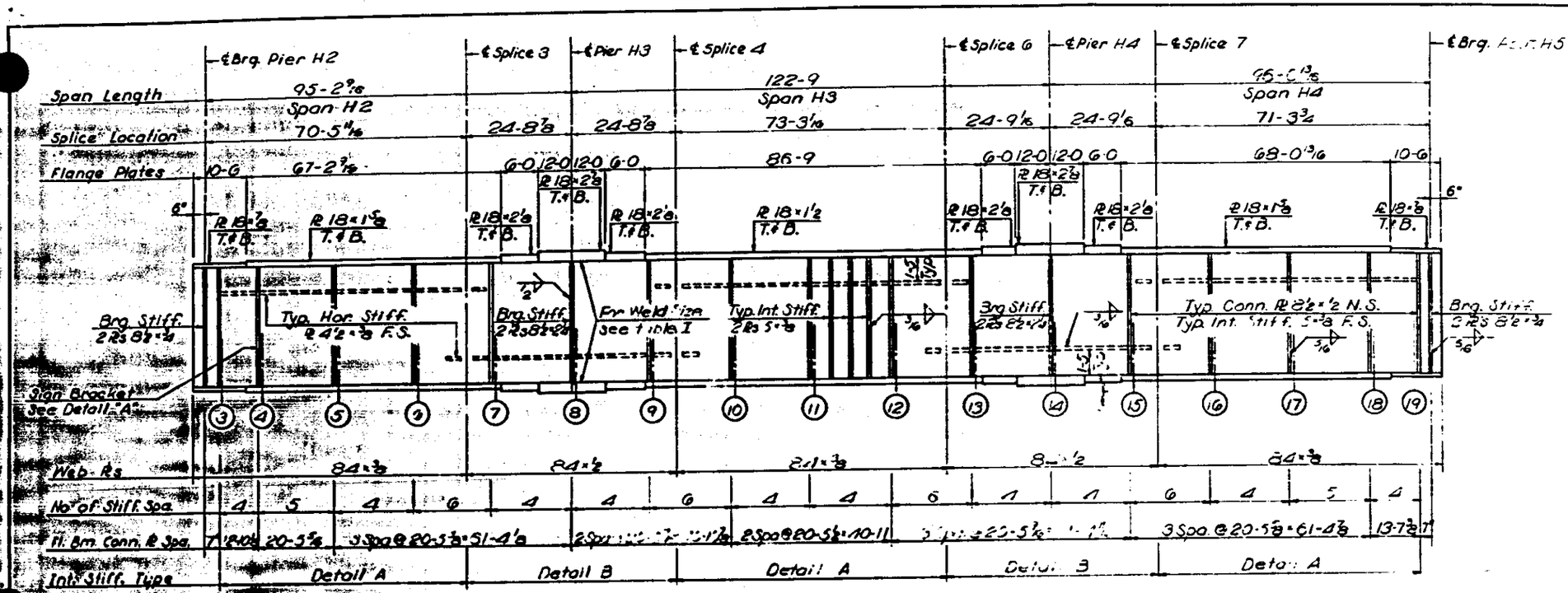
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

STEEL DETAILS
SPAN H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"
F.A.I. RT. 70. ST. CLAIR CO. SECTION 82-3HVF&E-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

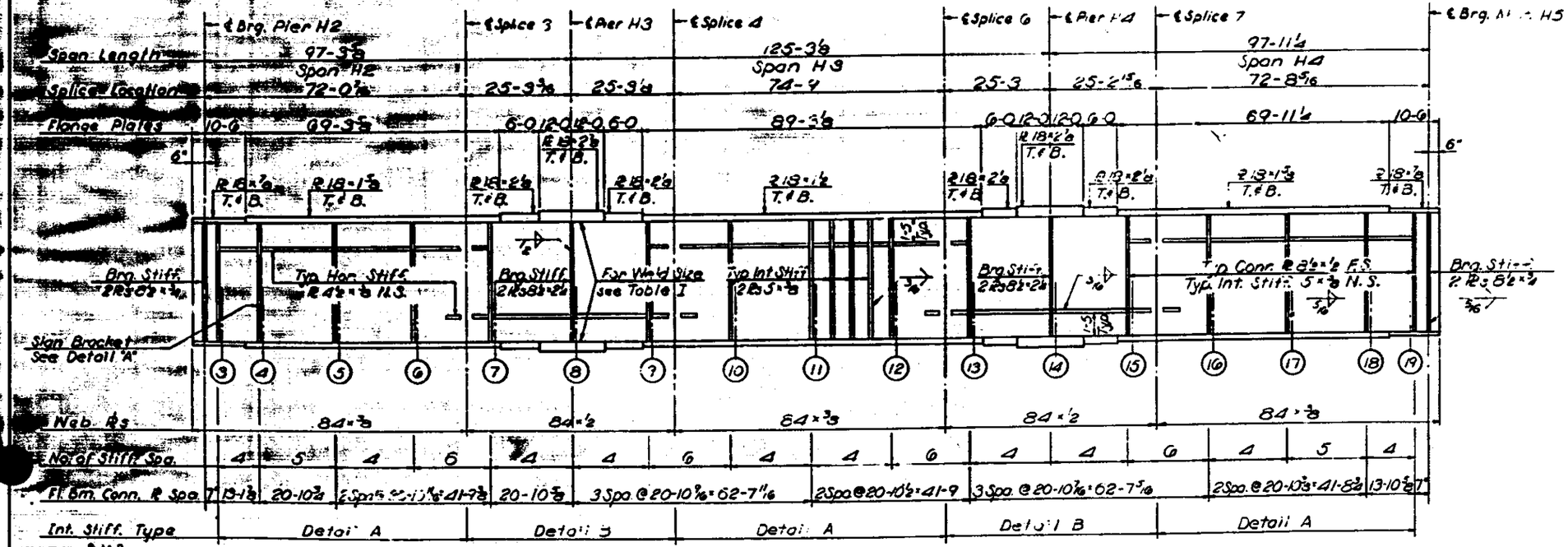
SHEET 280 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-I	ST. CLAIR	247	139
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



GIRDER H1
SPANS H2 thru H4

Note "A"
Interior Stiffeners should be moved if necessary to clear sign bracket Connection Plates.



GIRDER H2
SPANS H2 thru H4

Notes:
All Longitudinal Dimensions shown are given along ℄ of Web. See Sh. No. 265.

All Bearing Stiffeners and Connection Plate Details and Table I see Sh. No. 348 349 ... J 350.

For Sign Bracket Detail see Sh. No. 360

DESIGNED BY R.M.R
DRAWN BY D.C.H.
CHECKED BY I.T.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

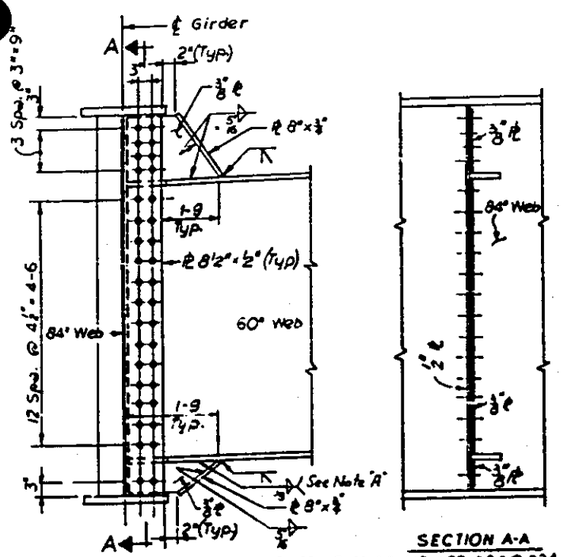
GIRDERS H1 AND H2
SPANS H2 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-I

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 26309 S26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF&E-1	ST. CLAIR	247	217
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

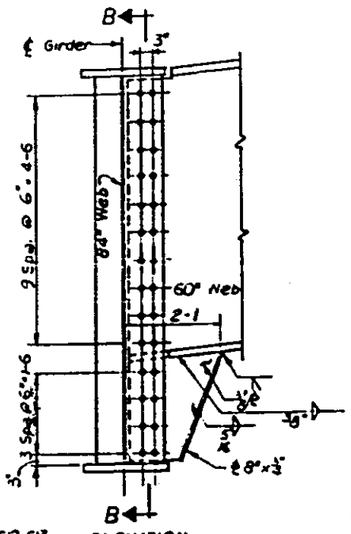


SECTION A-A

ELEVATION

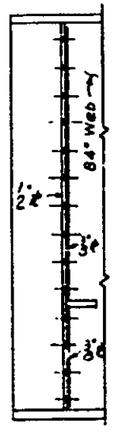
FOR SPANS A1-A4, A19-A20, D8-D10, D24-D25 AND G12-G13

INTERIOR FLOOR BEAM TO GIRDER CONNECTION



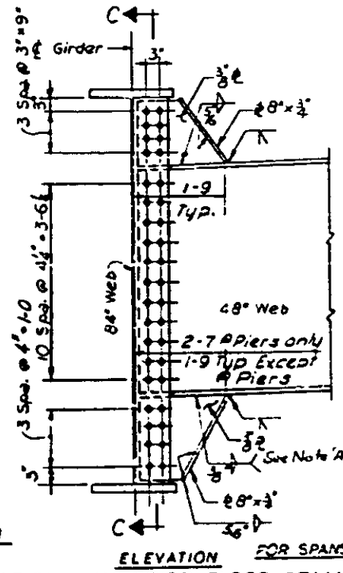
ELEVATION

END FLOOR BEAM TO GIRDER CONNECTION



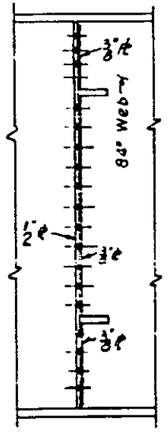
SECTION B-B

60" WEB FLOOR BEAMS



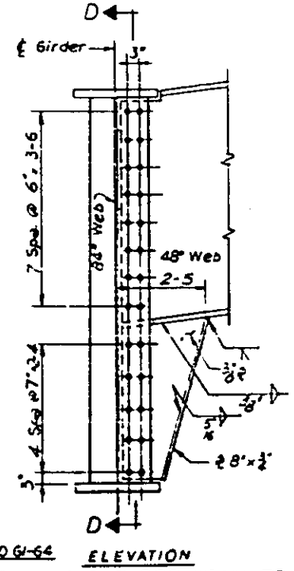
ELEVATION

INTERIOR FLOOR BEAM TO GIRDER CONNECTION



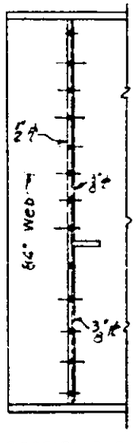
SECTION C-C

FOR SPANS A15-A17, D5-D7, D22-D23 AND G1-G4



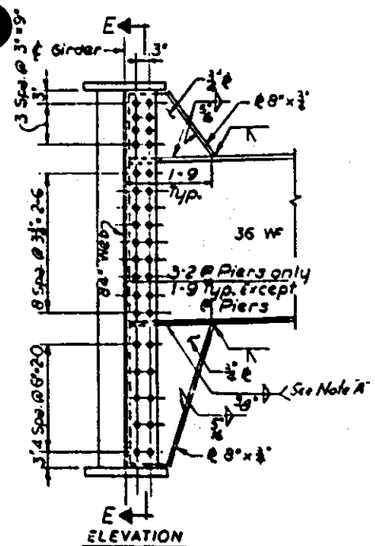
ELEVATION

END FLOOR BEAM TO GIRDER CONNECTION



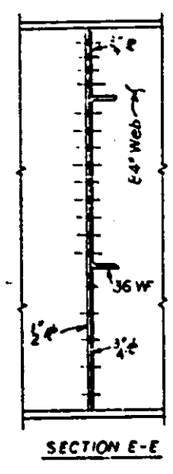
SECTION D-D

48" WEB FLOOR BEAMS

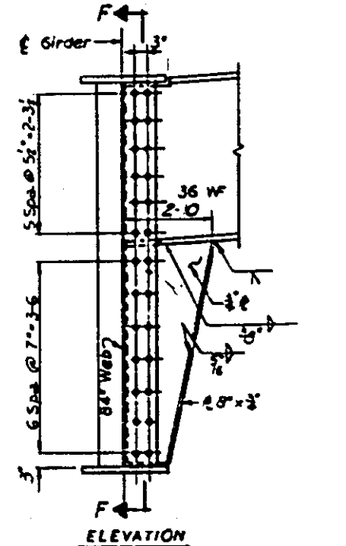


ELEVATION

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

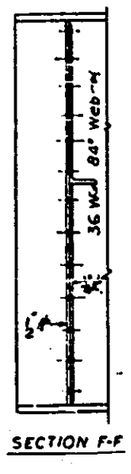


SECTION E-E



ELEVATION

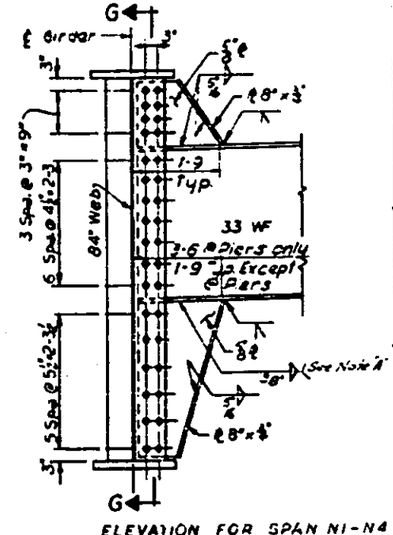
END FLOOR BEAM TO GIRDER CONNECTION



SECTION F-F

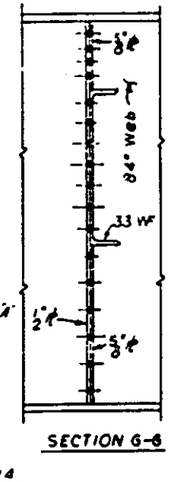
36 WF FLOOR BEAMS

FOR SPANS G5-G11, D1-D4, D18-D20 & H2-H4

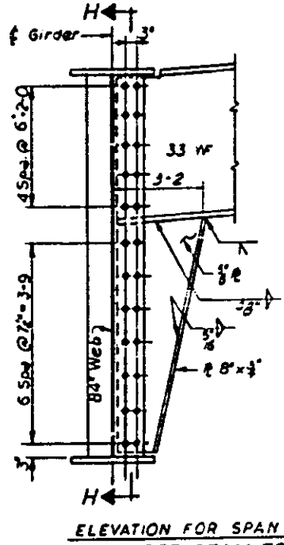


ELEVATION FOR SPAN N1-N4

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

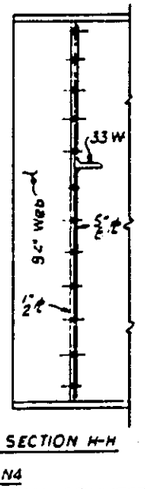


SECTION G-G



ELEVATION FOR SPAN N1-N4

END FLOOR BEAM TO GIRDER CONNECTION



SECTION H-H

33 WF FLOOR BEAMS

FOR SPAN N1-N4

84" WEB GIRDER

NOTES

For size of flange plate welds see Table I Sheet No. 350.
Weld Connection ℄'s to the top flange and tight fit at the bottom flange in areas designated as Detail "A".
Weld Connection ℄'s to the bottom flange and tight fit at the top flange in areas designated as Detail "B".
For limits of Detail "A" or Detail "B" see the Girder Elevation Drawings.

Note 'A'
5/16" Fillet weld Typical
3/8" Fillet weld @ Piers only

DESIGNED BY T.T.
DRAWN BY P.A.S.
CHECKED BY A.A.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

STEEL FRAMING DETAILS

POPLAR STREET BRIDGE APPROACHES

F.A.I RT. 70 ST. CLAIR CO. SECTION 82-1HVF&E-1

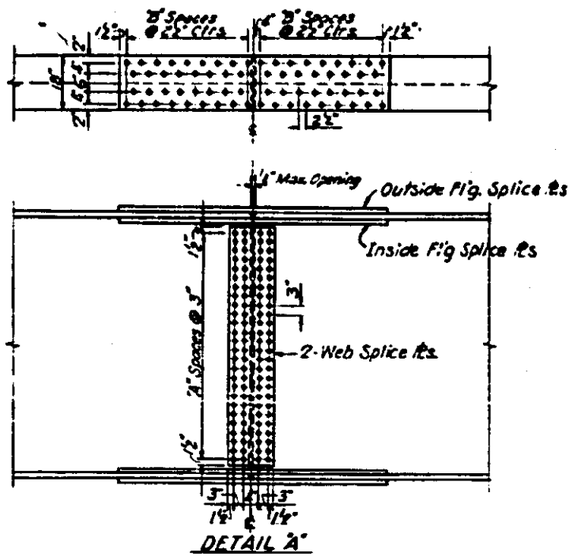
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

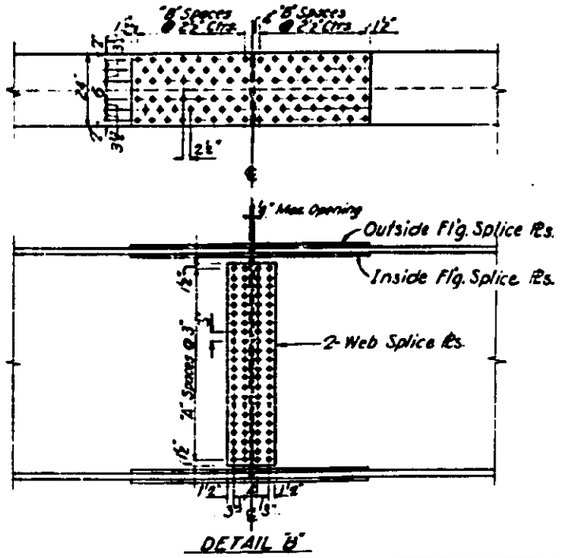
SHEET 347 OF 520

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF & E-1	ST. CLAIR	247	219
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

LOCATION	SPLICE NO.	DWG. NO.	DETAIL	GIRDER SECTION		WEB SPLICE			FLANGE SPLICE		
				WEB PLATE	FLANGE PLATES	FILL PLATES	SPLICE PLATES	A	OUTSIDE PLATES	INSIDE PLATES	B
Rdwy "A"	2,3,4	186	A	3/8 c 1/2 x 84	18 x 1 1/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	5,6	186	A	3/8 c 1/2 x 84	18 x 1 1/2	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	7	186	A	3/8 c 1/2 x 84	18 x 1 7/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1 x 7-3	4-8 x 1/16 x 7-3	16
	10, 11, 12, 13	190	A	5/8 x 72	18 x 1	—	2-13 x 3/8 x 5-6	21	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	17, 18, 20, 21	191	A	3/8 x 72	18 x 1 1/2	—	2-13 x 3/8 x 6-6	21	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	26, 27, 29	196	A	3/8 c 1/2 x 72	18 x 1 3/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	30	196	A	3/8 c 1/2 x 72	18 x 1 3/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-18 x 1 x 7-3	4-8 x 1/16 x 7-3	16
	35	200	A	3/8 c 1/2 x 84	18 x 1 5/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	36, 38, 39	200	A	3/8 c 1/2 x 84	18 x 1 3/4	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	44	204	A	3/8 c 1/2 x 84	18 x 1 5/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	45, 47	204	A	3/8 c 1/2 x 94	18 x 1 3/4	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	48	204	A	3/8 c 1/2 x 84	18 x 2	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1 x 7-3	4-8 x 1/16 x 7-3	16
	53	208	A	3/8 c 1/2 x 66	18 x 1 3/8	2-6 1/4 x 1/16 x 5-0	2-13 x 3/8 x 5-0	19	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	54, 56, 57, 59	208	A	3/8 c 1/2 x 66	18 x 1 1/4	2-6 1/4 x 1/16 x 5-0	2-13 x 3/8 x 5-0	19	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	61	209	A	3/8 c 1/2 x 66	18 x 1 3/4	2-6 1/4 x 1/16 x 5-0	2-13 x 3/8 x 5-0	19	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
Rdwy "D"	3,4,6,7,9,10	212	A	3/8 c 1/2 x 84	18 x 1	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	66, 67	212	A	3/8 c 1/2 x 72	18 x 1 1/4	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	14	216	A	3/8 x 84	18 x 7/8	—	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	15, 16, 17	216	A	3/8 x 84	18 x 1	—	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	20	220	A	3/8 c 1/2 x 84	18 x 1 1/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	21, 22	220	A	3/8 c 1/2 x 84	18 x 1 1/2	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	23	220	A	3/8 c 1/2 x 84	18 x 1 3/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	27, 29, 30, 31	229	A	3/8 c 1/2 x 72	18 x 1 3/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	36, 37, 39, 40	229	A	3/8 c 1/2 x 72	18 x 1 1/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
Rdwy "D" Contd	45	233	A	3/8 c 1/2 x 84	18 x 1	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 1/2 x 3-11	4-8 x 5/8 x 3-11	8
	46, 48, 49	233	A	3/8 c 1/2 x 84	18 x 1 1/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 5/8 x 4-9	4-8 x 3/4 x 4-9	10
	54	239	B	3/8 c 5/8 x 84	24 x 1 3/8	2-6 1/4 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-24 x 3/4 x 4-9	4-11 x 7/8 x 4-9	10
	55, 57	239	B	3/8 c 5/8 x 84	24 x 1/2	2-6 1/4 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-24 x 3/4 x 4-9	4-11 x 7/8 x 4-9	10
	58, 60	239	B	3/8 c 5/8 x 84	24 x 1 5/8	2-6 1/4 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-24 x 7/8 x 5-7	4- x 1 x 5-7	12
	61	239	B	3/8 c 5/8 x 84	24 x 1 7/8	2-6 1/4 x 1/8 x 6-6	2-13 x 3/8 x 6-6	25	2-24 x 1 x 6-5	4-11 x 1 1/8 x 6-5	14
	74	247	B	3/8 c 1/2 x 72	24 x 1 3/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-24 x x 6-5	4-11 x 1 1/8 x 6-5	14
	77, 84, 91 *	247	B	3/8 c 1/2 x 72	24 x 1 5/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-24 x 1 x 6-5	4-11 x 1 1/8 x 6-5	14
	81, 88, 95	247	B	3/8 c 1/2 x 72	24 x 1 5/8	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-24 x 1 x 6-5	4-11 x 1 1/8 x 6-5	14
	98 *	247	B	3/8 c 1/2 x 72	24 x 1 3/4	2-6 1/4 x 1/16 x 5-6	2-13 x 3/8 x 5-6	21	2-24 x 1 x 6-5	4- x 1 1/8 x 6-5	14
Rdwy "G"	3	252	A	3/8 c 1/2 x 84	18 x 1 2	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	4,6	252	A	3/8 c 1/2 x 84	18 x 1 3/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	7, 9, 10	252	A	3/8 c 1/2 x 84	18 x 1 1/4	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	15, 16, 18, 19, 21, 22	256	A	3/8 c 1/2 x 84	18 x 1 1/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	27, 29, 30, 31	260	A	3/8 c 1/2 x 84	18 x 1 1/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	35	264	A	3/8 c 1/2 x 84	18 x 1/2	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	36	264	A	3/8 c 1/2 x 84	18 x 1/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
Rdwy "H"	3, 7	268	A	3/8 c 1/2 x 84	18 x 1 5/8	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
	4, 6	268	A	3/8 c 1/2 x 84	8 x 1/2	2-6 1/4 x 1/16 x 6-6	2-13 x 3/8 x 6-6	25	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14
Ramp "R"	4, 16, 18, 20	330	A	5/8 x 66	18 x 1 1/2	—	2-13 x 5/8 x 5-0	19	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	5, 7	326	A	5/8 x 66	18 x 1 1/2	—	2-13 x 5/8 x 5-0	19	2-18 x 3/4 x 5-7	4-8 x 7/8 x 5-7	12
	3, 9	326	A	5/8 x 66	18 x 1 5/8	—	2-13 x 5/8 x 5-0	19	2-18 x 7/8 x 6-5	4-8 x 1 x 6-5	14

* Require Flg. Fill Pls. 24 x 5/8 x 3-2 1/4





DESIGNED BY A.A.
DRAWN BY O.H.
CHECKED BY S.K.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GIRDER SPLICES

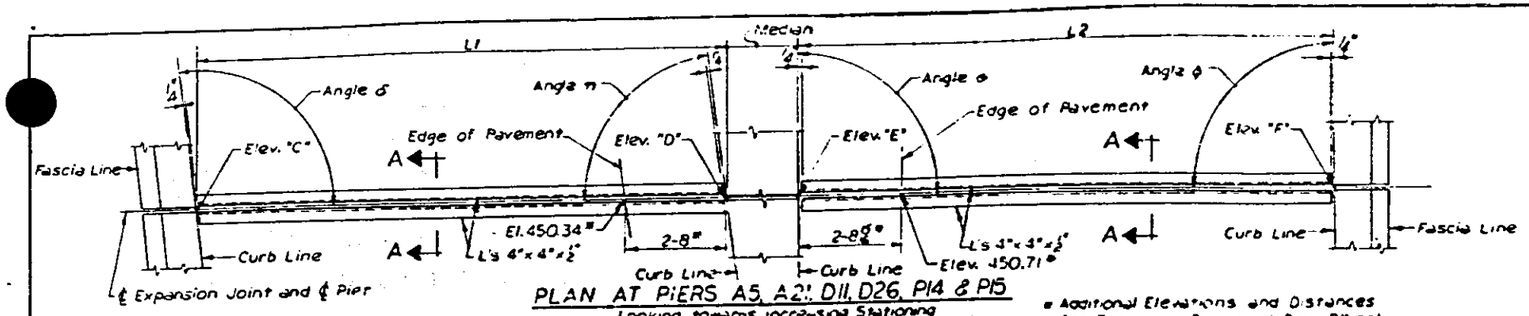
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

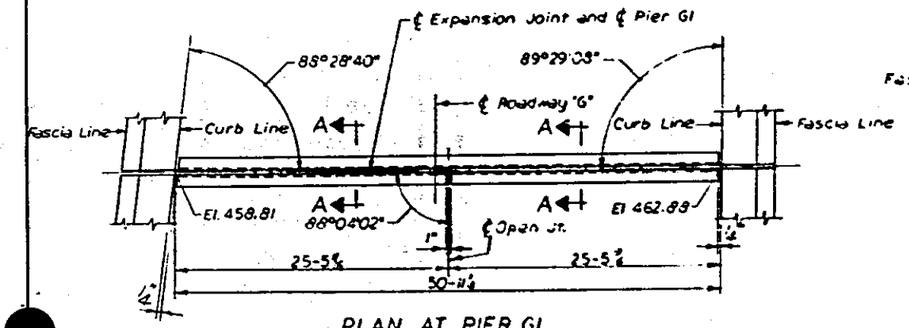
SHEET 349 OF 526

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I. 70	82-3HVF & E-1	ST. CLAIR	247	232
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

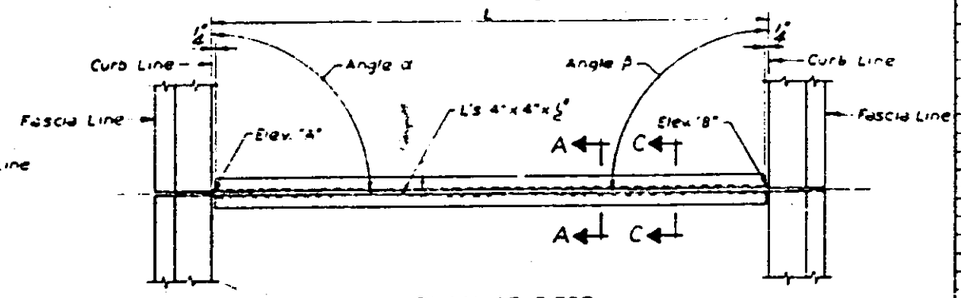


PLAN AT PIERS A5, A2, D11, D26, P14 & P15
Looking towards increasing Stationing
(See Table II)

* Additional Elevations and Distances for Expansion Device at Pier D11 only



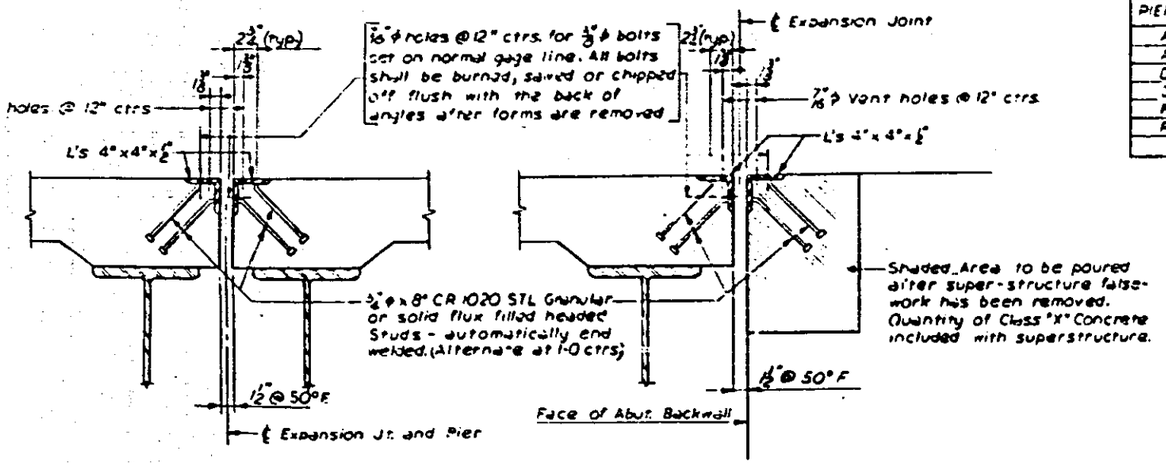
PLAN AT PIER G1
Looking towards increasing Stationing



PLAN AT PIERS
A11, A12, D5, D12, D18, D21, G9, H1, M9, N1, O6, P7, S3 &
ABUTMENTS G14, H5, O10 & O11
Looking towards increasing Stationing
(See Table I)

TABLE I
FOR ELEVATIONS, LENGTHS, ANGLES & WEIGHTS

PIER NO.	ANGLE α	ELEV. "A"	L	ELEV. "B"	ANGLE β	WEIGHT
A11	90°03'15"	448.05	30-0	450.45	90°00'00"	930 Lbs
A12	90°19'37"	448.43	30-3¼	450.85	90°00'00"	930 Lbs
D5	90°00'00"	446.70	30-0⅛	446.23	92°36'23"	930 Lbs
D12	90°00'00"	448.31	30-0	450.71	90°00'00"	930 Lbs
D18	90°12'05"	448.70	30-0⅜	450.88	90°00'00"	930 Lbs
D21	91°47'46"	446.96	34-10½	449.49	90°00'00"	960 Lbs
G9	90°00'00"	455.59	30-0	457.98	90°00'00"	830 Lbs
H1	89°12'02"	447.50	40-7⅝	450.75	89°12'59"	1120 Lbs
M9	90°00'00"	465.31	22-0	467.07	90°00'00"	610 Lbs
N1	90°00'00"	451.32	22-0	453.44	90°00'00"	610 Lbs
O6	90°00'00"	439.26	22-0	441.81	90°00'00"	610 Lbs
P7	90°00'00"	471.78	22-0	470.02	90°00'00"	610 Lbs
S3	90°00'00"	457.36	22-0	455.91	90°00'00"	610 Lbs
G1		*See Details This Sheet*		*		1380 Lbs
ABUTMENT						
G14	85°35'35"	443.24	28-8½	443.39	90°00'00"	1340 Lbs
H5	89°38'49"	441.18	32-3⅝	443.76	89°36'07"	1590 Lbs
O10	90°00'00"	428.11	22-0	429.87	90°00'00"	610 Lbs
O11	90°00'00"	424.74	22-0	426.12	90°00'00"	610 Lbs



SECTION A-A
AT PIERS

SECTION C-C
AT ABUTMENTS

TABLE II
FOR ELEVATIONS LENGTHS ANGLES & WEIGHTS

PIER NO.	ANGLE δ	ELEV. "C"	L1	ELEV. "D"	ANGLE π	ANGLE σ	ELEV. "E"	L2	ELEV. "F"	ANGLE φ	WEIGHT
A5	93°43'07"	443.51	21-2⅝	445.31	96°33'25"	90°00'00"	445.68	30-0	447.24	90°00'00"	1410 Lbs
A2	94°50'36"	454.20	19-4¼	455.56	97°13'39"	90°00'00"	456.27	30-0	457.32	90°00'00"	1360 Lbs
D11	90°00'00"	447.93	32-8	450.62	96°21'42"	78°59'21"	450.63	24-11⅝	450.45	99°04'36"	1590 Lbs
D26	97°29'16"	446.84	22-2	448.56	92°59'54"	90°00'00"	448.90	30-0	449.37	90°00'00"	1440 Lbs
P14	107°48'41"	439.63	23-0⅜	450.44	72°39'57"	111°54'53"	450.14	23-4⅛	451.95	67°23'40"	1280 Lbs
P15	113°54'37"	449.02	20-1¾	449.55	54°39'15"	114°43'17"	450.02	20-5⅞	451.56	63°49'22"	1120 Lbs

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel	Lbs	23,140

NOTE:

The Contractor for Section 82-3 HVF & E-1 will furnish all expansion devices shown on this sheet. See Special Provisions.
The Contractor for Section 82-3 HVD-1 will erect the expansion devices as shown on this sheet. See Special Provisions.

DESIGNED BY P.A.S.
DRAWN BY P.A.S.
CHECKED BY L.H.W.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

EXPANSION DEVICES
OPEN TYPE
POPLAR STREET BRIDGE APPROACHES

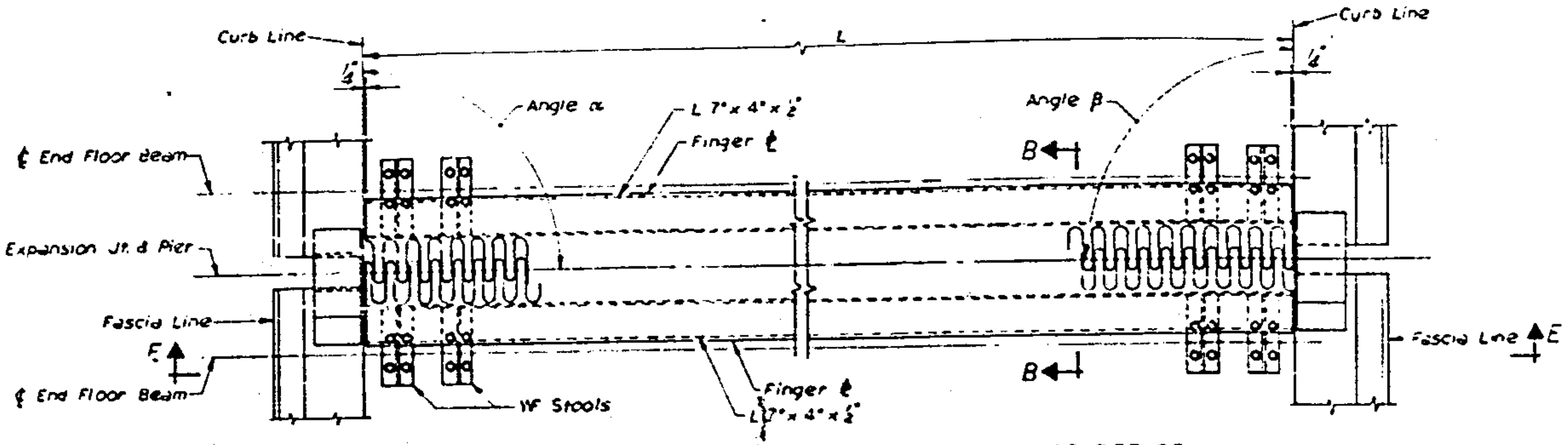
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

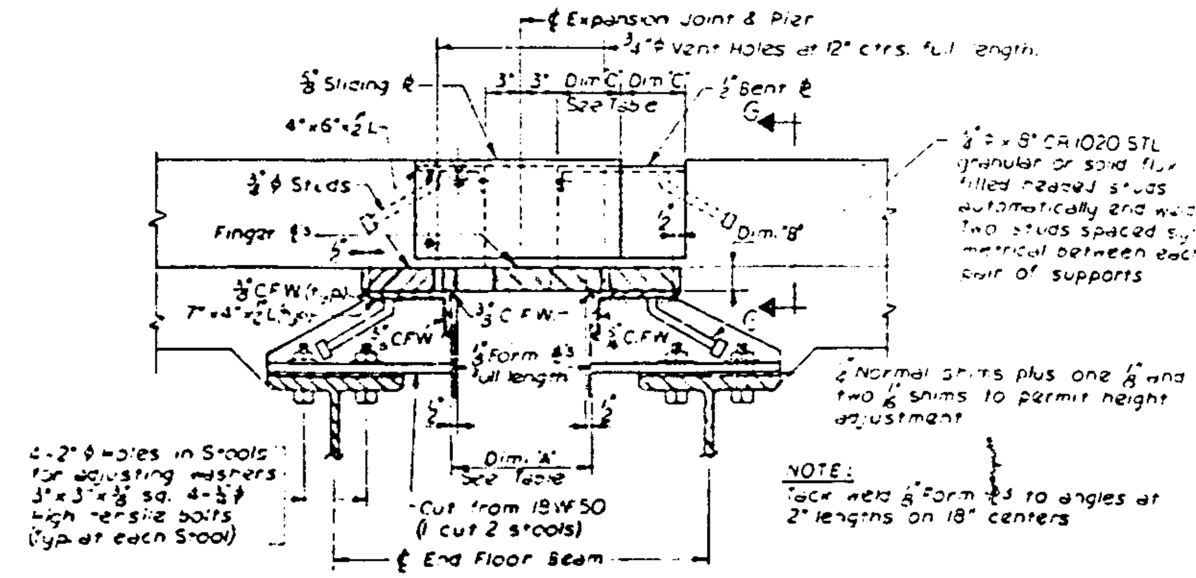
SHEET
362 of 526

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I. 70	82-3HVF & E-1 / 82-3HVD-1	ST. CLAIR	147	233
FED ROAD DIV NO 4	ILLINOIS	PROJECT		

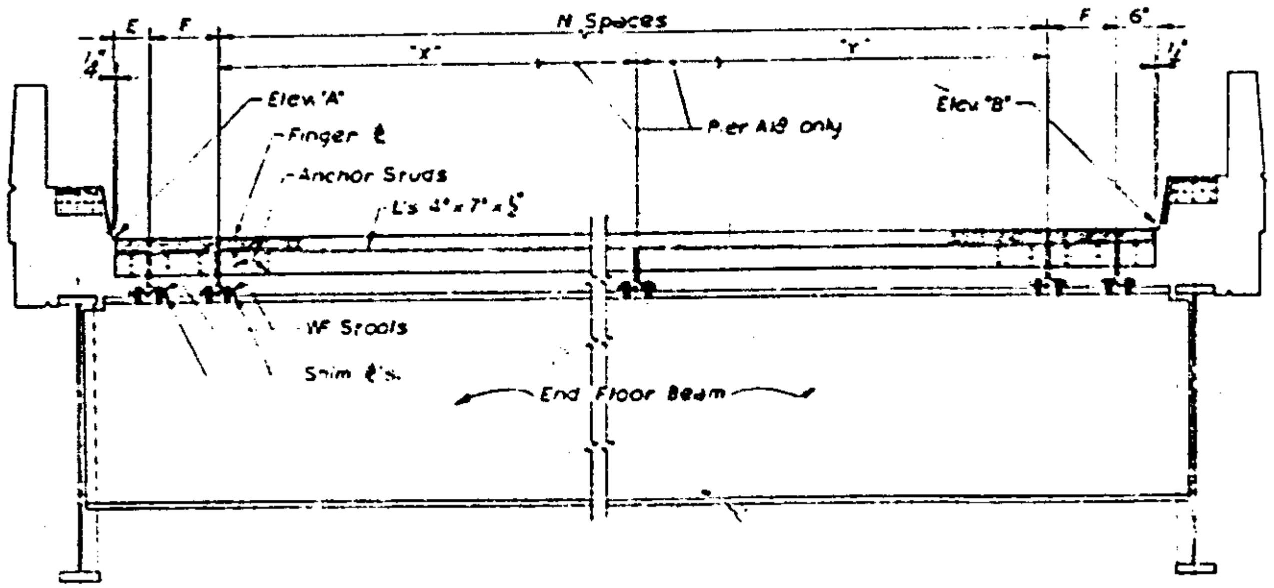
NOTE: Stool Spacing to be adjusted to miss Stiffener and Connection Plates on Floor Beams



PLAN AT PIERS A8, A15, A18, D8, D15, D22, D28, D33, G5, H2, M12, N5, O3, O14, P4, P10, R3, S7 AND S18
LOOKING TOWARDS INCREASING STA.



SECTION B-B



SECTION E-E

TABLE OF ELEVATIONS, LENGTHS, ANGLES AND WEIGHTS OF FINGER EXPANSION DEVICES

PIER NO.	ELEV. 'A'	ANGLE α	L	ANGLE β	ELEV 'B'	E	F	N SPACES	WEIGHT
A8	446.49	90°00'00"	30-0	90°00'00"	449.89	6"	1-5	13 Spaces @ 2-0 = 26-0	7920 lbs
A15	449.64	94°24'43"	35-0 3/4	90°00'00"	452.24	7 1/2"	1-9	15 Spaces @ 2-0 3/4 = 30-11 1/4	9250 lbs
A18	450.34	92°26'35"	45-7	90°00'00"	454.03	8"	1-6	See Note 'A'	11690 lbs
D8	447.37	90°00'00"	42-11	92°36'23"	447.89	1-0 1/2	1-6	21 Spaces @ 1-9 5/8 = 37-7 1/2	11450 lbs
D15	449.38	90°00'00"	30-0	90°00'00"	451.78	6"	1-6	13 Spaces @ 2-0 = 26-0	7920 lbs
D22	446.38	92°14'23"	37-7 1/4	90°00'00"	449.10	7 1/2"	1-9	17 Spaces @ 1-11 1/4 = 33-5 1/4	9990 lbs
D28	451.70	90°00'00"	30-0	90°00'00"	450.15	5"	1-5	13 Spaces @ 2-0 = 26-0	8120 lbs
D33	457.98	90°00'00"	30-0	90°00'00"	433.58	6"	1-6	13 Spaces @ 2-0 = 26-0	8070 lbs
G5	457.41	[illegible]	34-7 1/2	[illegible]	460.18	7 1/2"	1-9	15 Spaces @ 2-0 = 30-0	10750 lbs
H2	436.18	89°17'51"	38-4 1/4	87°18'10"	449.25	10 1/4"	1-6	17 Spaces @ 2-0 = 34-0	[illegible]
M12	449.39	90°00'00"	22-0	90°00'00"	448.56	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.
N5	449.58	90°00'00"	22-0	90°00'00"	447.92	5"	1-5	9 Spaces @ 2-0 = 18-0	5890 lbs.
O3	460.18	90°00'00"	22-0	90°00'00"	458.42	6"	1-6	9 Spaces @ 2-0 = 18-0	6013 lbs.
O14	436.32	90°00'00"	22-0	90°00'00"	436.77	6"	1-6	9 Spaces @ 2-0 = 18-0	6000 lbs.
P4	471.49	90°00'00"	22-0	90°00'00"	469.73	6"	1-5	9 Spaces @ 2-0 = 18-0	5760 lbs.
P10	461.04	90°00'00"	22-0	90°00'00"	460.72	5"	1-5	9 Spaces @ 2-0 = 18-0	6850 lbs.
R3	461.57	90°00'00"	22-0	90°00'00"	453.28	5"	1-5	9 Spaces @ 2-0 = 18-0	6060 lbs.
S7	472.36	90°00'00"	22-0	90°00'00"	474.12	6"	1-6	9 Spaces @ 2-0 = 18-0	5950 lbs.
S18	[illegible]	90°00'00"	22-0	90°00'00"	498.75	5"	1-6	9 Spaces @ 2-0 = 18-0	[illegible]

NOTE 'A': For Dim "X" use 12 Spaces @ 1-11 = 23-0; for "Y" Dim use 13 Spaces @ 1-5 = 18-5

EXPANSION DEVICE TABLE

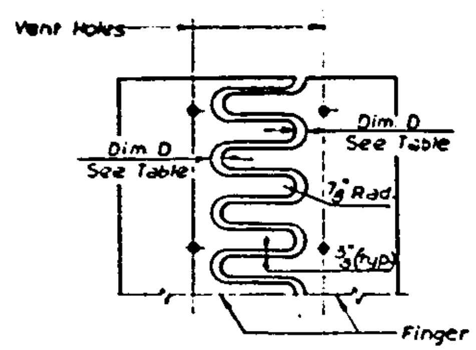
PIER NO.	Dimen. 'A' at 50° F	Dimen. 'B' ℄ Thickness	Dimen. 'C' at 50° F.	Dimen. 'D' at 50° F.
A8	11 1/8	1 1/8	3 1/2"	3 3/8
A15	12 1/4"	1 1/8"	4"	3 1/2"
A18	9 5/8"	1 5/8"	3"	2 5/8"
D8	11 1/8"	1 1/8"	3 1/2"	3 3/8"
D15	11 1/2"	1 1/8"	3 1/2"	3 1/4"
D22	12 1/4"	1 1/8"	4"	3 1/2"
D28	13"	1 1/8"	4"	3 3/4"
D33	12 1/4"	1 1/8"	4"	3 1/2"
G5	15 5/8"	2 1/4"	5"	4 5/8"
H2	9 5/8"	1 5/8"	3"	2 5/8"
M12	12 1/4"	1 1/8"	4"	3 1/2"
N5	14 1/8"	2 1/4"	4 1/2"	4 1/8"
O3	12 1/4"	1 1/8"	4"	3 1/2"
O14	12 1/4"	1 1/8"	4"	3 1/2"
P4	9 1/4"	1 5/8"	3"	2 1/2"
P10	14 1/8"	2 1/4"	4 1/2"	4 1/8"
R3	13"	1 1/8"	4"	3 3/4"
S7	11 1/8"	1 1/8"	3 1/2"	3 5/8"
S18	10"	1 5/8"	3"	2 3/4"

NOTES: The Portions of the Expansion Devices for Piers A1, D1, A25, M6, S10 & S16 that have been stored by the Contractor for Section 82-3 HVB shall be erected by the Erection Contractor indicated in Section '6-6' on this sheet. See Special Provisions.

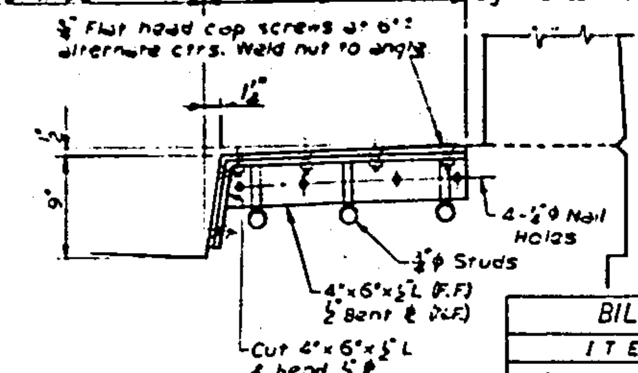
The Portions of the Expansion Devices for Piers D33, N5, O14 P4 & S18 that can be erected immediately shall be erected by the Erection Contractor indicated in Section "G-G" this Sheet. The Future portions shall be stored by the Contractor for Section 82-3HVF & E-1 until needed by the Contractors for Sections 82-3HVB-2 and 82-3HVB-3

Portion of Expansion Device between Curbs to be furnished and erected by Contractor for Section 82-3HVF & E-1

The Curb Portion of the Expansion Device to be furnished by the Contractor for Section 82-3 HVF & E-1 and erected by the Contractor for Section 82-3 HVD-1.



FINGER ℄ CUTTING DETAIL



SECTION G-G

NOTE: Stool spacing to be adjusted to miss stiffener & connection plates on floor beams

BILL OF MATERIAL		
ITEM	UNIT	TOTAL
Structural Steel	Lbs	148,960

Temperature range = -30°F. to +130°F. with +50°F. = Normal.

DESIGNED BY	PAS
DRAWN BY	PAS
CHECKED BY	L.H.W.
APPROVED BY	K.A.

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

EXPANSION DEVICES
FINGER PLATE
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1, 82-3HVD-1

W. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 313 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 70	82-3HVF&E-1	ST CLAIR	247	241
FED. ROAD DIV. NO. 5	ILLINOIS	PROJECT		

Table of Moments and Reactions

Spans G1 thru G4

Location		Moment .4 Span G1	.5 Span G2	.5 Span G3	.6 Span G4	Pier G2	Pier G3	Pier G4	Reaction Pier G1	Pier G2	Pier G3	Pier G4	Pier G5
Dead Load	Primary	2090	1900	1793	1671	4673	4630	4053	135	474	453	415	111
	Secondary	21	19	18	17	38	37	33	1	1	1	1	1
Live Load	Primary	1378	1400	1376	1300	1568	1680	1490	93	137	138	132	79
	Secondary	14	14	14	13	13	13	12	1	—	—	—	1
Impact		324	293	290	303	343	350	329	20	30	29	29	19
Centrifugal Force		42	43	42	40	48	52	46	3	4	4	4	2
Total		3869	3669	3533	3343	6683	6762	5963	243	646	625	581	213
Section Modulus		2694	2502	2319	2319	4339	4338	3962	—	—	—	—	—
Torque Loading	Dead Load	5.6	5.1	4.8	4.5	10.3	10.1	8.9					
	Live Load	3.7	3.7	3.7	3.5	3.4	3.7	3.3					
	Impact	0.9	0.8	0.8	0.8	0.8	0.8	0.7					
	Total	10.2	9.6	9.3	8.8	14.5	14.6	12.9					
	Section Modulus	81.0	74.3	67.5	67.5	135.0	135.0	121.5					

Table of Moments and Reactions

Spans G5 thru G8

Location		Moment .4 Span G5	.5 Span G6	.5 Span G7	.6 Span G8	Pier G6	Pier G7	Pier G8	Reaction Pier G5	Pier G6	Pier G7	Pier G8	Pier G9
Dead Load	Primary	1603	1462	1432	1483	3589	3629	3405	105	372	366	355	98
	Secondary	16	14	14	15	29	29	27	1	1	1	1	1
Live Load	Primary	1270	1265	1232	1170	1472	1540	1380	78	131	131	125	73
	Secondary	13	13	12	12	12	12	11	1	—	—	—	1
Impact		305	265	263	284	322	336	310	18	29	28	28	17
Centrifugal Force		47	47	45	43	54	57	51	3	5	5	5	3
Total		3254	3059	2933	3015	5478	5603	5184	206	538	531	514	193
Section Modulus		2135	2135	2135	2135	3567	3779	3403	—	—	—	—	—
Torque Loading	Dead Load	3.6	3.3	3.2	3.5	6.6	6.7	6.6					
	Live Load	2.6	2.8	2.8	2.7	2.7	2.8	2.6					
	Impact	0.7	0.6	0.6	0.7	0.6	0.6	0.6					
	Total	7.1	6.7	6.6	6.9	9.9	10.1	9.8					
	Section Modulus	60.8	60.8	60.8	60.8	103.0	114.8	101.8					

Table of Moments and Reactions

Spans G9 thru G11

Location		Moment .4 Span G9 & Span G11	.5 Span G10	Piers G10 & G11	Reaction Piers G9 & G12	Piers G10 & G11
Dead Load	Primary	1511	1532	3537	99	370
	Secondary	15	15	31	1	1
Live Load	Primary	1212	1232	1470	73	125
	Secondary	12	12	12	1	—
Impact		283	255	327	17	28
Centrifugal Force		44	42	50	2	4
Total		3077	3088	5727	193	528
Section Modulus		2135	2135	3823	—	—
Torque Loading	Dead Load	3.9	4.0	8.1		
	Live Load	3.2	3.1	3.1		
	Impact	0.7	0.7	0.7		
	Total	7.8	7.8	11.9		
	Section Modulus	60.8	60.8	121.5		

Table of Moments and Reactions

Spans G12 & G13

Location		Moment .4 Span G12	.6 Span G13	Pier G13	Reaction Pier G12	Pier G13	Abut. G14
Dead Load	Primary	1376	1629	4021	145	478	124
	Secondary	20	16	32	1	1	1
Live Load	Primary	1507	1424	1415	107	158	102
	Secondary	15	14	11	1	—	1
Impact		370	354	345	27	39	25
Centrifugal Force		28	26	26	2	3	2
Total		3916	3463	5850	283	679	255
Section Modulus		2694	2319	3962	—	—	—
Torque Loading	Dead Load	5.2	4.3	8.7			
	Live Load	3.9	3.8	3.0			
	Impact	1.0	0.9	0.8			
	Total	10.1	9.0	12.5			
	Section Modulus	81.0	67.5	121.5			

Table of Moments and Reactions

Spans H2 thru H4

Location		Moment .4 Span H2	.5 Span H3	.6 Span H4	Pier H3	Pier H4	Reaction Pier H2	Pier H3	Pier H4	Abut. H5
Dead Load	Primary	2175	2053	2012	4936	4736	126	448	433	118
	Secondary	22	21	21	40	38	1	1	1	1
Live Load	Primary	1523	1517	1468	1735	1691	81	140	137	80
	Secondary	15	15	15	14	14	1	—	—	1
Impact		340	300	331	366	360	18	30	29	18
Centrifugal Force		58	58	56	66	64	3	5	5	3
Total		4133	3964	3903	7157	6903	230	624	605	221
Section Modulus		2878	2695	2878	4906	4906	—	—	—	—
Torque Loading	Dead Load	8.0	7.6	7.4	14.9	14.2				
	Live Load	5.5	5.5	5.4	5.2	5.1				
	Impact	1.3	1.1	1.2	1.1	1.1				
	Total	14.8	14.2	14.0	21.2	20.4				
	Section Modulus	87.8	81.0	87.8	155.3	155.3				

DESIGNED BY E. L.
DRAWN BY I. M.
CHECKED BY E. L.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

STRESS TABLES

POPLAR STREET BRIDGE APPROACHES

ROADWAYS 'B' & 'W'

FAI RT 70 ST CLAIR CO SECTION 82-3HVF&E-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 371 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF BE-1	ST. CLAIR	247	246
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	

ROADWAY A

Pier No.	Girder A1	Girder A2
A1 - Span A1	441.30	442.11
A2	437.51	438.35
A3	435.03	436.06
A4	434.50	436.53
A5 - Span A4	433.94	437.69
A5 Span A5	433.39	437.69
A6	437.02	439.47
A7	437.11	439.67
A8 - Span A7	438.17	440.73
A8 - Span A8	438.17	440.73
A9	437.44	440.00
A10	438.76	441.32
A11-Span A10	439.73	442.29
A11-Span A11	439.73	442.29
A12-Span A11	440.09	442.68
A12-Span A12	440.07	442.63
A13	440.03	442.63
A14	437.73	442.58
A15-Span A14	439.97	442.93
A15-Span A15	439.97	442.93
A16	438.39	442.06
A17	440.29	443.77
A18-Span A17	440.71	444.52
A19-Span A18	440.71	444.52
A19	439.40	443.52
A20	441.75	445.59
A21-Span A20	444.51	447.74
A21-Span A21	445.51	447.74
A22	451.09	451.40
A23	454.57	453.85
A24	453.39	456.60
A25-Span A24	462.10	459.54

RAMP M

Pier No.	Girder M1	Girder M2
M6 - Span M7	470.45	468.36
M7	467.73	465.66
M8	463.77	461.87
M9-Span M9	459.65	457.93
M9-Span M10	459.65	457.93
M10	454.00	452.30
M11	446.10	445.56
M12-Span M12	441.66	442.14
M12-Span M13	441.66	442.14
M13	437.70	439.25
M14	436.00	437.72
A6-Span A6M	433.92	437.33

RAMP R

Pier No.	Girder R1	Girder R2
A21-Span A21-R	444.51	448.22
R1	448.74	450.60
R2	451.46	453.37
R3-Span R2	453.75	455.61
R3-Span R3	453.75	455.61
R4	453.46	455.32
O1	453.41	455.31
O1-Span O1-R	452.89	453.38

ROADWAY D

Pier No	Girder D1	Girder D2
D1-Span D1	442.44	441.90
D2	438.79	438.47
D3	437.00	436.50
D4	436.90	436.40
D5-Span D4	437.45	436.95
D5-Span D5	437.45	436.95
D6	437.46	436.91
D7	437.25	436.64
D8-Span D7	439.07	438.28
D8-Span D8	438.07	438.28
D9	436.62	439.15
D10	437.34	440.53
D11-Span D10	438.26	440.85
D11-Span D11	438.26	441.09
D12-Span D11	439.79	442.55
D12-Span D12	439.79	442.55
D13	439.97	442.53
D14	439.73	442.29
D15-Span D14	441.36	443.62
D15-Span D15	441.66	443.62
D16	440.27	442.33
D17	440.20	442.76
D18-Span D17	439.36	441.61
D18-Span D18	439.36	441.61
D19	438.51	440.53
D20	437.12	439.63
D21-Span D20	437.63	440.29
D21-Span D21	437.63	440.29
D22-Span D21	436.70	439.57
D22-Span D22	436.70	439.31
D23	434.13	437.56
D24	433.67	437.36
D25	435.23	439.06
D26-Span D25	437.16	439.79
D26-Span D26	440.66	435.79
D27	441.71	441.13
D28-Span D27	443.50	441.65
D28-Span D28	443.50	441.65
D29	443.31	440.75
D30	441.67	442.11
D31	437.16	444.50
D32	437.42	444.36
D33-Span D32	439.40	447.84

RAMP N

Pier No	Girder N1	Girder N2
D11 Span D11-N	441.09	440.55
N1-Span D11-N	442.09	441.13
N1-Span N1	442.09	441.13
N2	442.37	440.63
N3	441.61	439.69
N4	440.52	438.70
N5-Span N4	440.66	438.58

RAMP Q

Pier No.	Girder Q1	Girder Q2
D25-Span D26Q	437.16	440.66
Q1	440.38	442.30
Q2	441.65	443.57
P14-Span Q2	442.80	443.63

ROADWAY G

Pier No.	Girder G1	Girder G2
G1-Span G1	449.15	453.38
G2	448.34	452.61
G3	447.13	450.75
G4	447.19	450.47
G5-Span G4	448.09	451.01
G5-Span G5	448.09	451.01
G6	446.50	449.35
G7	446.29	448.70
G8	446.29	448.35
G9-Span G8	446.26	445.32
G9-Span G9	445.26	443.82
G10	442.90	[illegible]
G11	[illegible]	442.30
G12-Span G11	439.77	441.43
G12-Span G12	437.61	441.63
G13	432.33	436.43
G14 (Abutment)	430.43	433.32

RAMP S

Pier No.	Girder S1	Girder S2
[illegible] Span S1	[illegible]	[illegible]
S1	[illegible]	[illegible]
S2	[illegible]	[illegible]
S3 - Span S3	[illegible]	[illegible]
S3 - Span S4	448.55	450.[illegible]
S4	452.31	453.04
S5	457.31	456.96
S6	462.33	461.10
S7 - Span S7	466.93	465.01
S7 - Span S8	466.93	465.01
S8	469.13	467.51
S9	473.31	471.37
S10 - Span S10	476.32	474.60
S15 - Span S16	439.01	437.09
S16	437.55	435.43
S17	434.70	433.11
S18 - Span S18	431.49	430.68

RAMP O

Pier No.	Girder O1	Girder O2
O1 Span O1	452.87	[illegible]
O1	452.71	450.73
O2	452.51	450.59
O3-Span O3	452.51	450.59
O3-Span O4	452.51	450.59
O4	449.47	448.40
O5	445.44	445.30
O6-Span O6	441.53	442.13
O6-Span O7	441.53	442.13
O7-Span O7	437.73	438.87
O7-Span O8	437.73	438.87
O8	430.59	432.74
O9	424.22	426.13
O10 (Abutment)	420.30	422.22
O11 (Abutment)	416.96	418.45
O12	419.62	420.27
O13	424.05	424.54
O14-Span O14	428.53	429.32

ROADWAY H

Pier No.	Girder H1	Girder H2
H1-Span H1	439.71	443.[illegible]
H2-Span H1	438.51	439.73
H2-Span H2	436.51	439.73
H3	433.64	436.71
H4	432.34	[illegible]
H5 (Abutment)	431.36	[illegible]

RAMP P

Pier No.	Girder P1	Girder P2
P4 - Span P4	[illegible]	462.34
P5	461.43	[illegible]
P6	[illegible]	463.01
P7-Span P5	464.59	462.67
P7-Span P7	464.59	462.67
P8	462.25	461.53
P9	457.57	456.33
P10-Span P9	453.77	453.63
P10-Span P10	453.77	453.63
P11	448.72	449.07
P12	444.13	445.36
P13	441.56	443.53
P14-Span P13	440.35	442.40
P14-Span P14	440.35	443.33
P15-Span P14	440.11	443.76
P15-Span P15	440.11	443.76
H1-Span P15	439.71	443.12

Note: Bearing Elevations are to Top of Concrete Piers or Abutments.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

BEARING ELEVATIONS

POPLAR STREET BRIDGE APPROACHES

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1 82-3HVF BE-1

H. W. LOCHNER, INC. ENGINEERS

SHEET

DESIGNED BY
DRAWN BY
CHECKED BY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. -70	82 3HVB-1	ST. CLAIR	207	1
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT I-IG-70-1(78)0	

P-98-087-00

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 70 SECTION 82-3HVB-1

PROJECT I-IG-70-1(78)0

POPLAR STREET BRIDGE APPROACHES

ST. CLAIR COUNTY

C-98-010-65

DESCRIPTION OF PROJECT

SECTION 82-3HVB-1 INCLUDES THE COMPLETE CONSTRUCTION OF THE FOLLOWING:

ROADWAY A	23-REINFORCED CONCRETE PIERS
ROADWAY D	31-REINFORCED CONCRETE PIERS
ROADWAY G	12-REINFORCED CONCRETE PIERS 1-R.C. PILE BENT ABUTMENT
ROADWAY H	4-REINFORCED CONCRETE PIERS 1-R.C. PILE BENT ABUTMENT
RAMP M	8-REINFORCED CONCRETE PIERS
RAMP N	5-REINFORCED CONCRETE PIERS
RAMP O	12-REINFORCED CONCRETE PIERS 2-R.C. PILE BENT ABUTMENTS
RAMP P	12-REINFORCED CONCRETE PIERS
RAMP Q	2-REINFORCED CONCRETE PIERS
RAMP R	4-REINFORCED CONCRETE PIERS
RAMP S	12-REINFORCED CONCRETE PIERS

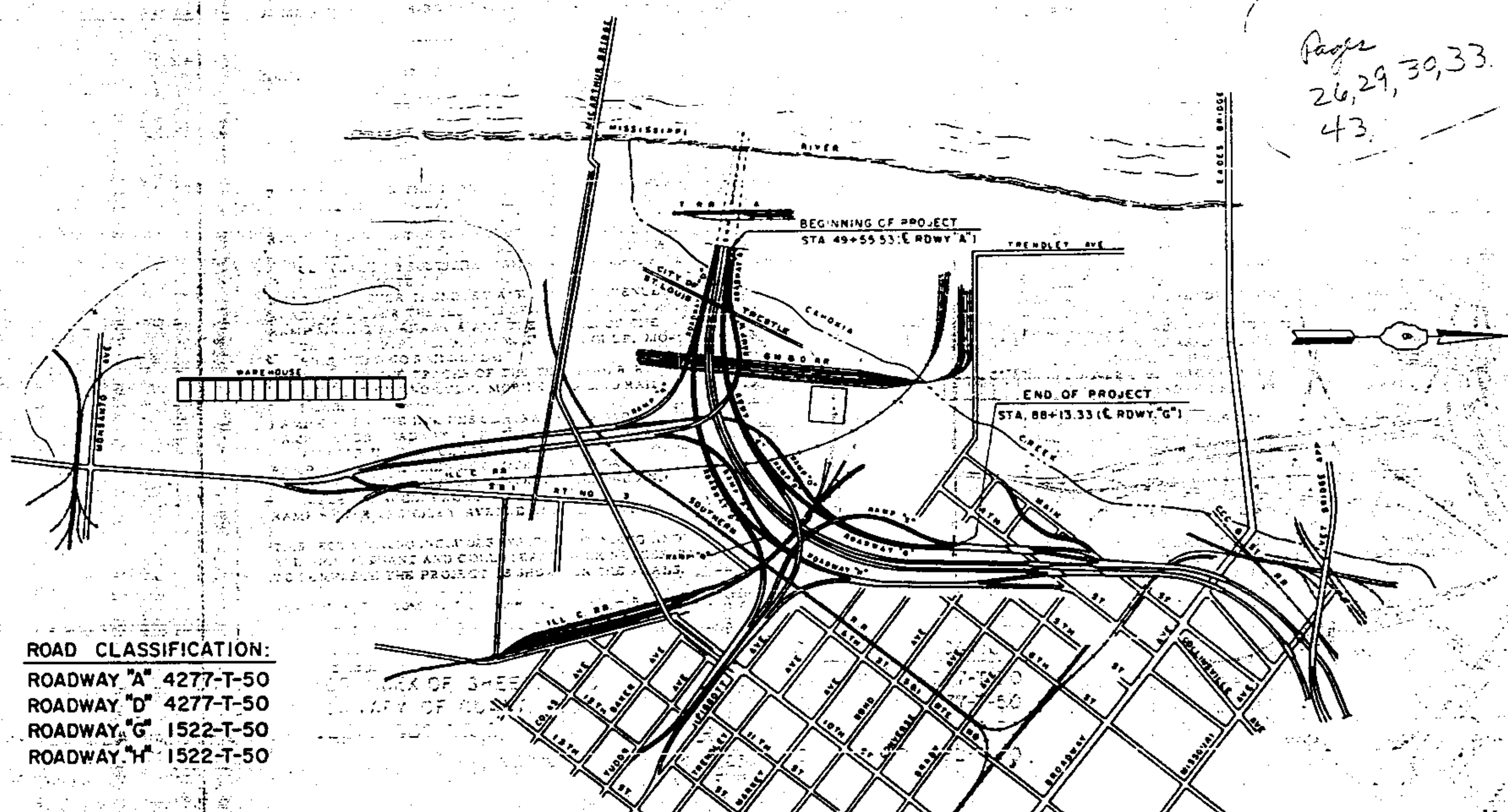
THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

ROADWAY A OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP O;
ROADWAY D OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, ILLINOIS CENTRAL AND SOUTHERN RAILROADS, RAMP O AND ILLINOIS ROUTE 3;
ROADWAY G OVER TRENDLEY AND PIGGOTT AVENUES;
ROADWAY H OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP M OVER ROADWAY A AND THE TRACKS OF THE TERMINAL R.R. ASSOCIATION AND THE GULF, MOBILE AND OHIO RAILROADS;
RAMP N OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION AND GULF, MOBILE AND OHIO RAILROAD;
RAMP O OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP P OVER ROADWAY D, FUTURE ACCESS ROADS AND THE ILLINOIS CENTRAL RAILROAD;
RAMP Q OVER THE ILLINOIS CENTRAL RAILROAD;
RAMP R OVER THE ILLINOIS CENTRAL RAILROAD AND A FUTURE ACCESS ROAD;
RAMP S OVER TRENDLEY AVENUE AND ROADWAY H.

THIS SECTION ALSO INCLUDES SYSTEM GROUNDING AND ALL APPURTENANT AND COLLATERAL WORK NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS.

PIER D-17 & G-2 CONSTRUCTED UNDER SECTION 82-3HVB

NOTE:
FOR INDEX OF SHEETS AND SUMMARY OF QUANTITIES SEE SHEET NO. 2



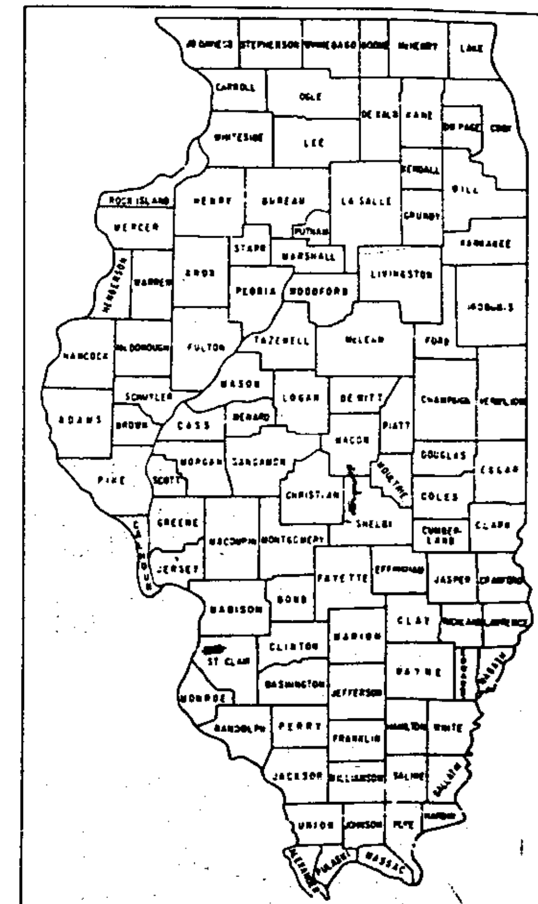
Pages 26, 29, 30, 33, 43

ROAD CLASSIFICATION:
ROADWAY "A" 4277-T-50
ROADWAY "D" 4277-T-50
ROADWAY "G" 1522-T-50
ROADWAY "H" 1522-T-50

LENGTH OF PROJECT
3857.90 FT. = 0.730 MILES

CITY OF EAST ST. LOUIS

LOCATION PLAN



LOCATION OF SECTION INDICATED THUS:

APPROVED
Carl E. Thunman Jr.
ENGINEER OF BRIDGE & TRAFFIC STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
SUBMITTED 11-30-1965
Robert E. Kronst
January 21, 1966
C. V. Van Cundell
January 21, 1966
January 21, 1966
January 21, 1966
Francis S. Lorenz

8-54

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DISTRICT ENGINEER DATE

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

CONTRACT NO. 24504

2259
Aug. 27, 1965

ST. CLAIR COUNTY SECTION 82-3HVB-1 F.A.I. ROUTE 70 PROJECT I-IG-70-1(78)0

082-0256

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1	ST. CLAIR	207	2
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

INDEX OF SHEETS
SECTION 82-3 HVB - 1

SUMMARY OF QUANTITIES
SECTION 82-3HVB-1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	I 87.9%	I G 12.1%
Z01398	ENGINEER'S FIELD OFFICE TYPE "A"	EACH	1	0.9	0.1
Z01379	ENGINEER'S FIELD LABORATORY	EACH	1	0.9	0.1
010001	TREE REMOVAL (5 TO 15 INCH DIAMETER)	IN. DIA.	322	283	39
010002	TREE REMOVAL (OVER 15 INCH DIAMETER)	IN. DIA.	98	86	12
016001	EMBANKMENT	CU. YD.	354	311	43
050001	CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	19,137	16,821	2,316
052003	CLASS "X" CONCRETE	CU. YD.	17,931.9	15,762.1	2,169.8
059001	REINFORCEMENT BARS	POUND	2,413,060	2,121,080	291,980
060004	FURNISHING CREOSOTED PILES (UP TO 20 FEET)	LIN. FT.	128	112	16
060005	FURNISHING CREOSOTED PILES (20.1 TO 38 FEET)	LIN. FT.	393	345	48
060008	DRIVING TIMBER PILES	LIN. FT.	521	458	63
060043	DRIVING CONCRETE PILES	LIN. FT.	148,118	130,196	17922
060044	FURNISHING CONCRETE PILES	LIN. FT.	148,118	130,196	17,922
060047	TEST PILE CONCRETE	EACH	129	113	16
083002	SLOPE WALL 4 INCH	SQ. YD.	1,018	895	123
L05066	SYSTEM GROUNDING	LUMP SUM	1	0.9	0.1
Z01023	BRIDGE SEAT SEALANT	LUMP SUM	1	0.9	0.1
Z01065	RAILROAD PROTECTIVE SERVICES	LUMP SUM	1	0.9	0.1

GENERAL NOTES

- THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 2, 1958, THE SUPPLEMENTAL SPECIFICATIONS IN EFFECT ON DATE OF INVITATION FOR BIDS. AND THE STANDARD SPECIFICATIONS FOR TRAFFIC SIGNALS, ADOPTED JUNE 1, 1959 SHALL GOVERN THIS CONSTRUCTION.
- ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.
- THE PROFILE GRADE LINE REFERS TO THE GRADE ELEVATION AT THE POINT SHOWN ON THE TYPICAL SECTIONS AND PLANS.
- POSITIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND HIGHER ELEVATIONS.
- NEGATIVE PROFILE GRADES ARE IN THE DIRECTION OF TRAFFIC AND LOWER ELEVATIONS.
- BUILDINGS WITHIN R.O.W. LIMITS HAVE BEEN REMOVED OR ARE IN THE PROCESS OF BEING REMOVED DOWN TO EXISTING GROUND LEVEL AND BASEMENTS BACKFILLED WITH BRICK OR MASONRY RUBBLE AND SAND TO FILL THE VOIDS.
- THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENTS:

  EAST ST. LOUIS AND INTERURBAN WATER COMPANY
  ILLINOIS POWER COMPANY
  SOUTHWESTERN BELL TELEPHONE COMPANY
  UNION ELECTRIC COMPANY
  WESTERN UNION TELEGRAPH COMPANY

- WHERE REINFORCING BAR MARKS ARE REFERENCED TO "NOTE X-SHEET 35" THE FIRST 2 OR 3 DIGITS CORRESPOND TO THE SHEET NUMBER AND ARE SHOWN ON THE DRAWING.
- WHERE SECTION OR SUB-SECTION STONES ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH STONES ARE REMOVED. THE CONTRACTOR SHALL PROTECT & CAREFULLY PRESERVE ALL PROPERTY MARKS UNTIL AN OWNER OR AUTHORIZED SURVEYER OR AGENT HAS WITNESSED OR OTHERWISE REFERANCE THERE LOCATION.

Excavation for portions of structures in the embankments shall not be classified.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

INDEX OF SHEETS
SUMMARY OF QUANTITIES
GENERAL NOTES

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

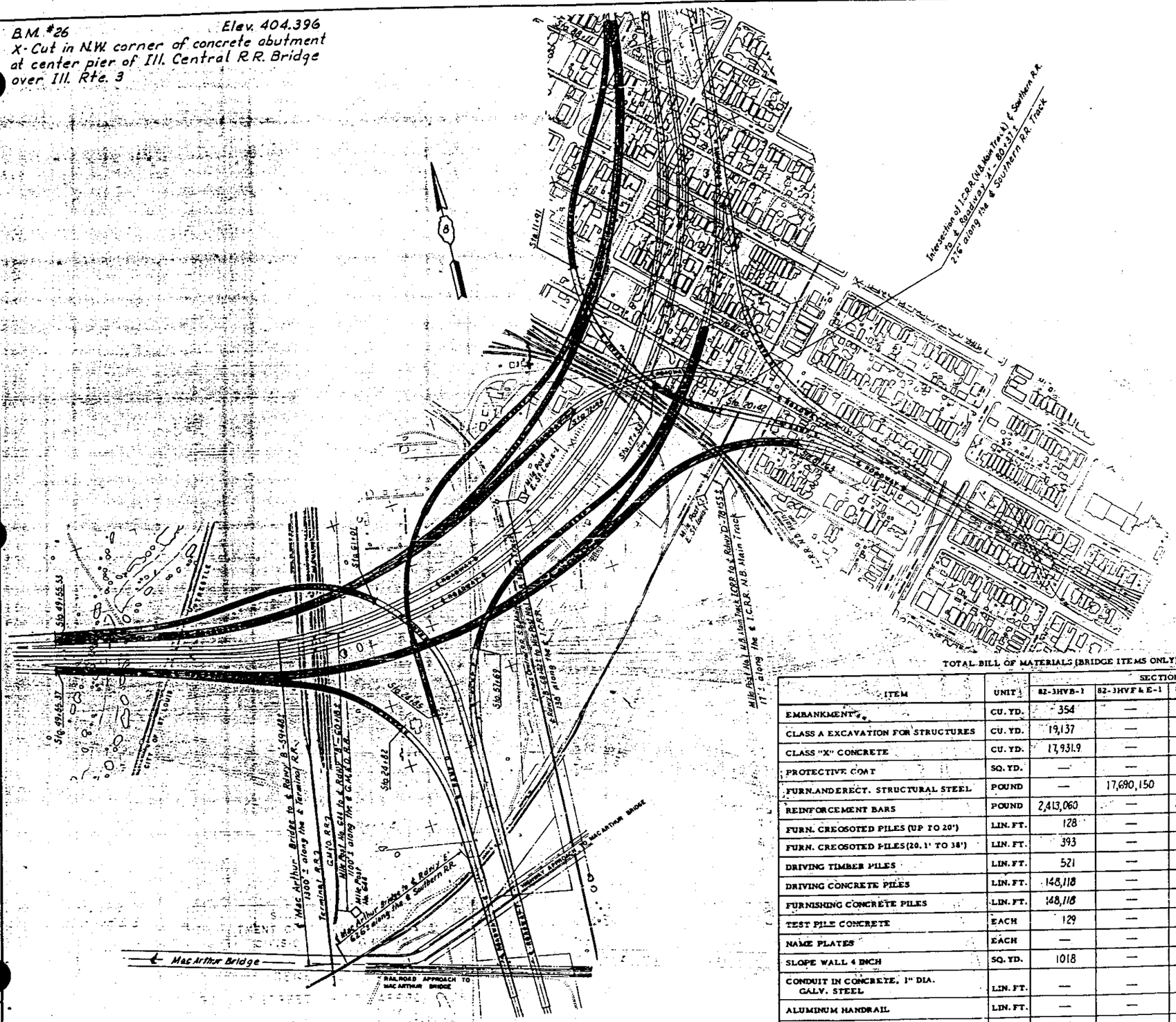
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET OF

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	20
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF & E-1 19
82-3HVD-1 54

B.M. #26 Elev. 404.396
X-Cut in N.W. corner of concrete abutment at center pier of Ill. Central R.R. Bridge over Ill. Rte. 3



KEY PLAN

DESIGNED BY RMR
DRAWN BY GHR
CHECKED BY RMR
APPROVED BY KA

TOTAL BILL OF MATERIALS (BRIDGE ITEMS ONLY)

ITEM	UNIT	SECTION 82-3HVB-1	SECTION 82-3HVF & E-1	SECTION 82-3HVD-1	TOTAL
EMBANKMENT *	CU. YD.	354	—	—	354
CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	19,137	—	—	19,137
CLASS "X" CONCRETE	CU. YD.	17,931.9	—	15,159.3	33,091.2
PROTECTIVE COAT	SQ. YD.	—	—	59,203	59,203
FURN. AND ERECT. STRUCTURAL STEEL	POUND	—	17,690,150	—	17,690,150
REINFORCEMENT BARS	POUND	2,413,060	—	3,956,230	6,369,290
FURN. CREOSOTED PILES (UP TO 20')	LIN. FT.	128	—	—	128
FURN. CREOSOTED PILES (20.1' TO 38')	LIN. FT.	393	—	—	393
DRIVING TIMBER PILES	LIN. FT.	521	—	—	521
DRIVING CONCRETE PILES	LIN. FT.	148,118	—	—	148,118
FURNISHING CONCRETE PILES	LIN. FT.	148,118	—	—	148,118
TEST PILE CONCRETE	EACH	129	—	—	129
NAME PLATES	EACH	—	—	4	4
SLOPE WALL 4 INCH	SQ. YD.	1018	—	—	1018
CONDUIT IN CONCRETE, 1" DIA. GALV. STEEL	LIN. FT.	—	—	364	364
ALUMINUM HANDRAIL	LIN. FT.	—	—	26,188	26,188
BRIDGE SEAT SEALANT *	L. SUM	1	—	—	1
PAINTING STRUCTURAL STEEL	POUND	—	—	17,690,150	17,690,150

CLASS A EXCAVATION FOR STRUCTURES INCLUDES EXCAVATION FOR SLOPE WALL.
* BRIDGE SEAT SEALANT TO BE USED AT ABUTMENTS AND PIERS AT EXPANSION JOINTS.

GENERAL NOTES

COARSE AGGREGATE TO BE USED IN PARAPET HANDRAILS AND END POST MUST BE ABSOLUTELY FREE OF CHERT, FLINT, LIMONITE, LIGNITE AND SOFT SANDSTONE.

THE CONCRETE FLOOR SLAB SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 51.19 OF THE STANDARD SPECIFICATIONS.

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, #4 WIRES WEIGHING 58 LBS. PER 100 SQ. FT.

ALL REINFORCEMENT BARS SHALL BE LAPPED 20 DIAMETERS UNLESS OTHERWISE SHOWN.

ALL WELDING SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES OF THE AMERICAN WELDING SOCIETY, AWS D2. 0-63.

ALL STRUCTURAL STEEL SHALL CONFORM TO A. S. T. M. DESIGNATION A-36.

ALL FIELD CONNECTIONS BOLTED, HIGH STRENGTH STEEL BOLTS 7/8" OPEN HOLES 15/16" EXCEPT AS NOTED.

HIGH STRENGTH STEEL BOLT CONNECTIONS SHALL BE IN ACCORDANCE WITH ART. 54.5g OF THE STANDARD SPECS.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

ROADWAY EXPANSION GUARDS SHALL BE ASSEMBLED IN THE SHOP IN PROPER POSITION WITH THE ENDS IN PLACE AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.

HINGER PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 54.5 (1) OF THE STANDARD SPECIFICATIONS.

ALL SURFACE OF THE EXPANSION GUARD INACCESSIBLE AFTER ERECTION SHALL BE GIVEN TWO SHOP COATS OF RED LEAD PAINT, THE CONTACT SURFACES SHALL BE GIVEN ONE COAT OF RED LEAD PAINT. ANCHOR STUDS SHALL NOT BE PAINTED.

EXPANSION GUARDS ARE INCLUDED IN THE QUANTITY OF STRUCTURAL STEEL. ESTIMATED WEIGHT 185,040 LBS.

EXCEPT AS OTHERWISE PROVIDED, ALL STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF GREEN PAINT. SEE ARTICLE 56.1 TO 56.5 INCLUSIVE OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT EACH ABUTMENT AND EACH PIER AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

CONCRETE PILES AT ABUTMENTS SHALL BE DRIVEN IN HOLES PRE CORED THROUGH THE EMBANKMENT IN ACCORDANCE WITH ARTICLE 60.9 (c) OF THE STANDARD SPECIFICATIONS.

CURVED GIRDERS, INTERMEDIATE FLOOR BEAMS AND END FLOOR BEAMS SHALL BE COMPLETELY ASSEMBLED IN THE SHOP IN PROPER POSITION BEFORE REAMING FIELD CONNECTIONS AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.

PERMANENT PINS OR MS WILL NOT BE PERMITTED IN FORMING THE CONCRETE FLOOR.

DESIGN STRESSES

f_c = 1400 p.s.i. Super and Sub.
f_s = 20,000 psi Reinforcement.
f_s = 20,000 psi Struct. (A-36 Steel)
v_c = 75 p.s.i. Footings
n = 10
LOADING HS20-44 & Alt.

Note
All cross reference sheet numbers shown on the Bridge Plans are the numbers located in the lower right hand corner of each sheet.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

KEY PLAN, GENERAL NOTES AND BILL OF MATERIAL

POPLAR STREET BRIDGE APPROACHES

82-3HVB-1
82-3HVF & E-1
82-3HVD-1

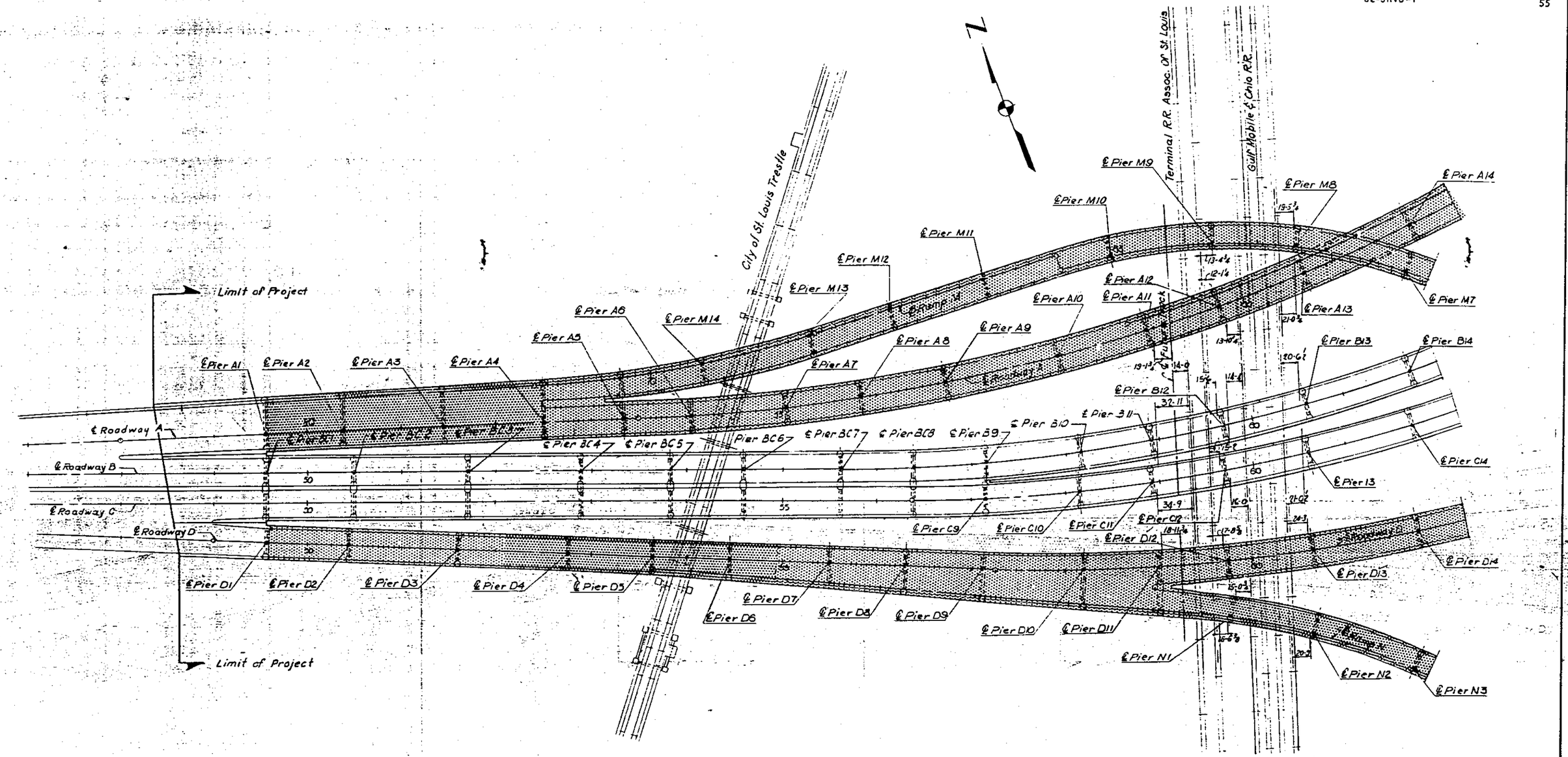
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

N. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 1 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. – 70	82-3HVB-1	ST. CLAIR	207	21
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF & E-1 20
82-3HVD-1 55



— Indicates Portion included in Sections 82-3HVB-1, 82-3HVF & E-1 and 82-3HVD-1.

DESIGNED BY RMR
DRAWN BY GH
CHECKED BY RMR
APPROVED BY EA

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

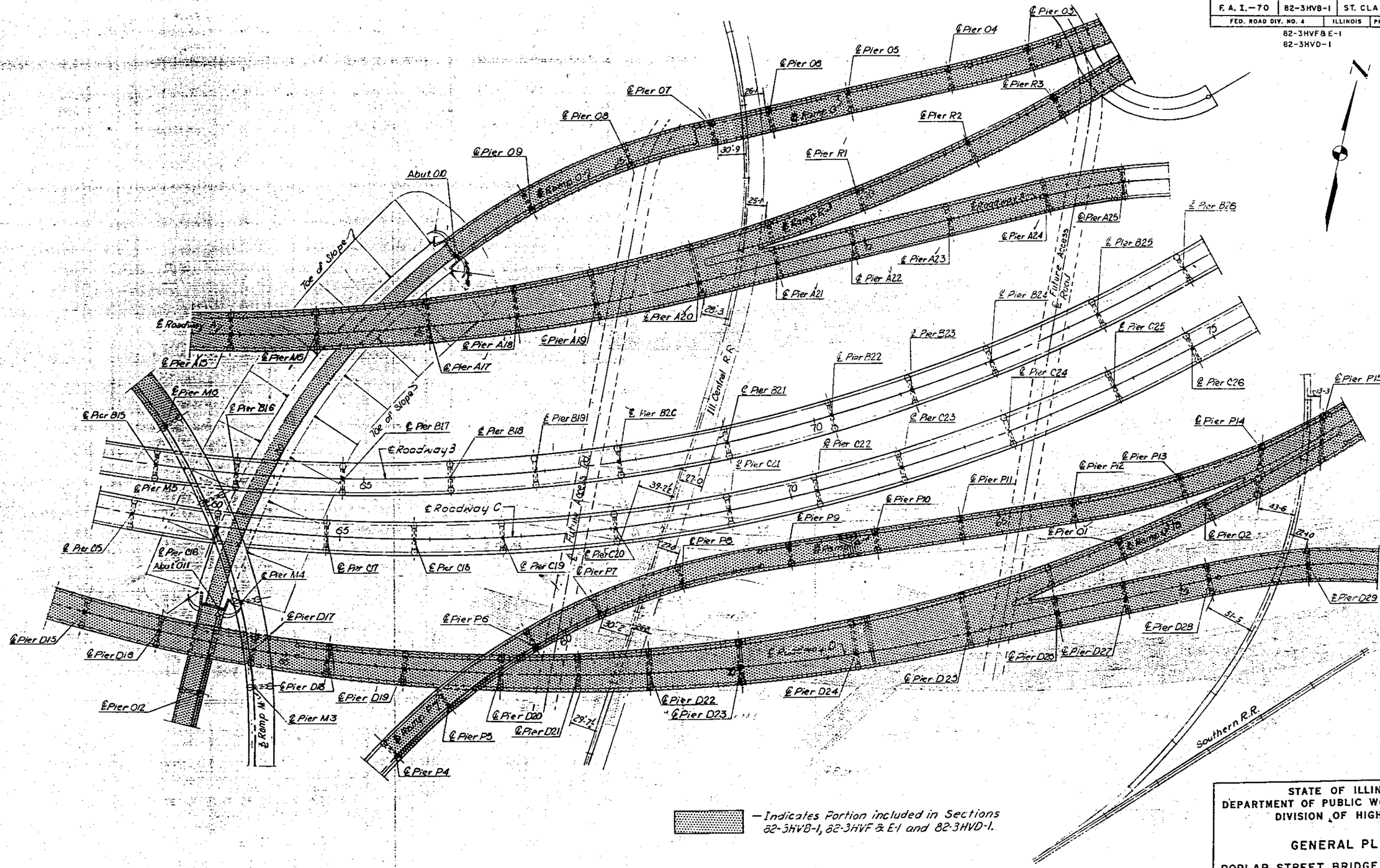
SECTIONS 82-3HVB-1
82-3HVF & E-1
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 2 OF 55

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVB-1	ST. CLAIR.	207	22
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
		82-3HVF&E-1		21
		82-3HVD-1		56



— Indicates Portion included in Sections 82-3HVB-1, 82-3HVF & E-1 and 82-3HVD-1.

DESIGNED BY RMR
DRAWN BY SM
CHECKED BY R.M.R.
APPROVED BY KA

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

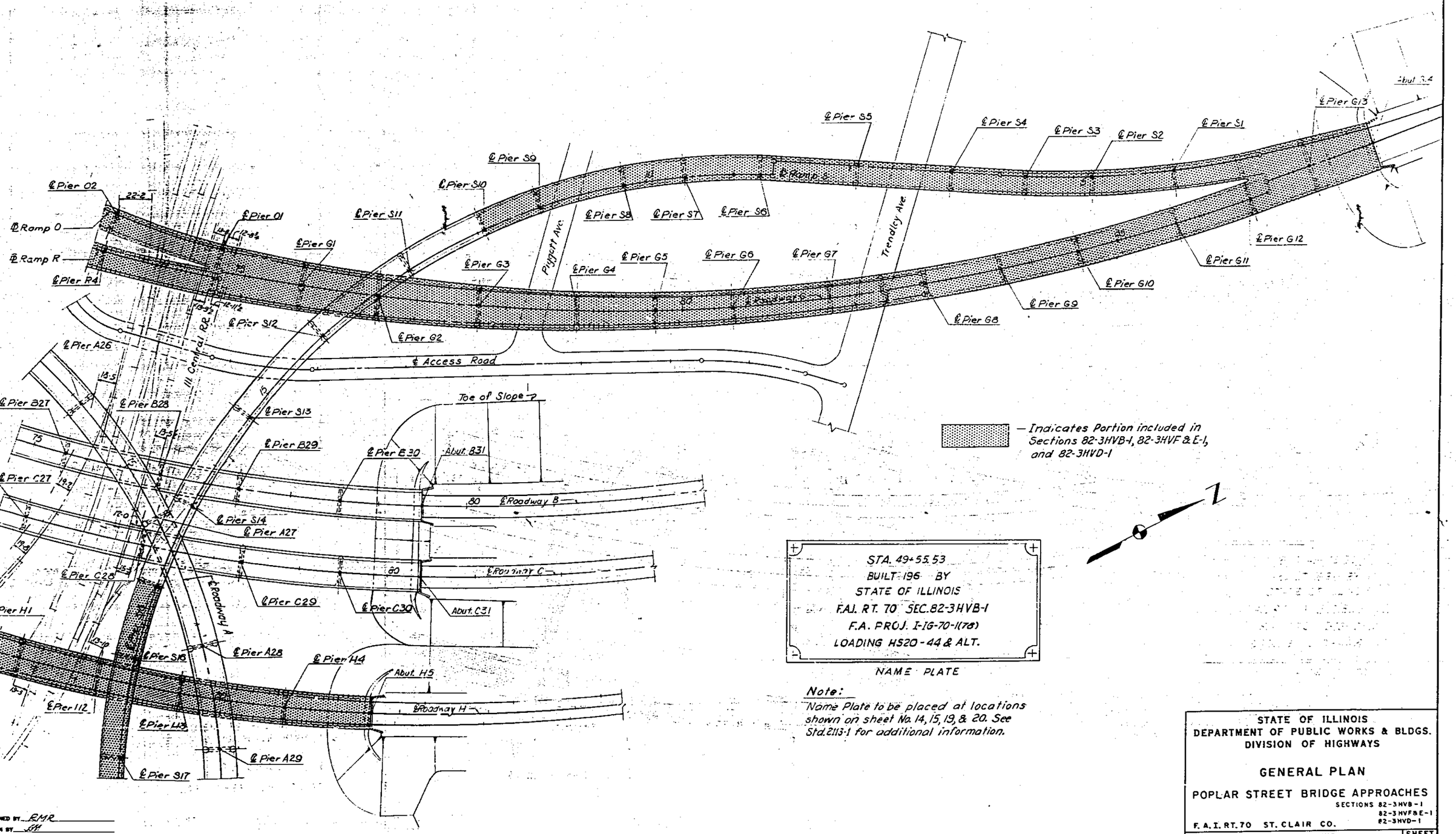
SECTIONS 82-3HVB-1
82-3HVF&E-1
F. A. I. RT. 70 ST. CLAIR CO. 82-3HVD-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 3 OF 536

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVB-1	ST. CLAIR	207	23
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF&E-1 22
82-3HVD-1 57



— Indicates Portion included in Sections 82-3HVB-1, 82-3HVF & E-1, and 82-3HVD-1

STA. 49+55.53
BUILT 196 BY
STATE OF ILLINOIS
F.A.I. RT. 70 SEC. 82-3HVB-1
F.A. PROJ. I-IG-70-1(78)
LOADING HS20-44 & ALT.

NAME PLATE

Note:
Name Plate to be placed at locations shown on sheet No. 14, 15, 19, & 20. See Std. 2113-1 for additional information.

DESIGNED BY RMR
DRAWN BY JH
CHECKED BY RMR
APPROVED BY KA

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

SECTIONS 82-3HVB-1
82-3HVF&E-1
82-3HVD-1

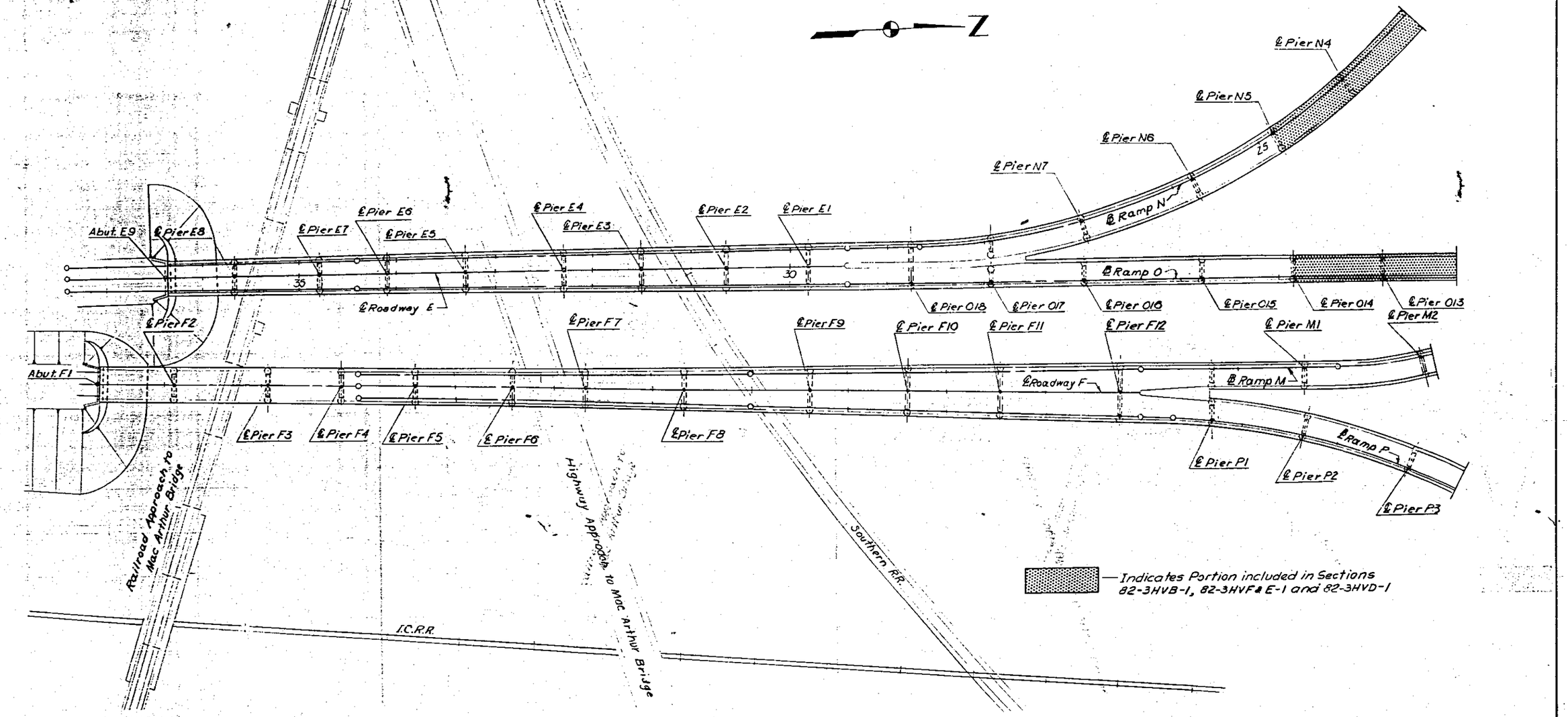
F. A. I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 4 of 5?6

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVB-1	ST. CLAIR	207	24
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF & E-1 23
82-3HVD-1 58



DESIGNED BY RMR
DRAWN BY SIS
CHECKED BY RMR
APPROVED BY KA

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

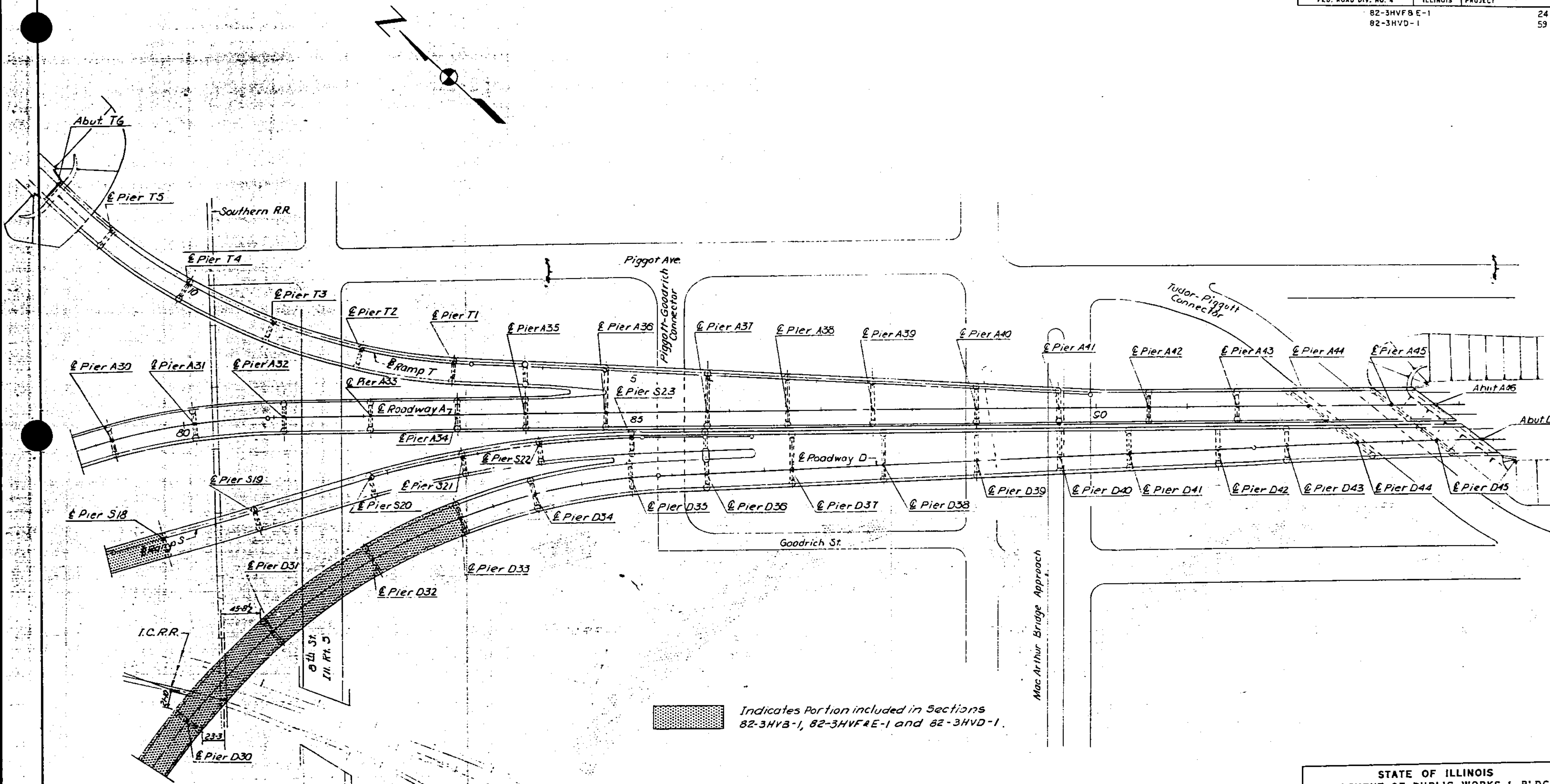
SECTIONS 82-3HVB-1
82-3HVF&E-1
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 5 OF 52 Sh

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. – 70	82-3HVB-1	ST. CLAIR	207	25
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVF & E-1			24
	82-3HVD-1			59



N
Abut. T6
℄ Pier T5
Southern R.R.
℄ Pier T4
℄ Pier T3
℄ Pier T2
℄ Pier T1
℄ Ramp T
Piggot Ave.
Piggott-Goodrich Connector
Tudor-Piggott Connector
℄ Pier A30
℄ Pier A31
℄ Pier A32
℄ Pier A33
℄ Pier A34
℄ Pier A35
℄ Pier A36
℄ Pier A37
℄ Pier A38
℄ Pier A39
℄ Pier A40
℄ Pier A41
℄ Pier A42
℄ Pier A43
℄ Pier A44
℄ Pier A45
Abut A46
Abut D46
℄ Roadway A
℄ Roadway D
℄ Pier S23
℄ Pier S22
℄ Pier S21
℄ Pier S20
℄ Pier S19
℄ Pier S18
Ramp S
℄ Pier D30
℄ Pier D31
℄ Pier D32
℄ Pier D33
℄ Pier D34
℄ Pier D35
℄ Pier D36
℄ Pier D37
℄ Pier D38
℄ Pier D39
℄ Pier D40
℄ Pier D41
℄ Pier D42
℄ Pier D43
℄ Pier D44
℄ Pier D45
Goodrich St.
Mac Arthur Bridge Approach
8th St.
Ill. Rt. 3
I.C.R.R.
Indicates Portion included in Sections 82-3HVB-1, 82-3HVF&E-1 and 82-3HVD-1.

DESIGNED BY RMR
DRAWN BY ...
CHECKED BY RMR
APPROVED BY KA

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

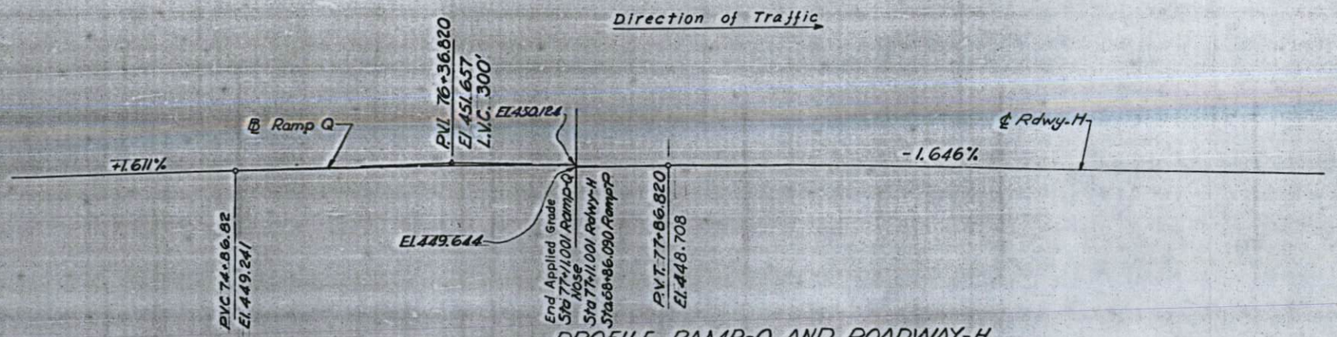
SECTIONS 82-3HVB-1
82-3HVF & E-1
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

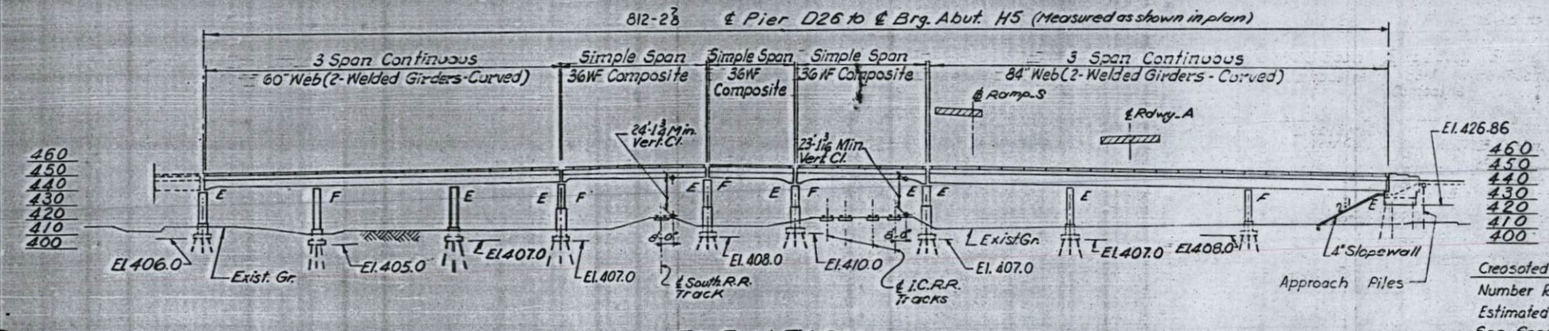
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 6 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-1	ST. CLAIR	207	34
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVFBE-1			33
	82-3HVD-1			68

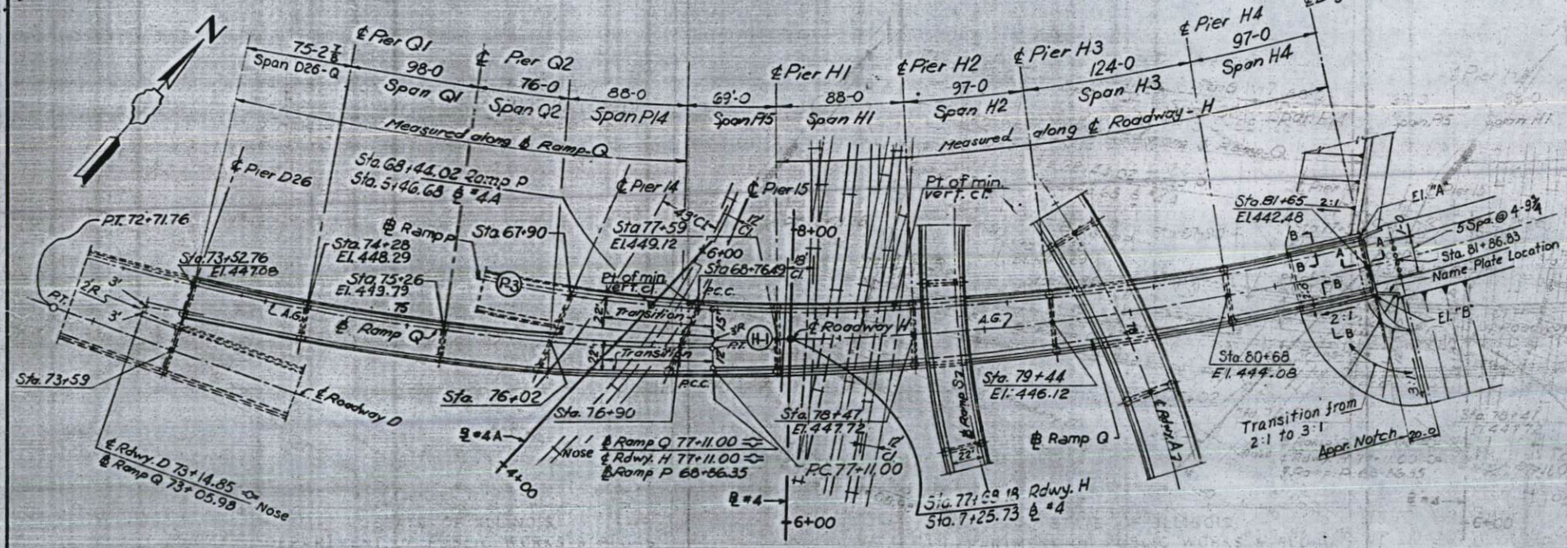


PROFILE RAMP-Q AND ROADWAY-H

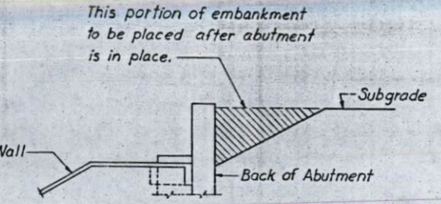


ELEVATION

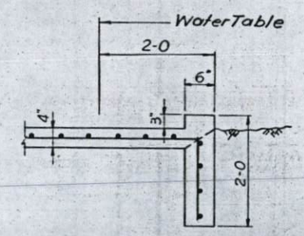
DEVELOPED LENGTH ALONG ℄ RAMP Q & ℄ ROADWAY H



PLAN

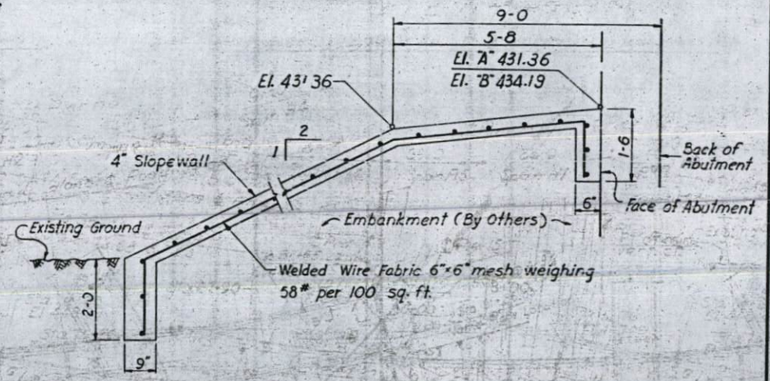


SECTION A-A



SECTION B-B

Creosoted Approach Piles
Number Required - 6
Estimated Length - 25'
See Special Provisions



TYPICAL CROSS SECTION OF SLOPE WALL

BILL OF MATERIAL

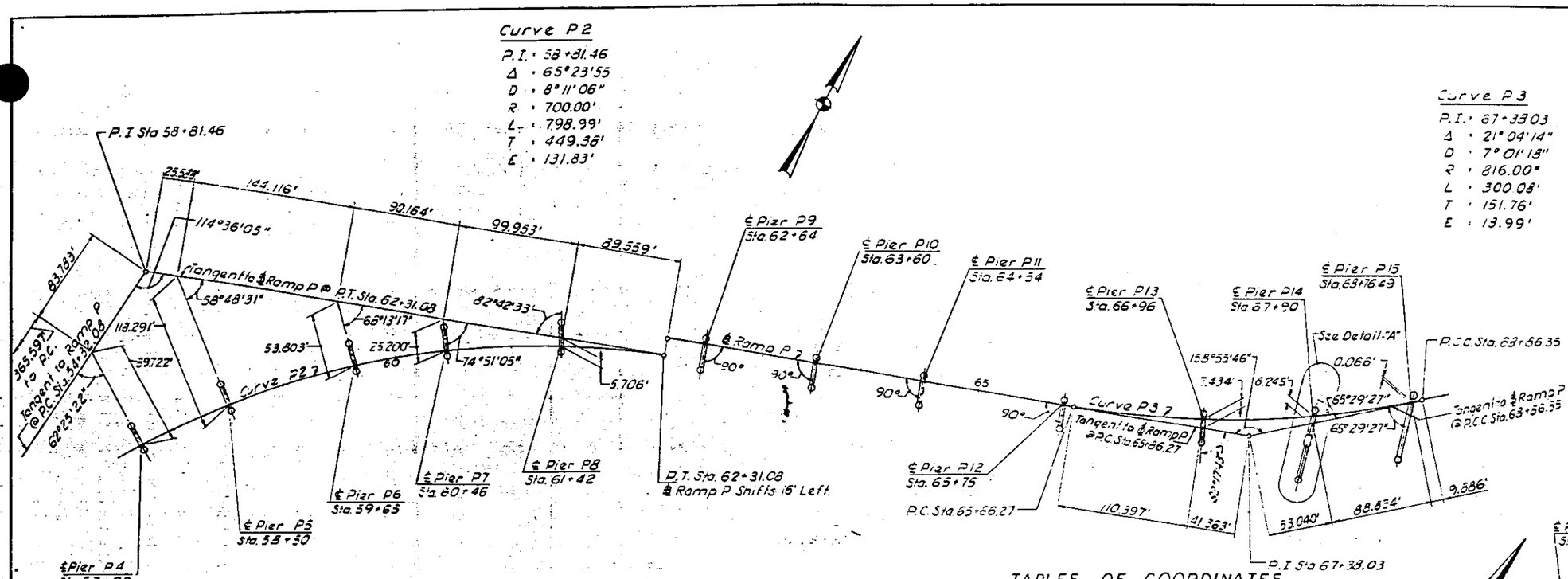
Item	Unit	Quantity
Slope Wall 4"	S.Y.	282
Name Plate	Ea.	1
Embankment	C.Y.	100

DESIGNED BY J.J.N.
DRAWN BY S.A.B.
CHECKED BY R.M.R.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
PLAN AND ELEVATION
SPANS D26-Q, Q1, Q2, P14, P15, H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "Q"
SECTIONS 82-3HVB-1
82-3HVFBE-1
82-3HVD-1
F.A.I. RT. 70 ST. CLAIR CO.
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS
SHEET 15 OF 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I.70	82-3HVB-1	ST.CLAIR	207	50
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF&E-1 49
82-3HVD-1 54



TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
P4	57+69	8704.826	32408.504	122°10'24"	4-0	20-0
P5	53+50	8770.742	32455.501	128°48'12"	4-0	20-0
P6	59+65	8854.053	32534.587	138°12'58"	4-0	20-0
P7	60+46	8904.414	32597.970	144°50'46"	4-0	20-0
P8	61+42	8954.141	32679.939	152°42'14"	4-0	20-0
P9	62+64	9016.149	32781.002	159°59'41"	20-0	4-0
P10	63+60	9048.991	32877.210	159°59'41"	20-0	4-0
P11	64+54	9081.149	32965.538	159°59'41"	20-0	4-0
P12	65+75	9122.544	33079.237	159°59'41"	20-0	4-0
P13	66+96	9170.748	33190.105	152°17'24"	20-0	4-0
P14	67+90	9219.149	33270.626	163°26'00"	52-0	4-3
P15	68+76.49	9271.595	33339.354	163°26'00"	45-4	3-4

Pier No.	℄ Roadway H Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
H1	77+39	9296.990	33393.945	136°34'31"	21-4	21-4
H2	78+47	9359.004	33456.369	133°48'11"	20-2	20-2
H3	79+44	9430.767	33521.613	130°44'51"	19-0½	19-0½
H4	80+68	9527.394	33599.287	126°50'28"	17-10½	17-10½
℄ Bra Abut H5	81+65	9606.537	33655.351	123°47'07"	17-1 15/16	17-2

Pier No.	℄ Ramp Q Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
Q1	74+28	9038.251	33133.097	147°05'44"	20-0	4-0
Q2	75+26	9143.701	33218.686	143°58'35"	20-0	4-0

DETAIL "A"

DESIGNED BY R.M.R.
DRAWN BY I.M.
CHECKED BY S.Q.B.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
GEOMETRIC LAYOUT
PIERS P4 THRU P15, Q1 & Q2, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"
SECTIONS 82-3HVB-1
82-3HVF&E-1
82-3HVD-1
F.A.I. RT. 70 ST. CLAIR CO.

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 31 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	54
	82-3HVF 8E-1			246
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

ROADWAY A

Pier No.	Girder A1	Girder A2
A1 - Span A1	441.30	442.11
A2	437.51	438.35
A3	435.03	436.06
A4	434.50	436.54
A5 - Span A4	433.94	437.69
A5 Span A5	433.39	437.69
A6	437.02	439.47
A7	437.11	439.67
A8 - Span A7	438.17	440.73
A8 - Span A8	438.17	440.73
A9	437.44	440.00
A10	438.76	441.32
A11-Span A10	439.73	442.29
A11-Span A11	439.73	442.29
A12-Span A11	440.09	442.68
A12-Span A12	440.09	442.68
A13	440.03	442.68
A14	439.78	442.58
A15-Span A14	439.91	442.93
A15-Span A15	439.91	442.93
A16	438.89	442.06
A17	440.29	443.79
A18-Span A17	440.71	444.52
A18-Span A18	440.71	444.52
A19	439.40	443.52
A20	441.75	445.69
A21-Span A20	444.51	447.74
A21-Span A21	446.51	447.74
A22	451.09	451.40
A23	454.57	453.85
A24	458.39	456.60
A25-Span A24	462.10	459.54

RAMP M

Pier No.	Girder M1	Girder M2
M6 - Span M7	470.48	468.56
M7	467.78	465.86
M8	463.79	461.87
M9-Span M9	459.85	457.93
M9-Span M10	459.85	457.93
M10	454.00	452.30
M11	446.10	445.56
M12-Span M12	441.66	442.18
M12-Span M13	441.66	442.14
M13	437.90	439.25
M14	436.00	437.97
A5-Span A5M	433.94	437.39

RAMP R

Pier No.	Girder R1	Girder R2
A21-Span A21-R	444.51	448.22
R1	448.74	450.60
R2	451.46	453.32
R3-Span R2	453.75	455.61
R3-Span R3	453.75	455.61
R4	453.46	455.32
O1	453.41	455.31
G1-Span O1-R	452.69	455.38

ROADWAY D

Pier No	Girder D1	Girder D2
D1-Span D1	441.44	441.90
D2	438.99	438.49
D3	437.00	436.50
D4	436.90	436.40
D5-Span D4	437.45	436.95
D5-Span D5	437.45	436.95
D6	437.46	436.91
D7	437.25	436.64
D8-Span D7	438.07	438.28
D8-Span D8	438.07	438.28
D9	436.62	438.15
D10	437.64	440.58
D11-Span D10	438.26	440.85
D11-Span D11	438.26	441.09
D12-Span D11	439.99	442.55
D12-Span D12	439.99	442.55
D13	439.97	442.53
D14	439.73	442.29
D15-Span D14	441.06	443.62
D15-Span D15	441.06	443.62
D16	440.27	442.83
D17	440.20	442.76
D18-Span D17	439.36	441.61
D18-Span D18	439.36	441.61
D19	438.51	440.88
D20	437.12	439.63
D21-Span D20	437.63	440.29
D21-Span D21	437.63	440.29
D22-Span D21	436.70	439.57
D22-Span D22	436.70	439.57
D23	434.48	437.66
D24	433.67	437.36
D25	435.28	439.06
D26-Span D25	437.16	439.79
D26-Span D26	440.66	439.79
D27	441.71	441.13
D28-Span D27	443.50	441.85
D28-Span D28	443.50	441.85
D29	443.31	440.75
D30	444.67	442.11
D31	447.16	444.60
D32	447.42	444.86
D33-Span D32	449.80	447.24

RAMP N

Pier No.	Girder N1	Girder N2
D11-Span D11-N	441.09	440.85
N1-Span D11-N	442.09	441.13
N1-Span N1	442.09	441.13
N2	442.37	440.63
N3	441.61	439.69
N4	440.62	438.70
N5-Span N4	440.46	438.54

RAMP Q

Pier No.	Girder Q1	Girder Q2
D26-Span D26-Q	437.16	440.66
Q1	440.38	442.30
Q2	441.65	443.57
P14-Span Q2	442.80	443.63

ROADWAY G

Pier No.	Girder G1	Girder G2
G1-Span G1	449.15	453.38
G2	448.64	452.61
G3	447.18	450.75
G4	447.29	450.47
G5-Span G4	448.09	451.01
G5-Span G5	448.09	451.01
G6	446.60	449.35
G7	446.09	448.70
G8	446.29	448.85
G9-Span G8	446.26	448.82
G9-Span G9	446.26	448.82
G10	444.90	447.46
G11	441.70	444.30
G12-Span G11	439.77	441.63
G12-Span G12	437.61	441.63
G13	434.63	436.43
G14 (Abutment)	433.68	433.84

RAMP S

Pier No.	Girder S1	Girder S2
G12 Span S1	437.61	441.43
S1	441.42	443.34
S2	445.03	446.95
S3 - Span S3	448.55	450.14
S3 - Span S4	448.55	450.14
S4	452.31	453.04
S5	457.31	456.96
S6	462.53	461.10
S7 - Span S7	466.93	465.01
S7 - Span S8	466.93	465.01
S8	469.43	467.51
S9	473.31	471.39
S10 - Span S10	476.32	474.20
S15 - Span S16	489.01	487.09
S16	487.55	485.63
S17	484.70	483.11
S18 - Span S18	481.69	480.68

RAMP O

Pier No.	Girder O1	Girder O2
G1 Span O1	452.89	449.15
O1	452.71	450.78
O2	452.51	450.59
O3-Span O3	452.51	450.59
O3-Span O4	452.51	450.59
O4	449.47	448.40
O5	445.44	445.30
O6-Span O6	441.53	442.15
O6-Span O7	441.53	442.13
O7-Span O7	437.73	438.87
O7-Span O8	437.73	438.87
O8	430.89	432.74
O9	424.22	426.18
O10 (Abutment)	420.30	422.22
O11 (Abutment)	416.96	418.45
O12	419.62	420.27
O13	424.05	424.54
O14-Span O14	428.53	429.02

ROADWAY H

Pier No.	Girder H1	Girder H2
H1-Span H1	439.71	443.12
H2-Span H1	436.51	439.73
H2-Span H2	436.51	439.73
H3	433.66	436.71
H4	432.84	435.70
H5 (Abutment)	431.86	434.61

RAMP P

Pier No.	Girder P1	Girder P2
P4 - Span P4	464.26	462.34
P5	464.48	462.56
P6	464.93	463.01
P7-Span P6	464.59	462.67
P7-Span P7	464.39	462.67
P8	462.25	460.33
P9	457.37	456.33
P10-Span P9	453.77	453.63
P10-Span P10	453.77	453.43
P11	448.73	449.07
P12	444.13	445.36
P13	441.66	443.58
P14-Span P13	440.25	442.80
P14-Span P14	440.25	443.63
P15-Span P14	440.11	443.76
P15-Span P15	440.11	443.76
H1-Span P15	439.71	443.12

Note: Bearing Elevations are to Top of Concrete Piers or Abutments.

DESIGNED BY D.C.
DRAWN BY G.G.
CHECKED BY A.T.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

BEARING ELEVATIONS

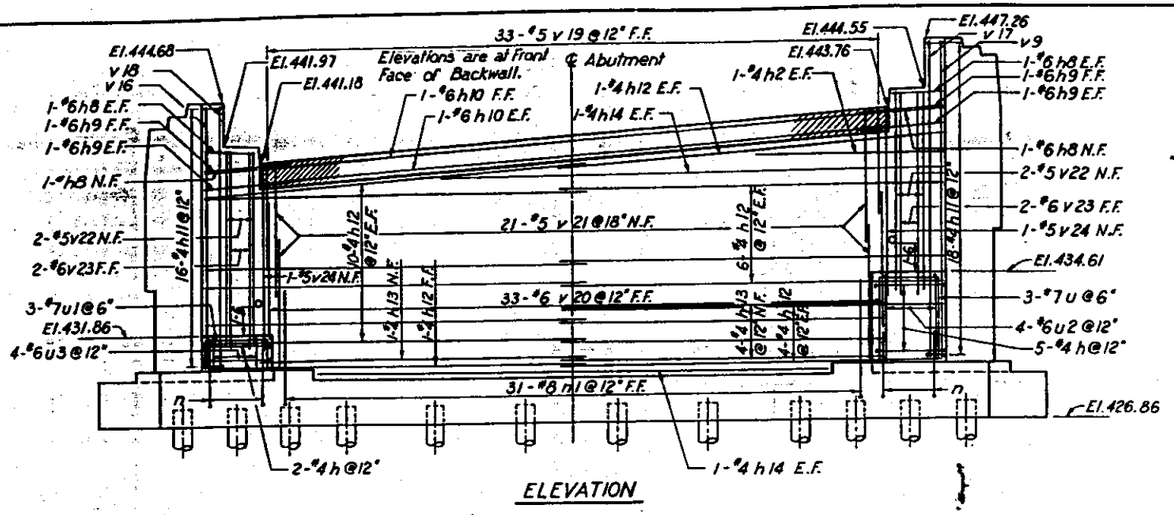
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1 82-3HVF 8E-1

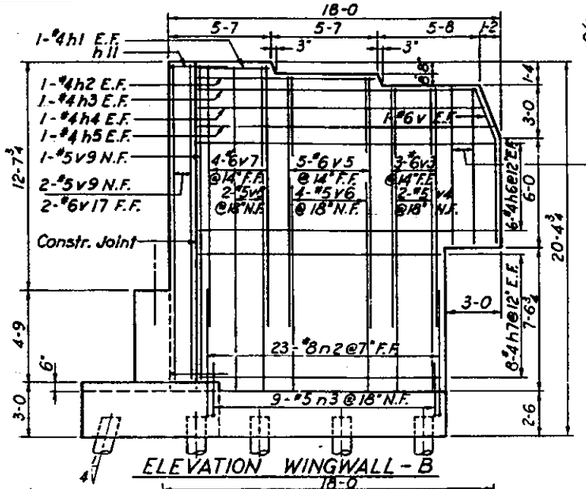
N. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 376 of 526

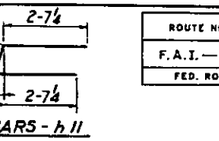
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. — 70	82-3HVB-1	ST. CLAIR	207	56
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



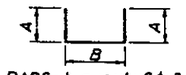
ELEVATION



ELEVATION WINGWALL - B

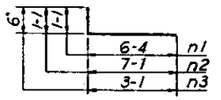


BARS - h11

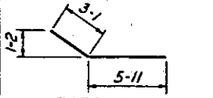


BARS - h,n,u,ul,u2 ℄ u3

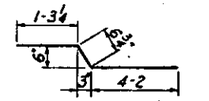
BAR	A	B
h	3-0	3-8
n	3-10	3-0
u	4-6	3-7
u1	1-9	3-7
u2	4-6½	3-0
u3	1-9½	3-0



BARS - n1, n2 ℄ n3



BARS - v

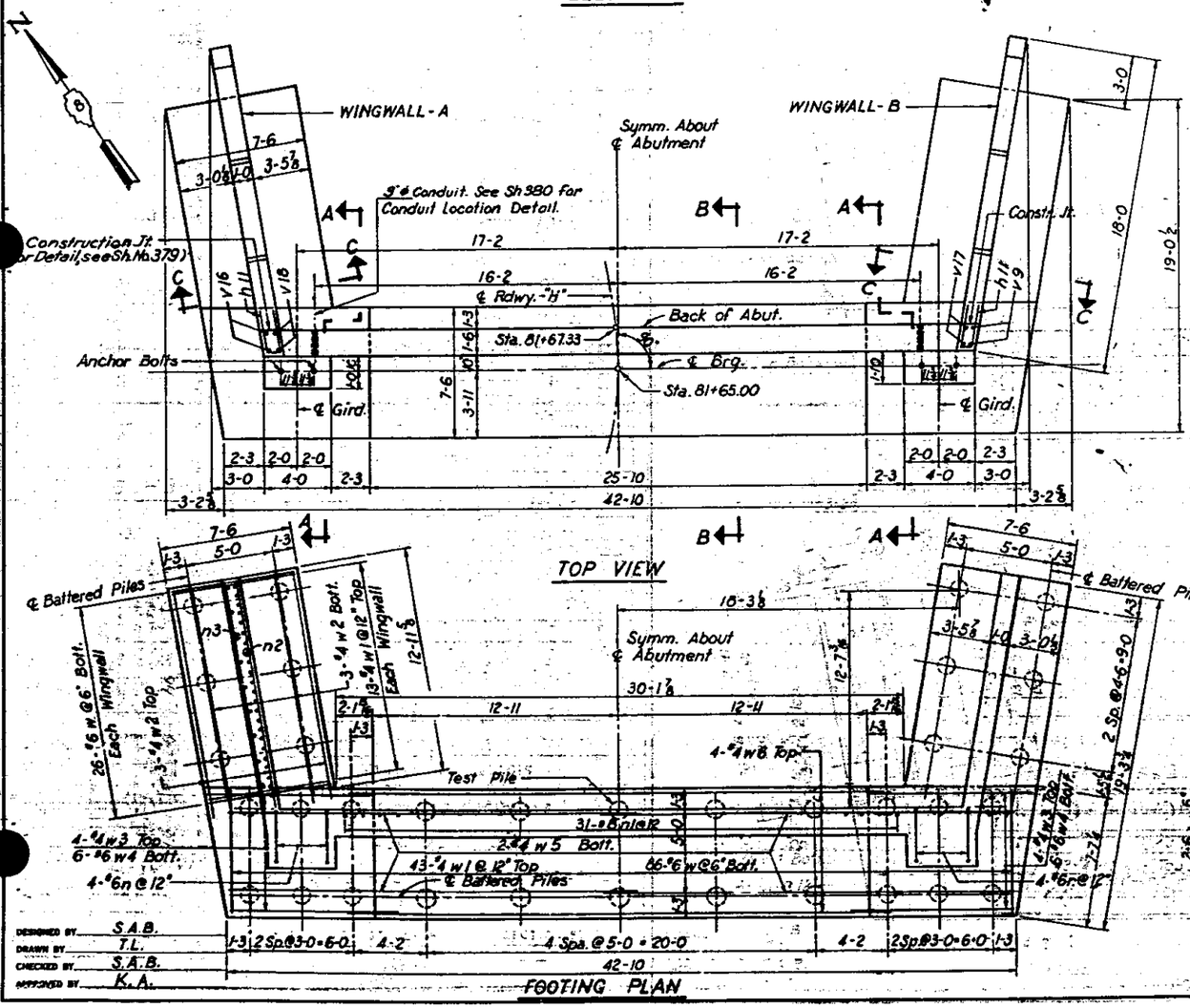


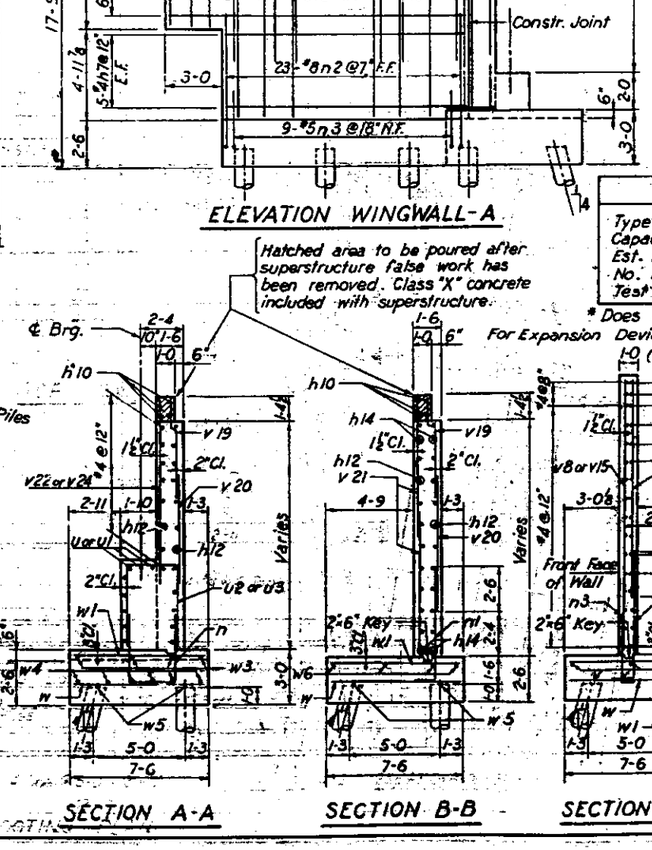
BARS - v 19

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	7	#4	9-8	
h1	4	#4	4-0	
h2	6	#4	9-7	
h3	4	#4	15-3	
h4	4	#4	15-7	
h5	4	#4	15-11	
h6	24	#4	16-4	
h7	26	#4	13-4	
h8	6	#6	2-10	
h9	6	#6	4-3	
h10	3	#6	32-2	
h11	34	#4	6-0	
h12	39	#4	19-7	
h13	5	#4	16-2	
h14	4	#4	25-7	
n	8	#6	10-8	
n1	31	#8	7-5	
n2	46	#8	8-2	
n3	18	#5	3-7	
u	3	#7	12-7	
u1	3	#7	7-1	
u2	4	#6	12-1	
u3	4	#6	6-7	
v	4	#6	9-0	
v1	4	#6	8-10	
v2	4	#5	8-10	
v3	3	#6	13-5	
v4	2	#5	16-6	
v5	5	#6	14-1	
v6	4	#5	17-2	
v7	4	#6	14-9	
v8	2	#5	17-10	
v9	3	#5	17-4	
v10	3	#6	10-10	
v11	2	#5	13-11	
v12	5	#6	11-6	
v13	4	#5	14-7	
v14	4	#6	12-2	
v15	2	#5	15-3	
v16	3	#5	14-9	
v17	2	#6	17-4	
v18	2	#6	14-9	
v19	33	#5	6-0	
v20	33	#6	7-9	
v21	42	#5	7-4	
v22	4	#5	11-2	
v23	4	#6	11-4	
v24	2	#5	10-4	
w	138	#6	7-2	
w1	69	#4	7-2	
w2	12	#4	13-3	
w3	6	#4	8-6	
w4	12	#6	9-6	
w5	4	#4	82-3	
w6	4	#4	28-10	

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	94.9
Reinforcement Bars	Lbs.	8,130
Concrete Piles	Lin. Ft.	1,650*
Test Piles (Concrete)	Each	1





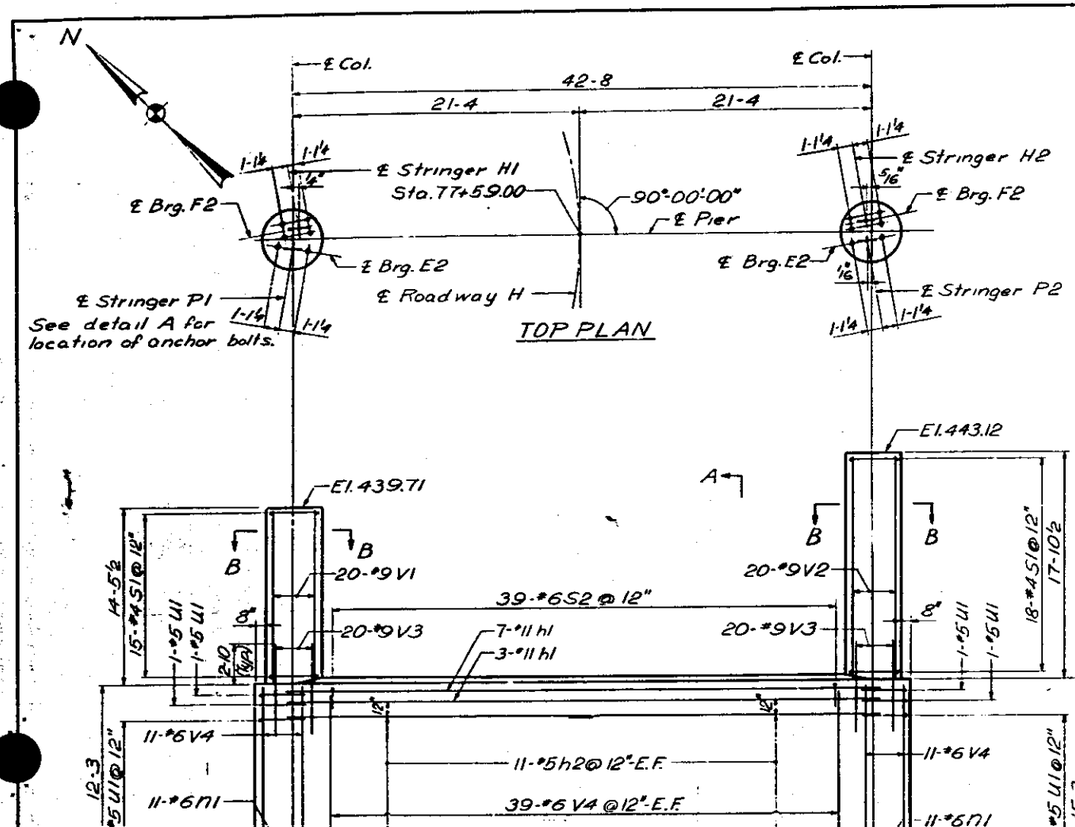
PILE DATA	
Type	— Concrete
Capacity	— 28 T.
Est. length	— 50 Ft.
No. Req'd.	— 33 *
Test Piles	— 1

* Does not include test pile.

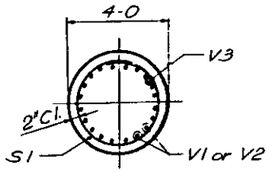
For Expansion Device Details, see Sh. No. 362 (Not Applicable to 82-3HVB-1)

DESIGNED BY	S.A.B.	STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BLDGS. DIVISION OF HIGHWAYS			
DRAWN BY	T.L.	ABUTMENT H5			
CHECKED BY	S.A.B.	POPLAR STREET BRIDGE APPROACHES ROADWAY "H"			
APPROVED BY	K.A.	F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1			
		H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS		SHEET	378 of 526

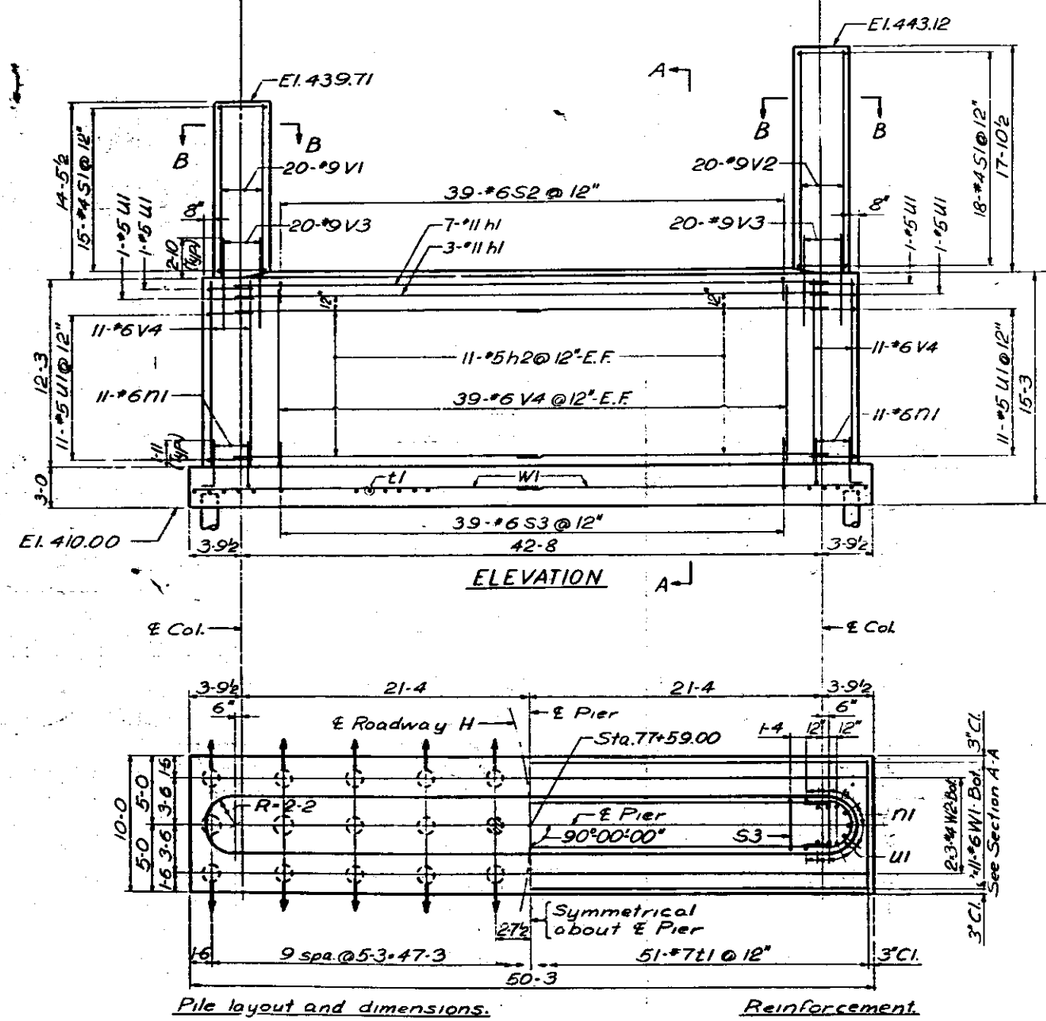
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I—70	82-3HVB-1	ST. CLAIR	207	104
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



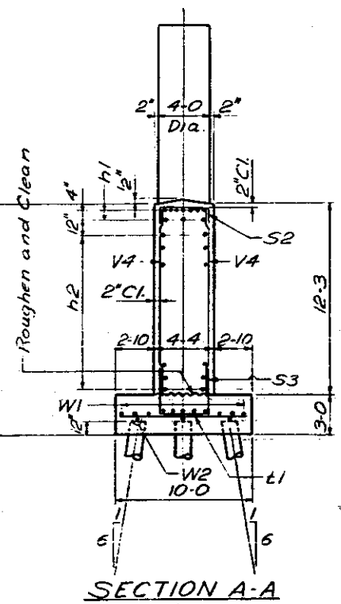
TOP PLAN



SECTION B-B



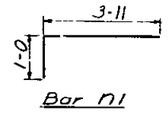
ELEVATION



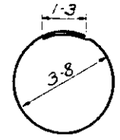
SECTION A-A

Pile layout and dimensions. Reinforcement.

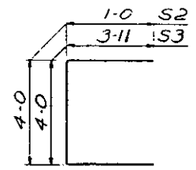
FOOTING PLAN



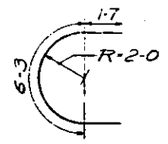
Bar M1



Bar S1



Bars S2 and S3



Bar U1

BILL OF MATERIAL

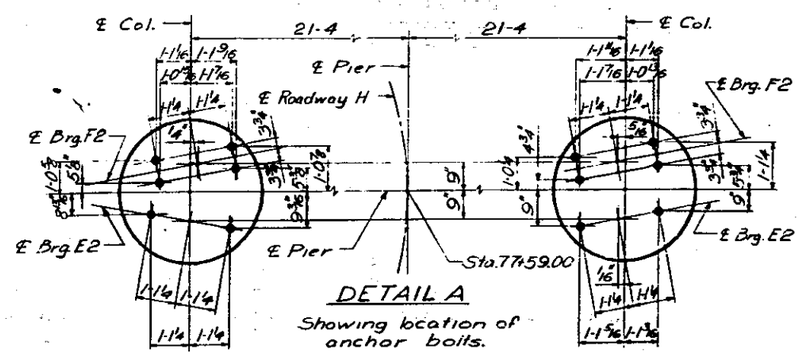
• Mark	No. Reqd.	Size	Length	Shape
426 h1	10	#11	43-8	—
426 h2	44	#5	22-8	—
426 M1	22	#6	4-11	⌐
426 S1	33	#4	12-9	○
426 S2	39	#6	6-0	⊏
426 S3	39	#6	11-10	⊏
426 t1	51	#7	9-8	—
426 U1	26	#5	9-5	⊂
426 V1	20	#9	14-3	—
426 V2	20	#9	17-8	—
426 V3	40	#9	6-8	—
426 V4	100	#6	12-1	—
426 W1	22	#6	25-11	—
426 W2	6	#4	25-7	—
• See Note "X" Sh. No. 35				

Item	Unit	Total
Class "X" Concrete	C.Y.	162.6
Reinforcement Bars	Lbs.	11,960
Concrete Piles	L.F.	1421 *
Test Piles (Concrete)	Ea.	1

PILE DATA:

Type: Concrete.
Reqd. Capacity: 33T
Est. Length: 49-0
No. Reqd: 29*
Test Piles: 1

* Does not include test pile.



DETAIL A

Showing location of anchor bolts.

DESIGNED BY E.W.
DRAWN BY S.A.
CHECKED BY S.K.
APPROVED BY K.A.

○ Indicates battered pile.

▨ Indicates test pile.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

PIER H1

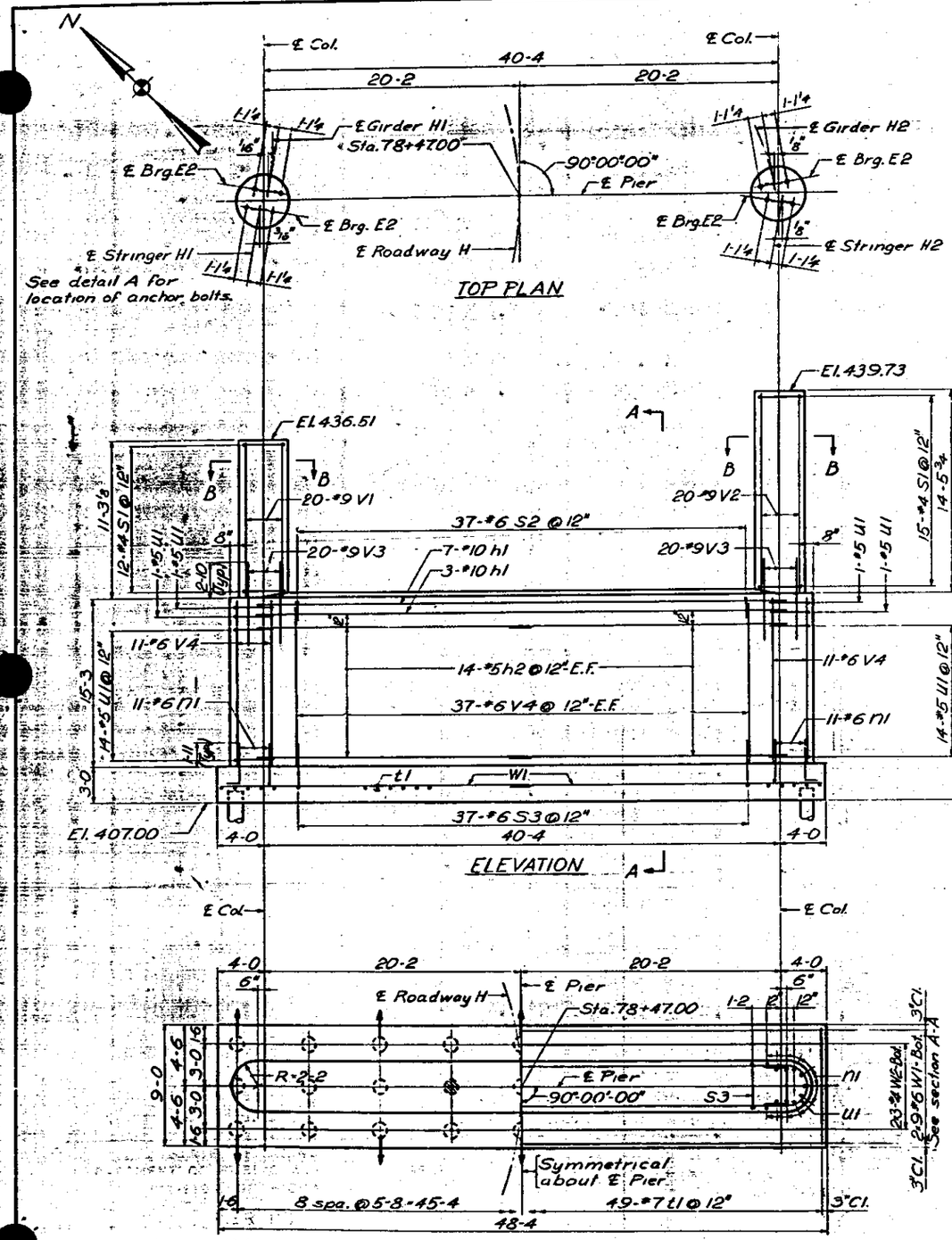
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 426 OF 526

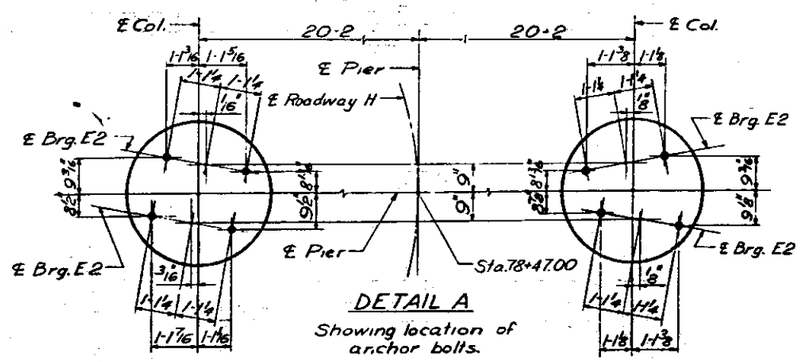
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I—70	82-3HVB-1	ST. CLAIR	207	105
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



BILL OF MATERIAL

Mark	No. Req'd.	Size	Length	Shape
427 H1	10	#10	41-4	—
427 H2	56	#5	21-6	—
427 M1	22	#6	4-11	⌐
427 S1	27	#4	12-9	○
427 S2	37	#6	6-0	⊏
427 S3	37	#6	11-10	⊏
427 T1	49	#7	8-8	—
427 U1	32	#5	9-5	⊂
427 V1	20	#9	11-1	—
427 V2	20	#9	14-3	—
427 V3	40	#9	6-8	—
427 V4	96	#6	15-1	—
427 W1	18	#6	25-0	—
427 W2	6	#4	24-8	—
•See Note "X" Sh. No. 35				

Item	Unit	Total
Class "X" Concrete	C.Y.	169.5
Reinforcement Bars	Lbs.	11,180
Concrete Piles	L.F.	1040*
Test Piles (Concrete)	Ea.	1



DETAIL A
Showing location of anchor bolts.

PILE DATA:

Type: Concrete.
Reqd. Capacity: 35 T
Est. Length: 40-0
No. Reqd: 26*
Test Piles: 1

* Does not include test pile.

DESIGNED BY E.W.
DRAWN BY S.A.
CHECKED BY S.K.
APPROVED BY H.A.

○ Indicates battered pile. ● Indicates test pile.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

PIER H2

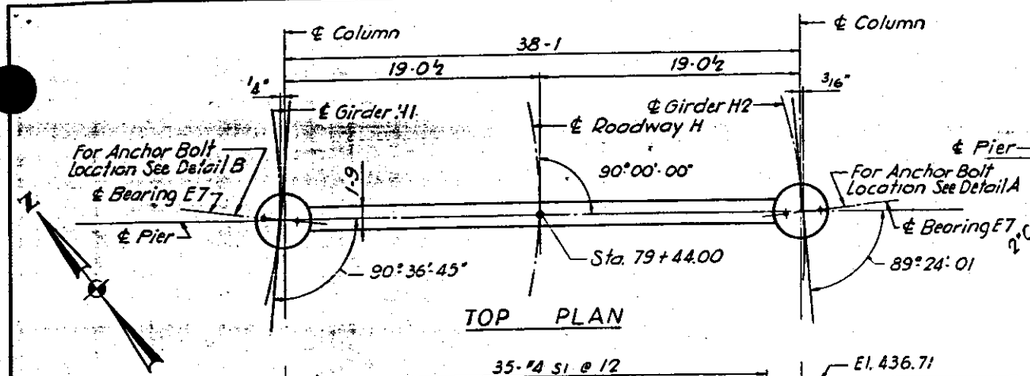
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

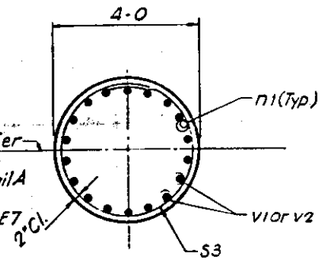
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 427 OF 526

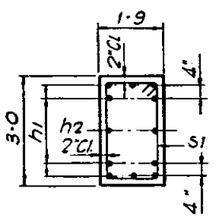
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I–70	82–3HVB–1	ST. CLAIR	207	106
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

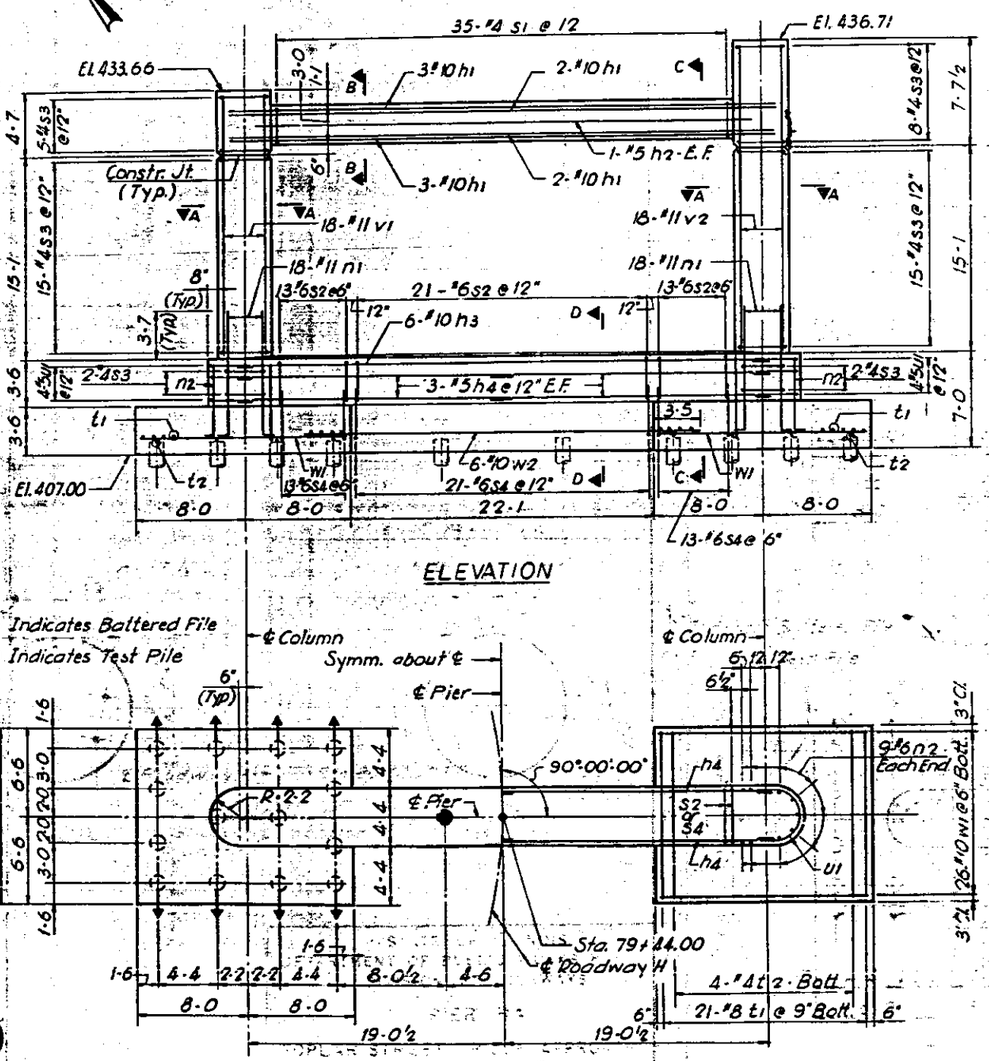


TOP PLAN

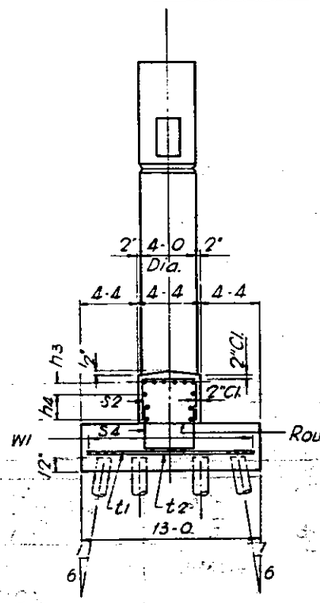


SECTION A-A

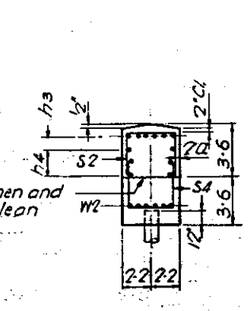




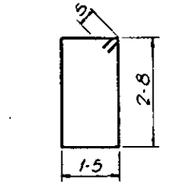
ELEVATION



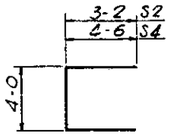
SECTION C-C



SECTION D-D

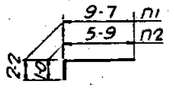


Bar s1

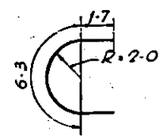


Bars s2 & s4

Bar s3



Bars n1 & n2



Bar u1

BILL OF MATERIAL

Mark	No. Req'd	Size	Length	Shape
428h1	10	#10	40-5	—
428h2	2	#5	36-7	—
428h3	5	#10	39-1	—
428h4	12	#5	20-4	—
428n1	36	#11	11-9	⌐
428n2	18	#6	6-9	⌐
428s1	35	#4	9-0	□
428s2	47	#6	10-4	⌐⌐
428s3	47	#4	12-9	}○
428s4	47	#6	13-0	⌐⌐
428t1	42	#8	12-8	—
428t2	8	#4	12-8	—
428u1	8	#5	9-5	⊂
428v1	18	#11	19-6	—
428v2	18	#11	22-6	—
428w1	52	#10	15-8	—
428w2	6	#10	28-11	—

• See Note "X" Sh. No. 35

Item	Unit	Total
Class "X" Concrete	C.Y.	115.7
Reinforcement Bars	Lbs.	17,600
Concrete Piles	L.F.	1189 *
Test Piles (Concrete)	Ea.	1

Indicates Battered Pile

Indicates Test Pile

Pile Layout and Dimensions

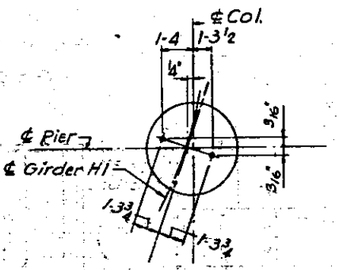
Reinforcement

FOOTING PLAN

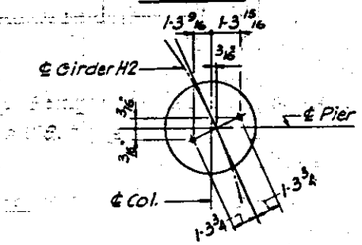
PILE DATA

Type:	Concrete
Req'd. Capacity:	35 t.
Est. Length	: 41-0
No. Req'd	: 29 *
Test Pile	: 1

* Does not Include Test Pile



DETAIL B



DETAIL A

DESIGNED BY E.W.
DRAWN BY K.R.
CHECKED BY R.K
APPROVED BY L.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

PIER H3

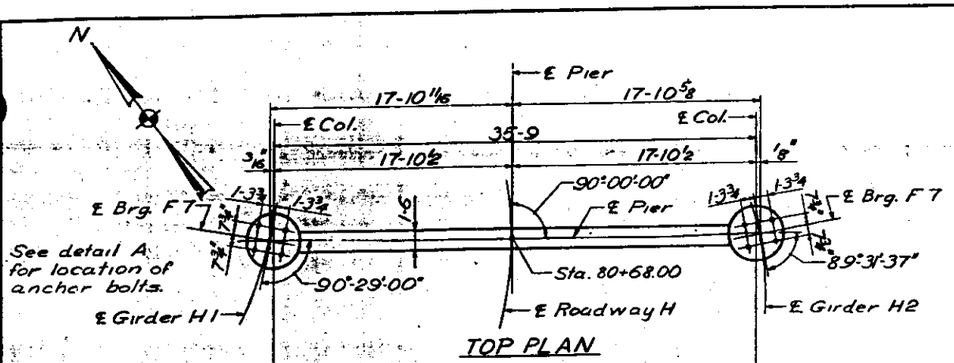
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82–3HVB–1

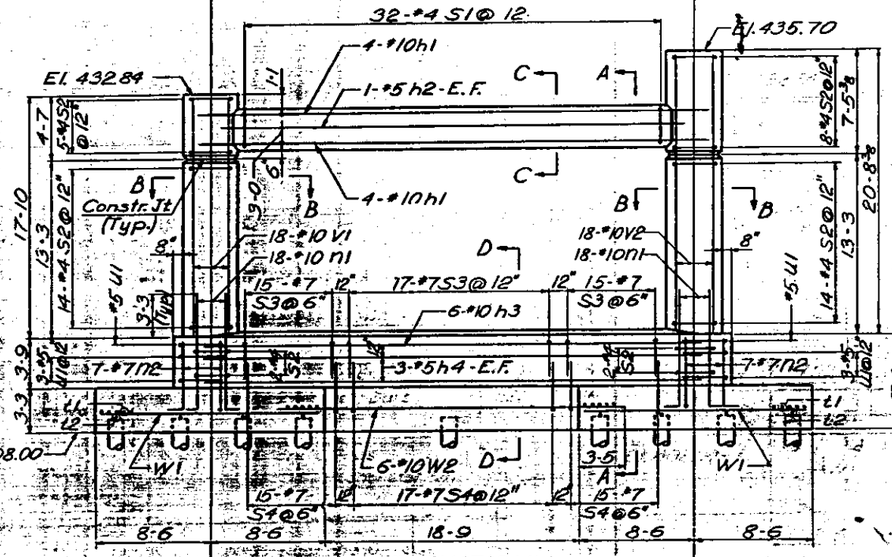
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 428 OF 526

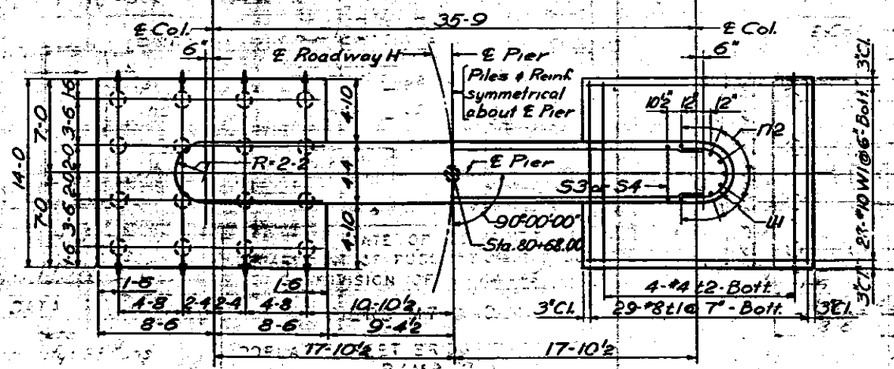
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I-70	82-3HVB-1	ST. CLAIR	207	107
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



TOP PLAN

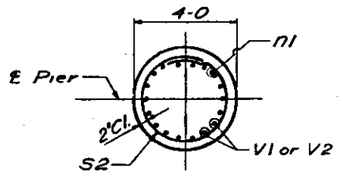


ELEVATION

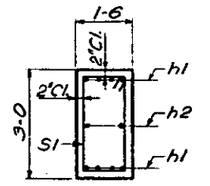


Pile layout and dimensions.

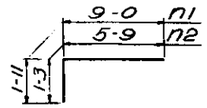
FOOTING PLAN



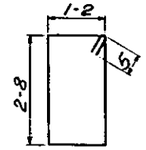
SECTION B-B



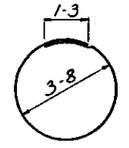
SECTION C-C



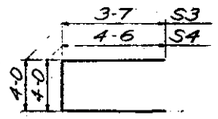
Bars n1 and n2



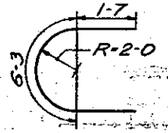
Bar S1



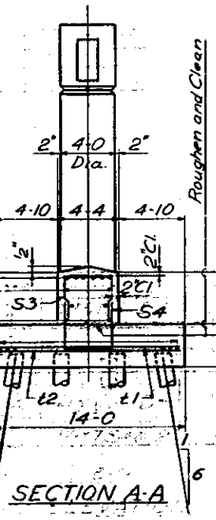
Bar S2



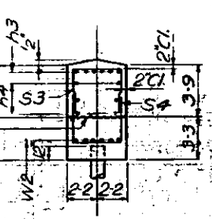
Bars S3 and S4



Bar U1



SECTION A-A

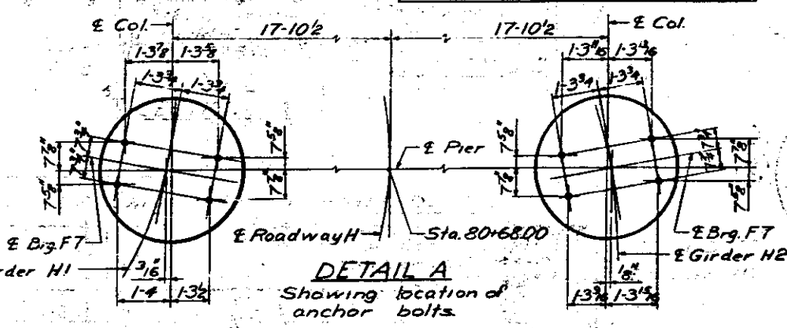


SECTION D-D

PILE DATA:

Type:	Concrete
Reqd. Capacity:	34T
Est. Length:	35-0
No. Reqd:	32*
Test Pile:	1

*Does not include test pile.



DETAIL A
Showing location of anchor bolts.

BILL OF MATERIAL

Mark	No. Req'd.	Size	Length	Shape
429 h1	8	#10	38-1	—
429 h2	2	#5	34-3	—
429 h3	6	#10	36-9	—
429 h4	6	#5	36-3	—
429 n1	36	#10	10-11	⌐
429 n2	14	#7	7-0	⌐
429 S1	32	#4	8-6	⌐
429 S2	45	#4	12-9	○
429 S3	47	#7	11-2	⌐
429 S4	47	#7	13-0	⌐
429 t1	58	#8	13-8	—
429 t2	8	#4	13-8	—
429 U1	8	#5	9-5	⊂
429 V1	18	#10	17-8	—
429 V2	18	#10	20-6	—
429 W1	56	#10	16-8	—
429 W2	6	#10	25-7	—

• See Note "X" Sh. No. 35

Item	Unit	Total
Class "X" Concrete	C.Y.	113.6
Reinforcement Bars	Lbs.	17,240
Concrete Piles	L.F.	1120 *
Test Piles (Concrete)	Ea.	1

Indicates battered pile. Indicates test pile.

DESIGNED BY E.W.
DRAWN BY E.A.
CHECKED BY S.K.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

PIER H4

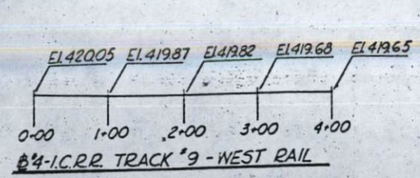
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

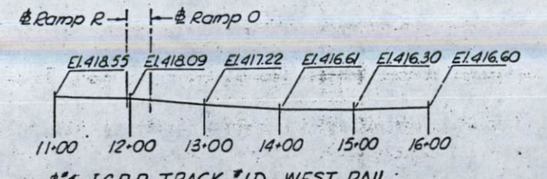
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
429 OF 526

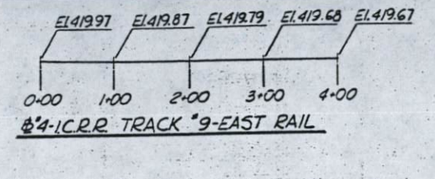
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.-70	82-3HVB-1	ST. CLAIR	207	138
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



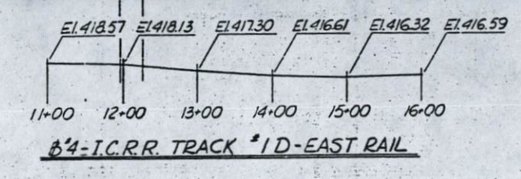
℄ "4-I.C.R.R. TRACK "9 - WEST RAIL



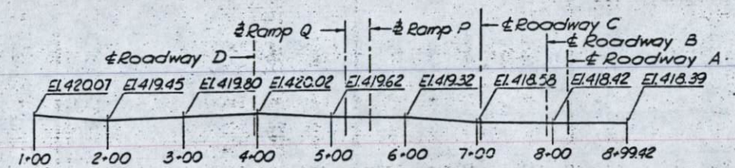
℄ "4-I.C.R.R. TRACK "1D - WEST RAIL



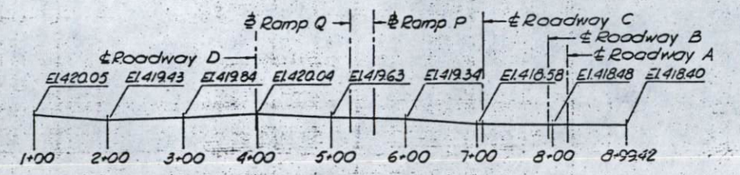
℄ "4-I.C.R.R. TRACK "9-EAST RAIL



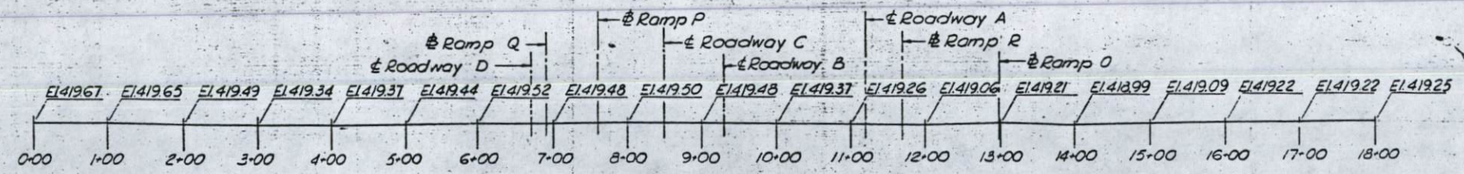
℄ "4-I.C.R.R. TRACK "1D - EAST RAIL



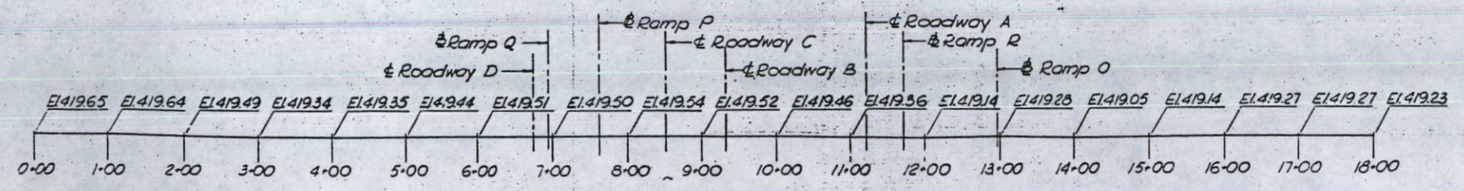
℄ "4A I.C.R.R. TRACK, WEST RAIL



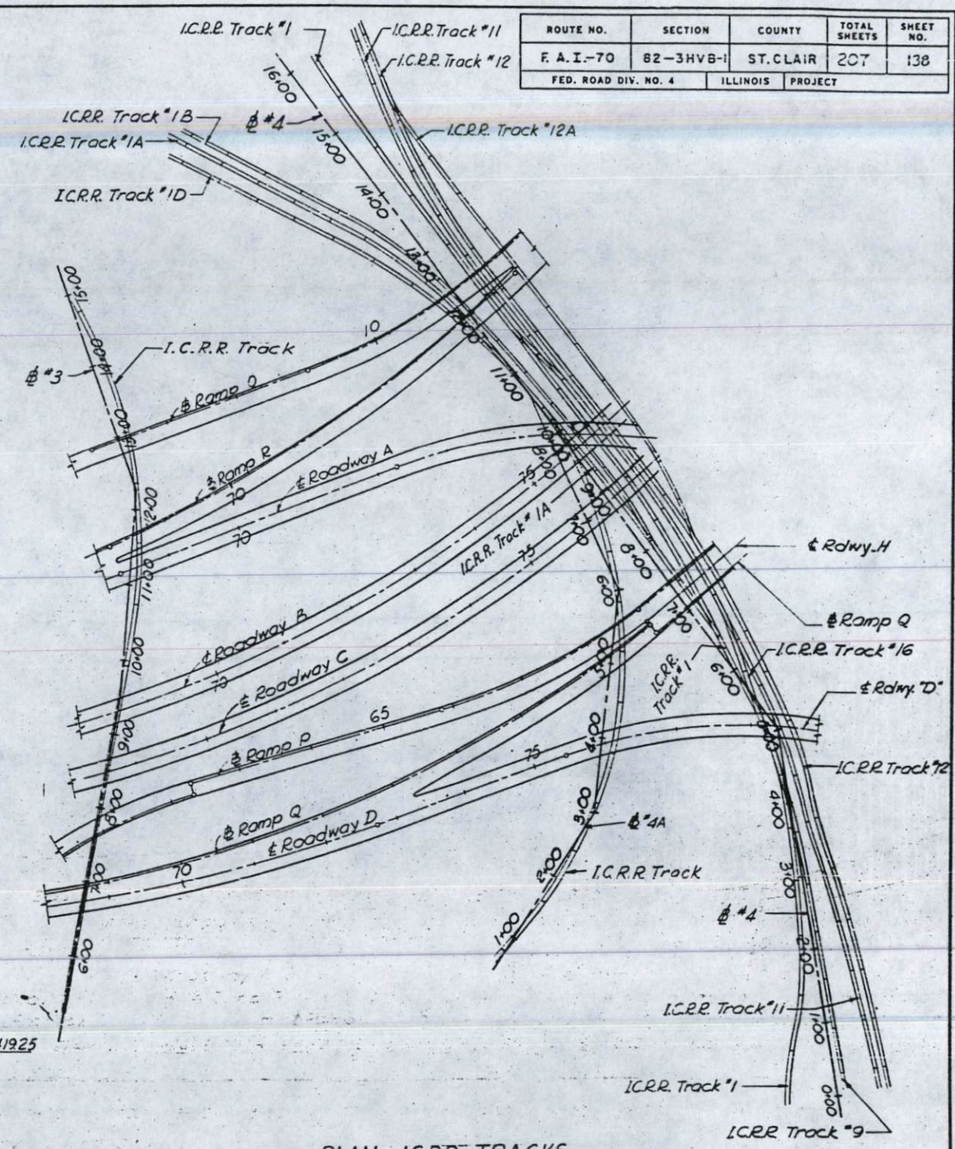
℄ "4A I.C.R.R. TRACK, EAST RAIL



℄ "3 - I.C.R.R TRACK, WEST RAIL



℄ "3 - I.C.R.R. TRACK, EAST RAIL



PLAN - I.C.R.R. TRACKS

Scale: 1" = 100'

For Track "1, "11, "12, "1A, "1B & "12A
Profiles see Sheet No. 178

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

ILLINOIS CENTRAL RAILROAD

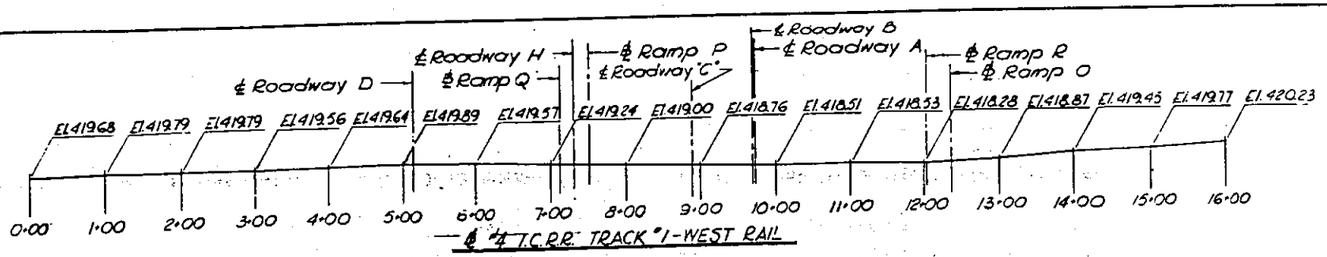
PROFILES

F.A.I. RT 70 ST. CLAIR CO. SECTION 82-3HVB-1

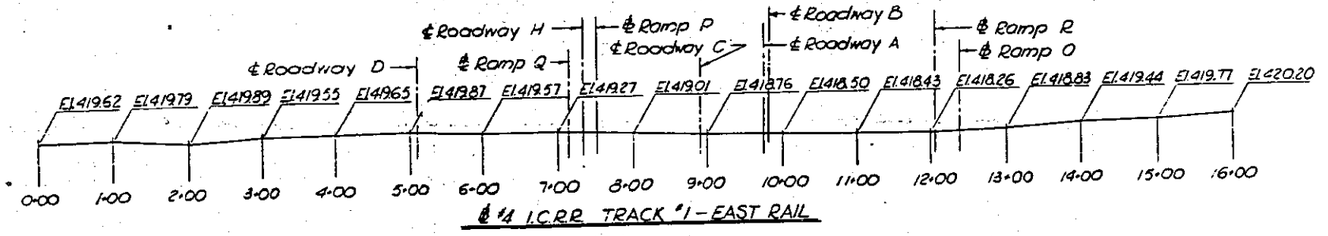
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 4 OF 5 SHS

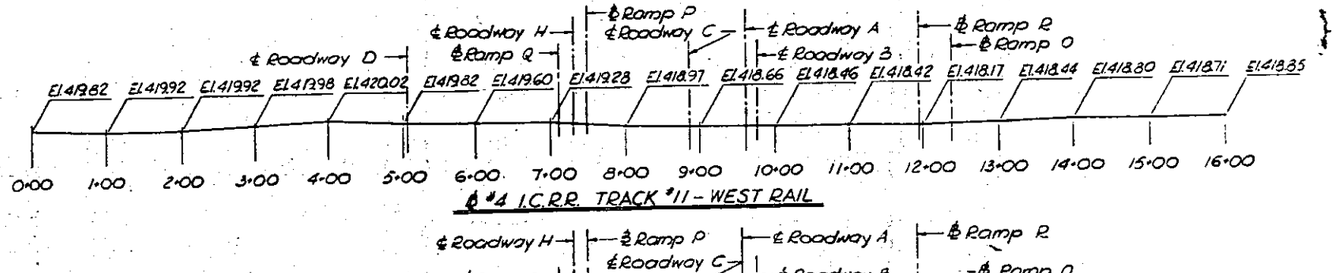
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	139
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



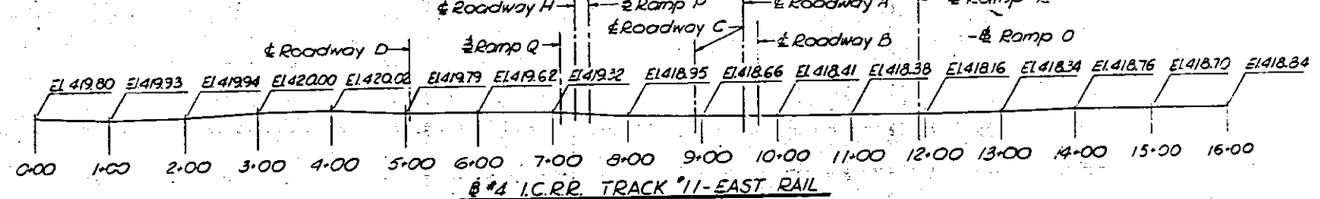
℄ #4 I.C.R.R. TRACK "1 - WEST RAIL



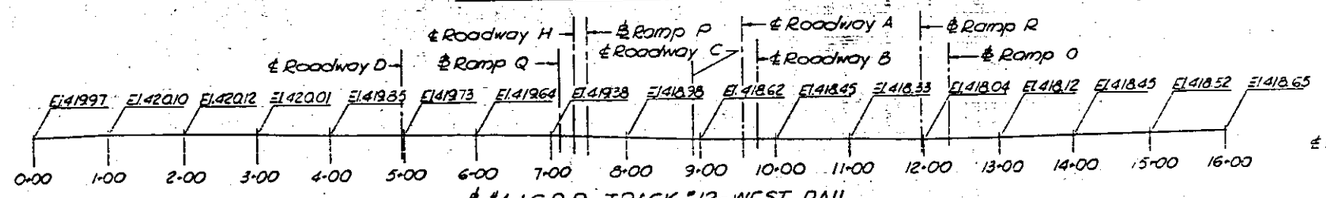
℄ #4 I.C.R.R. TRACK "1 - EAST RAIL



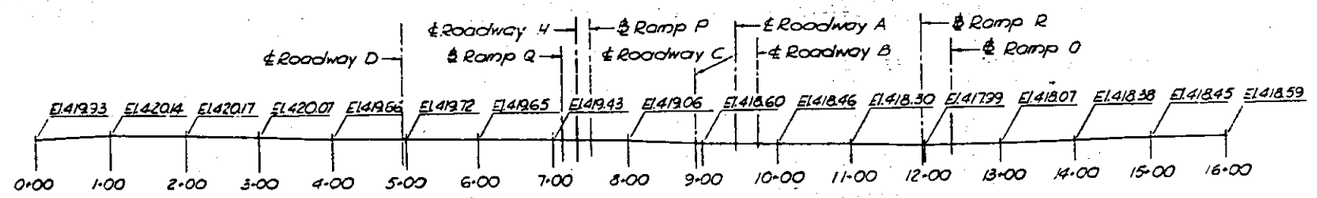
℄ #4 I.C.R.R. TRACK "11 - WEST RAIL



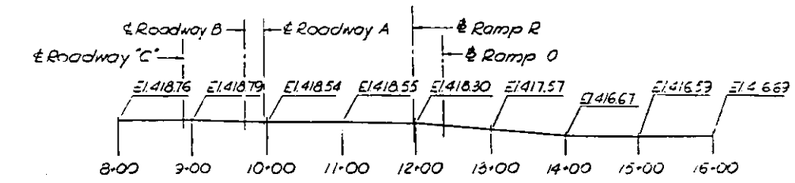
℄ #4 I.C.R.R. TRACK "11 - EAST RAIL



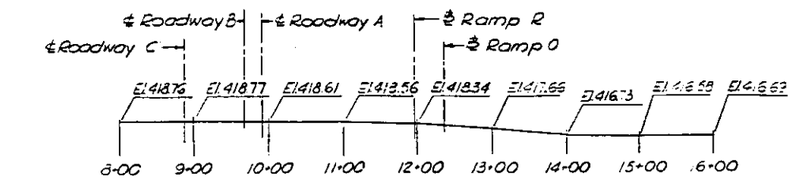
℄ #4 I.C.R.R. TRACK "12 - WEST RAIL



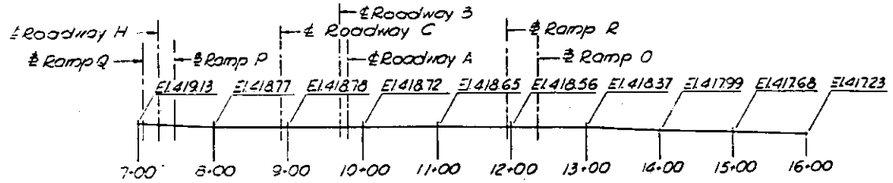
℄ #4 I.C.R.R. TRACK "12 - EAST RAIL



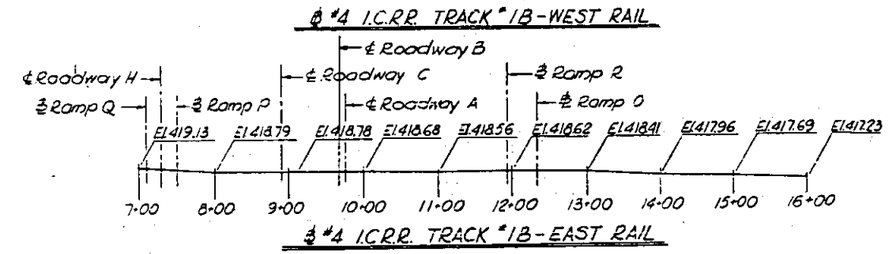
℄ #4 I.C.R.R. TRACK "1A - WEST RAIL



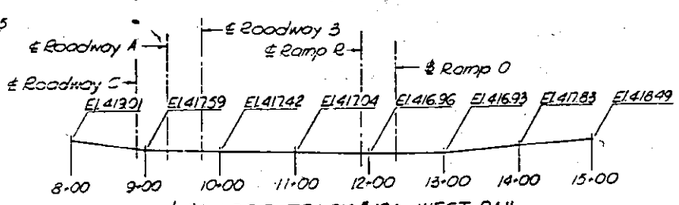
℄ #4 I.C.R.R. TRACK "1A - EAST RAIL



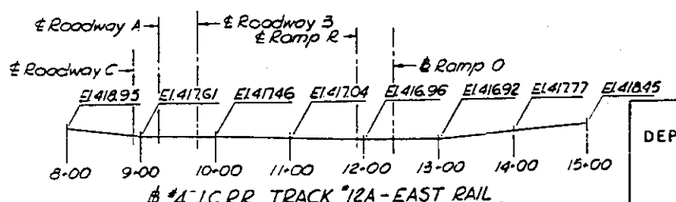
℄ #4 I.C.R.R. TRACK "1B - WEST RAIL



℄ #4 I.C.R.R. TRACK "1B - EAST RAIL



℄ #4 I.C.R.R. TRACK "12A - WEST RAIL



℄ #4 I.C.R.R. TRACK "12A - EAST RAIL

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

ILLINOIS CENTRAL RAILROAD

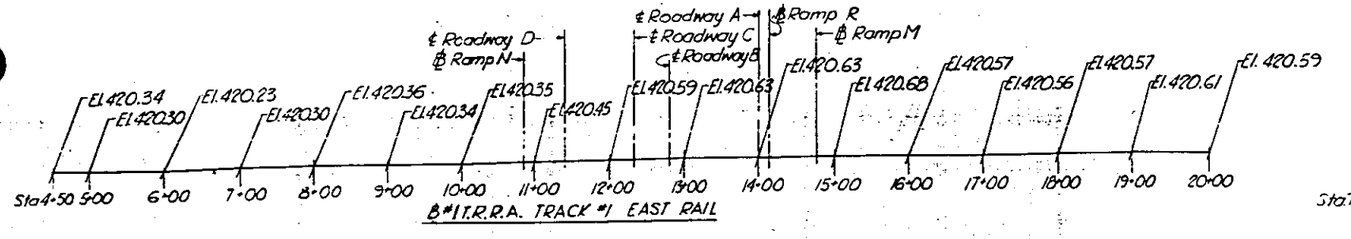
PROFILES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

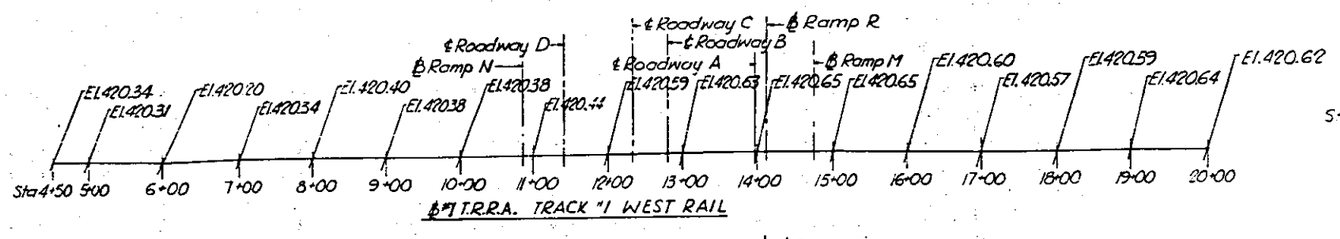
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
461 of 536

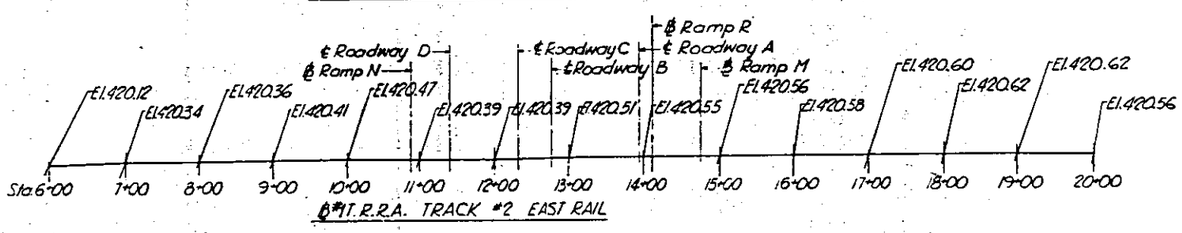
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1	ST. CLAIR	207	140
FED. ROAD DIV. NO. 4		ILLINOIS	PROJECT	



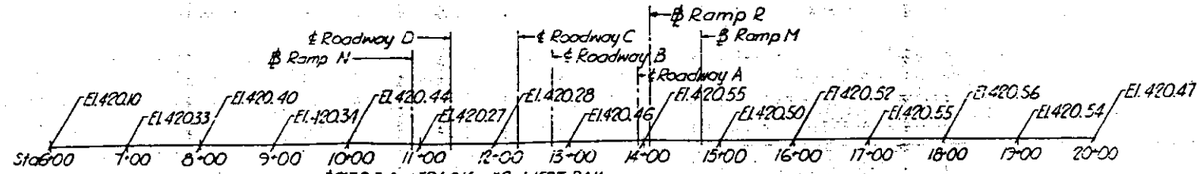
℄#1 T.R.R.A. TRACK #1 EAST RAIL



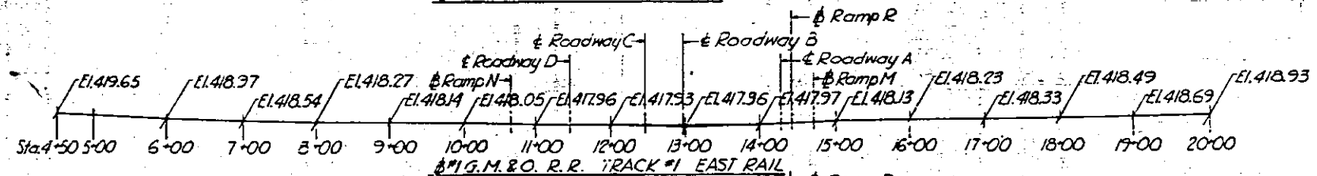
℄#1 T.R.R.A. TRACK #1 WEST RAIL



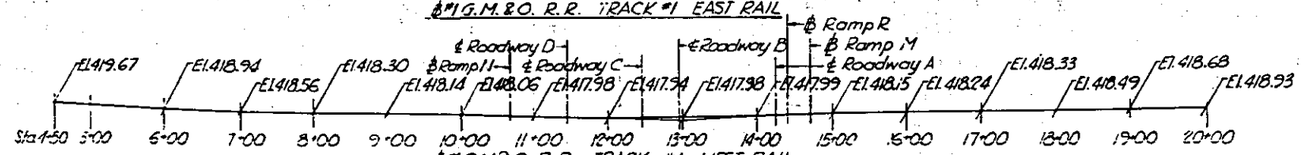
℄#1 T.R.R.A. TRACK #2 EAST RAIL



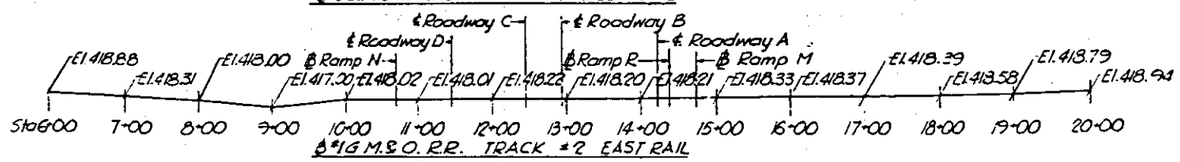
℄#1 T.R.R.A. TRACK #2 WEST RAIL



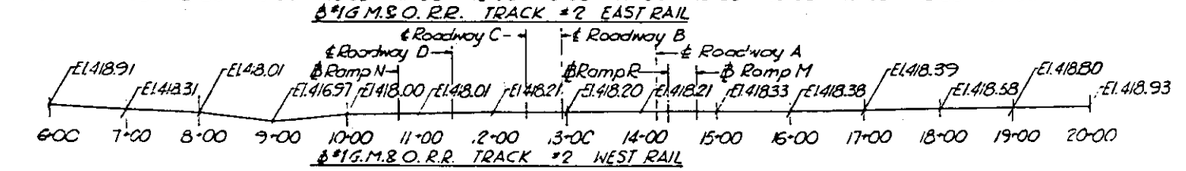
℄#1 G.M.&O. R.R. TRACK #1 EAST RAIL



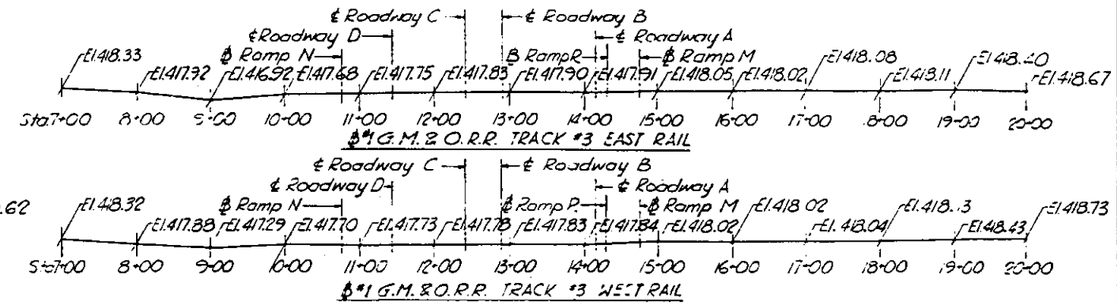
℄#1 G.M.&O.R.R. TRACK #1 WEST RAIL



℄#1 G.M.&O. R.R. TRACK #2 EAST RAIL

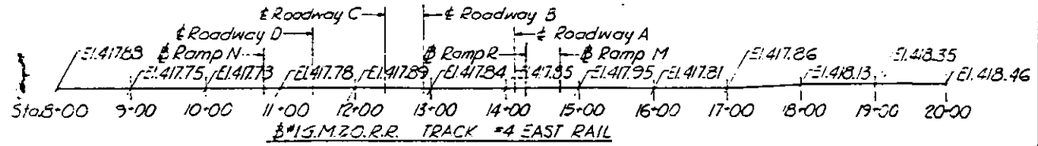


℄#1 G.M.&O. R.R. TRACK #2 WEST RAIL

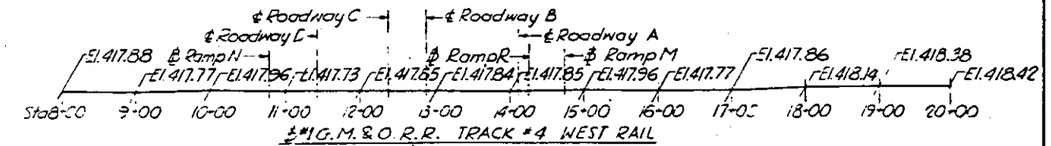


℄#1 G.M.&O.R.R. TRACK #3 EAST RAIL

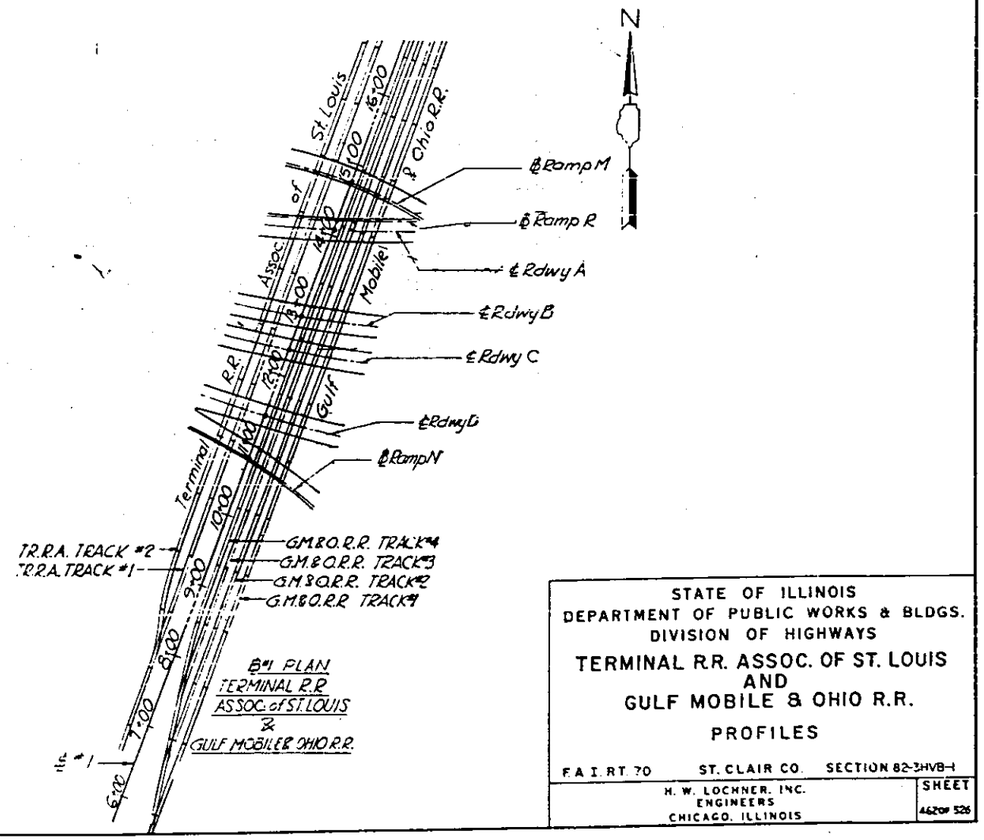
℄#1 G.M.&O.R.R. TRACK #3 WEST RAIL



℄#1 G.M.&O.R.R. TRACK #4 EAST RAIL



℄#1 G.M.&O.R.R. TRACK #4 WEST RAIL



℄#1 PLAN
TERMINAL R.R.
ASSOC. of ST. LOUIS
&
GULF MOBILE & OHIO R.R.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

TERMINAL R.R. ASSOC. OF ST. LOUIS AND GULF MOBILE & OHIO R.R.

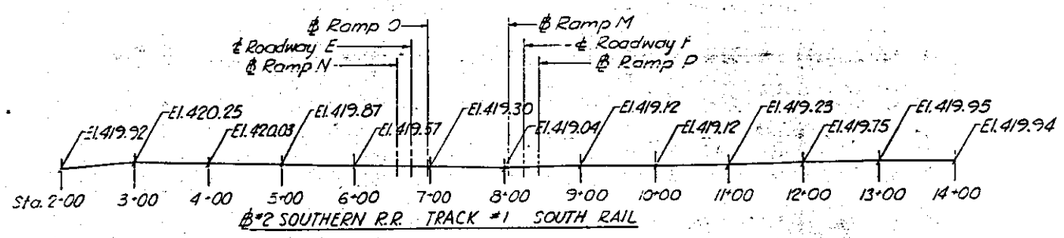
PROFILES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

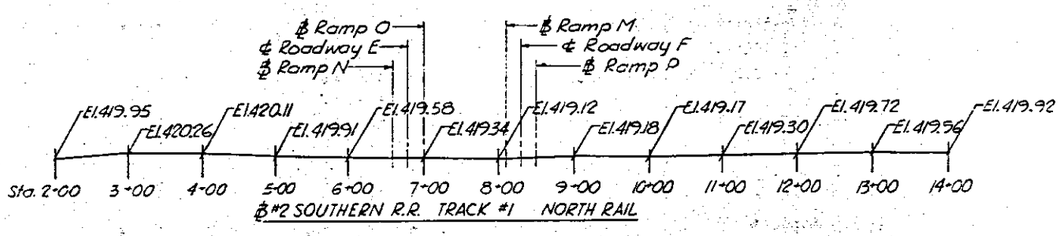
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
462 OF 526

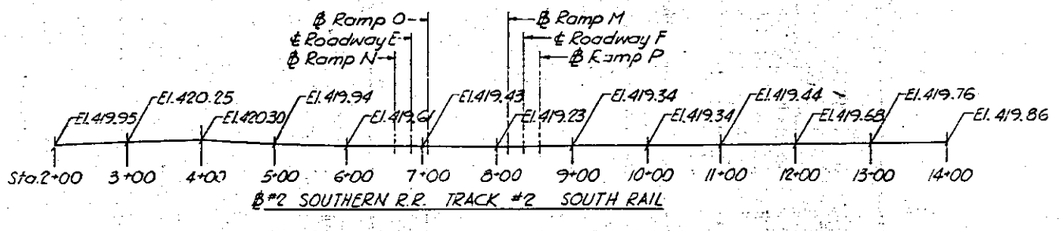
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	141
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



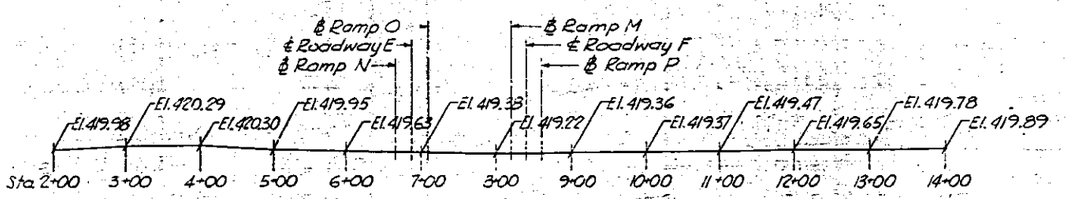
℄ #2 SOUTHERN R.R. TRACK #1 SOUTH RAIL



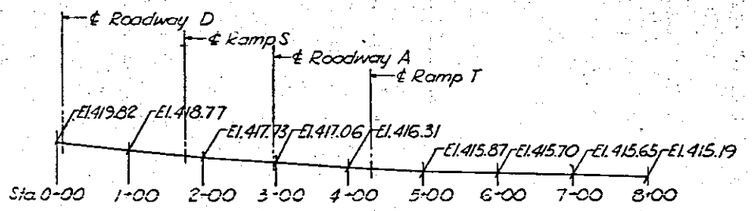
℄ #2 SOUTHERN R.R. TRACK #1 NORTH RAIL



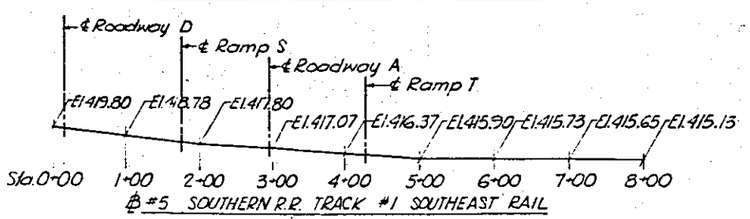
℄ #2 SOUTHERN R.R. TRACK #2 SOUTH RAIL



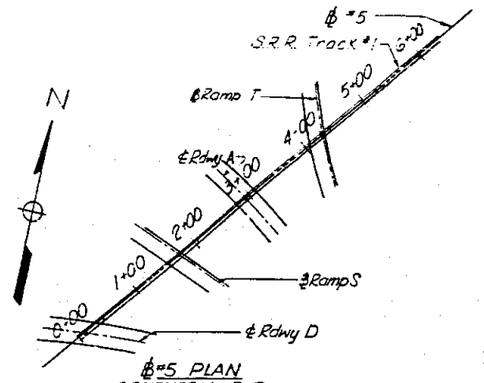
℄ #2 SOUTHERN R.R. TRACK #2 NORTH RAIL



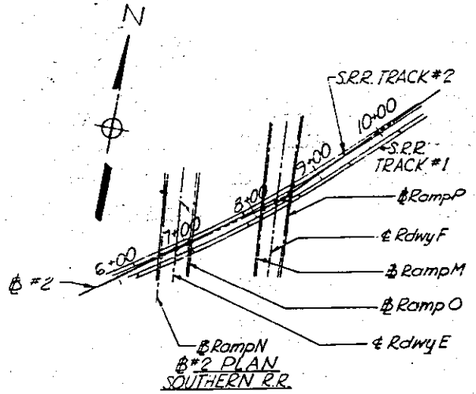
℄ #5 SOUTHERN R.R. TRACK #1 NORTHWEST RAIL



℄ #5 SOUTHERN R.R. TRACK #1 SOUTHEAST RAIL



℄ #5 PLAN
SOUTHERN R.R.



℄ #2 PLAN
SOUTHERN R.R.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

SOUTHERN RAILROAD

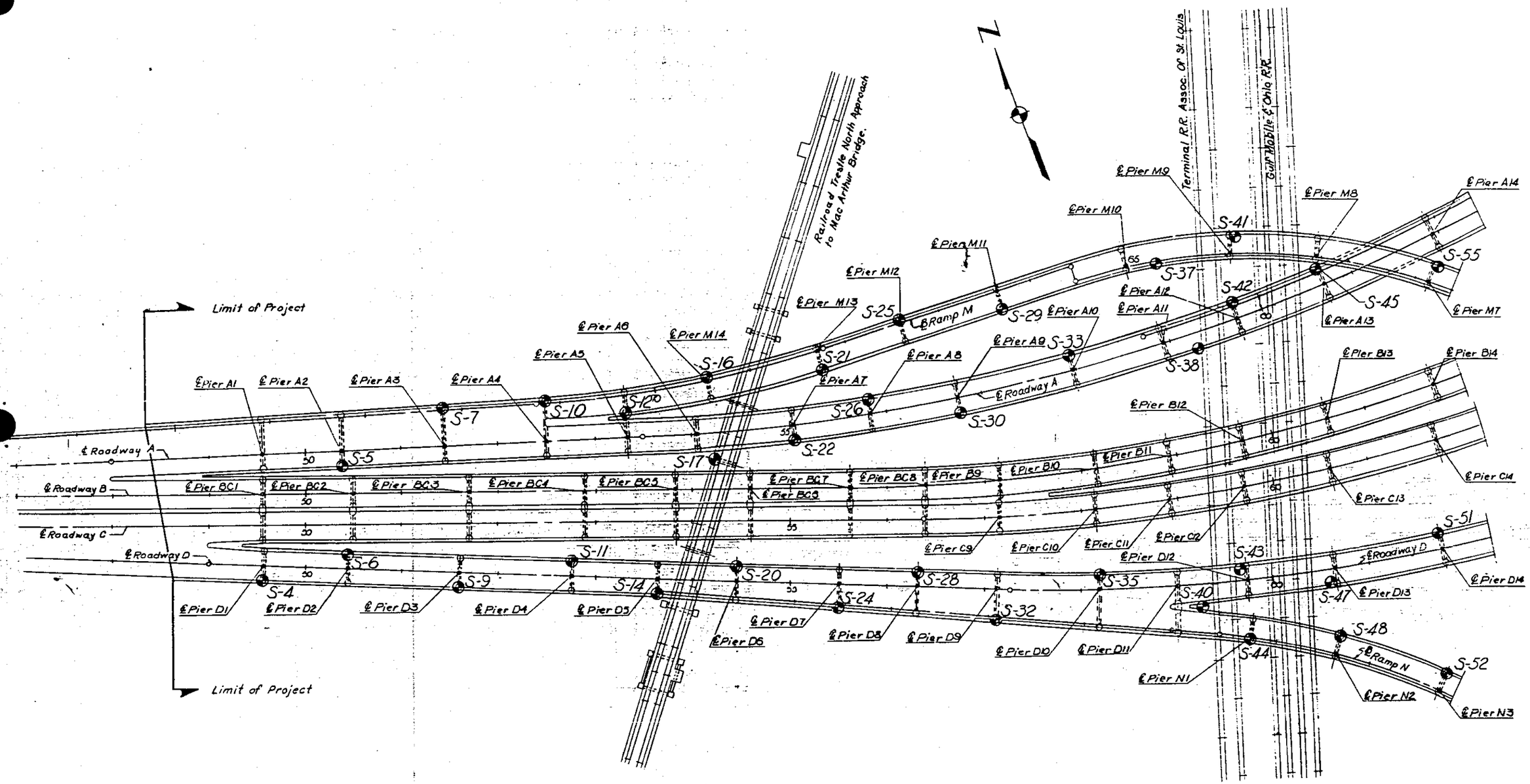
PROFILES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 463 or 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. — 70	82-3HVB-1	ST. CLAIR	207	142
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

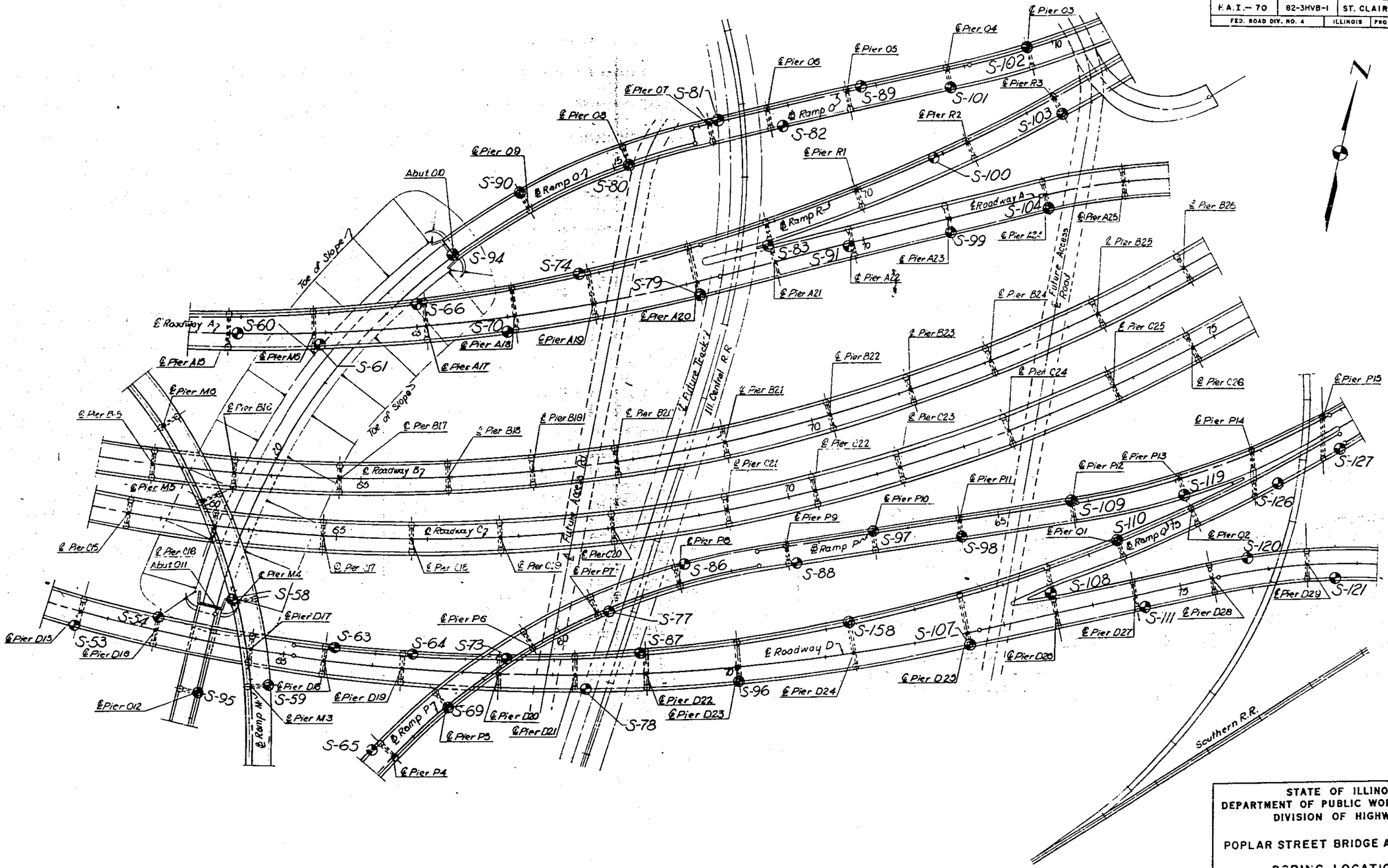
BORING LOCATIONS

F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 46408 5C6

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HV8-1	ST. CLAIR	207	143
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

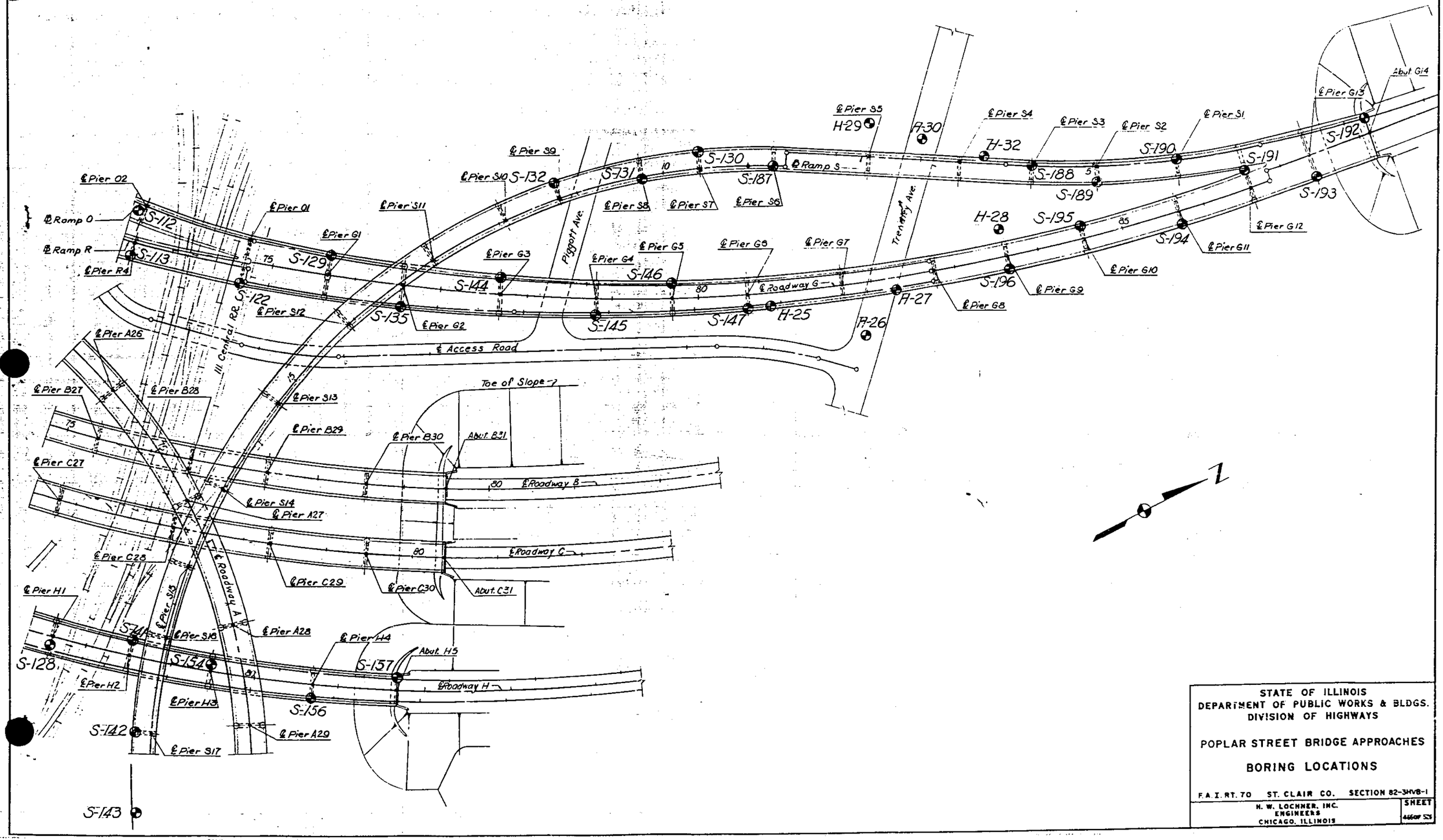
BORING LOCATIONS

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HV8-1

N. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 4.23 OF 5.26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. — 70	82-3HVB-1	ST. CLAIR	207	144
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

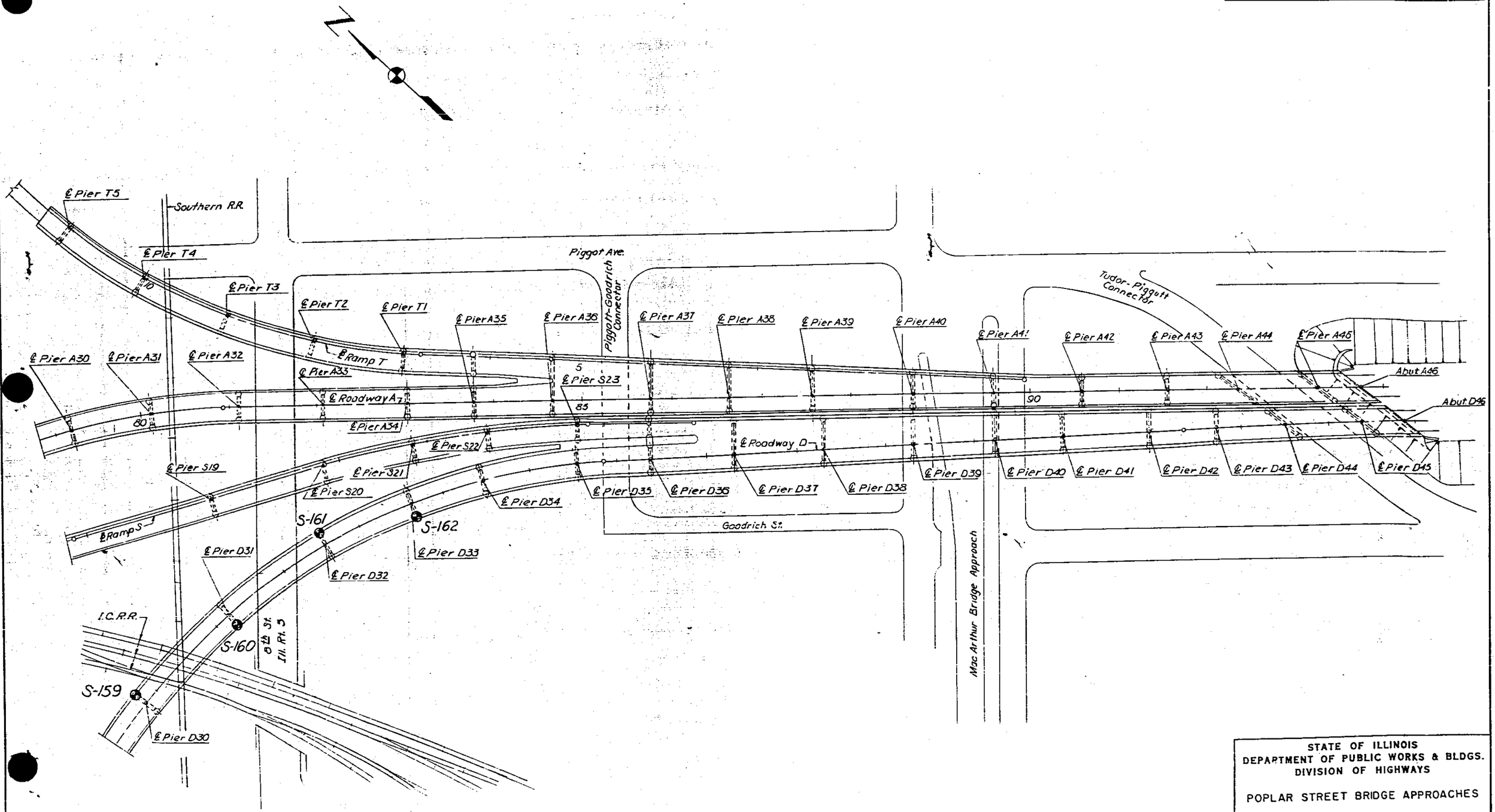
BORING LOCATIONS

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 4660F 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	145
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



DESIGNED BY
DRAWN BY TE
CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

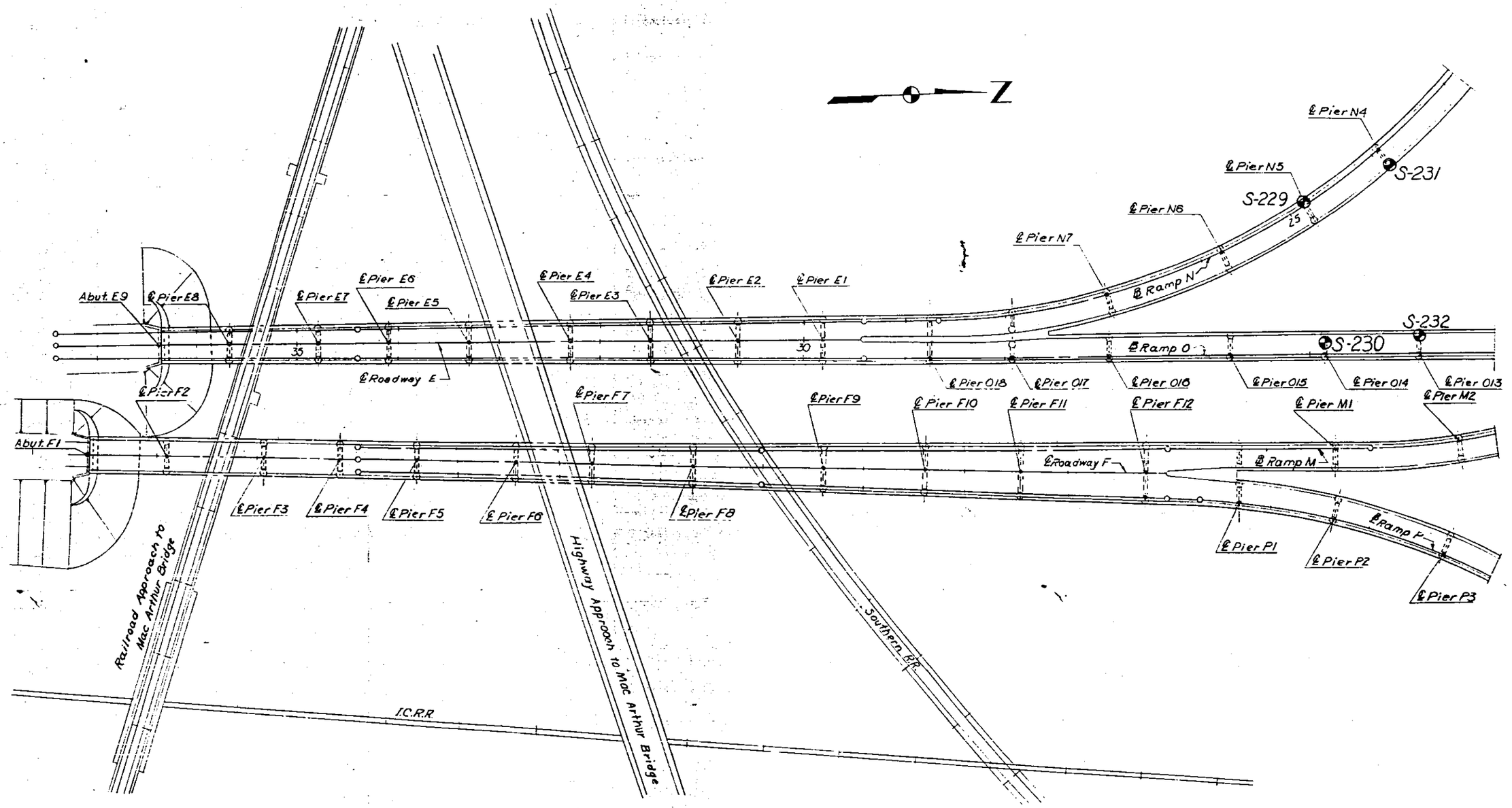
BORING LOCATIONS

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
467 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	146
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

BORING LOCATIONS

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
468 OF 535

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	195
FED. ROAD DIV. NO. 8	ILLINOIS	PROJECT		

BORING No. S-154

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	412.5			
Cinders, silt, sand and miscellaneous fill	411.7			
Soft brown sandy Silt, some clay.	409.0	4		
Medium brown Clay, some silt.	406.5	5	7	
Medium brown sandy silt, some clay.	403.5	7	2.0	27
Medium brown		10	14	
very fine Sand.		15	13	
trace silt and clay.	379.5	20	10	
		25	16	
		30	23	
Dense gray fine Sand, trace silt.	374.5	35	46	
Medium gray fine to coarse (continued)		40	17	
		45	33	

IDENTIFICATION (continued)	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Sand, trace silt and small gravel.	334.0	47	24	
		50	28	
		25	26	
Very dense gray fine to medium Sand, trace silt.	330.0	25	63	
		50	62	
Boring stopped by Inspector. WATER LEVEL 16.5				

IDENTIFICATION (continued)	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
		47	24	
Dense gray fine to medium Sand, little silt, trace clay.	353.0	50	38	
Medium gray fine to medium Sand, trace silt.	349.0	50	25	
Medium gray coarse Sand, trace silt.		50	27	
		50	20	
		50	18	
		50	31	
		25	26	
		50	14	
		50	18	

BORING No. S-155

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	413.2			
Cinders, bricks, concrete, and miscellaneous Fill	409.2			
Medium brown clayey silt, trace very fine sand.	406.7	5	15	2.5
		10	11	
Medium brown fine to coarse Sand,		20	26	
		15	14	
		20	11	
		25	9	
some silt.		30	11	
	379.2		13	
Dense brown medium Sand, trace silt.	377.2	35	33	
Dense gray medium Sand, trace silt.	371.2	40	33	
Medium gray fine to coarse Sand, (continued)		45	14	

IDENTIFICATION (continued)	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
		47	11	
trace silt.	364.2			
Medium gray medium to coarse Sand, some small gravel trace silt.	358.2	50	25	
		50	28	
		50	25	
Medium gray fine to coarse Sand, some small gravel.	339.7	50	46	
		50	24	
		50	23	
		50	20	
		50	17	
		75	9	
Medium gray coarse Sand, some gravel.	337.2	75	22	
Medium gray medium Sand.	334.2	50	22	
Very dense gray medium sand, and some gravel with trace silt.	332.2	80	105	
Dense gray coarse Sand, and small gravel, trace silt.	318.3	90	49	
		85	52	
		90	54	
		90	48	
		90	44	
		95	25	
Boring stopped by Inspector. WATER LEVEL 36.0				

BORING No. S-156

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	412.9			
Topsoil, cinders, and miscellaneous Fill	409.4	6		
Medium brown Clay, some silt, trace very fine sand.	404.4	5	8	3.0
		8		
Medium		10	20	
gray			26	
very fine Sand,		15	10	
		20	8	
		25	15	
some silt.			11	
	384.4		10	
Medium dense gray fine Sand, trace silt.	372.4	30	13	
		40	64	
Medium fine to coarse Sand, trace silt, some small (continued)		45	25	

IDENTIFICATION (continued)	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
		47	21	
gravel.	363.9	50	9	
Medium gray fine to coarse Sand, trace silt.	356.9	50	20	
Medium gray coarse Sand, little silt.	354.4	50	18	
Dense gray fine Sand, trace silt.	351.9	50	27	
		60	38	
Medium gray medium to coarse Sand, trace silt, some small gravel.	338.9	50	26	
		65	16	
		50	29	
		70	40	
Dense gray fine to medium Sand, trace silt.	332.9	75	54	
		80	28	
		80	60	
Boring stopped by Inspector. WATER LEVEL 28.5				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 517 OF 526

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	196
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S-157

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	413.5 0			
Topsoil, Sand, and cinder Fill	409.5	9		
Soft to medium gray and brown Silt and very fine Sand	5 404.5	6		
		9		
	10	18		
Loose				
to		12		
medium	15	9		
grey				
fine		9		
	20	14		
Sand,				
some		25		
silt.	25	25		
	387.5			
Loose gray silty very fine Sand.	385.0	8		
Medium				
	30	32		
dense				
		21		
gray				
	35	24		
fine to				
		29		
medium				
	40	28		
Sand,				
		35		
little				
	45	49		
(continued)				

IDENTIFICATION (continued)	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
	47	50		
silt.	365.0			
Medium gray fine Sand and Silt, some organic matter.	50 360.0	11		
		13		
Dense gray fine to coarse Sand, trace silt, some small gravel.	55 357.5	37		
Very dense gray fine Sand, some silt.	355.5	86		
Dense	60	43		
gray				
fine		50		
to				
medium	65	39		
Sand,		42		
trace				
silt.	70	37		
and				
small		39		
gravel.	338.5 75	60		
Boring stopped by Inspector.				
WATER LEVEL 35.0				

BORING No. S-158

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.9 0			
Cinder		8		
and	5	10		
miscellaneous		5		
Fill	10 403.4	11		
Medium		11		
brown				
very	15	14		
fine		11		
Sand,				
trace	20	17		
		15		
silt	390.9			
Medium	25	21		
dense		28		
brown				
fine	30	23		
Sand,		35		
trace				
silt.	35	52		
	378.9			
Medium brown fine to coarse Sand, trace small gravel and silt.	40 373.4	17 50		
Dense gray fine Sand.	371.4	31		
	45	11		
Medium (continued)				

IDENTIFICATION (continued)	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
	47	38		
dense	50	28		
gray		30		
fine to	55	35		
		31		
coarse				
Sand,	60	29		
trace		23		
small	65	41		
gravel		25		
and				
	70	21		
silt,		36		
organic	75	33		
matter noted.	337.8	33		
Boring stopped by Inspector				
WATER LEVEL 36.5				

BORING No. S-159

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	418.7 0			
Cinders,		3		
Sand,	5	4		
and		7		
miscellaneous	10	4		
Fill		3		
	15 402.7	3		
Soft brown silty Clay trace very fine sand	400.7	5	1.0	30
Medium brown clay, trace silt and very fine sand	20 397.7	10		
Medium brown clayey silt, trace very fine sand	395.7	10	2.0	26
Medium				
brown	25	16		
fine				
Sand,		12		
trace				
silt.	30	11		
	387.7			
Loose		10		
gray				
fine				
silty	35	8		
Sand.	382.7			
Dense grey fine to medium Sand, trace silt.	40 377.7	31 36		
Dense grey fine to coarse Sand, trace Clay, Silt, & some small gravel.	45 372.7	47 32		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Dense	47	40		
gray				
fine				
Sand,	50	39		
little				
silt	365.7	50		
Medium gray fine to coarse Sand, trace silt.	55 360.7	21 26		
Dense gray fine Sand, trace silt and organic matter noted.	60 357.7	49		
Very dense gray fine to coarse Sand, tr. small to medium gravel and silt.	355.7	57		
Very dense gray fine to medium Sand, trace silt and organic matter noted.	65 351.2	63 91		
Boring stopped by Inspector.				
WATER LEVEL 46.0.				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

POPLAR STREET BRIDGE APPROACHES

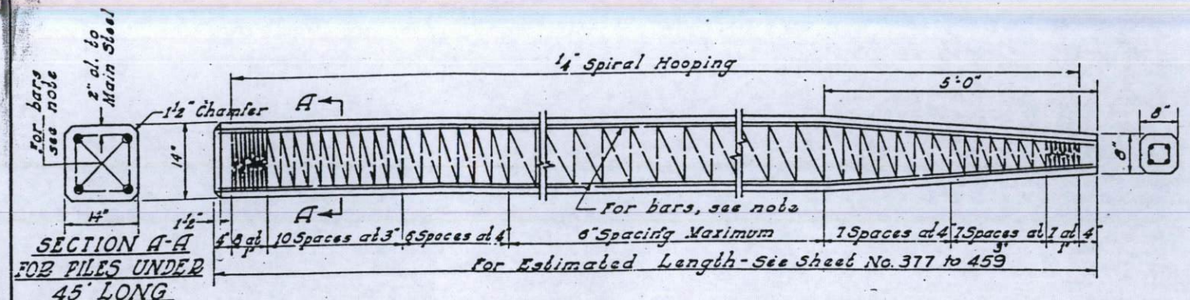
BORING LOGS

F.A.I.RT. 70 ST. CLAIR CO. SECTION 82-3HVB-I

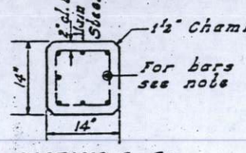
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
518 OF 526

FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HVB-1	ST. CLAIR	207	204
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



SECTION A-A
FOR PILES UNDER 45' LONG

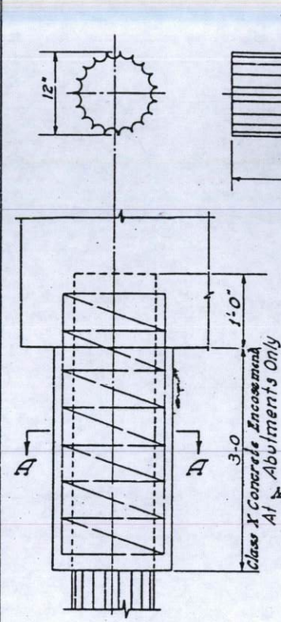


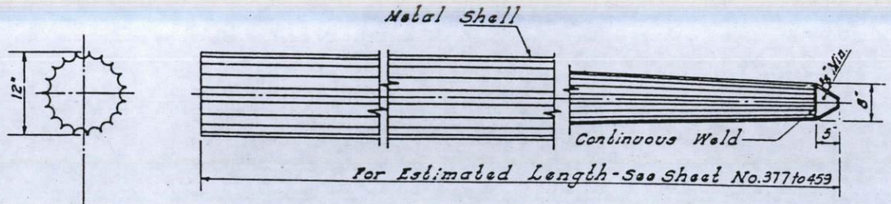
SECTION A-A
FOR PILES 45' OR MORE

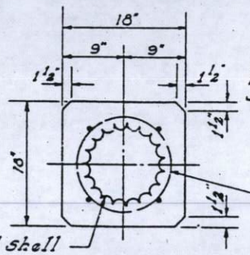
NOTE:-
For 14"x14" Piles 45' long or more use 6-#8 bars -4 for the full length and 4 to the point of bevel. For 14"x14" Piles under 45'-0" long use 4-#9 bars the full length.

HANDLING:- For Pile lengths up to 45 Ft. use 2 slings placed at a distance of 0.21 L* from each end. For Piles longer than 45 Ft., use three slings placed at a distance of 0.12 L* from each end and at mid-point of pile.
*L = Over all length of pile to be handled

DETAIL OF PRECAST CONCRETE PILES

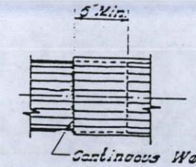






SECTION A-A

Welded wire fabric 6"x6" mesh #4 wire - weight 58 lbs. per 100 sq. ft. 4-#4 Tie Bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of Furnishing Piles. The thickness of the shell shall be .1793 inches with a tolerance of 5%.

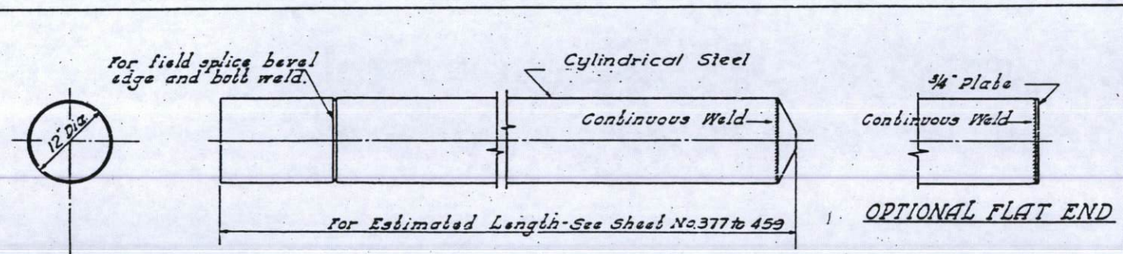


SPLICE TO BE USED AS REQUIRED

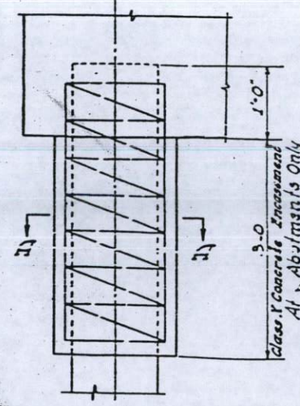
ALLOWABLE TAPERS

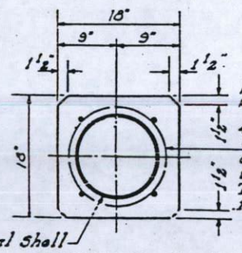
1.- Taper 1"/2'-6" for 10' - 12" Cylindrical Section Extension
2.- Taper 1"/4'-0" for 17' - 12" Cylindrical Section Extension
3.- Taper 1"/7'-0" for 30' - 12" Cylindrical Section Extension

DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONC. PILES.



OPTIONAL FLAT END



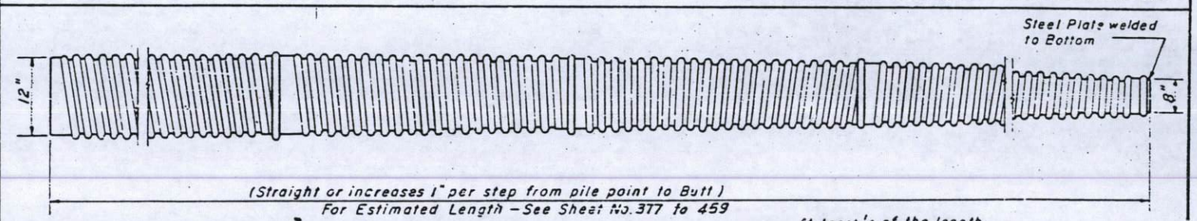


SECTION A-A

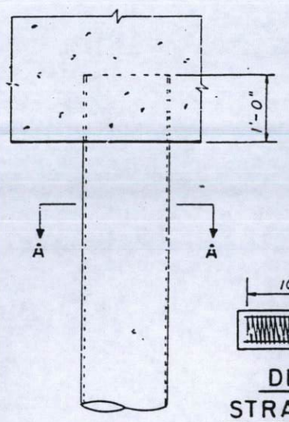
Welded wire fabric 6"x6" mesh #4 wire - weight 58 lbs. per 100 sq. ft. 4-#4 Tie Bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing Piles. The thickness of the shell shall be .1793 inches with a tolerance of 5%

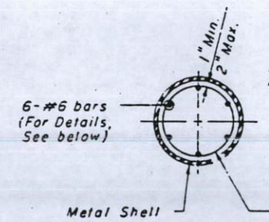
Note:- Driving and Bearing ends of Pipe shall be cut square.

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



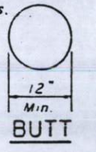
At least ⅓ of the length of pile shall have a Butt diameter equal to or greater than 12".
Gages are furnished to suit soil conditions (14 Gage Min.)



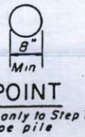


SECTION A-A

Reinforcement is incidental to the cost of furnishing piles.

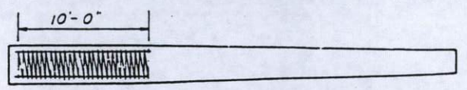


BUTT



POINT

Applies only to Step Taper type pile



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

CONCRETE PILE DETAILS

POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-1

H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 526 OF 526

DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY