

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS  
SEE SHEET NO. 2

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

ST. CLAIR COUNTY  
BRIDGE REPAIRS

C-98-003-75

STATE	REC.	COUNTY	SECTION	PROJECT
ILLINOIS	H	ST. CLAIR	28	I
SECTION 82-3HVB-R				

P-98-085-74



LOCATION OF SECTION INDICATED THUS:—

FOR



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

LOCATION MAP



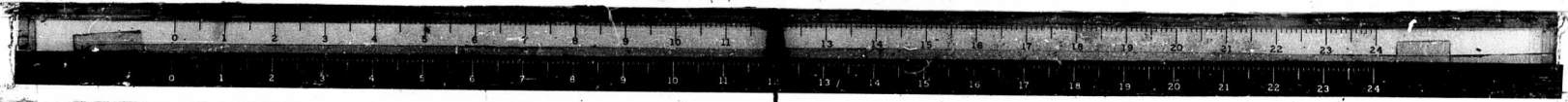
SCALE: 1 INCH = 1600 FEET

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
DESIGNED	1-13-75
SEARCHED	1-14-75
PAIRED	1-16-75
APPROVED	1-16-75
DIRECTOR OF HIGHWAYS	

CONTRACT NO. 30450

REVISED SET 2-25-75

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



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SEC.	COUNTY	APPROX. LENGTH	POST MILES
F.A.I. 70	82	ST. CLAIR	28	1
SECTION 82-3HVB-R				

P-98-085-74

PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

FOR INDEX OF SHEETS  
SEE SHEET NO. 2

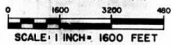
F.A.I. ROUTE 70  
SECTION 82-3HVB-R

ST. CLAIR COUNTY  
BRIDGE REPAIRS

C-98-003-75



LOCATION MAP



CONTRACT NO. 30450

REVISED SET 2-25-75

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

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 1-13-75

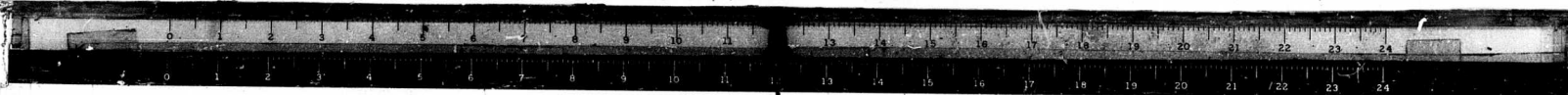
DESIGNED [Signature]

ENGINEER [Signature]

APPROVED [Signature]

DIRECTOR OF HIGHWAYS

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



SUMMARY OF QUANTITIES

ROUTE NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	22-2	ST. CLAIR	20	2
SEE SPECIFICATION NO. 1, GENERAL PROVISIONS				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	153,510
210447	TRAFFIC CONTROL	L SUM	1
X05301	ELASTOMERIC BEARING	EACH	332
X05302	T. F. E. BEAK	EACH	10
X05303	GIRDER END REPAIR	EACH	390
210542	JACKING AND SHORING EXISTING GIRDERS	EACH	353
X05304	PIER COLUMN REPAIR	EACH	19

INDEX OF SHEETS

SHEET NO.	TITLE SHEET
SHEET NO. 1	TITLE SHEET
SHEET NO. 2	SUMMARY OF QUANTITIES, SEQUENCE OF CONSTRUCTION, INDEX OF SHEETS AND LIST OF STANDARDS
SHEET NO. 3 & 4	GENERAL PLAN
SHEET NO. 5	DETAILS OF WEB AND COLUMN REPAIRS
SHEET NO. 6-8	DETAILS OF REPLACEMENT BEARINGS
SHEET NO. 9	DETAILS OF STEEL BEARING
SHEET NO. 10	DETAILS OF BEAM END REPAIRS
SHEET NO. 11-16	TRAFFIC CONTROL, PHASE I
SHEET NO. 17-22 A	TRAFFIC CONTROL, PHASE II
SHEET NO. 23-28 A	TRAFFIC CONTROL, PHASE III AND PHASE IV

STANDARDS: 2298-4  
2299-5  
2300-1

SEQUENCE OF CONSTRUCTION

ROUTE NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	22-2	ST. CLAIR	20	2
SEE SPECIFICATION NO. 1, GENERAL PROVISIONS				

PHASE I

- Step\_1
- (A) Close to traffic  
 (1) Roadway D at Pier M1  
 (2) Ramp N  
 (3) Roadway E at Mississippi Avenue  
 (4) Ramp Q at Pier O1  
 (5) Ramp Q
- (B) Repair  
 (1) Roadway D Pier D1 thru Pier D11  
 (2) Ramp L  
 (3) Ramp O Piers O17 and O18  
 (4) Roadway E
- Step\_2
- (A) Close to traffic  
 Roadway D at Pier D11
- (B) Open to traffic  
 (1) Roadway D at Pier D1  
 (2) Ramp N  
 (3) Roadway E
- Step\_3
- (A) Close to traffic  
 (1) Roadway F at Mississippi Avenue  
 (2) Ramp P  
 (3) Ramp F  
 (4) Roadway H at 4th Street  
 (5) Roadway A, from Piggott Avenue to east side of Pier A21  
 (6) Ramp I  
 (7) Ramp S at Pier G12  
 (8) Roadway D at Tudor Avenue
- (B) Repair  
 (1) Roadway D from Pier D12 to Abutment D46  
 (2) Ramp L  
 (3) Roadway H  
 (4) Roadway F  
 (5) Ramp H from Pier M1 to east side of Pier A5  
 (6) Roadway A from Abutment A46 to east side of Pier A21  
 (7) Ramp I  
 (8) Ramp S from Pier S23 to west side of Pier G12  
 (9) Ramp O from Pier O2 to Pier O16
- Step\_4
- (A) Open to traffic  
 Road D Pier D11 to Abutment D46  
 (2) Ramp Q  
 (3) Roadway H

PHASE II

- Step\_1
- (A) Close to traffic  
 (1) Roadway G at Main Street  
 (2) Ramp R  
 (3) Ramp R  
 (4) Roadway A from Pier A21 to Pier A1
- (B) Remove barricades at Pier O1 and Pier G12
- (C) Repair  
 Roadway A from west side of Pier A5 to Pier A1
- Step\_2
- (A) Open to traffic  
 (1) Roadway F  
 (2) Ramp H  
 (3) Roadway A from Pier A5 to Pier A1  
 (4) Ramp P
- (B) Repair  
 (1) Roadway G from west side of Pier O1 to Abutment G14  
 (2) Ramp R  
 (3) Roadway A from west side Pier A21 to east side Pier A5
- Step\_3
- Open everything done to traffic.

PHASE III

- Step\_1
- (A) Close Roadway B to traffic  
 (B) Repair Roadway B
- Step\_2
- Open Roadway B to traffic.

PHASE IV

- Step\_1
- (A) Close Roadway C to traffic  
 (B) Repair Roadway C
- Step\_2
- Open Roadway C to traffic.

FOR INFORMATION ONLY

S U M M A R Y   O F   Q U A N T I T I E S

PAI-70 825-3  
HUB-R ST. CLAIR 28 2

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	133,510
Z10467	TRAFFIC CONTROL	L. SIGN	1
X05381	ELASTOMERIC BEARING	EACH	332
X05382	T. F. E. BEARING	EACH	10
X05383	GINDER END REPAIR	EACH	390
Z10562	JACKING AND SHORING EXISTING GINDERS	EACH	353
X05384	PIER COLUMN REPAIR	EACH	19

I N D E X   O F   S H E E T S

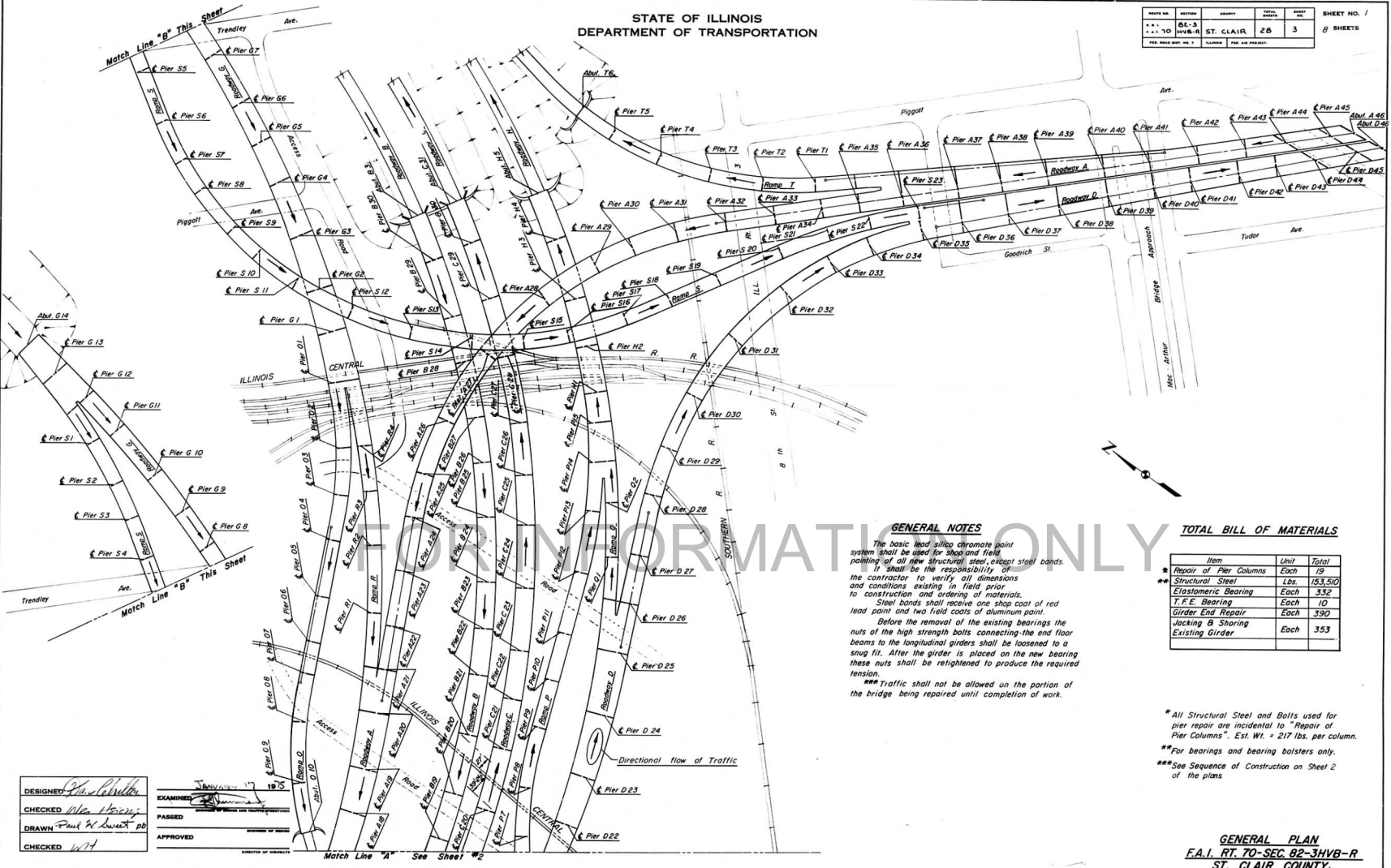
SHEET NO.	TITLE SHEET
1	SUMMARY OF QUANTITIES, SEQUENCE OF CONSTRUCTION, INDEX OF SHEETS AND LIST OF STANDARDS
2	GENERAL PLAN
3 & 4	DETAILS OF WEB AND COLUMN REPAIRS
5, 5A & 5B	DETAILS OF REPLACEMENT BEARINGS
6-8	DETAILS OF STEEL BEARING
9	DETAILS OF BEAM END REPAIRS
10 & 10A	TRAFFIC CONTROL, PHASE I
11-16	TRAFFIC CONTROL, PHASE II
17-22 A	TRAFFIC CONTROL, PHASE III AND PHASE IV
23-28 A	

STANDARDS: 2298-4  
2299-5  
2300-1

INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	APPROX.	TOTAL SHEETS	SHEET NO.	SHEET NO. /
F.A.I. TO	82-3	ST. CLAIR	28	3	8 SHEETS
PER SHEET NO. 1	ILLINOIS	PER JOB PROJECT			



DESIGNED *Paul M. Lewis*  
 CHECKED *Paul M. Lewis*  
 DRAWN *Paul M. Lewis*  
 CHECKED *WT*

EXAMINED *Paul M. Lewis*  
 PASSED  
 APPROVED

**GENERAL NOTES**

The basic lead silico chromate paint system shall be used for shop and field painting of all new structural steel, except steel bands.  
 It shall be the responsibility of the contractor to verify all dimensions and conditions existing in field prior to construction and ordering of materials.  
 Steel bands shall receive one shop coat of red lead paint and two field coats of aluminum paint.  
 Before the removal of the existing bearings the nuts of the high strength bolts connecting the end floor beams to the longitudinal girders shall be loosened to a snug fit. After the girder is placed on the new bearing these nuts shall be retightened to produce the required tension.  
 \*\*\*Traffic shall not be allowed on the portion of the bridge being repaired until completion of work.

**TOTAL BILL OF MATERIALS**

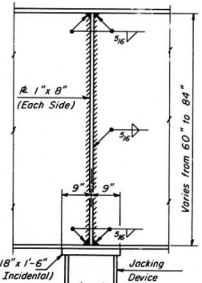
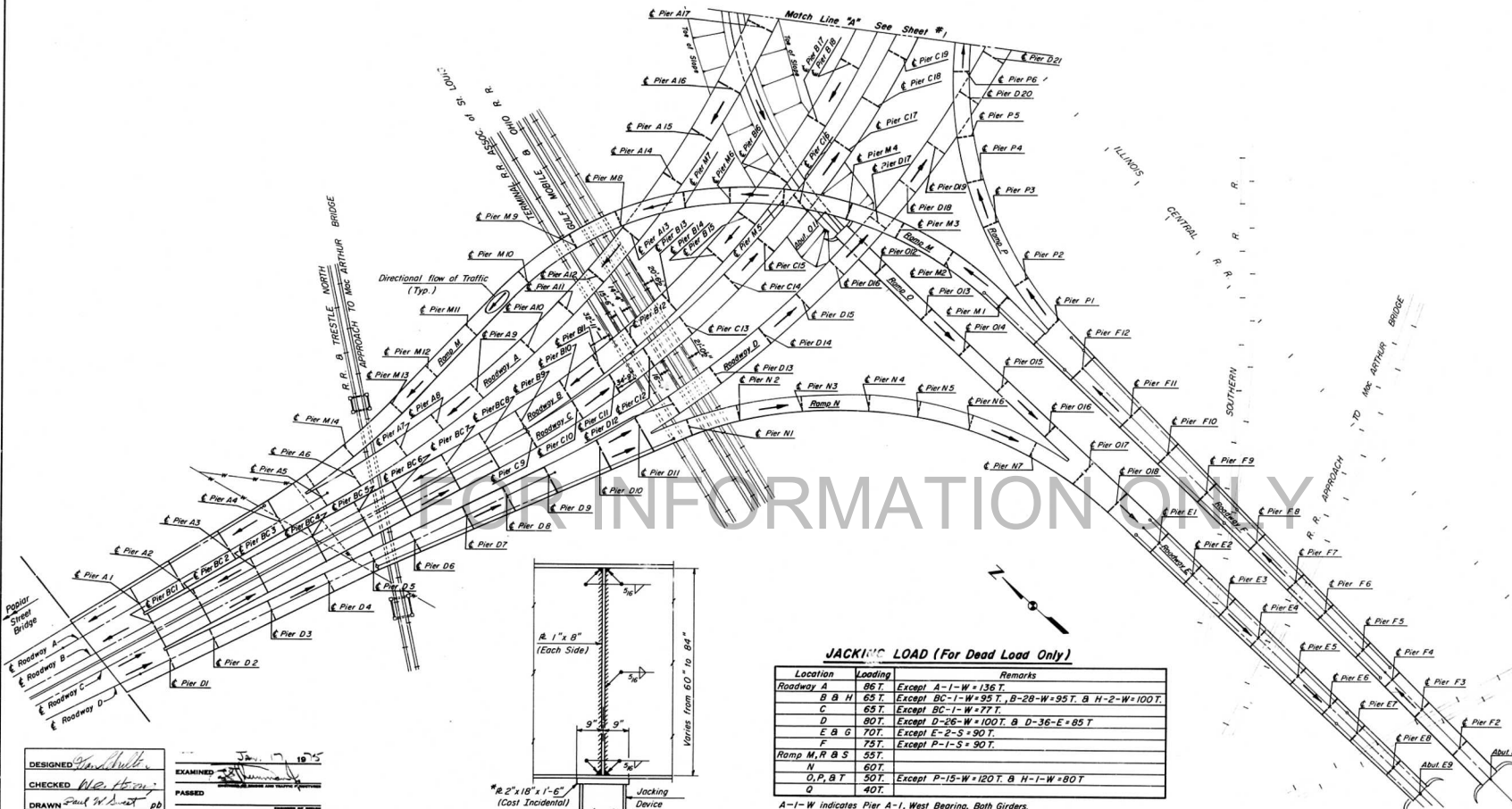
Item	Unit	Total
* Repair of Pier Columns	Each	19
** Structural Steel	Lbs.	153,500
** Elastomeric Bearing	Each	332
T.F.E. Bearing	Each	10
Girder End Repair	Each	590
Jacking & Shoring	Each	353
Existing Girder		

\* All Structural Steel and Bolts used for pier repair are incidental to "Repair of Pier Columns". Est. Wt. = 217 lbs. per column.  
 \*\* For bearings and bearing bolsters only.  
 \*\*\* See Sequence of Construction on Sheet 2 of the plans.

**GENERAL PLAN**  
**F.A.I. RT. 70-SEC. 82-34VB-R**  
**ST. CLAIR COUNTY.**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SECTION NO.	SECTION	SUBJECT	SHEET NO.	SHEET NO.
10	B2-3	ST. CLAIR	28	4
8 SHEETS				



**JACKING LOAD (For Dead Load Only)**

Location	Loading	Remarks
Roadway A	86 T.	Except A-1-W = 136 T.
B B H	65 T.	Except BC-1-W = 95 T., B-28-W = 95 T., B H-2-W = 100 T.
C	65 T.	Except BC-1-W = 77 T.
D	80 T.	Except D-26-W = 100 T. & D-36-E = 85 T.
E B G	70 T.	Except E-2-S = 90 T.
F	75 T.	Except F-1-S = 90 T.
Ramp M, R & S	55 T.	
N	60 T.	
O, P, & T	50 T.	Except P-15-W = 120 T. & H-1-W = 80 T.
Q	40 T.	

A-1-W indicates Pier A-1, West Bearing, Both Girders.

**BEARING STIFFENER AT JACKING POINT**  
Locate jacking point as close to bearing as possible  
\*Use 3" x 18" x 1'-6" R. when loading > 80 T.

**GENERAL PLAN**  
F.A.I. RT. 70-SEC. B2-3HVB-R  
ST. CLAIR COUNTY

DESIGNED *W. H. H. H.*  
CHECKED *W. H. H. H.*  
DRAWN *W. H. H. H.*  
CHECKED *W. H. H. H.*

EXAMINED *W. H. H. H.*  
PASSED *W. H. H. H.*  
APPROVED *W. H. H. H.*

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

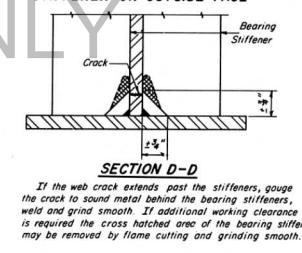
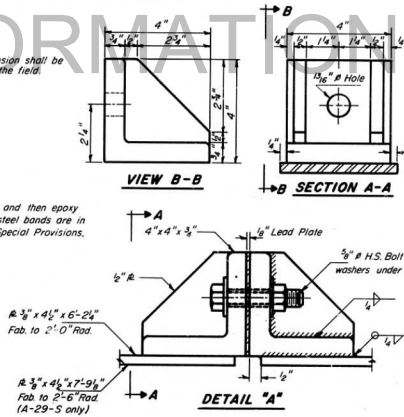
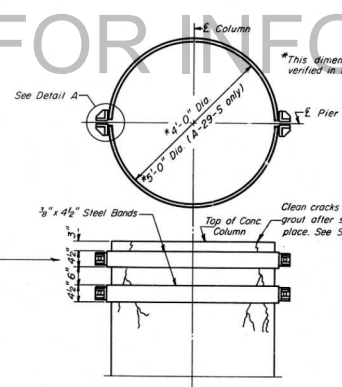
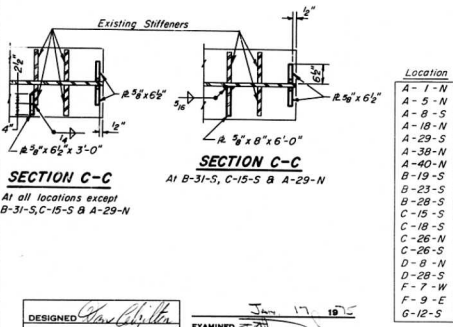
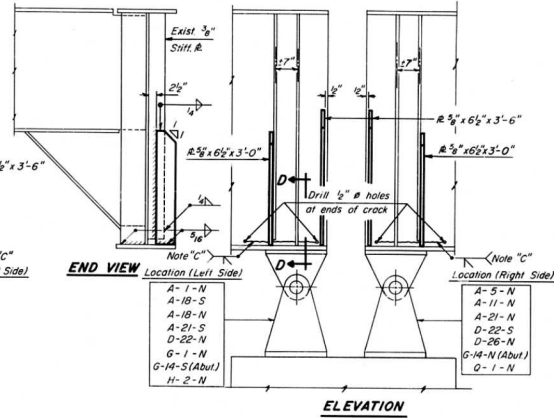
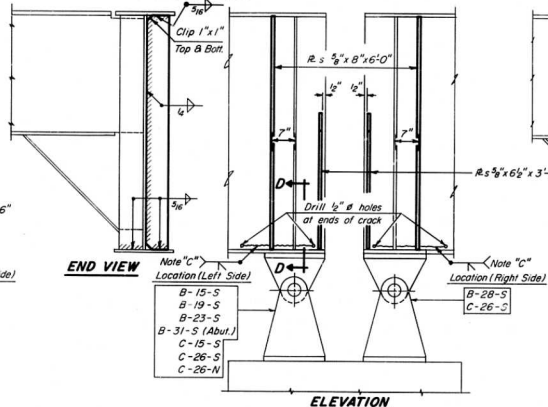
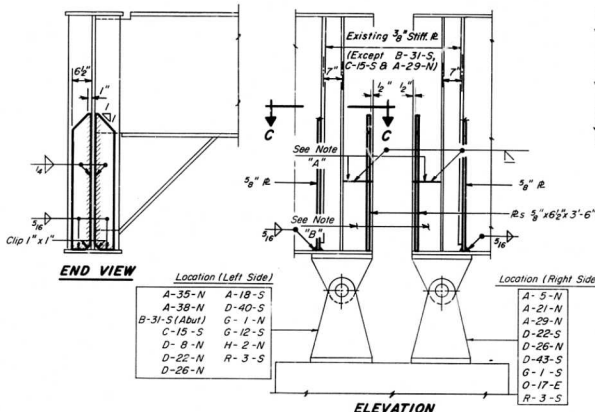
STATE NO.	SECTION	COUNTY	DISTRICT	SHEET
101	82-3	ST. CLAIR	2B	5
PROJECT		ST. CLAIR COUNTY BRIDGE		
DRAWN BY		P. BARNETT		
CHECKED BY		W. H. HENNING		

Note "A"  
The web shall be cut to the face of the existing bearing stiffener just above the buckled area. This shall be done before the buckled area is straightened. After the web is straightened the cut portion shall be welded.

Note "B"  
The buckled web shall be straightened using a continuous pressure applied to both sides of the web simultaneously. Cost incidental to Girder End Repair.

Note "C"  
Back gauge second side to found metal and weld. Grind smooth both sides. If the crack extends into the flange, gauge the cracked flange to sound metal and weld, grind smooth. Cost incidental to Girder End Repair.

Location Designation Examples:  
B-15-S refers to South end of Pier B-15, Looking North.  
C-26-N refers to North end of Pier C-26, Looking South.



**WEB AND COLUMN REPAIRS**  
F.A.I. RT. TO SEC. 82-3 HYB-R  
ST. CLAIR COUNTY

DESIGNED	W. H. HENNING	EXAMINED	W. H. HENNING
CHECKED	W. H. HENNING	PASSED	W. H. HENNING
DRAWN	P. BARNETT	APPROVED	W. H. HENNING
CHECKED	W. H. HENNING		

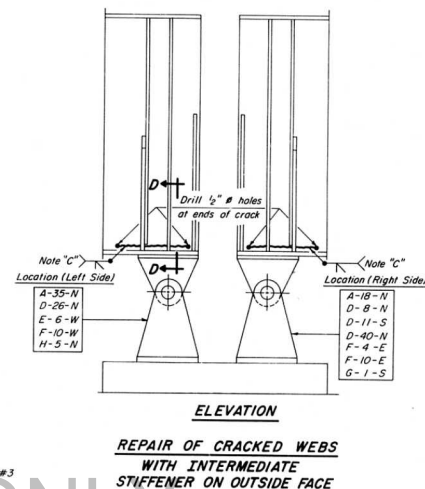
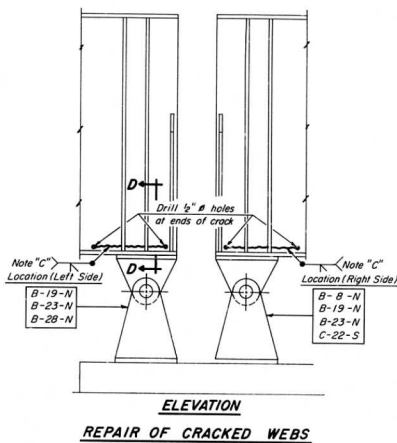
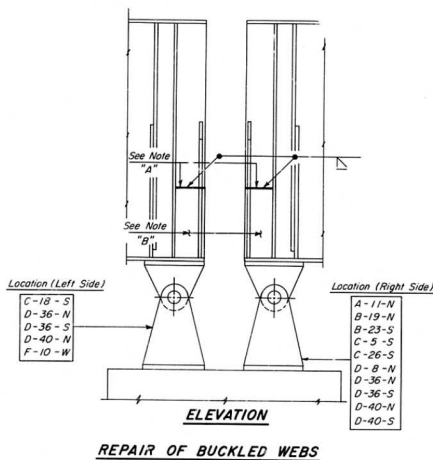
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3A
70	B2-3	ST. CLAIR	28	3A	8 SHEETS
REV. DATE	BY	APPROVED	FOR THE PROJECT		

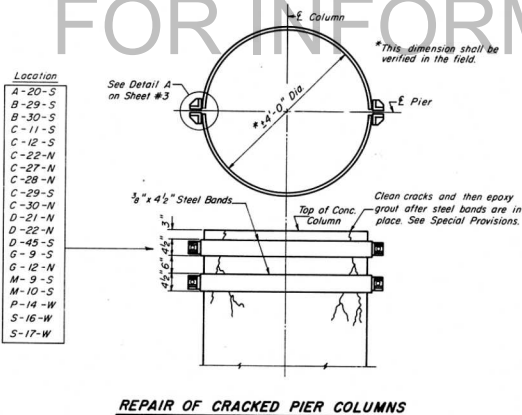
Note "a".  
The web shall be cut to the face of the existing bearing stiffener just above the buckled area. This shall be done before the buckled area is straightened. After the web is straightened the cut portion shall be welded.  
Note "b".  
The buckled web shall be straightened using a continuous pressure applied to both sides of the web simultaneously.

Note "c".  
Back gouge second side to sound metal and weld. Grind smooth both sides. If the crack extends into the flange, gouge the cracked flange to sound metal and weld, grind smooth.

Location Designation Examples:  
C-22-S refers to South end of Pier C-22, Looking North.  
D-26-N refers to North end of Pier D-26, Looking South.



For Section D-D See Sheet #3



DESIGNED	W. H. H. H.	EXAMINED	1975
CHECKED		PASSED	
DRAWN	P. Barnett	APPROVED	
CHECKED			

ADDITIONAL LOCATIONS FOR  
WEB AND COLUMN REPAIRS  
F.A.I. RT. 70 SEC. 82-3 HVB-R  
ST. CLAIR COUNTY



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	QUANTITY	UNIT	PRICE	SHEET NO.	SHEETS
82-3	HYD. R.	ST. CLAIR	ZB	5B	8	8 SHEETS
DATE PREPARED BY	DATE	PRICE PER UNIT				

Note "A"

The web shall be cut to the face of the existing bearing stiffener just above the buckled area. This shall be done before the buckled area is straightened. After the web is straightened the cut portion shall be welded.

Note "B"

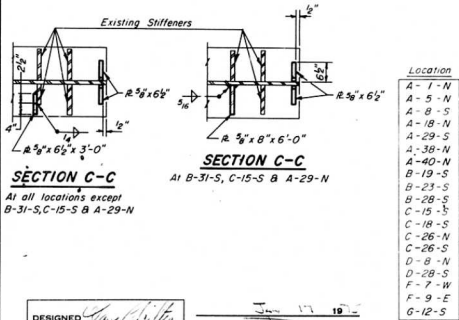
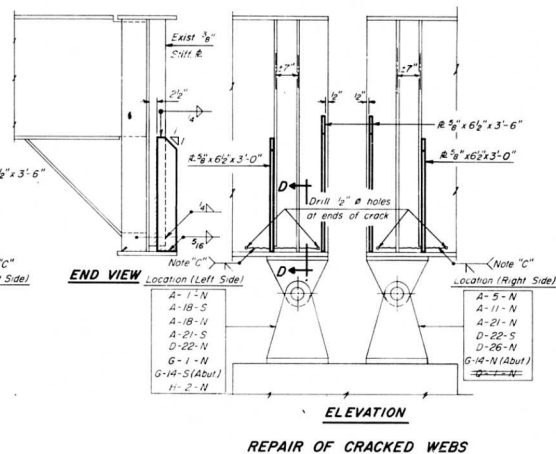
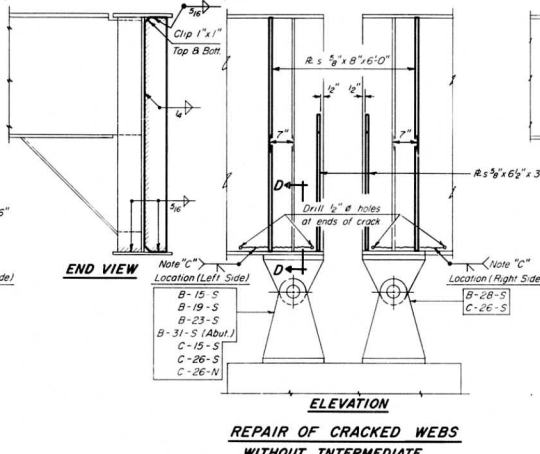
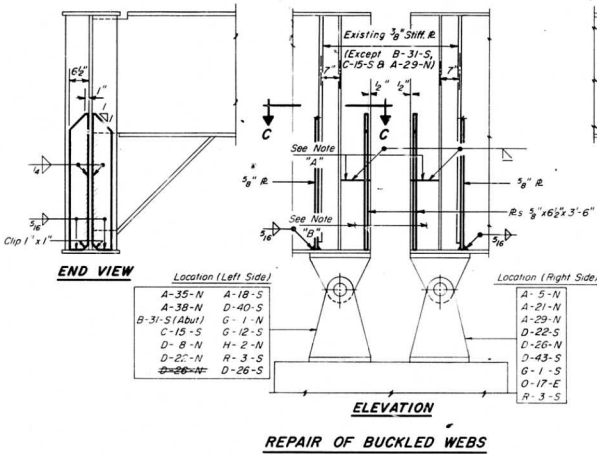
The buckled web shall be straightened using a continuous pressure applied to both sides of the web simultaneously. Cost incidental to Girder End Repair.

Note "C"

Back gouge second side to sound metal and weld. Grind smooth both sides. If the crack extends into the flange, gouge the cracked flange to sound metal and weld, grind smooth. Cost incidental to Girder End Repair.

Location Designation Examples

B-15-S refers to South end of Pier B-15, Locking North.  
C-26-N refers to North end of Pier C-26, Locking South.



FOR INFORMATION ONLY

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN	APPROVED
CHECKED	

AS REVISED 5-6-75  
WEB AND COLUMN REPAIRS  
F.A.I. RT. 70 SEC. 82-3 HYB-R  
ST. CLAIR COUNTY

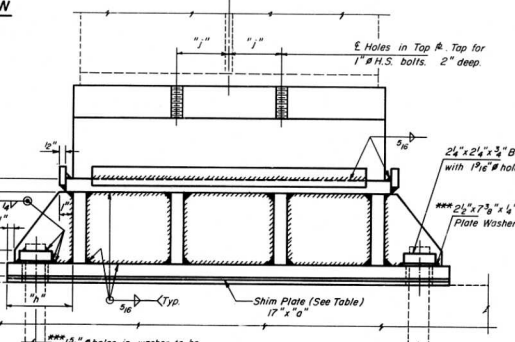
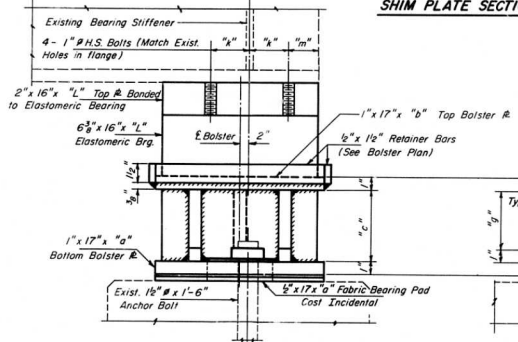
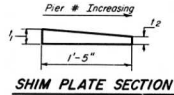


DIMENSIONS OF ELASTOMERIC BEARINGS

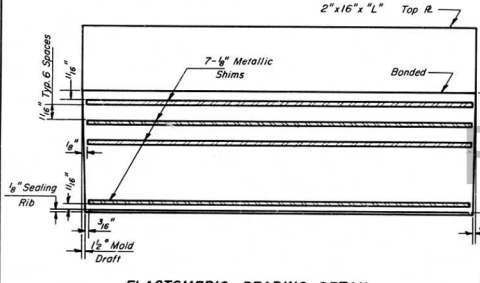
Table with 6 columns: Type, Type II, Type III, Type IV, Type V, No. Req'd. It lists dimensions for various bearing types.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Small header table with columns: SHEET NO. 5, 2 SHEETS, ST. CLAIR, etc.



BEARING ELEVATION

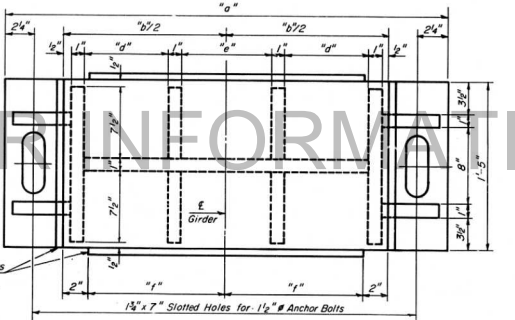


ELASTOMERIC BEARING DETAIL

DIMENSIONS OF BOLSTERS

Table with 10 columns: Type of Bolster, No. Req'd., dimensions a1 through a10.

BOLSTER PLAN



Notes: Bearings to be replaced are at locations given in Table II. Existing Anchor Bolts to be reused. Regout in place where necessary.

TABLE II

Large table with columns: Location, Type of Bolster, Type of Elast. Brg., Shim #, Length of H.S. Bolts. It lists various locations and bearing types for replacement.

TABLE I (CONT.)

Table with columns: Location, Type of Bolster, Type of Elast. Brg., Shim #, Length of H.S. Bolts. It lists additional locations and bearing types.

DESIGNED, CHECKED, DRAWN, APPROVED, and CHECKED signatures and stamps for the project.

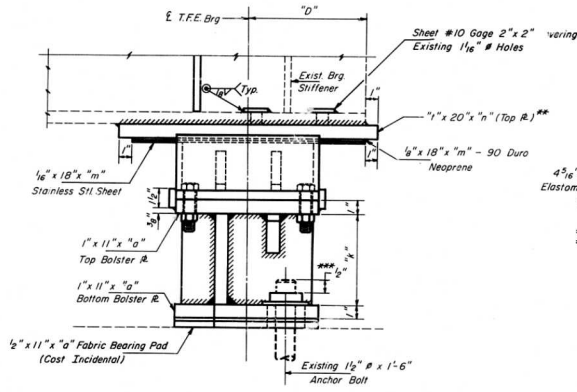
REPLACEMENT BEARINGS

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

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

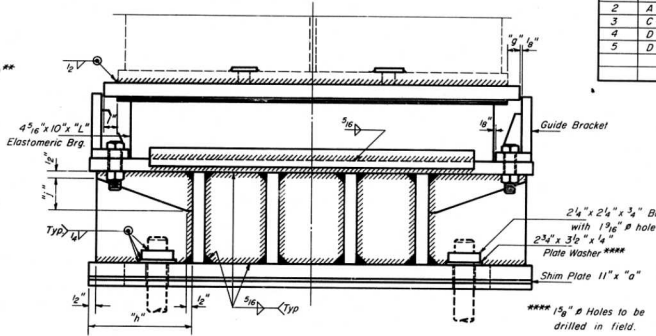
PROJECT NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
66-3	ST. CLAIR	28	8	8
DATE TO BE BUILT	SHEET NO. 8			
FOR ROAD NO. 7	ST. CLAIR COUNTY			

\*\* Cast of this plate together with 90 Duro Neoprene B  $\frac{1}{8}$ " Stainless Steel Sheet is included in the unit bid price for "T.F.E. Bearing".



BEARING ELEVATIONS

\*\*\* Existing Anchor Bolts shall be cut off to provide  $\frac{1}{2}$ " Dimen. above bar.



BOLSTER PLAN

\* Clip bottom bolster plate, shim plate B fabric bearing pad for bearings #3, #4, B #5.

Note:  
If the portion of the bottom flange above the new bearing is bent the flange should be straightened as a continuous pressure applied to both faces of the plate simultaneously before setting up new bearing.

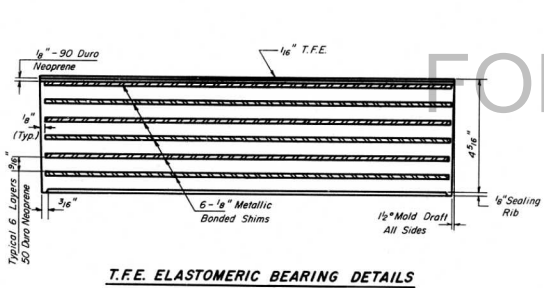
DIMENSIONS OF BOLSTER

Bearing No.	Location	"a"	"b"	"c"	"d"	"e"	"f"	"g"	"h"	"i"	"j"	"k"	"l"	"m"	"n"	"o"
1	A-25-E	2'-10"	5 1/4"	7 1/8"	4 1/2"	5"	12 1/2"	1"	8"	5"	6 3/8"	2'-4"	2'-6"	2'-6"	2'-6"	1 1/2"
2	A-29-E	2'-4"	2 1/4"	3 3/8"	4 1/2"	5"	8"	2 1/2"	5"	4 1/2"	6 3/8"	1'-7"	1'-9"	1'-11"	1 1/2"	
3	C-26-E	2'-10"	5 1/4"	7 1/8"	4 1/2"	5"	12 1/2"	4"	8"	4 1/2"	6 3/8"	2'-4"	2'-6"	2'-6"	2'-6"	2"
4	D-22-E	2'-10"	2 1/4"	3 3/8"	4 1/2"	5"	12 1/2"	4"	8"	4 1/2"	6 3/8"	2'-4"	2'-6"	2'-6"	2'-6"	2"
5	D-28-E	2'-10"	2 1/4"	3 3/8"	4 1/2"	5"	12 1/2"	4"	8"	4 1/2"	6 3/8"	2'-4"	2'-6"	2'-6"	2'-6"	2"

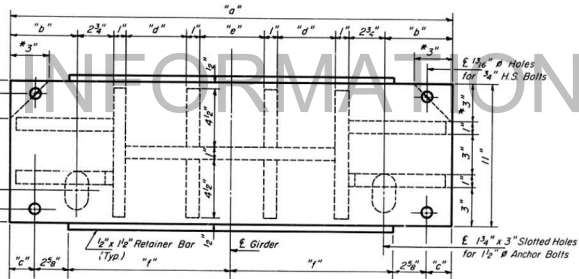
TABLE OF "D" DIMENSIONS

Bearing No.	Location	Temperature		
		30°F	50°F	70°F
1	A-25-E	8 3/8"	9"	9 1/8"
2	A-29-E	8 3/8"	9"	9 1/8"
3	C-26-E	8 1/4"	9"	9 3/4"
4	D-22-E	8 1/8"	9"	9 3/4"
5	D-28-E	8 1/8"	9"	9 3/4"

The location of the T.F.E. bearing shall be determined by the "D" values shown. For temperatures other than those given the location shall be determined by interpolation.



T.F.E. ELASTOMERIC BEARING DETAILS



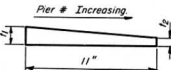
GUIDE BRACKET

Notes:  
Bearings to be replaced are both girders at locations shown in the table.  
A-25-E indicates Pier A-25, East Bearing.  
N indicates North Girder, S indicates South Girder.  
Area between retainer bars and elastomeric bearing to be filled with sealer 1" thick, slope to drain. (Elastomeric Polymer Type Sealer)  
Calculated Weight of Structural Steel = 4,440 lbs.

REPLACEMENT BEARINGS

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

DESIGNED	K. F. ROCKETT	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	P. BARNETT	APPROVED	[Signature]
CHECKED	[Signature]		



SHIM PLATE SECTION

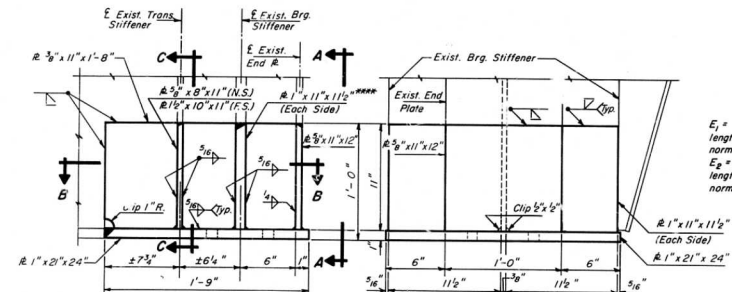
	A-25-E	A-29-E	C-26-E	D-22-E	D-28-E
1	1/8"	7/8"	3/8"	0"	N. S.
1/2	3/8"	1/8"	1/8"	0"	1/8" 5/8"

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO.	SECTION	COUNTY	PROJECT	SHEET NO.
8	BEAR	ST. CLAIR	E 82	7
OF SHEETS 8 SHEETS				

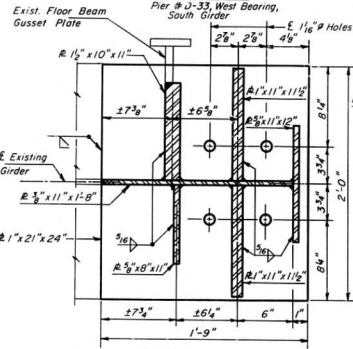
\*\*\*\* Align with existing bearing stiffener before welding.

\*\*\* Use A.A.S.H.O. M188 Steel Except A.A.S.H.O. M-183 Steel may be used for 1/2" Stiffener Plate in rocker.

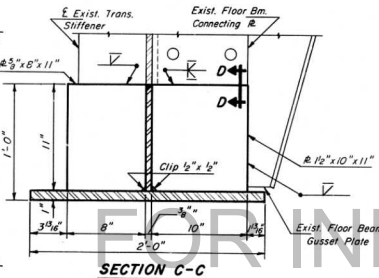


\*ELEVATION

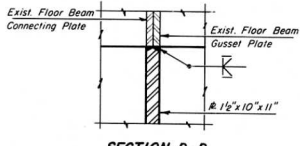
VIEW A-A



SECTION B-B



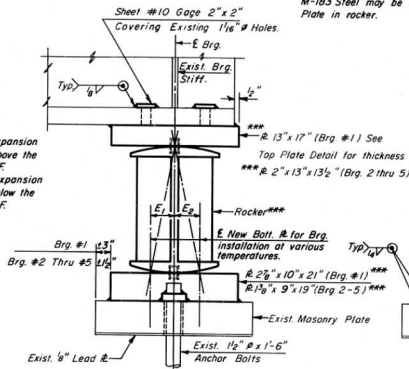
SECTION C-C



SECTION D-D

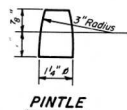
\*Note: Cut out 1'-9" x 1'-0" end section of Existing Girder and replace with new Section as shown in the "Elevation".

$E_1 = 1/8$ " per each 100' of expansion length for every 15° rise above the normal temperature of 50°F.  
 $E_2 = 1/8$ " per each 100' of expansion length for every 15° fall below the normal temperature of 50°F.

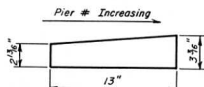


BEARING ELEVATIONS

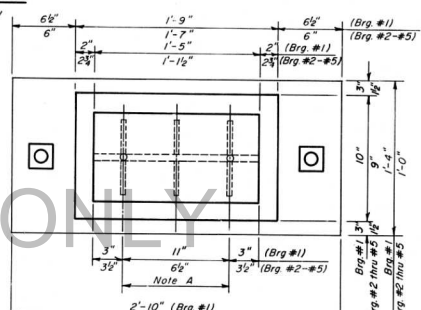
For Locations See Table Below



PINTLE



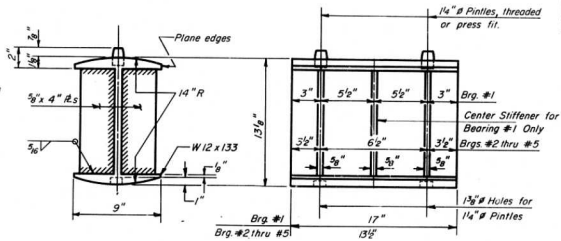
TOP PLATE DETAIL BEARING #1



BEARING PLAN

BEARING LOCATIONS

Bearing No.	Location	Roadway or Ramp	Exp. Length
1	A-1-W	A	118'(2)
2	E-2-S	E	83'(2)
3	H-2-W	H	82'(2)
4	P-15-W	P	86'(2)
5	H-1-W	P	76'(2)



ROCKER

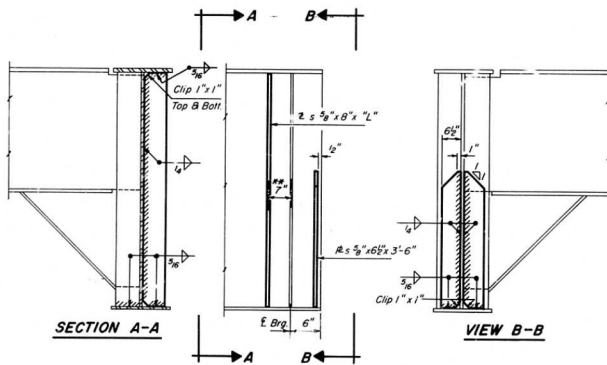
Notes:  
A-1-W indicates Pier A-1, West Bearing, Both Girders.  
Calculated Weight of Structural Steel = 4240 lbs. (Bearing Only)

STEEL BEARING @ D-33-W(S)  
F.A.I. RT. 70 SEC. 82-3HVB-R  
ST. CLAIR COUNTY

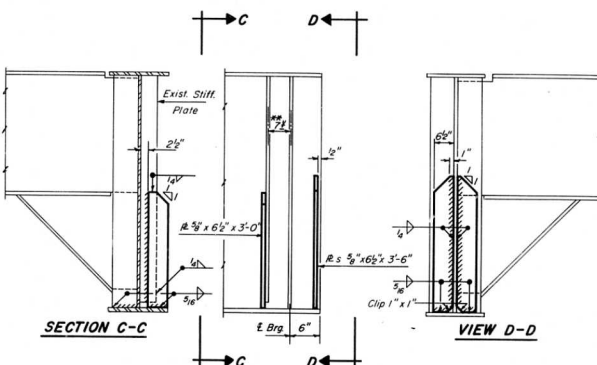
DESIGNED	R. T. WELLS	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	P. Barnett	APPROVED	[Signature]
CHECKED	[Signature]		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

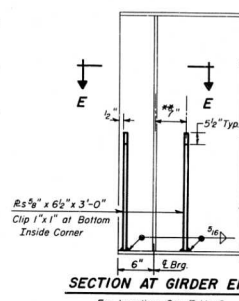
PROJECT NO.	DISTRICT	COUNTY	SHEET NO.	SHEET NO. OF
10	81-3	ST. CLAIR	28	8
DATE	SCALE	DATE	SCALE	DATE
10/18/88	1" = 10'	10/18/88	1" = 10'	10/18/88



**SECTION AT GIRDER END**  
For Locations See Table A



**SECTION AT GIRDER END**  
For Locations See Table B



**SECTION AT GIRDER END**  
For Locations See Table C

\*\*Along E Girder or at Right Angles if on Slew.

**TABLE "A"**

Location	Location	Location	Location
A-1-W(B) 85%	D-22-W(B) 85%	A-18-W(B)	D-18-W(B)
A-11-E(B) 69%	D-43-E(N) 72%	A-9-W(S)	D-19-E(B)
A-12-W(B) 70%	D-44-W(B) 72%	A-5-E(B)	D-21-W(B)
A-25-E(B) 66%	D-44-E(B) 67%	A-9-W(B)	D-26-W(S)
A-29-W(S) 66%	D-45-W(B) 69%	A-8-E(B)	D-26-E(S)
A-44-E(B) 70%	D-45-E(B) 69%	A-11-W(S)	D-28-W(S)
A-45-W(B) 69%	E-2-S(B) 64%	A-12-E(B)	D-29-E(B)
A-45-E(B) 66%	E-3-N(B) 82%	A-15-W(B)	D-33-W(N)
BC-1-W(B) 72%	H-1-E(B) 63%	A-16-E(B)	D-33-E(B)
BC-1-E(B) 72%	H-2-W(B) 89%	A-18-W(N)	D-36-W(B)
BC-2-W(B) 72%	M-3-N(B) 60%	A-18-E(S)	D-36-E(B)
BC-6-E(B) 72%	M-6-E(B) 60%	A-21-E(B)	D-40-W(N)
B-15-W(N) 72%	D-11-E(N) 89%	A-25-W(B)	D-40-E(B)
B-15-E(B) 72%	D-11-E(S) 89%	A-29-E(B)	D-43-W(B)
B-19-W(N) 72%	N-1-W(N) 85%	A-35-W(B)	O-17-S(B)
B-19-E(B) 72%	N-1-W(S) 89%	A-35-E(S)	E-2-N(B)
B-23-W(N) 72%	D-6-W(S) 66%	A-38-E(S)	E-3-S(B)
B-23-E(B) 72%	D-6-W(N) 66%	A-41-W(B)	E-6-N(B)
B-28-W(B) 69%	D-7-E(B) 68%	A-41-E(B)	E-6-S(B)
B-28-E(B) 72%	*P-14-E(B) 70%	A-43-W(B)	E-9-Abut(B)
BC-1-W(B) 72%	*P-15-W(B) 64%	A-43-E(B)	F-1-Abut(B)
BC-1-E(B) 72%	*P-15-E(B) 66%	A-44-W(B)	F-4-S(B)
BC-8-W(B) 72%	*H-1-W(S) 63%	D-1-E(B)	F-4-N(B)
BC-9-E(B) 72%	S-10-S(B) 60%	D-5-W(B)	F-7-W(B)
C-15-W(N) 72%	S-15-N(B) 60%	D-5-E(B)	F-7-N(B)
C-15-E(B) 72%	*D-12-Abut(B)	D-8-W(B)	F-10-S(B)
C-22-W(B) 72%	*D-11-Abut(B)	D-8-E(S)	F-10-N(B)
C-22-E(B) 72%	O-14-N(B)	D-11-W(B)	P-1-S(B)
C-26-W(N) 72%	A-35-N(B)	D-12-E(B)	G-5-S(B)
D-1-W(B) 82%	T-6-Abut(B)	D-12-E(S)	G-5-N(B)
D-11-E(N) 85%		D-15-E(B)	
D-11-E(S) 81%			
*D-12-W(N) 70%			
*D-12-W(S) 70%			
*D-21-E(B) 82%			

Note:  
A-1-W(B) indicates Pier A-1, West Bearing, Both Girders.  
A-29-W(S) indicates Pier A-29, West Bearing, South Girder.

DESIGNED	W.H.H.	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	P. Barnett	APPROVED	[Signature]
CHECKED	[Signature]		

\*Jacking & Shoring are not required (Total 37 Locations)

**TABLE "B"**

Location	Location	Location	Location
A-1-E(S)	D-18-W(B)	G-9-S(B)	P-4-S(B)
A-9-W(S)	D-19-E(B)	G-9-W(B)	P-4-N(B)
A-5-E(B)	D-21-W(B)	G-12-S(E)	P-7-W(B)
A-9-W(B)	D-26-W(S)	M-2-E(S)	P-7-E(B)
A-8-E(B)	D-26-E(S)	H-5-Abut(B)	P-10-W(B)
A-11-W(S)	D-28-W(S)	H-10-E(S)	P-14-W(B)
A-12-E(B)	D-29-E(B)	M-3-S(B)	D-26-E(B)
A-15-W(B)	D-33-W(N)	M-6-W(B)	P-14-W(B)
A-16-E(B)	D-33-E(B)	M-9-E(B)	A-21-E(B)
A-18-W(N)	D-36-W(B)	M-9-W(B)	R-3-W(N)
A-18-E(S)	D-36-E(B)	M-12-E(B)	R-3-E(N)
A-21-E(B)	D-40-W(N)	M-12-W(B)	G-1-W(B)
A-25-W(B)	D-40-E(B)	A-5-E(B)	G-12-S(B)
A-29-E(B)	D-43-W(B)		S-3-N(B)
A-35-W(B)	O-17-S(B)		S-3-S(B)
A-35-E(S)	E-2-N(B)		S-7-N(B)
A-38-E(S)	E-3-S(B)		S-7-S(B)
A-41-W(B)	E-6-N(B)		S-10-N(B)
A-41-E(B)	E-6-S(B)		S-10-S(B)
A-43-W(B)	E-9-Abut(B)		S-18-W(B)
A-43-E(B)	F-1-Abut(B)		S-18-E(B)
A-44-W(B)	F-4-S(B)		S-21-W(B)
D-1-E(B)	F-4-N(B)		S-21-E(B)
D-5-W(B)	F-7-W(B)		O-14-N(B)
D-5-E(B)	F-7-N(B)		D-36-W(B)
D-8-W(B)	F-10-S(B)		
D-8-E(S)	F-10-N(B)		
D-11-W(B)	P-1-S(B)		
D-12-E(B)	G-5-S(B)		
D-12-E(S)	G-5-N(B)		
D-15-E(B)			

**SECTION E-E**

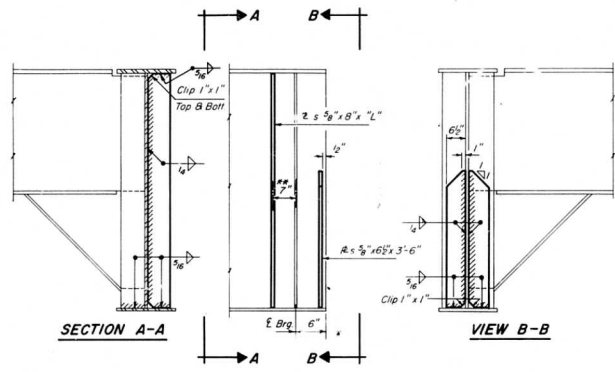
**TABLE "C"**

Location
BC-5-W(B)
BC-5-E(B)
BC-11-W(B)
BC-11-E(B)
*B-12-W(B)
R-3-W(N)
B-12-E(B)
B-27-E(B)
*B-31-Abut(N)
BC-5-W(B)
BC-5-E(B)
C-11-W(B)
C-11-E(B)
*C-12-W(B)
C-12-E(B)
C-18-W(B)
C-18-E(B)
C-31-Abut(B)

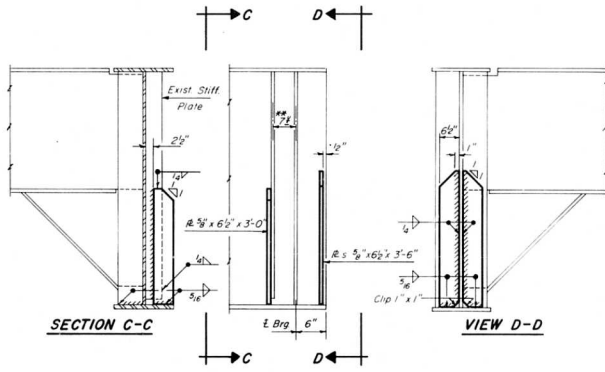
**BEAM END REPAIRS**

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

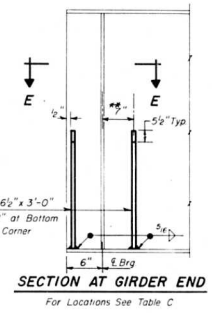
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SECTION AT GIRDER END  
For Locations See Table A



SECTION AT GIRDER END  
For Locations See Table B



SECTION AT GIRDER END  
For Locations See Table C

\*\*Along E Girder or at Right Angles if on Skew

TABLE "A"

Location	"L"	Location	"L"
A-1-W(B)	82%	D-22-W(B)	85%
A-11-E(B)	69%	D-43-E(N)	72%
A-12-W(B)	70%	D-44-W(B)	72%
A-25-E(B)	66%	D-44-E(B)	67%
A-29-W(S)	66%	D-45-W(D)	69%
A-34-E(B)	70%	D-45-E(B)	69%
A-45-W(B)	65%	E-2-S(B)	84%
A-45-E(B)	66%	E-3-N(B)	82%
BC-1-W(B)	72%	M-3-N(B)	60%
BC-1-E(B)	72%	M-6-W(B)	60%
BC-8-W(B)	72%	M-9-E(B)	63%
BC-8-E(B)	72%	M-9-W(B)	89%
B-15-W(N)	72%	D-11-E(N)	89%
B-15-E(B)	72%	D-11-E(S)	89%
B-19-W(N)	72%	N-1-W(N)	85%
B-19-E(B)	72%	N-1-W(S)	85%
B-23-W(N)	72%	N-1-E(N)	89%
B-23-E(B)	72%	N-5-N(B)	60%
B-28-W(B)	69%	N-5-S(B)	60%
B-28-E(B)	72%	N-5-N(B)	60%
BC-1-W(B)	72%	N-5-S(B)	60%
BC-1-E(B)	72%	O-6-W(S)	66%
BC-8-W(B)	72%	O-6-W(N)	66%
BC-8-E(B)	72%	O-7-E(B)	66%
C-15-W(N)	72%	P-15-W(B)	64%
C-15-E(B)	72%	P-15-E(N)	66%
C-22-W(B)	72%	P-15-E(S)	66%
C-22-E(B)	72%	N-1-W(N)	63%
C-26-W(N)	72%	H-1-W(S)	63%
D-1-W(B)	82%	S-10-S(B)	60%
D-11-E(N)	85%	S-15-N(B)	60%
D-11-E(S)	85%		
D-12-W(N)	70%		
D-12-E(S)	70%		
D-21-E(B)	82%		

TABLE "B"

Location	Location	Location	Location
D-28-W(B)	D-26-E(B)	G-9-S(B)	P-1-N(B)
D-1-E(S)	D-10-W(B)	G-9-N(B)	P-4-S(B)
D-5-W(S)	D-21-W(B)	G-12-S(E)	P-4-N(B)
D-5-E(B)	D-21-W(B)	H-5-Abut(B)	P-7-W(B)
D-8-W(B)	D-29-E(B)	M-2-E(S)	P-7-E(B)
D-8-E(B)	D-29-E(B)	M-9-W(B)	P-10-W(B)
D-12-E(B)	D-33-W(N)	M-9-E(B)	P-10-E(B)
D-15-W(B)	D-33-W(N)	M-12-E(B)	P-14-W(B)
D-15-E(B)	D-33-E(B)	M-3-S(B)	
D-18-W(N)	D-36-W(B)	M-6-W(B)	D-26-E(B)
D-18-E(S)	D-36-E(B)	M-9-E(B)	D-14-W(B)
D-21-E(B)	D-40-W(N)	M-9-W(B)	D-21-E(N)
D-25-W(B)	D-40-E(B)	M-12-E(B)	R-3-W(N)
D-29-E(B)	D-43-W(B)	M-12-W(B)	R-3-E(N)
D-35-E(S)	D-43-W(B)	A-5-E(B)	G-1-W(B)
D-17-S(B)	E-2-N(B)	N-1-E(B)	G-12-S(B)
E-2-N(B)	E-3-S(B)	N-5-N(B)	S-3-N(B)
A-38-E(S)	E-6-N(B)	N-5-S(B)	S-3-S(B)
A-41-W(B)	E-6-S(B)	O-17-N(B)	S-7-N(S)
A-41-E(B)	E-9-Abut(B)	O-1-W(B)	S-7-S(B)
A-43-W(B)	F-1-Abut(B)	O-3-E(B)	S-10-N(B)
A-43-E(B)	F-4-S(B)	O-3-W(B)	S-15-S(B)
A-44-W(B)	F-4-N(B)	O-6-E(B)	S-18-W(B)
F-4-N(B)	F-7-S(B)	O-7-W(B)	S-18-E(B)
F-7-S(B)	F-7-N(B)	O-10-Abut(B)	S-21-W(B)
F-7-N(B)	F-10-S(B)	O-11-Abut(B)	S-21-E(B)
F-10-S(B)	F-10-N(B)	O-14-N(B)	D-36-W(B)
F-10-N(B)	F-11-S(B)	O-17-N(W)	A-35-N(B)
F-11-S(B)	G-5-S(B)	G-5-N(B)	T-6-Abut(B)
G-5-S(B)	G-5-N(B)		

TABLE "C"

Location
BC-5-W(B)
BC-5-E(B)
B-11-W(B)
B-11-E(B)
B-12-W(B)
B-12-E(B)
B-27-W(B)
B-27-E(B)
B-31-Abut(N)
G-1-W(B)
G-1-E(B)
G-12-S(B)
G-12-E(B)
G-11-W(B)
G-11-E(B)
C-12-W(B)
C-12-E(B)
C-18-W(B)
C-18-E(B)
C-31-Abut(N)

AS REVISED 5-6-75  
BEAM END REPAIRS  
F.A.I. RT. 70 SEC 82-3 HVB-R  
ST. CLAIR COUNTY

Note:  
A-1-W(B) indicates Pier A-1, West Bearing, Both Girders.  
A-29-W(S) indicates Pier A-29, West Bearing, South Girder.

DESIGNED: P. Barnett  
CHECKED: P. Barnett  
DRAWN: P. Barnett  
CHECKED: P. Barnett

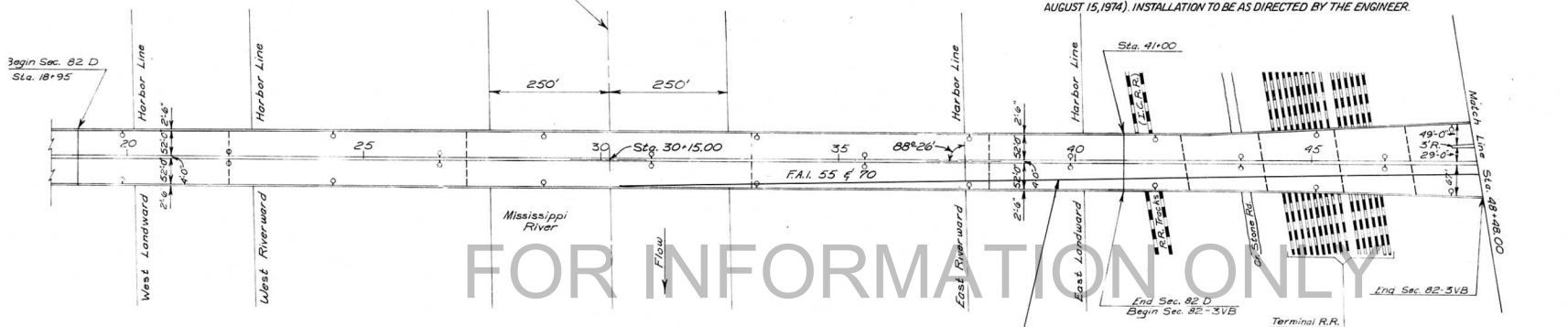
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PASSED: [Signature]  
APPROVED: [Signature]

\*Jacking & Shoring are not required (Total 37 Locations)

ROUTE NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
82		ST. CLAIR	26	11
FAI TO BIVE-R				
PER ROAD DIST. NO. 7				
SCHEDULE PROJECT				



ALL ADVANCE WARNING SIGNS AND APPURTENANCES FOR ROAD CLOSURES ON THIS CONTRACT WILL BE FURNISHED AND MAINTAINED BY STATE FORCES.  
 ALL TYPE III BARRICADES SHALL HAVE FLASHING LIGHTS AND SHALL CONFORM TO THE SPECIAL PROVISION FOR TRAFFIC CONTROL STANDARDS (EFFECTIVE AUGUST 15, 1974). INSTALLATION TO BE AS DIRECTED BY THE ENGINEER.

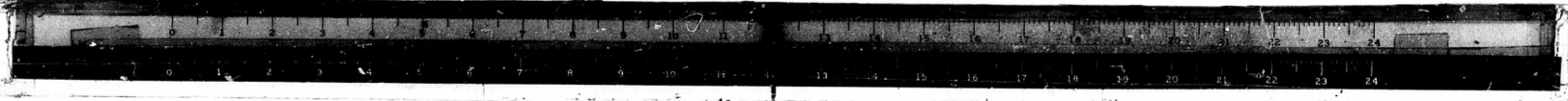


FOR INFORMATION ONLY

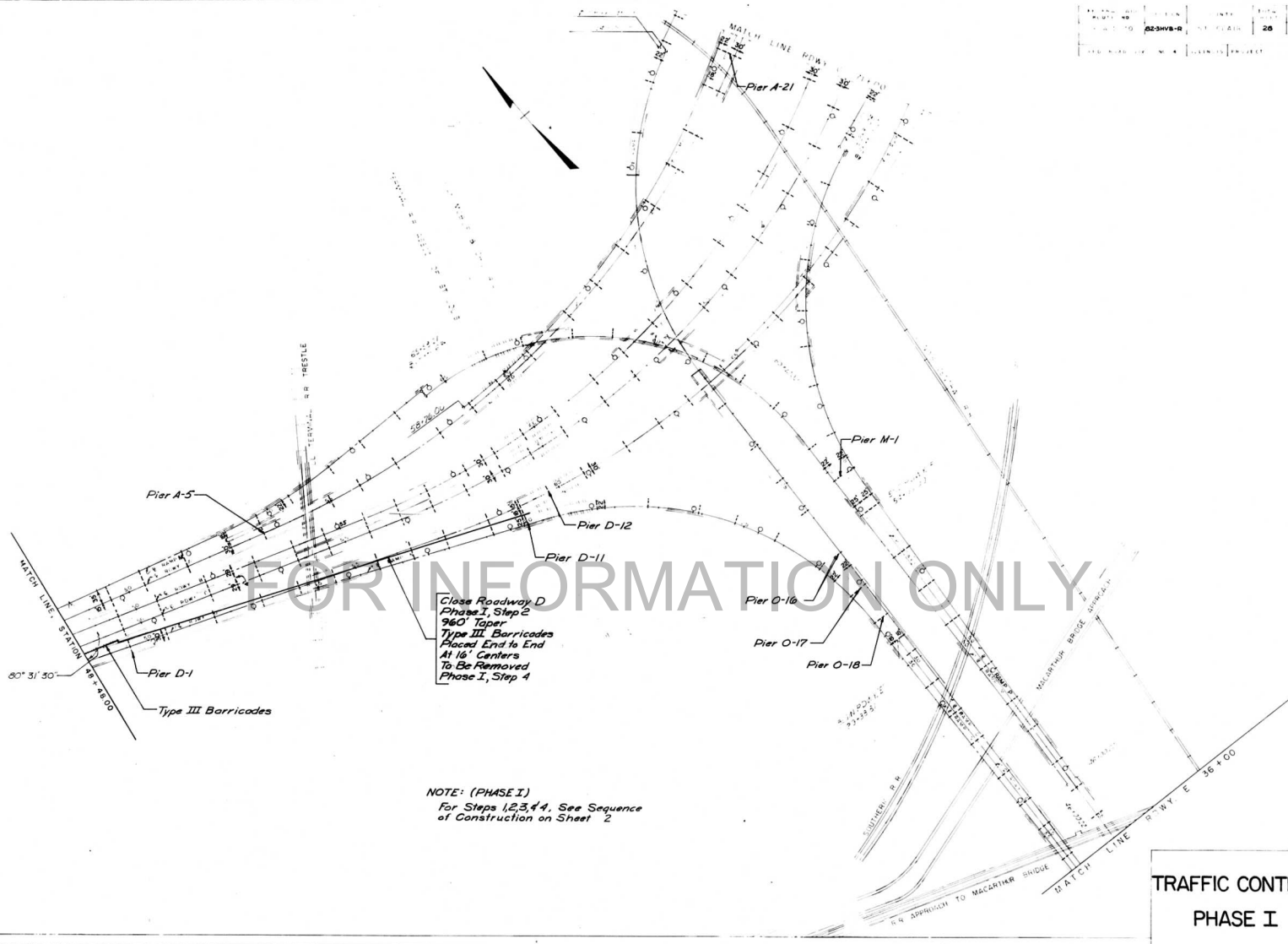
Close Roadway D  
 Phase I, Step 1  
 1900' Taper  
 Type III Barricades  
 Placed End to End  
 of 1/2' Centers.  
 To Be Removed  
 Phase I, Step 2

NOTE: (PHASE I)  
 For Steps 1, 2, 3, 4, See Sequence  
 of Construction on Sheet 2

TRAFFIC CONTROL  
 PHASE I

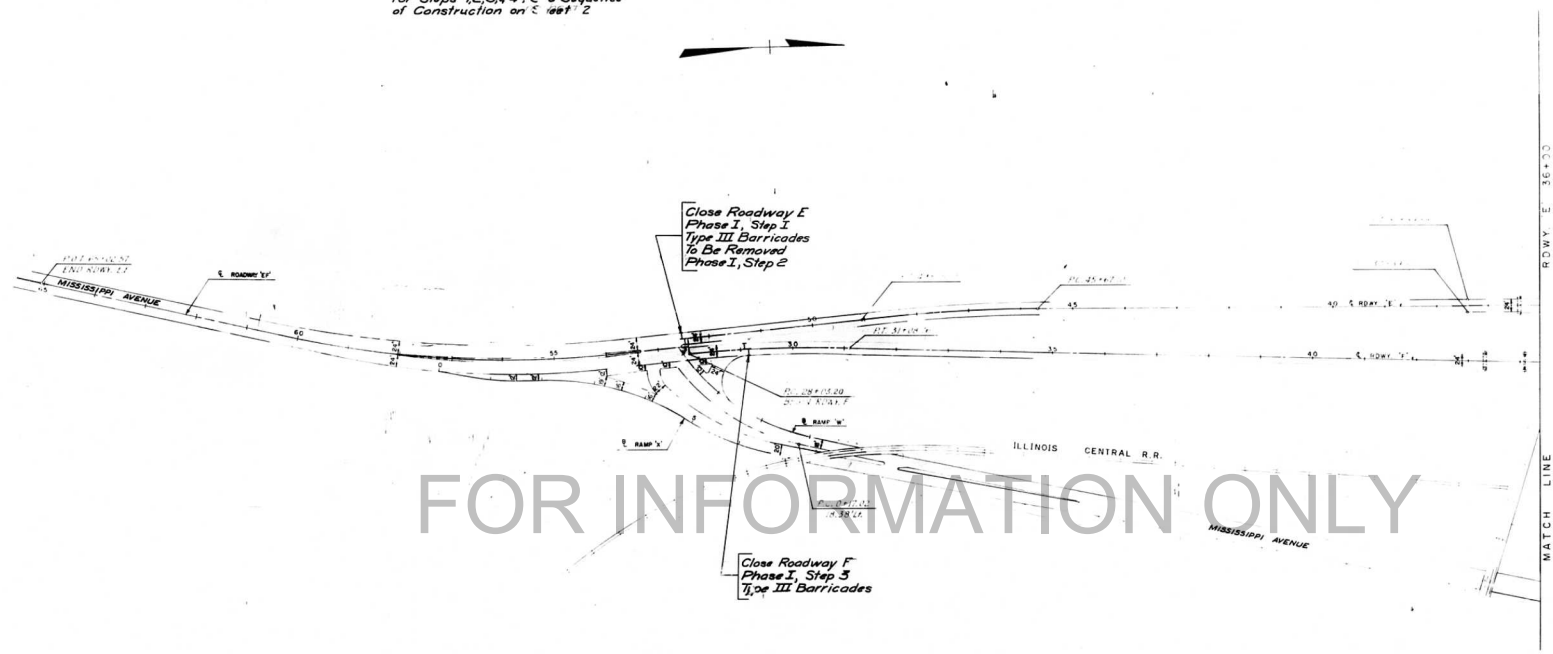






FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
151 70	52-SHVB-R	ST. CLAIR	26	15
FED. ROAD DIV. NO. 4	ILLINOIS PROJECT			

NOTE: (PHASE I)  
 For Steps 1,2,3,4,5 = Sequence  
 of Construction on East 2



FOR INFORMATION ONLY

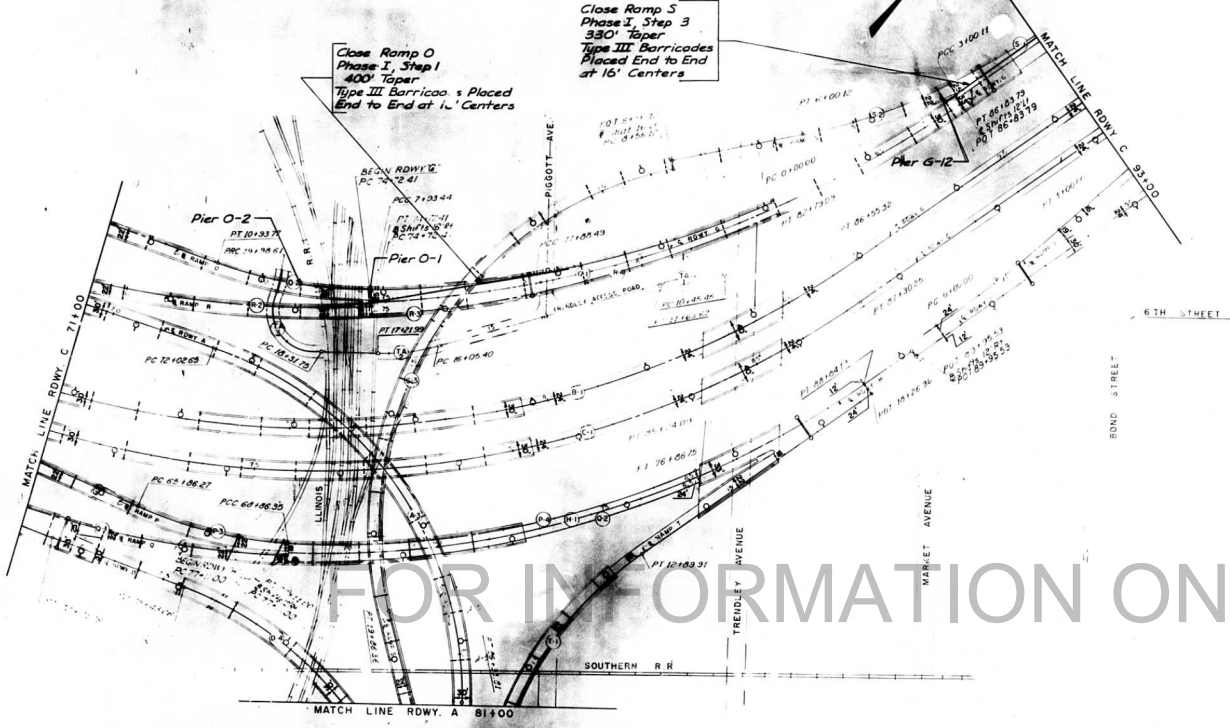
TRAFFIC CONTROL  
 PHASE I

FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEET NO.
F.A.I. 70	B-2348-R	ST. CLAIR	26
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT			14

NOTE: (PHASE I)  
For Steps 1,2,3&4, See Sequence  
of Construction on Sheet 2

Close Ramp O  
Phase I, Step 1  
400' Taper  
Type III Barricades Placed  
End to End at 16' Centers

Close Ramp S  
Phase I, Step 3  
330' Taper  
Type III Barricades  
Placed End to End  
at 16' Centers



FOR INFORMATION ONLY

TRAFFIC CONTROL  
PHASE I



FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-SHWB-R	ILLINOIS	28	15
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				

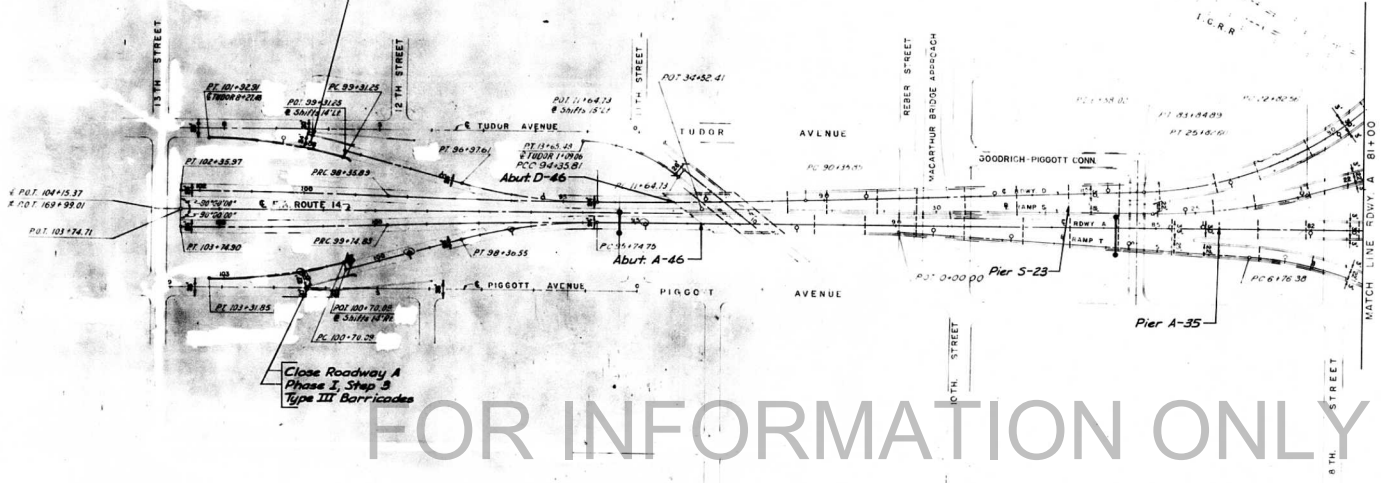
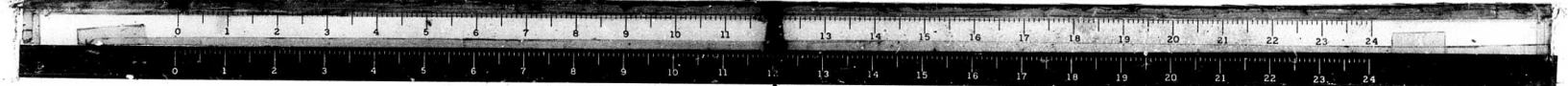
Close Roadway D  
Phase I, Step 3  
Type III Barricades  
To Be Removed  
Phase I, Step 4.

Close Roadway A  
Phase I, Step 5  
Type III Barricades

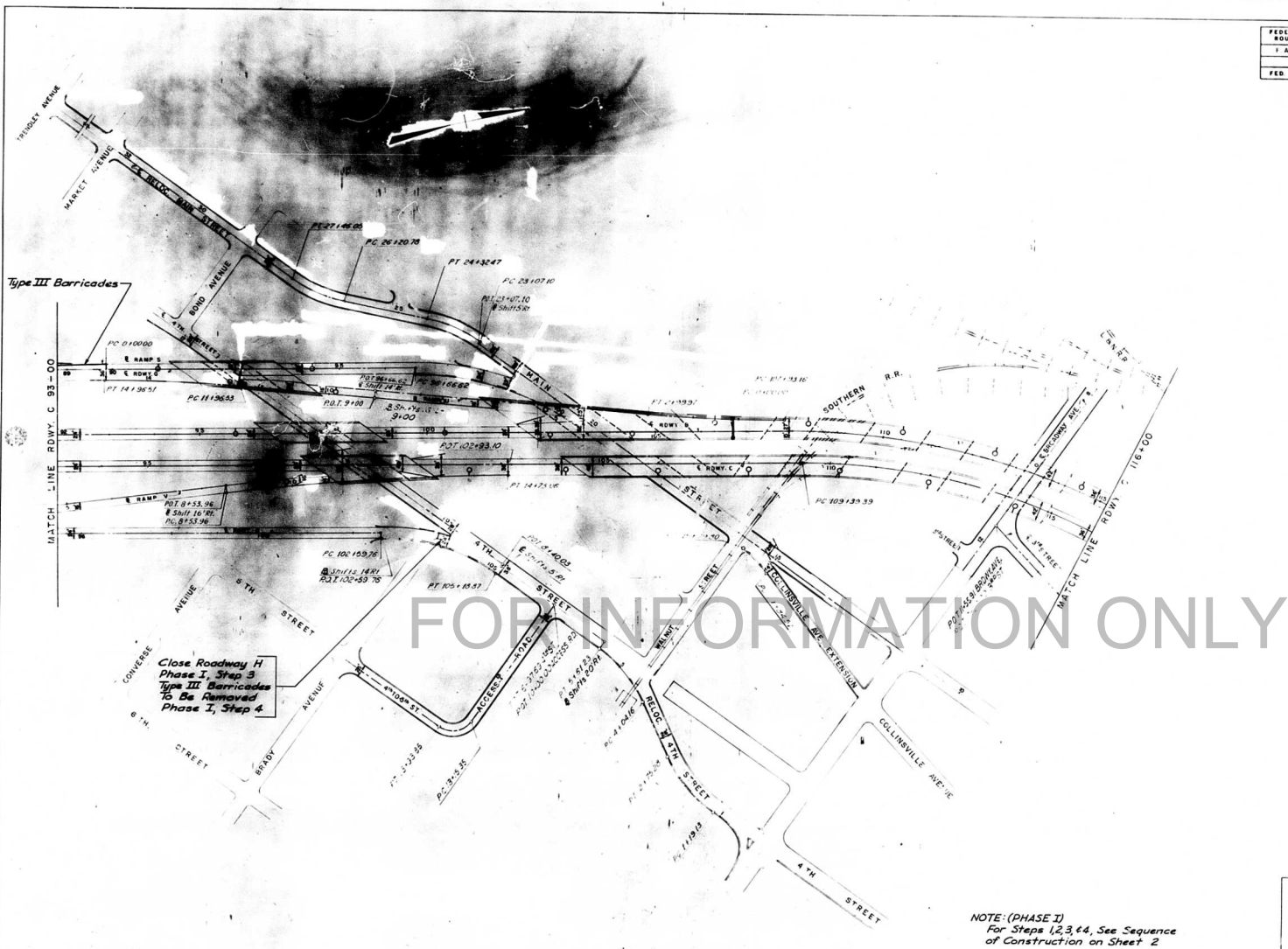
NOTE: (PHASE I)  
For Steps 1, 2, 3 & 4, See Sequence  
of Construction on Sheet 2

FOR INFORMATION ONLY

TRAFFIC CONTROL  
PHASE I

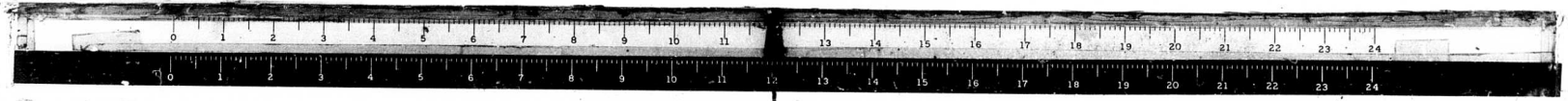


FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A I 70	20-SHVA-R	ST. CLAIR	26	16
FED. ROAD DIV. NO. 4	ILLINOIS PROJECT			

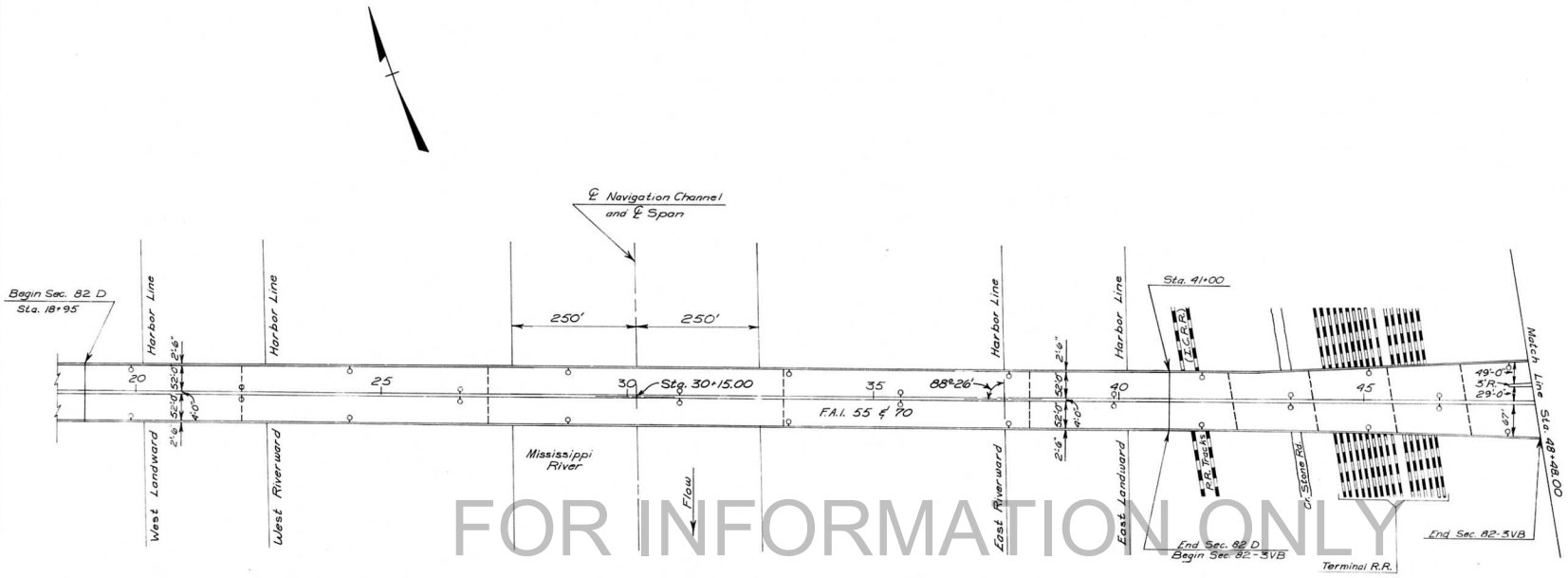


NOTE: (PHASE I)  
For Steps 1, 2, 3 & 4, See Sequence  
of Construction on Sheet 2

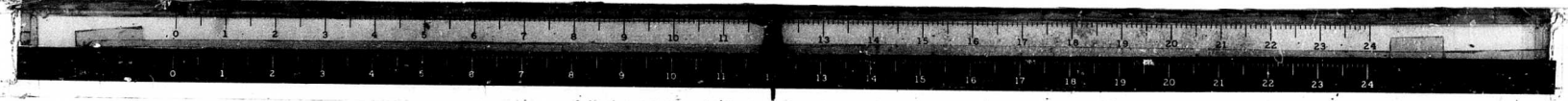
TRAFFIC CONTROL  
PHASE I



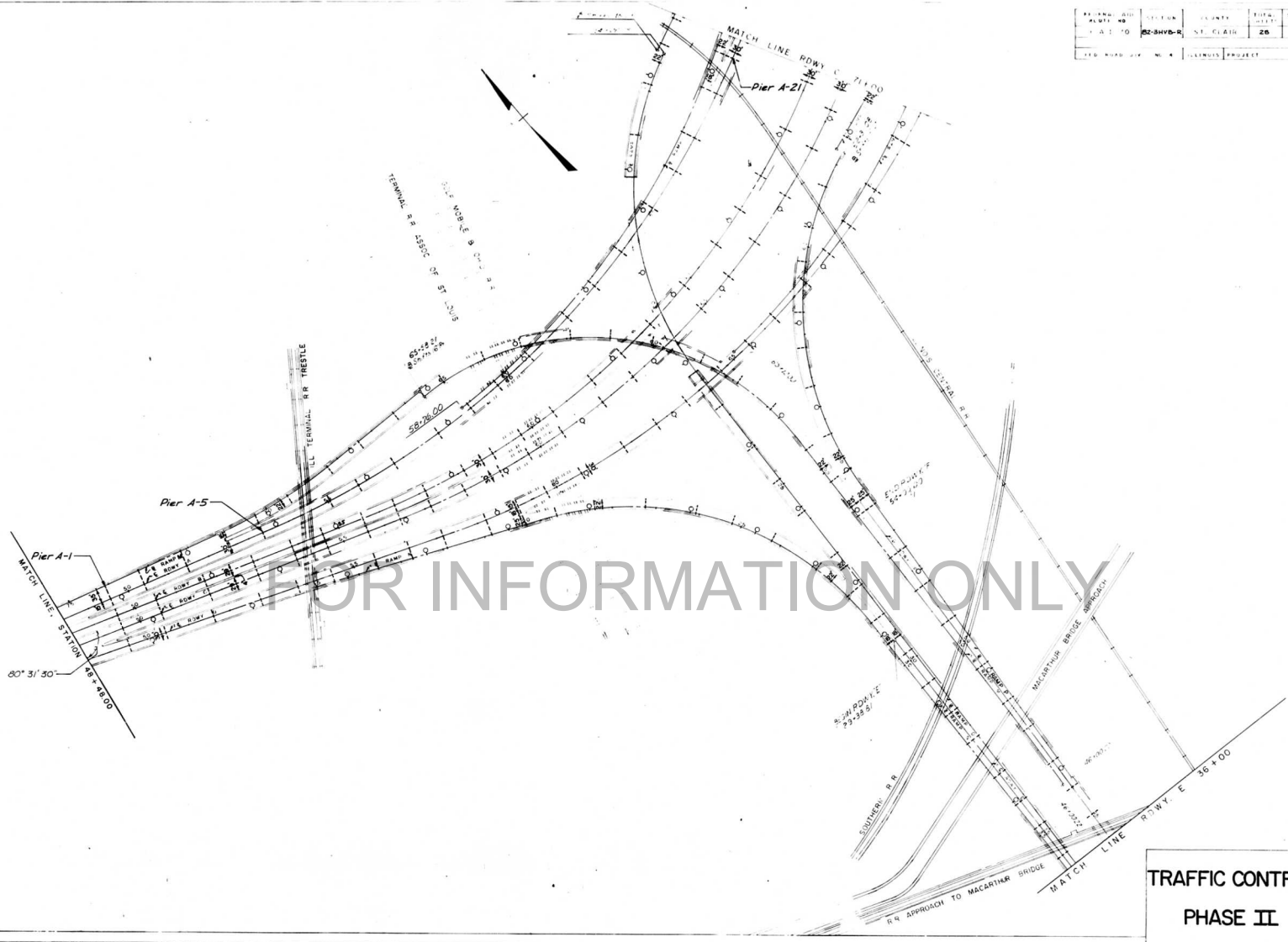
ROUTE NO.	DISTRICT	COUNTY	TOTAL SHEETS	PAGE
PAI 70	82-3 HVB-R	ST. CLAIR	26	17
FED. ROAD DIST. NO. 1   NUMBER   PROJECT-				



TRAFFIC CONTROL  
PHASE II

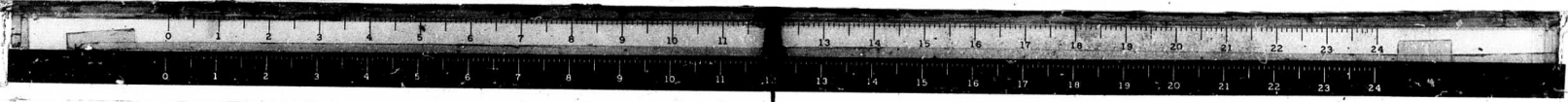


PLANNED BY ALBERT W.	DISTRICT 22-3478-6	COUNTY ST. CLAIR	TOWN 28	SHEET 16
TRAFFIC CONTROL		PROJECT		

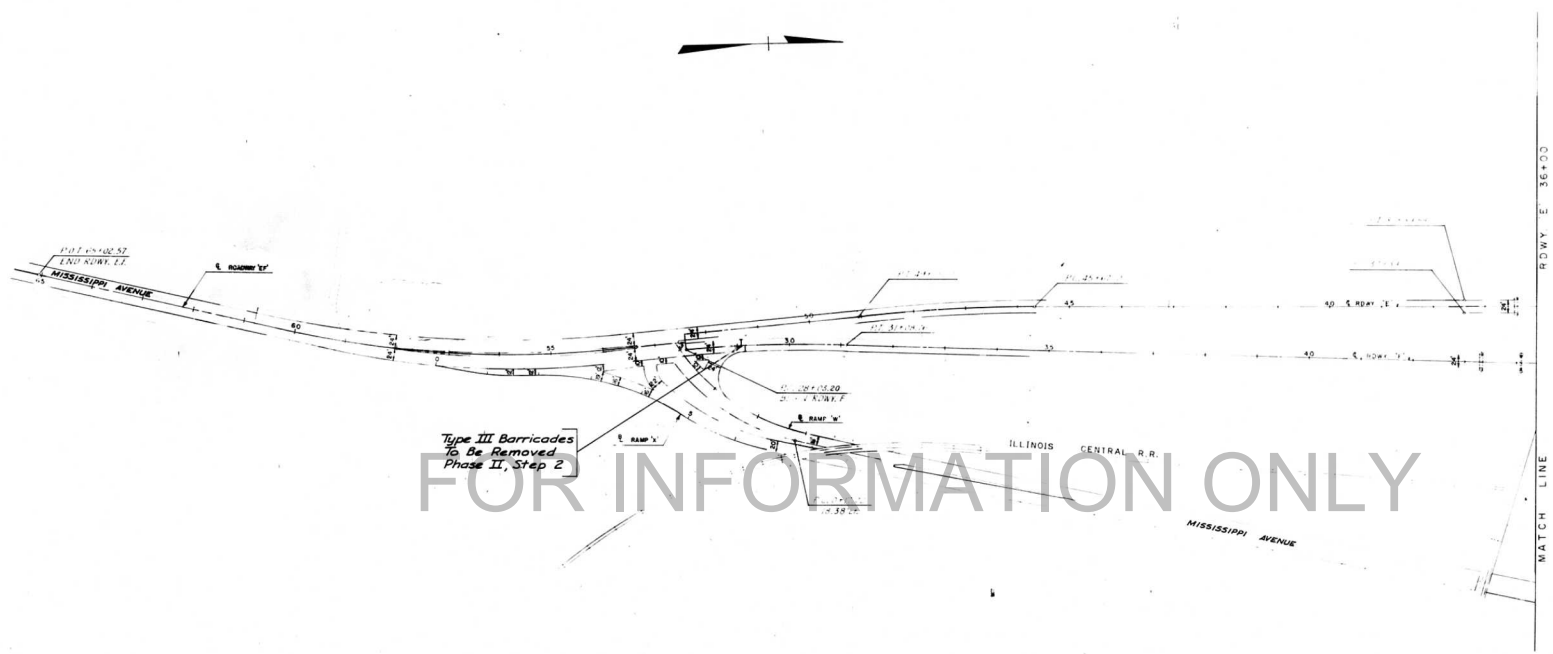


FOR INFORMATION ONLY

TRAFFIC CONTROL  
PHASE II



FEDERAL AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
PA 100	02-SHUB-C	ST. LOUIS	26	19
FED. ROAD DIV. No. 4	ILLINOIS	PROJECT		



FOR INFORMATION ONLY

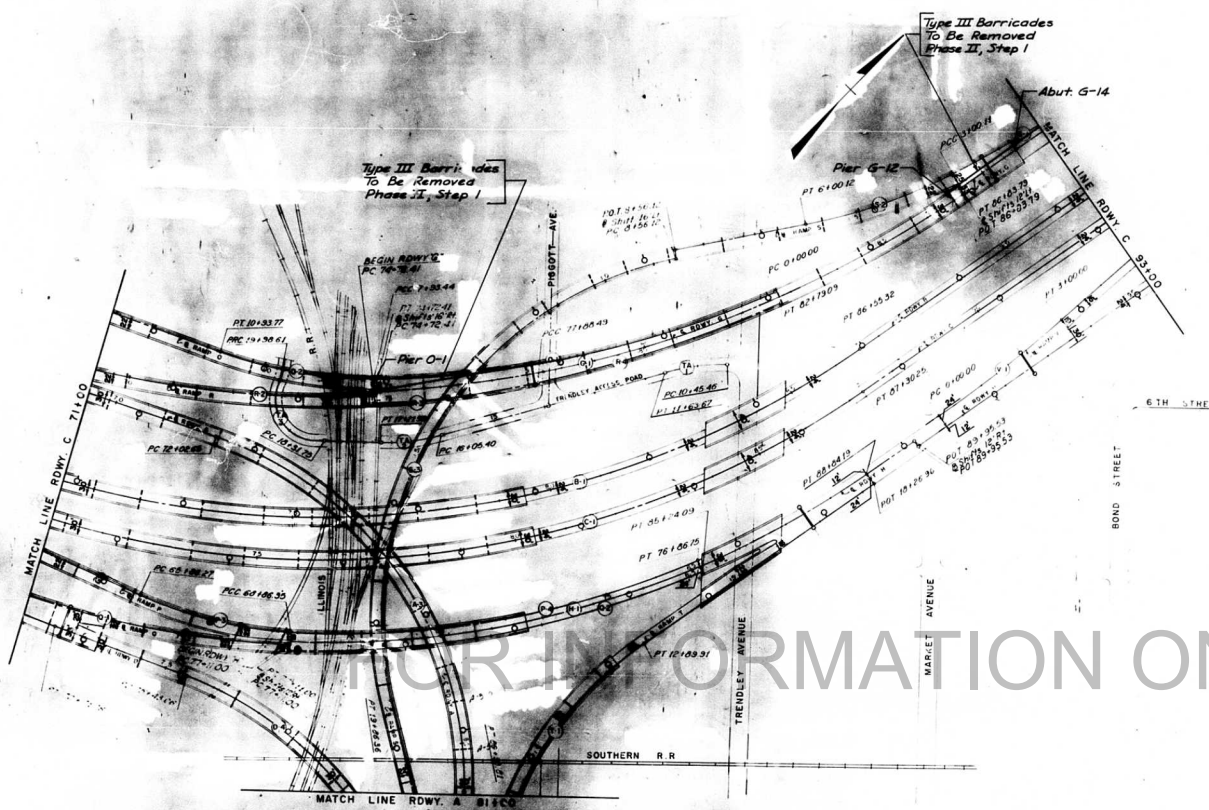
NOTE: (PHASE II)  
For Steps 1, 2, 3 & 4, See Sequence  
of Construction on Sheet 2

TRAFFIC CONTROL  
PHASE II





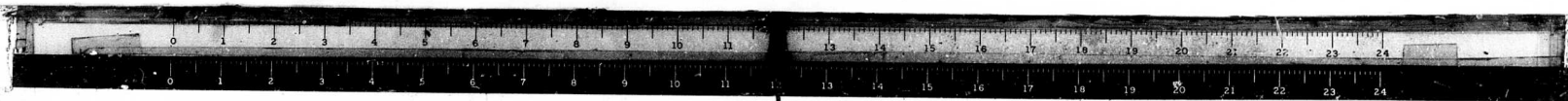
FEDERAL AID	SECTION	COUNTY	TOTAL SHEETS
ROUTE NO.			NO.
F.A.I. TO	62-3HV-2	ST. CLAIR	20
FED. ROAD DIV. NO. 4	ILLINOIS PROJECT		



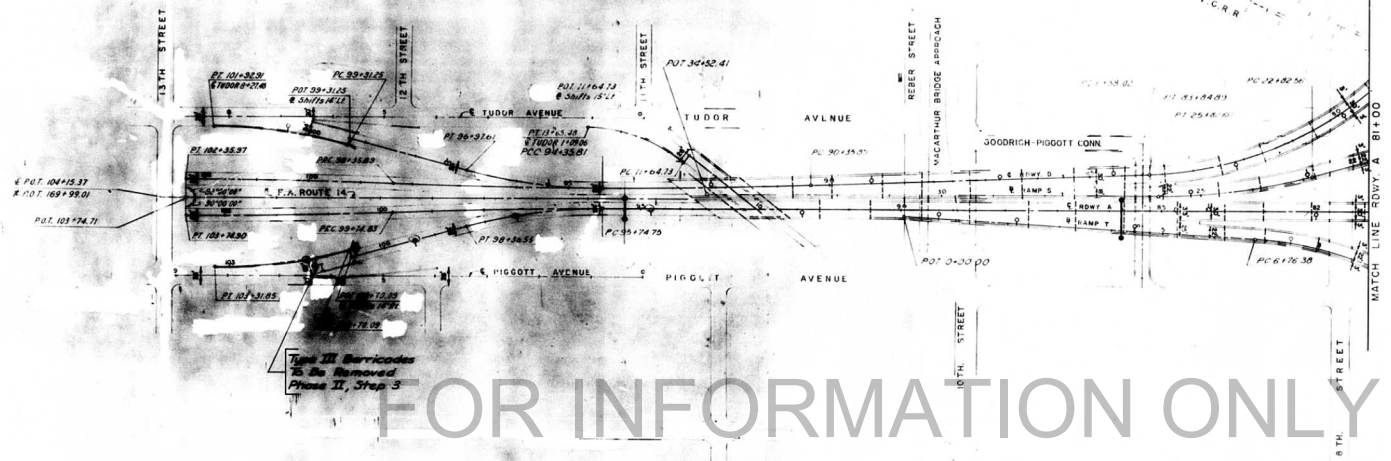
FOR INFORMATION ONLY

NOTE: (PHASE II)  
For Steps 2, 3 & 4, See Sequence  
of Construction on Sheet 2

TRAFFIC CONTROL  
PHASE II

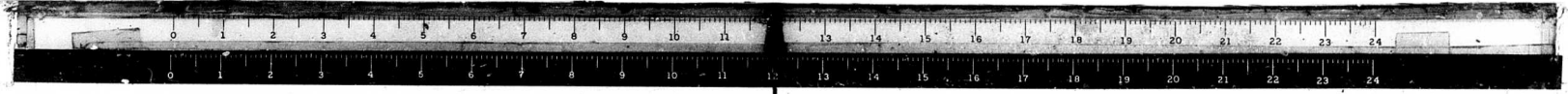


FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	BL-SHVB-E	ILLINOIS	26	21
FED. ROAD DIV. NO. 1 ILLINOIS PROJECT				

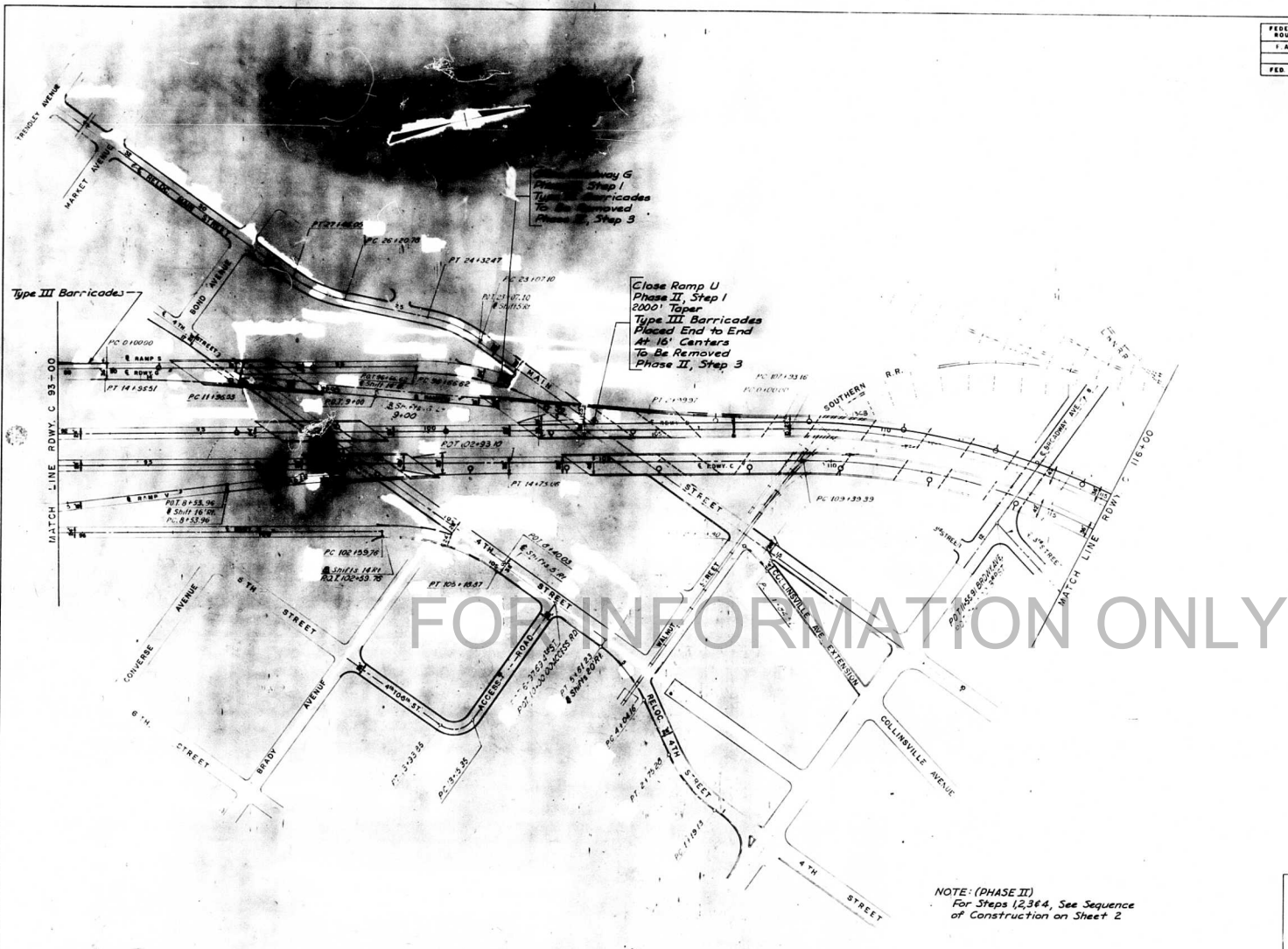


NOTE: (PHASE II)  
 For Steps 1,2,3&4, See Sequence  
 of Construction on Sheet 2

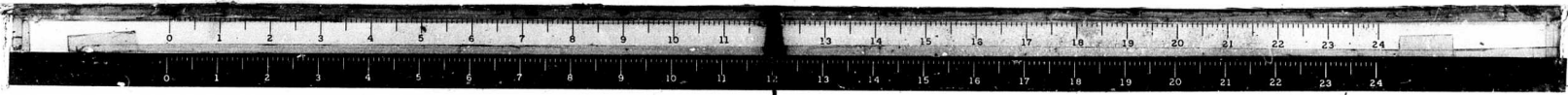
TRAFFIC CONTROL  
 PHASE II



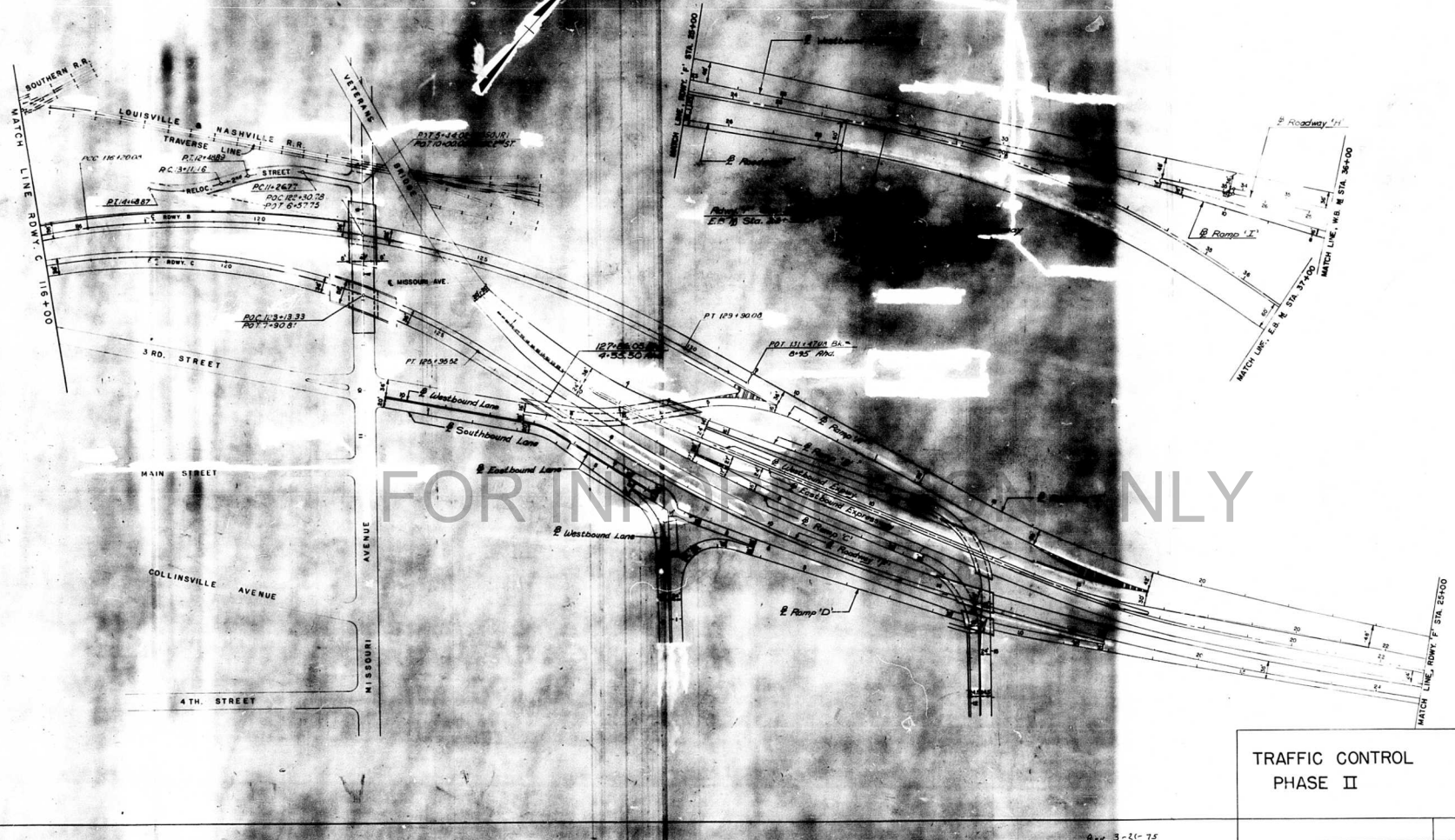
FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F A T 70	22-SHV-B-2	SI CLAIR	26	22
FED. ROAD DIV. No. 4	ILLINOIS PROJECT			



TRAFFIC CONTROL  
 PHASE II



FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3-2-70	82-311/87	CLAIR	28	22A
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				

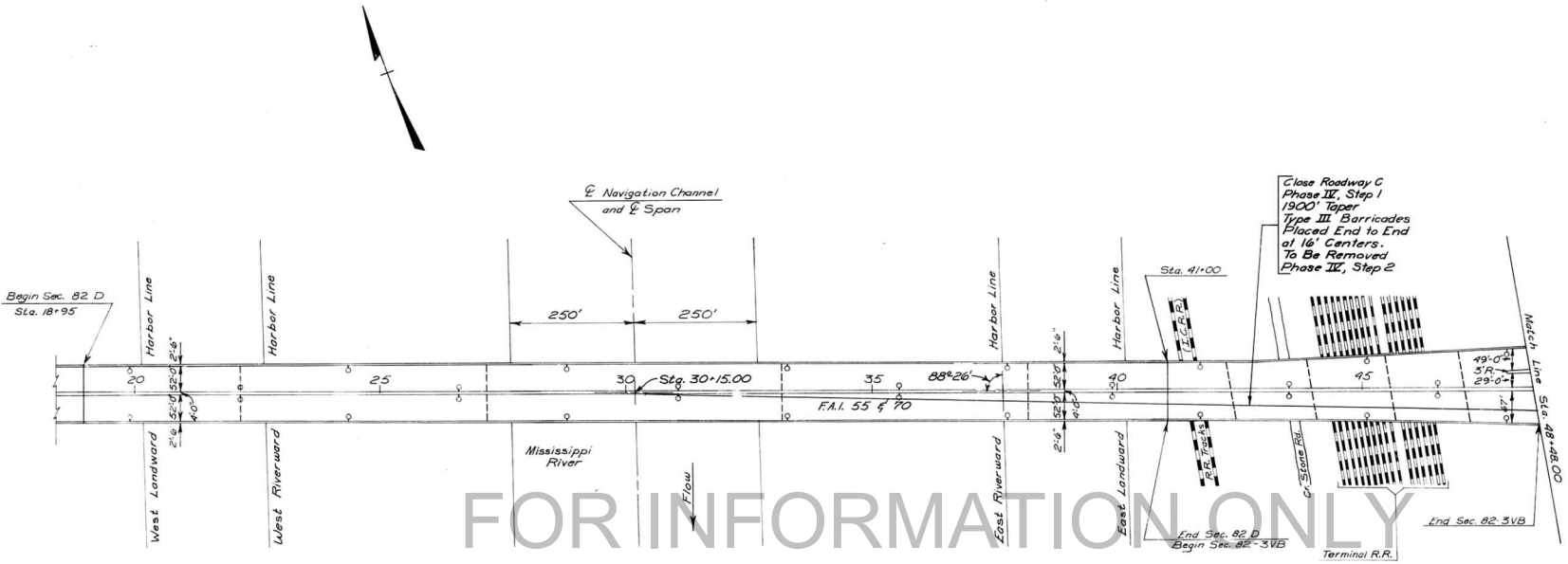


TRAFFIC CONTROL  
PHASE II

Ref. 3-21-75

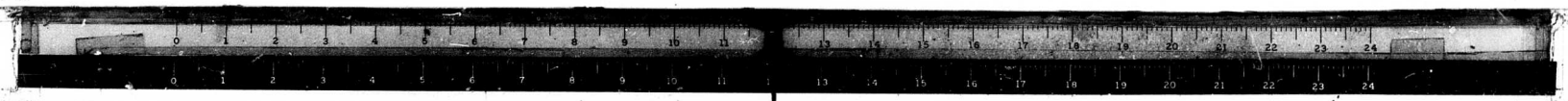


DISTRICT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
PAI 70	44-3	ST. CLAIR	26	28
PER ROAD DIST. NO. 7   ALIGNMENT   PROJECT--				

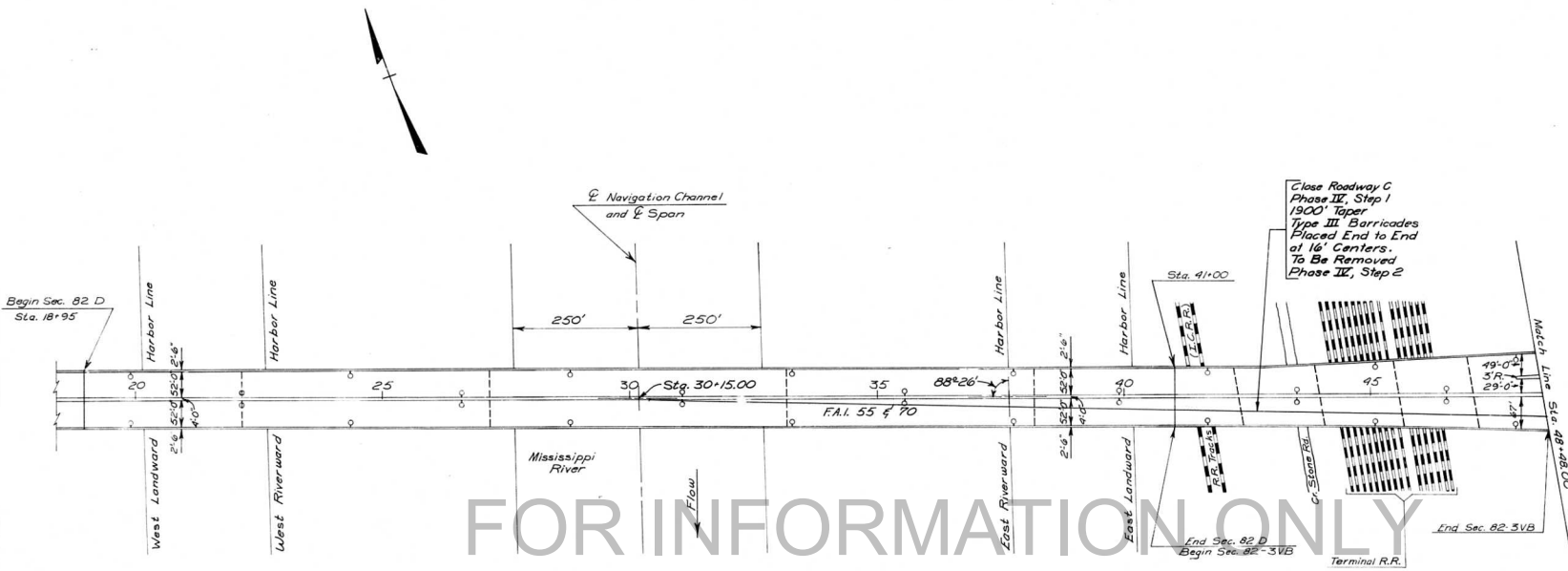


NOTE: (PHASE IV)  
 For Steps 1 & 2, See Sequence of Construction on Sheet 2

TRAFFIC CONTROL  
 PHASES III & IV



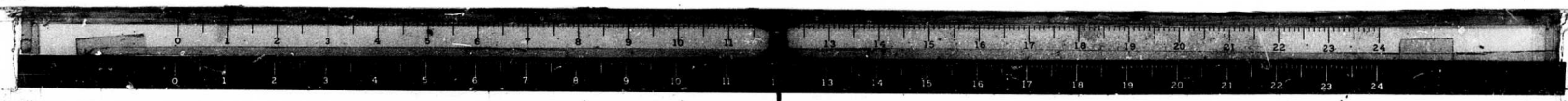
DISTRICT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
PAI 70	45-3	ST. CLAIR	26	25
PER ORDER DIST. NO. 7   DRAWING   PROJECT--				



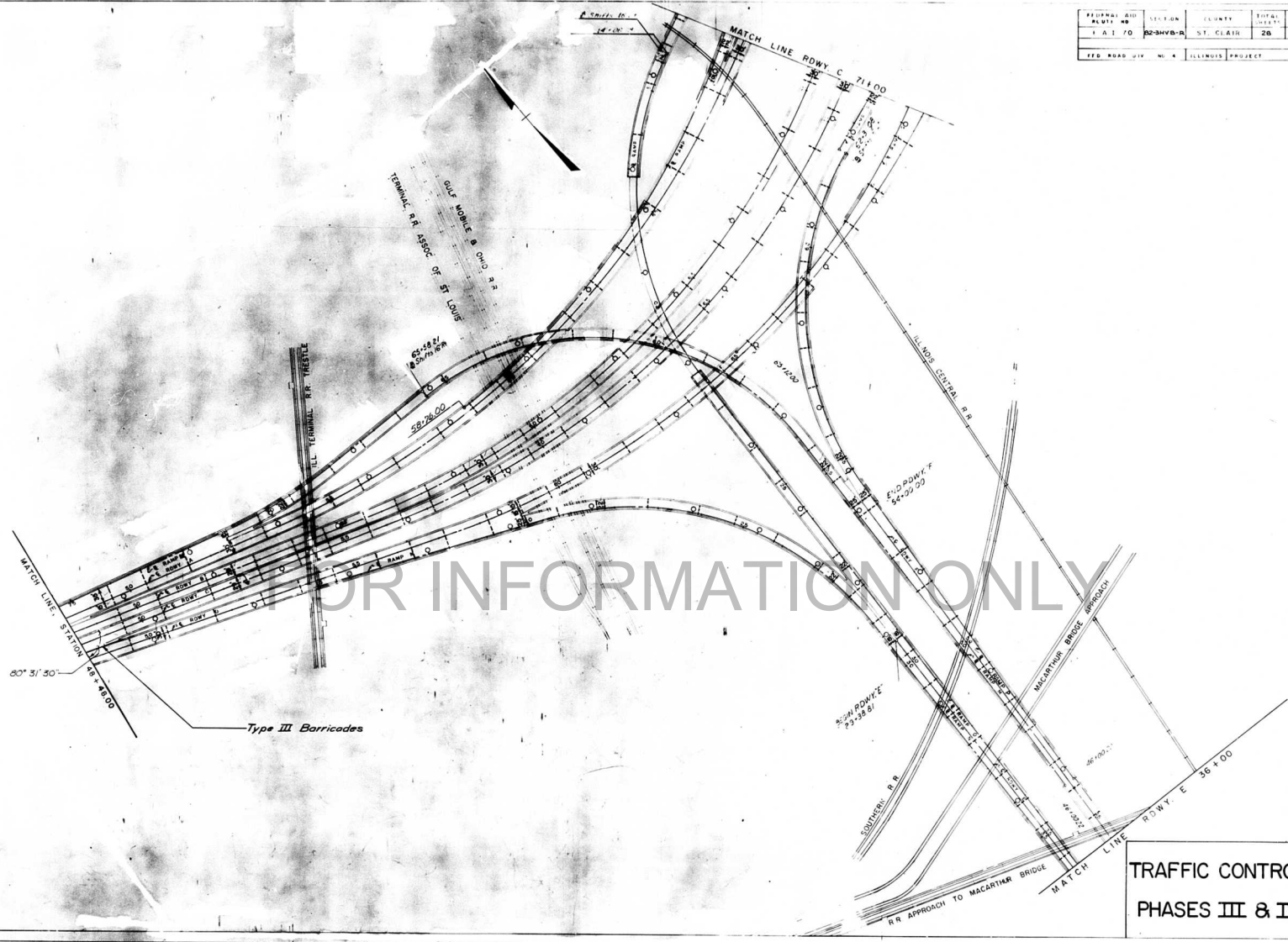
FOR INFORMATION ONLY

NOTE: (PHASE IV)  
For Steps 1 & 2, See Sequence of Construction on Sheet 2

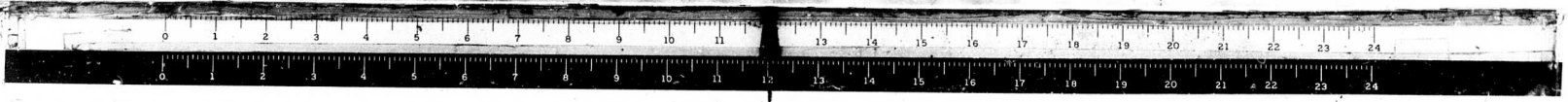
TRAFFIC CONTROL  
PHASES III & IV



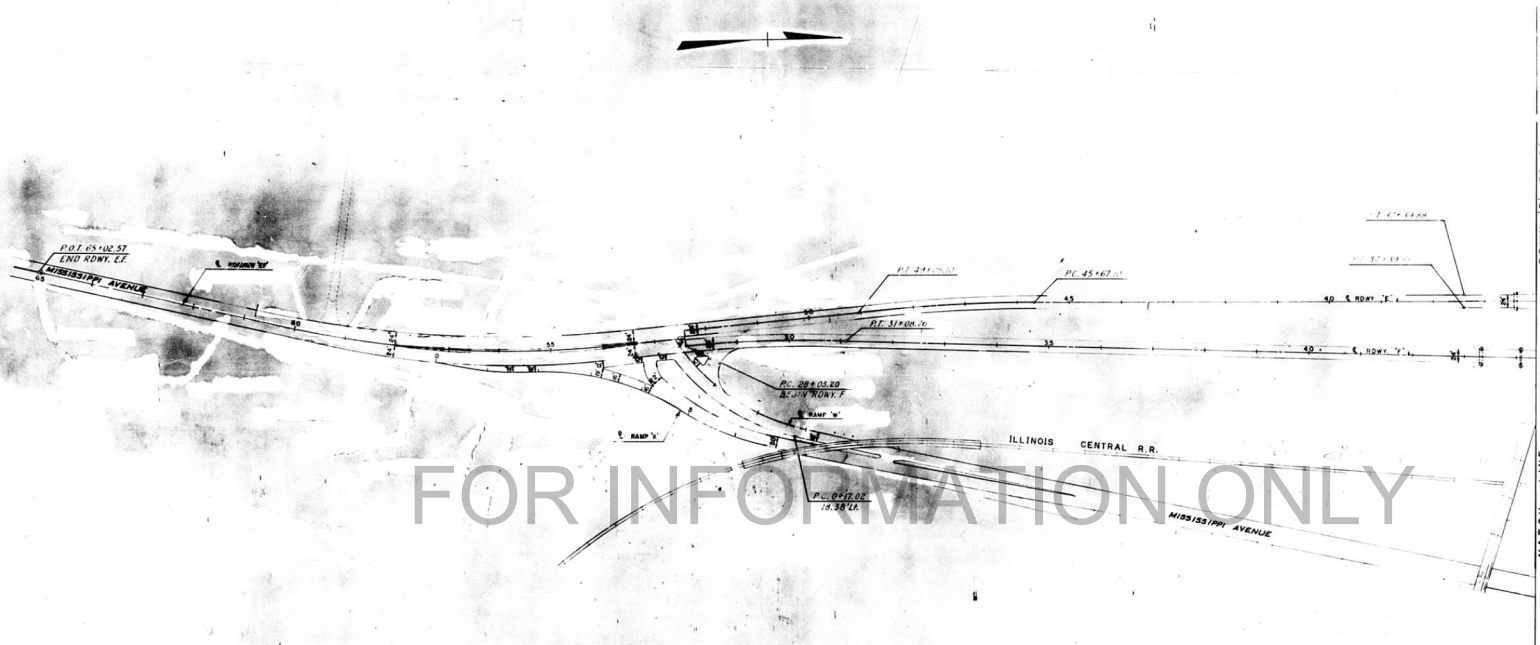
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1 A 1 70	22-SHVS-R	ST. CLAIR	26	24
FED. ROAD DIV. NO. 4		ILLINOIS PROJECT		



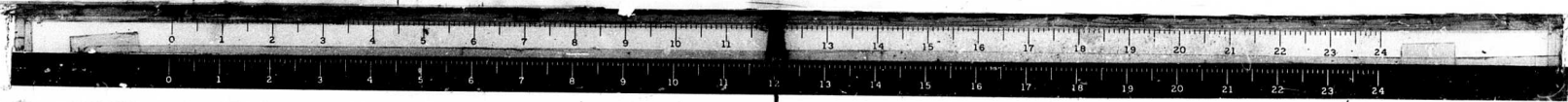
TRAFFIC CONTROL  
PHASES III & IV



FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-11-70	20-34V-B-R	ST. CLAIR	28	25
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				

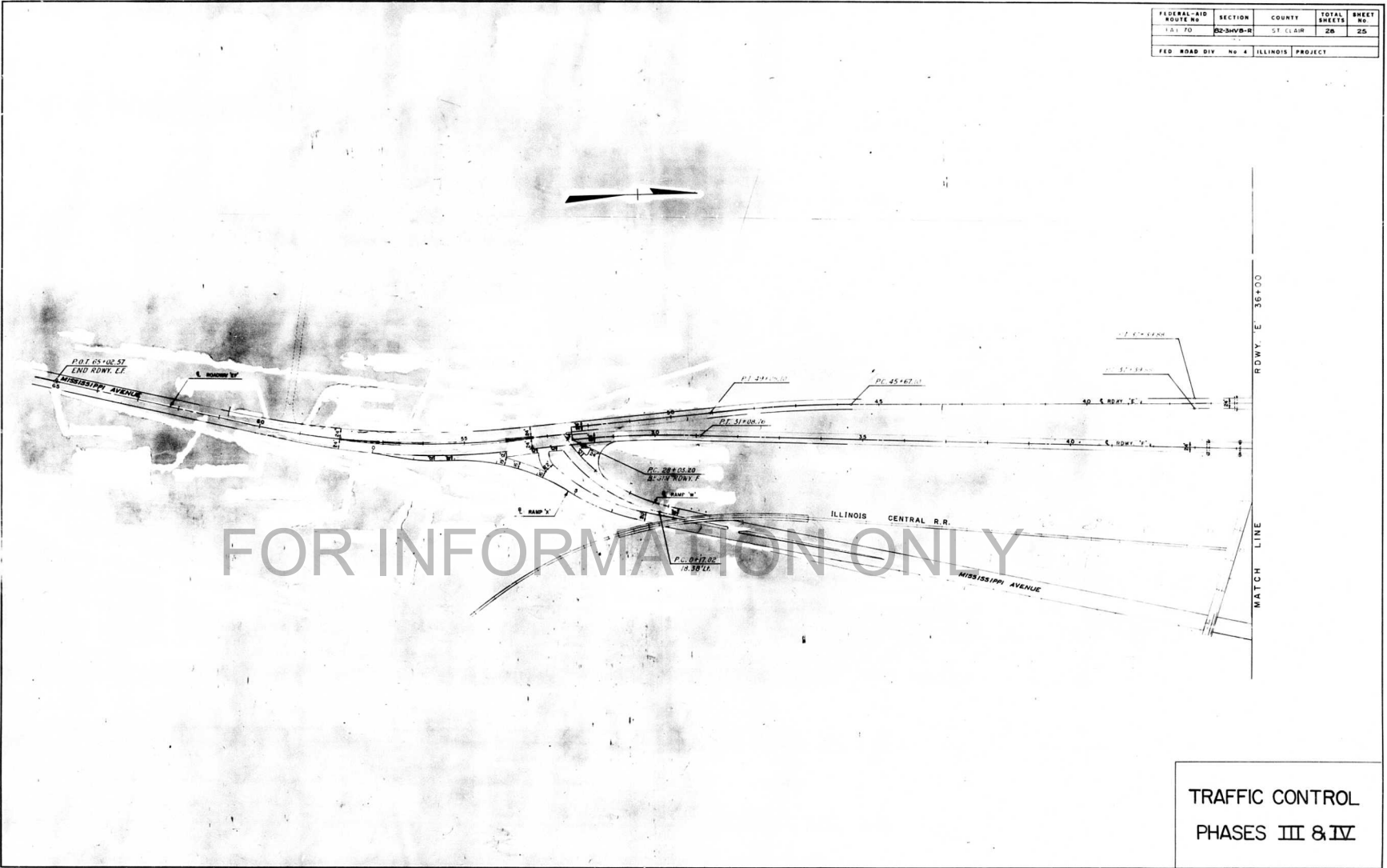


TRAFFIC CONTROL  
PHASES III & IV

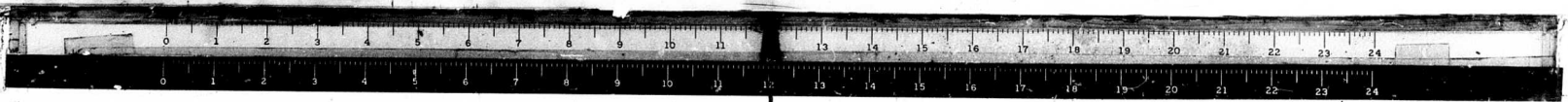




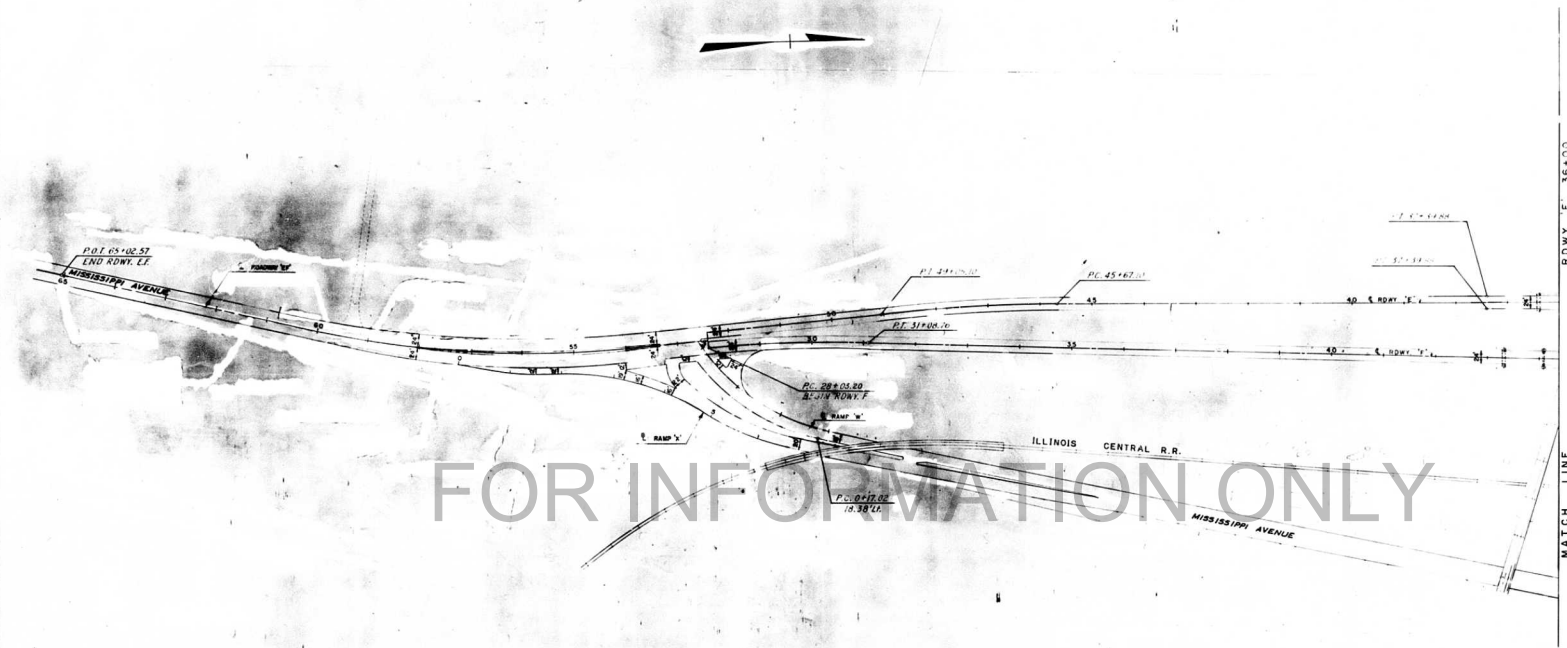
FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
121 70	22-34VB-R	ST. CLAIR	28	25
FED. ROAD DIV. No. 4		ILLINOIS	PROJECT	



TRAFFIC CONTROL  
PHASES III & IV

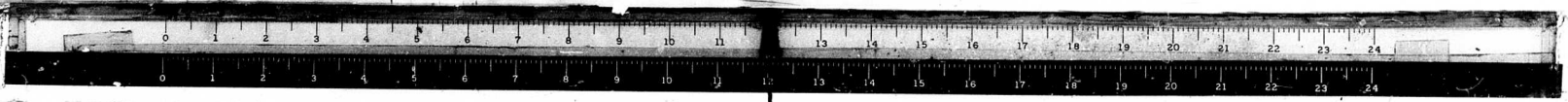


FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
141 70	32-34V8-B	ST. CLAIR	26	25
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				

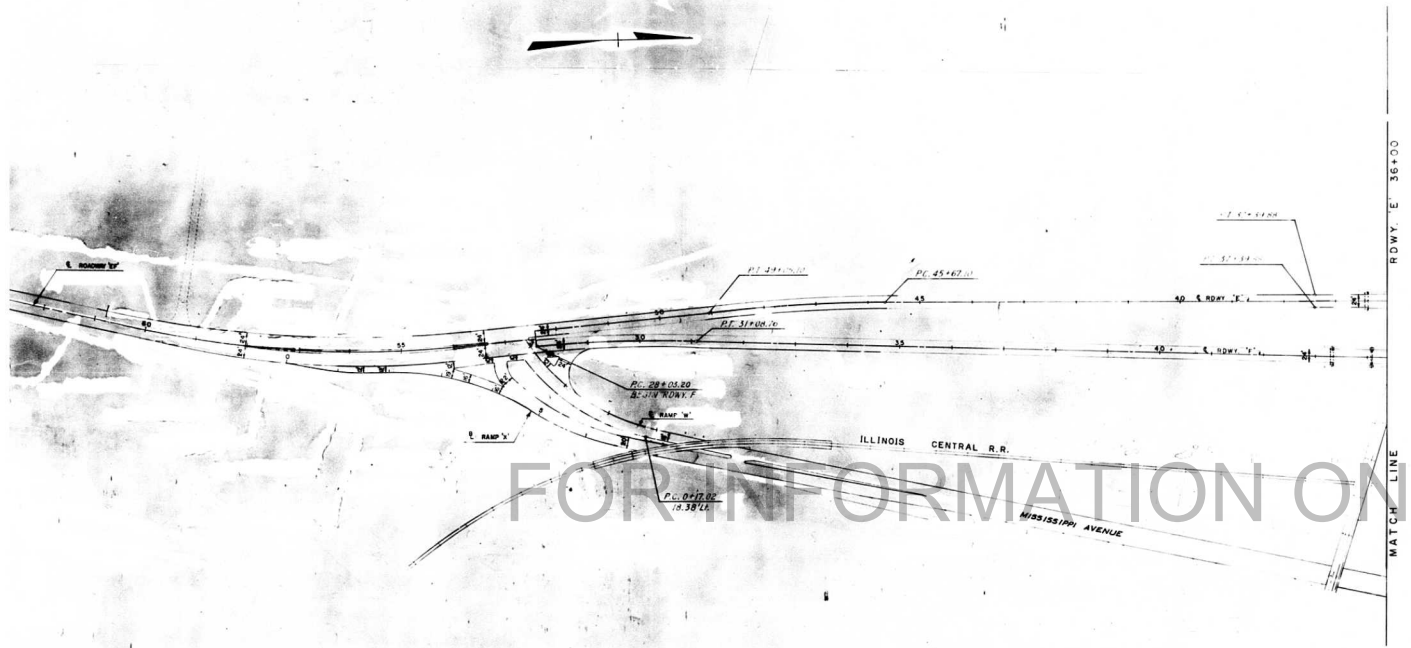


FOR INFORMATION ONLY

TRAFFIC CONTROL  
PHASES III & IV



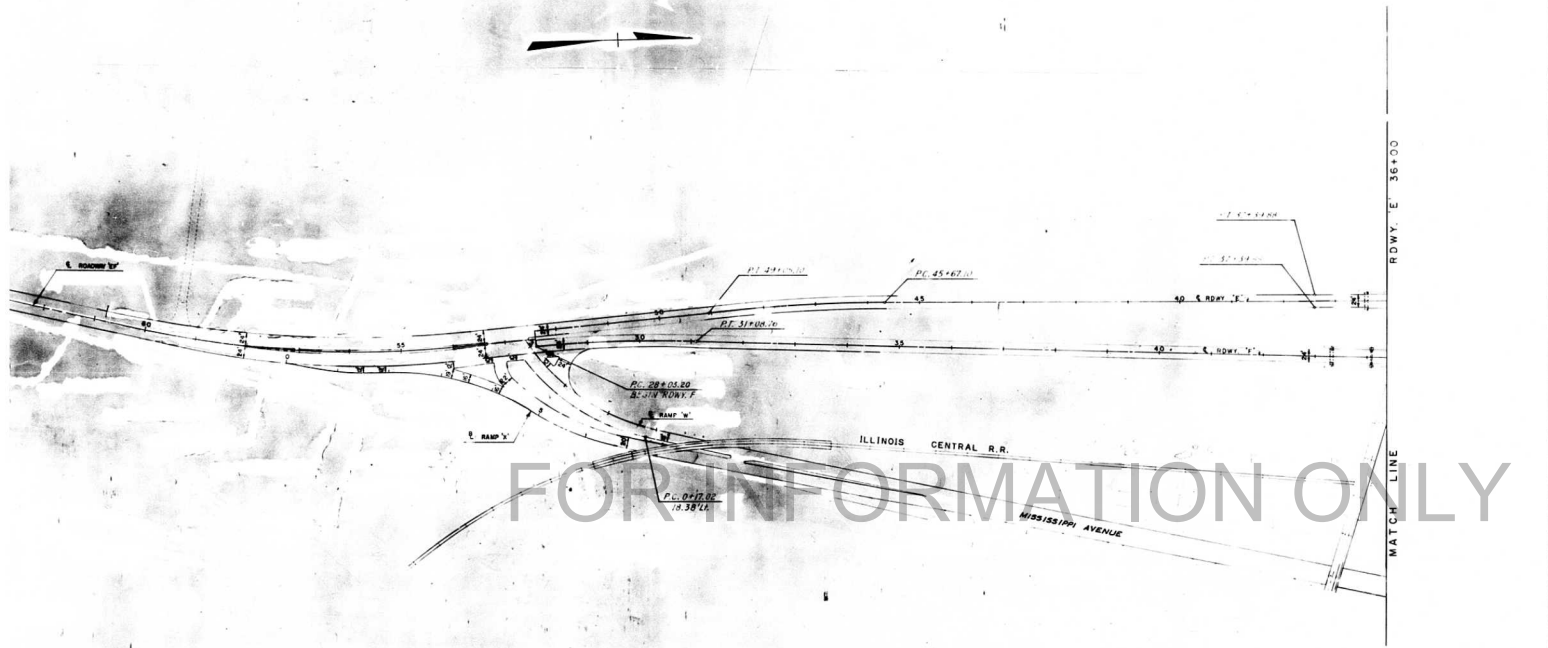
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141-70	22-34V-B-R	ST. CLAIR	28	25
FED. ROAD DIV. No. 4		ILLINOIS PROJECT		



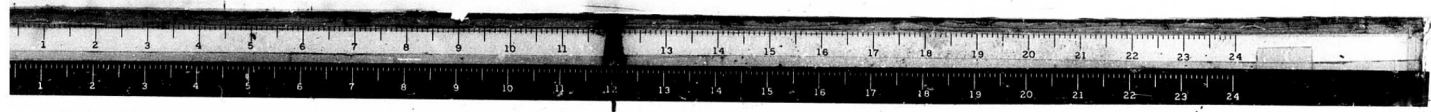
TRAFFIC CONTROL  
PHASES III & IV



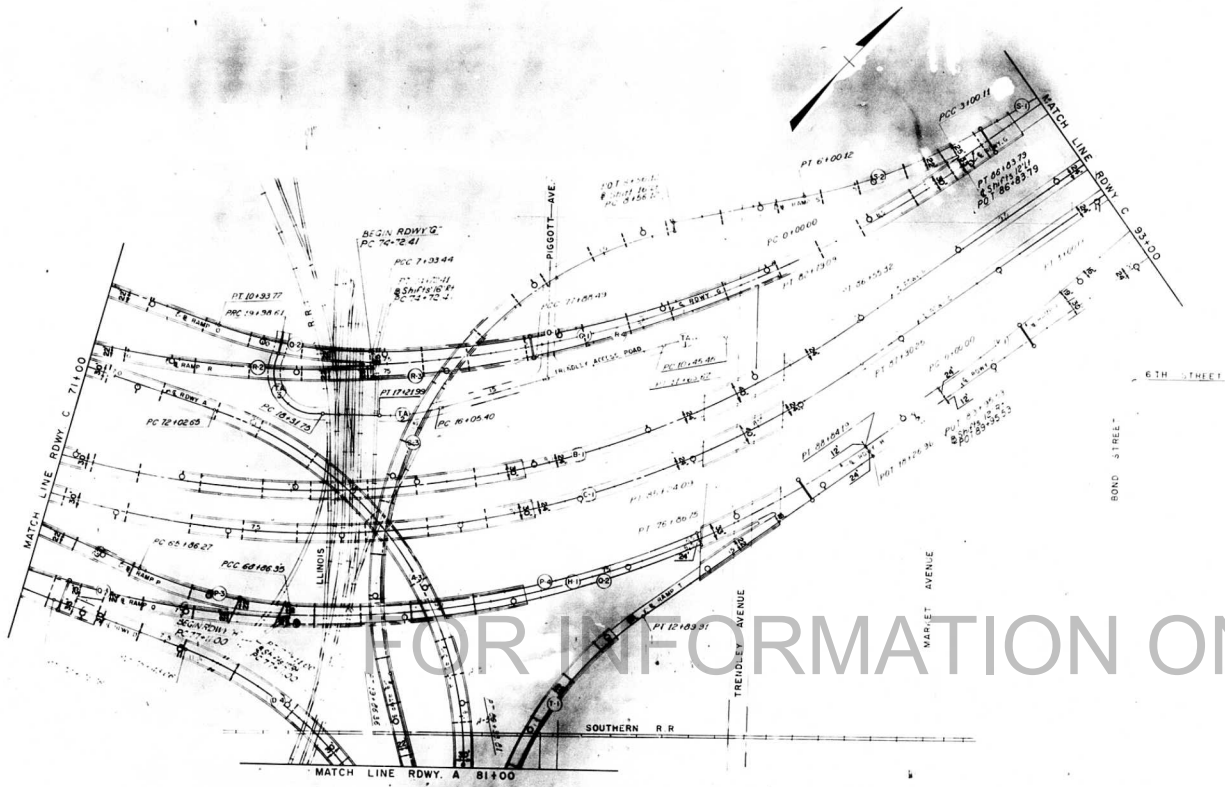
FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
141-70	22-34V8-R	ST. CLAIR	28	25
FED. ROAD DIV. No. 4		ILLINOIS PROJECT		



TRAFFIC CONTROL  
PHASES III & IV

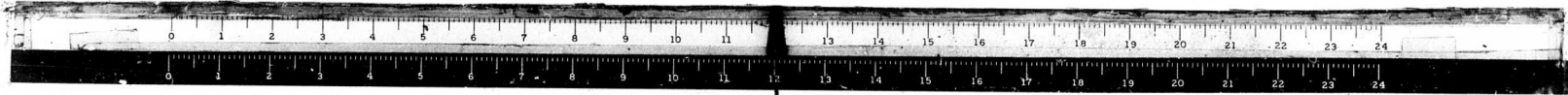


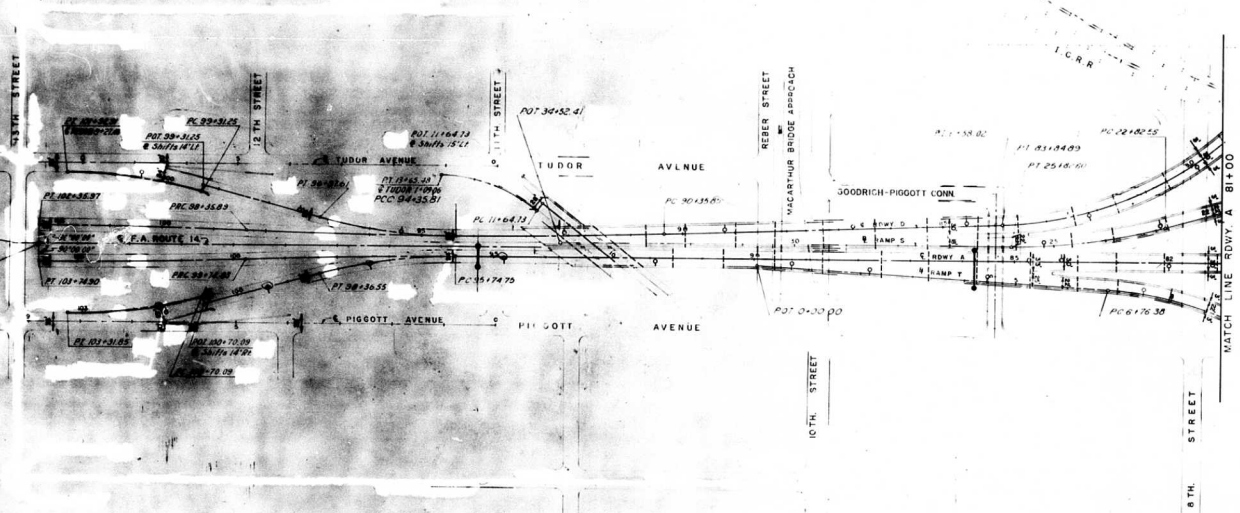
FEDERAL ROUTE NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.
1 A 1 70	82-34WB-R	ST. CLAIR	26	26
FED. ROAD DIST. NO. 4	ST. CLAIR			



FOR INFORMATION ONLY

TRAFFIC CONTROL  
PHASES III & IV





FOR INFORMATION ONLY

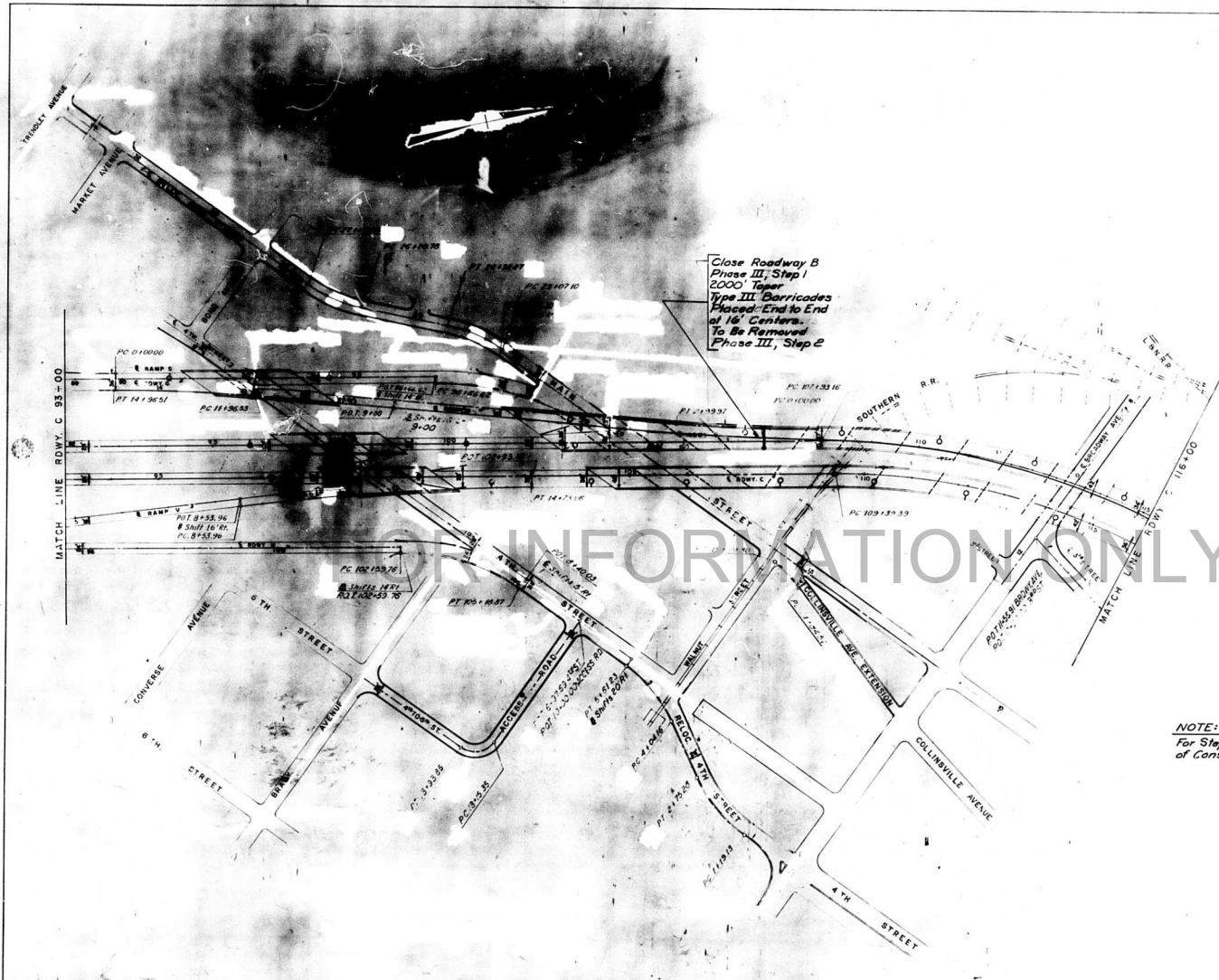
TRAFFIC CONTROL  
PHASES III & IV



FEDERAL-AID ROUTE No	SECTION	COUNTY	TOTAL SHEETS	SHEET No
F.A.T. 70	22-SHVB-C	ST. CLAIR	26	26
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				

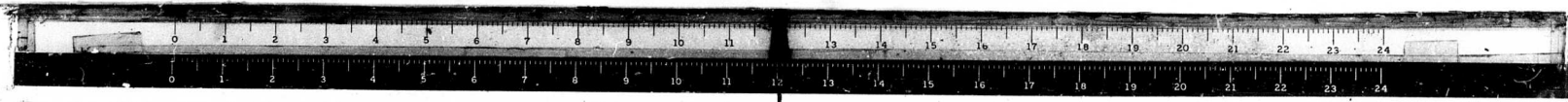
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BY	
REVISION	
APPROVED	
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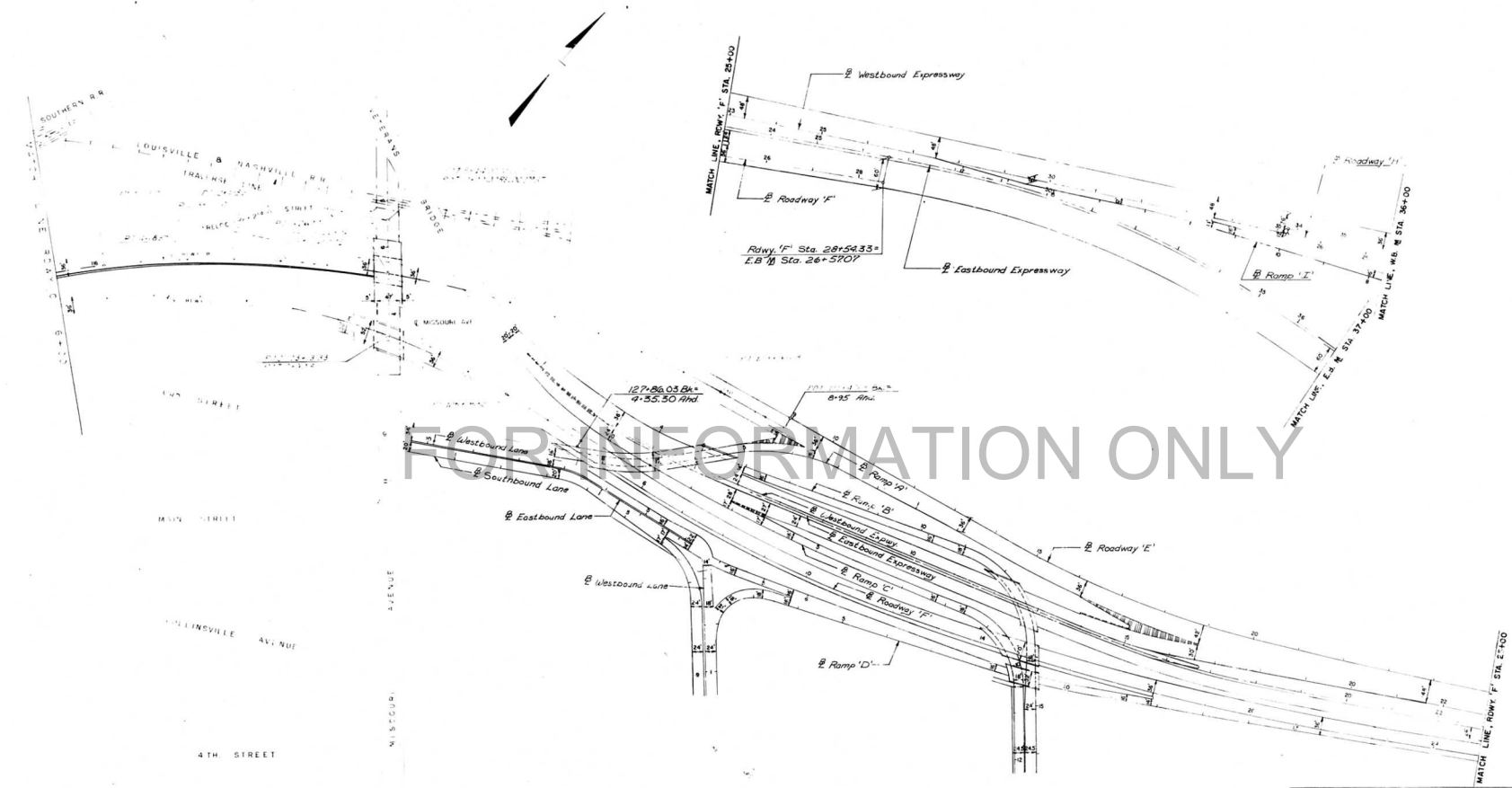


*NOTE: (PHASE III)  
For Steps 1 & 2, See Sequence  
of Construction on Sheet 2*

**TRAFFIC CONTROL  
PHASES III & IV**



FEDERAL AID ROUTE NO.	SECTION	FOUNTY	TOTAL SHEETS	SHEET NO.
1	SP-3WB-W	CLAIR	20	264
FED. ROAD DIV. NO. 4, ILLINOIS PROJECT				



FOR INFORMATION ONLY

TRAFFIC CONTROL  
PHASES III & IV

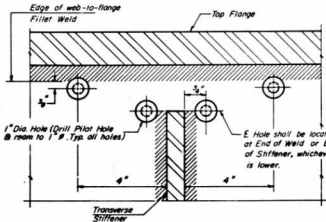
Rev. 3-21-75





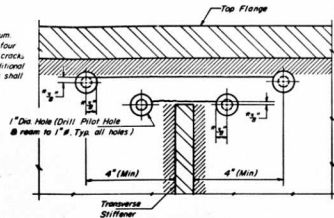
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DATE	SCALE	SHEET NO.
100-1000	10/1/50	AS SHOWN	1



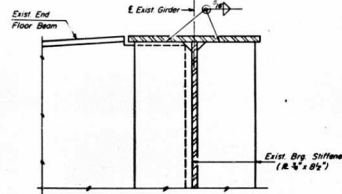
**GIRDER REPAIR - TYPE I**  
**SECTION AT FLOOR BEAM CONNECTION**  
(Showing position of holes to be drilled in web without cracks)  
(See Table I for Locations)

Pilot holes shall be 5/8" dia maximum.  
Each location shall have at least four holes, positioned as shown, whether cracks are present or not. If there are additional cracks other than those shown, holes shall be drilled at the crack ends.



**GIRDER REPAIR - TYPE II**  
**SECTION AT FLOOR BEAM CONNECTION**  
(Showing position of holes to be drilled in web at crack ends)  
(See Table II for Locations)

\*Centers of hole shall be located as shown with respect to ends of each crack. Number of holes is not limited to four at each floor beam connection.



**GIRDER REPAIR - TYPE III**  
**SECTION AT BEARING STIFFENERS**  
(Showing welding of stiffener to flange at end of girder)  
Note: Location is Roadway B, Pier B 27, North Girder, West bearing.

**METHOD FOR LOCATING CRACK ENDS**  
**GIRDER REPAIR - TYPE I**

The location of the end of crack shall be determined by ultra-sonic inspection and marked before the pilot hole is drilled.  
After the one (1) inch diameter holes are reamed, the Contractor is required to use ultra-sonic inspection around the hole to determine if the crack goes past the hole. If the ultra-sonic inspection shows continuation of the crack beyond the hole, the Contractor will be required to drill and ream another one (1) inch diameter hole. The center of this additional hole will be located a minimum of 1/4 inch from the center of the other hole or holes.

**TABLE I**  
Floor Beam Location for  
Girder Repair - Type I

A 2N-IW/BIE	A 3B-IW/BIE	B 2S-IW	C 2S-IW	D 2B-IW/BIE	F 1B-IW/BIS	M 8B-IW/BIE	P 2E-IW/BIS	S 2B-IW/BIS
A 3N-IW/BIE	A 37B-IW/BIE	B 2S-IW	C 2S-IW/BIE	D 2B-IW/BIE	F 12B-IW/BIS	M 10B-IW/BIE	P 2E-IW/BIS	S 2B-IW/BIS
A 3N-IW/BIE	A 37B-IW/BIE	B 2N-IW	C 27B-IW/BIE	D 3B-IW/BIE	F 12B-IW/BIS	M 11B-IW/BIE	P 3B-IW/BIS	S 4B-IW/BIS
A 4N-IW/BIE	A 40B-IW/BIE	B 2S-IW/BIE	C 28B-IW/BIE	D 4B-IW/BIE	F 13B-IW/BIS	M 13B-IW/BIE	P 3N-IW/BIE	S 5B-IW/BIS
A 4B-IW/BIE	A 42B-IW/BIE	B 3N-IW	C 28B-IW/BIE	D 6B-IW/BIE	F 14B-IW/BIS	M 14B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 5N-IW/BIE	A 42B-IW/BIE	B 3S-IW/BIE	C 29B-IW/BIE	D 6B-IW/BIE	F 14B-IW/BIS	M 14B-IW/BIE	P 3N-IW/BIE	S 5B-IW/BIS
A 5S-IW/BIE	A 42B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 10N-IW	A 10N-IW	B 3S-IW	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 10S-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 13N-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 13B-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 16N-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 16S-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 17B-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 19N-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 19S-IW	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 20N-IW	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 20S-IW	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 22B-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 23B-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 24B-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS
A 24B-IW/BIE	B 2B-IW/BIE	B 3S-IW/BIE	C 30B-IW/BIE	D 8B-IW/BIE	F 15B-IW/BIS	M 15B-IW/BIE	P 3S-IW/BIE	S 5B-IW/BIS

**TABLE II**  
Floor Beam Location for  
Girder Repair - Type II

A 2S-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 3S-IW	B 2N-IW	G 2E-IW/BIS
A 4S-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 7N-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 7S-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 10N-IW	B 2N-IW	G 2E-IW/BIS
A 10S-IW	B 2N-IW	G 2E-IW/BIS
A 13N-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 13S-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 16N-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 16S-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 17B-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 19N-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 19S-IW	B 2N-IW	G 2E-IW/BIS
A 20N-IW	B 2N-IW	G 2E-IW/BIS
A 20S-IW	B 2N-IW	G 2E-IW/BIS
A 22B-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 23B-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 24B-IW/BIE	B 2N-IW	G 2E-IW/BIS
A 24B-IW/BIE	B 2N-IW	G 2E-IW/BIS

**BILL OF MATERIAL**

Item	Unit	Total
Girder Repair - Type I	Each	654
Girder Repair - Type II	Each	97
Girder Repair - Type III	Each	1

DESIGNED R. F. ROSEN  
CHECKED [Signature]  
DRAWN P. Barnett  
APPROVED [Signature]

Note:  
Edge of holes shall be painted after reaming.  
A 2N-IW/BIE indicates Pier A2, North Girder, first floor beam West of pier, and first floor beam East of pier.  
A 2S-IW/BIE indicates Pier A26, Both Girders, first floor beam West of Pier, first floor beam East of pier, and second floor beam East of pier.

**GIRDER REPAIRS**  
**F.A.T. RT. 70-SEC. 82-34VB-R**  
**ST. CLAIR COUNTY**