Run for letting 6/13/66

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

PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-80	*	WILL	192	1

FED. ROAD DIV. NO. 4 | ILLINOIS | PROJECT **

* 99-4, 99-4(B,HB), 30 EXT., (I-S) EXT.
** I-80-4(31)134; U-25(39); U-3(36)

P-91-107-00

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

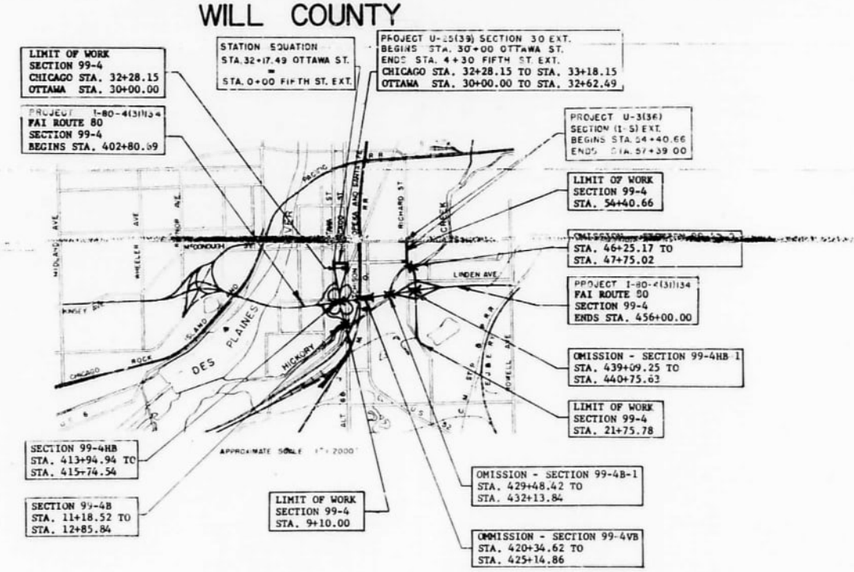
FAI ROUTE 80, SECTION 99-4, 99-4(B,HB)
PROJECT I-80-4(31)134 C-91-314-64

SBI ROUTE 4, SECTION 30 EXT., PROJECT U-25(39) C-91-283-64
FA ROUTE 5, SECTION (I-S) EXT., PROJECT U-3(36) C-91-284-64
WILL COUNTY

Description of work. The proposed improvement consists of the construction of two continuous, reinforced concrete pavement varying in width from 36 feet to 24 feet, having a uniform thickness of 9 inches and separated by a median which varies in width from 40 feet to 64 feet; the complete construction of a cloverleaf interchange with the Chicago-Ottawa Couple and a diamond interchange at Richard Street; the relocation of Chicago Street, Ottawa Street and Richard Street and the complete construction of two structures located within the Chicago-Ottawa Interchange.

INDEX TO SHEETS

* INCLUDES 104A
** INCLUDES 164, 166B
*** INCLUDES 24A



	GROSS LENGTH	NET LENGTH
SECTION 99-4	5319.31 FT. = 1.007 MI.	4227.67 FT. = 0.801 MI.
SECTION 99-4 (CHI.&OTT.)	3298.72 FT. = 0.625 MI.	3131.40 FT. = 0.593 MI.
SECTION 99-4 (RICHARD)	3291.70 FT. = 0.623 MI.	3141.85 FT. = 0.595 MI.
SECTION 99-4HB	179.60 FT. = 0.034 MI.	179.60 FT. = 0.034 MI.
SECTION 99-4B	167.32 FT. = 0.032 MI.	167.32 FT. = 0.032 MI.
SECTION 30 EXT.	[illegible] MI.	[illegible] MI.
SECTION (I-S) EXT.	[illegible] FT. = [illegible] MI.	[illegible] FT. = [illegible] MI.

PROJECT LENGTHS — U-25(39) 647.49 FT. = 0.123 MI.
U-3(36) 299.36 FT. = 0.057 MI.

PLANS PREPARED AND RECOMMENDED BY
BLAUVELT ENGINEERING COMPANY
CONSULTING ENGINEERS

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

LOCATION OF SECTION INDICATED THUS:—

APPROVED
W. E. Baumann 5/27/66

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
SUBMITTED _____ DIVISION ENGINEER
CHECKED May 27 1966
PASSED May 27 1966
APPROVED May 27 1966
APPROVED May 27 1966 Bruce A. Gray

CONTRACT NO. 93-28

COUNTY WILL SECTION 99-4 F.A. ROUTE

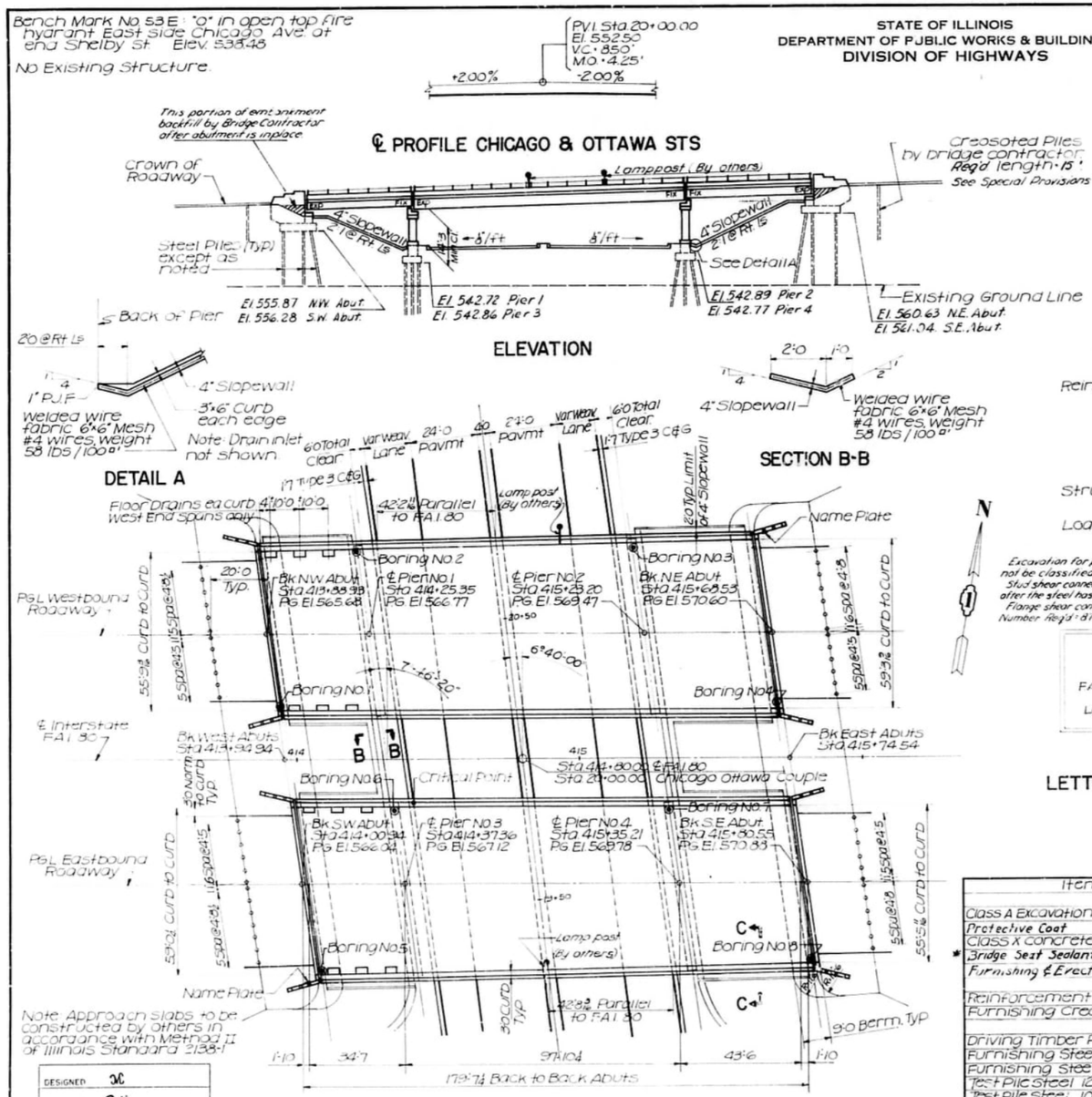
Bench Mark No. 53 E: "O" in open top fire hydrant. East side Chicago Ave. at end Shelby St. Elev. 538.48

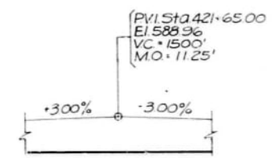
No Existing Structure.

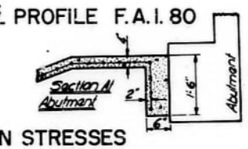
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	99
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ.	I-80-4(31)134	

SHEET NO. 1 OF 12 SHEETS







DESIGN STRESSES

Reinforced concrete:
f'_c = 3500 p.s.i.
f_s = 20,000 p.s.i.
n = 10
f_c = 1400 p.s.i. (except footings)
f_c = 1000 p.s.i. (footings)
v_c = 90 p.s.i. (except footings)
v_c = 75 p.s.i. (footings)

Structural Steel:
f_s = 20,000 p.s.i.

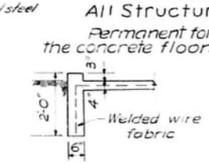
Loading:
HS-20-44 and Alternate

Excavation for portions of structures in the embankment shall not be classified.
Stud shear connectors on the beam flanges shall be placed in the field after the steel has been erected and deck forms are in place.
Flange shear connectors are included in the quantity of structural steel.
Number Req'd = 8157 Estimated Wt. = 358,196 Lbs.

STATION 414+80.00
BUILT 196 BY
STATE OF ILLINOIS
FA I RT 80 SEC. 99-4HB
FA PROJ. I-80-4(31)
LOADING HS-20 & ALT

See Standard 2118-1

LETTERING FOR NAME PLATE



SECTION C-C

Note:
Cost of welded wire fabric shall be included in cost of 4" Slopewall.
Cost of cut-off wall and paved ditch between bridges shall be included in cost of 4" Slopewall.

GENERAL NOTES

Class X concrete shall be used throughout.

The concrete floor slab shall be finished in accordance with Article 51.13 of the Standard Specifications.

Rivets shall be ¾"φ with 13/16"φ open holes unless noted.

Coarse aggregate which is to be used in parapets handrails and end posts shall be absolutely free of chert, flint, limonite, ligniite and soft sandstone.

All Rockers, Bolsters, Bearing Plates, Lead Plates, Pintles, and Anchor Bolts shall be fabricated and set in accordance with Article 51.15 of the Standard Specifications and are included in quantity of Structural Steel.

All aluminum handrail posts shall be normal to the parapet.

Anchor bolts shall be set before riveting diaphragms over support. Space reinforcing to miss Anchor Bolts.

Expansion guards and plates shall be fabricated and erected in accordance with Article 51.13(a) of the Standard Specifications and are in quantity of Structural Steel.

All paint shall be furnished and applied by the Contractor involved.

Except as otherwise provided all Structural Steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 56.1 to 56.5 inclusive of the Standard Specifications.

All surfaces of expansion guards inaccessible after erection shall be given two shop coats of red lead paint. The ¾"φ welded studs shall not be painted.

Floor Drains shall not be paid for separately but are to be included in price bid for Class "X" concrete.

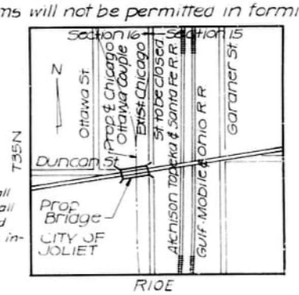
The contractor shall drive two (2) test piles in permanent locations as directed by the Engineer before ordering remainder of piles.

No rock larger than 3" shall be placed in fills in the area where piles are to be driven.

All steel bearing piles are to be driven to refusal.

All Structural Steel Shall Be A-36 Steel.

Permanent forms will not be permitted in forming the concrete floor.



LOCATION PLAN

TOTAL BILL OF MATERIAL

SEC 99-4HB

Item	Code	Unit	Super	Sub	Total
Class A Excavation for Structures		Cu. Yd.		243	243
Protective Coat		Sq. Yds.	2,800		2800
Class X concrete		Cu. Yd.	607.0	690.9	1297.9
Bridge Seat Sealant		Lump Sum			LS
Furnishing & Erecting Structural Steel		Pound	747,360		747,360
Reinforcement Bars		Pound	150,000	61,830	211,830
Furnishing Creosoted Piles		Lin. Ft.		750	750
Driving Timber Piles		Lin. Ft.		750	750
Furnishing Steel Piles 12 BP53		Lin. Ft.		2528	2528
Furnishing Steel Piles 10 BP42		Lin. Ft.		3364	3364
Test Pile Steel 12 BP53		Each		1	1
Test Pile Steel 10 BP42		Each		1	1
Driving Steel Piles		Lin. Ft.		5892	5892
Expansion Joints		Lin. Ft.		[illegible]	[illegible]
Slopewall, 4"		Sq. Yds.		1280	1280
Drum Handrail		Lin. Ft.	[illegible]		[illegible]

Supplied at Abutment

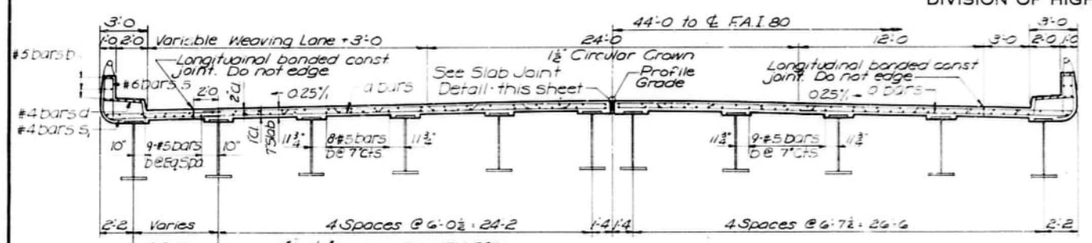
GENERAL PLAN AND ELEVATION
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F.A.I. ROUTE 80 — PROJECT I-80-4(31)134
SECTION 99-4HB — WILL COUNTY
Scale NO SCALE — Jan. 17, 1962

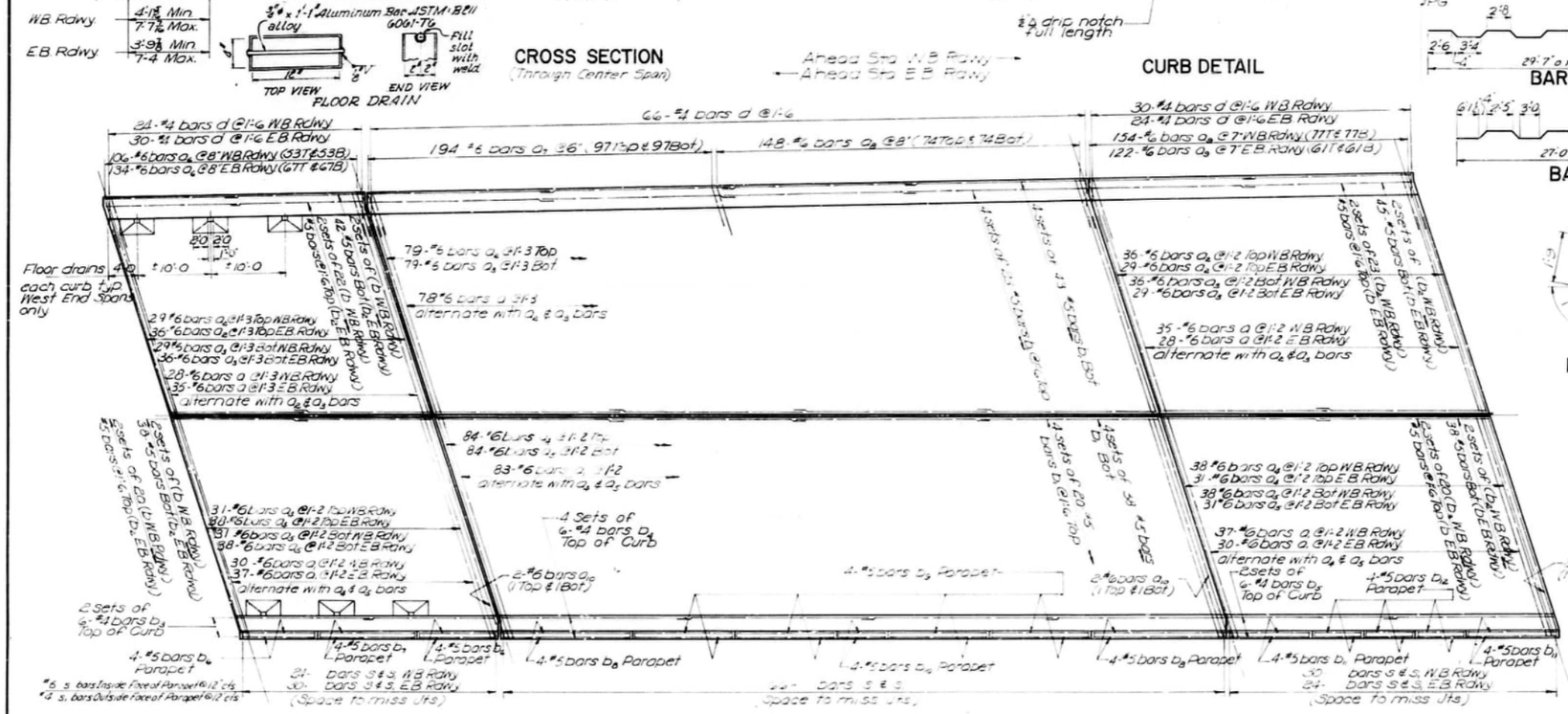
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
Woodbury, N.Y.

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

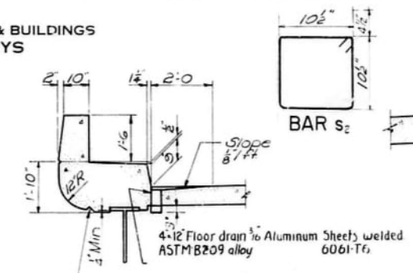
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
F.A.I. 80	99-4HB	WILL	192	100	SHEET NO. 2 OF 2 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT			



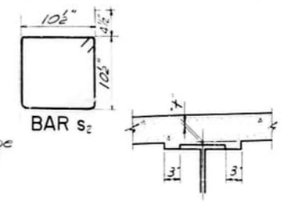
CROSS SECTION
(Through Center Span)



PLAN

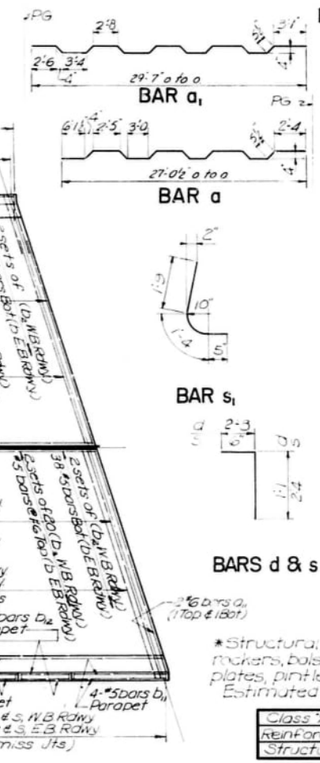


CURB DETAIL



After all structural steel has been erected elevations of the top flanges of the beams shall be taken at intervals shown on D.L. Deflection Diagram. From these elevations subtract the increment of deflections for these points determined from the D.L. Deflection Diagram. The elevations so obtained subtracted from the theoretical grade elevations minus floor thickness equals the fillet heights above top of beams.

METHOD OF DETERMINING FILLET HEIGHT "t"



BILL OF REINFORCEMENT

Bar	No.	Size	Lgth	Shape
a_1	282	#6	27'-11	
a_2	300	#6	30'-7	
a_3	288	#6	26'-3	—
a_4	288	#6	25'-9	—
a_5	302	#6	29'-9	—
a_6	302	#6	29'-3	—
a_7	240	#6	7'-9	—
a_8	388	#6	8'-6	—
a_9	296	#6	9'-6	—
a_{10}	276	#6	10'-6	—
a_{11}	8	#6	27'-9	—
a_{12}	4	#6	28'-9	—
b	500	#5	18'-0	—
b_1	992	#5	25'-3	—
b_2	500	#5	22'-6	—
b_3	48	#4	18'-0	—
b_4	96	#4	23'-0	—
b_5	48	#4	22'-6	—
b_6	32	#5	10'-6	—
b_7	16	#5	13'-0	—
b_8	32	#5	17'-9	—
b_9	64	#5	13'-3	—
b_{10}	16	#5	6'-6	—
b_{11}	32	#5	11'-3	—
b_{12}	48	#5	6'-9	—
d	480	#4	3'-9	T
s	708	#6	2'-10	T
s_1	480	#4	3'-6	L
s_2	6	#4	4'-3	▢

For location of Lamp posts and parapet details at Lamp posts, see sheet 6.

*Structural Steel includes weight of rockers, bolsters, bearing plates, lead plates, pintles and anchor bolts
Estimated Weight = 37,350 #

Class "X" Concrete	Cu. Yd.	607.0
Reinforcement Bars	lbs.	150,060
Structural Steel *	lbs.	747,360

BILL OF MATERIALS

SLAB JOINT DETAIL

SLAB PLAN & CROSS SECTION
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414 + 80.00

F.A.I. ROUTE 80 SECTION 99-4HB PROJECT WILL COUNTY

NO. SHEETS

BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
WOODBURY, N.J. NEW YORK, N.Y. CRYSTAL LAKE, ILL.

DESIGNED JC
CHECKED CS

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	101
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 3
12 SHEETS

ELEVATIONS-TOP OF SLAB *

(See sheet No. 4 for location of points)

Stringer \ Pt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	565.12	565.37	565.62	565.87	566.12	566.16	566.44	566.72	566.99	567.26	567.52	567.78	568.04	568.30	568.55	568.80	568.83	569.04	569.26	569.47	569.67	569.88
2	565.22	565.48	565.73	565.99	566.24	566.28	566.56	566.84	567.12	567.40	567.66	567.93	568.19	568.45	568.71	568.96	568.99	569.21	569.43	569.64	569.85	570.06
3	565.37	565.63	565.88	566.14	566.39	566.43	566.71	567.00	567.27	567.55	567.82	568.08	568.34	568.60	568.86	569.11	569.14	569.36	569.58	569.79	570.00	570.21
4	565.52	565.78	566.03	566.29	566.54	566.58	566.86	567.14	567.42	567.69	567.96	568.23	568.49	568.75	569.00	569.25	569.29	569.51	569.72	569.94	570.14	570.35
5	565.65	565.91	566.16	566.42	566.67	566.71	566.99	567.27	567.55	567.82	568.09	568.36	568.62	568.88	569.13	569.38	569.41	569.63	569.85	570.06	570.27	570.48
6	565.72	565.98	566.23	566.49	566.74	566.78	567.06	567.34	567.62	567.89	568.16	568.42	568.69	568.94	569.20	569.45	569.48	569.70	569.91	570.13	570.34	570.54
7	565.74	565.99	566.24	566.50	566.75	566.79	567.07	567.35	567.63	567.90	568.17	568.44	568.70	568.95	569.21	569.46	569.49	569.71	569.92	570.14	570.35	570.55
8	565.71	565.96	566.22	566.47	566.72	566.76	567.05	567.32	567.60	567.87	568.14	568.41	568.67	568.92	569.18	569.43	569.46	569.68	569.89	570.10	570.31	570.52
9	565.61	565.87	566.12	566.38	566.63	566.67	566.95	567.23	567.51	567.78	568.04	568.31	568.57	568.83	569.08	569.33	569.36	569.58	569.79	570.00	570.21	570.42
10	565.50	565.76	566.01	566.26	566.52	566.56	566.84	567.12	567.39	567.66	567.93	568.20	568.46	568.71	568.96	569.21	569.24	569.46	569.68	569.89	570.10	570.30
11	565.39	565.64	565.90	566.15	566.41	566.44	566.73	567.00	567.28	567.55	567.82	568.08	568.34	568.60	568.85	569.10	569.13	569.35	569.56	569.77	569.98	570.19
12	565.52	565.78	566.03	566.28	566.54	566.57	566.85	567.13	567.40	567.67	567.94	568.20	568.46	568.71	568.96	569.21	569.24	569.46	569.67	569.88	570.09	570.29
13	565.69	565.94	566.20	566.45	566.70	566.74	567.02	567.29	567.57	567.84	568.10	568.36	568.62	568.87	569.12	569.37	569.40	569.62	569.83	570.04	570.25	570.45
14	565.86	566.11	566.36	566.61	566.87	566.90	567.18	567.46	567.73	568.00	568.26	568.52	568.78	569.04	569.29	569.53	569.56	569.78	569.99	570.20	570.41	570.61
15	566.00	566.26	566.51	566.76	567.01	567.05	567.33	567.61	567.88	568.15	568.41	568.67	568.93	569.18	569.43	569.68	569.71	569.92	570.14	570.34	570.55	570.75
16	566.09	566.34	566.59	566.84	567.09	567.13	567.41	567.69	567.96	568.22	568.49	568.75	569.01	569.26	569.51	569.75	569.79	570.00	570.21	570.42	570.63	570.83
17	566.10	566.35	566.60	566.85	567.10	567.14	567.42	567.70	567.97	568.24	568.50	568.76	569.02	569.27	569.52	569.76	569.80	570.01	570.22	570.43	570.64	570.84
18	566.07	566.32	566.58	566.83	567.08	567.12	567.40	567.67	567.94	568.21	568.47	568.73	568.99	569.24	569.49	569.74	569.77	569.98	570.19	570.40	570.61	570.81
19	565.99	566.24	566.50	566.75	567.00	567.04	567.32	567.59	567.86	568.13	568.39	568.65	568.91	569.16	569.41	569.65	569.68	569.90	570.11	570.32	570.52	570.72
20	565.89	566.14	566.40	566.65	566.90	566.94	567.21	567.49	567.76	568.03	568.29	568.55	568.80	569.06	569.30	569.55	569.58	569.79	570.00	570.21	570.42	570.62
21	565.79	566.04	566.30	566.55	566.80	566.83	567.11	567.39	567.66	567.92	568.18	568.44	568.70	568.95	569.20	569.44	569.48	569.69	569.90	570.11	570.31	570.51
22	565.67	565.92	566.18	566.43	566.63	566.72	567.00	567.28	567.55	567.82	568.09	568.35	568.61	568.86	569.11	569.36	569.39	569.61	569.82	570.03	570.24	570.44

* Where curb is over stringer elevation shown is that of he projection of the top of the slab along its cross slab.

TOP OF STEEL ELEVATIONS

(See Sheet No. 4 for locations of points)

Stgr. \ Pt.	1	5	6	Web Splice	Web Splice	16	17	22
1	564.49	565.49	565.51	566.31	567.44	568.15	568.20	569.25
2	564.59	565.61	565.61	566.42	567.60	568.29	568.36	569.43
3	564.74	565.76	565.76	566.57	567.75	568.44	568.51	569.58
4	564.89	565.91	565.91	566.72	567.90	568.58	568.66	569.72
5	565.02	566.04	566.04	566.85	568.03	568.71	568.78	569.85
6	565.09	566.11	566.11	566.91	568.09	568.78	568.85	569.91
7	565.11	566.12	566.12	566.93	568.11	568.79	568.86	569.92
8	565.08	566.09	566.09	566.91	568.09	568.78	568.83	569.89
9	564.98	566.00	566.00	566.82	567.99	568.66	568.73	569.79
10	564.87	565.89	565.89	566.70	567.88	568.54	568.63	569.67
11	564.76	565.78	565.80	566.61	567.78	568.46	568.50	569.56
12	564.89	565.91	565.93	566.73	567.90	568.57	568.61	569.66
13	565.06	566.07	566.07	566.88	568.04	568.70	568.77	569.82
14	565.23	566.24	566.23	567.04	568.20	568.86	568.93	569.98
15	565.37	566.38	566.38	567.19	568.35	569.01	569.08	570.12
16	565.46	566.47	566.46	567.26	568.42	569.0[illegible]	569.16	570.20
17	565.47	566.48	566.47	567.2[illegible]	568.42	569.0[illegible]	569.17	570.21
18	565.44	566.45	566.45	567.2[illegible]	568.40	569.02	569.14	570.18
19	565.36	566.37	566.37	567.16	568.32	568.98	569.05	570.09
20	565.26	566.27	566.2[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	569.99
[illegible]	[illegible]	566.17	[illegible]	[illegible]	568.11	568.77	[illegible]	569.88

DESIGNED H S R
CHECKED C S
CHECKED

SLAB ELEVATIONS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F A I ROUTE 80 — PROJECT
SECTION 99-4HB — WILL COUNTY

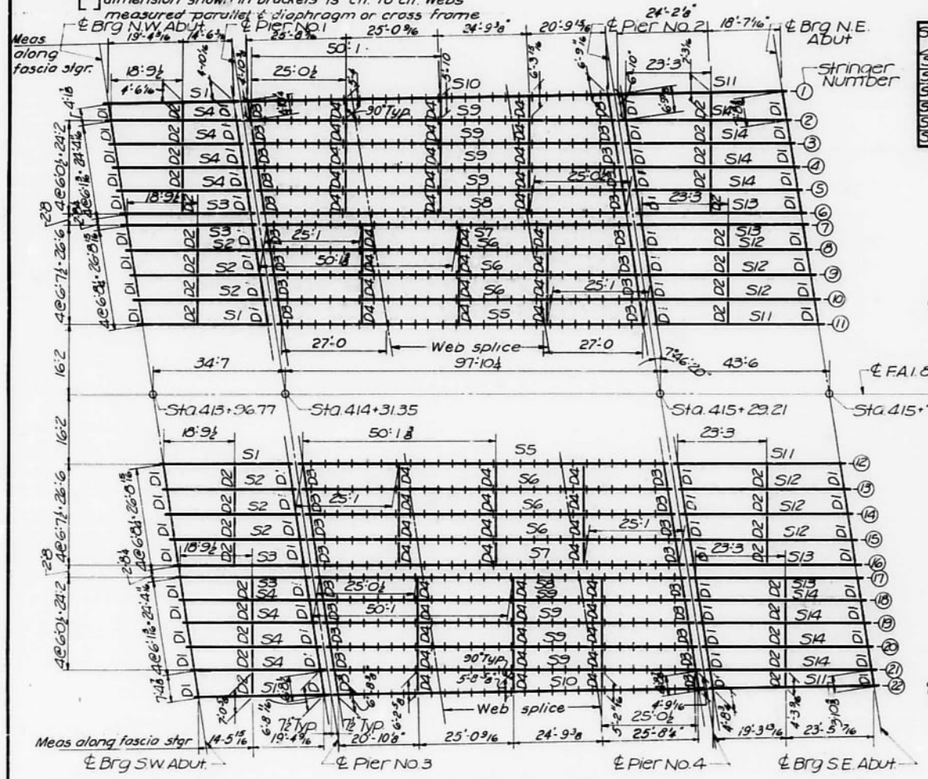
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HR	WILL	192	102
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 4
12 SHEETS

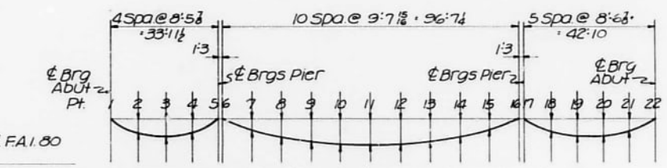
Note: Flange and web splices to clear intermediate stiffeners by 1-0. Intermediate stiffeners to be spaced equally between cross frames with number as shown on Framing Plan.
[ ] dimension shown in brackets is ctr. to ctr. Webs measured parallel ℄ diaphragm or cross frame.



FRAMING PLAN

Note: All Plan dimensions are in a horizontal plane.

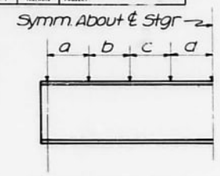
Stgr. / Pt.	2	3	4	7	8	9	10	11	12	13	14	15	18	19	20	21
	Δ*															
S1-S5-S11	0.007	0.010	0.007	0.063	0.116	0.162	0.192	0.198	0.192	0.162	0.116	0.063	0.015	0.024	0.024	0.015
S2-S6-S12	0.011	0.015	0.011	0.048	0.088	0.123	0.146	0.150	0.146	0.123	0.088	0.048	0.017	0.028	0.028	0.017
S3-S7-S13	0.008	0.011	0.008	0.038	0.071	0.100	0.118	0.122	0.118	0.100	0.071	0.038	0.012	0.021	0.021	0.012
S3-S8-S13	0.008	0.011	0.008	0.040	0.074	0.103	0.122	0.126	0.122	0.103	0.074	0.040	0.012	0.021	0.021	0.012
S4-S9-S14	0.010	0.014	0.010	0.048	0.089	0.125	0.148	0.152	0.148	0.125	0.089	0.048	0.016	0.026	0.026	0.016
S1-S10-S11	0.007	0.010	0.007	0.061	0.112	0.151	0.186	0.192	0.186	0.157	0.112	0.061	0.015	0.024	0.024	0.015



* Δ = Dead load deflection in feet due to weight of slab.

DEAD LOAD DEFLECTIONS

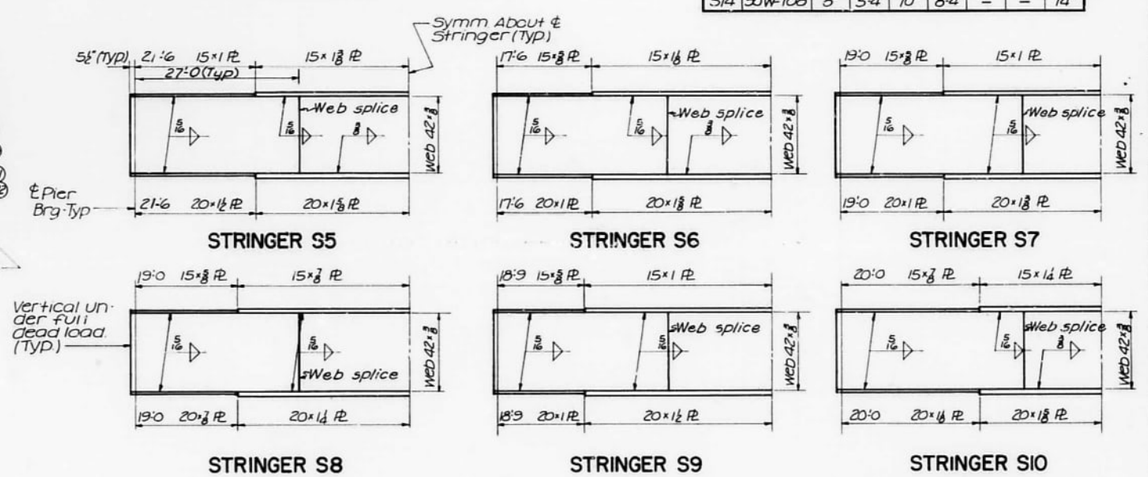
Symm. About ℄ Stgr. 2

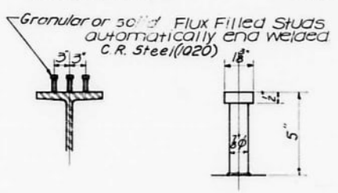


STRINGER DETAIL

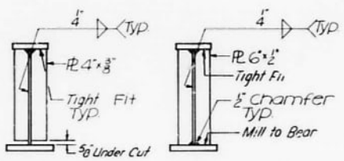
SHEAR CONNECTOR SPACING & THEO. CAMBER

Stgr. Work	Size	Shear connector Spacing a Pitch	a Lgth	b Pitch	b Lgth	c Pitch	c Lgth	d Pitch
S1	36WF135	—	—	—	—	—	—	—
S2	27WF102	—	—	—	—	—	—	—
S3	27WF94	—	—	—	—	—	—	—
S4	27WF102	—	—	—	—	—	—	—
S5	See Details This Sht.	10"	15'-0	13"	11'-11	16"	10'-8	20"
S6		10"	15'-0	13"	11'-11	16"	10'-8	20"
S7		11"	13'-9	14"	11'-8	17"	14'-2	22"
S8		12"	15'-0	15"	8'-9	18"	13'-6	23"
S9		11"	13'-9	14"	10'-6	17"	12'-9	21"
S10		11	13'-9	14"	10'-6	17"	12'-9	21"
S11	36WF135	13½"	7'-5½"	—	—	—	—	18"
S12	30WF116	7½"	8'-9	10"	8'-4	—	—	14"
S13	30WF108	8"	5'-4	10"	8'-4	—	—	14"
S14	30WF108	8"	5'-4	10"	8'-4	—	—	14"





SHEAR CONNECTOR DETAILS
2715 Req'd Span 2 each bridge
1662 Req'd Span 3 each bridge
Weight included in Structural Steel quantity.

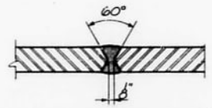


INTERMEDIATE BEARING

Note: All Bearing Stiffeners to be vertical. All Intermediate Stiffeners to be normal to the flanges.

STIFFENER DETAILS

FLANGE SPLICE



PERMISSIBLE SHOP WEB SPLICE

FRAMING PLAN AND STEEL DETAILS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F.A.I. ROUTE 80 — PROJECT
SECTION 99-4HR — WILL COUNTY

DESIGNED M
CHECKED C.S.
CHECKED R.H.

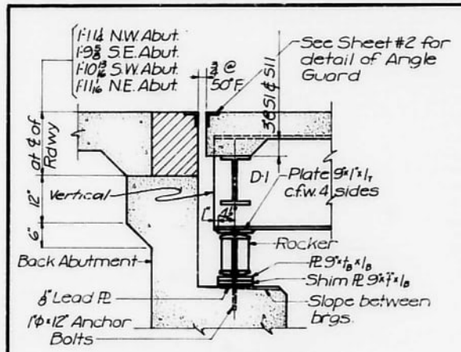
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
GOODBURY, N.J. NEW YORK, N.Y. CRYSTAL LAKE, ILL.

Rev. 4-6-63 L.D. Changed height of shear connectors 4" to 5".

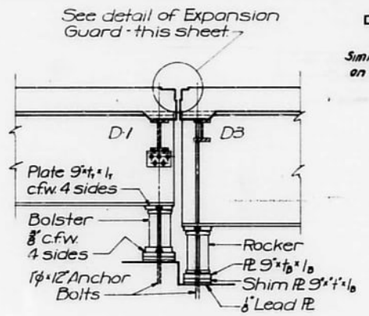
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	103
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

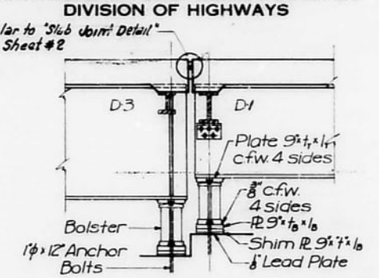
SHEET NO. 5
12 SHEETS



SECTION AT ABUTMENTS



PIERS 1 & 3



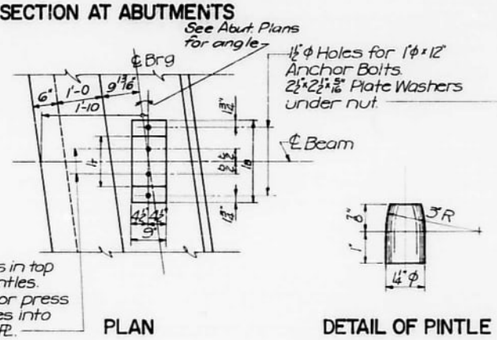
PIERS 2 & 4

DIMENSIONS FOR BEARINGS

Stringer	Brg.	l_T	l_B	c.f.w.	t_B	t_T	b
S1 ℄ S11	Fixed	13½"	21"	⅝"	1"	1⅛"	6½"
	Exp.	13"	20½"	½"	1⅛"	1"	6½"
S2 to S4	Fixed	11"	18½"	½"	⅞"	1¼"	5½"
	Exp.	11"	18½"	⅜"	1¼"	1"	5½"
S5 to S10	Fixed	21"	28½"	½"	⅞"	1"	2@5½"
	Exp.	21"	28½"	⅜"	1¼"	1"	2@5½"
S12 to S14	Fixed	11½"	19"	½"	⅞"	1⅛"	5½"
	Exp.	11½"	19"	⅜"	1⅛"	1"	5½"

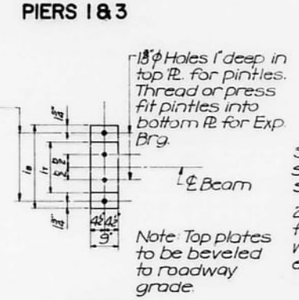
TABLE OF "t" DIMENSIONS

Str. No.	N.W. Abut.	Pier #1 Bk	Pier #1 Ahd	Pier #2 Bk	Pier #2 Ahd	N.E. Abut.	S.W. Abut.	Pier #3 Bk	Pier #3 Ahd	Pier #4 Bk	Pier #4 Ahd	S.E. Abut.
6	5/16	⅜	5/16	⅜	7/16	7/16						
7	7/16	½	5/16	⅜	5/16	5/16						
16							5/16	5/16	⅜	5/16	5/16	¼
17							7/16	7/16	⅜	5/16	5/16	5/16

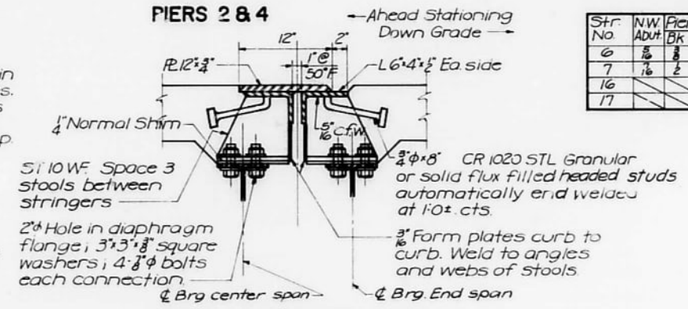


PLAN

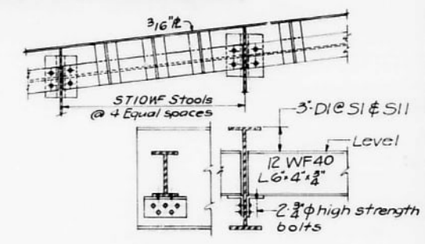
DETAIL OF PINTLE



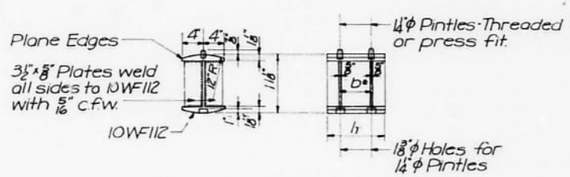
PLAN



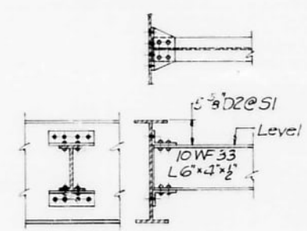
DETAIL OF EXPANSION GUARD



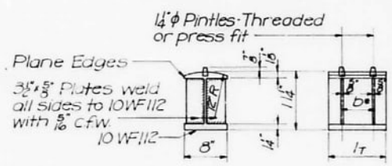
DIAPHRAGM D1



DETAIL OF EXPANSION BEARING

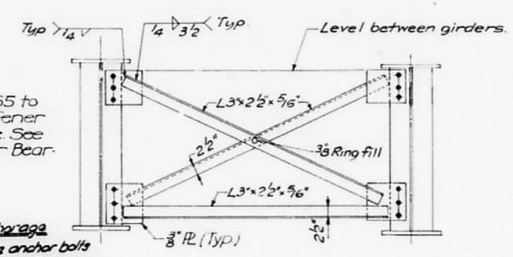


DIAPHRAGM D2

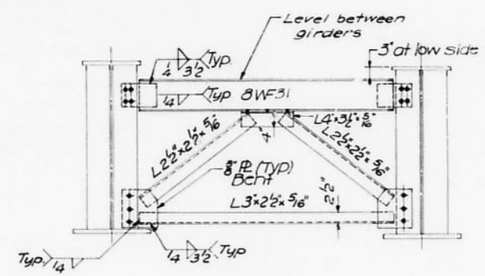


DETAIL OF FIXED BEARING

*For stringers S5 to S10 add a ⅜" stiffener plate and pintle. See "Dimensions For Bearings."



DIAPHRAGM D4



DIAPHRAGM D3

Bearings and Anchorage

The location of the anchor bolts and vertical alignment of the expansion bearings shall be adjusted to the temperature at the time of erection. See Art. 54.9(1).

Anchor Bolts shall be grouted into drilled holes after bearing area is [illegible]

DESIGNED	C.S.
CHECKED	M.
CHECKED	R.H.

BEARING AND DIAPHRAGM DETAILS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

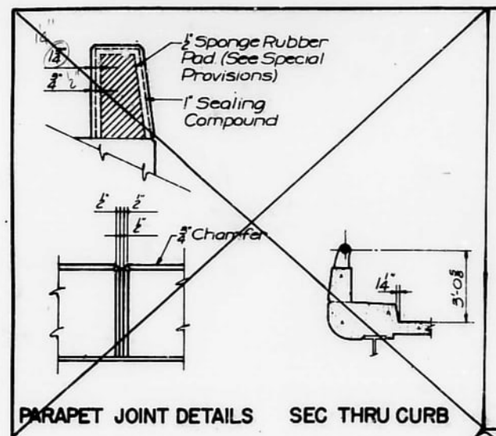
F.A.I. ROUTE 80 — PROJECT
SECTION 99-4HB — WILL COUNTY
SCALE: NO SCALE

BLAUVELT ENGINEERING CO.
WOODBURY, N.J. — NEW YORK, N.Y. — CRYSTAL LAKE

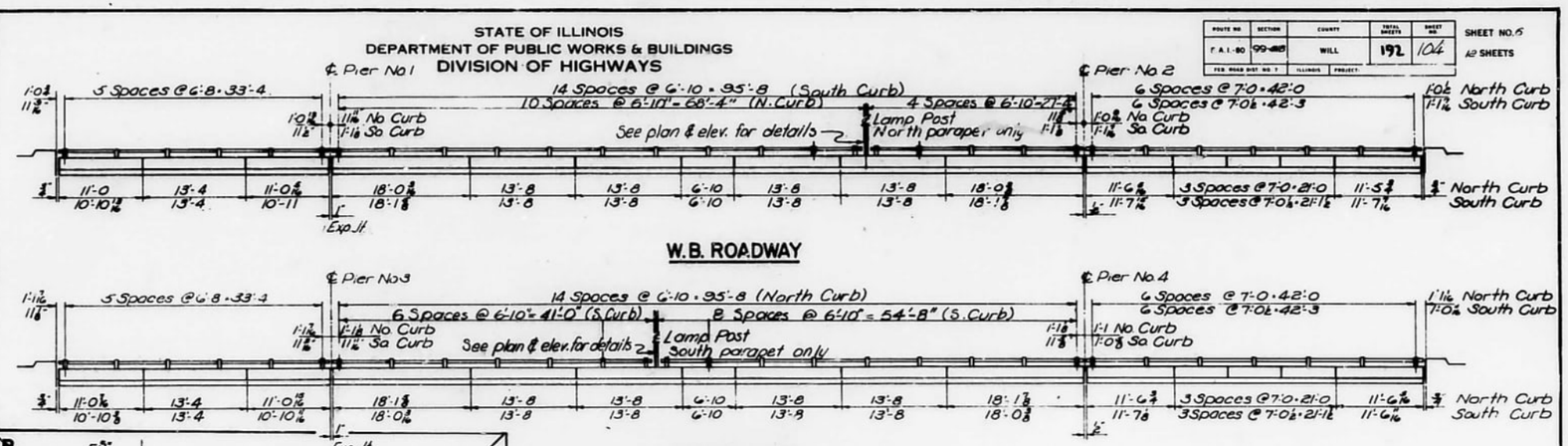
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	104
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 15
42 SHEETS

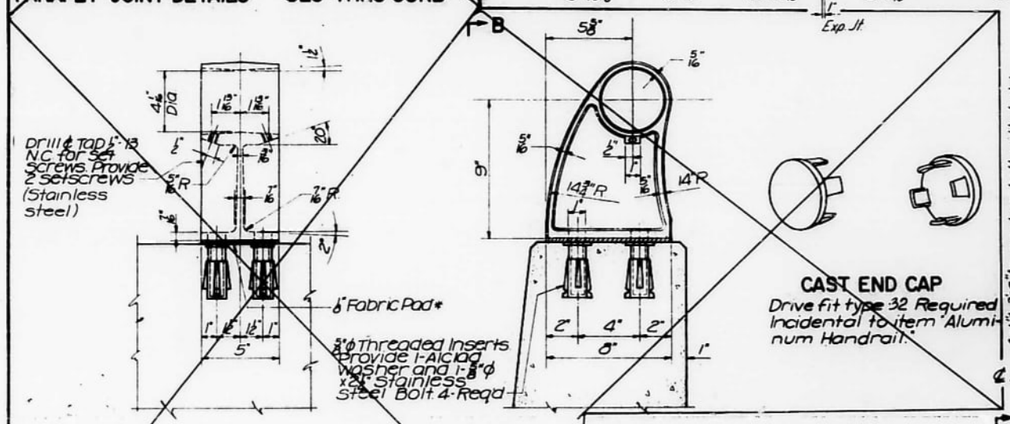


PARAPET JOINT DETAILS SEC THRU CURB



W.B. ROADWAY

E.B. ROADWAY

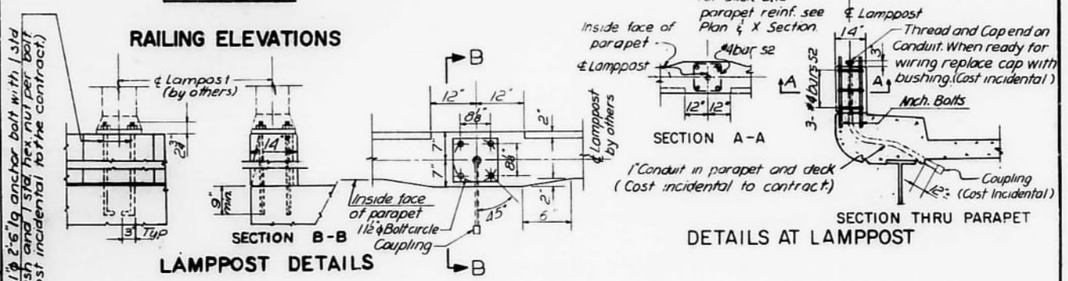


VIEW B-B SECTION A-A

RAIL POST DETAILS

* For each post provide 6" prefabricated pad (See Article 549(f) of the Standard Specifications) Cost to be incidental to the contract

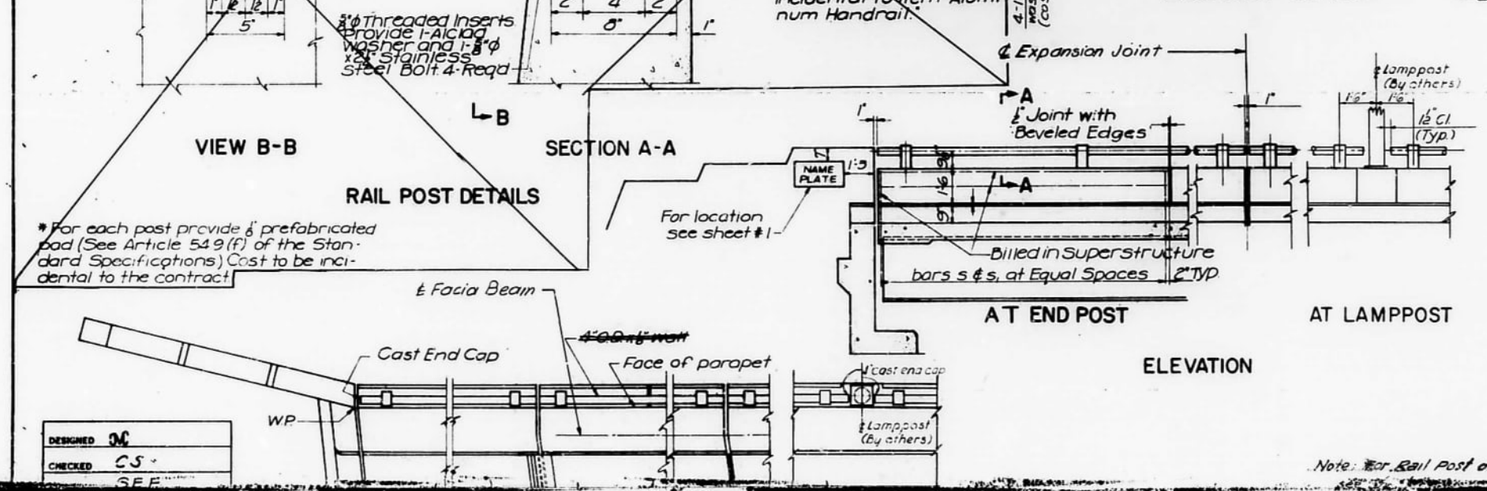
RAILING ELEVATIONS



LAMPPOST DETAILS DETAILS AT LAMPPOST

BILL OF MATERIAL

Item	Unit	Quantity
Aluminum Handrail	Lin. Ft.	708



AT END POST AT LAMPPOST

ELEVATION

AT END POST AT LAMPPOST

NOTES

All posts shall be placed normal to parapet.
All posts shall conform to ASTM Specification B-108 alloy SG-70B-T6.
All Rail tubing shall conform to ASTM specification B-221 alloy 6S-11A-T6.
Alclad washers shall be made from sheet conforming to ASTM Specification B209 alloy clad CG-42A-T4.
Rail tubing may be cut to a maximum of 3 panel lengths.
Set screws shall be of Aluminum containing to ASTM specification B-211 alloy CG-42A-T4.

RAILING DETAILS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414 + 80.00

F.A.I. ROUTE 80 PROJECT
SECTION 99-4HB WILL COUNTY

Note: For Rail Post details and Notes

DESIGNED M
CHECKED C.S.
S.E.E.
R.H.

BLAUVELT ENGINEERING CO.
NEW YORK N.Y. — CRYSTAL LAKE, ILL.

104-2

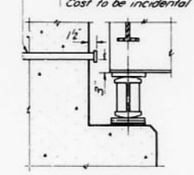
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-4	Will	192	104A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

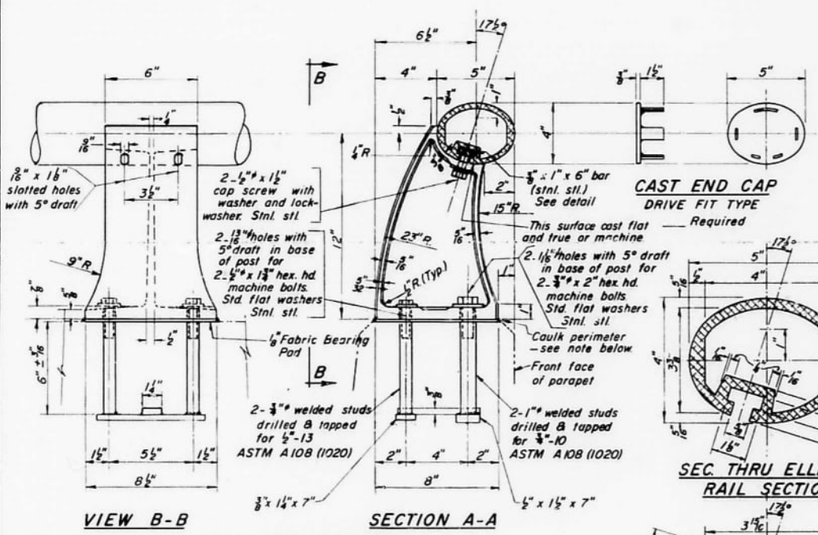
SHEET NO. 6A
12 SHEETS

Note: For Rail Post Spacing see Sheet #6 of 12

Locate 3" ø Conduit 12" ± inside of fascia beam web and parallel to beam line. Extend to clear the end of end post or wing and terminate of a point outside of shoulder. Thread and cap each end. Place at corners of superstructure. Cost to be incidental to bridge structure.



CONDUIT LOCATION AT ABUTMENT

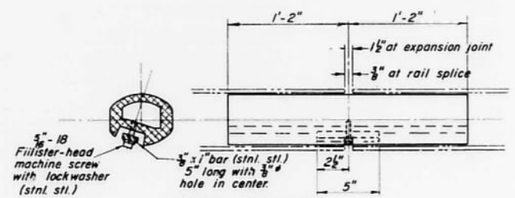


VIEW B-B

SECTION A-A

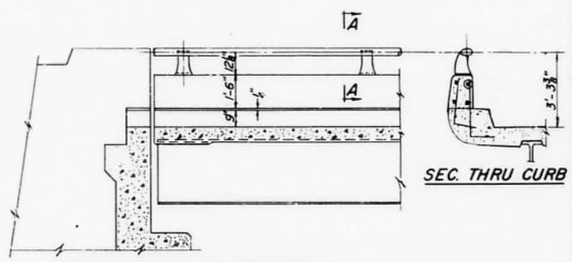
RAIL POST DETAILS

CAST END CAP
DRIVE FIT TYPE
Required



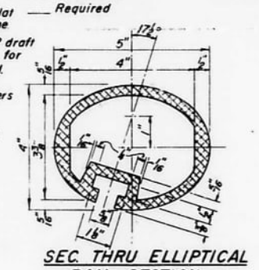
RAIL SPLICE

Notch top of slot in rails to clear ⅝" screw.

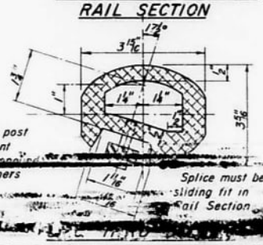


SEC. THRU CURB

INSIDE VIEW AT ABUTMENT

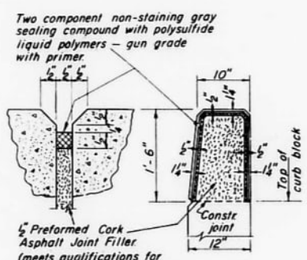


SEC. THRU ELLIPTICAL RAIL SECTION

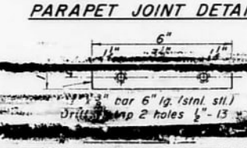


Note:
Seal perimeter of base of post to parapet with two component polysulfide liquid polymers — gun grade with primer.

Splice must be a sliding fit in Rail Section.



PARAPET JOINT DETAIL



NOTES:

All Posts shall be normal to parapet.

All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-221 alloy 6061-T6 and shall extend a minimum of 2 panel lengths (attached to a minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.

See Special Provisions for following Material Specifications:

Cast Aluminum Alloy Bridge Post — Alloy A344-T4
Stainless Steel Bars, Cap Screws, Washers and Lockwashers.
Fabric Bearing Pad

METHOD of MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.

BASIS of PAYMENT: Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.

Cost of rail splice, end caps, and hardware to be incidental to item ALUMINUM HANDRAIL.

Provide 1-⅛" and 2-⅛" Aluminum Shims for 2.5% on the Posts. Rail element shall be parallel to Grade — high spots shall be ground, and low spots shimmed.

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e		#5		
e1		#5		
e2		#5		
e3		#5		
e4		#5		
Class X Concrete			Cu. Yds.	
Reinforcement Bars			Lbs.	
Aluminum Handrail			Lin. Ft.	

ALUMINUM HANDRAIL

F.A.I. RT. 80
SEC. 99-4HB
WILL COUNTY

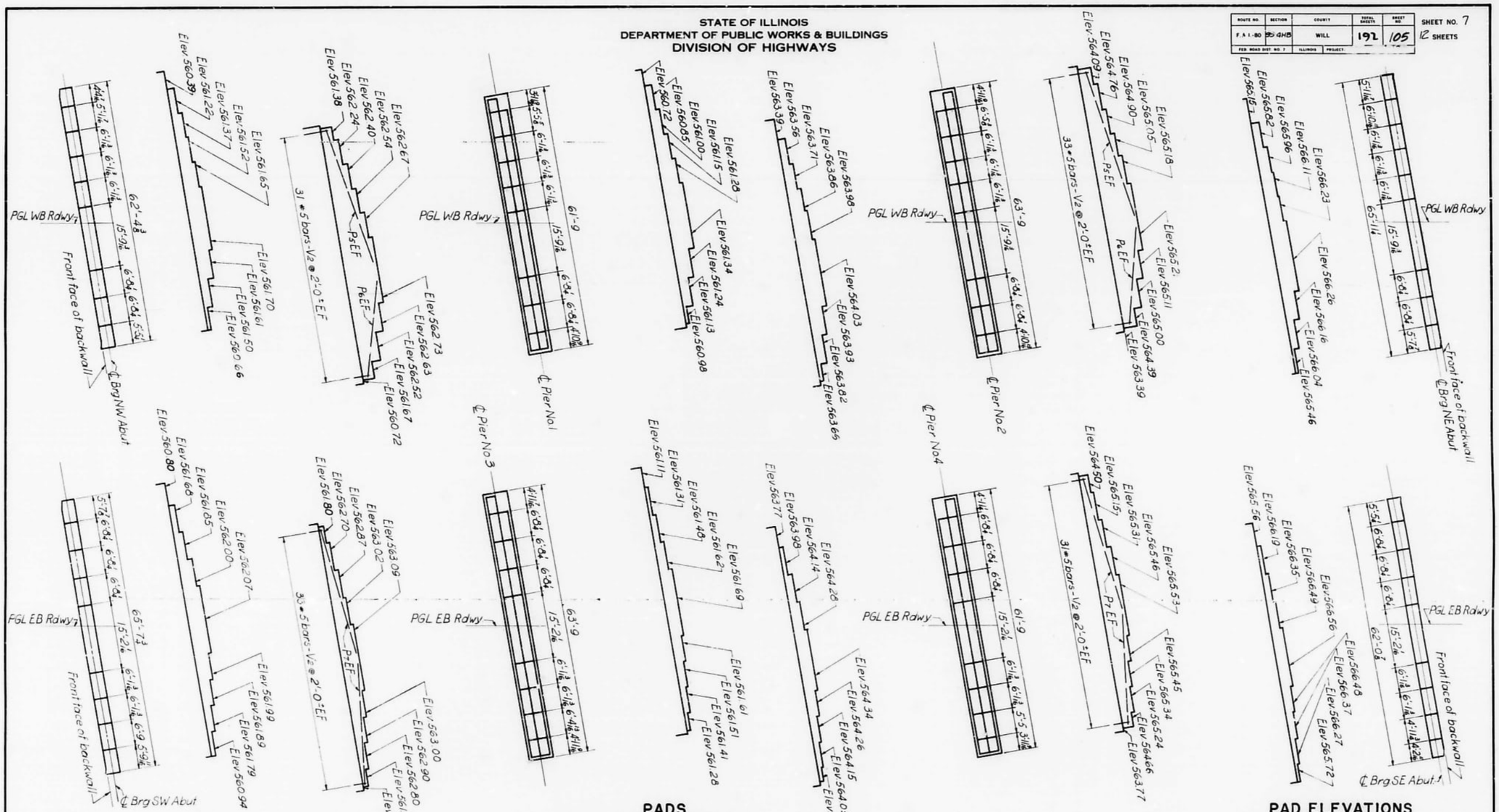
DESIGNED	EXAMINED	19
CHECKED	PASSED	ENGINEER OF TRAFFIC STRUCTURES
DRAWN Wm. M. Best	APPROVED	ENGINEER OF BRIDGES
CHECKED		

Rev. 15-65, 1-3-66

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	80-4HB	WILL	192	105
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 7
12 SHEETS



PADS
BILL OF REINFORCING

Bar	No	Size	Lgth	Shape
P5	4	#4	36'-3	—
P6	4	#4	23'-9	—
P7	8	#4	[illegible]	—
V2	256	[illegible]	2'-0	—

PAD ELEVATIONS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F.A.I. ROUTE 80 PROJECT
WILL COUNTY

BLAUVELT ENGINEERING CO.

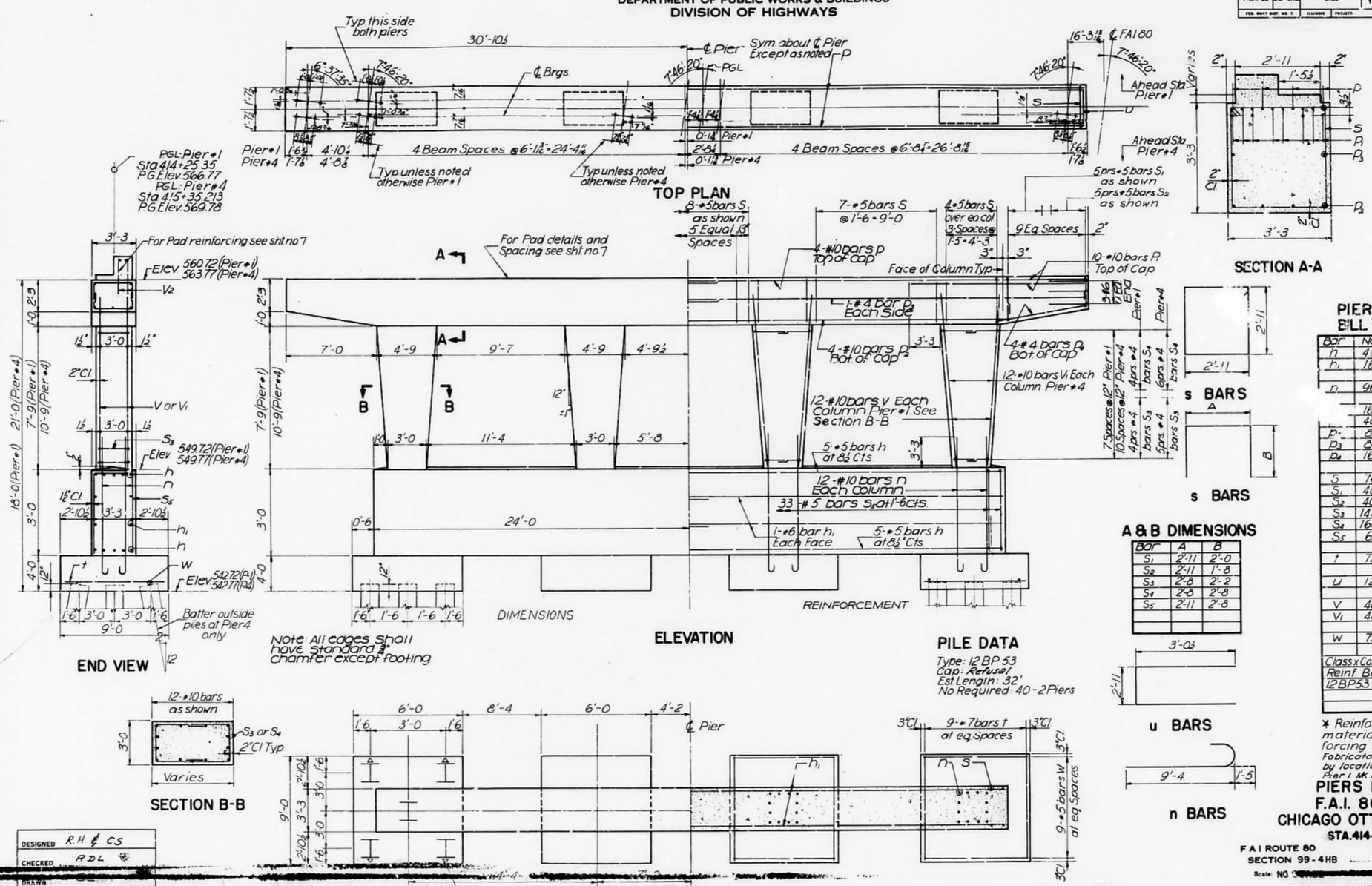
DESIGNED M
CHECKED C.S.
DRAWN

10-4-2

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	106

SHEET NO. 8
12 SHEETS



PIERS #1 & #4 BILL OF MATERIAL

Bar	NO.	SIZE	Lgth	Shape
n	40	5	24'-9	
h_1	16	6	24'-6	
v_1	96	10	10'-9	
	16	10	32'-6	
	40	10	14'-9	
p	8	10	48'-0	
p_3	8	4	31'-3	
p_4	16	4	7'-0	
s	76	5	12'-8	
s_1	40	5	6'-11	
s_2	40	5	6'-3	
s_3	144	4	7'-0	
s_4	160	4	8'-0	
s_5	66	5	8'-3	
t	72	7	8'-6	
u	12	6	9'-0	
v	48	10	10'-9	
v_1	48	10	13'-9	
w	72	5	5'-6	
Class X Concrete			Cu Yd	190.4
Reinf Bars *			Lb	23,820
12 BP 53 Piles			L F	1280

* Reinforcement in Bill of material includes reinforcing in pads
Fabricator shall identify bars by location and bar mark, i.e., Pier 1 Mk h.

PIERS NO. 1 & 4
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F A I ROUTE 80 PROJECT
SECTION 99-4HB WILL COUNTY
Scale: NO SCALE

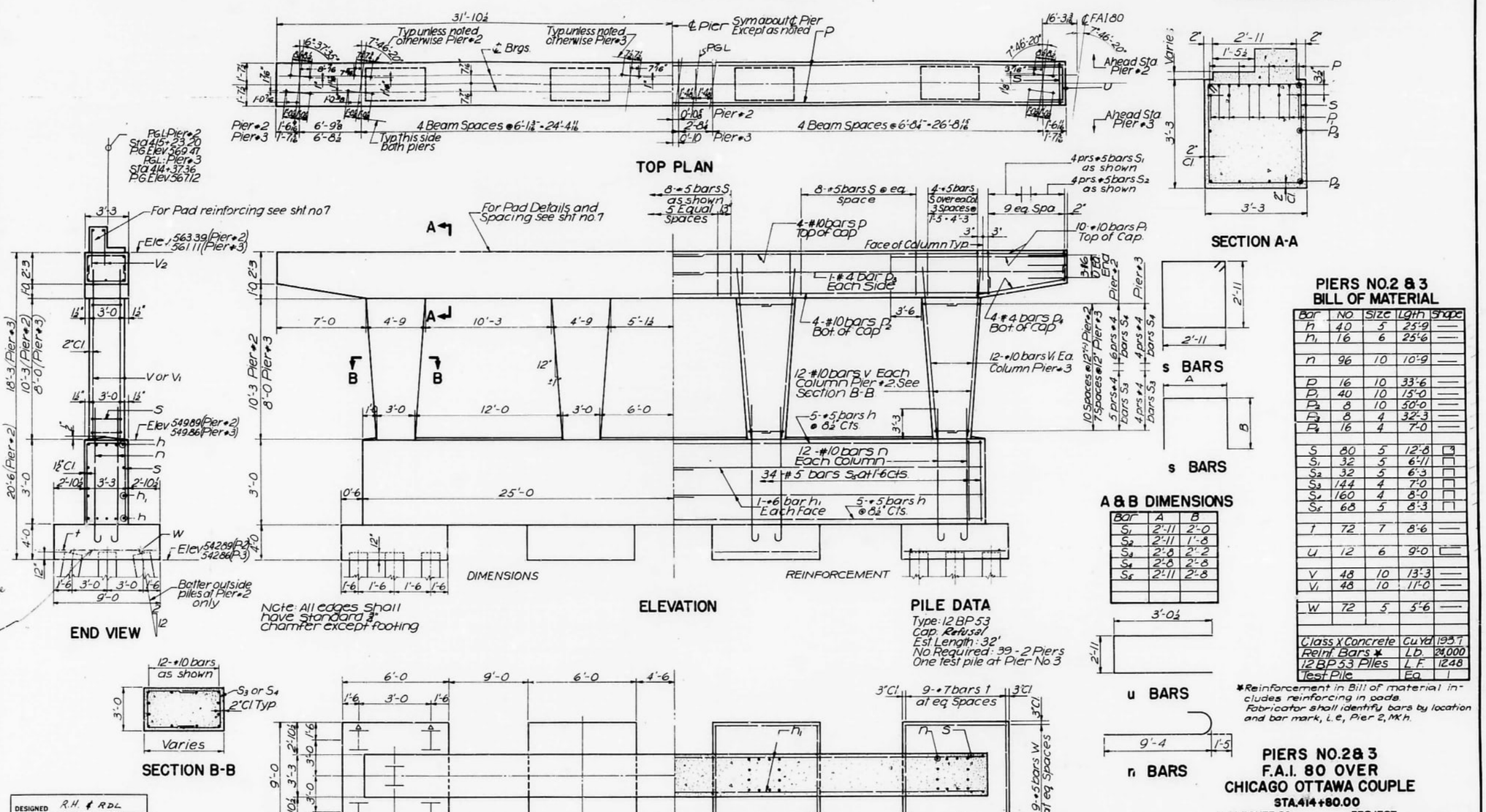
BLAUVELT ENGINEERING

DESIGNED	R.H. & C.S.
CHECKED	R.D.L.
DRAWN	
CHECKED	

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	107
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 9
12 SHEETS



PIERS NO.2 & 3
BILL OF MATERIAL

Bar	No	Size	Lgth	Shape
h	40	5	25'-9	—
h1	16	6	25'-6	—
n	96	10	10'-9	—
P	16	10	33'-6	—
P1	40	10	15'-0	—
P2	8	10	50'-0	—
P3	8	4	32'-3	—
P4	16	4	7'-0	—
S	80	5	12'-8	
S1	32	5	6'-11	
S2	32	5	6'-3	
S3	144	4	7'-0	
S4	160	4	8'-0	
S5	68	5	8'-3	
t	72	7	8'-6	—
u	12	6	9'-0	
V	48	10	13'-3	—
V1	48	10	11'-0	—
W	72	5	5'-6	—
Class X Concrete			Cu Yd	195.7
Reinf Bars *			Lb.	24,000
12 BP 53 Piles			L.F.	1248
Test Pile			Ea.	1

*Reinforcement in Bill of material includes reinforcing in pads. Fabricator shall identify bars by location and bar mark, i.e, Pier 2, Mk h.

A & B DIMENSIONS

Bar	A	B
S1	2'-11	2'-0
S2	2'-11	1'-8
S3	2'-8	2'-2
S4	2'-8	2'-8
S5	2'-11	2'-8

PILE DATA

Type: 12 BP 53
Cap: Refusal
Est Length: 32'
No Required: 39 - 2 Piers
One test pile at Pier No 3

DESIGNED	R.H. & R.D.L.
CHECKED	C.S.
DRAWN	
CHECKED	

PIERS NO.2 & 3
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F.A.I. ROUTE 80 — PROJECT
SECTION 99-4HB — WILL COUNTY

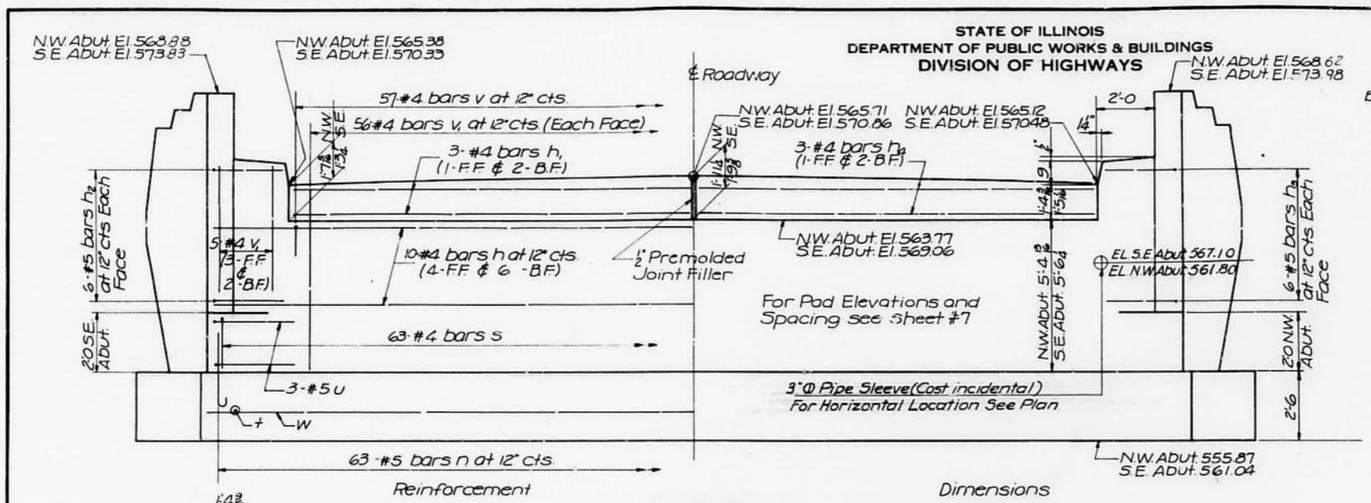
NO SCALE

BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS

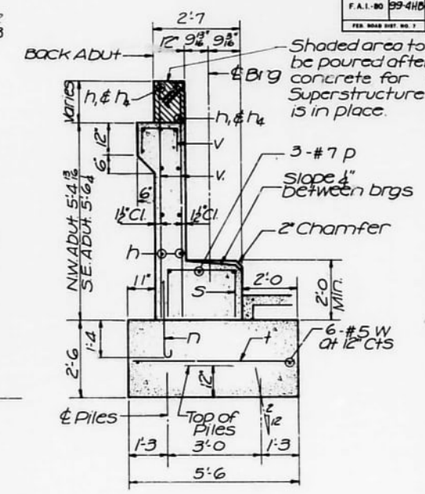
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	99-4HB	WILL	192	108
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT-		

SHEET NO. 10
12 SHEETS



ELEVATION
At Right Angles to Rdwy



SECTION A-A

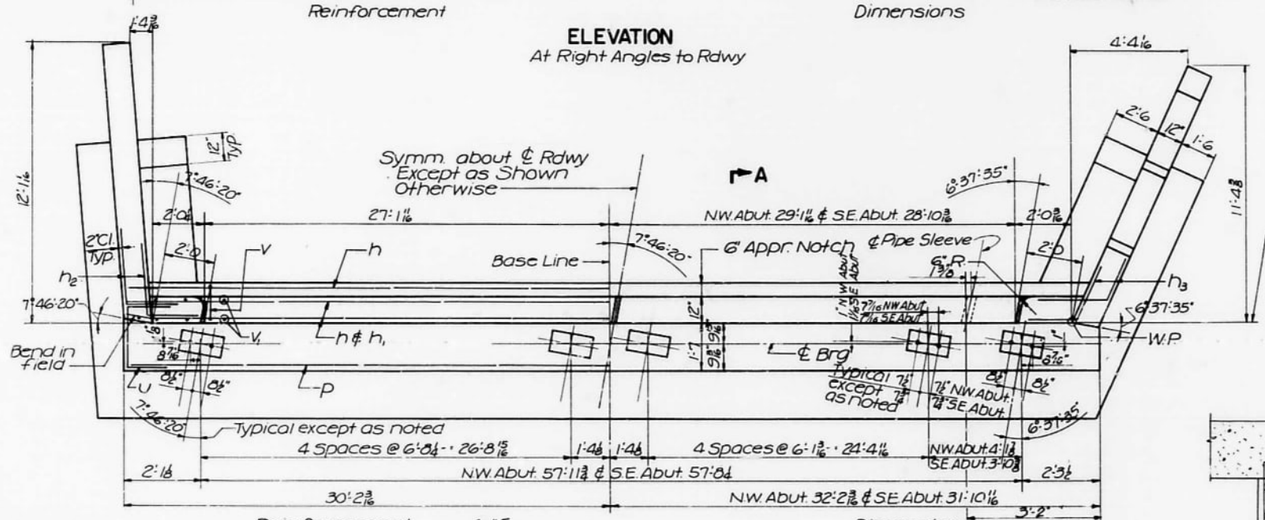
SE & NW ABUTMENT BILL OF REINFORCEMENT

Bar	No.	Size	Lgth	Shape
h	40	#4	31-6	—
h1	6	#4	26-9	—
h2	12	#5	4-9	L
h3	12	#5	4-9	L
h4	6	#4	28-6	—
n	126	#5	3-9	⊃
n1	56	#5	4-0	⊃
p	12	#7	31-6	—
s	126	#4	5-11	⊓
t	118	#5	5-0	—
t1	48	#5	4-6	—
u	12	#5	5-2	⊓
v	114	#4	2-9	⊓
v1	132	#4	6-6	—
w	24	#5	30-0	—
w1	10	#5	10-9	—
w2	10	#5	10-6	—

SE & NW ABUTMENT BILL OF MATERIAL

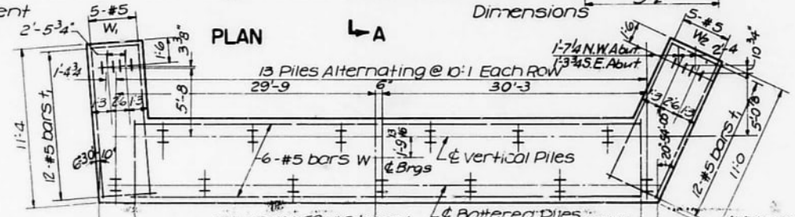
Item	Unit	Quan.
Class X Concrete	cu.yds.	150.2
Reinf. Bars	lbs.	6890
10BP42 Piles	Lin.Ft.	1717

Note: Bill of Material includes Reinforcement and Class X concrete for End Posts. Fabricator shall identify bars by location and bar mark i.e., S.E. Abut, Mk h.

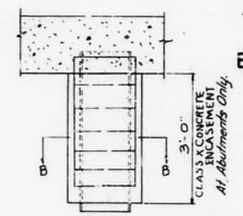


PLAN

For Details of End Post see Sheet 12.

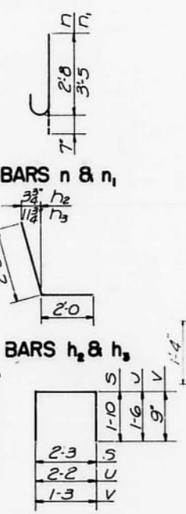


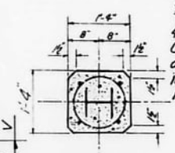
SOUTH PLAN



TYPICAL PILE ENCASEMENT

PILE DATA
Type - 10BP42
Capacity - Refusal
Est. Length - 57 Feet S.E. 44 Feet N.W.





SECTION B-B

Note: Welded wire fabric 6" x 6" Mesh 4 & 4 Wires - Wt. 58 #/100 sq. ft. plus 4 #4 f.i.e. bars. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles.

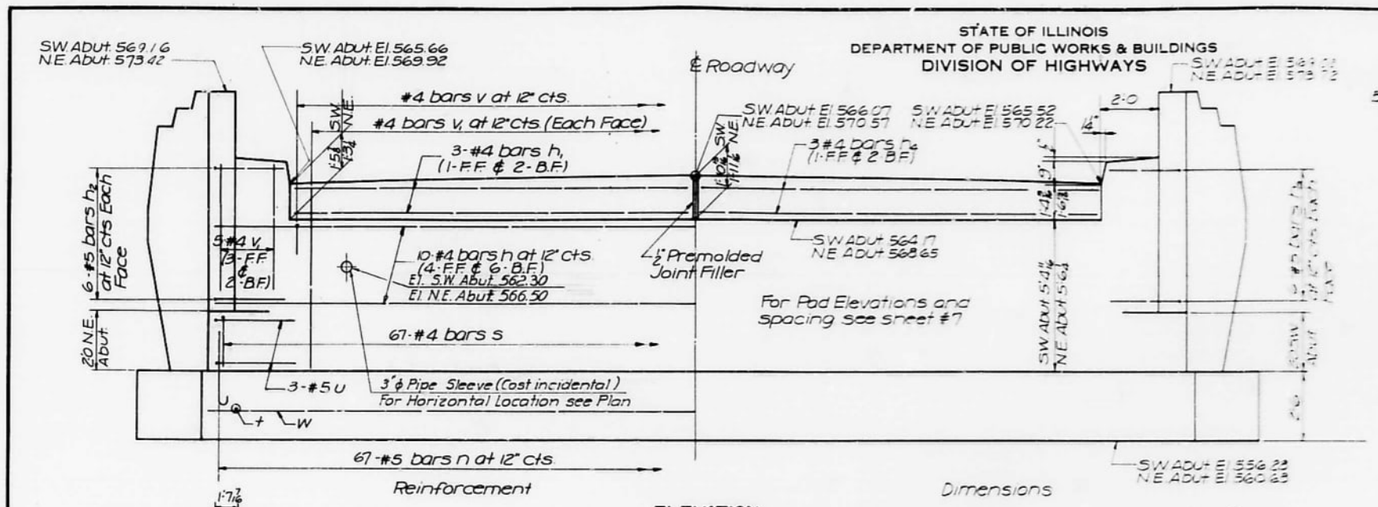
SE & NW ABUTMENTS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F.A.I. ROUTE 80 — SECTION 99-4HB — PROJECT WILL COUNTY

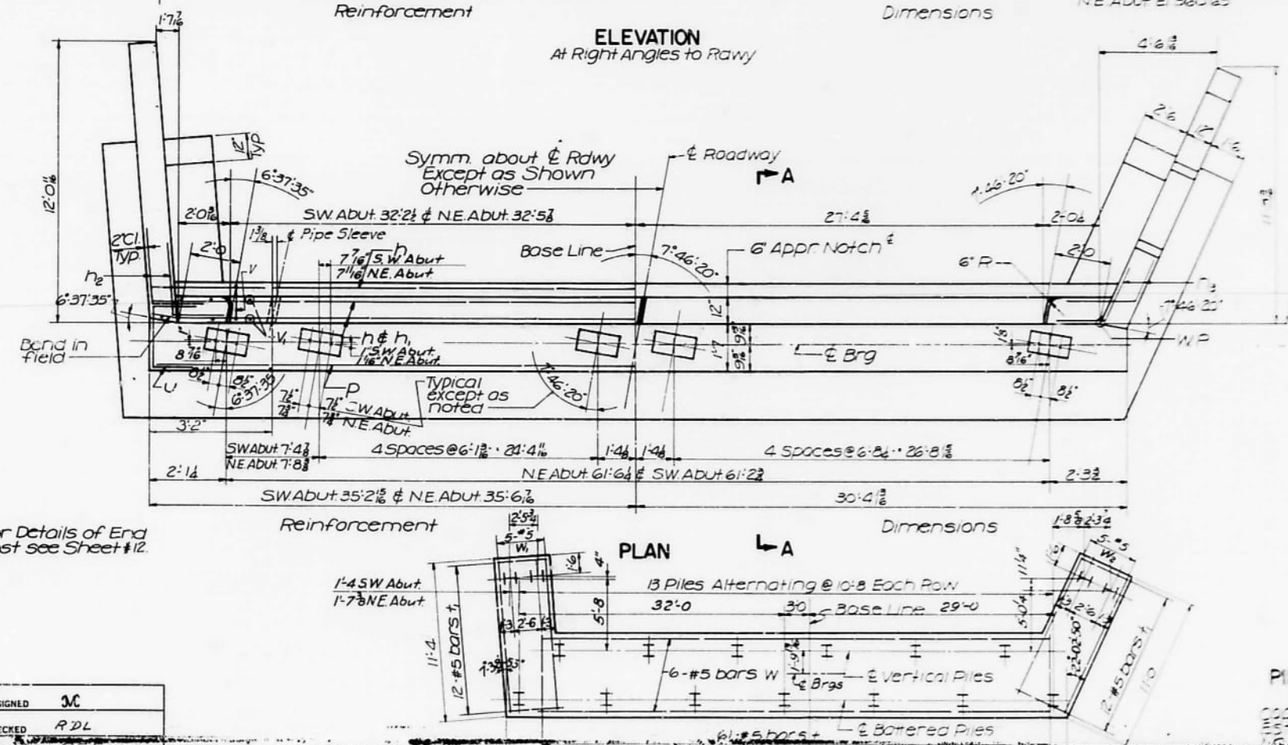
DESIGNED	RDL
CHECKED	CS
DRAWN	SEP

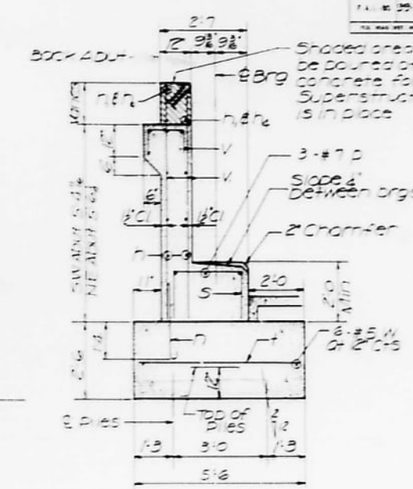
Rev. Added Concrete Encasement to Piles.

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

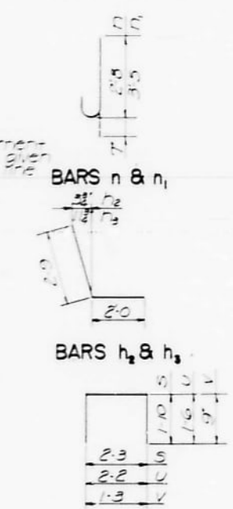


ELEVATION
At Right Angles to Rdwy





SECTION A-A



SW & NE ABUTMENT
BILL OF REINFORCEMENT

Bar	No.	Size	Length	Shape
n	20	#4	32'-9	—
n	6	#4	32'-0	—
n1	2	#5	4'-9	—
n1	2	#5	4'-9	—
n2	6	#4	27'-0	—
n	34	#5	3'-9	—
n	36	#5	4'-0	—
p	2	#7	32'-9	—
s	34	#4	5'-1	—
t	22	#5	5'-0	—
t	22	#5	2'-6	—
u	2	#5	5'-2	—
v	20	#4	2'-9	—
v	32	#4	6'-6	—
w1	22	#5	9'-0	—
w2	12	#5	10'-9	—
w3	12	#5	12'-6	—

SW & NE ABUTMENT
BILL OF MATERIAL

Item	Unit	Quan.
Class X Concrete	Cu. Yds.	346
Reinf. Bars	Lb.	7130
10 BP42 Piles	Lin. Ft.	647
Test Piles	Ea.	2

Note: Bill of Material includes Reinforcement and Class X Concrete for End Posts from corner and wing to back of bars by location and by mark. (SW Abut Only)
For Concrete Encasement of Piles see Sheet 10.

PILE DATA
Type: 10 BP42
Capacity: 80 Tons
Est. Length: 47 Feet S.W. 53 Feet N.E.

SW & NE ABUTMENTS
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00
F.A.I. ROUTE 80 — PROJECT
SECTION 99-4 HB — WILL COUNTY
S. LAVELLE ENGINEERING CO.

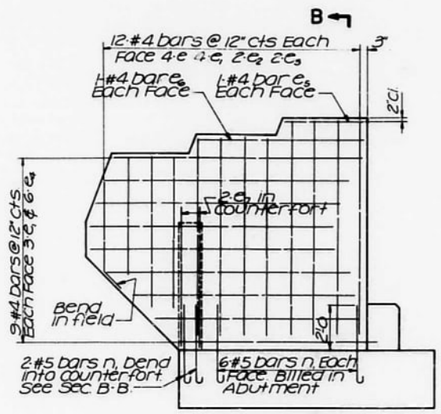
DESIGNED	J.C.
CHECKED	R.D.L.
DRAWN	

Rev. 9-10-63 - E.B. - Added Concrete Encasement to Piles.
Rev. End Post Elevations and Class X Concrete Structure 5 Cu. Yds. to 15 Cu. Yds.

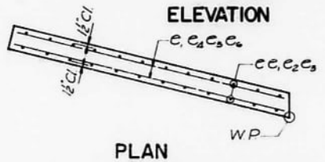
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-90	99-4HB	WILL	192	110
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT-		

SHEET NO. 12
12 SHEETS

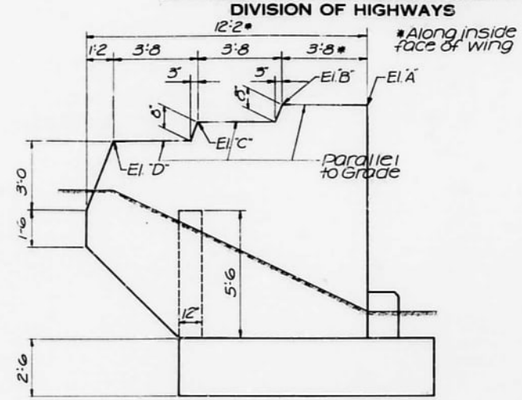


ELEVATION

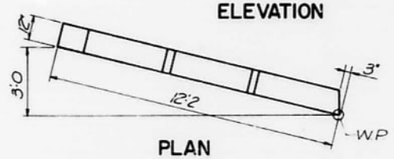


PLAN

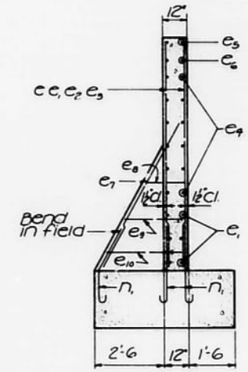
Note: Piles not shown. For spacing see Sht. No. 10 & 11.



ELEVATION



PLAN



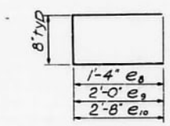
SECTION B-B

ONE END POST BILL OF MATERIAL

Bar	No.	Size	Lg'h	Shape
c	8	#4	9-3	—
c,	14	#4	8-6	—
e2	4	#4	6-6	—
e3	4	#4	5-0	—
e4	12	#4	10-6	—
e5	2	#4	3-6	—
e6	2	#4	7-0	—
e7	2	#5	7-0	—
e8	1	#4	3'-2"	⊏
e9	1	#4	4'-6"	⊏
e10	1	#4	3'-10"	⊏
* Reinforcement Bars			lbs	280

* Included in Abutment quantities Sheets 10 and 11.

Elev.	N.E. ABUT.		N.W. ABUT.		S.E. ABUT.		S.W. ABUT.	
	NWW	SWW	NWW	SWW	NWW	SWW	NWW	SWW
A	573.42	573.72	568.62	568.88	573.83	573.98	569.02	569.16
B	573.50	573.80	568.51	568.77	573.91	574.06	568.91	569.05
C	572.91	573.21	567.73	567.97	573.32	573.47	568.13	568.27
D	572.32	572.62	566.95	567.19	572.73	572.88	567.35	567.49



BARS e_8, e_9, e_{10}

Boring No. 1
Boring located at Sta. 413+94
18' Left of ℄

Elev.	N	Ground El. 535.9
		Stiff brown sandy clay trace gravel
QU 1.5	18	
530	82	
	45	Dense brown sand and large gravel with clay
	71	
520	94	
	44	
510	50/4" Rec.	Medium hard stratified limestone with lenses of soft brown limestone

Boring No. 2
Boring located at Sta. 414+21
73' Left of ℄

Elev.	N	Ground El. 535.6
		Stiff brown clay trace gravel
QU 1.7	20	
530	26	
	125	Dense brown sand and large gravel with clay
	146	
520	33	
	58	
510	50/4" Rec.	Medium hard stratified limestone with lenses of soft brown limestone

Boring No. 3
Boring located at Sta. 415+21
74' Left of ℄

Elev.	N	Ground El. 536.1
QU 1.0	16	Stiff brown clay with sand
QU 1.1	16	
	36	Medium dense brown sand and large gravel with clay
520	29	
	31	
510	50/4" Rec.	Medium hard stratified limestone with lenses of soft brown limestone.

Boring No. 4
Boring located at Sta. 415+70
20' Left of ℄

Elev.	N	Ground El. 535.4
	30	
530	38	
	122	Dense brown sand and large gravel with clay
	121	
520	129	
	132	
510	50/4" Rec.	Medium hard stratified limestone with lenses of soft brown limestone.

Boring No. 5
Boring located at Sta. 414+08
75' Right of ℄

Elev.	N	Ground El. 535.4
	20	
530	21	
	24	Medium dense brown sand and large gravel with clay
	70	
520	30	
	87	
510	50/4" Rec.	Medium hard stratified limestone with lenses of soft brown limestone

Boring No. 6
Boring located at Sta. 414+34
18' Right of ℄

Elev.	N	Ground El. 535.9
	21	Stiff brown clay with sand
QU 1.6	20	
530	21	
	122	Medium dense brown sand and large gravel with clay
520	132	
	50/4" Rec.	Medium hard stratified limestone

Boring No. 7
Boring located at Sta. 415+31
18' Right of ℄

Elev.	N	Ground El. 535.7
	116	
530	80	
	115	Dense brown sand and gravel with clay
520	61	
	82	
510	50/4" Rec.	Medium hard stratified limestone

Boring No. 8
Boring located at Sta. 415+81
72' Right of ℄

Elev.	N	Ground El. 535.0
	25	Stiff brown sandy clay with gravel
QU 1.8	30	
530	32	
	95	Dense brown sand and large gravel with clay
520	76	
	81	
510	34	
	48	
	50/4" Rec.	Medium hard stratified limestone with lenses of soft brown limestone

Note: N = Blows per foot of penetration of sampling spoon. Hammer weight = 140 lbs., Drop = 30".
QU = Unconfined compressive strength in tons per square foot.

BORING DATA

DESIGNED	R.D.L.
CHECKED	C.S.
	S.E.E.

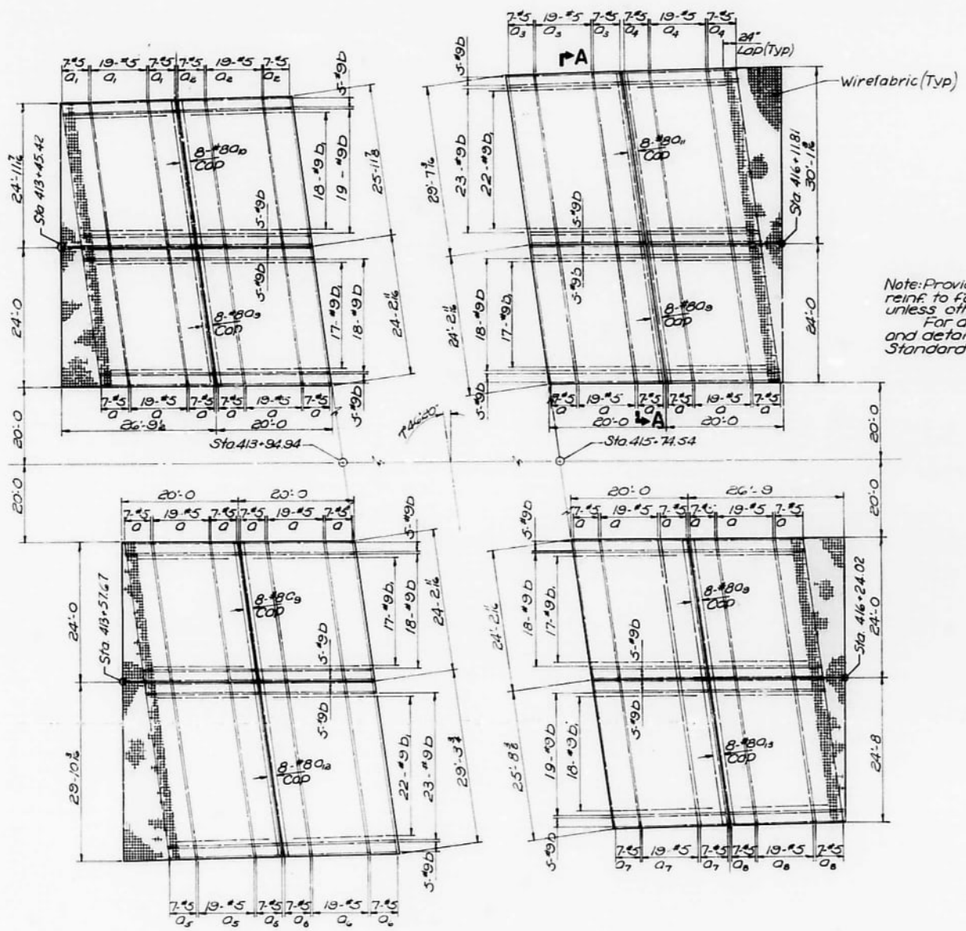
Rev. End Post Elevations 3-12-66 A.S.A.

ABUT. DETAILS & BORING DATA
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

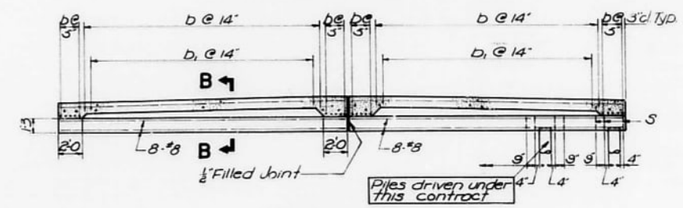
F.A.I. ROUTE 80 — PROJECT
SECTION 99-4HB — WILL COUNTY
Scale NO SCALE — Date JAN. 1, 1962

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

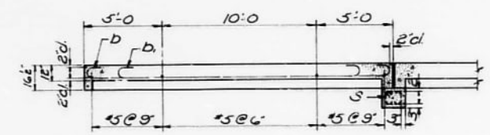
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	29-4	WILL	192	111
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



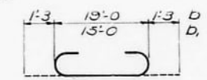
Note: Provide 2" cl. from reinf. to face of concrete unless otherwise noted. For additional notes and details see Illinois Standard 2138-2



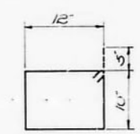
SECTION A-A



SECTION B-B



BARS B & B₁



BAR S

BILL OF REINFORCING

Bar	No.	Size	Lgth.	Shape
a	264	#5	23'-9	—
a₁	33	#5	24'-9	—
a₂	33	#5	25'-3	—
a₃	33	#5	29'-3	—
a₄	33	#5	29'-9	—
a₅	33	#5	29'-6	—
a₆	33	#5	29'-0	—
a₇	33	#5	25'-0	—
a₈	33	#5	24'-6	—
a₉	32	#8	23'-9	—
a₁₀	8	#8	25'-3	—
a₁₁	8	#8	29'-9	—
a₁₂	8	#8	29'-6	—
a₁₃	8	#8	25'-0	—
b	472	#9	21'-6	⊂⊃
b₁	296	#9	17'-6	⊂⊃
S	184	#4	4'-6	□

BILL OF MATERIAL

Item	Unit	Quan
Class "X" Concrete	Cu Yd	144
Reinforcement Bars	Lbs	71,050
Portland Cement Conc. Pavement 16½-12-16½	Sq Yd	1010

DETAILS OF APPROACH SLAB

APPROACH SLAB
F.A.I. 80 OVER
CHICAGO OTTAWA COUPLE
STA. 414+80.00

F.A.I. ROUTE 80 PROJECT
SECTION 29-4 WILL COUNTY
SCALE: NO SCALE JAN. 1, 1962
CRYSTAL LAKE, ILL.

DESIGNED ELC
CHECKED M

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAI 80	99-4HB-I(86)	WILL	10	1

ILLINOIS PROJECT

P-91-CJ2-98

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALES: PLAN / PROFILE HORIZ. / PROFILE VERT. / CROSS SECTIONS

ROUTE: FAI 80

DISTRICT ONE: SECTION 99-4HB-I(86)

COUNTY: WILL

C-91-002-86

INDEX OF SHEETS

SUMMARY OF QUANTITIES

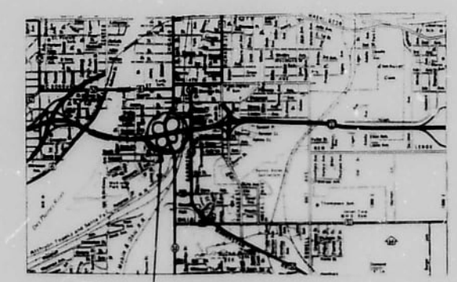
QUANTITIES SHOWN ON SHEET 2

CODE NO.	ITEM	UNIT	QUANT.
597004	FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	980
848017	TRAFFIC CONTROL AND PROTECTION	L.S. SUM	1
550001	MOBILIZATION	L.S. SUM	1
701411	BEAM STRAIGHTENING	L.S. SUM	1
X64709	PAVEMENT MARKING TAPE, TYPE 3	LIN. FT.	1,260

APPLICABLE STATE STANDARDS

2239-7
2299-10
2906-1
2516-10

LOCATION OF SECTION INDICATED THUS: —



LOCATION OF IMPROVEMENT
I-80 OVER ILL.53 , SN 099-0058

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED June 25 19 86 — DISTRICT ENGINEER

EXAMINED 7-15 19 86

PASSED 7-15 19 86 — ENGINEER OF PLANS AND CONTRACTS

APPROVED 7-15 19 86 — ENGINEER OF DESIGN

DIRECTOR OF HIGHWAYS

MCHD FUND , CLAIM NUMBER 4-44541-4

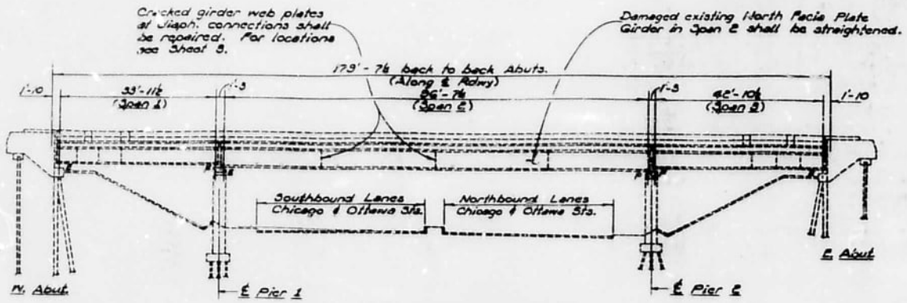
CONTRACT NO. 42097

B.KRASINSKI , E.VERDER (312) 884-4168

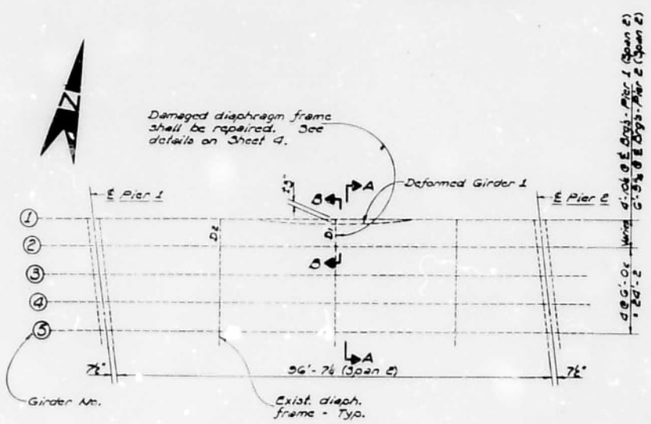
WILL COUNTY SEC. 99-4HB-I(86) FAI RTE 80

BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION - NORTH BRIDGE
(Looking North)



PARTIAL STRUCTURAL STEEL FRAMING PLAN - NORTH BRIDGE
(See Section A-A on Sheet 2 and Section B-B on Sheet 4)

GENERAL NOTES

Oil and all loose paint shall be removed from the damaged girder in the area of impact.

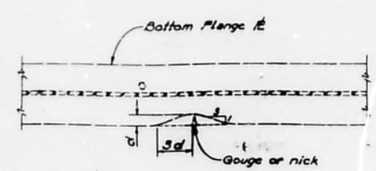
The Contractor shall have his method of straightening approved by the Engineer prior to ordering materials and installation, if his method is other than that suggested.

The damaged girder shall be mechanically straightened. No heat will be used to facilitate the straightening process. See Special Provisions.

All new structural steel shall conform to AASHTO designation M-183.

Grind existing web plates in damaged areas to smooth, flat surfaces before installation of new web plates.

Crack tips shall be located using liquid dye penetrant. After drilling holes at tips of cracks, cracks shall be checked again to see whether crack tips extend beyond the drilled holes. If cracks extend beyond the drilled holes, another hole shall be drilled adjacent to the previous hole. See Detail G on Sheet 4.



GRINDING DETAIL PLAN
(Cost is incidental to "Girder Straightening")

TOTAL BILL OF MATERIAL

Item	Unit	Total
Girder Straightening	Lump Sum	L.S.
Traffic Control	Lump Sum	L.S.
Furnishing & Erecting Structural Steel	Lbs.	380

DESIGNED	S. Engay
CHECKED	Kenneth P. Stutte
DRAWN	R. L. Carbonell
CHECKED	KPS

June 16 1986
EXAMINED O J Rohner
ENGINEER OF STRUCTURAL SERVICE - PASSED
APPROVED ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

BRIDGE REPAIRS
I-80 OVER CHICAGO & OTTAWA STS.
F.A.I. RT. 80 SEC. 99-4HB-1(86)-1
WILL COUNTY
STA. 414 + 80

(S.N. 099-0056)

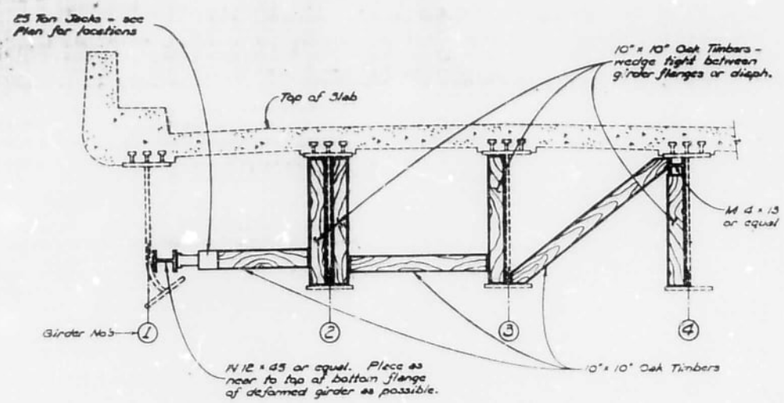
REVISED 8-8-86

BAD COPY

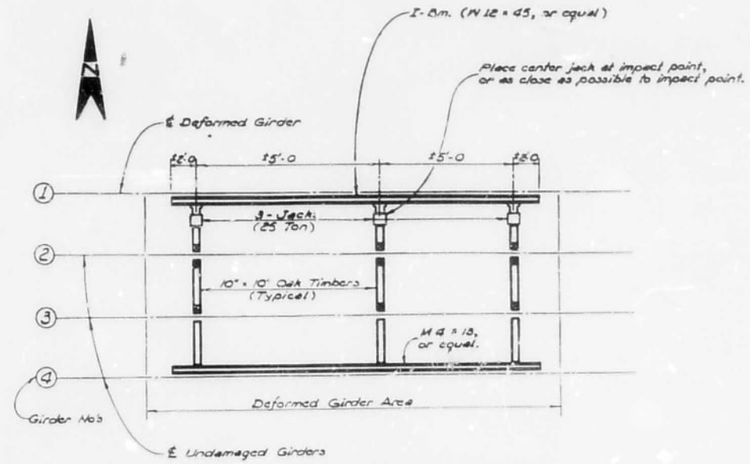
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

80		WILL	10	3	SHEET NO. 2 OF 6 SHEETS

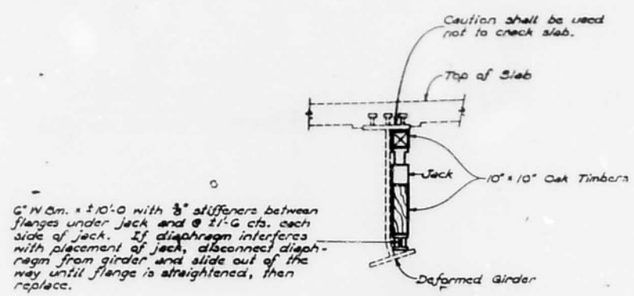
SEC. 99-4HB-I(86)



SECTION A-A
(For Horizontal Jacking)
See Sheet 1



PARTIAL DECK FRAMING PLAN
(For Jack locations)



ELEVATION VIEW
(For Vertical Jacking)

DESIGNED	S. Engel
CHECKED	Kenneth P. Stutte
DRAWN	R. B. Carbonell
CHECKED	KPS

19
EXAMINED
ENGINEER OF STRUCTURAL SERVICES
PASSED
APPROVED
ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

F.A.I. RT. 80 SEC. 99-4HB-I(86)-I
WILL COUNTY
STA. 414 + 80

(095-0058)

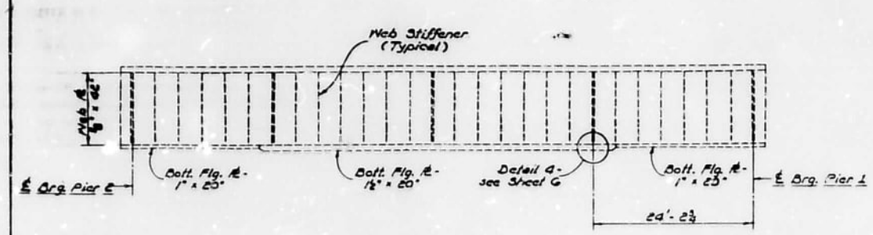
BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

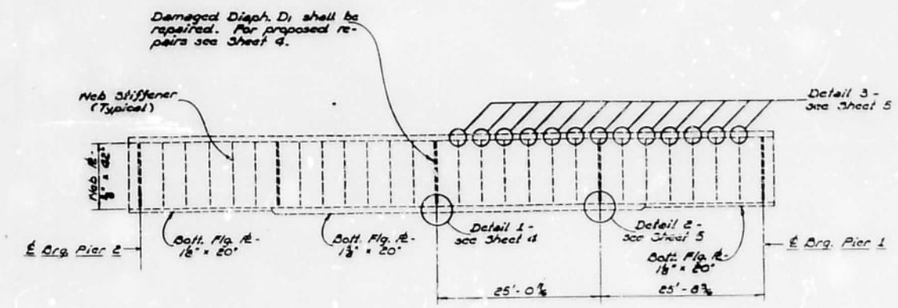
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80		WILL	10	4

SHEET NO. 3
6 SHEETS

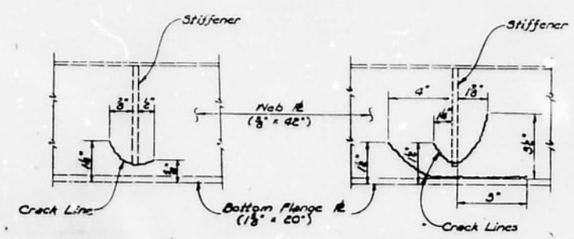
SEC. 99-4HB-1(86)



ELEVATION - GIRDER #3
(Looking South)

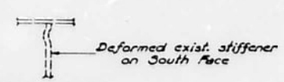


ELEVATION - GIRDER #1
(Looking South)

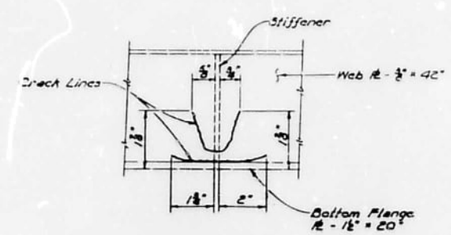


DETAIL 1
(Looking South)
Existing

DETAIL 2
(Looking South)
Existing



DETAIL 3
Typical
(Existing)



DETAIL 4
(Looking South)
Existing

NOTE:
For proposed repairs see Sheets 4, 5 and 6.

DESIGNED	S. Engel
CHECKED	Kenneth P. Stitt
DRAWN	R. D. Cardwell
CHECKED	R.K.

19
STANDARDS
DIRECTOR OF STRUCTURAL SERVICES
PLANNED
APPROVED
DIRECTOR OF HIGHWAYS

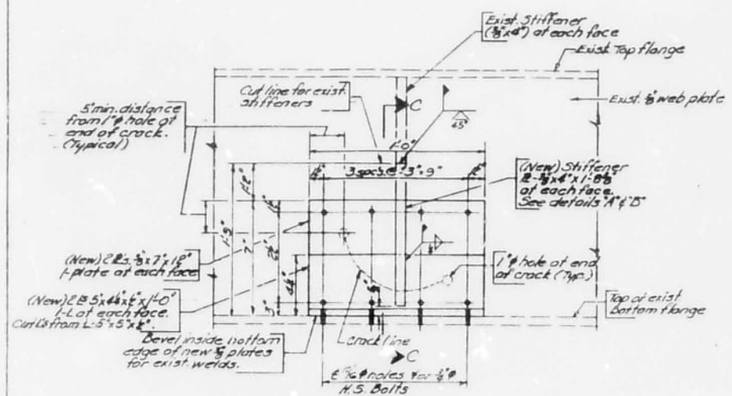
F.A.I. RT. 80 SEC. 99-4HB-1(86)-I
WILL COUNTY
STA. 414 + 60

(099-0058)

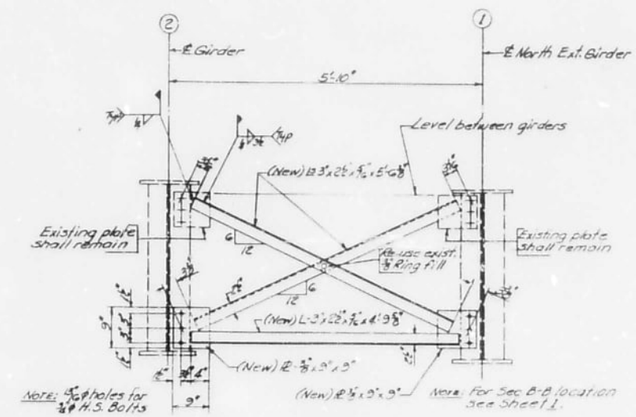
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

		WILL	10	5	SHEET NO. 4 / 6 SHEETS
80					

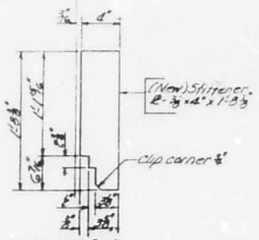
SEC. 99-4HB-I(86)



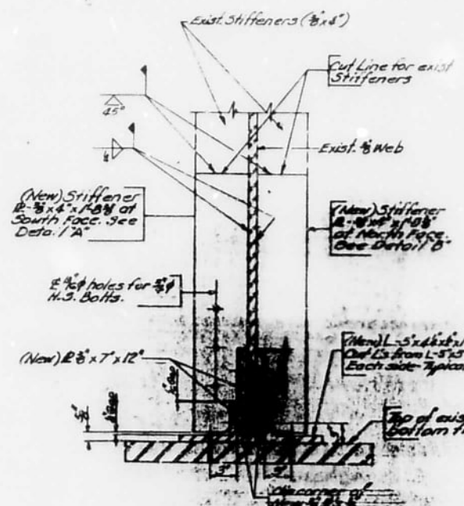
DETAIL-1
(Girder #1)
(Looking South)



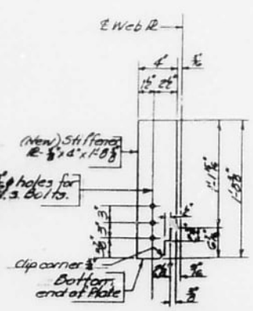
SEC. B-B
(Looking West)
(For Diaph. 1 - See Sheet 3)
Req'd: 2-PL 3"x26"x⅜"x5'-6⅜"
1-L 3"x2½"x⅜"x4'-9⅜"
2-PL ⅜"x9"x9"



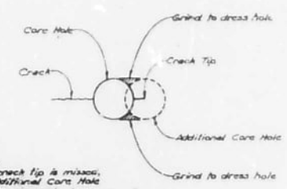
DETAIL "B"
Stiffener Plate at North Face of Girder #1. See Detail-1.
(Looking West)



SEC. C-C
(Looking West)



DETAIL "A"
Stiffener Plate at South face of Girder 1. See Detail-1.
(Looking West)



Note:
If crack tip is missed, the Additional Core Hole shall be provided. Cost of all required core holes shall be considered incidental to the item "Fab & Erecting Steel".

DETAIL "G"

FAI RT. 80 SEC. 99-4HB-I(86)-I
WILL COUNTY
STA. 414+80.00

S.N. 099-0058

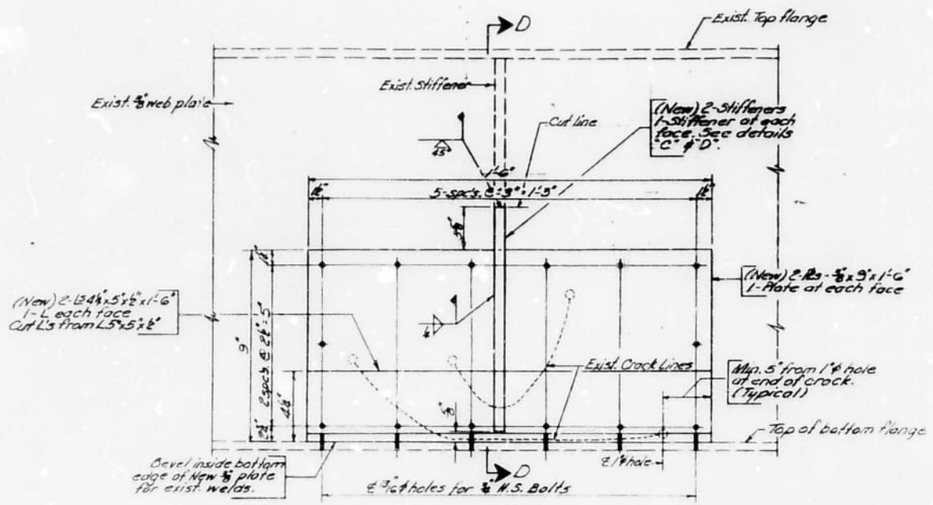
BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAWING NO.	REVISION	COUNTY	TOTAL SHEETS	SHEET NO.
B.F. 180		WILL	10	6

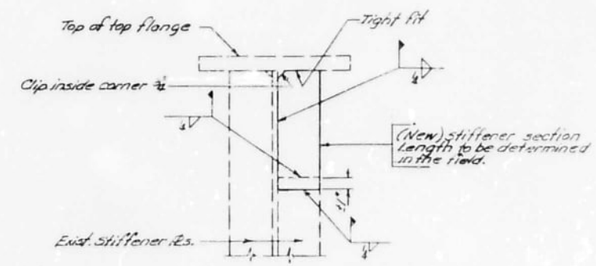
SHEET NO. 5
6 SHEETS

SEC. 99-4HB-I(86)

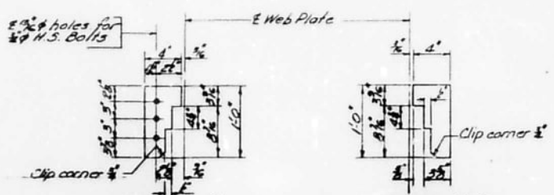


DETAIL - 2
(Girder #1)
(Looking South)

NOTE: For Diaph. 2 See Sheet 3.

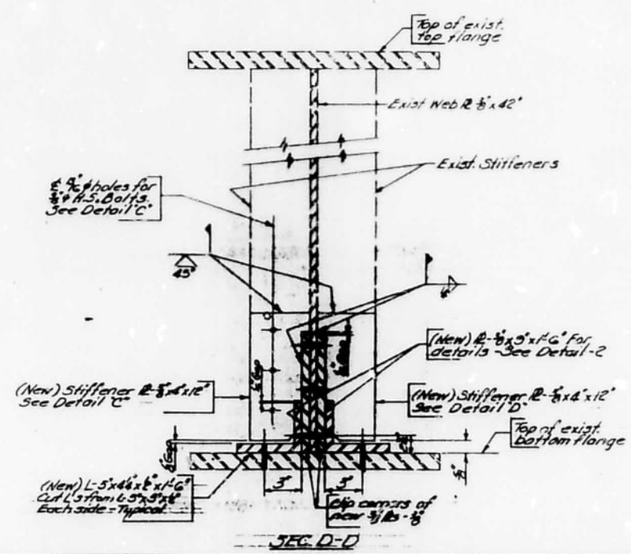


ELEVATION - DETAIL - 3
(Girder #1 - Looking East)
(See Sheet 3 for locations)
Note: Cost is incidental to Structural Steel.



DETAIL "C"
Stiffener Plate at South Face of Girder #1 ~ See Detail-2
Req'd: 1-Pl. 3/8"x4"x12"

DETAIL "D"
Stiffener Plate at North Face of Girder #1 ~ See Detail-2
Req'd: 1-Pl. 3/8"x4"x12"



SEC. D-D

DESIGN TO L. Engey
CHECKED K.P. Stokes
DRAWN ENE
CHECKED KPS

EXAMINED
PASSED
APPROVED

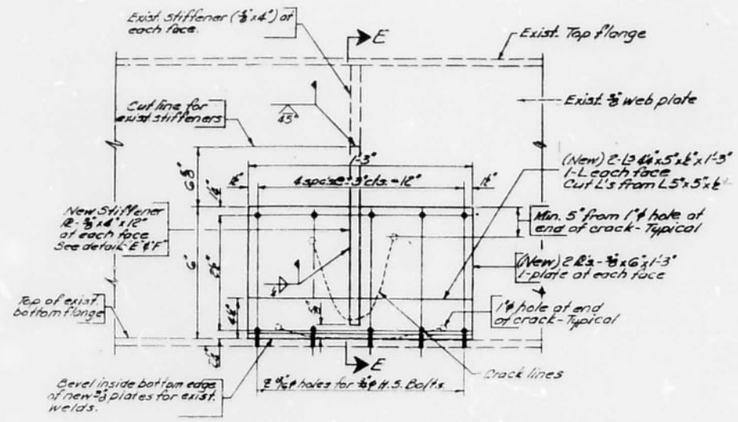
FAI RT. 80 SEC. 99-4HB-I(86)-I
WILL COUNTY
STA. 414+80.00

S.N. 099-0058

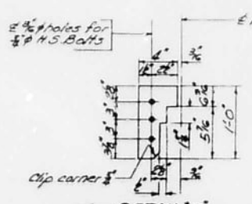
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

80		WILL	10	7	SHEET NO. 6 / 6 SHEETS

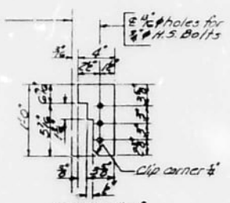
SEC. 99-4HB-1(86)



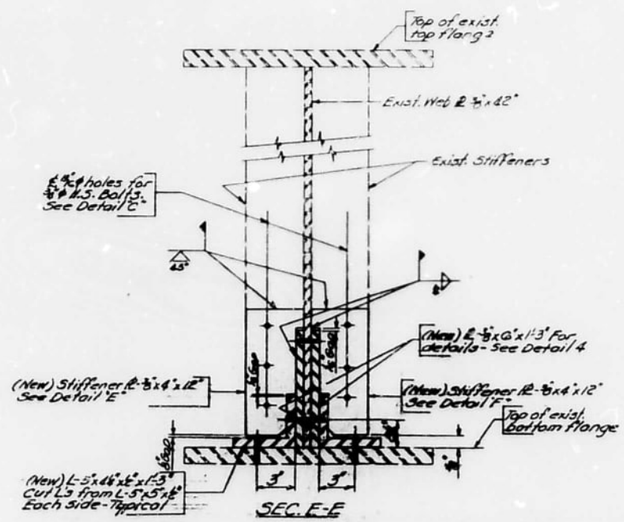
DETAIL - 4
(Girder #3)
(Looking South - See Sh. 3)



DETAIL "E"
Stiffener Plate at South Face of Girder #3 - See Detail-4.
Req'd: 1-PL-⅜"x4"x12"



DETAIL "F"
Stiffener Plate at North Face of Girder #3 - See Detail-4.
Req'd: 1-PL-⅜"x4"x12"



FAI RT. 80 SEC. 99-4HB-1(86)-I
WILL COUNTY
STA. 414+80.00
J.N. 099-0058

BAD COPY

FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	1
CONTRACT NO.	ILLINOIS FEDERAL AID PROJECT			

D-91-287-88

* 99-4RS-2 & 99(3B,4B-1,4HB-1,4VB)BR-88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

SCALES
- PLAN: 1 INCH = * FEET
- PROFILE HORIZ.: 1 INCH = * FEET
- PROFILE VERT.: 1 INCH = * FEET
- CROSS SECTIONS: 1 INCH = * FEET HORIZONTAL; 1 INCH = * FEET VERTICAL

* SEE PLANS

F.A.I. ROUTE I-80
SECTION: 99-4RS-2 & 99(3B, 4B-1, 4HB, 4HB-1, 4VB)BR-88
WILL COUNTY
C-91-169-88
DESPLAINES RIVER TO RICHARD STREET

CITY OF JOLIET

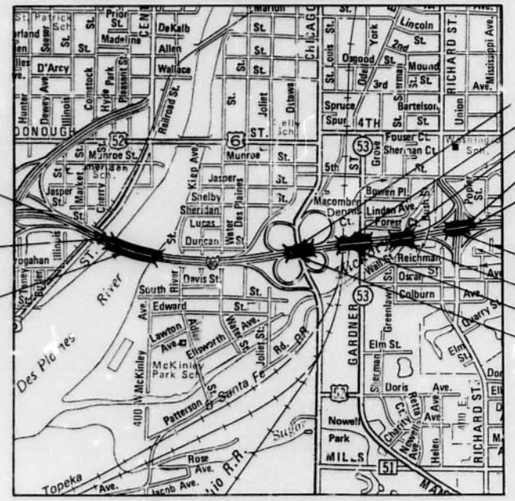
SECTION NUMBERS 99-3B-BR(88) AND SECTION NUMBER 99-4RS-2 & 99-4(B-1,HB, HB-1, VB) BR-88 HAVE BEEN REVISED TO SECTION NUMBER 99 - 4RS-2 & 99(3B,4B-1, 4HB, 4HB-1, 4VB) BR-88

LOCATION OF SECTION INDICATED THUS: - -

IMPROVEMENT BEGINS
STA.379+04 (WB)
STA.378+74 (EB)

STRUC. NO.0099-0056
STA.379+64.57 TO 402+34

STRUC. NO.0099-0057
STA.379+34.27 TO 402+74.03

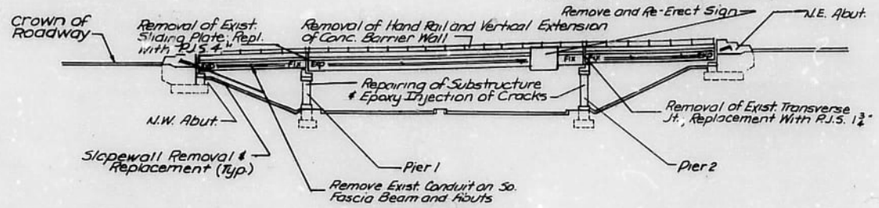

DeKalb
Allen
Wallace
D'Arcy
Comstock
Hyde Park
Prior St.
Madeline
Railroad St.
Joliet
Ottawa
Chicago
Lincoln
Ogood
York
Mound
Bartelson
Spruce
4TH
Fouser Ct.
Sherman Ct.
Bowen Pl.
Macomb
Deponti Ct.
Lindon Ave.
Forest
Reichman
Oscar
Colburn
Elm St.
Doris
Nowell Park
MILLS
GARDNER
RICHARD ST.
Union
Mississippi Ave.
Des Plaines River
Jefferson
Monroe St.
Jasper
Shelby
Sheridan
Lucas
Duncan
Kirp Ave.
Water
Des Plaines
Davis St.
South
Edward
Lawton Ave.
Ellsworth
Joliet St.
McKinley Park Sch
McKinley
Patterson
Santa Fe
Rose Ave.
Jacob Ave.
Topeka Ave.
Rock Island R.R.
Chicago R.I. & P. R.R.
Illinois
Hunter
Deere Ave.
Sesser
Orland
Parkland
Prairie Sch.
Hamilton
Cherry
Sherman
Jasper St.
Hickory
Ogahan
Chicago Sanitary & Ship Canal
Illinois Waterway
Kennedy Park
Hickory Creek
Hickory Creek Sch.
Des Plaines River
Lincoln Park
Lincoln Park Sch.
Lincoln Park Sch.
Lincoln Park Sch.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	54
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

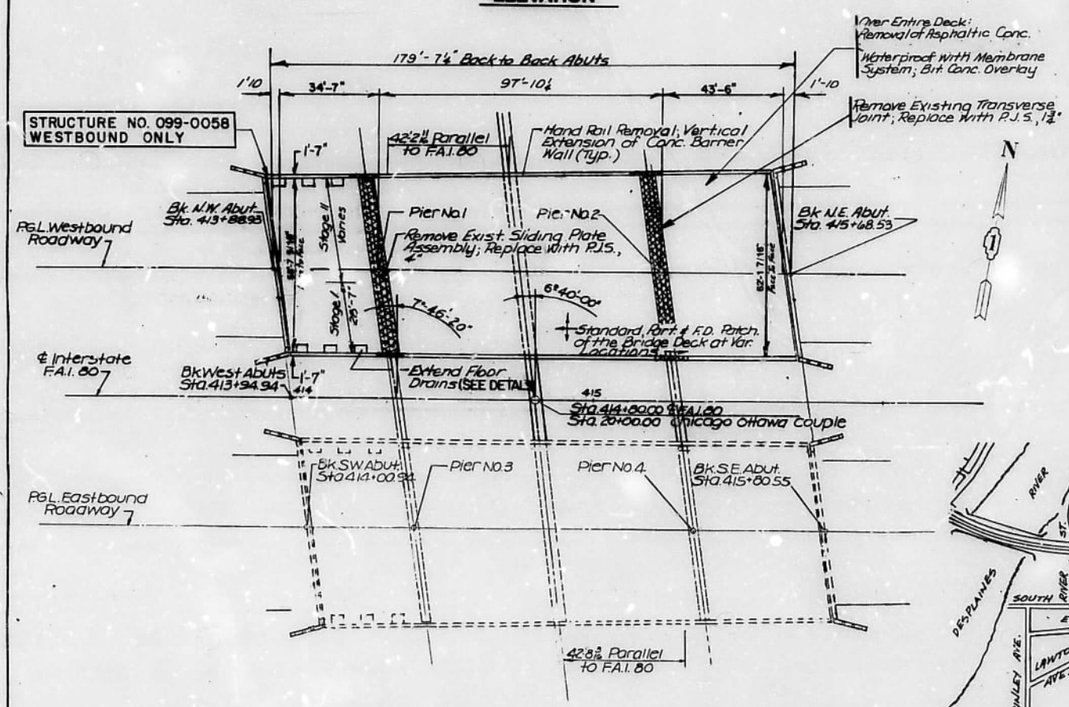
SHEET 1 OF 14

*99-4RS-2 & 99-4(B-1,HB,HB-1) & VB15R-88

EXIST BRIDGE DESCRIPTION: The Bridge is Comprised of 3 Simple Spans. Span 1 and 3 are Constructed With Steel, Wide Flange Beams and Span 2 is a Built-up Plate Girder With a Composite Design. The 7-inch-Thick Concrete Deck is Supported on Reinforced Concrete Piers and Abutments and the Foundations are Supported on Creosoted Timber Piles.



ELEVATION



PLAN

PLAN NOTES

Plan Dimensions and Details Relative to the 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 Scope of Work, However, the Contractor will be Paid for the Quantity Actually Furnished at the Unit Price Bid for the Work.

The Contractor Must Use Extreme Care When Doing Concrete Removal as not to Nick, Cut or Damage any of the Structural Steel.

Reinforcement Bars Shall Conform to the Requirements of A.R.S.H.T.O. M-42, M-31 or M-53, Grade 60.

Existing Underpass Luminaires Which are Attached to the Underside of the Bridge Shall be Maintained Operational Throughout the Duration of the Contract and Protected from Damage During Deck Repair Operations.

For Pavement Markings on Bridge, See Roadway Plans.

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 1/4 the Span Length Each Way from the Pier Supports. Field Welding in other Areas Will be Permitted Only When Approved by the Engineer.

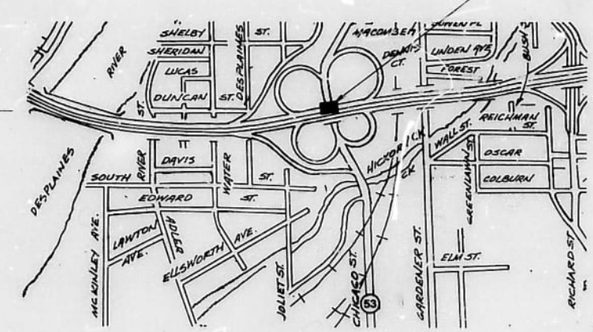
All Contact Surface Areas of New and Existing Structural Steel Shall be Free of Paint or Laquer.

All Structural Steel Beneath Expansion Joints Shall be Sandblasted and Repainted, 5' on Either Side at Abuts and 10' on Either Side at Piers.

The 3-Coat Lead and Chromatic Free Alkyd Paint System Shall be Used for Field Painting of Existing Structural Steel and New Structural Steel. The Color of the Final Finish Coat Shall be as Specified in the Special Provision for "Cleaning and Painting Steel Structures.

INDEX OF SHEETS

STRUCTURE NO. 099-0058 WESTBOUND ONLY



LOCATION MAP

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

FAI-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058

PLAN & ELEVATION

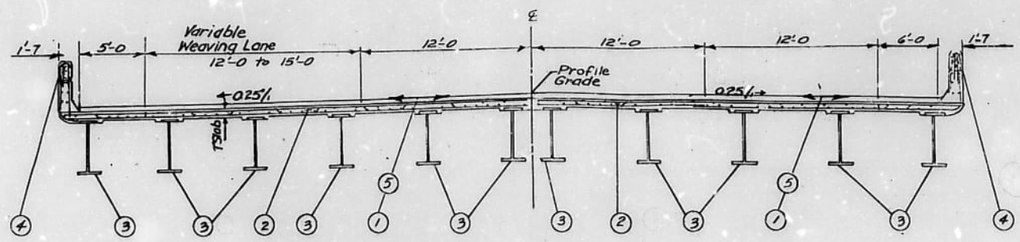
SCALE VERT. HORIZ. DRAWN BY
DATE CHECKED BY

D C B A 0 A B C D
TAMERAN

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	55
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*99-4RS-2 & 99-4(B-1,HB,HB-1&VB)BR-88

SHEET 2 OF 14



TYPICAL CROSS SECTION

(FACING EAST)

LEGEND

1. REMOVAL OF ASPHALTIC CONCRETE
2. STANDARD, PARTIAL AND FULL DEPTH PATCHING OF BRIDGE DECK AT VARIOUS LOCATIONS (SEE DECK REPAIR SHEET)
3. JACK AND REMOVE EXISTING BEARINGS AT ALL ABUTMENTS; FURNISH AND INSTALL ELASTROMETRIC BEARING ASSEMBLY, TYPE I
4. REMOVAL OF HANDRAIL; VERTICAL EXTENSION OF CONCRETE BARRIER WALL
5. WATERPROOFING OF DECK WITH MEMBRANE SYSTEM; PLACEMENT OF BITUMINOUS CONCRETE SURFACE COURSE, MIX. E, CL. I, T-1, 2"
6. FLOORING DRAIN EXTENSIONS (WEST SIDE OF BRIDGE ONLY.)

TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY Sub-Structure	Super Structure	Total
Jack and Remove Exist. Bearings	Each		22	22
Elastomeric Bearing Assembly, T-1	Each		22	22
Concrete Removal	Cu. Yds		13.9	13.9
Class X Concrete Superstructure	Cu. Yds		28.2	28.2
Preformed Joint Seal 1 3/4"	Lin. Ft		65	65
Preformed Joint Seal 4"	Lin. Ft.		64	64
Bridge Hand Rail Removal	Lin. Ft.		355	355
Reinforcement Bars, Epoxy Ctd.	Pounds		4872	4872
Waterproof Membrane System	Sq. Yds.		1154	1154
Deck Drain to be Extended	Each		4	4
Deck Slab Repair (Partial)	Sq. Yds.		158.3	158.3
Deck Slab Repair (Full Depth) T-1	Sq. Yds.		30.7	30.7
Deck Slab Repair (Full Depth) T-2	Sq. Yds.		7.5	7.5
Epoxy Crack Sealing	Lin. Ft.	127		127
Formed Conc. Repair (Depth ≤ 5")	Sq. Ft.	112		112
Epoxy Mortar Repair (Depth < 1.5")	Sq. Ft.		5	5
Bit. Conc. Surface Removal (Deck)	Sq. Yds.		1154	1154
Bit. Conc. Surf. Cse., Mix E, CL I, T-1, 2"	Tons		151	151.
Protective Shield	Sq. Yds.		1154	1154
Clean and Paint Steel Bridge	L. Sum			.1
Protective Coat	Sq. Yds	50	174	224
Protect and Maintain Exist. Underpass Luminaires	L. Sum		.2	.2
Stone Riprap, Class A4	Sq. Yds	6		6
Slopewall Removal and Replacemt.	Sq. Yds.	50		50
Removal of Conduit Attached to Structure	Lin. Ft.		100	100
Remove and Reerect Bridge Mtd. Sign	Each		1	1
Bridge Mtd. Sign Top Brace	Each		4	4
Furnishing & Erecting Structural Steel	Pounds		9708	9708
Drainage Structure to be Cleaned	Each			1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I - 80

BRIDGE REHABILTATION

STRUCTURE NO. 099-0058

TYPICAL SECTION & TOTAL BILL OF MATERIALS.

SCALE: VERT. HORIZ.

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DATE

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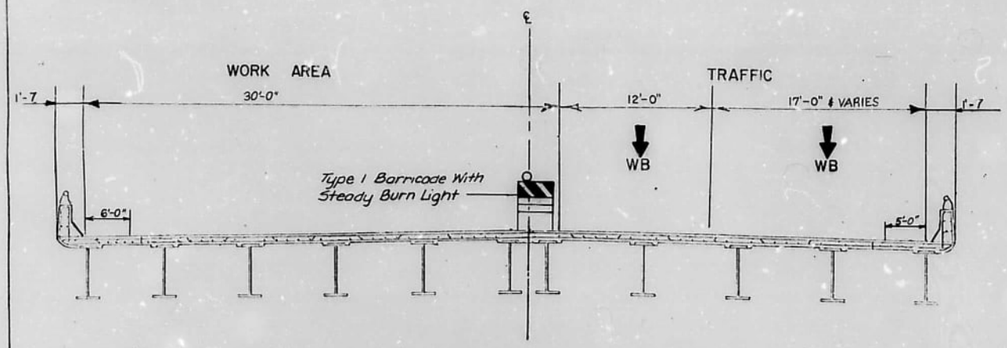
I-80	*	WILL	181	56

*99-4RS-2 & 99-4(B-1,HB,HB-18VB)BR-88

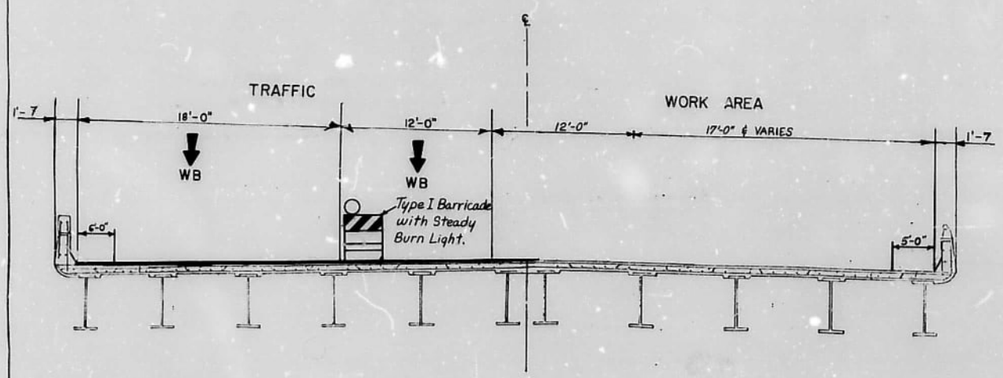
SHEET 3 OF 14



STAGE I
(FACING WEST)

STAGE II

1. PLACE TRAFFIC CONTROL AND DIVERT TRAFFIC TO SOUTH SIDE.
2. REMOVE EXISTING BRIDGE CONCRETE OVERLAY
3. CONSTRUCT PARTIAL AND FULL DEPTH SLAB REPAIRS
4. JACK BRIDGE AND REMOVE EXISTING BEARINGS AND INSTALL PROPOSED ELASTOMERIC BEARING ASSEMBLY.
5. EXTEND DECK DRAINS
6. REPLACE TRANVERSE JOINTS
7. PAINT STRUCTURAL STEEL (5' ON EITHER SIDE OF BEARINGS AT ABUTMENTS AND 10' ON EITHER SIDE OF THE BEARINGS AT THE PIERS.
8. REPAIR SUBSTRUCTURE
9. REMOVE HANDRAIL AND EXTEND BARRIER
10. APPLY WATERPROOFING MEMBRANE AND RESURFACE BRIDGE
11. REMOVE CONDUIT ON SOUTH FASCIA BEAM.



STAGE II
(FACING WEST)

STAGE I

1. PLACE TRAFFIC CONTROL AND DIVERT TRAFFIC TO NORTH SIDE.
2. REMOVE EXISTING BRIDGE CONCRETE OVERLAY AND PERFORM
3. CONSTRUCT PARTIAL AND FULL DEPTH SLAB REPAIRS
4. JACK BRIDGE AND REMOVE EXISTING BEARINGS AND INSTALL PROPOSED ELASTOMERIC BEARING ASSEMBLY.
5. EXTEND DECK DRAINS
6. REPLACE TRANVERSE JOINTS
7. PAINT STRUCTURAL STEEL (5' ON EITHER SIDE OF BEARINGS AT ABUTMENTS AND 10' ON EITHER SIDE OF THE BEARINGS AT THE PIERS.
8. REPAIR SUBSTRUCTURE
9. REMOVE HANDRAIL AND EXTEND BARRIER
10. APPLY WATERPROOFING MEMBRANE AND RESURFACE BRIDGE
11. REMOVE BRIDGE MTD. SIGN, SPLICE EXTENTION & RE-ERECT.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I.-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
STAGE CONSTRUCTION

SCALE: VERT. HORIZ. DRAWN BY
DATE CHECKED BY

D C B A 0 A B C D
TAMERAN

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	57
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

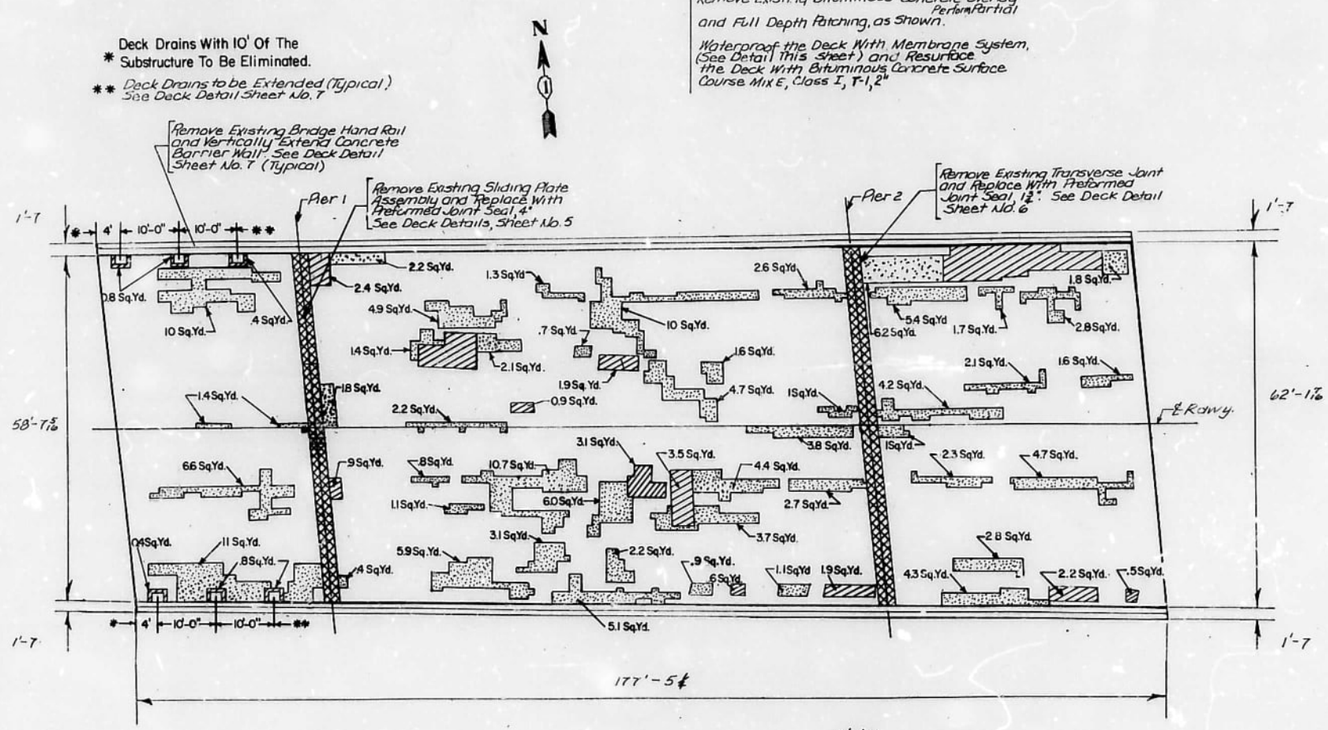
* 99-4RS-2 & 99-4(B-1,HB,HB-1&VB)BR-88

SHEET 4 OF 14

Removal of existing deck drain is incidental to the pay item of "Deck Slab Repair, Full Depth".

Deck Drains With 10' Of The
* Substructure To Be Eliminated.
** Deck Drains to be Extended (Typical.) See Deck Detail Sheet No. 7

Over Entire Deck:
Remove Existing Bituminous Concrete Overlay and Full Depth Patching, as Shown. Perform Partial
Waterproof the Deck With Membrane System, (See Detail This Sheet) and Resurface the Deck With Bituminous Concrete Surface Course Mix E, Class I, T-1, 2"



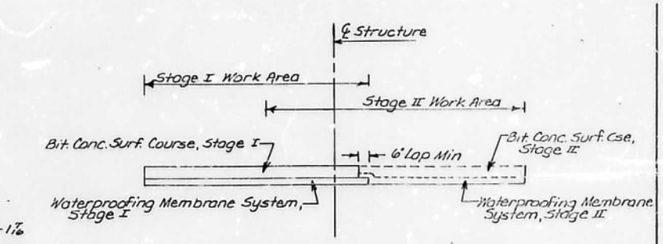
Scale 1" = 10'
Date of Latest Delamtect: 9-23-89
Total Deck Area: 1154 Sq Yds. (Face to Face)

DECK SLAB REPAIR

Note:
Exposed Reinforcement Shall be Cleaned and Incorporated Into Concrete Patch or, If Necessary, Replacement Reinforcement Added and Spliced With the Existing Retained Reinforcement, as directed by the Engineer.

LEGEND

- Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth)
- Concrete to be Removed



DETAIL OF WATERPROOFING MEMBRANE SYSTEM
(6" I.AP)

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
*Bit. Conc. Surf. Cse., Mix E, CLI I-1	Tons	151
Waterproofing Membrane Syst.	Sq. Yd.	1154
Deck Slab Repair (Part. Depth)	Sq. Yd.	158.3
Deck Slab Repair (Full Depth)		
Type I	Sq. Yd.	30.7
Deck Slab Repair (Full Depth)		
Type II	Sq. Yd.	7.5
Bit. Concrete Surf. Rem.		
(Deck)	Sq. Yd.	1154

*Mix E = 130#/Sq. Yd./Inch Depth

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
DECK DETAILS
SCALE: VERT. HORIZ.
DRAWN BY
DATE
CHECKED BY

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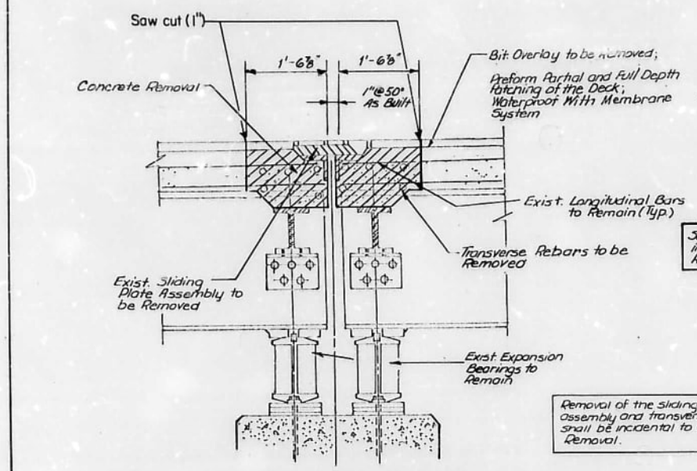
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	58
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* 99-4RS-2 & 99-4(B-1,HB,HB-1 & VB)BR-88

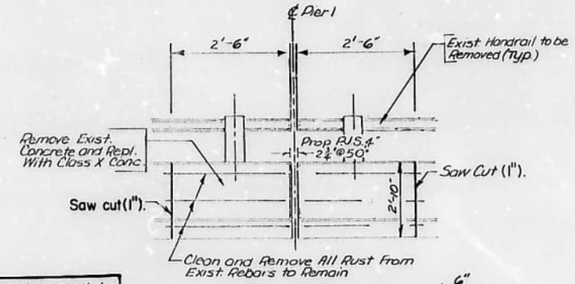
SHEET 5 OF 14



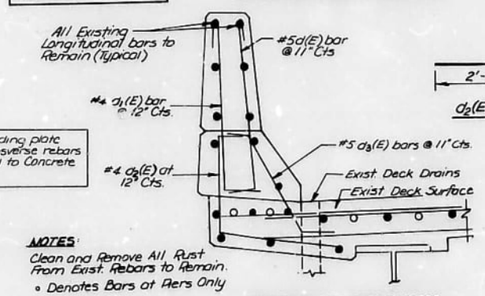
EXISTING SECTION AT PIER 1

Removal of the sliding plate assembly and transverse rebars shall be incidental to Concrete Removal.

Saw Cutting shall be incidental to Concrete Removal



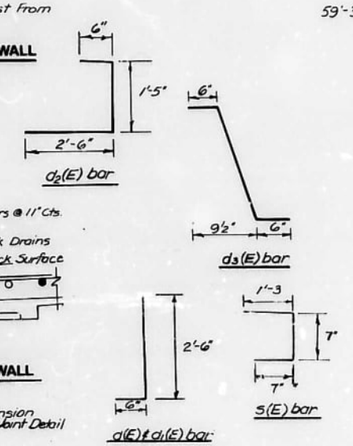
ELEVATION AT BARRIER WALL

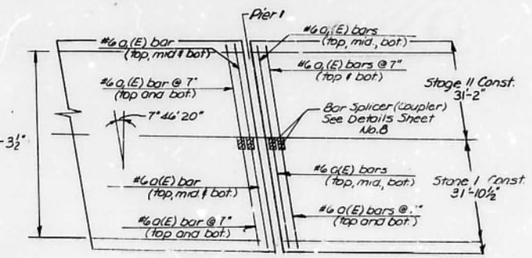


NOTES:
Clean and Remove All Rust From Exist. Rebars to Remain.
* Denotes Bars at Piers Only

SECTION AT BARRIER WALL

NOTE: See Detail of Concrete Wall Extension on Sheet No. 7 for Barrier Wall Joint Detail (Section A-A)





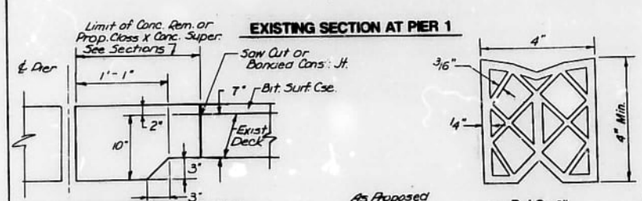
PLAN VIEW - SLAB REINFORCEMENT

(E) Denotes Epoxy Coated.

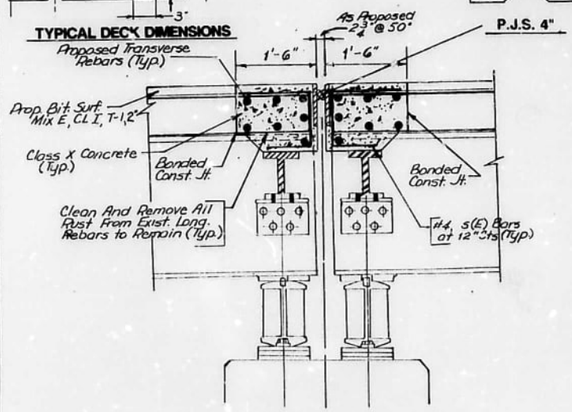
Clearance shall be Maintained for slab Reinforcement. (2" clear for top of slab & 1" clear for bottom of slab.).

BAR SCHEDULE				
BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
a(E)	14	#6	31'-6"	
a1(E)	14	#6	30'-9	
d(E)	12	#5	3'-0	
d1(E)	12	#4	3'-0	
d2(E)	12	#4	4'-5"	
*d3(E)	12	#5	3'-6 9/16"	
s(E)	126	#4	2'-5"	

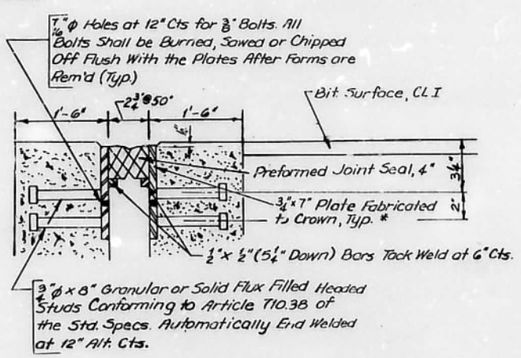
Quantities have been provided for a third row of bars. However, this quantity may or may not be needed. Its necessity shall be determined in the field and the rebars used at the discretion of the field engineer.



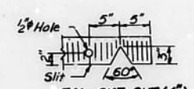
TYPICAL DECK DIMENSIONS



PROPOSED MODIFICATIONS AT PIER 1



PREFORMED JOINT SEAL, 4"



SEAL CUT-OUT (4")

END OF SEAL TREATMENT

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	70
Class X Conc. Super	Cu.Yds.	80
Reinforcement bars,		
Epoxy coated.	Pound	1636
Preformed joint seal, 4"	Lin. Ft.	64
Furnishing & Erecting		
Structural Steel	Pound	2327
Protective coat	Sq. Yd.	28.8

* Furnish in Segments of 20' Max. Length. Max Space Between Installed Segments Shall be 3/16". Seal Space With Silicone Sealant Suitable for Structural Steel.

After Fabrication All Surfaces of the Steel Plates Shall be Given One Shop Coat of Paint Specified for Structural Steel.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I 80

BRIDGE REHABILITATION

STRUCTURE NO. 099-0058

DECK DETAILS

SCALE: VERT. HORIZ. DATE

DRAWN BY

CHECKED BY

DETAIL OF EXPANSION JOINT REPLACEMENT AT PIER NO. 1

Revised: Added 4" P.J.S. detail. 3-21-90 ENR

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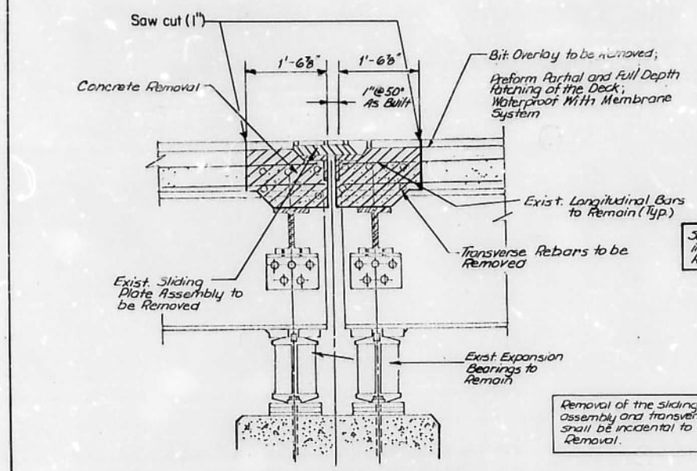
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	58
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* 99-4RS-2 & 99-4(B-1,HB,HB-1 & VB)BR-88

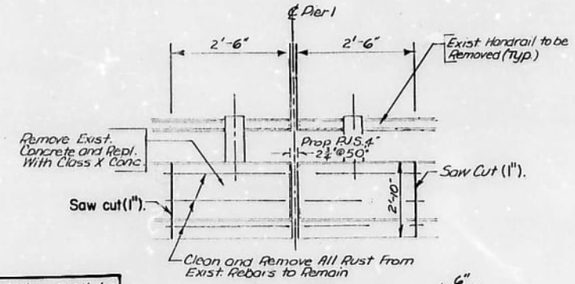
SHEET 5 OF 14



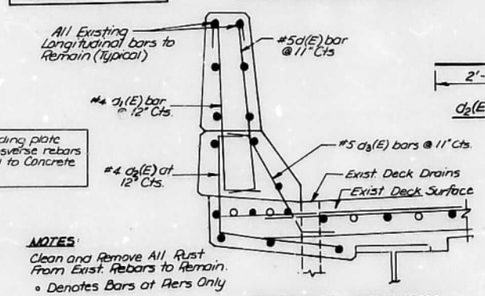
EXISTING SECTION AT PIER 1

Removal of the sliding plate assembly and transverse rebars shall be incidental to Concrete Removal.

Saw Cutting shall be incidental to Concrete Removal



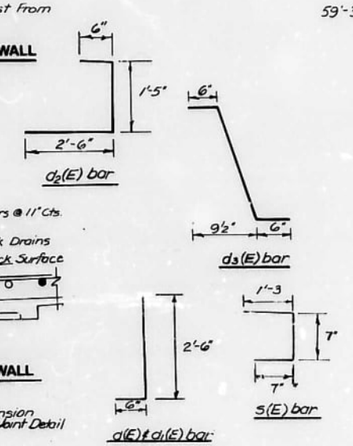
ELEVATION AT BARRIER WALL

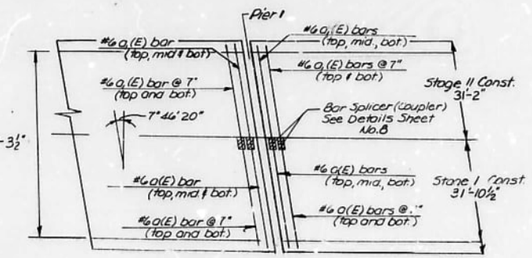


NOTES:
Clean and Remove All Rust From Exist. Rebars to Remain.
* Denotes Bars at Piers Only

SECTION AT BARRIER WALL

NOTE: See Detail of Concrete Wall Extension on Sheet No. 7 for Barrier Wall Joint Detail (Section A-A)





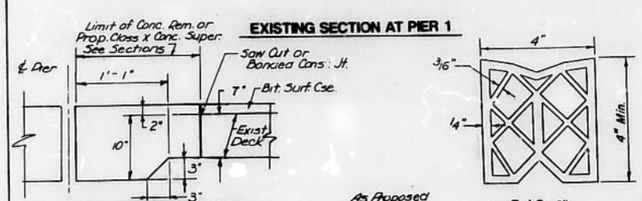
PLAN VIEW - SLAB REINFORCEMENT

(E) Denotes Epoxy Coated.

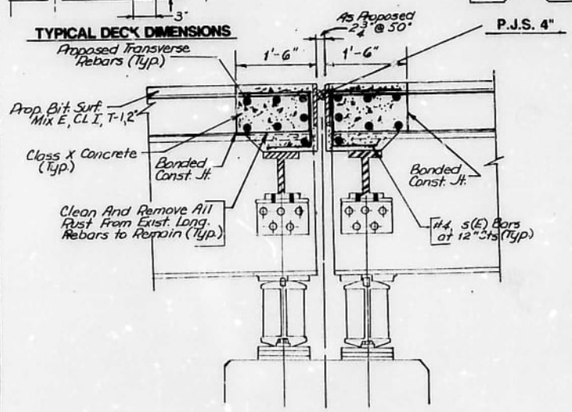
Clearance shall be Maintained for slab Reinforcement. (2" clear for top of slab & 1" clear for bottom of slab.).

BAR SCHEDULE				
BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
a(E)	14	#6	31'-6"	
a1(E)	14	#6	30'-9	
d(E)	12	#5	3'-0	
d1(E)	12	#4	3'-0	
d2(E)	12	#4	4'-5"	
*d3(E)	12	#5	3'-6 9/16"	
s(E)	126	#4	2'-5"	

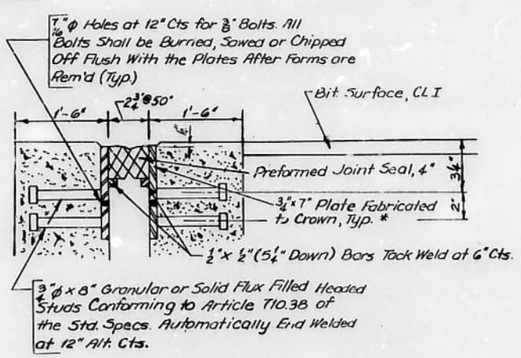
Quantities have been provided for a third row of bars. However, this quantity may or may not be needed. Its necessity shall be determined in the field and the rebars used at the discretion of the field engineer.



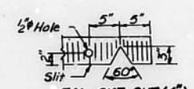
TYPICAL DECK DIMENSIONS



PROPOSED MODIFICATIONS AT PIER 1



PREFORMED JOINT SEAL, 4"



SEAL CUT-OUT (4")

END OF SEAL TREATMENT

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	70
Class X Conc. Super	Cu.Yds.	80
Reinforcement bars,		
Epoxy coated.	Pound	1636
Preformed joint seal, 4"	Lin. Ft.	64
Furnishing & Erecting		
Structural Steel	Pound	2327
Protective coat	Sq. Yd.	28.8

* Furnish in Segments of 20' Max. Length. Max Space Between Installed Segments Shall be 3/16". Seal Space With Silicone Sealant Suitable for Structural Steel.

After Fabrication All Surfaces of the Steel Plates Shall be Given One Shop Coat of Paint Specified for Structural Steel.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I 80

BRIDGE REHABILITATION

STRUCTURE NO. 099-0058

DECK DETAILS

SCALE: VERT. HORIZ. DATE

DRAWN BY

CHECKED BY

DETAIL OF EXPANSION JOINT REPLACEMENT AT PIER NO. 1

Revised: Added 4" P.J.S. detail. 3-21-90 ENR

D C B A 0 A B C D

TAMERAN

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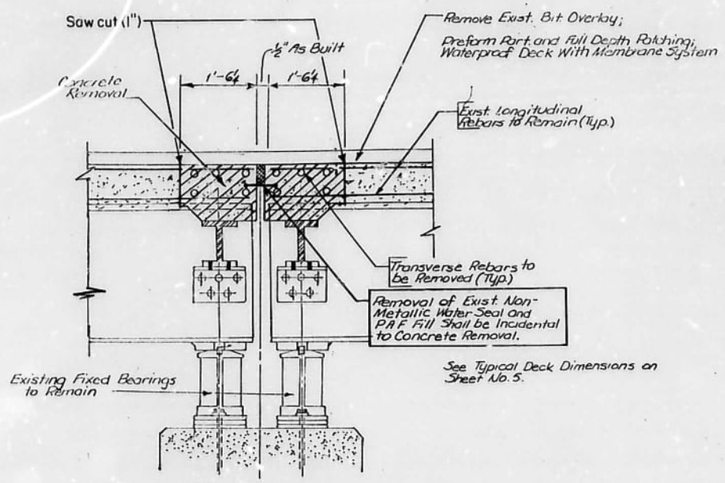
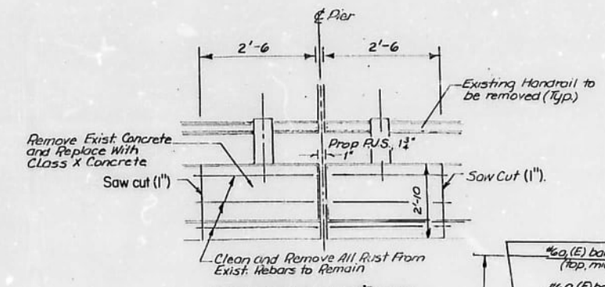
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	59
STA		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*99-4RS-2 & 99-4(B-1,HB,HB-18 VB)BR-88

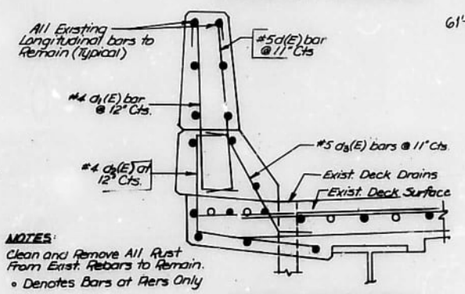
SHEET 6 OF 14



EXISTING PIER 2

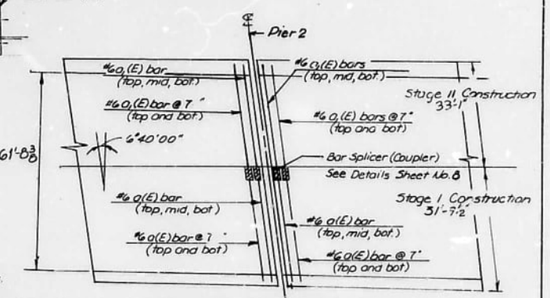


ELEVATION AT BARRIER WALL



NOTES:
Clean and Remove All Rust From Exist. Rebars to Remain.
• Denotes Bars at Piers Only

SECTION AT BARRIER WALL



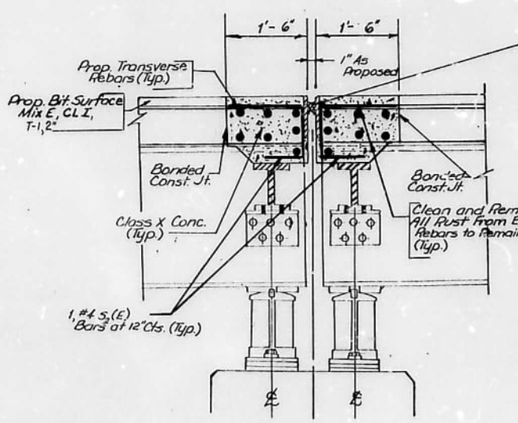
PLAN VIEW - SLAB REINFORCEMENT

Clearance shall be maintained for slab reinforcement. (2" clear for top of slab & 1" clear for bottom of slab).

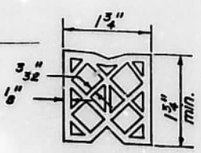
(E) Denotes Epoxy Coated

NOTE:
Quantities have been provided for a third row of bars, however, this quantity may or may not be needed. Its necessity shall be determined in the field and the rebars used at the discretion of the field engineer.

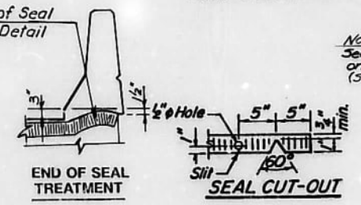
NOTE:
See Detail of Concrete Wall Extension on Sheet No. 7 for Barrier Wall Joint Detail. (Section A-A)



PROPOSED MODIFICATIONS TO PIER 2

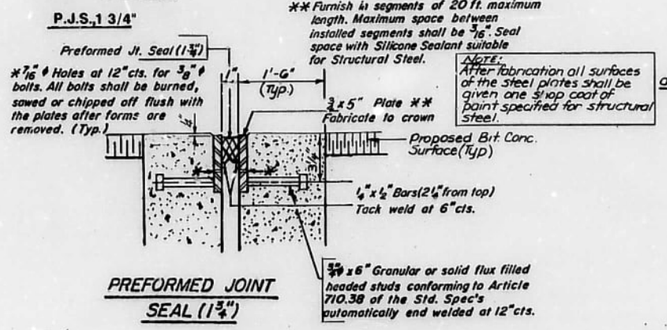


P.J.S., 1 3/4"



END OF SEAL TREATMENT

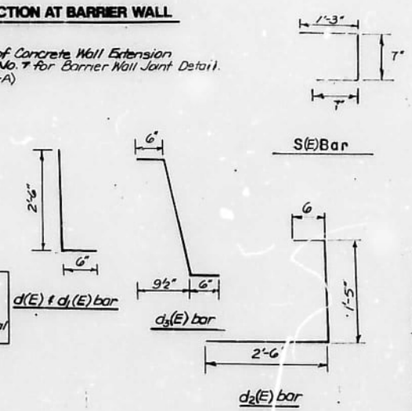
SEAL CUT-OUT



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

NOTE:
After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for structural steel.

PREFORMED JOINT SEAL (1¾")



BAR SCHEDULE

BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
a1(E)	14	#6	31'-8"	——
a (E)	14	#6	31'-5"	——
d(E)	12	#5	3'-0	⌋
d1(E)	12	#4	3'-0	⌋
d2(E)	12	#4	4'-5	⌋
d3(E)	12	#5	3'-6 3/16	⌋
S(E)	130	#4	2'-5	⌋

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	6.9
Class X Conc. Super	Cu.Yds.	8.1
Reinforcement bars, Epoxy coated	Pound	1720
Preformed joint seal (1¾")	Lin. Ft.	65
Furnishing & Erecting Structural Steel	Found	2026
Protective coat	Sq. Yd.	29.4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
DECK DETAILS

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

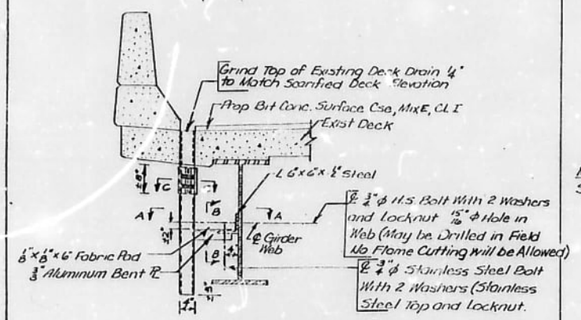
Revised: Added 1¾" P.J.S detail. 3-20-90 ENR

D C B A 0 A B C D
TAMERAN

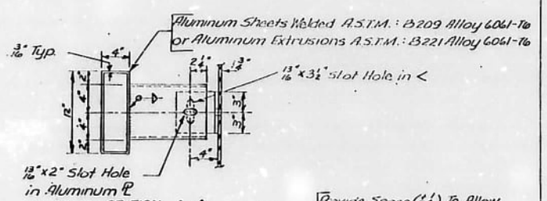
1-80	*	WILL	181	60

*99-4RS-2 & 99-4(B-1, HB, HB-1 & VB) BR-88

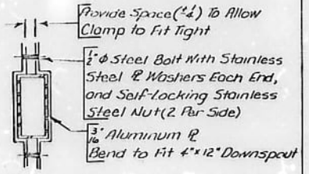
SHEET 7 OF 14



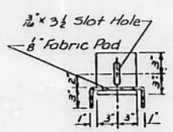
SECTION AT PARAPET



SECTION A-A



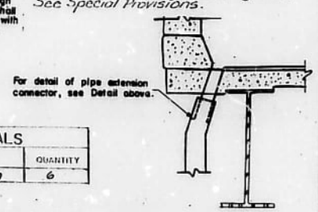
SECTION C-C



SECTION B-B

Note:
If the existing deck drain extends through the deck at an angle the contractor shall fabricate the aluminum drain extension with an angle to extend the drain vertically.

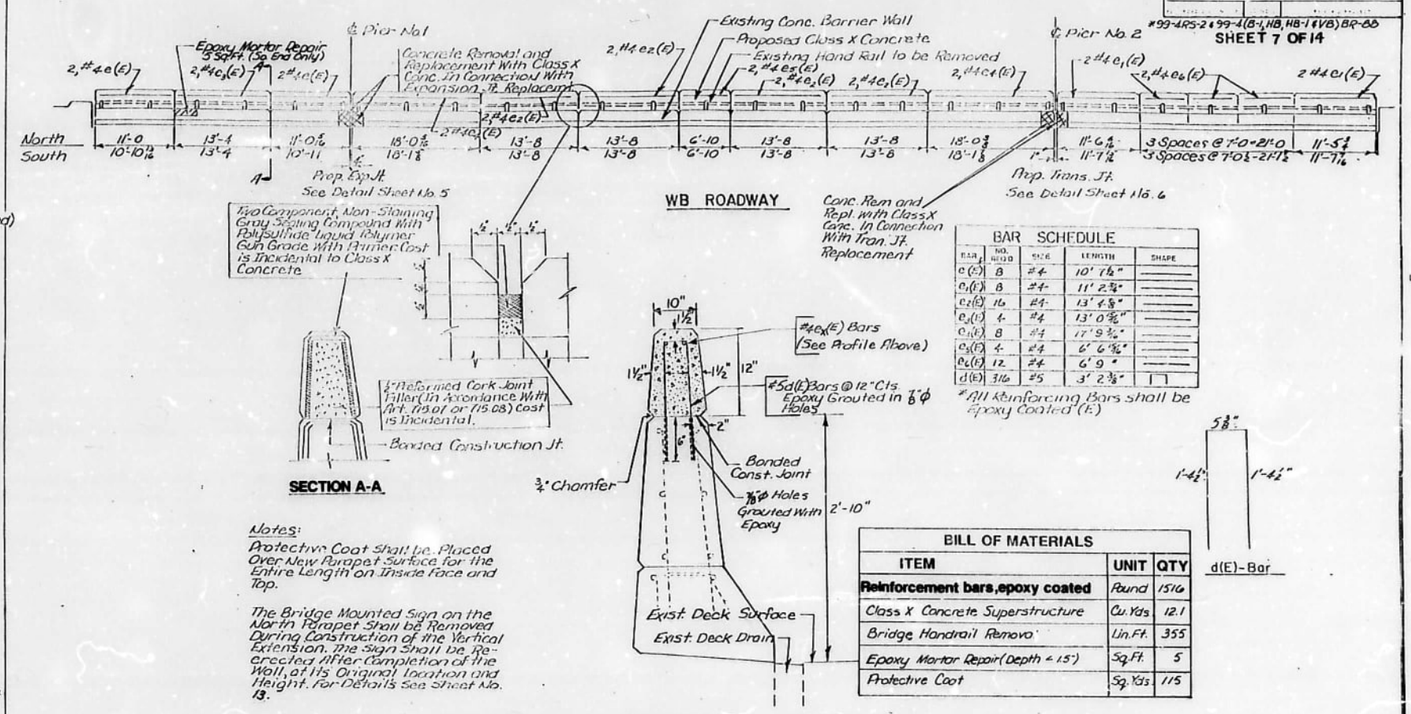
Note:
The Exterior Surfaces of the Aluminum Drains Shall be Cleaned and Given a Washcoat Retreatment. This Shall be Followed by the Top Coat Chromate Free Alkyd Paint System. See Special Provisions.



DETAIL A

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Deck Drain to be Extended	Each	6

DETAIL OF DECK DRAIN EXTENSION



SECTION A-A

BAR SCHEDULE				
BAR	NO. REQD	SIZE	LENGTH	SHAPE
e(E)	8	#4	10' 7 1/16"	
e1(E)	8	#4	11' 2 3/4"	
e2(E)	16	#4	13' 4 5/8"	
e3(E)	4	#4	13' 0 5/16"	
e4(E)	8	#4	17' 9 3/4"	
e5(E)	4	#4	6' 6 5/16"	
e6(E)	12	#4	6' 9"	
d(E)	316	#5	3' 2 3/8"	

*All Reinforcing Bars shall be Epoxy Coated (E)

d(E)-Bar

Notes:
Protective Coat Shall be Placed Over New Parapet Surface for the Entire Length on Inside Face and Top.

The Bridge Mounted Sign on the North Parapet Shall be Removed During Construction of the Vertical Extension. The Sign Shall be Re-erected After Completion of the Wall, at Its Original Location and Height. For Details See Sheet No. 13.

BILL OF MATERIALS		
ITEM	UNIT	QTY
Reinforcement bars, epoxy coated	Pound	1516
Class X Concrete Superstructure	Cu. Yds	12.1
Bridge Handrail Removal	Lin. Ft.	355
Epoxy Mortar Repair (Depth ≤ 1.5")	Sq. Ft.	5
Protective Coat	Sq. Yds.	115

DETAIL OF CONRETE WALL EXTENSION

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I.-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058

DECK DETAILS

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

D C B A 0 A B C D

TAMERAN

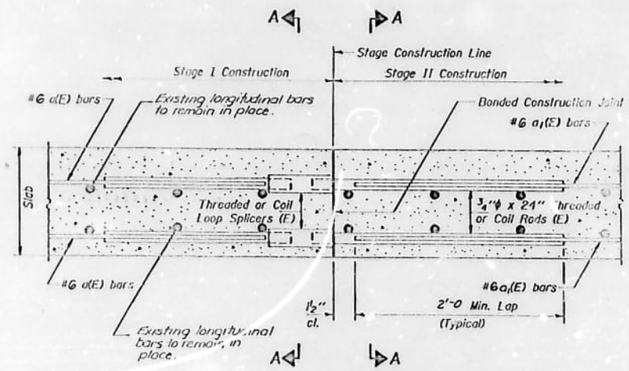
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-80	*	WILL	181	61

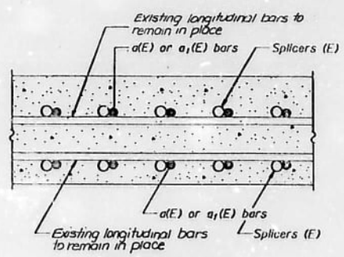
FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT-

*99-4RS-2 & 99-4(B-1, HB, HB-1 & VB) BR-88

SHEET 8 OF 14



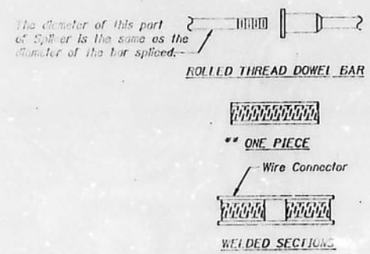
SECTION THRU SLAB



SECTION A-A

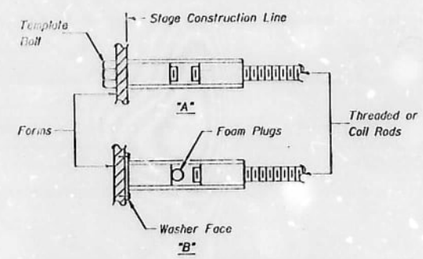
SPLICER DETAILS
(No. Req'd. 28)

Cost Incidental to Reinforcement Bars (Epoxy Coated).



SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal to or greater than that of the lapped reinforcement bars.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements.

① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_1$

② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_1$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

In Slabs:
- #5 bar lap with 3/4"ϕ Splicer (Coupler) x 2'-0" Splicer Rods — Minimum Capacity = 23.0 kips-tension; Minimum Pull-out Strength = 9.2 kips-tension
- #6 bar lap with 7/8"ϕ Splicer (Coupler) x 2'-4" Splicer Rods — Minimum Capacity = kips-tension; Minimum Pull-out Strength = kips-tension

In Sub-Structure:
- #7 bar lap with 1"ϕ Splicer (Coupler) x 3'-5" Splicer Rods — Minimum Capacity = 45.1 kips-tension; Minimum Pull-out Strength = 18.0 kips-tension
- #8 bar lap with 1 1/8"ϕ Splicer (Coupler) x 4'-6" Splicer Rods — Minimum Capacity = 58.9 kips-tension; Minimum Pull-out Strength = 23.6 kips-tension

DESIGNED	EXAMINED	19
CHECKED	PASSED	ENGINEER OF BRIDGE DESIGN
DRAWN	APPROVED	ENGINEER OF BRIDGES AND STRUCTURES
CHECKED		ENGINEER OF HIGHWAYS

BSD-1 6-1-89

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I.-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

SCALE: VERT. HORIZ. | DRAWN BY
DATE | CHECKED BY

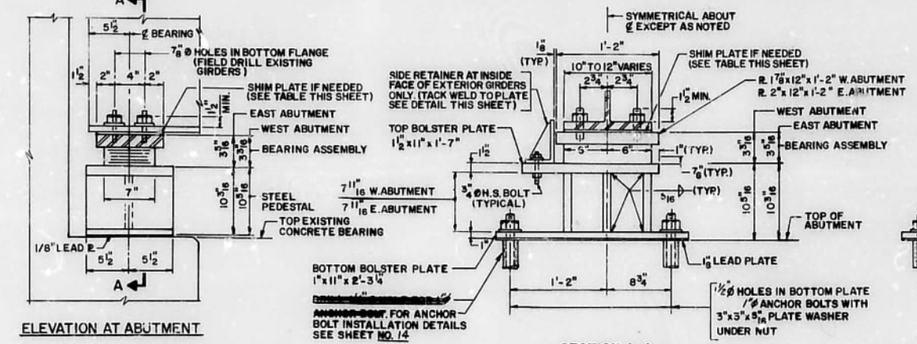
D C B A 0 A B C D
TAMERAN

99-4-RS-2 & 99-4 (B-1, HB, HB-1 & YB) & R-88

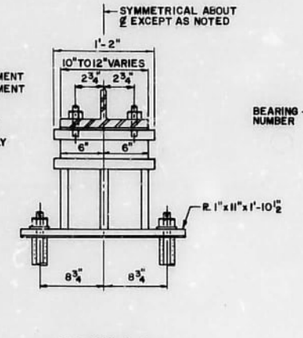
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
I-80	*	WILL	181	62
STA	TO STA			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET 9 OF 14

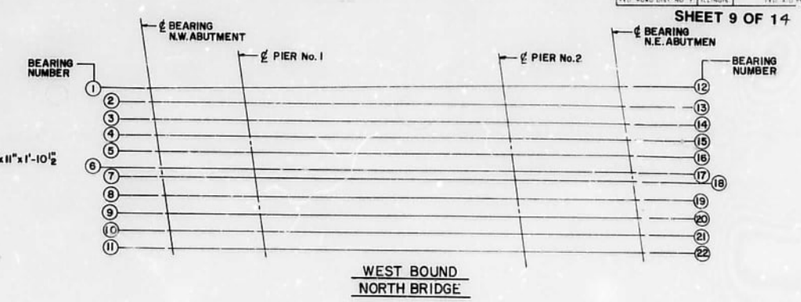
ELEVATION AT ABUTMENT



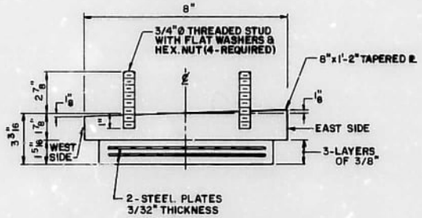
SECTION A-A
(SHOWING EXTERIOR GIRDER)



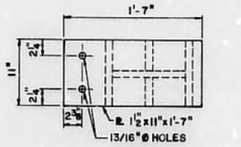
SECTION A-A
(SHOWING INTERIOR GIRDER)



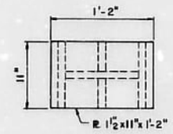
WEST BOUND
NORTH BRIDGE



BEARING ASSEMBLY
F.A.I.-80 OVER CHICAGO OTTAWA COUPLE
WEST ABUTMENT OF NORTH BRIDGE



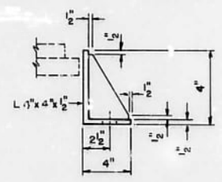
PLAN
TOP PLATE



PLAN
TOP PLATE

NORTH BRIDGE (WEST BOUND)

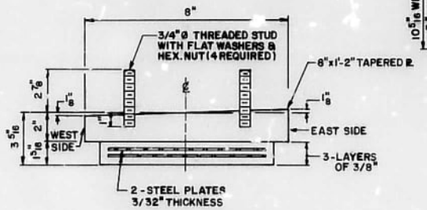
BEARING NUMBER	1	2	3	4	5	6	7	8	9	10	11
THICKNESS OF SHIM PLATE	1/8"	0	0	0	0	5/16"	7/16"	0	0	0	1/8"
BEARING NUMBER	12	13	14	15	16	17	18	19	20	21	22
THICKNESS OF SHIM PLATE	0	0	0	0	0	7/16"	9/16"	0	0	0	0



ELEVATION

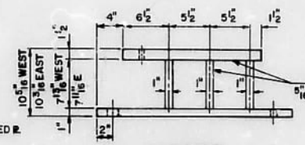
BILL OF MATERIAL

ITEM	UNIT	TOTAL
ELASTOMERIC BEARING ASSEMBLY TYPE I	EACH	22
JACK AND REMOVE EXISTING BEARINGS	EACH	22
FURNISHING AND ERRECTING STRUCTURAL STEEL	LBS	5355

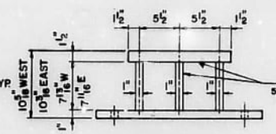


BEARING ASSEMBLY
F.A.I.-80 OVER CHICAGO OTTAWA COUPLE
EAST ABUTMENT OF NORTH BRIDGE

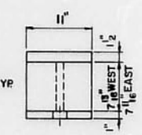
TYPE I
ELASTOMERIC EXPANSION BEARING



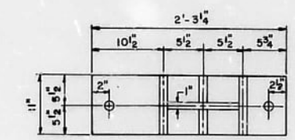
ELEVATION
(SHOWING EXTERIOR PEDESTAL)



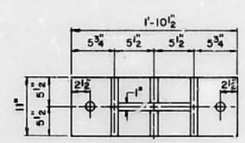
ELEVATION
(SHOWING INTERIOR PEDESTAL)



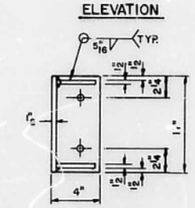
END VIEW
(TYPICAL)



PLAN
BOTTOM PLATE



PLAN
BOTTOM PLATE



PLAN
SIDE RETAINER

NOTES:

BOLSTER ASSEMBLY HEIGHT OF 10 13/16" OR 10 9/16" DOES NOT INCLUDE SHIM PLATE THICKNESS.

FOR SHIM PLATE THICKNESSES SEE TABLE THIS SHEET.

SHIM PLATES SHALL NOT BE PLACED UNDER BEARING ASSEMBLY.

EQUIVALENT ROLLED ANGLE WITH STIFFENERS WILL BE ALLOWED IN LIEU OF WELDED PLATES, FOR SIDE RETAINERS.

NEW STEEL PEDESTALS AND ANCHOR BOLTS SHALL BE PAID FOR AS FURNISHING AND ERECTING STRUCTURAL STEEL.

SIDE RETAINERS AND BOLTS SHALL BE INCLUDED IN F & E STRUCTURAL STEEL.

EXISTING ANCHOR BOLTS SHALL BE CUT OFF FLUSH WITH THE CONCRETE SURFACE, GROUND SMOOTH AND SEALED WITH EPOXY. COST INCIDENTAL TO COST OF NEW BEARING ASSEMBLIES.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
ELASTOMERIC BEARING

SCALE: VERT. HORIZ. — DRAWN BY M.V.T
DATE — CHECKED BY

Revised: Changed anchor bolt to 1"ø & hole to 1 1/8"ø. 3-20-90 ENR

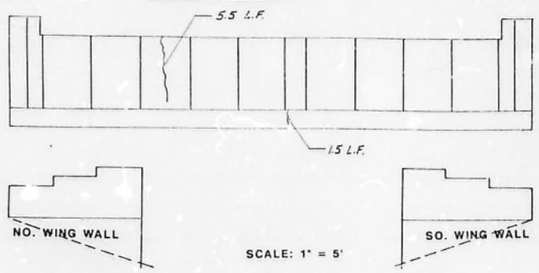
D C B A 0 A B C D
TAMERAN

1-00	*	WILL	181	63

* 99-4R5-2 & 99-4/P-1,HB,HB-1 & VB)BR-88

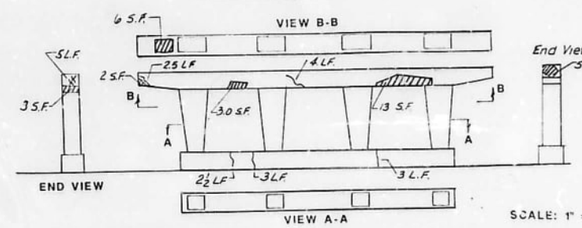
SHEET 10 of 14

EAST ABUTMENT



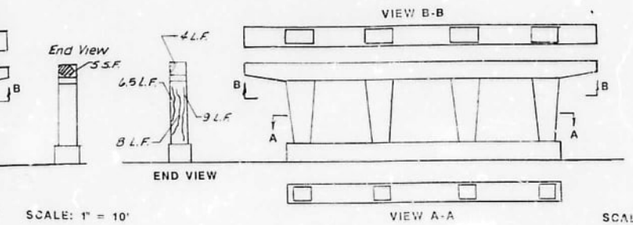
SCALE: 1" = 5'

Pier No. 1 East Elevation



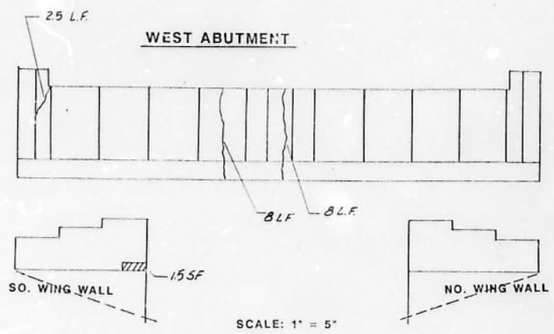
SCALE: 1" = 10'

Pier No. 2 East Elevation



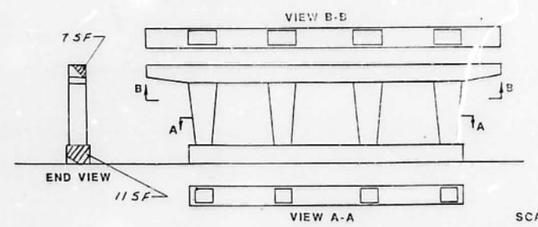
SCALE: 1" = 10'

WEST ABUTMENT



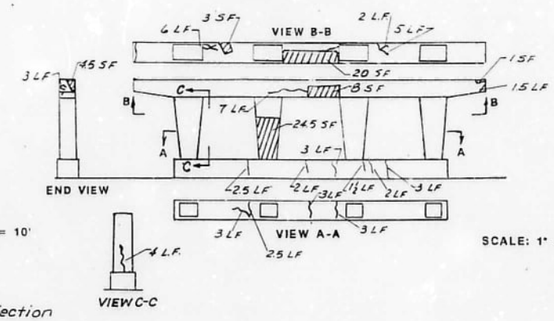
SCALE: 1" = 5'

Pier No. 1 West Elevation



SCALE: 1" = 10'

Pier No. 2 West Elevation



SCALE: 1" = 10'

LEGEND

~ Crack Indicates Epoxy Injection

▨ Spall Indicates Formed Concrete Repair

SEE DETAIL OF FORMED CONCRETE REPAIR ON SHEET NO.11

BILL OF MATERIALS

ITEM	UNIT	QTY
EPOXY CRACK SEALING	L.IN.FT.	127
FORMED CONCRETE REPAIR		
(DEPTH ≤ 5")	SQ.FT.	112

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. - 80

BRIDGE REHABILITATION

STRUCTURE NO. 099-0058

SUBSTRUCTURE REPAIRS

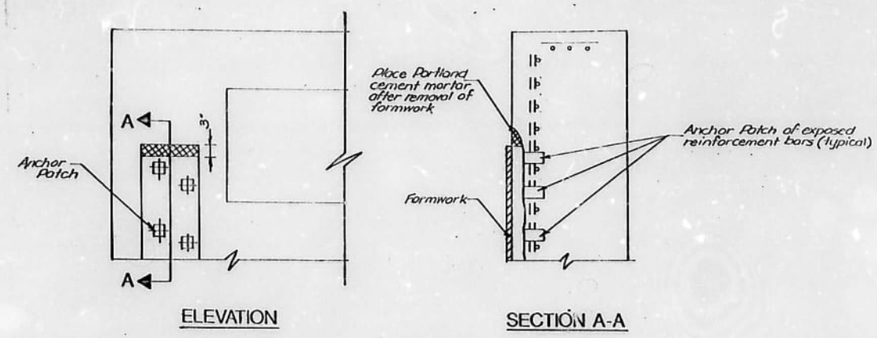
SCALE VERT. HORIZ. DRAWN BY

DATE CHECKED BY

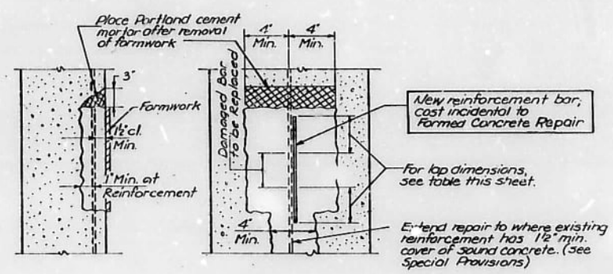
SUBSTRUCTURE REPAIRS

D C P A 0 A B C D

TAMERAN



EPOXY MORTAR REPAIR (DEPTH 1.5")



FORMED CONCRETE REPAIR WITH REINFORCEMENT

Notes:
Existing reinforcement having 20% or more of cross-sectional area lost due to corrosion or damaged during concrete removal shall be replaced by new reinforcement lapped as shown or noted.

All formed concrete repair dimensions are approximate.

LAP DIMENSIONS

Bar Size	Lap Length
#4	1'-4"
#5	1'-8"
#6	2'-0"
#7	2'-9"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. - 80
BRIDGE REHABILITATION
STRUCTURE NO. 099 - 0058
DETAIL OF:
FORMED CONCRETE REPAIR

SCALE: VERT. HORIZ.
DRAWN BY
DATE
CHECKED BY

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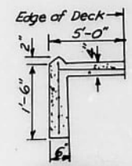
TAMERAN

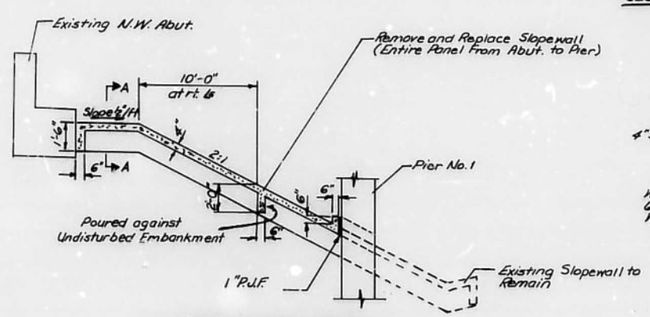
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	65
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET 12 OF 14

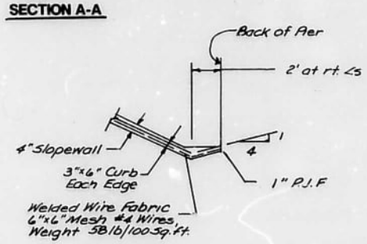
* 99-4HS-2 & 99-4(B-1,HB,HB-1 & VB)BR-88



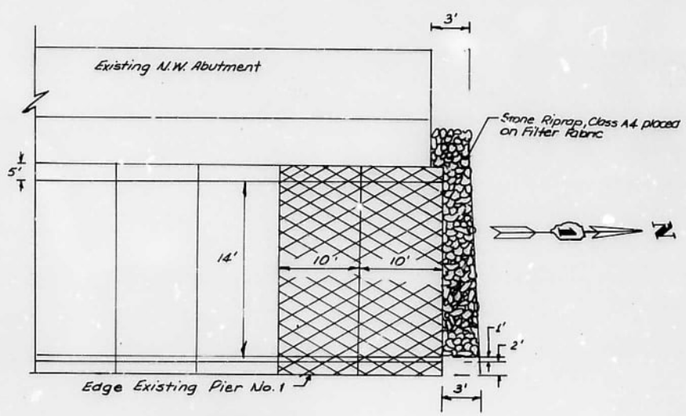
SECTION A-A



SLOPEWALL THRU ABUTMENT



DETAIL A



PLAN - SLOPEWALL

Note:
Filter Fabric shall be considered incidental to Stone Riprap, Class A4. (See Special Provisions)

Drain inlet (not shown) to be cleaned.

BILL OF MATERIALS		
ITEM	UNIT	QTY
Slopewall Rem. & Repl	Sq. Yds.	50
Stone Riprap, Class A4	Sq. Yds.	6

DETAIL OF SLOPEWALL REMOVAL AND REPLACEMENT

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
SLOPEWALL REMOVAL AND REPLACEMENT

SCALE: VERT. HORIZ. DRAWN BY
DATE CHECKED BY

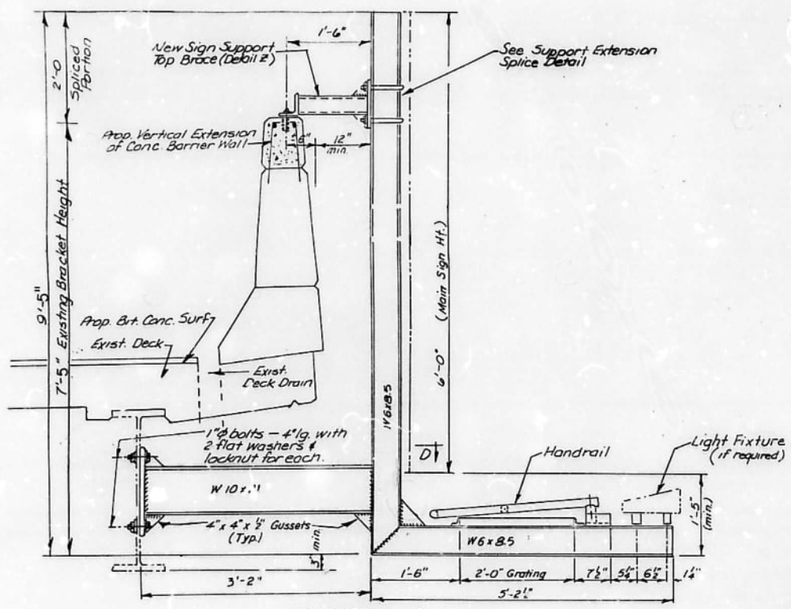
D C B A 0 A B C D
TAMERAN

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80	WILL	181	66
STA	TO STA		

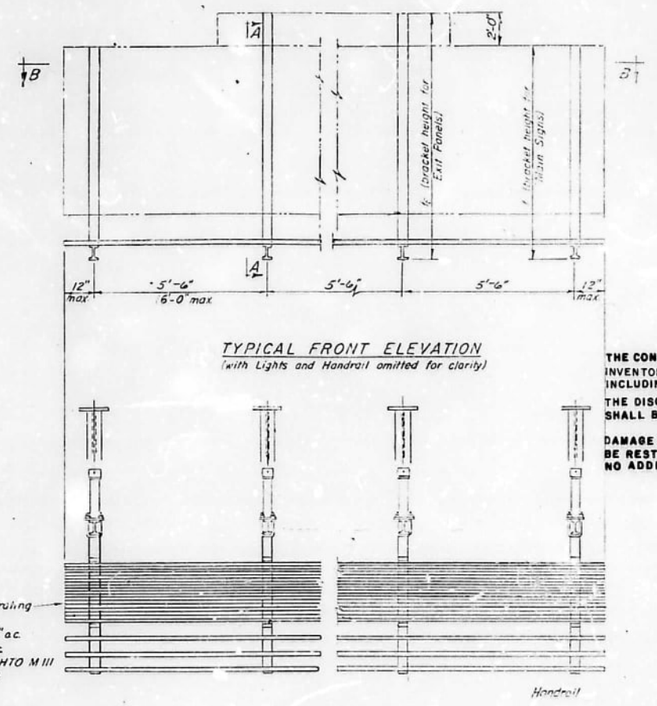
FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT

*99-4R5-2 & 99-4(B-1, HB, HB-1, & VB) BR-58

SHEET 13 OF 14

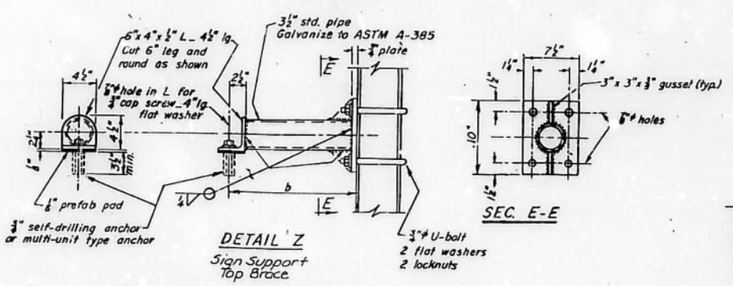


SECTION A - A



TYPICAL FRONT ELEVATION
(with Lights and Handrail omitted for clarity)

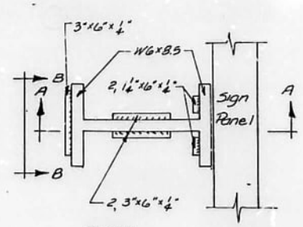
SECTION B - B



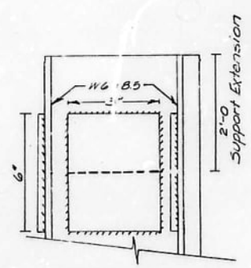
DETAIL 'Z'
Sign Support Top Brace

SEC. E-E

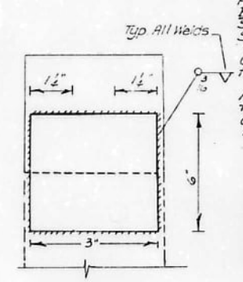
Furnishing and installing support extension shall be considered as incidental to the pay item Bridge Mounted Sign Support Top Brace.



PLAN

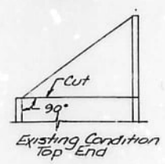


SECTION A-A



SECTION B-B

All Plates ¼" th'k ⅜" Fillet Weld All Around
Not to Scale



Existing Condition Top End

SUPPORT EXTENSION SPLICE DETAIL

DESIGN NOTES

All Structural Steel Shapes and Plates Shall Conform to the Requirements of ASTM Designation A-36.

All Cap Screws, Bolts, Washers, U-Bolts and Locknuts Shall Conform to the Requirements of AS. M Designation A-153.

All Fabrication Shall be Complete and Ready for Assembly Before Galvanizing. No Punching, Drilling, Cutting, nor Welding Shall be Permitted After Galvanizing.

Sign Support Posts, Pipe and Connections Shall Be Galvanized in Accordance With ASTM Designation A-153.

Contractor Shall Field Check All Bridge Dimensions Shown on Plans Before Submitting Shop Drawings.

THE CONTRACTOR SHALL ARRANGE WITH THE ENGINEER AN INVENTORY/INSPECTION OF THE EXIST. SIGN BEFORE IT IS REMOVED INCLUDING ELECTRICAL ITEMS.

THE DISCONNECTION AND RECONNECTION OF THE ELECTRIC CABLES SHALL BE INCIDENTAL TO THIS ITEMS

DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

The Cost of Furnishing and Installing the Bearing Pads as Herein Specified Shall be Incidental to the Contract and No Additional Compensation Will Be Allowed.

Pre-Fab Bearing Pads: Fabric Bearing Pads Shall Consist of a Fabric and Rubber Body made With New, Unvulcanized Rubber and Unused Fabric Fibers.

Basis of Payment: This Work will be Paid for at the Contract Unit Price Each for Remove and Re-Erect Bridge Mounted Sign, Measured as Specified Herein, Which Price Shall Include Removal of Sign During Construction of Conc. Barrier Wall Extension, Furnishing All Materials, Fabricating, Transporting and Re-erecting Sign to its Original Location and Height, and Paid for at the Contract Unit Price Per Each for Bridge Mtd. Sign Support Top Brace, Which Price Shall Include Furnishing All Materials and Splicing Bridge Mtd. Sign Support Extension.

Contractor Shall Submit Procedures and Details for Welding Extensions to Brackets.

After Extensions Have Been Welded to Brackets the Damaged Galvanizing Shall be Cleaned By an Approved Method and Painted With an Approved Zinc-rich Paint.

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Remove and Re-Erect Bridge Mounted Sign	Each	1
Bridge Mounted Sign Support Top Brace	Each	4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. - 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0058
DETAIL OF BRIDGE-MOUNTED SIGN REMOVAL & REPLACEMENT

SCALE: VERT. HORIZ. | DRAWN BY
DATE | CHECKED BY

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TAMERAN

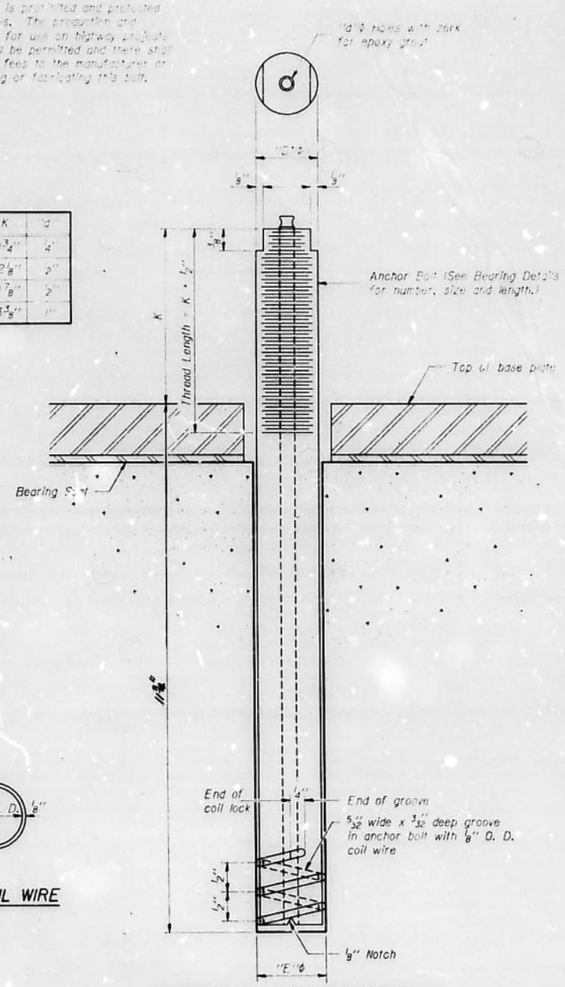
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 1-80	*	WILL	161	67
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

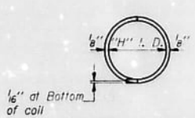
SHEET NO.
SHEETS

*99-4RS-2 & 99-4(B-1,HB,HB-1 & VB)BR-88
SHEET 14 OF 14

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



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

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

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

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

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

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

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

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

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

ANCHOR BOLT DETAILS
FOR BEARINGS

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

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

ABB-1 12-1-83
Revised: 3-20-90 ENR

Str. No. 099-0058

D C B A 0 A B C D
TAMERAN

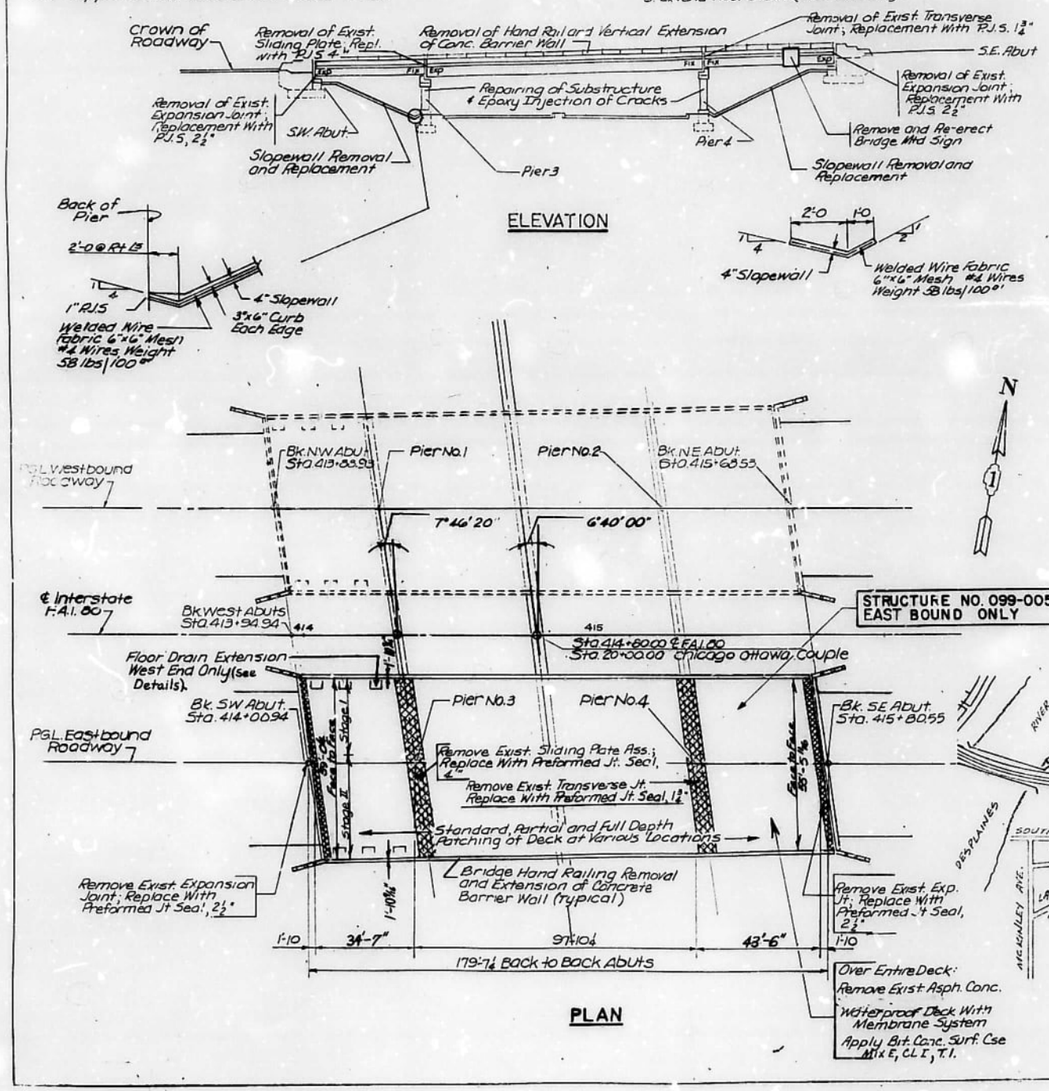
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	68
STA		STA		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*99-4RS-2 & 99-4(B-1,HB,HB-18VB)BR-88

SHEET 1 OF 14

EXIST BRIDGE DESCRIPTION: The Bridge is Comprised of 3 Simple Spans. Span 1 and 3 are Constructed With Steel, Wide Flange Beams and Span 2 is a Built-up Plate Girder With a Composite Design. The 7-inch-Thick Concrete Deck is Supported on Reinforced Concrete Piers and Abutments and the Foundations are Supported on Creosoted Timber Piles.

Deck Repairs
1. Removal of Asphaltic Conc.
2. Deleted
3. Standard, Part. & F.D. Patch (Var Loc)
4. Waterproof Deck with Membrane Syst
5. Bit. Conc. Surface Cse, Mix E, CL I
6. Extend Floor Drains (West Side Only)



PLAN NOTES

Plan Dimensions and Details Relative to the 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 Scope of Work, However, the Contractor Will be Paid for the Quantity Actually Furnished at the Unit Price Bid for the Work.

The Contractor Must Use Extreme Care When Doing Concrete Removal as not to Nick, Cut or Damage any of the Structural Steel.

Reinforcement Bars Shall Conform to the Requirements of A.A.S.H.T.O. M-42, M-31 or M-53, Grade 60.

Existing Underpass Luminaires Which are Attached to the Underside of the Bridge Shall be Maintained Operational Throughout the Duration of the Contract and Protected from Damage During Deck Repair Operations.

For Pavement Markings on Bridge, See Roadway Plans.

Field Welding of Construction Accessories Will not be Permitted to the Bottom Flange of Beams or Girders, Nor to the Top Flange Within a Distance Equal to ¼ the Span Length Each Way from the Pier Supports. Field Welding in Other Areas Will be Permitted Only When Approved by the Engineer.

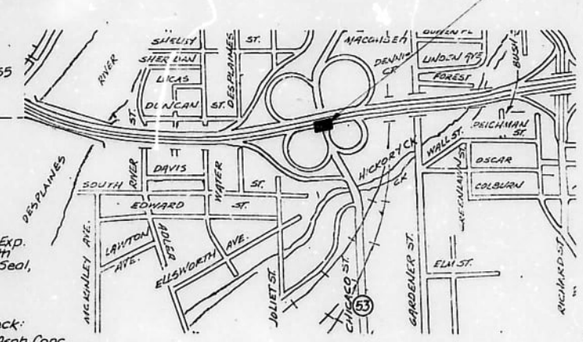
All Contact Surface Areas of New and Existing Structural Steel Shall be Free of Paint or Lacquer.

All Structural Steel Beneath Expansion Joints Shall be Sandblasted and Repainted; 5' on Either Side at Abuts and 10' on Either Side at Piers.

The 3-Coat Lead and Chromatic Free Alkyd Paint System Shall be Used for Field Painting of Existing Structural Steel and New Structural Steel. The Color of the Final Finish Coat Shall be as Specified in the Special Provision for "Cleaning and Painting Steel Structures.

The Exact Location of Slopewall Removal and Replacement Shall be Determined by the Field Engineer.

STRUCTURE NO. 099-0059 EAST BOUND ONLY



INDEX OF SHEETS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FAI-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059

PLAN & ELEVATION

SCALE: VERT. HORIZ. DRAWN BY
DATE CHECKED BY

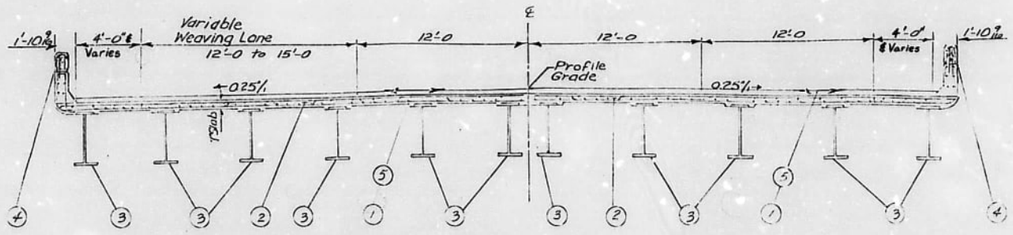
D C B A 0 A B C D

TAMERAN

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	69
STA.		TO STA.		

*99-4RS-2 & 99-4(B-1,HB,HB-1)&V3(BR-98)

SHEET 2 OF 14



TYPICAL CROSS SECTION

(FACING WEST)

LEGEND

1. REMOVAL OF ASPHALTIC CONCRETE
2. STANDARD, PARTIAL AND FULL DEPTH PATCHING OF BRIDGE DECK AT VARIOUS LOCATIONS (SEE DECK REPAIR SHEET)
3. JACK AND REMOVE EXISTING BEARINGS AT ALL ABUTMENTS; FURNISH AND INSTALL ELASTROMETRIC BEARING ASSEMBLY, TYPE I
4. REMOVAL OF HANDRAIL; VERTICAL EXTENSION OF CONCRETE BARRIER WALL
5. WATERPROOFING OF DECK WITH MEMBRANE SYSTEM, PLACEMENT OF BITUMINOUS CONCRETE SURFACE COURSE, MIX. E, CL. I, 2", T-1
6. FLOORING DRAIN EXTENSIONS (WEST SIDE OF BRIDGE ONLY.)

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY Substructure	Superstructure	Total
Jack and Remove Exist. Bearings	Each		22	22
Elastomeric Bearing Assembly, T-1	Each		22	22
Concrete Removal	Cu. Yds		28.7	28.7
Preformed Joint Seal, 4"	Lin. Ft.		63	63
Bridge Hand Rail Removal	Lin. Ft.		355	355
Reinforcement Bars, Epoxy Coated	Pound		6945	6945
Waterproof. Membrane System	Sq. Yd.		1140	1140
Deck Drain to be Extended	Each		4	4
Deck Slab Repair (Partial)	Sq. Yd.		245	245
Deck Slab Repair (Full Depth) T-1	Sq. Yd.		6	6
Epoxy Crack Sealing	Lin. Ft.		100	100
Protective Coat	Sq. Yd.		208	208
Formed Concrete Repair (Depth 6")	Sq. Ft.		34	34
Bit. Conc. Surface Removal (Deck)	Sq. Yd.		1140	1140
Bit. Conc. Surf. Cse, Mix E, CL I, T-1	Tons		149	149
Protective Shield	Sq. Yd.		1140	1140
Clean & Paint Steel Bridge	L. Sum			.1
Protect. & Maint. Exist. Underpass				
Luminaires	L. Sum			.16
Preformed Joint Seal, 1 3/4"	Lin. Ft.		60	60
Class X Concrete Superstruct.	Cu. Yd.		44.0	44.0
Slopewall Removal & Replace.	Sq. Yd.	25		25
Preformed Joint Seal, 2 1/2"	Lin. Ft.		123	123
Remove and Re-Erect Bridge Mounted Sign	Each		1	1
Furnishing & Erecting Structural Steel	Pound		13,917	13,917
Bridge Mounted Sign Support Top Base	EACH		4	4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. - 80

BRIDGE REHABITATION

STRUCTURE NO. 099-0059

TYPICAL SECTION & TOTAL BILL OF MATERIALS.

SCALE: VERT. HORIZ.

DATE

DRAWN BY

CHECKED BY

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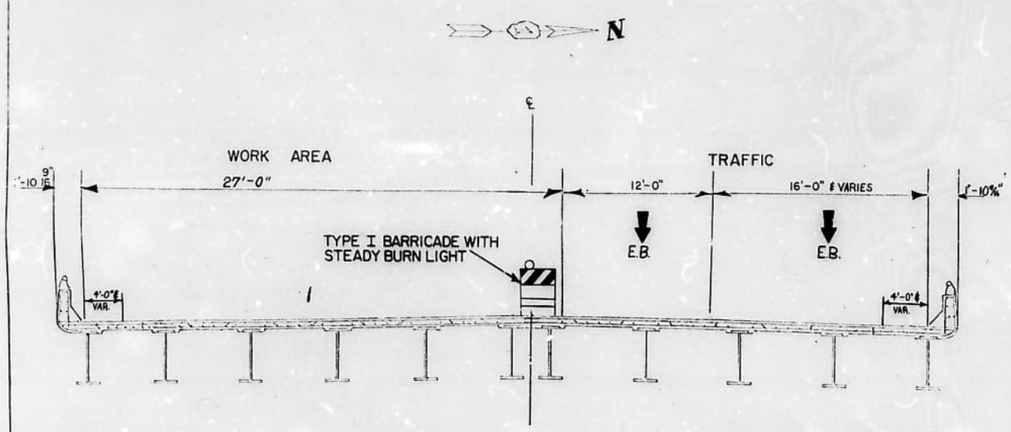
TAMERAN

F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	70

*99-4RS-2 & 99-4(B-1,HB,HB-1&VB)BR-83

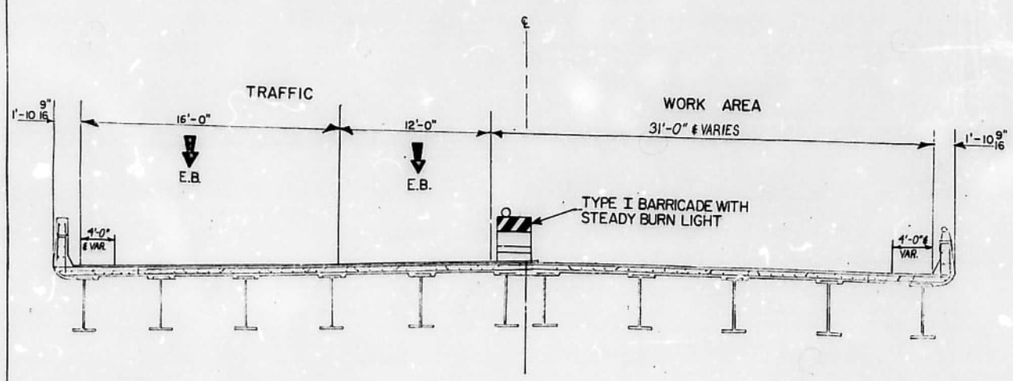
SHEET 3 OF 14



STAGE II
(FACING EAST)

STAGE I

1. PLACE TRAFFIC CONTROL AND DIVERT TRAFFIC TO NORTH SIDE.
2. REMOVE EXISTING BRIDGE CONCRETE OVERLAY
3. CONSTRUCT PARTIAL AND FULL DEPTH SLAB REPAIRS
4. JACK BRIDGE AND REMOVE EXISTING BEARINGS AND INSTALL PROPOSED ELASTOMERIC BEARING ASSEMBLY.
5. EXTEND DECK DRAINS
6. REPLACE TRANVERSE JOINTS
7. PAINT STRUCTURAL STEEL (5' ON EITHER SIDE OF BEARINGS AT ABUTMENTS AND 10' ON EITHER SIDE OF THE BEARINGS AT THE PIERS.
8. REPAIR SUBSTRUCTURE
9. REMOVE HANDRAIL AND BRIDGE MTD. SIGN AND EXTEND BARRIER WALL.
10. APPLY WATERPROOFING MEMBRANE AND RESURFACE BRIDGE
11. RE-ERECT BRIDGE MTD. SIGN.



STAGE I
(FACING EAST)

STAGE II

1. PLACE TRAFFIC CONTROL AND DIVERT TRAFFIC TO SOUTH SIDE.
2. REMOVE EXISTING BRIDGE CONCRETE OVERLAY
3. CONSTRUCT PARTIAL AND FULL DEPTH SLAB REPAIRS
4. JACK BRIDGE AND REMOVE EXISTING BEARINGS AND INSTALL PROPOSED ELASTOMERIC BEARING ASSEMBLY.
5. EXTEND DECK DRAINS
6. REPLACE TRANVERSE JOINTS
7. PAINT STRUCTURAL STEEL (5' ON EITHER SIDE OF BEARINGS AT ABUTMENTS AND 10' ON EITHER SIDE OF THE BEARINGS AT THE PIERS.
8. REPAIR SUBSTRUCTURE
9. REMOVE HANDRAIL AND EXTEND BARRIER
10. APPLY WATERPROOFING MEMBRANE AND RESURFACE BRIDGE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I.-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
STAGE CONSTRUCTION

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

D C B A 0 A B C D

TAMERAN

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	71

STA. TO STA.

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

* 99-4RS-2&99-4(B-1,HB,HB-1&VB)BR-88

SHEET 4 OF 14

Removal of existing deck drain is incidental to the pay item of "Deck Slab Repair, Full Depth".

* DECK DRAINS WITHIN 10ft. OF THE SUBSTRUCTURE TO BE ELIMINATED.

** DECK DRAINS TO BE EXTENDED(TYPICAL) SEE DECK DETAIL SHEET NO.8

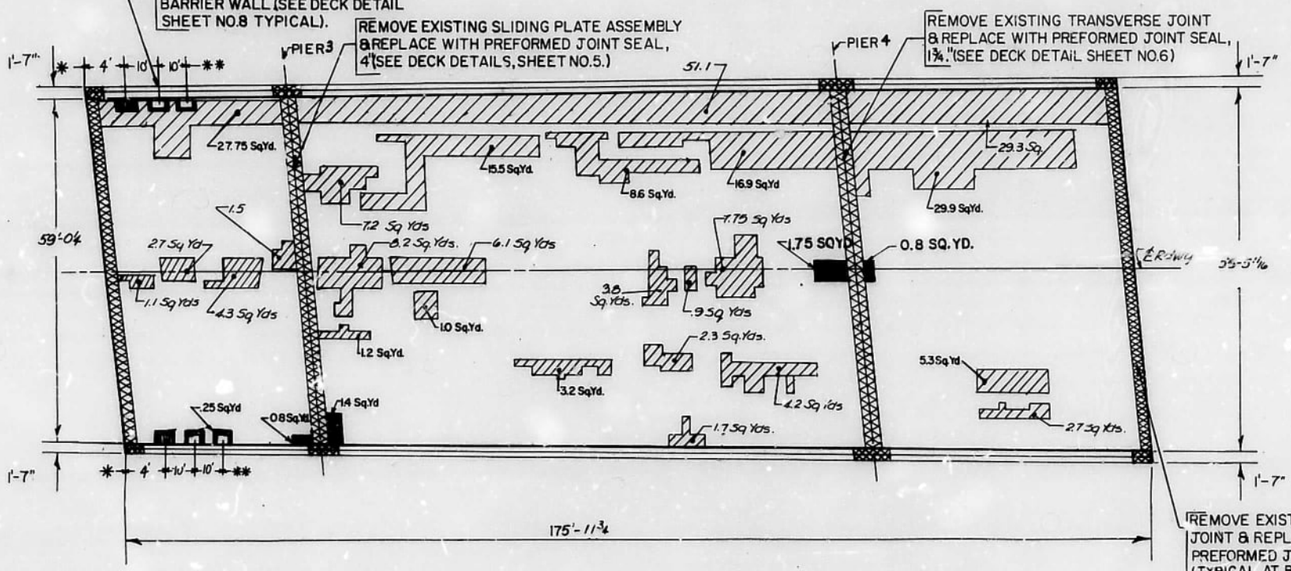
OVER ENTIRE DECK

REMOVE EXISTING BITUMINOUS CONCRETE OVERLAY PERFORM STANDARD, PARTIAL & FULL DEPTH PATCHING, AS SHOWN.

WATERPROOF THE DECK WITH MEMBRANE SYSTEM, (SEE DECK THIS SHEET) & RESURFACE THE DECK WITH BITUMINOUS CONCRETE SURFACE COURSE MIX E, CLASS I, T-1

LEGEND

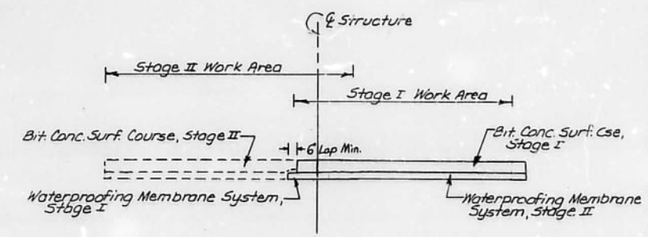
- DECK SLAB REPAIR (PARTIAL DEPTH)
- DECK SLAB REPAIR (FULL DEPTH)
- CONCRETE TO BE REMOVED



SCALE: 1" = 10'

DATE OF LATEST DELAMTECT: 9-30-89

DECK SLAB REPAIR



DETAIL OF WATERPROOFING MEMBRANE SYSTEM

(6" LAP)

BILL OF MATERIALS

Item	Unit	Quantity
Bit. Conc. Surf. Cse., Mix E, CL I *	Tons	149
Waterproofing Membrane Syst.	Sq. Yd.	1140
Deck Slab Repair (Part. Depth)	Sq. Yd.	245
Deck Slab Repair (Full Depth)		
Type I	Sq. Yd.	6
Bit. Concrete Surf. Rem.		
(Deck)	Sq. Yd.	1140

* Mix E = 130# /Sq. Yd./ Inch. Depth

Note: Exposed reinforcement bars shall be cleaned and incorporated into the concrete patch or, if necessary, replacement reinforcement added and spliced with the existing retained reinforcement, as directed by the Engineer.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I-80

BRIDGE REHABILITATION

STRUCTURE NO. 099-0059

DECK DETAILS

SCALE VERT. HORIZ. DRAWN BY C.R.

DATE CHECKED BY

Revised: Added note. 3-20-90 EN.R

D C B A 0 A B C D

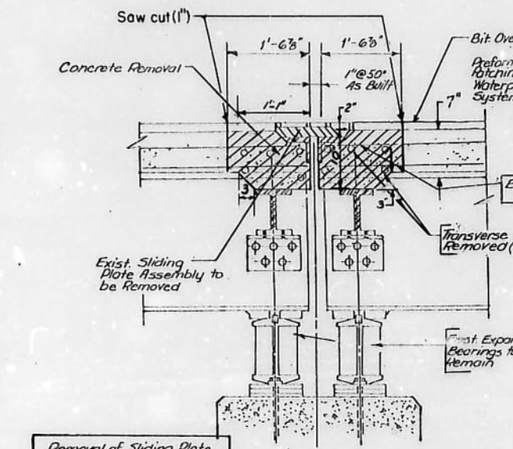
TAMERAN

RANGER

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	72
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

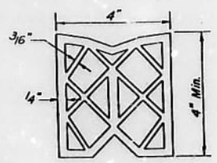
* 99-41 3-2 & 99-41(B-1,HB,HB-1&VB)BR-88

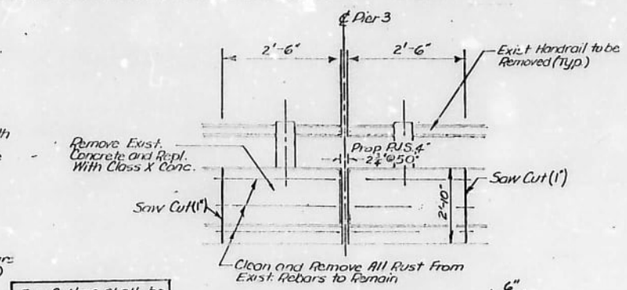
SHEET 5 OF 14



Removal of Sliding Plate Assembly and Transverse Rebars Shall be Incidental to Concrete Removal.

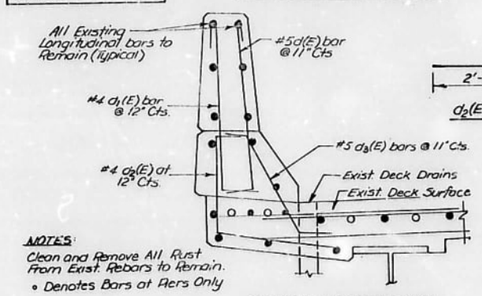
EXISTING PIER 3





Saw Cutting Shall be Incidental to Concrete Removal

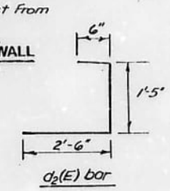
ELEVATION AT BARRIER WALL



NOTES:
Clean and Remove All Rust From Exist. Rebars to Remain.
• Denotes Bars at Piers Only

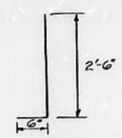
SECTION AT BARRIER WALL

See Detail of Concrete Wall Extension on Sheet No. 8

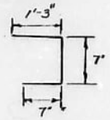


$d_2(E)$ bar

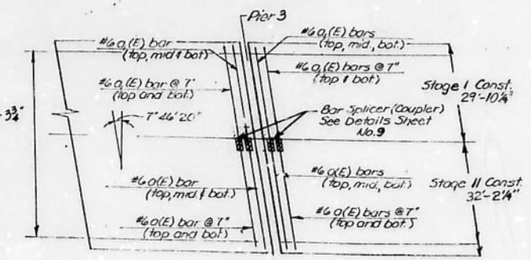
$d_3(E)$ bar



d(E) & $d_1(E)$ bar



s(E) bar



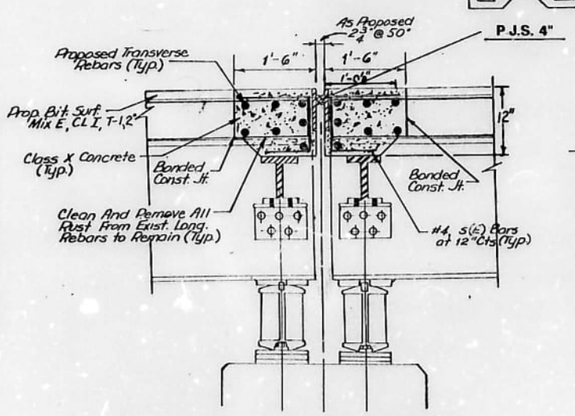
PLAN VIEW - SLAB REINFORCEMENT

(E) Denotes Epoxy Coated

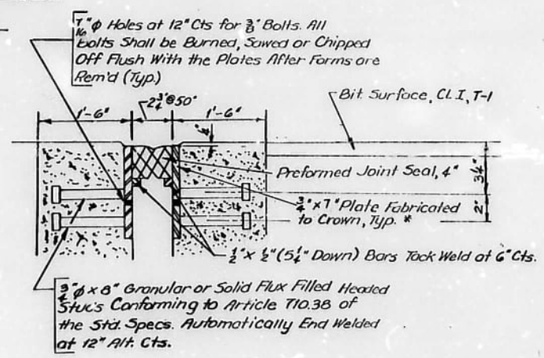
Clearance Shall be Maintained for Slab Reinforcement. (2" clear for top of slab & 1" clear for bottom of slab.)

BAR SCHEDULE				
BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
a(E)	14	#6	31'-9¾"	——
a_1(E)	14	#6	29'-5¼"	——
d(E)	12	#5	3'-0	⌋
d_1(E)	12	#4	3'-0	⌋
d_2(E)	12	#4	4'-5"	⌋
d_3(E)	12	#5	3'-6 3/16	⌋
s(E)	122	#4	2'-5"	⌋

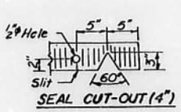
Quantities have been provided for a third row of bars. However, this quantity may or may not be needed. If necessary, shall be determined in the field and the rebars used at the discretion of the field engineer.



PROPOSED MODIFICATIONS AT PIER 3



PREFORMED JOINT SEAL, 4"



SEAL CUT-OUT (4")

END OF SEAL TREATMENT

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	69
Class X Conc. Super	Cu.Yds.	7.8
Reinforcement Bars, Epoxy Ctd.	Pound	1626
Preformed Joint Seal, 4"	Lin.Ft.	65
Furnish and Erect. Struct. Steel	Pound	2256
Protective Coat	Sq. Yds.	29

* Furnish in Segments of 20' Max. Length. Max Space Between Installed Segments Shall be ⅛". Seal Space With Silicone Sealant Suitable for Structural Steel.

After Fabrication All Surfaces of the Steel Plates Shall be Given One Shop Coat of Paint Specified for Structural Steel.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I 80

BRIDGE REHABILITATION

STRUCTURE NO. 099-0059

DECK DETAILS

SCALE: VERT. HORIZ. DRAWN BY

DATE CHECKED BY

DETAIL OF EXPANSION JOINT REPLACEMENT AT PIER NO. 3

Revised: Added ¼" to P.J.S. detail. 5-20-90 ENR

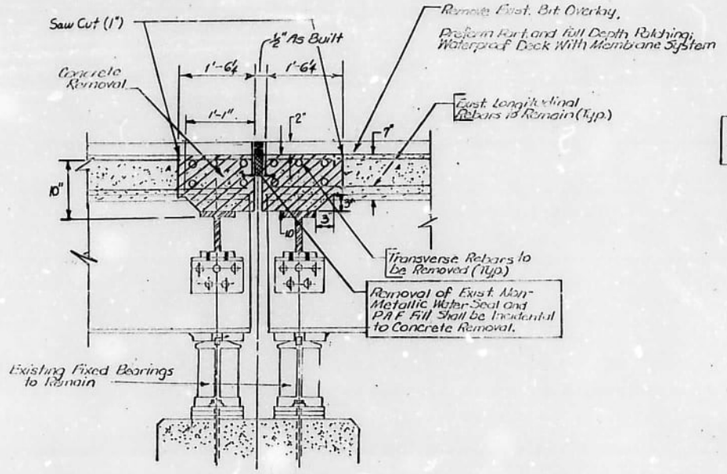
D C B A 0 A B C D

TAMERAN

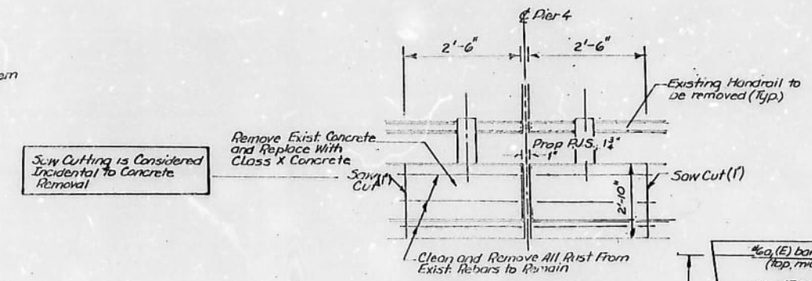
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	73
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* 99-4RS-2 & 99-4(B-1,HB,HB-18 VD)BR-88

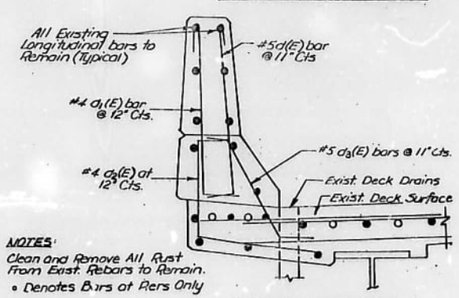
SHEET 6 OF 14



EXISTING PIER 4



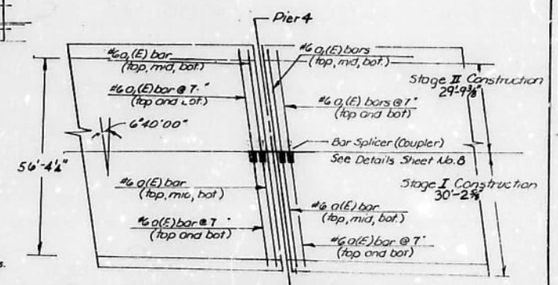
ELEVATION AT BARRIER WALL



NOTES:
Clean and Remove All Rust From Exist. Rebars to Remain.
• Denotes Bars at Piers Only

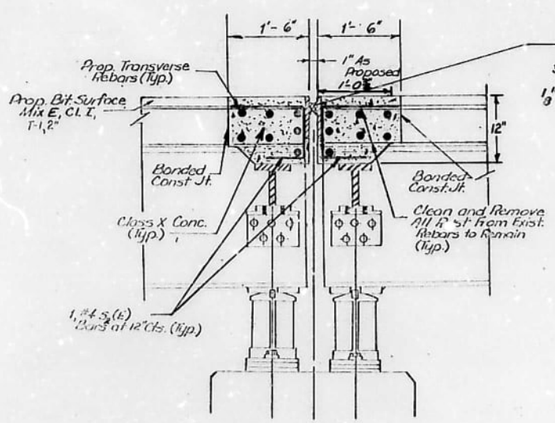
SECTION AT BARRIER WALL

See Detail of Concrete Wall Extension on Sheet No. 8

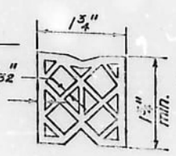


PLAN VIEW - SLAB REINFORCEMENT

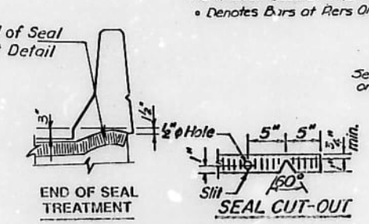
(E) Denotes Epoxy Coated
Clearance shall be maintained for slab reinforcement. (2" clear for top of slab & 1" clear for bottom of slab.)
Quantities have been provided for a third row of bars, however, this quantity may or may not be needed. Its necessity shall be determined in the field and the rebars used at the discretion of the field engineer.



PROPOSED MODIFICATIONS TO PIER 4



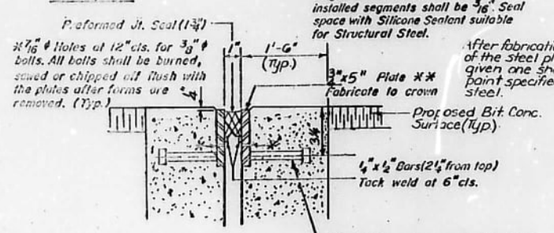
P.J.S., 1 3/4"



END OF SEAL TREATMENT

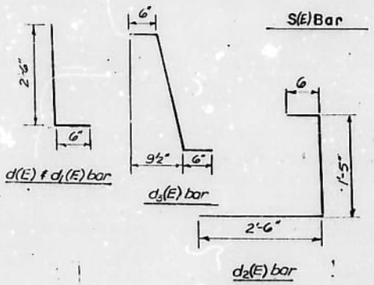
SEAL CUT-OUT

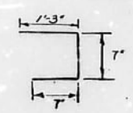
** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.



After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for structural steel.

PREFORMED JOINT SEAL (1¾")





S(E) Bar

BAR SCHEDULE

BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
a (E)	12	#6	29'-10⅜"	
a1 (E)	14	#6	7'-4⅜"	
d(E)	12	#5	3'-0"	
d1(E)	12	#4	3'-0"	
d2(E)	12	#4	4'-5"	
d3(E)	12	#5	3'-6 3/16"	
S(E)	118	#4	2'-5"	

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	6.5
Class X Conc. Super	Cu.Yds.	7.6
Reinforcement Bars, Epoxy Ctd.	Pound	576
Preformed Joint Seal, 1¾	Lin Ft.	60
Furnish and Erect Struct. Steel	Pound	1870
Protective Coat	Sq.Yds.	28

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I 80
BRIDGE REHABILITATION
STRUCTURE NO.099-0059
DECK DETAILS

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

Revised: Added ¼" to R.I.S. detail. 3-20-90 ENR

D C B A 0 A B C D

TAMERAN

BARGEN

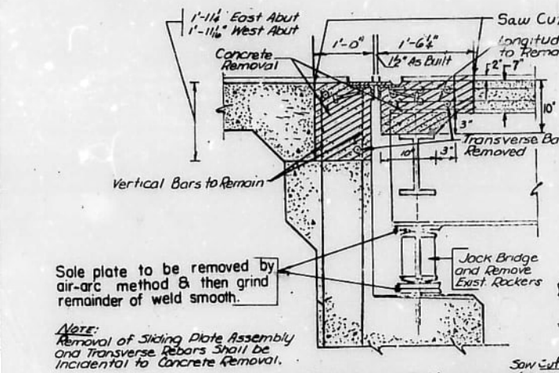
ILL. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET
I-80	*	WILL	181	74

STA. TO STA.

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

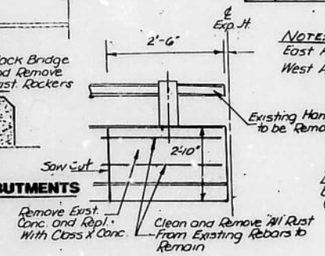
*99-1RS-2 & 99-4(B-1,H3,H3-1 & VB)BR-83

SHEET 7 OF 14

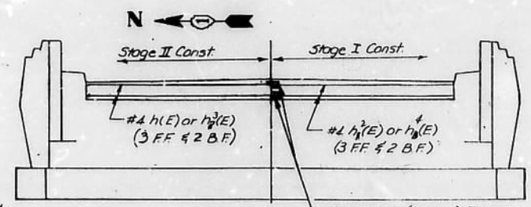


NOTE: Saw Cutting is Considered as Incidental to Concrete Removal.

EXISTING SECTION AT ABUTMENTS

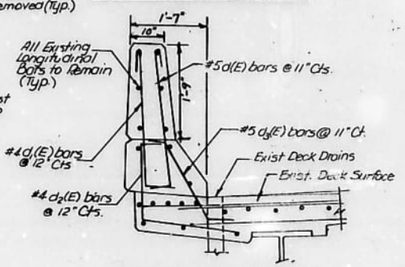


ELEVATION AT BARRIER WALL

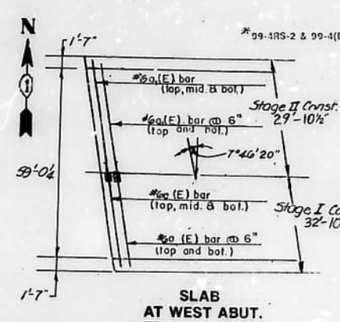


NOTE:
East Abut: use h(E) and h2(E)
West Abut: use h3(E) and h4(E)

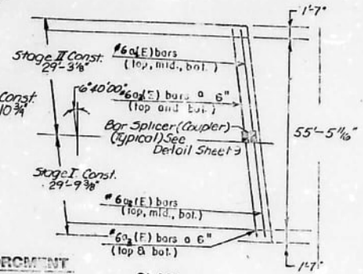
ELEVATION ABUTMENT REINFORCEMENT



SECTION AT BARRIER WALL



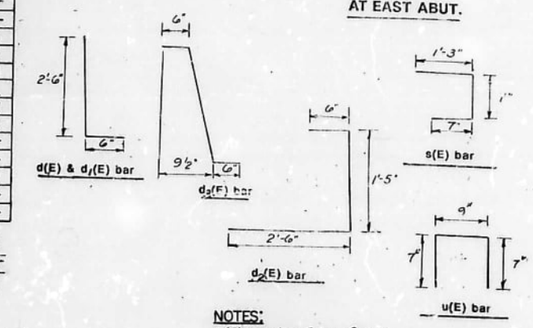
SLAB AT WEST ABUT.

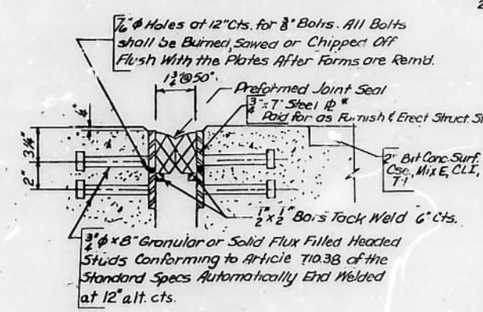


SLAB AT EAST ABUT.

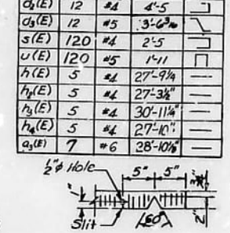
PLAN VIEW - SLAB REIFORCEMENT

BAR SCHEDULE				
Bar	No. Req'd	Size	Length	Shape
a(E)	7	#6	32'-6¼"	—
a1(E)	7	#6	29'-5½"	—
a2(E)	7	#6	29'-4¾"	—
d(E)	12	#5	3'-0	⊔
d1(E)	12	#4	3'-0	⊔
d2(E)	12	#4	4'-5	⊐
d3(E)	12	#5	3'-6 3/16	⊐
s(E)	120	#4	2'-5	⊓
u(E)	120	#5	1'-11	⊓
h(E)	5	#4	27'-9¼	—
h1(E)	5	#4	27'-3⅜"	—
h3(E)	5	#4	30'-11⅛"	—
h4(E)	5	#4	27'-10½"	—
a3(E)	7	#6	28'-10⅛"	—

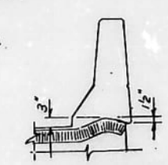




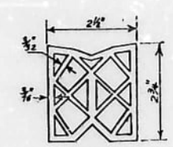
PROPOSED MODIFICATIONS AT ABUTMENTS



SEAL CUT OUT



END OF SEAL TREATMENT



PJS(2½)

NOTES:
1. (E) denotes Epoxy Coated
2. Quantities include both abuts
3. Quantities have been provided for a third row of bars, however this quantity may or may not be needed. If necessary shall be determined in the field and the rebars used at the discretion of the Field Engineer.
4. Clearance shall be maintained for slab reinforcement. (2" clear for top of slab & 1" clear for bottom of slab.)

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	15.3
Class X Concrete Super.	Cu.Yds.	17.3
Reinforcement bars, Epoxy Coated	Pounds	2227
Preformed Joint Seal-2½"	Lin. Ft.	123
Furnish & Erecting Structural Steel	Pounds	4436
Protective Coat	Sq. Yds.	39

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

After fabrication all surfaces of the steel shall be given one shop coat of paint specified for structural steel.

PREFORMED JOINT SEAL, 2-1/2"

REVISION	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
DECK DETAILS

SCALE: VERT. HORIZ. | DRAWN BY
DATE | CHECKED BY

Revised: Added ¼" to P.J.S. detail. 3-22-90 ENR

D C B A A B C D

TAMERAN

BAD COPY

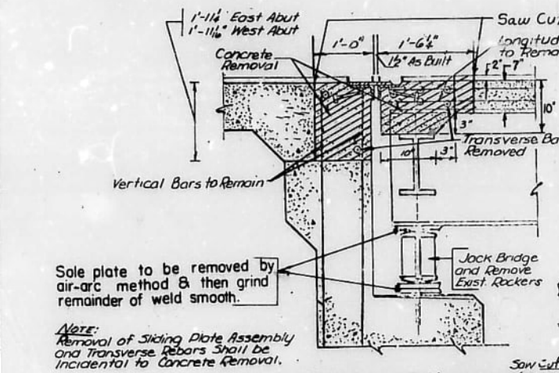
ILL. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET
I-80	*	WILL	181	74

STA. TO STA.

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

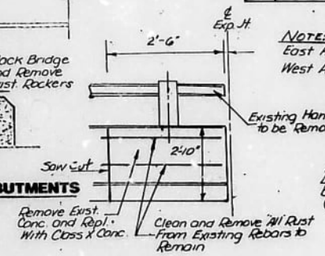
*99-1RS-2 & 99-4(B-1,H3,H3-1 & VB)BR-83

SHEET 7 OF 14

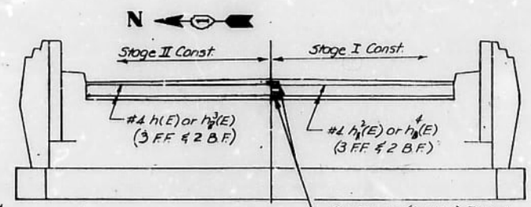


NOTE: Saw Cutting is Considered as Incidental to Concrete Removal.

EXISTING SECTION AT ABUTMENTS

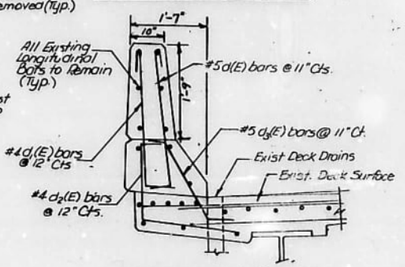


ELEVATION AT BARRIER WALL

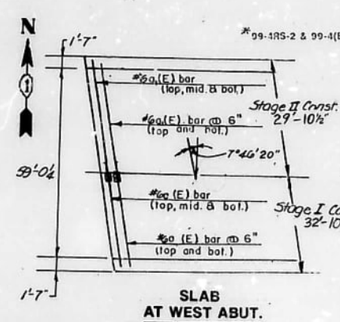


NOTE:
East Abut: use h(E) and h2(E)
West Abut: use h3(E) and h4(E)

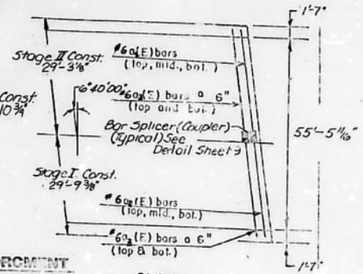
ELEVATION ABUTMENT REINFORCEMENT



SECTION AT BARRIER WALL



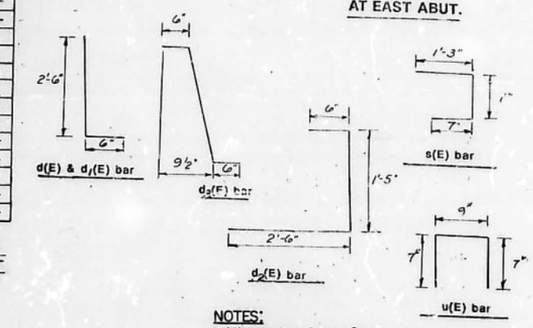
SLAB AT WEST ABUT.

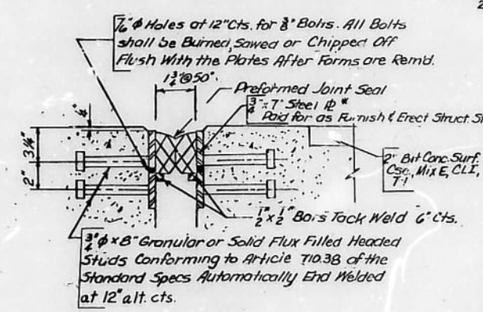


SLAB AT EAST ABUT.

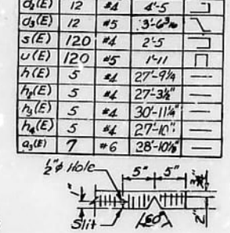
PLAN VIEW - SLAB REIFORCEMENT

BAR SCHEDULE				
Bar	No. Req'd	Size	Length	Shape
a(E)	7	#6	32'-6¼"	—
a1(E)	7	#6	29'-5½"	—
a2(E)	7	#6	29'-4¾"	—
d(E)	12	#5	3'-0	⊔
d1(E)	12	#4	3'-0	⊔
d2(E)	12	#4	4'-5	⊐
d3(E)	12	#5	3'-6 3/16	⊐
s(E)	120	#4	2'-5	⊓
u(E)	120	#5	1'-11	⊓
h(E)	5	#4	27'-9¼	—
h1(E)	5	#4	27'-3⅜"	—
h3(E)	5	#4	30'-11⅛"	—
h4(E)	5	#4	27'-10½"	—
a3(E)	7	#6	28'-10⅛"	—

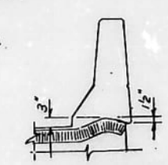




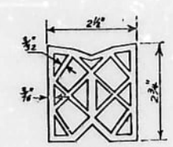
PROPOSED MODIFICATIONS AT ABUTMENTS



SEAL CUT OUT



END OF SEAL TREATMENT



PJS(2½)

NOTES:
1. (E) denotes Epoxy Coated
2. Quantities include both abuts
3. Quantities have been provided for a third row of bars, however this quantity may or may not be needed. If necessary shall be determined in the field and the rebars used at the discretion of the Field Engineer.
4. Clearance shall be maintained for slab reinforcement. (2" clear for top of slab & 1" clear for bottom of slab.)

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Removal	Cu.Yds.	15.3
Class X Concrete Super.	Cu.Yds.	17.3
Reinforcement bars, Epoxy Coated	Pounds	2227
Preformed Joint Seal-2½"	Lin. Ft.	123
Furnish & Erecting Structural Steel	Pounds	4436
Protective Coat	Sq. Yds.	39

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

After fabrication all surfaces of the steel shall be given one shop coat of paint specified for structural steel.

PREFORMED JOINT SEAL, 2-1/2"

REVISION	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
DECK DETAILS

SCALE: VERT. HORIZ. | DRAWN BY
DATE | CHECKED BY

Revised: Added ¼" to P.J.S. detail. 3-22-90 ENR

D C B A A B C D

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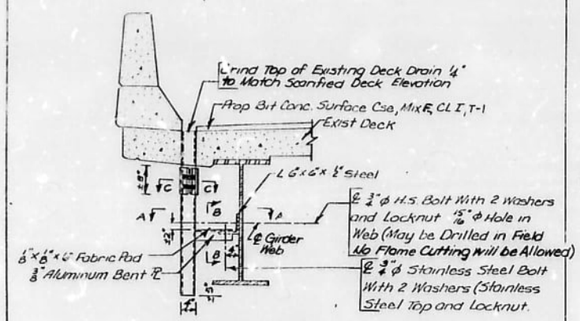
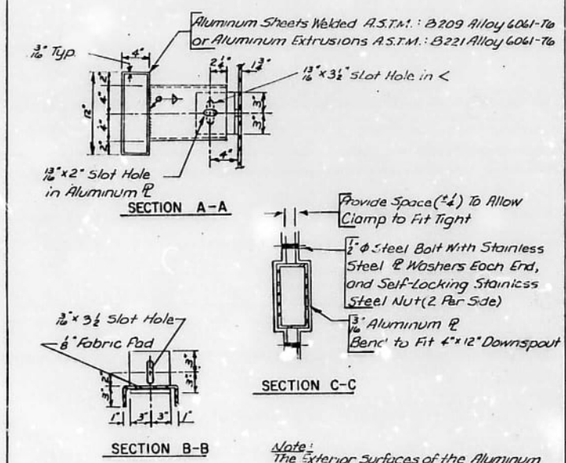
I-80	*	WILL	181	75

#99-4RS-2 & 99-4(B-1, HB, HB-1 & VB), BR-86

SHEET 8 OF 14

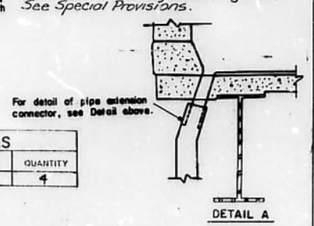


SECTION AT PARAPET



Note:
If the existing deck drain extends through the deck at an angle the contractor shall fabricate the aluminum drain extension with an angle to extend the drain vertically. see detail A.

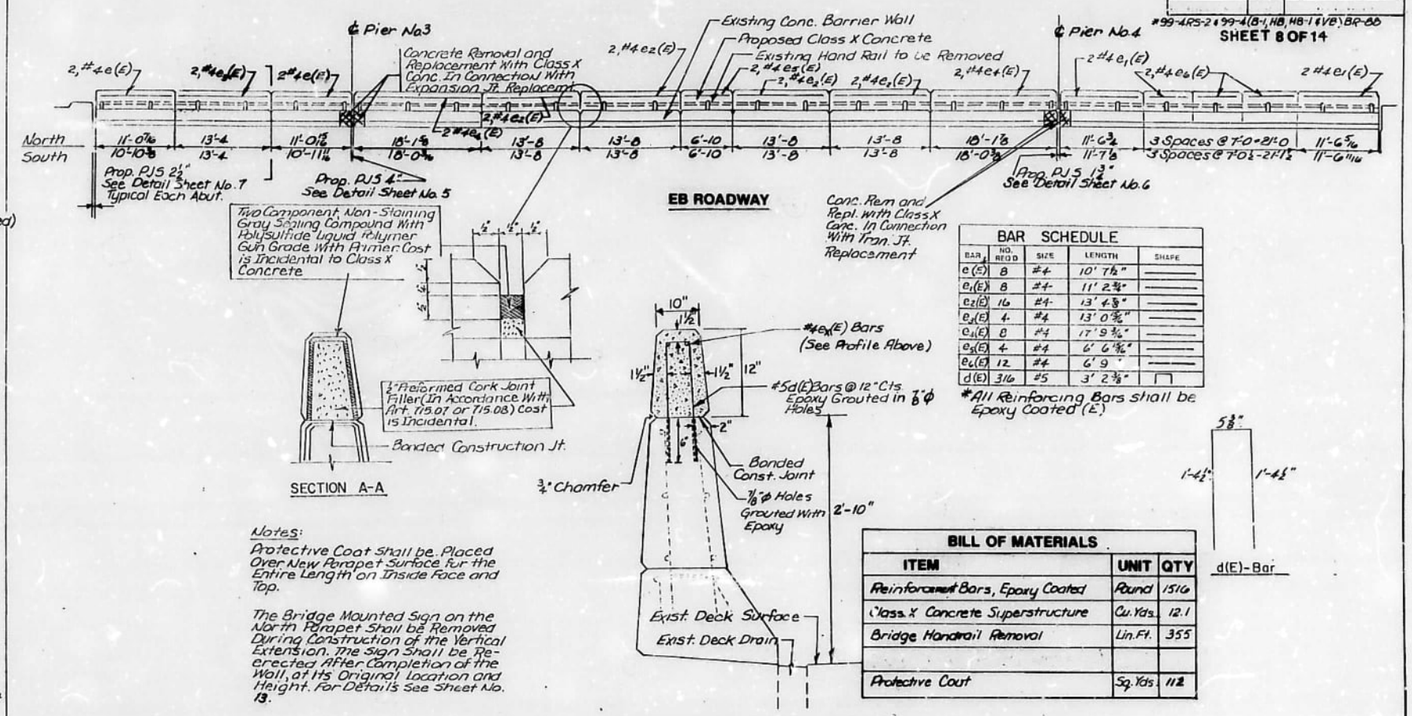
Note:
The Exterior Surfaces of the Aluminum Drains shall be Cleaned and Given a Wash coat Pretreatment. This Shall be followed by the Lead and Chromate Free Alkyd Paint System. See Special Provisions.



DETAIL A

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Deck Drain to be Extended	Each	4

DETAIL OF DECK DRAIN EXTENSION



BAR SCHEDULE				
BAR	NO. REQ'D	SIZE	LENGTH	SHAPE
e(E)	8	#4	10' 7 1/2"	
e1(E)	8	#4	11' 2 3/4"	
e2(E)	16	#4	13' 4 3/8"	
e3(E)	4	#4	13' 0 3/8"	
e4(E)	8	#4	17' 9 3/4"	
e5(E)	4	#4	6' 6 3/8"	
e6(E)	12	#4	6' 9"	
d(E)	316	#5	3' 2 3/8"	

*All Reinforcing Bars shall be Epoxy Coated (E).

Notes:
Protective Coat Shall be Placed Over New Parapet Surface for the Entire Length on Inside Face and Top.

The Bridge Mounted Sign on the North Parapet Shall be Removed During Construction of the Vertical Extension. The Sign Shall be Re-erected After Completion of the Wall, at its Original Location and Height. For Details See Sheet No. 13.

BILL OF MATERIALS		
ITEM	UNIT	QTY
Reinforcement Bars, Epoxy Coated	Pound	1516
Class X Concrete Superstructure	Cu. Yds.	12.1
Bridge Handrail Removal	Lin. Ft.	355
Protective Coat	Sq. Yds.	112

DETAIL OF CONRETE WALL EXTENSION

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I.-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059

DECK DETAILS

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

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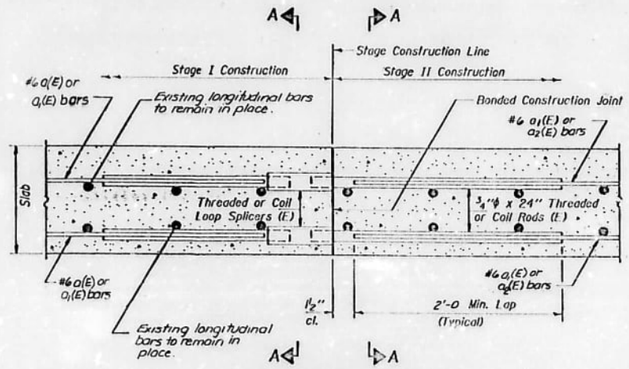
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

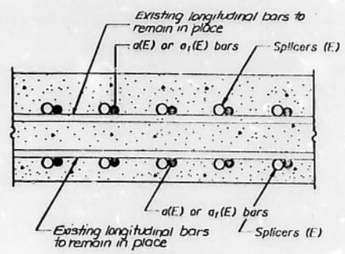
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-80	*	WILL	181	76

#99-4RS-2 & 99-4(B-1, HB, HB-1 & VB) BR-88

SHEET 9 OF 14



SECTION THRU SLAB



SECTION A-A

SPLICER DETAILS
(No. Req'd. 104)

Cost Incidental to Reinforcement Bars (Epoxy Coated).

The diameter of this part of Splicer is the same as the diameter of the bar spliced.

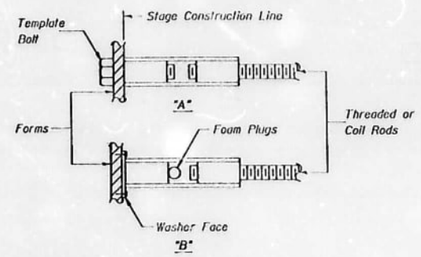
ROLLED THREAD DOWEL BAR

** ONE PIECE

WELDED SECTIONS

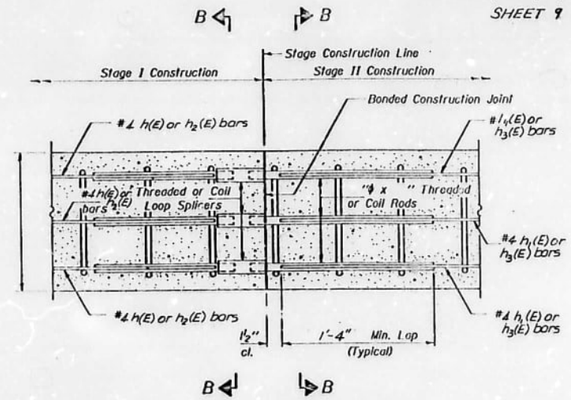
SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



SECTION THRU ABUTMENTS AND PIERS

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal to or greater than that of the lapped reinforcement bars.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

(1) Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

(2) Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

In Slabs	#5 bar lap with 3/4"ϕ Splicer (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 23.0 kips-tension Minimum Pull-out Strength = 9.2 kips-tension
	#6 bar lap with 7/8"ϕ Splicer (Coupler) x 2'-4" Splicer Rods	Minimum Capacity = kips-tension Minimum Pull-out Strength = kips-tension
In Sub-Structure	#7 bar lap with 1"ϕ Splicer (Coupler) x 3'-5" Splicer Rods	Minimum Capacity = 45.1 kips-tension Minimum Pull-out Strength = 18.0 kips-tension
	#8 bar lap with 1 1/4"ϕ Splicer (Coupler) x 4'-6" Splicer Rods	Minimum Capacity = 58.9 kips-tension Minimum Pull-out Strength = 23.6 kips-tension

DESIGNED	EXAMINED	19
CHECKED	PASSED	ENGINEER OF BRIDGE DESIGN
DRAWN	APPROVED	ENGINEER OF BRIDGES AND STRUCTURES
CHECKED		DIRECTOR OF HIGHWAYS

BSD-1 6-1-89

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I.-80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

SCALE: VERT. HORIZ. DRAWN BY
DATE CHECKED BY

D C B A 0 A B C D

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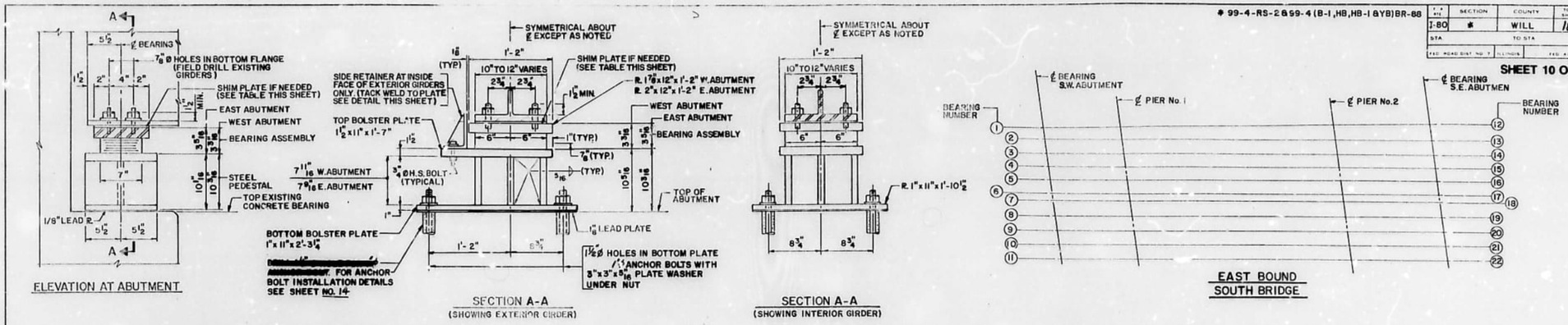
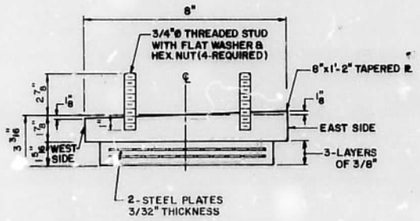
99-4-RS-2&99-4(B-1,HB,HB-1&YB)BR-88

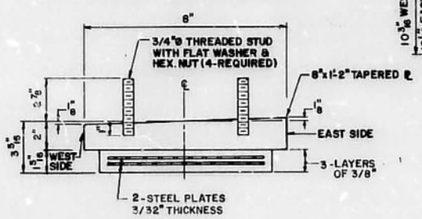
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	77
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET 10 OF 14



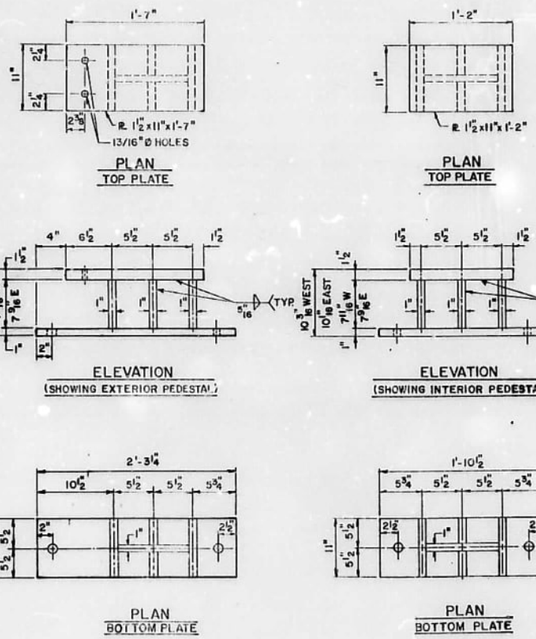


BEARING ASSEMBLY
F.A.I-80 OVER CHICAGO OTTAWA COUPLE
WEST ABUTMENT OF SOUTH BRIDGE



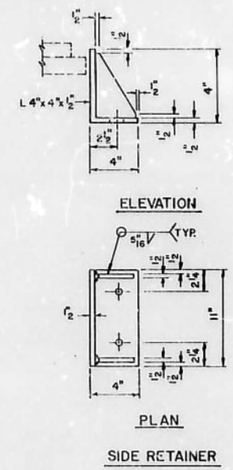
BEARING ASSEMBLY
F.A.I-80 OVER CHICAGO OTTAWA COUPLE
EAST ABUTMENT OF SOUTH BRIDGE

TYPE I
ELASTOMERIC EXPANSION BEARING



SOUTH BRIDGE (EAST BOUND)

BEARING NUMBER	1	2	3	4	5	6	7	8	9	10	11
THICKNESS OF SHIM PLATE	1/8"	0	0	0	5/16"	7/16"	0	0	0	0	1/8"
BEARING NUMBER	12	13	14	15	16	17	18	19	20	21	22
THICKNESS OF SHIM PLATE	0	0	0	0	1/4"	5/16"	0	0	0	0	0



BILL OF MATERIAL

ITEM	UNIT	TOTAL
ELASTOMERIC BEARING ASSEMBLY TYPE I	EACH	22
JACK AND REMOVE EXISTING BEARINGS	EACH	22
FURNISHING AND ERRECTING STRCTURAL STEEL	LBS	5355

NOTES:

BOLSTER ASSEMBLY HEIGHT OF 10 3/16" OR 10 1/16" DOES NOT INCLUDE SHIM PLATE THICKNESS.

FOR SHIM PLATE THICKNESSES SEE TABLE THIS SHEET.

SHIM PLATES SHALL NOT BE PLACED UNDER BEARING ASSEMBLY.

EQUIVALENT ROLLED ANGLE WITH STIFFENERS WILL BE ALLOWED IN LIEU OF WELDED PLATES, FOR SIDE RETAINERS.

NEW STEEL PEDESTALS AND ANCHOR BOLTS SHALL BE PAID FOR AS FURNISHING AND ERECTING STRUCTURAL STEEL.

SIDE RETAINERS AND BOLTS SHALL BE INCLUDED IN F & E STRUCTURAL STEEL.

EXISTING ANCHOR BOLTS SHALL BE CUT OFF FLUSH WITH THE CONCRETE SURFACE, GROUND SMOOTH AND SEALED WITH EPOXY. COST INCIDENTAL TO COST OF NEW BEARING ASSEMBLIES.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
ELASTOMERIC BEARING

SCALE: VERT. HORIZ. DRAWN BY M.V.T
DATE CHECKED BY

Revised: Change anchor bolt hole & bolt size, 3-20-90 ENR

D C B A 0 A B C D

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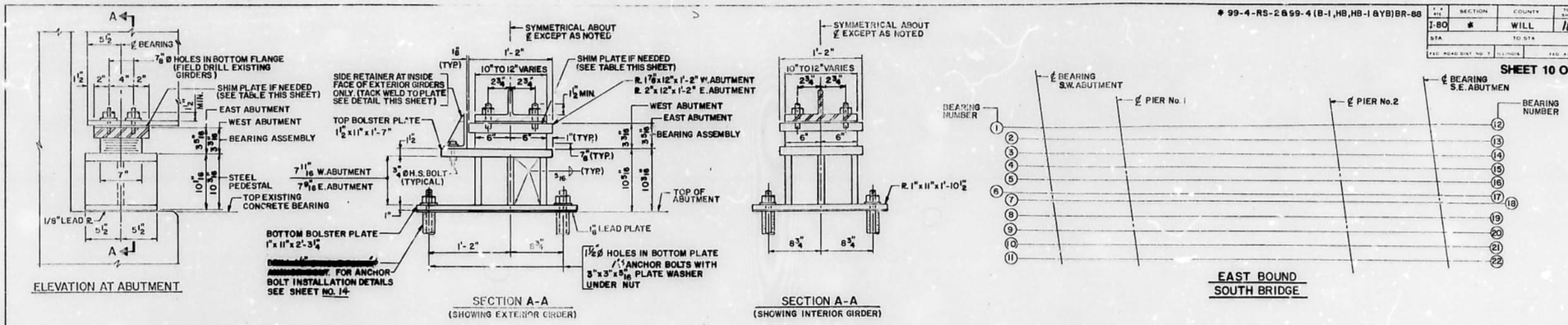
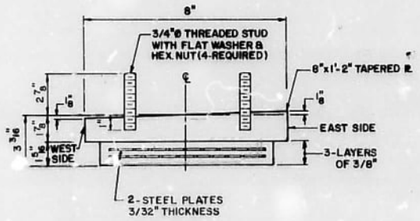
99-4-RS-2&99-4(B-1,HB,HB-1&YB)BR-88

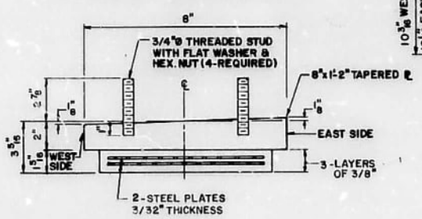
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	77
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET 10 OF 14



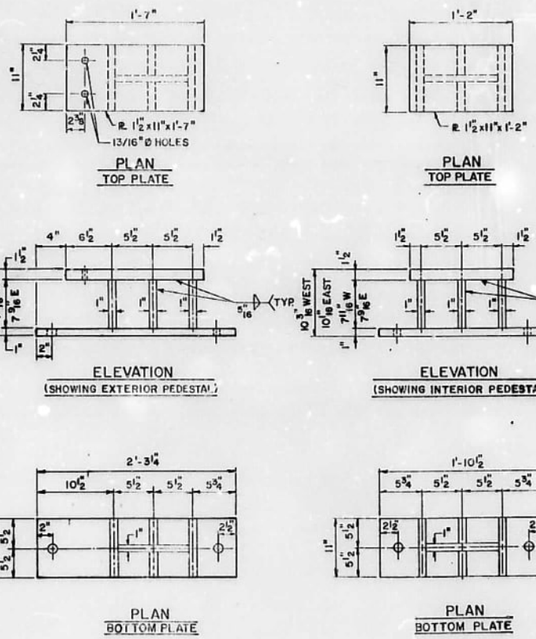


BEARING ASSEMBLY
F.A.I-80 OVER CHICAGO OTTAWA COUPLE
WEST ABUTMENT OF SOUTH BRIDGE



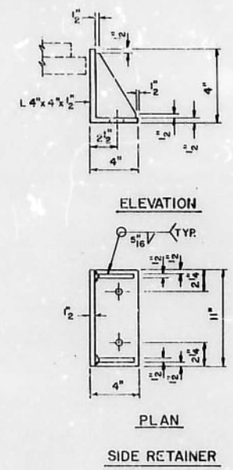
BEARING ASSEMBLY
F.A.I-80 OVER CHICAGO OTTAWA COUPLE
EAST ABUTMENT OF SOUTH BRIDGE

TYPE I
ELASTOMERIC EXPANSION BEARING



SOUTH BRIDGE (EAST BOUND)

BEARING NUMBER	1	2	3	4	5	6	7	8	9	10	11
THICKNESS OF SHIM PLATE	1/8"	0	0	0	5/16"	7/16"	0	0	0	0	1/8"
BEARING NUMBER	12	13	14	15	16	17	18	19	20	21	22
THICKNESS OF SHIM PLATE	0	0	0	0	1/4"	5/16"	0	0	0	0	0



BILL OF MATERIAL

ITEM	UNIT	TOTAL
ELASTOMERIC BEARING ASSEMBLY TYPE I	EACH	22
JACK AND REMOVE EXISTING BEARINGS	EACH	22
FURNISHING AND ERRECTING STRCTURAL STEEL	LBS	5355

NOTES:

BOLSTER ASSEMBLY HEIGHT OF 10 3/16" OR 10 1/16" DOES NOT INCLUDE SHIM PLATE THICKNESS.

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SHIM PLATES SHALL NOT BE PLACED UNDER BEARING ASSEMBLY.

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NEW STEEL PEDESTALS AND ANCHOR BOLTS SHALL BE PAID FOR AS FURNISHING AND ERECTING STRUCTURAL STEEL.

SIDE RETAINERS AND BOLTS SHALL BE INCLUDED IN F & E STRUCTURAL STEEL.

EXISTING ANCHOR BOLTS SHALL BE CUT OFF FLUSH WITH THE CONCRETE SURFACE, GROUND SMOOTH AND SEALED WITH EPOXY. COST INCIDENTAL TO COST OF NEW BEARING ASSEMBLIES.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. 80
BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
ELASTOMERIC BEARING

SCALE: VERT. HORIZ. DRAWN BY M.V.T
DATE CHECKED BY

Revised: Change anchor bolt hole & bolt size, 3-20-90 ENR

D C B A 0 A B C D

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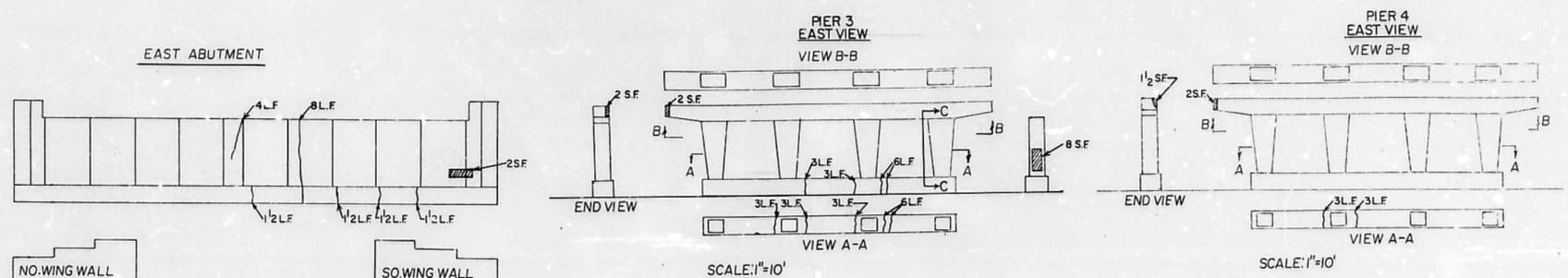
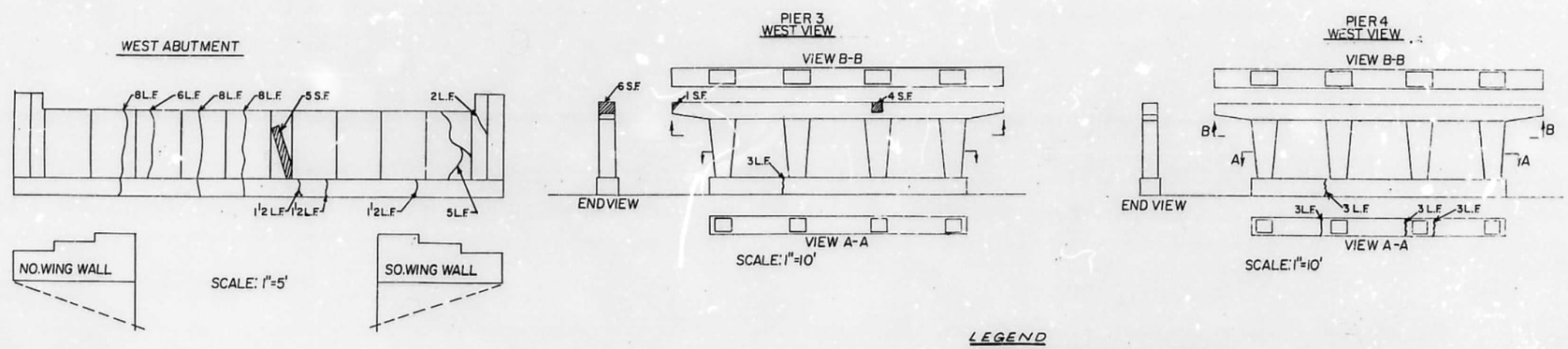
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-80	*	WILL	181	78
STA.		TO STA.		

*99-4RS-2 & 99-4
(B-1, HF, HB-1 & VB) BR-88
SHEET 11 OF 14





LEGEND

Crack Indicates Epoxy Injection

Spall Indicates Formed Concrete Repair (Depth ≤ 5")

SUBSTRUCTURE REPAIRS

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
EPOXY CRACK SEALING	LIN. FT.	108
FORMED CONCRETE REPAIR (Depth ≤ 5")	SQ. FT.	34

REVISIONS	
NAME	DATE

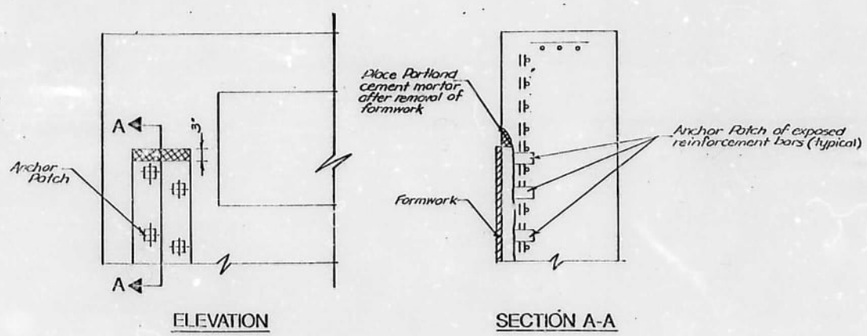
ILLINOIS DEPARTMENT OF TRANSPORTATION
FA.I.-80

BRIDGE REHABILITATION
STRUCTURE NO. 099-0059
SUBSTRUCTURE REPAIRS

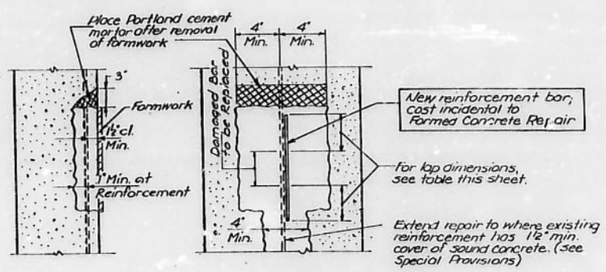
SCALE: VERT. HORIZ.
DATE
DRAWN BY C. PUCKETT
CHECKED BY

D C B A 0 A B C D

TAMERAN



EPOXY MORTAR REPAIR
(DEPTH 1-1/2")



FORMED CONCRETE REPAIR DETAIL WITH REINFORCEMENT

LAP DIMENSIONS

Bar Size	Lap Length
#4	1'-4"
#5	1'-8"
#6	2'-0"
#7	2'-9"

Notes:
Existing reinforcement having 20% or more of cross-sectional area lost due to corrosion or damaged during concrete removal shall be replaced by new reinforcement lapped as shown or noted.

All formed concrete repair dimensions are approximate.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. - 80
BRIDGE REHABILITATION
STRUCTURE NO. 099 - 0059
DETAIL OF
FORMED CONCRETE REPAIR

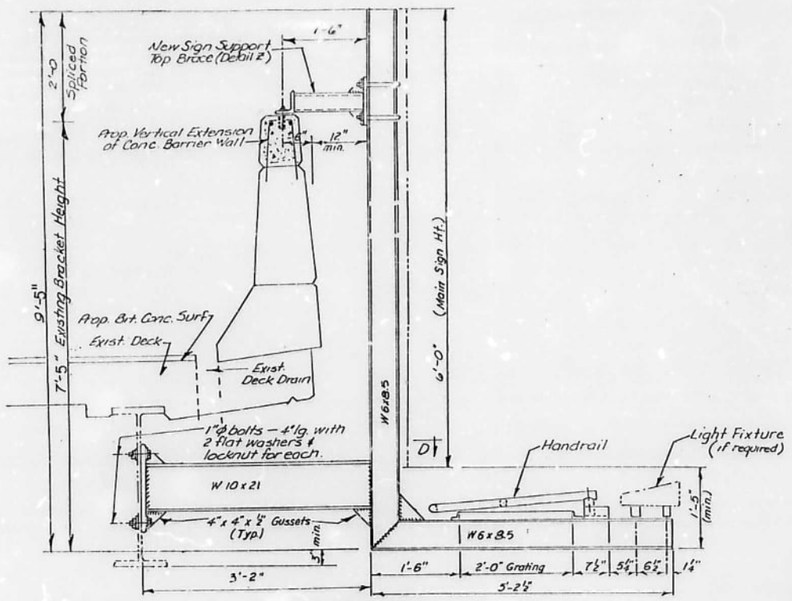
SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

D C B A 0 A B C D
TAMERAN

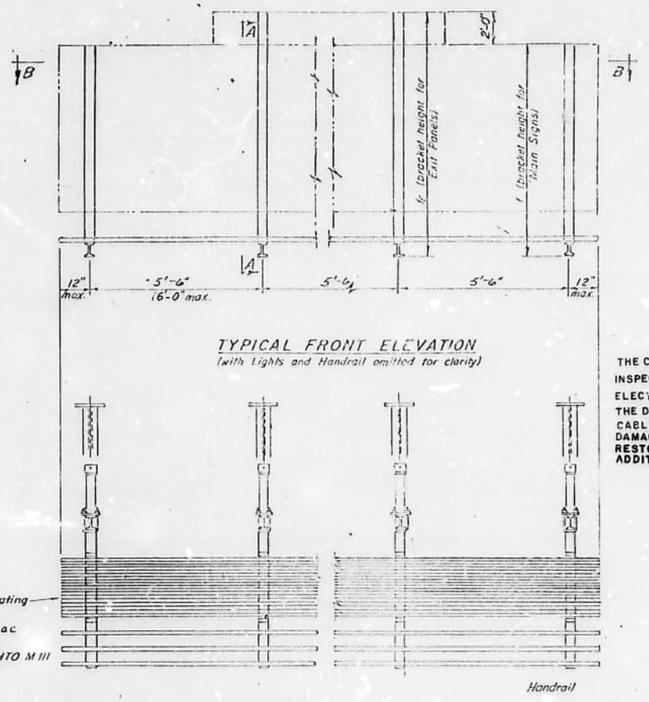
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80		WILL	181	80
STA		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*99-4R5-2 & 99-4(B-1, HB, HB-1, & VB) BR-2B

SHEET 13 OF 14

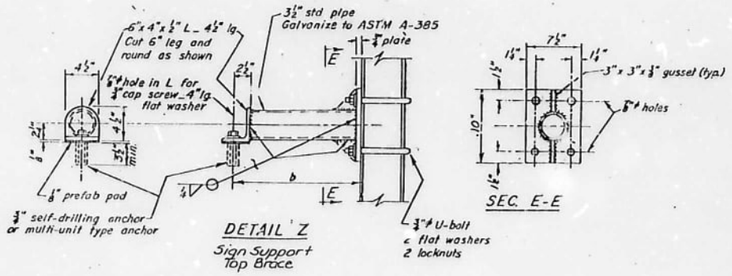


SECTION A-A



TYPICAL FRONT ELEVATION
(with Lights and Handrail omitted for clarity)

SECTION B-B



DETAIL 'Z'
Sign Support Top Brace

SEC. E-E

DESIGN NOTES

All Structural Steel Shapes and Plates Shall Conform to the Requirements of ASTM Designation A-36.

All Cap Screws, Bolts, Washers, U Bolts and Lockouts Shall Conform to the Requirements of ASTM Designation A-153.

All Fabrication Shall be Complete and Ready for Assembly Before Galvanizing. No Punching, Drilling, Cutting, nor Welding Shall be Permitted After Galvanizing.

Sign Support Posts, Pipe, and Connections Shall be Galvanized in Accordance With ASTM Designation A-153.

Contractor Shall Field Check All Bridge Dimensions Shown on Plans Before Submitting Shop Drawings.

THE CONTRACTOR SHALL ARRANGE WITH THE ENGINEER AN INVENTORY INSPECTION OF THE EXISTING SIGN BEFORE IT IS REMOVED INCLUDING ELECTRICAL ITEMS

THE DISCONNECTION AND RECONNECTION OF THE ELECTRIC CABLES SHALL BE INCIDENTAL TO THIS ITEM.

DAMAGE CAUSED BY THE CONTRACTOR'S OPERACTONS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

The Cost of Furnishing and Installing the Bearing Pads as Herein Specified Shall be Incidental to the Contract and No Additional Compensation Will be Allowed.

Pre-Fab Bearing Pads: Fabric Bearing Pads Shall Consist of a Fabric and Rubber Body made With New, Unvulcanized Rubber and Unused Fabric Filters.

Basis of Payment: This Work will be Paid for at the Contract Unit Price Each for Remove and Re-Erect Bridge Mounted Sign, Measured as Specified Herein, Which Price Shall Include Removal of Sign During Construction of Conc. Barrier Wall Extension, Furnishing All Materials, Fabricating, Transporting and Re-erecting Sign to its Original Location and Height, and Paid for at the Contract Unit Price Per Each for Bridge Mtd. Sign Support Top Brace, Which Price Shall Include Furnishing All Materials and Splicing Bridge Mtd. Sign Support Extension.

Contractor Shall Submit Procedures and Details for Welding Extensions to Brackets.

After Extensions Have Been Welded to Brackets the Damaged Galvanizing Shall be Cleaned By an Approved Method and Painted With an Approved Zinc-rich Paint.

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Remove and Re-Erect Bridge Mounted Sign	Each	1
Bridge Mounted Sign Support Top Brace	Each	4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. - 80
BRIDGE REHABILITATION
STRUCTURE NO. 039-0059

DETAIL OF BRIDGE-MOUNTED SIGN REMOVAL & REPLACEMENT

SCALE: VERT. HORIZ.
DRAWN BY
DATE
CHECKED BY

D C B A 0 A B C D

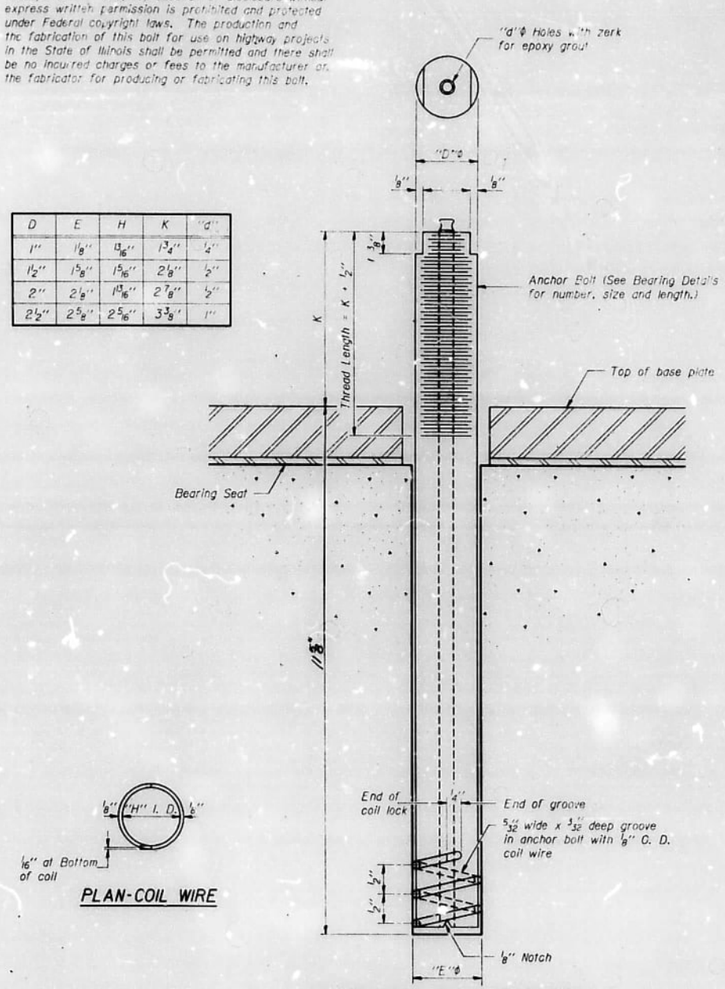
TAMERAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
F.A.I. I-80	*	WILL	161	81	SHEET NO.
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		SHEETS

* 99-4RS-2 & 99-4(B-1,HB,HB-1 & VB)BR-88

SHEET NO. 14 OF 14



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

PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

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

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

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

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

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

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

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

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

GENERAL NOTES

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

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

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

DESIGNED	EXAMINED	19
CHECKED	PASSED	ENGINEER OF BRIDGE DESIGN
DRAWN	APPROVED	ENGINEER OF BRIDGES AND STRUCTURES
CHECKED		DIRECTOR OF HIGHWAYS

ABB-1 12-1-83
Revised: 3-22-90 ENR

ANCHOR BOLT DETAILS FOR BEARINGS

Str. No. 099-0059

D C B A 0 A B C D

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BAD COPY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	WILL	82	1
		ILLINOIS		

* 99 (1,2,3,4 & 4-1) RS-7

D-91-507-00

LOCATION OF SECTION INDICATED THUS:- -[redacted]-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

F.A.I. ROUTE 80 (INTERSTATE 80)
GRUNDY COUNTY LINE TO ROWELL STREET
RESURFACING (MAINT.) & BRIDGE REPAIRS
SECTION (99 [1,2,3,4] & 4-1) RS-7
C-91-507-00
WILL COUNTY

STA. EQ.:
STA. 1971+00.00 BK =
STA. 85+74.14 AH

STA. EQ.:
STA. 276+69.36 BK =
STA. 277+97.90 AH

STA. EQ.:
STA. 343+96.07 BK =
STA. 343+45.06 AH

END RESURFACING
STA. 379+50.00

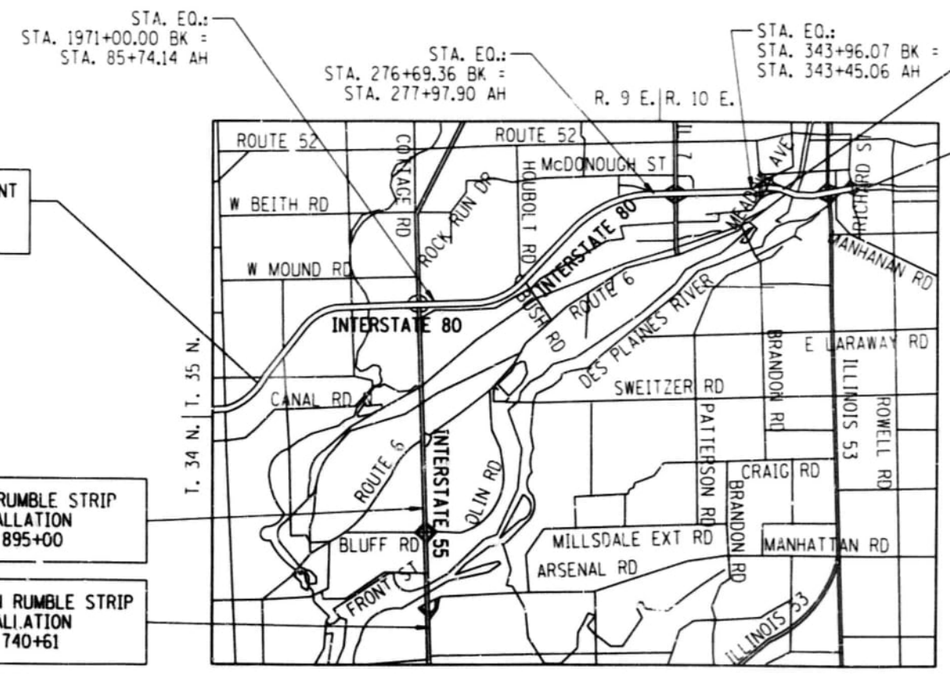
END IMPROVEMENT
STA. 456+00.00

BEGIN IMPROVEMENT
& RESURFACING
STA. 1791+65.00

THIS IMPROVEMENT IS LOCATED WITHIN
ROCKDALE AND JOLIET

END RUMBLE STRIP
INSTALLATION
STA. 895+00

BEGIN RUMBLE STRIP
INSTALLATION
STA. 740+61



LOCATION MAP

GROSS LENGTH OF SECTION = 47,342.55LF = 8.966 MILES
NET LENGTH OF SECTION = 44,479 LF = 8.424 MILES

MAP SCALE 1"=6000'

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

TRAFFIC DATA
INTERSTATE 80
WEST OF LARKIN AVE.
1999 ADT = 35,000
SPEED LIMIT: 55 MPH

TRAFFIC DATA
INTERSTATE 80
EAST OF LARKIN AVE.
1999 ADT = 74,500
SPEED LIMIT: 45-55 MPH

STATION EQUATIONS
1971+00 BK = 85+74.14 AH
276+69.36 BK = 277+97.30 AH
342+96.07 BK = 343+45.06 AH

PATRICK ENGINEERING, INC.
TED W. LACHUS, P.E.
062-040941

EXP 11-30-01

4-10-01
DATE:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED April 12 2001
DISTRICT ENGINEER

May 11 2001
ENGINEER OF DESIGN AND ENVIRONMENT

May 11 2001
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

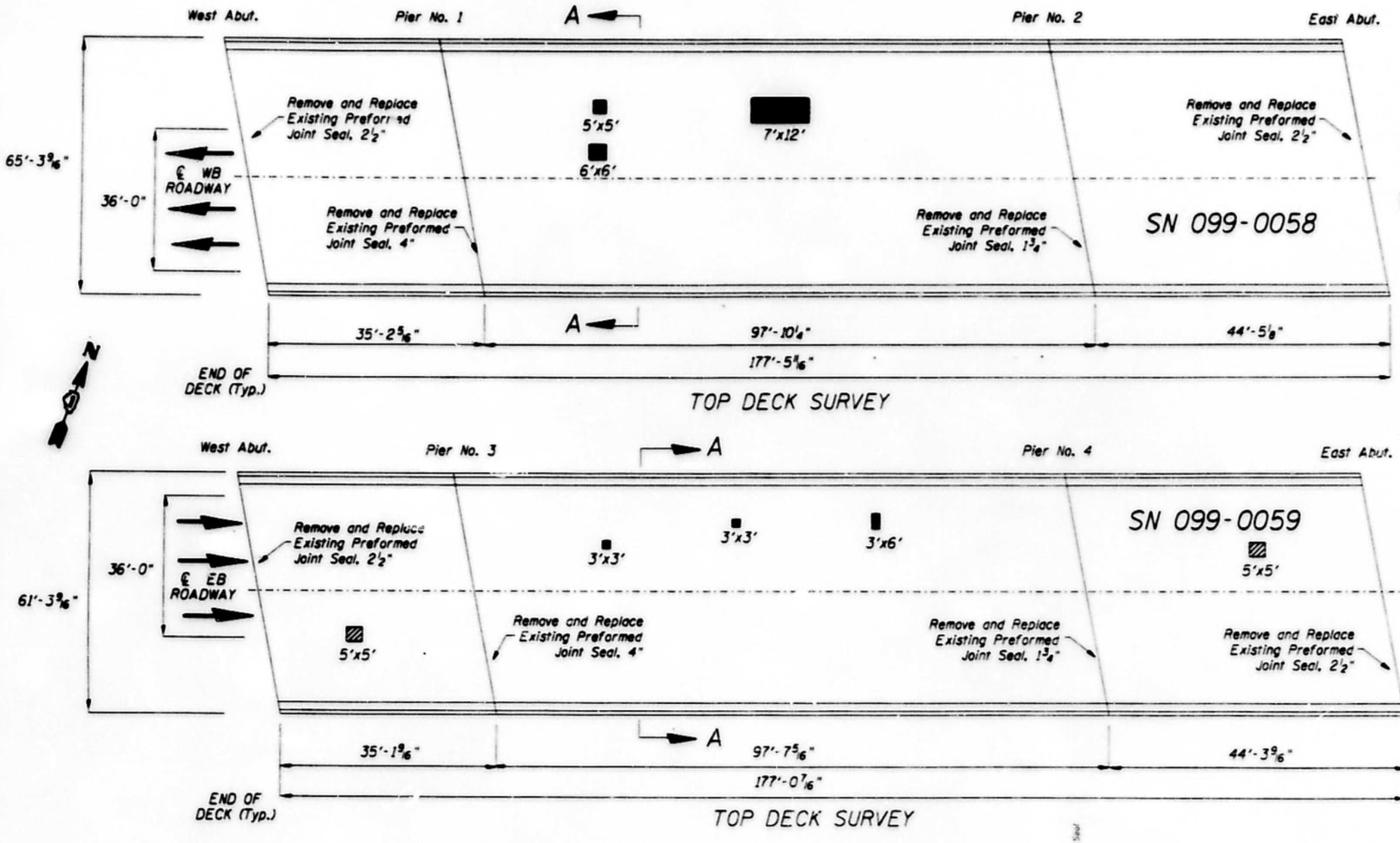
DISTRICT 1 - DESIGN AND PLAN PREPARATION ENGINEER : K. ENG / M. GOMEZ (847) 705 - 4432

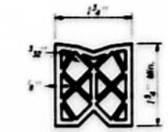
CONTRACT NO. 62882

Sheet S1 of S1

	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	BILL	92	69
STA.		TO STA.		

* 99 (1, 2, 3, 4 & 4-1)RS-7





PREFORMED JOINT SEAL (1¾")

LEGEND

DECK SLAB REPAIR PARTIAL DEPTH

DECK SLAB REPAIR FULL DEPTH

GENERAL NOTES

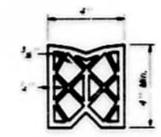
PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSION AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATION SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT BID PRICE OR THE WORK.

AREAS OF DECK REPAIRS ARE ESTIMATED PERIOD THE ACTUAL TYPE AND LOCATION OF THE DECK REPAIRS ARE TO BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

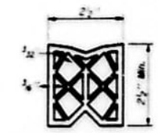
THE ENGINEER SHALL MARK THE LOCATIONS OF THE REPAIRS ON THE AS-BUILT PLANS.

DATE OF SURVEY OCTOBER 2000.

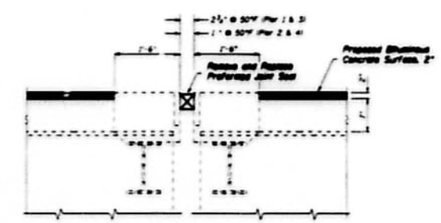
THE CONTRACTOR SHALL GRIND OFF THE EXISTING CONCRETE PATCHES. THIS IS INCLUDED IN THE COST OF "BITUMINOUS CONCRETE REMOVAL (DECK)".



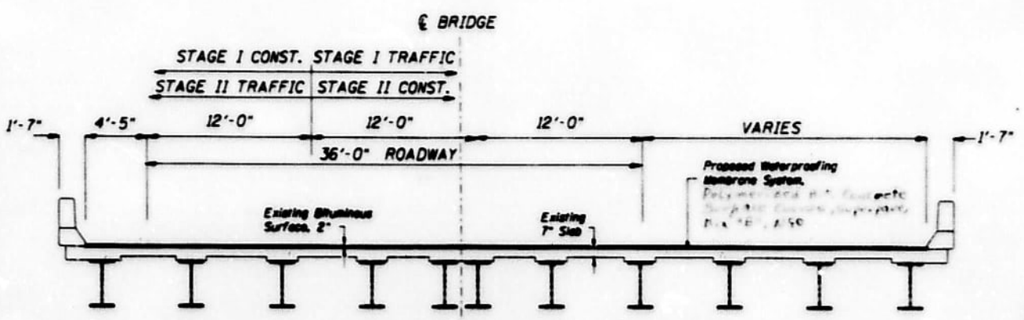
PREFORMED JOINT SEAL (4")



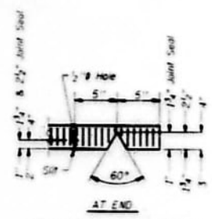
PREFORMED JOINT SEAL (2½")



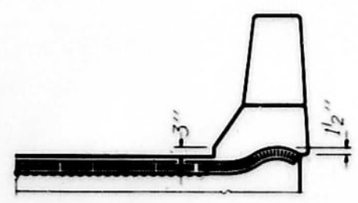
EXISTING TRANSVERSE JOINT AT PIERS



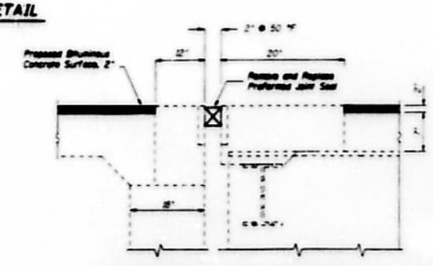
SECTION A-A



SEAL CUT-OUT DETAIL



END TREATMENT



EXISTING TRANSVERSE JOINT EAST AND WEST ABUTMENTS

TOTAL BILL OF MATERIALS - BRIDGE

ITEM	UNIT	QUANTITY
Preformed Joint Seal, 1¾"	Foot	132
Preformed Joint Seal, 2½"	Foot	264
Preformed Joint Seal, 4"	Foot	132
Deck Slab Repair (Partial)	Sq. Yd.	17
Deck Slab Repair (Full Depth)	Sq. Yd.	10
Polymerized Bituminous Concrete Surface Course, Superpave, Mix "E", N90	Ton.	264
Waterproofing Membrane System	Sq. Yd.	2360
Bituminous Concrete Removal (Deck)	Sq. Yd.	2360
Protective Shield	Sq. Yd.	10

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERSTATE RTE. 80 OVER
ILLINOIS RTE. 53
SN 099-0058
SN 099-0059

SCALE: NONE

DRAWN BY CADD

Apr 9 07:32:47 2001 LV=1:13,15-63