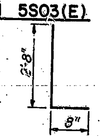
BAR BENDING DIAGRAMS

NOTE: Number preceding letter denotes bar size.
All dimensions are out to out.
All bar bending pin diameters shall be in accordance with A.C.I. Standards.

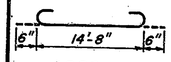
TYPICAL SECTION REINFORCEMENT

Bar	a	b
3S03	1'-1½"	6"
4S13	6"	3'-4"
4S24(E)	2'-3"	1'-8"
5S01	1'-1½"	7'-4"
5S03 (E)	1'-1½"	3'-5"

3S03, 4S13, 4S24, (E) 5S01 5S03(E)

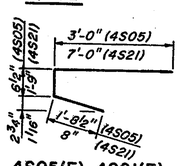


4S09

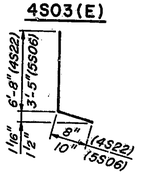


4S02

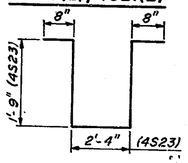
4S03(E)



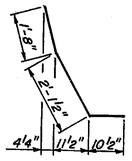
4S05(E), 4S21(E)



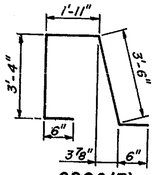
4S22(E), 5S06(E)



4S23(E)



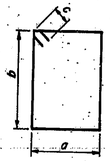
5S07(E)



6S06(E)

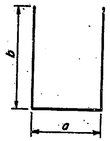
PIER DIAPHRAGM REINFORCEMENT

Bar	a	b	c
4S31	3'-3"	2'-4"	4½"
4S32	4'-0¼"	2'-4"	4½"
4S33	4'-10"	2'-4"	4½"
4S34	5'-7¾"	2'-4"	4½"
4S35	6'-5½"	2'-4"	4½"
4S36	7'-3¼"	2'-4"	4½"
4S39(E)	2'-3"	2'-4½"	4½"
4S40(E)	2'-3"	1'-6"	4½"
5S40	3'-3"	4'-10"	5½"

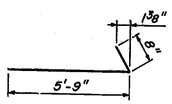


4S31 thru 4S36, 4S39(E), 4S40(E), 5S40

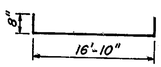
Bar	a	b
4S37(E)	4'-8½"	3'-0"
4S38(E)	2'-3"	3'-0"
4S41	2'-3"	2'-3"
4S42	2'-3"	3'-6"
4S43	2'-3"	4'-8"
4S44	2'-3"	5'-11"
4S48	4'-8½"	7'-3"
4S49	3'-1½"	7'-3"
4S50(E)	3'-1½"	3'-0"
5S41	6"	3'-4"
11S40	2'-2½"	4'-10"



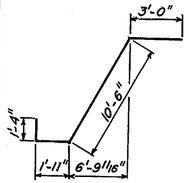
4S37(E), 4S38(E), 4S41 thru 4S44, 4S48, 4S49, 4S50(E), 5S41, 11S40



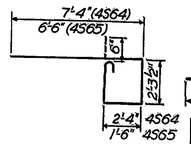
4S45(E)



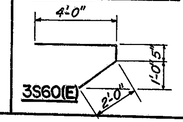
4S46



8S40



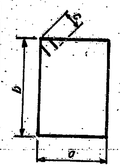
4S64(E), 4S65(E)



3S60(E)

EXPANSION JOINT REINFORCEMENT

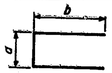
Bar	a	b	c
4S61 (E)	4'-4"	1'-5½"	4½"
4S64 (E)	2'-4"	2'-3½"	4½"
4S66 (E)	3'-5½"	1'-5½"	4½"
6S60 (E)	3'-4"	4'-5½"	6"
6S61	3'-4"	4'-8"	6"
6S62	3'-4"	7'-2½"	6"
9S64	8'-8"	3'-2"	11"
9S65	8'-8"	1'-6"	11"



4S61(E), 4S64(E) 4S66(E), 6S60(E) thru 6S62, 9S64, 9S65

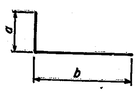
Bar	a	b
4S70	3'-2"	1'-6"
4S71	2'-3"	1'-6"
4S72	9'-2"	1'-6"
4S75 (E)	11'-3"	1'-6"
6S63 (E)	3'-4"	4'-0"
6S64	3'-4"	7'-4"
6S69	3'-2"	1'-6"
6S70	2'-3"	1'-6"
6S71 (E)	3'-2"	5'-2"
6S72	3'-2"	5'-8"
6S73 (E)	2'-9½"	5'-8"

Bar	a	b
6S74	2'-9½"	5'-8"
6S75 (E)	2'-5"	5'-8"
6S76	2'-5"	5'-8"
6S77(E)	2'-1"	5'-8"
6S78	2'-1"	5'-8"
6S79 (E)	1'-8"	5'-8"
6S80	1'-8"	5'-8"
6S81 (E)	1'-4"	5'-5"
6S82	1'-4"	5'-8
9S63 (E)	11'-3"	2'-0"

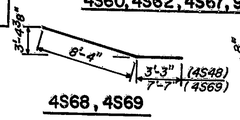


4S70 thru 4S75, 6S63(E), 6S64, 6S69 thru 6S82, 9S63

Bar	a	b
4S60	1'-6"	6'-3"
4S62	1'-6"	5'-3"
4S67	1'-6"	3'-6"
9S62 (E)	2'-0"	6'-3"



4S60, 4S62, 4S67, 9S62(E)

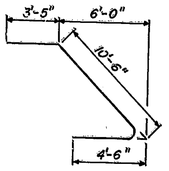


4S68, 4S69

5S60

Bar	a
6S65 (E)	4'-5½"
6S66 (E)	8'-1"
6S67 (E)	7'-2"
6S68 (E)	8'-9"

6S65(E) thru 6S68(E)



11S60(E)

BILL OF MATERIAL

Bar	No.	Length	Bent	Str.
3S03	712	2'-0"	●	
3S60 (E)	6	6'-5"	●	
4S01	271	16'-10"		●
4S02	257	15'-8"	●	
4S03(E)	224	12'-8"	●	
4S04(E)	274	28'-2"		●
4S05(E)	554	5'-3"	●	
4S07	14	15'-3"	●	
4S08	8	11'-10"		●
4S09	484	3'-4"	●	
4S10	96	9'-0"	●	
4S11(E)	12	8'-1"	●	
4S12 (E)	137	10'-8"		●
4S13	212	7'-2"	●	
4S15	124	60'-0"		●
4S15(E)	174	60'-0"		●
4S16	62	40'-10"		●
4S17	62	41'-1"		●
4S18	30	38'-4"		●
4S19	32	23'-7"		●
4S20	58	57'-6"		●
4S21(E)	4	9'-5"	●	
4S22(E)	4	7'-4"	●	
4S23(E)	14	7'-2"	●	
4S24(E)	2	5'-7"	●	
			●	
4S30(E)	56	12'-6"		●
4S31	16	11'-11"	●	
4S32	8	13'-6"	●	
4S33	8	15'-1"	●	
4S34	8	16'-9"	●	
4S35	8	18'-4"	●	
4S36	8	20'-0"	●	
4S37(E)	12	10'-9"	●	
4S38(E)	16	8'-3"	●	
4S39(E)	4	10'-0"	●	
4S40(E)	2	8'-3"	●	
4S41	4	6'-9"	●	
4S42	4	9'-3"	●	
4S43	4	11'-7"	●	
4S44	4	14'-1"	●	
4S45(E)	648	6'-5"	●	
4S46	14	18'-2"	●	
4S47	124	5'-6"		●
4S48	20	19'-3"	●	
4S49	8	17'-8"	●	
4S50(E)	8	9'-2"	●	

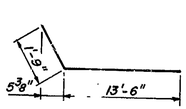
Bar	No.	Length	Bent	Str.
4S60 (E)	6	7'-9"	●	
4S61 (E)	34	12'-4"	●	
4S62	2	6'-9"	●	
4S63	1	28'-2"		●
4S64 (E)	18	14'-8"	●	
4S65 (E)	4	13'-0"	●	
4S66 (E)	6	10'-7"	●	
4S67 (E)	6	5'-0"	●	
4S68	6	11'-7"	●	
4S69	10	15'-11"	●	
4S70	40	6'-2"	●	
4S71	12	5'-3"	●	
4S72	1	12'-2"	●	
4S73	48	13'-8"		●
4S74	6	8'-8"		●
4S75 (E)	3	14'-3"	●	
3S01	512	15'-10"	●	
5S02	30	16'-6"	●	
5S03(E)	512	8'-0"	●	
5S04(E)	137	10'-8"		●
5S05(E)	548	8'-0"		●
5S06(E)	554	4'-3"	●	
5S07(E)	554	4'-8"	●	
5S08 (E)	30	9'-0"	●	
5S09	30	7'-9"		●
5S40	56	17'-1"	●	
5S60	8	7'-2"	●	
5S61	4	11'-0"		●
5S62	28	16'-10"		●
6S01	28	16'-6"	●	
6S02(E)	28	9'-10"	●	
6S03	24	3'-10"	●	

Bar	No.	Length	Bent	Str.
6S08	36	17'-0"		●
6S09 (E)	12	8'-0"		●
6S60 (E)	8	16'-7"	●	
6S61	2	17'-0"	●	
6S62	4	22'-1"	●	
6S63 (E)	6	11'-4"	●	
6S64 (E)	6	18'-0"	●	
6S65 (E)	16	15'-6"	●	
6S66 (E)	2	9'-1"	●	
6S67	2	8'-2"	●	
6S68 (E)	36	9'-9"	●	
6S69	20	6'-2"	●	
6S70	12	5'-3"	●	
6S71 (E)	2	14'-6"	●	
6S72	2	14'-6"	●	
6S73 (E)	2	14'-2"	●	
6S74	2	14'-2"	●	
6S75 (E)	2	13'-9"	●	
6S76	2	13'-9"	●	
6S77	2	13'-5"	●	
6S78	2	13'-5"	●	
6S79 (E)	2	13'-0"	●	
6S80	2	13'-0"	●	
6S81 (E)	2	12'-8"	●	
6S82	2	12'-8"	●	
7S01	5	19'-2"	●	
7S02	5	14'-8"		●
7S03(E)	2	12'-4"		●
7S04(E)	2	28'-2"		●
7S60	6	16'-10"		●
8S40	16	16'-9"	●	
9S60	8	11'-0"		●
9S61 (E)	3	28'-2"		●
9S62 (E)	2	8'-3"	●	
9S63 (E)	1	15'-3"	●	
9S64	4	25'-6"	●	
9S65	4	22'-2"	●	
11S40	4	11'-11"	●	
11S41(E)	8	24'-8"		●
11S42	4	16'-9"		●
11S60 (E)	4	18'-5"	●	

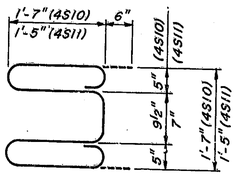
CONSTRUCTION JOINT REINFORCEMENT

Bar	a	b
5S02	1'-10"	7'-4"
5S08 (E)	1'-10"	3'-7"
6S01	1'-10"	7'-4"
6S02 (E)	1'-10"	4'-0"
6S03	1'-10"	1'-0"
7S01	16'-10"	1'-2"

6S01, 6S02(E), 6S03, 7S01
5S02, 5S08(E)



4S07



4S10, 4S11(E)

ESTIMATED QUANTITIES

Item	Unit	Total
Superstructure Concrete	Cu. Yd.	555.8
Reinforcing Steel	Lb.	39,685
Reinforcing Steel (Epoxy Coated)	Lb.	41,228

NOTES: All reinforcment bars shall conform to the requirements of ASTM Grade 60.
Minimum compressive strength of Superstructure Conc. shall be 5,500 p.s.i.

APPROVED FOR CONSTRUCTION
W. B. ABBOTT 7-30-81
Assistant Engineer of Bridge Design

DESIGNED M.M.	CK'D M.M.		
DRAWN R.E.T.	CK'D G.R.		
TRACED NED	CK'D R.E.T.		

Figg and Muller Engineers Inc.
429 North Calhoun Street
Tallahassee Florida 32301

BAR BENDING DIAGRAMS & BILL OF MATERIAL - UNIT I

INDIANA STATE HIGHWAY COMMISSION

LAKE COUNTY - RAMP:- C SECTION:-
SCALE:- N.T.S. DATE:- MAY 26, 1981
SUBMITTED FOR APPROVAL Eugene C. Figg, Jr.
DRAWING:- OF SHEET:- 304 OF
PROJECT:- MM 220-1(8)
CONTRACT NO. B-12752
BRIDGE FILE:- 912-45-2546 REN

EUGENE C. FIGG, JR. REGISTERED No 19541 STATE OF FLORIDA PROFESSIONAL ENGINEER