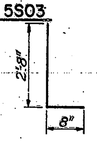
BAR BENDING DIAGRAMS

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.

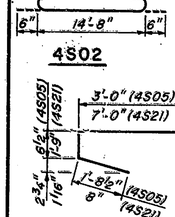
TYPICAL SECTION REINFORCEMENT

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



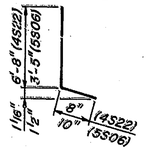
4S09



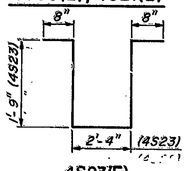
4S02

4S03(E)

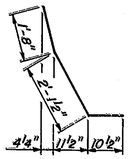
4S05(E), 4S21(E)



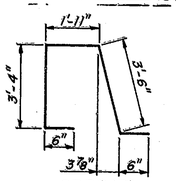
4S22(E), 5S06(E)



4S23(E)



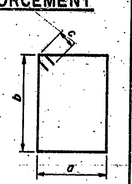
5S07(E)



6S06(E)

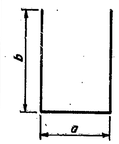
PIER DIAPHRAGM REINFORCEMENT

Bar	a	b	c
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"
5S42	5'-3"	4'-10"	5½"

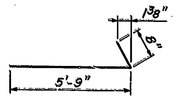


4S34 thru 4S36, 4S39(E), 4S40(E), 5S42

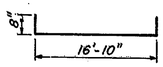
Bar	a	b
4S37(E)	4'-8½"	3'-0"
4S38(E)	2'-3"	3'-0"
4S41	2'-3"	2'-3"
4S42	2'-3"	3'-6"
4S48	4'-8½"	7'-3"
4S51	5'-11½"	3'-0"
4S52(E)	5'-11½"	7'-3"
11S40	2'-2½"	4'-10"
11S43(E)	3'-4"	7'-6"



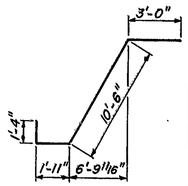
4S37(E), 4S38(E), 4S41, 4S42, 4S48, 4S51, 4S52(E), 11S40, 11S43(E)



4S45(E)



4S46



8S40

BILL OF MATERIAL

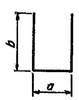
Bar	No.	Length	Bent	Str.
3S03	576	2'-2"	•	
4S01	218	10'-6"		•
4S02	211	15'-8"	•	
4S03(E)	266	12'-8"	•	
4S04(E)	218	20'-2"		•
4S05(E)	436	5'-3"	•	
4S06	14	4'-5"	•	
4S07	14	15'-3"	•	
4S08	8	11'-10"		•
4S09	392	3'-4"	•	
4S10	48	9'-0"	•	
4S12(E)	109	10'-8"		•
4S13	108	7'-2"	•	
4S15	124	60'-0"		•
4S15(E)	174	60'-0"		•
4S16	62	17'-1"		•
4S17	62	46'-2"		•
4S18(E)	58	7'-5"		•
4S19	70	12'-4"		•
4S21(E)	4	9'-5"	•	
4S22(E)	4	7'-4"	•	
4S23(E)	14	7'-2"	•	
4S24(E)	2	5'-7"	•	
4S30(E)	28	12'-6"		•
4S34	2	16'-9"	•	
4S35	2	18'-4"	•	
4S36	2	20'-0"	•	
4S37(E)	10	10'-9"	•	
4S38(E)	4	8'-3"	•	
4S39(E)	2	10'-0"	•	
4S40(E)	1	8'-3"	•	
4S41	2	6'-9"	•	
4S42	2	9'-3"	•	
4S45(E)	340	6'-5"	•	
4S46	7	18'-2"	•	
4S47	62	5'-6"		•
4S48	10	19'-3"	•	
4S51	4	11'-2"	•	
4S52(E)	4	19'-8"	•	

Bar	No.	Length	Bent	Str.
5S01	398	15'-10"	•	
5S02	38	16'-6"	•	
5S03(E)	398	8'-0"	•	
5S04(E)	109	10'-8"		•
5S05(E)	436	8'-0"		•
5S06(E)	436	4'-3"	•	
5S07(E)	436	4'-8"	•	
5S08(E)	38	9'-0"	•	
5S09	30	7'-9"		•
5S42	14	21'-1"	•	
6S01	28	16'-6"	•	
6S02(E)	28	9'-10"	•	
6S03	24	3'-10"	•	

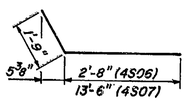
Bar	No.	Length	Bent	Str.
6S08	24	17'-0"		•
7S01	5	19'-2"	•	
7S02	5	14'-8"		•
7S03(E)	2	12'-4"		•
7S04(E)	2	28'-2"		•
8S40	8	16'-9"	•	
11S40	2	11'-11"	•	
11S41(E)	4	24'-8"		•
11S42	2	16'-9"		•
11S43(E)	10	18'-4"	•	

CONSTRUCTION JOINT REINFORCEMENT

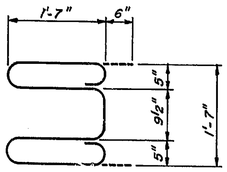
Bar	a	b
5S08(E)	1'-10"	7'-4"
5S08(E)	1'-10"	3'-7"
6S01	1'-10"	7'-4"
6S02(E)	1'-10"	4'-0"
6S03	1'-10"	1'-0"
7S01	1'-10"	1'-2"



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



4S06, 4S07



4S10

ESTIMATED QUANTITIES

Item	Unit	Total
Superstructure Concrete	Cu. Yd.	417.2
Reinforcing Steel	Lb.	25,273
Reinforcing Steel (Epoxy Coated)	Lb.	32,556

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

Figg and Muller Engineers Inc.
4404 Waterbury Street
Tallahassee, Florida 32301

BAR BENDING DIAGRAMS & BILL OF MATERIAL - UNIT IV

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:- 311 OF
PROJECT:- MM 220-1(8)
CONTRACT NO. B-12752
BRIDGE FILE:- 912-45-2546 REN

EUGENE C. FIGG, JR. No. 18341 STATE OF INDIANA PROFESSIONAL ENGINEER

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

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