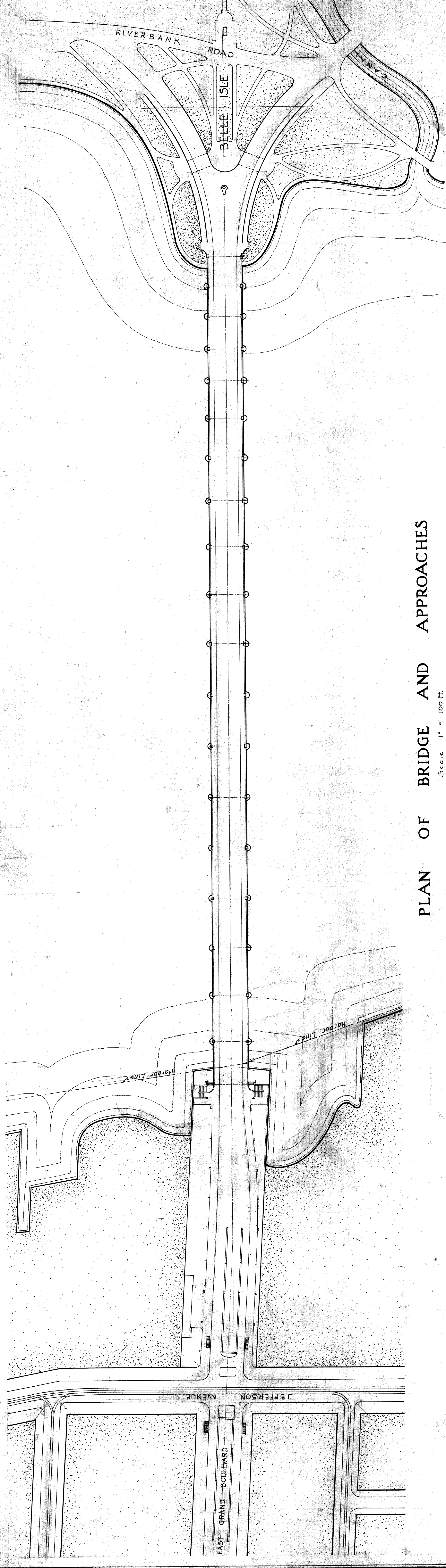


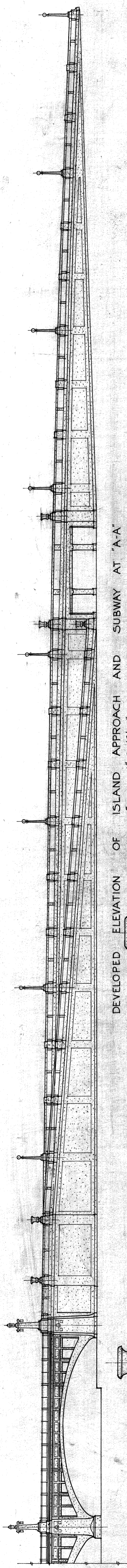
PROFILE
 Vertical Scale 1" = 50 Ft.
 Horizontal Scale 1" = 100 Ft.



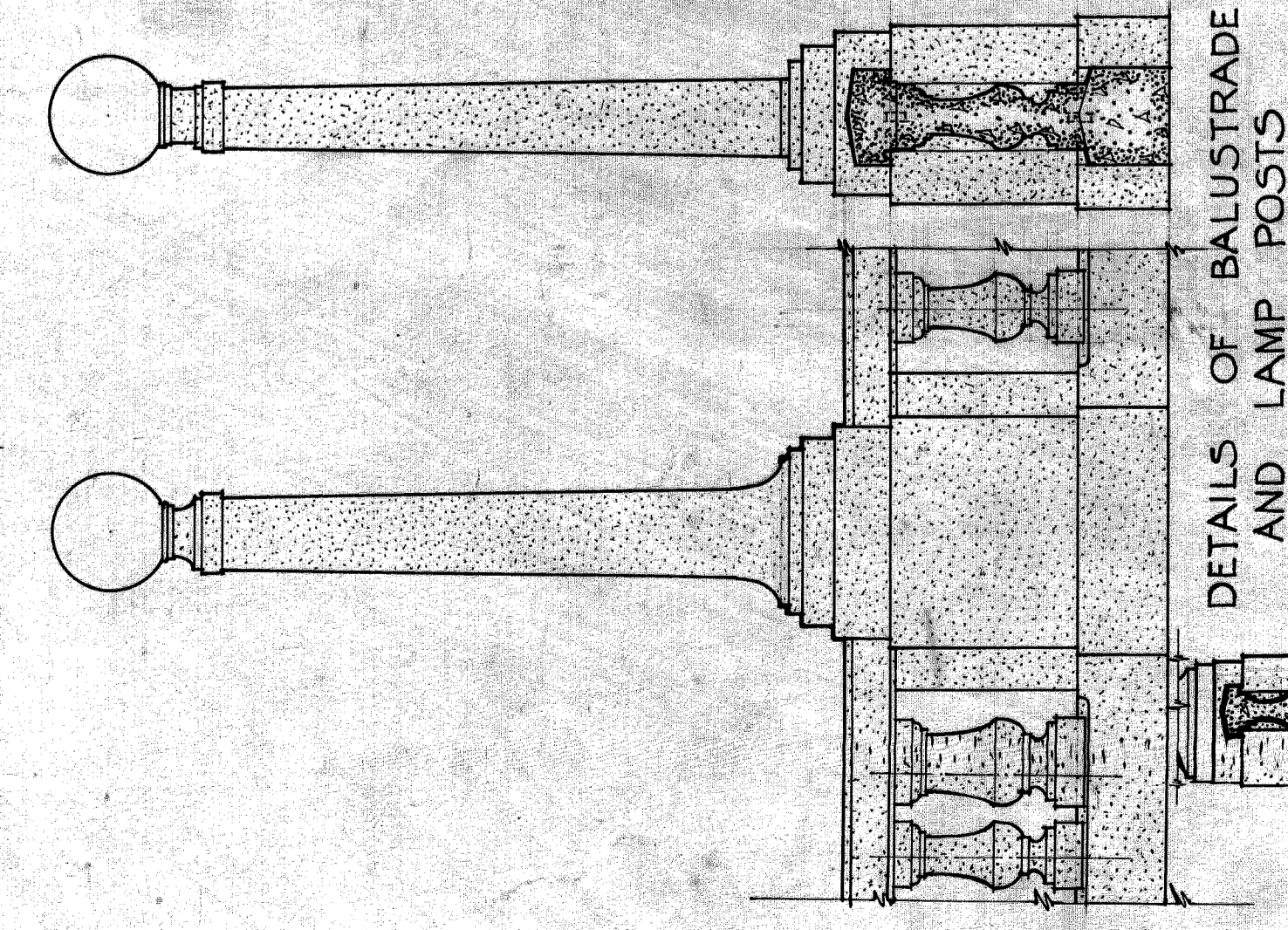
PLAN OF BRIDGE AND APPROACHES
 Scale 1" = 100 Ft.

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
 GENERAL PLAN AND PROFILE

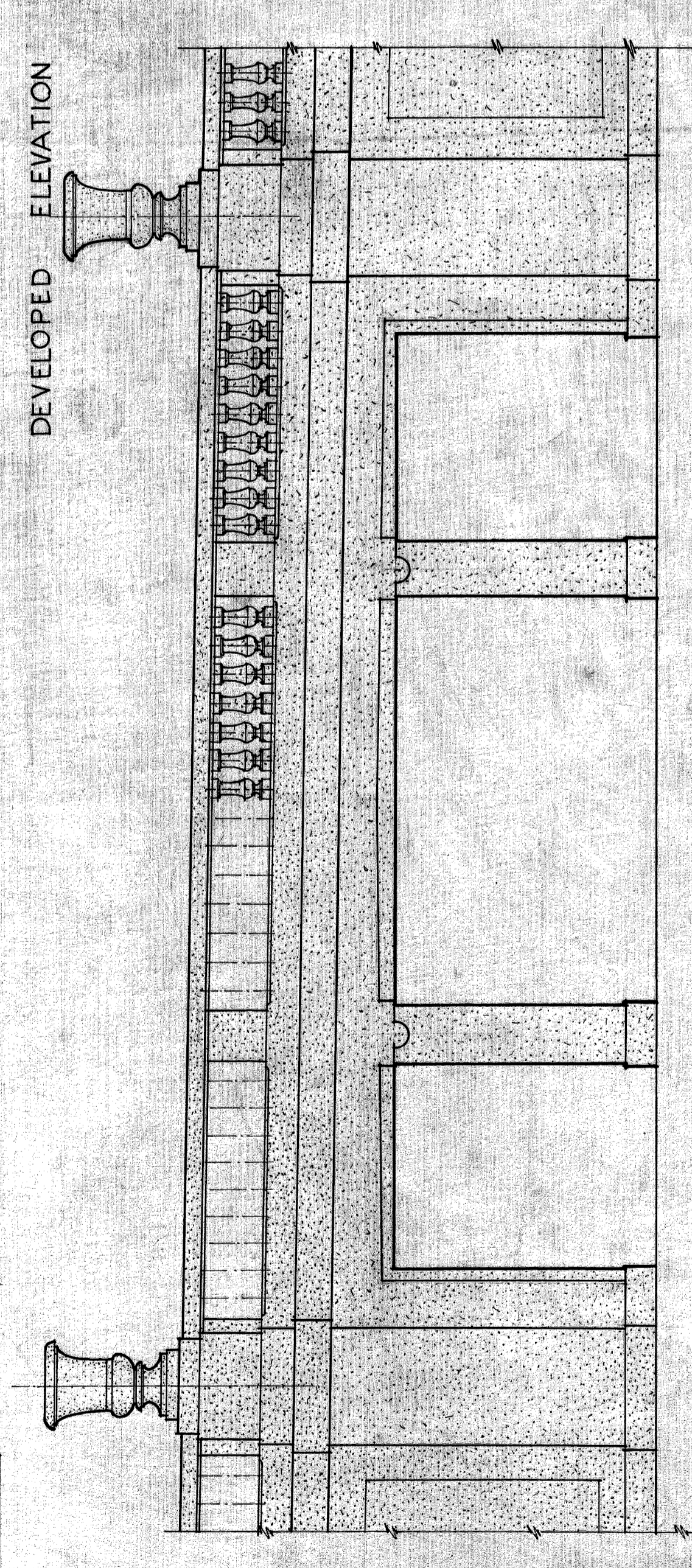
GEORGE H. FENKELL COMMISSIONER SHEET NO. 1
 EMIL LORCH LEWIS M. GRAM ENGINEER



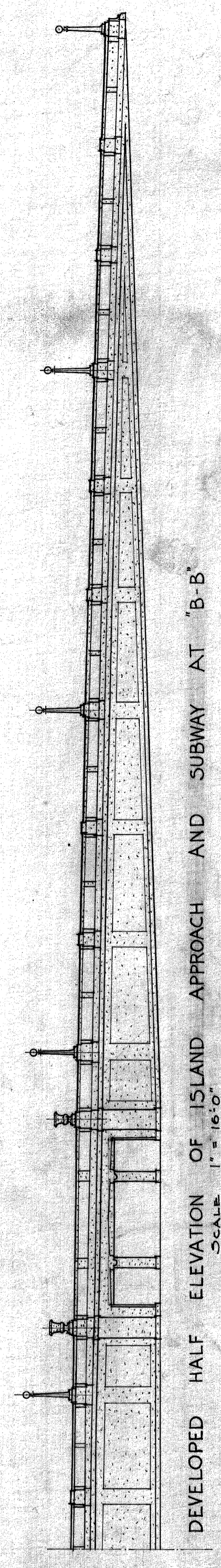
DEVELOPED ELEVATION OF ISLAND APPROACH AND SUBWAY AT 'A-A'
SCALE 1" = 16'-0"



DETAILS OF BALUSTRADE AND LAMP POSTS
SCALE 1/2" = 1'-0"



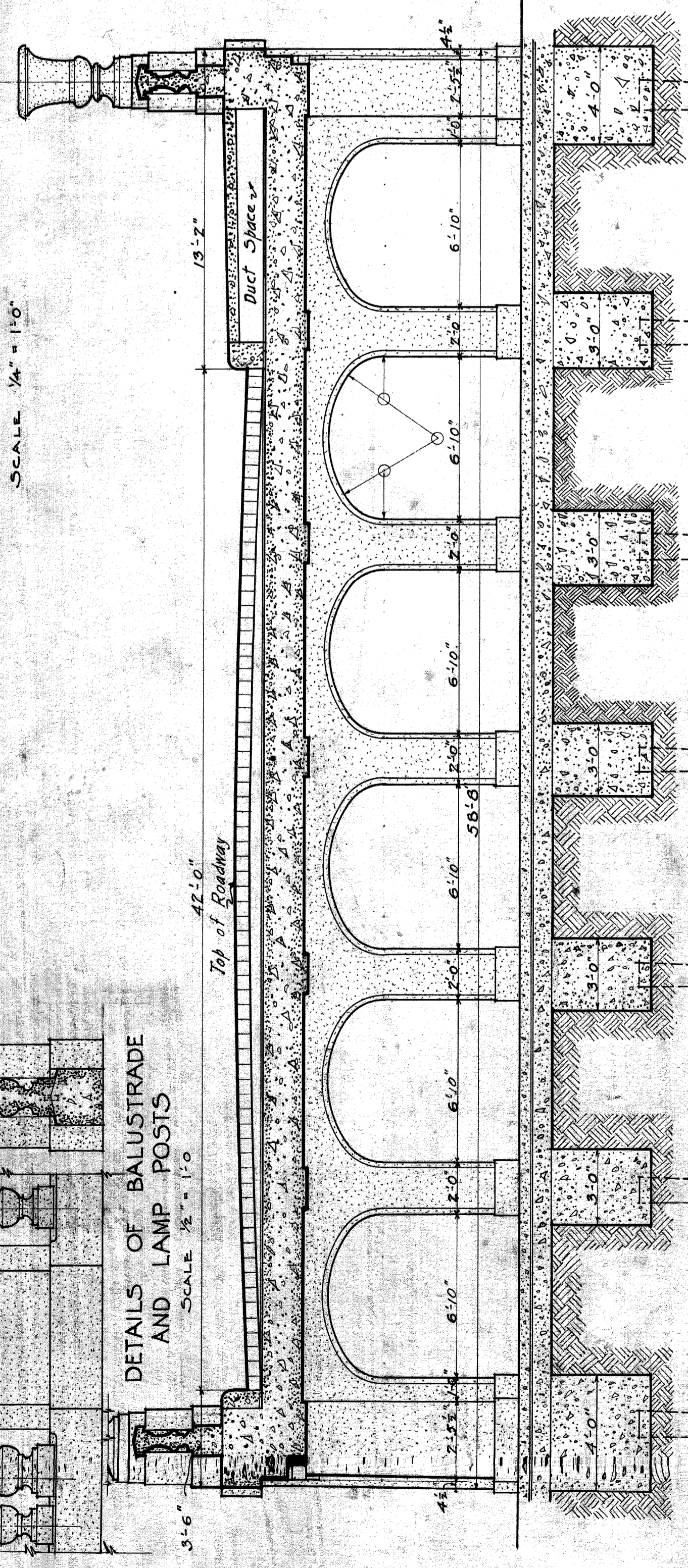
ELEVATION OF SUBWAY
SCALE 1/2" = 1'-0"



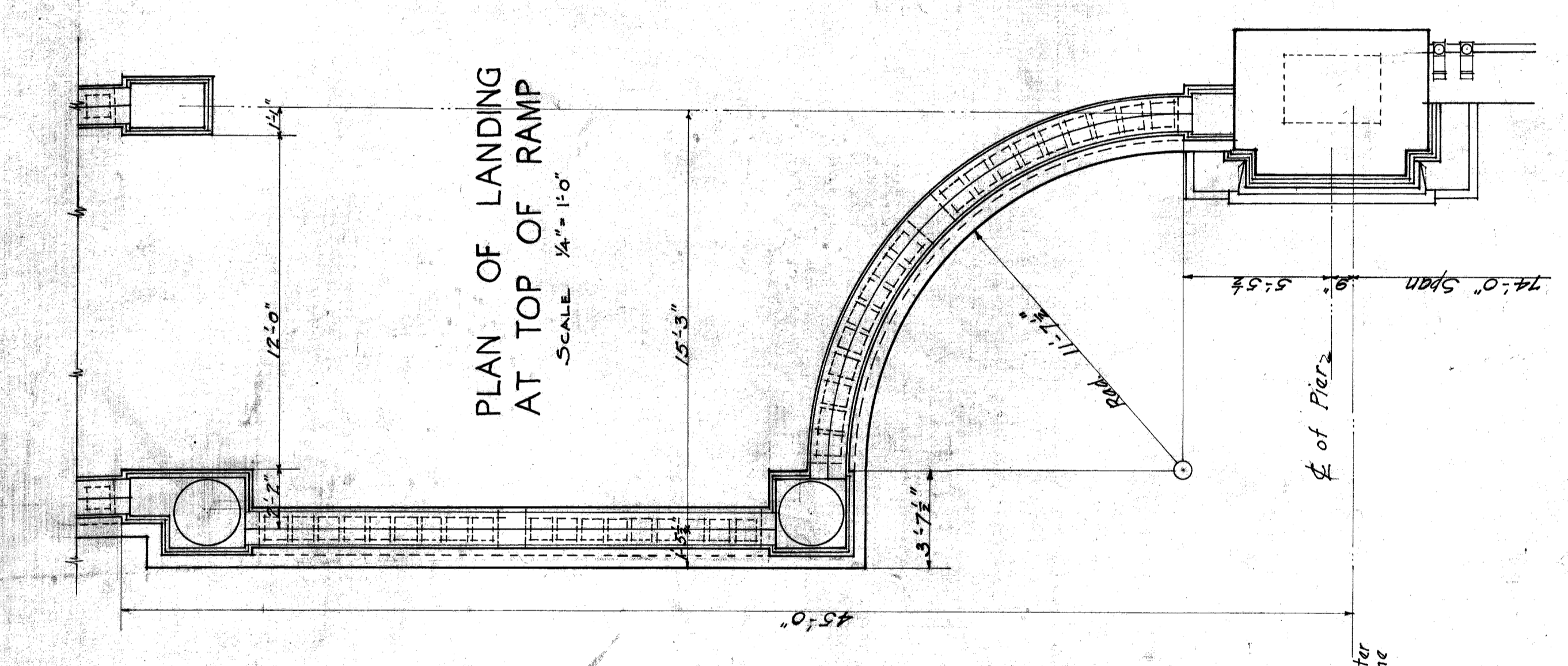
DEVELOPED HALF ELEVATION OF ISLAND APPROACH AND SUBWAY AT 'B-B'
SCALE 1" = 16'-0"



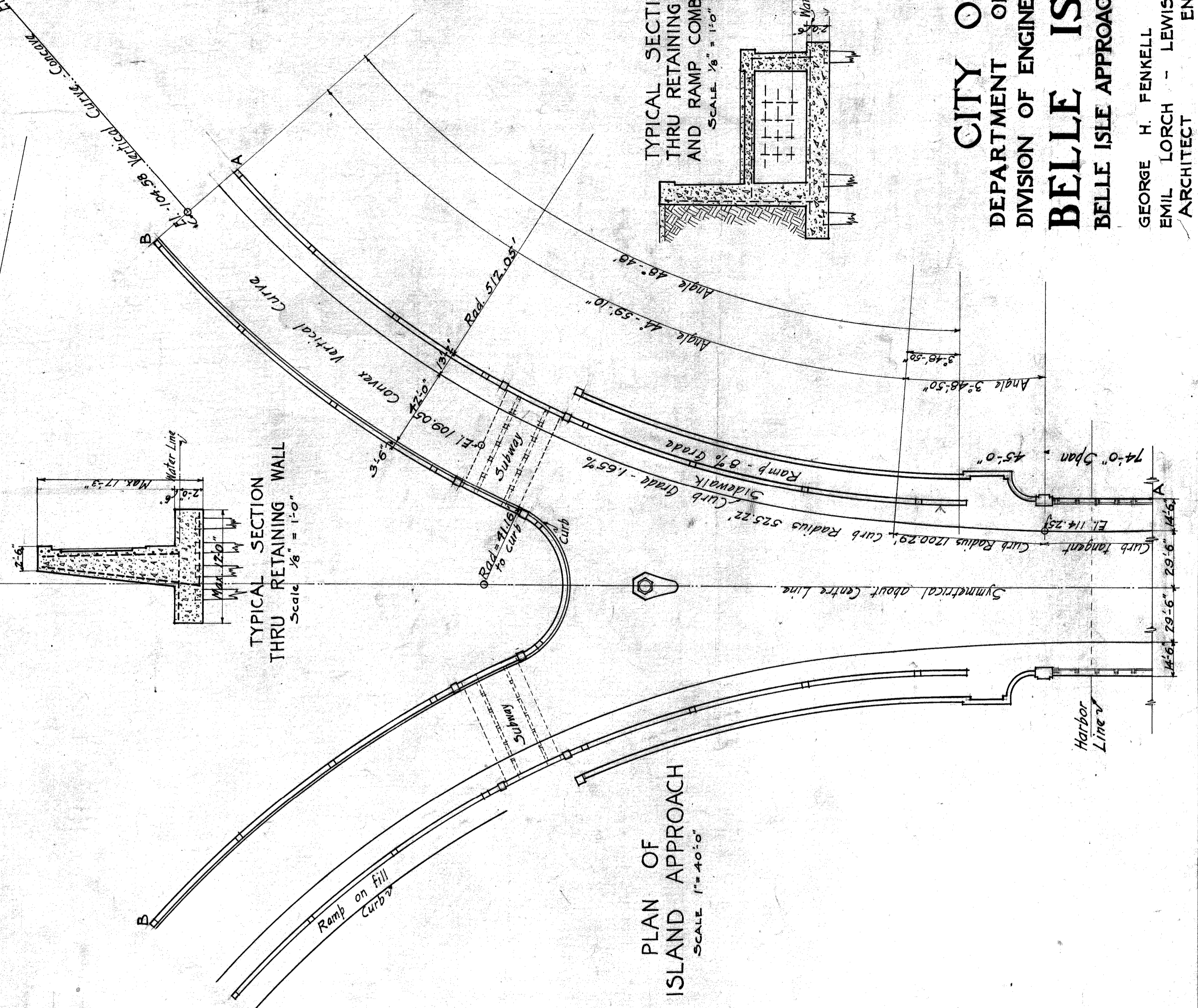
Center Line of Riverbank Road



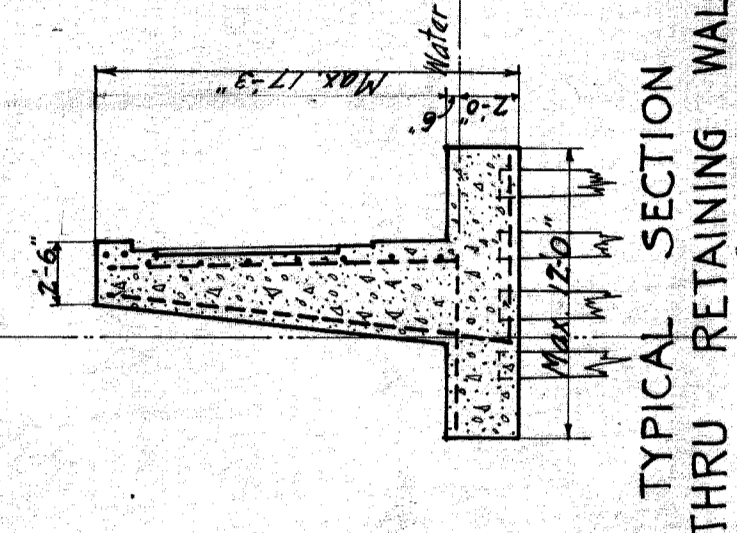
LONGITUDINAL SECTION THRU SUBWAY
SCALE 1/4" = 1'-0"



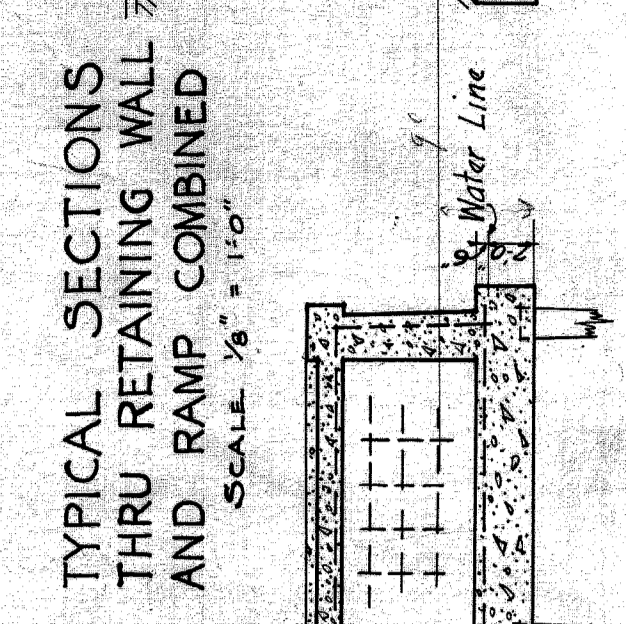
PLAN OF LANDING AT TOP OF RAMP
SCALE 1/4" = 1'-0"



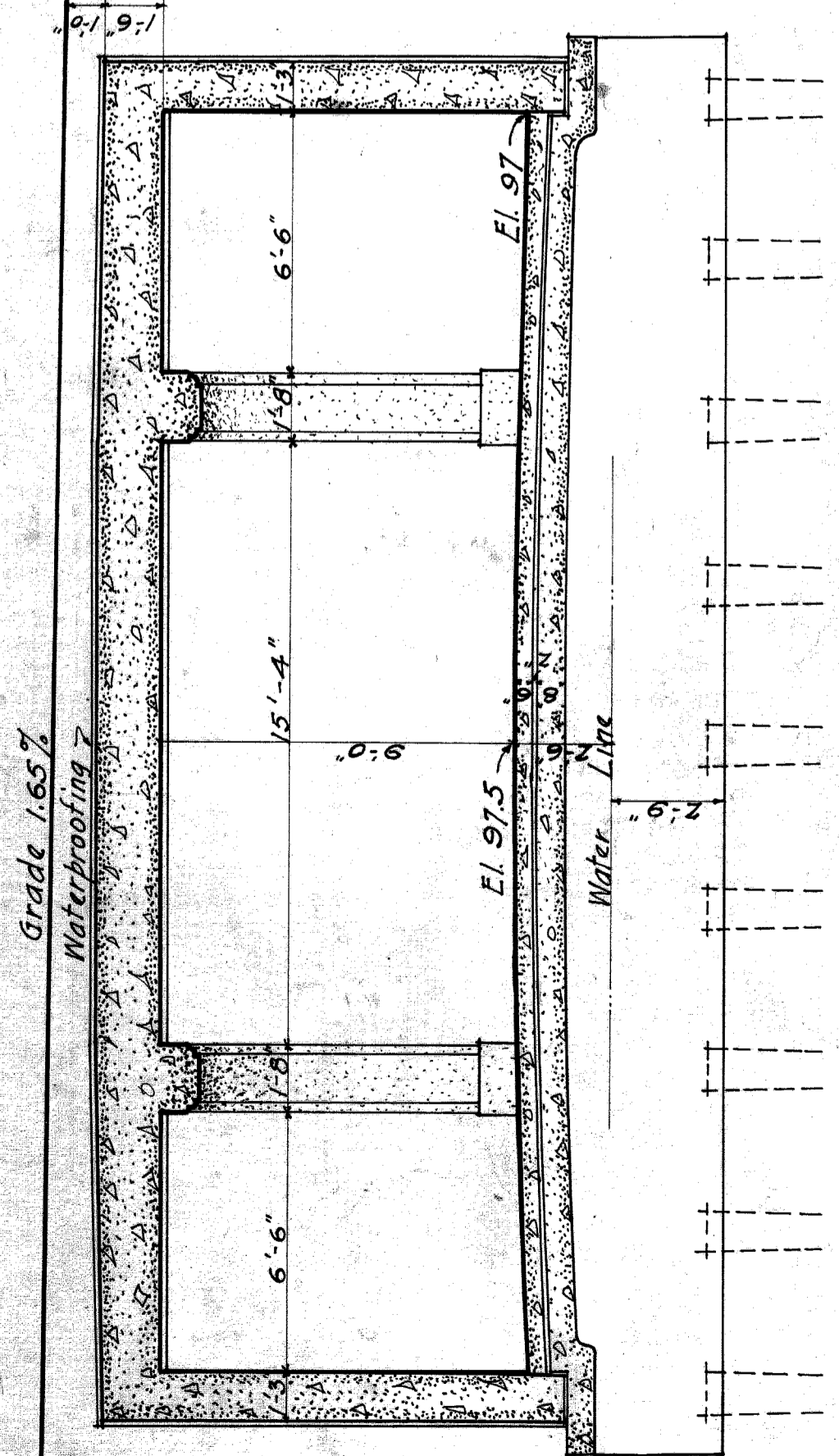
PLAN OF ISLAND APPROACH
SCALE 1" = 40'-0"



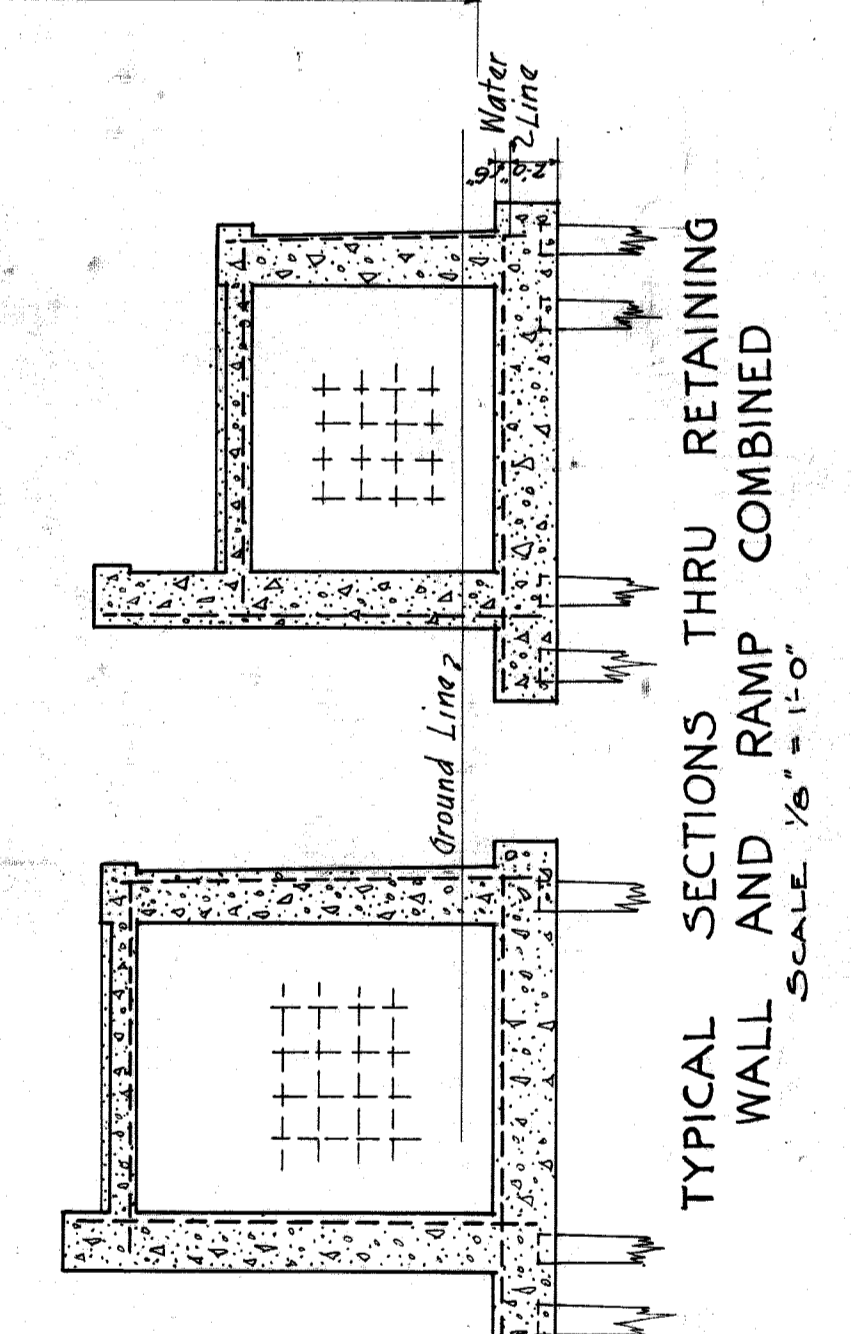
TYPICAL SECTION THRU RETAINING WALL
SCALE 1/8" = 1'-0"



TYPICAL SECTIONS THRU RETAINING WALL AND RAMP COMBINED
SCALE 1/8" = 1'-0"



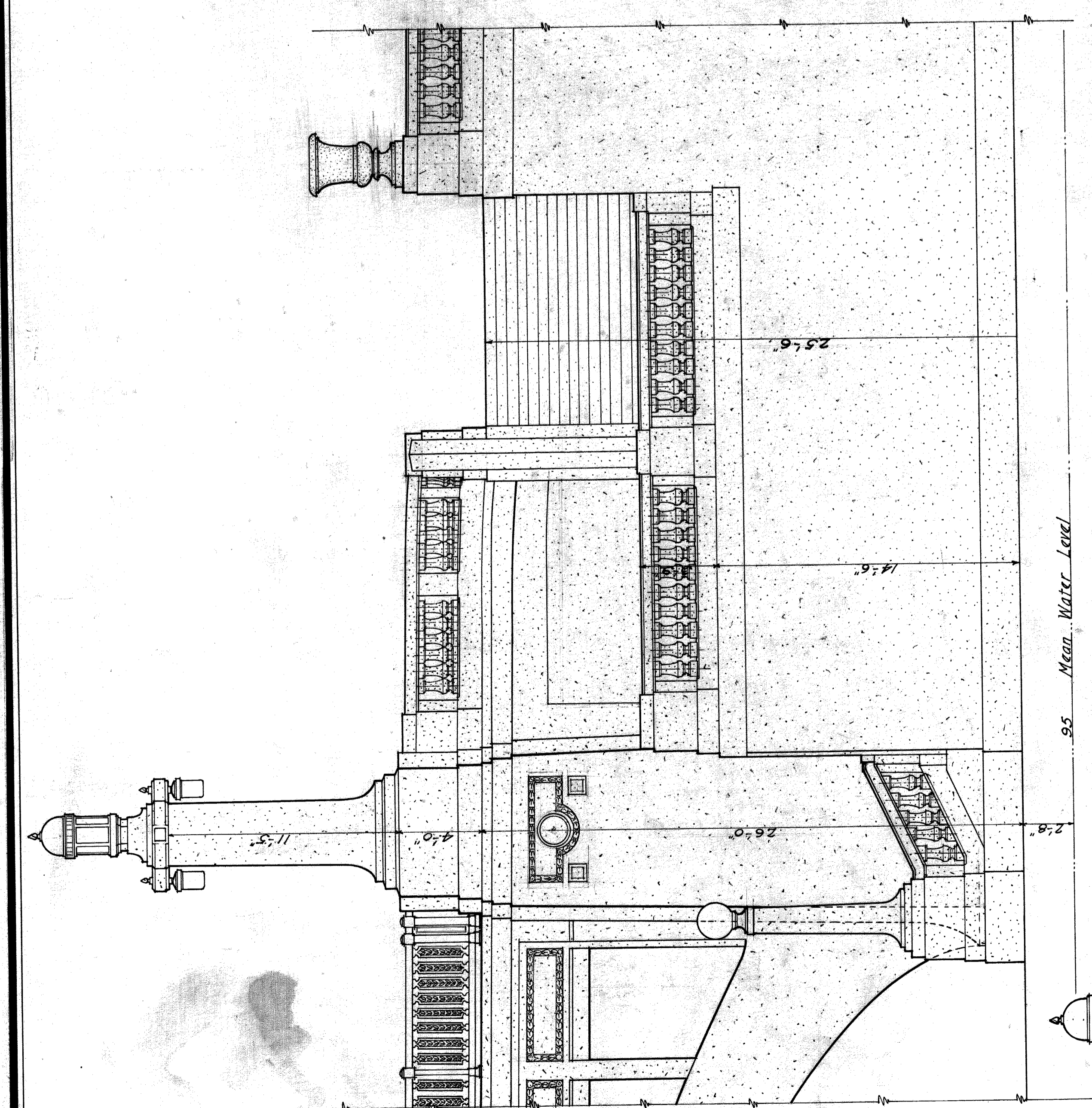
TRANSVERSE SECTION THRU SUBWAY
SCALE 1/4" = 1'-0"



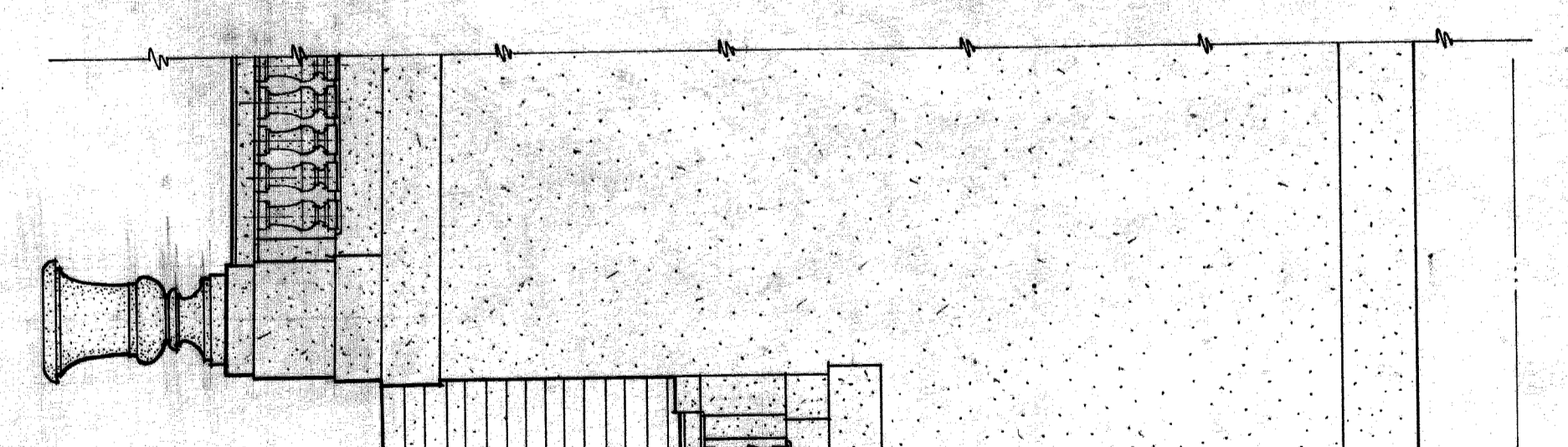
TYPICAL SECTIONS THRU RETAINING WALL AND RAMP COMBINED
SCALE 1/8" = 1'-0"

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
BELLE ISLE APPROACHES AND SUBWAY DETAILS

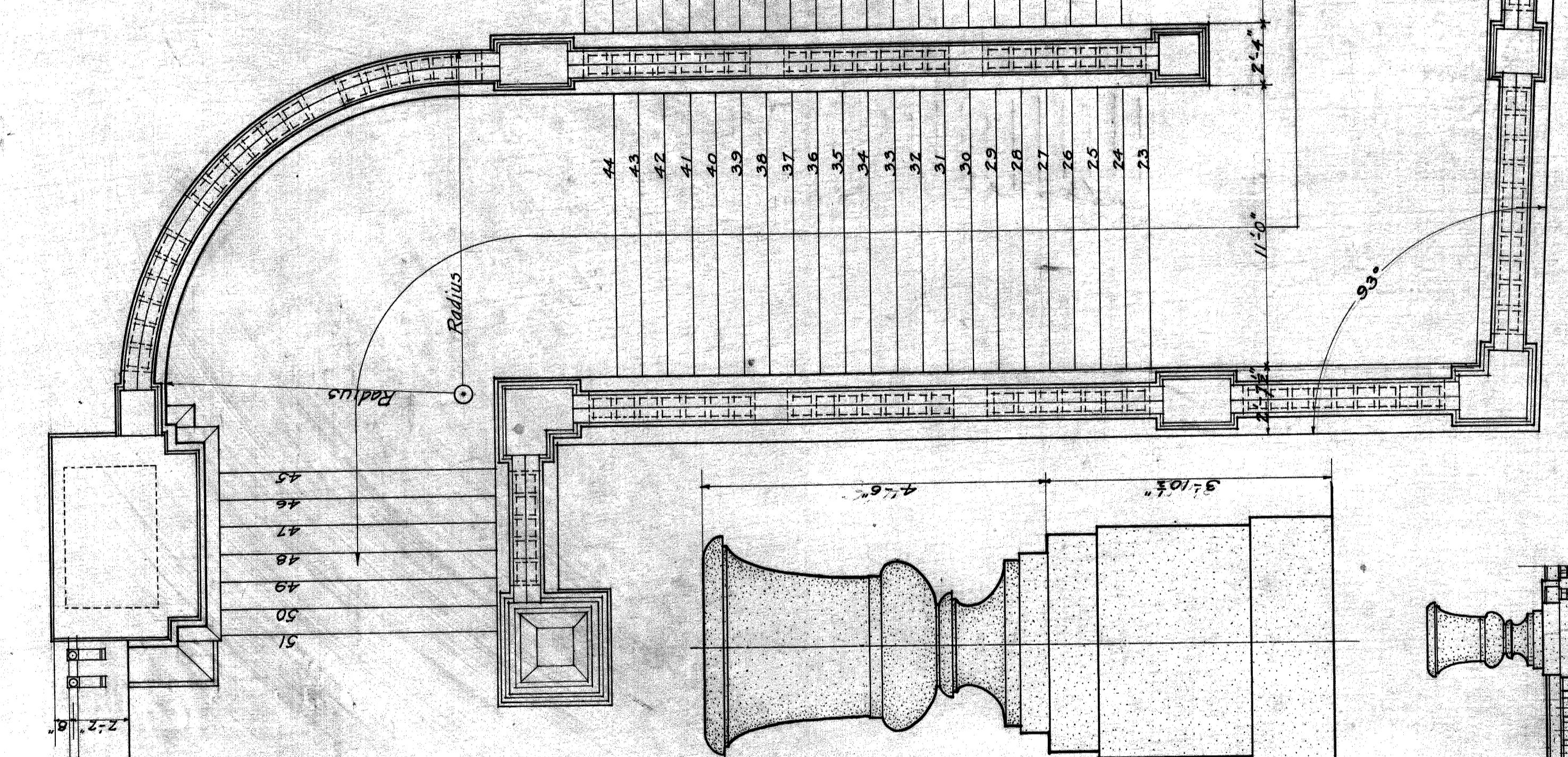
GEORGE H. FENKELL COMMISSIONER SHEET NO. 5
EMIL LORCH - LEWIS M. GRAM ARCHITECT ENGINEER



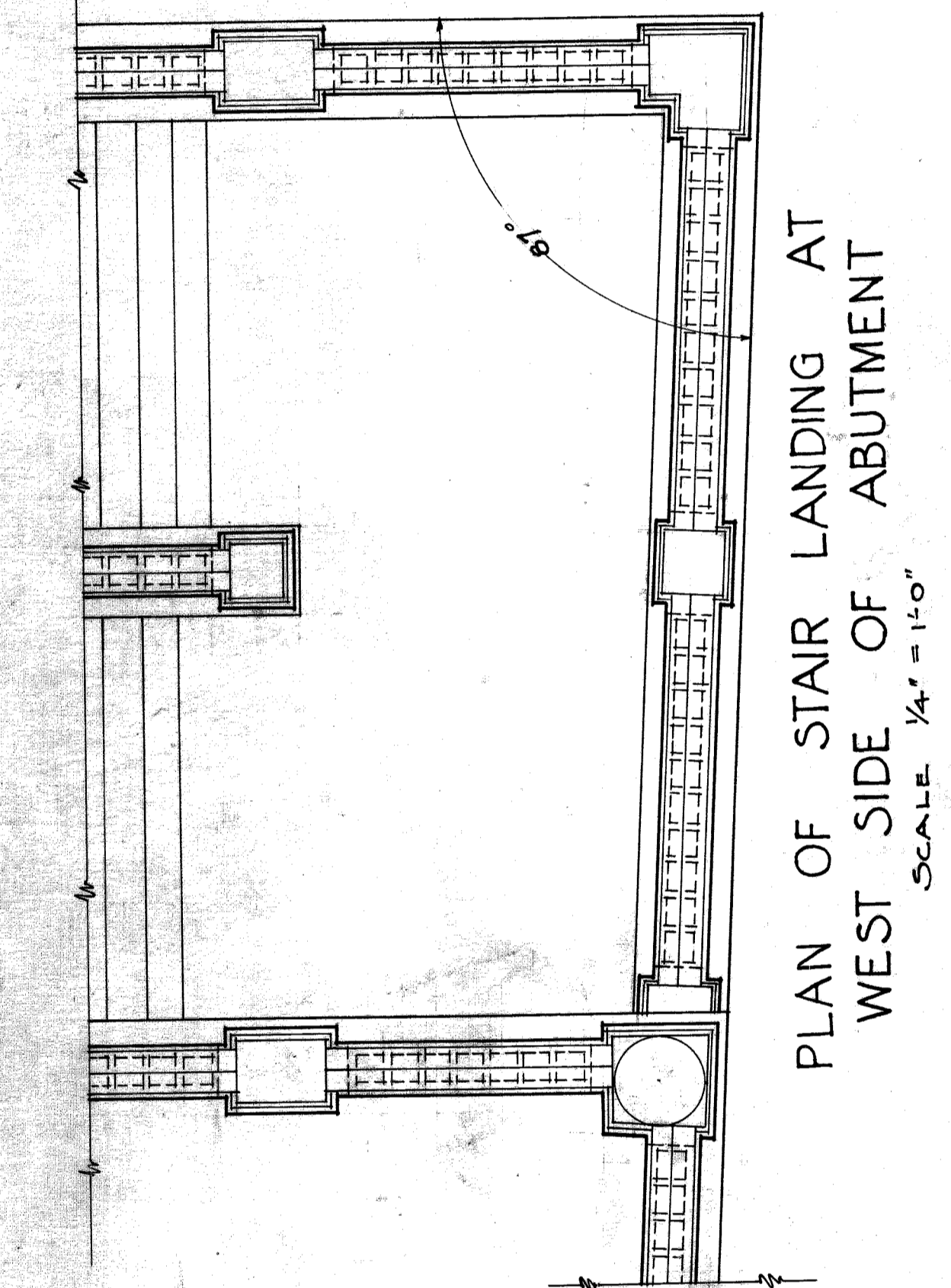
ELEVATION OF STAIRWAY
SCALE 1/4" = 1'-0"



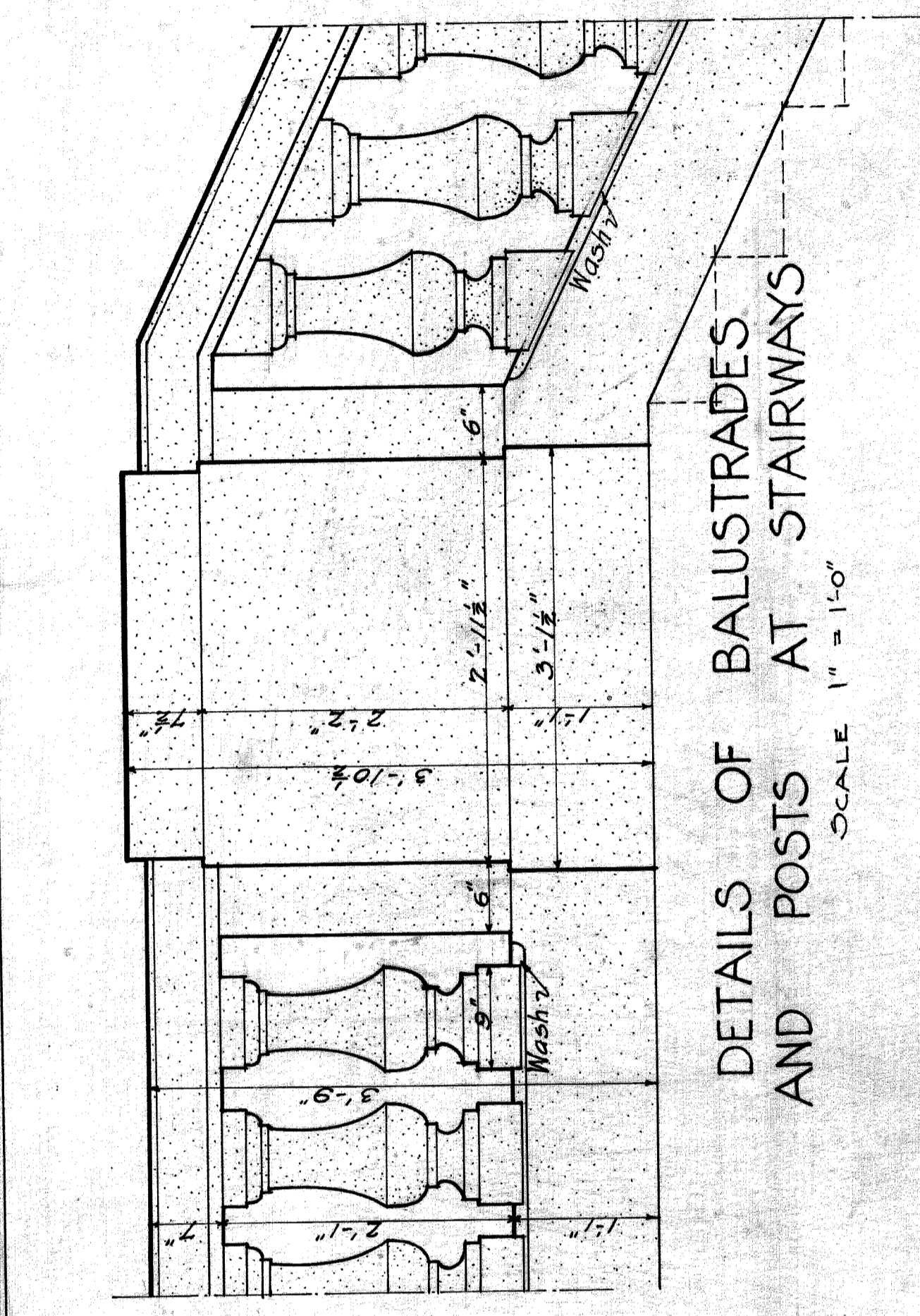
ELEVATION OF VASE & PEDESTAL
SCALE 3/4" = 1'-0"



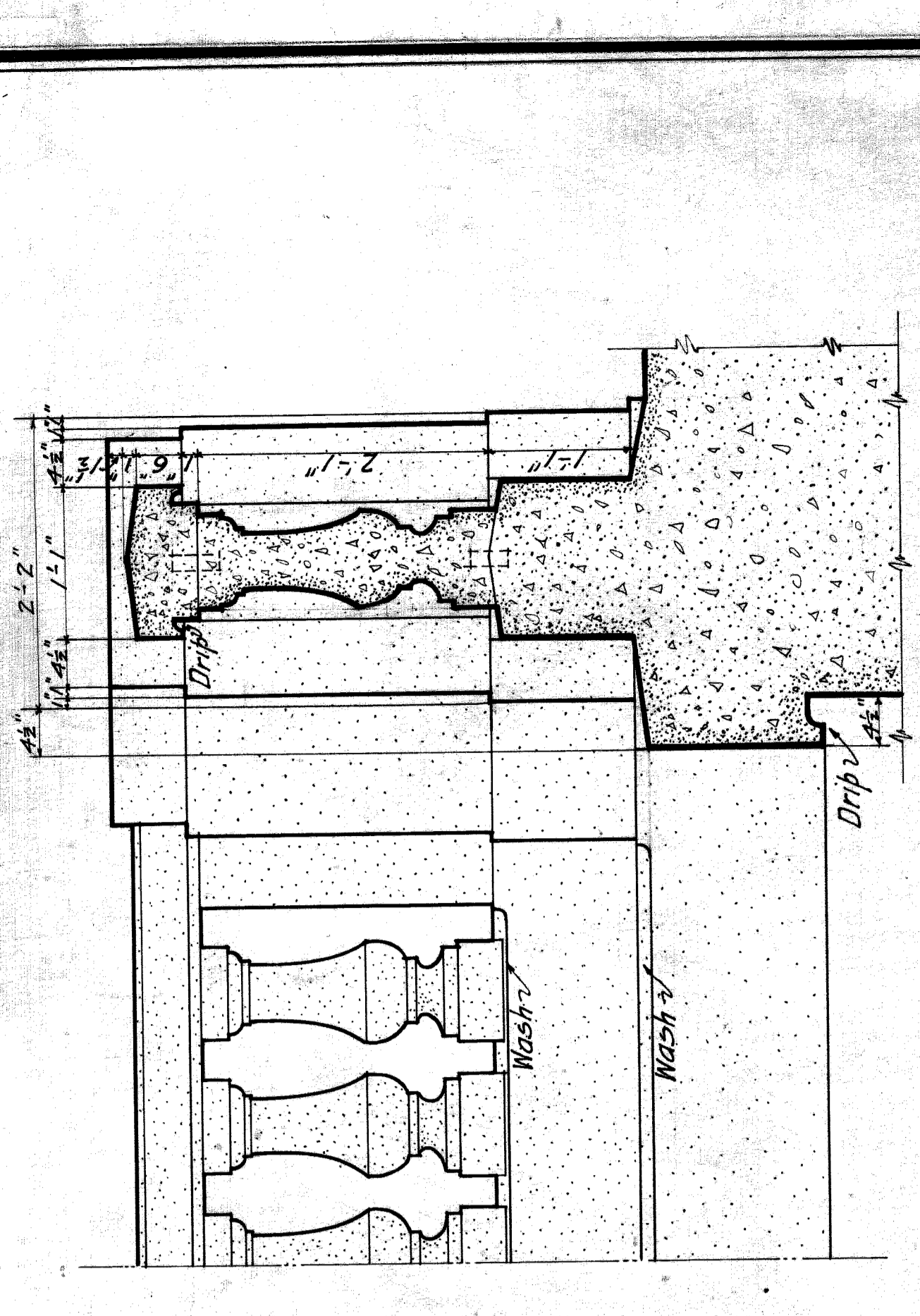
PLAN OF STAIRWAY AT EAST SIDE OF ABUTMENT
SCALE 1/4" = 1'-0"



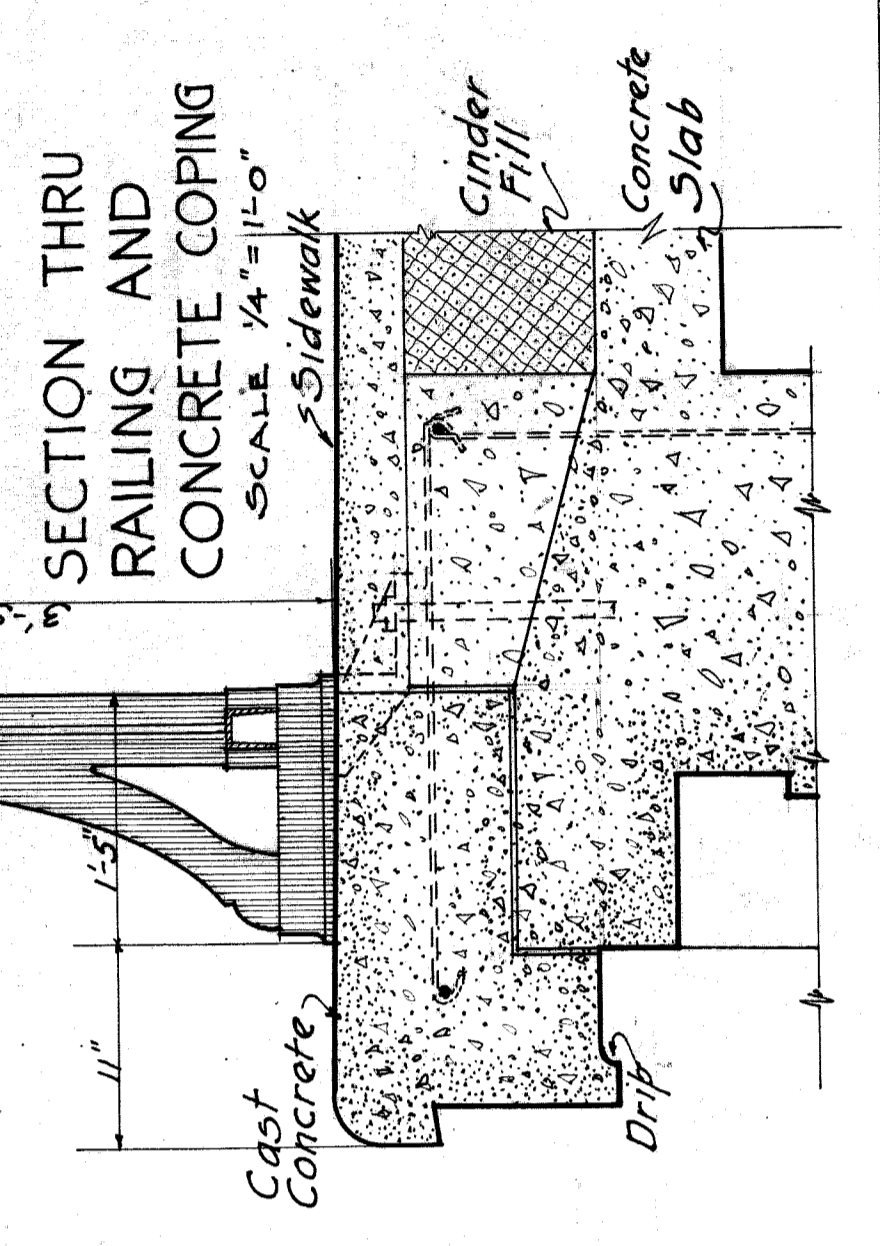
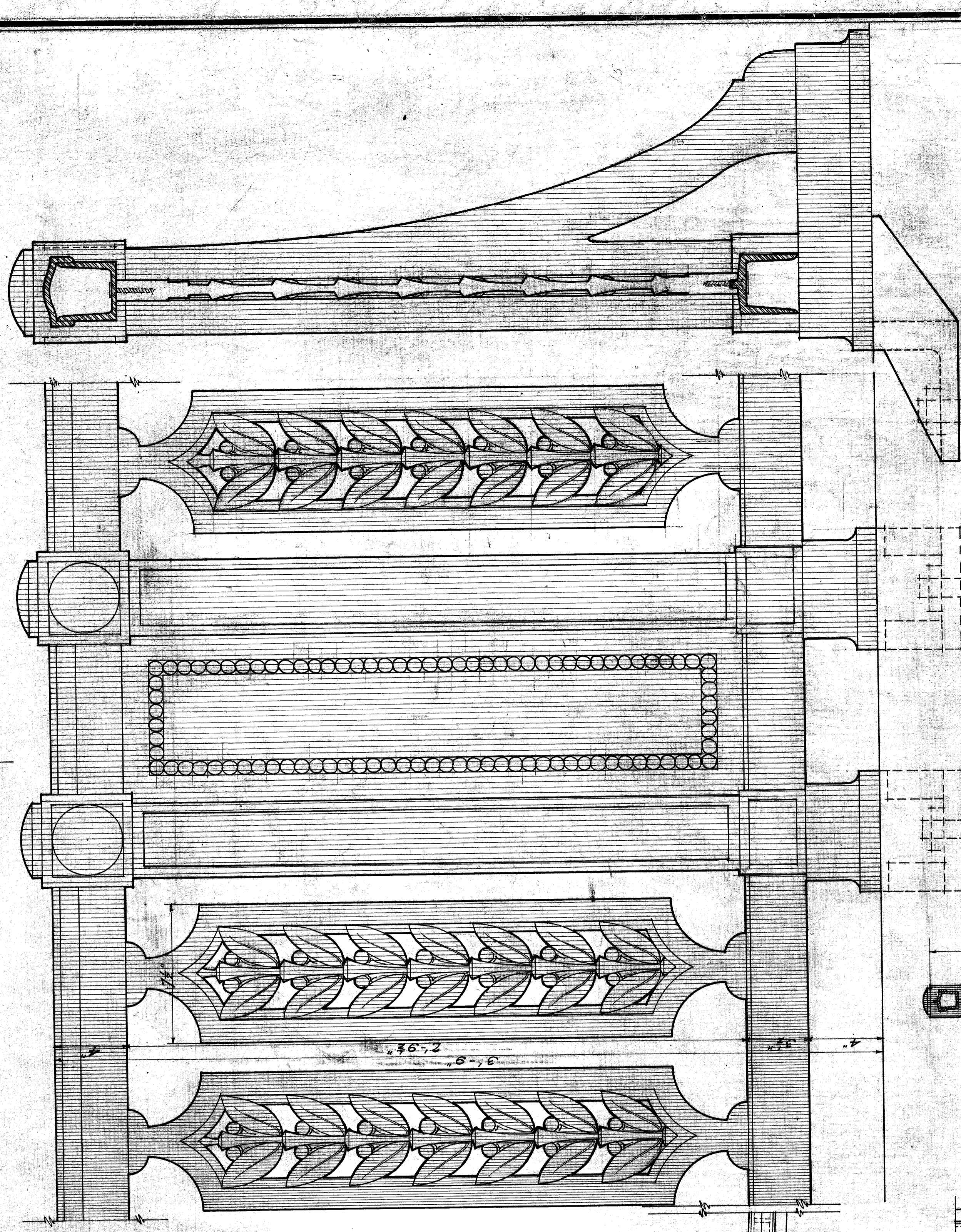
PLAN OF STAIR LANDING AT WEST SIDE OF ABUTMENT
SCALE 1/4" = 1'-0"



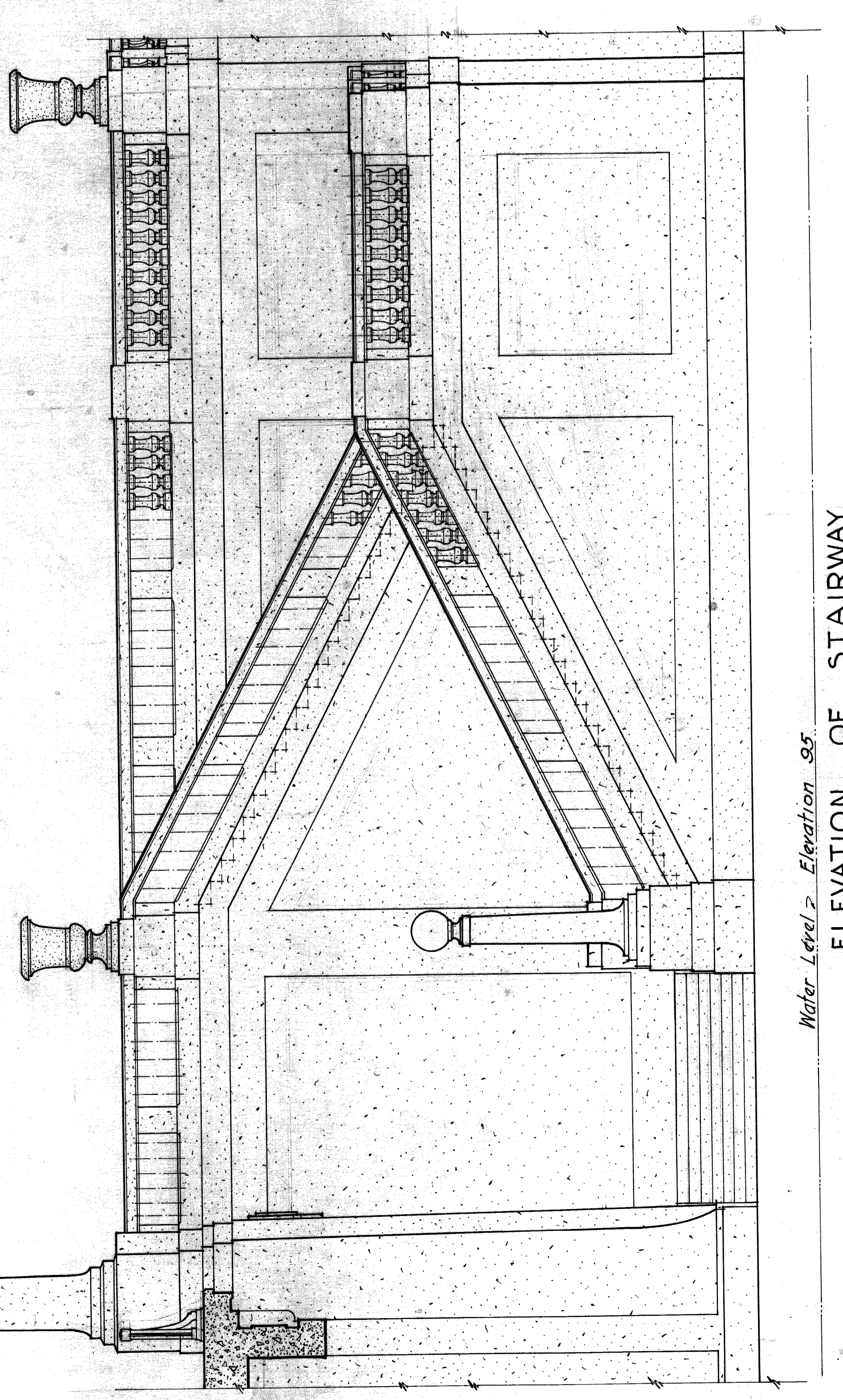
DETAILS OF BALUSTRADES AND POSTS AT STAIRWAYS
SCALE 1" = 1'-0"



DETAILS OF IRON RAILING
SCALE 3" = 1'-0"



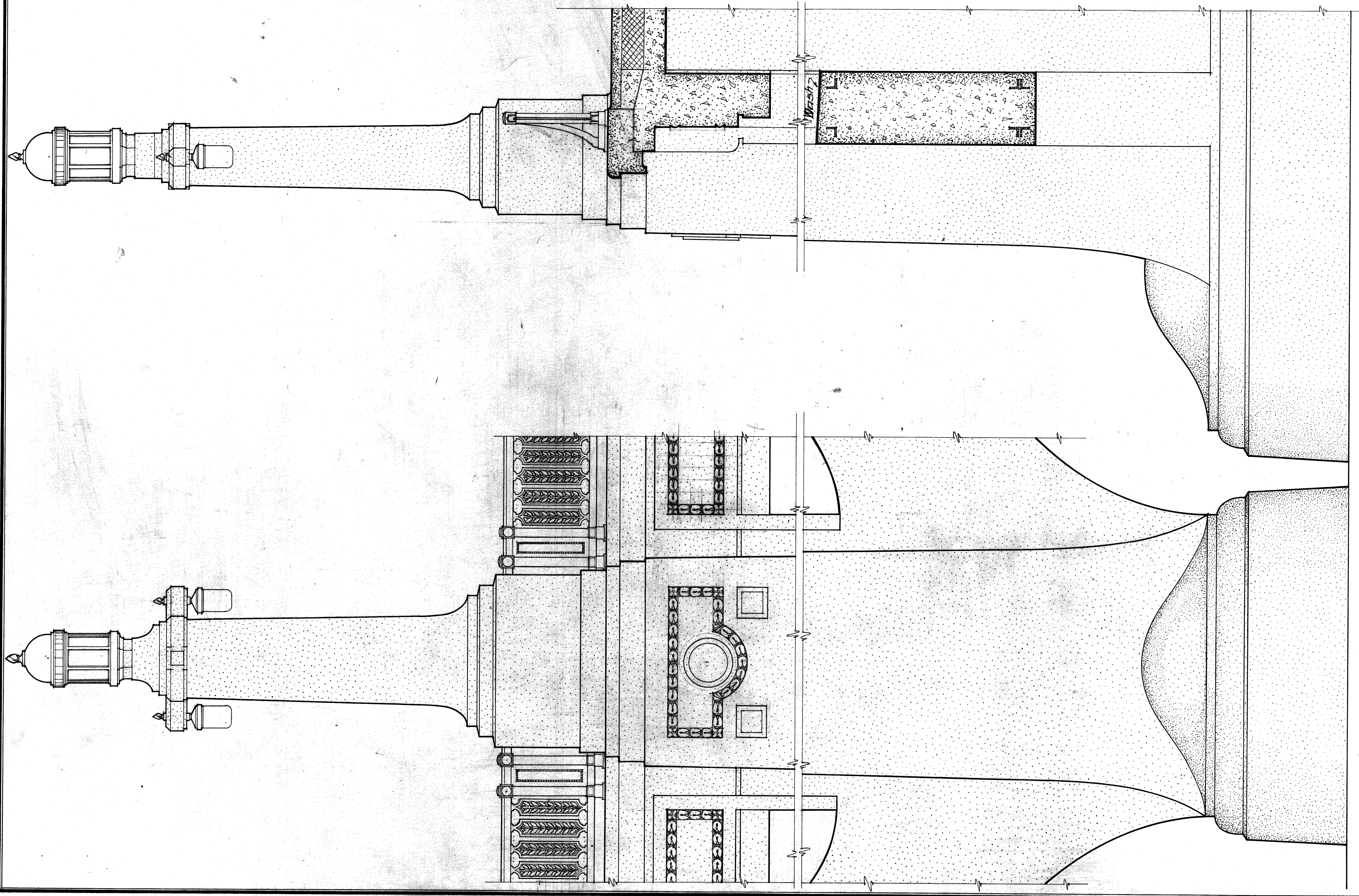
SECTION THRU RAILING AND CONCRETE COPING
SCALE 1/4" = 1'-0"



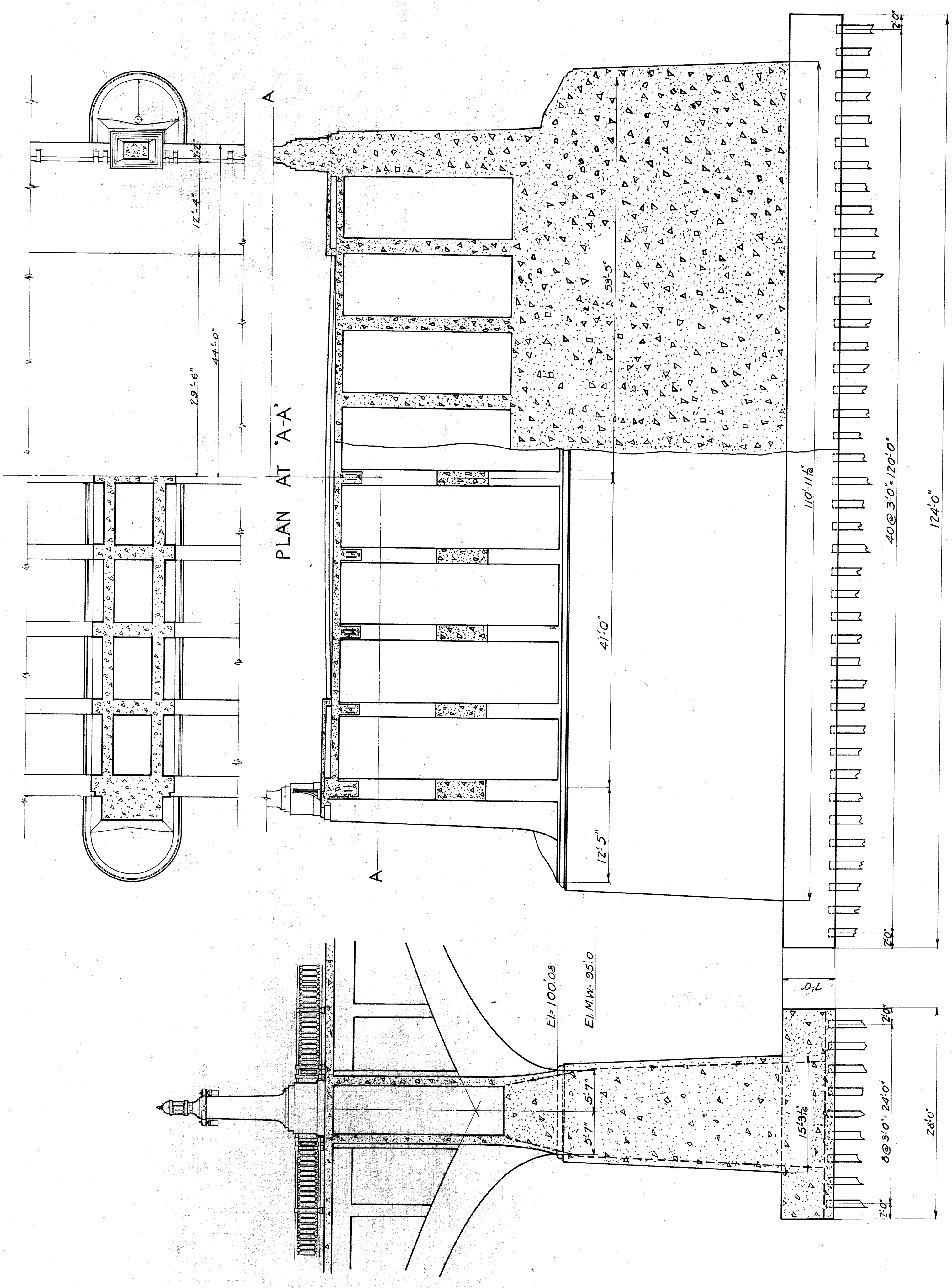
ELEVATION OF STAIRWAY
SCALE 1/4" = 1'-0"

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
STAIR AND RAILING DETAIL AT
DETROIT ABUTMENT

GEORGE H. FENKELL COMMISSIONER SHEET NO. 6
EMIL LORCH - LEWIS M. GRAM ARCHITECT



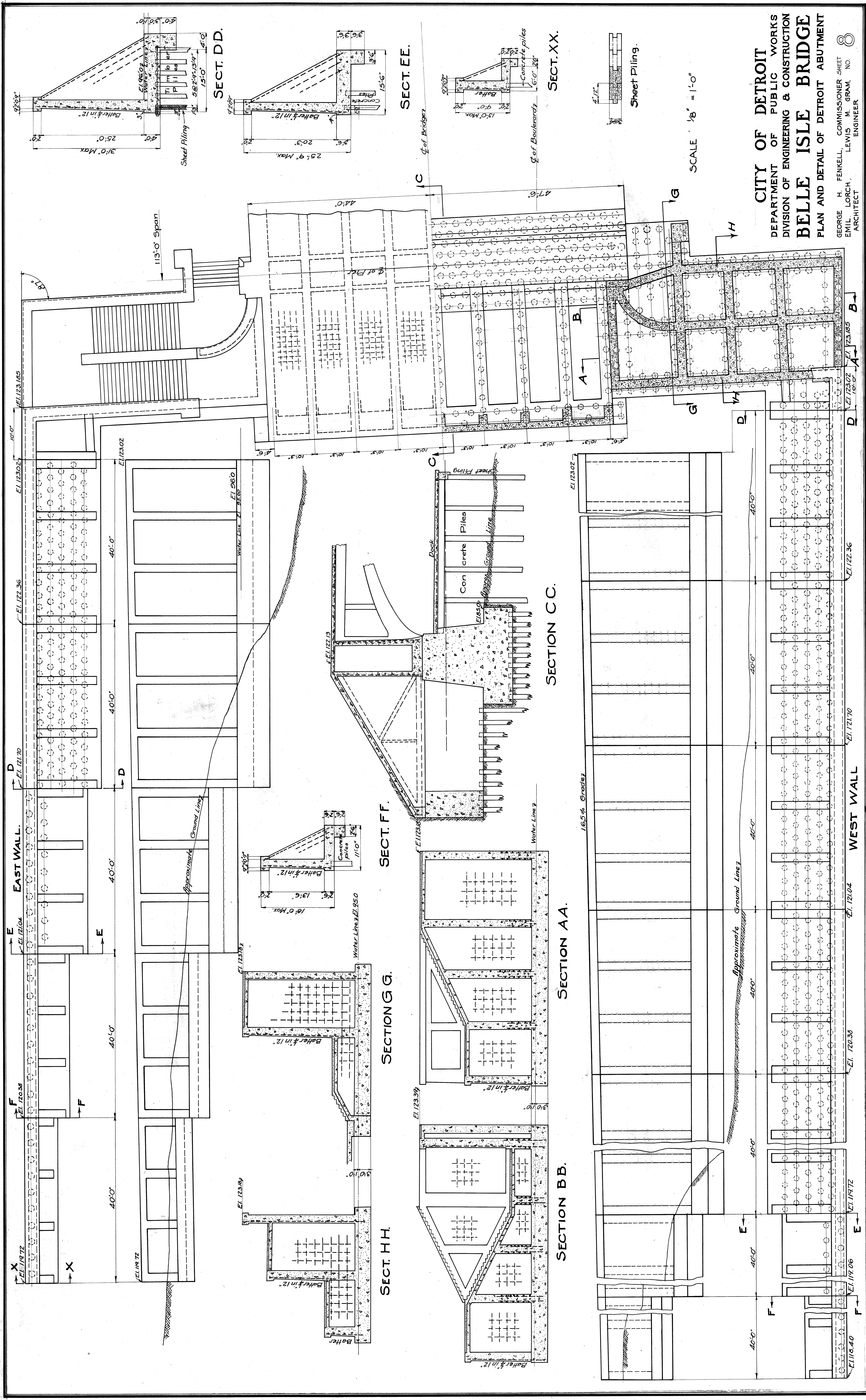
DETAILS OF MAIN PIERS & LAMP POSTS
SCALE 1/2" = 1'-0"



PIER DETAILS
SCALE 1/8" = 1'-0"

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
PIER AND LAMP POST DETAILS

GEORGE H. FENKELL COMMISSIONER SHEET NO. 7
EMIL LOPECH LEWIS M. GRAM ARCHITECT ENGINEER

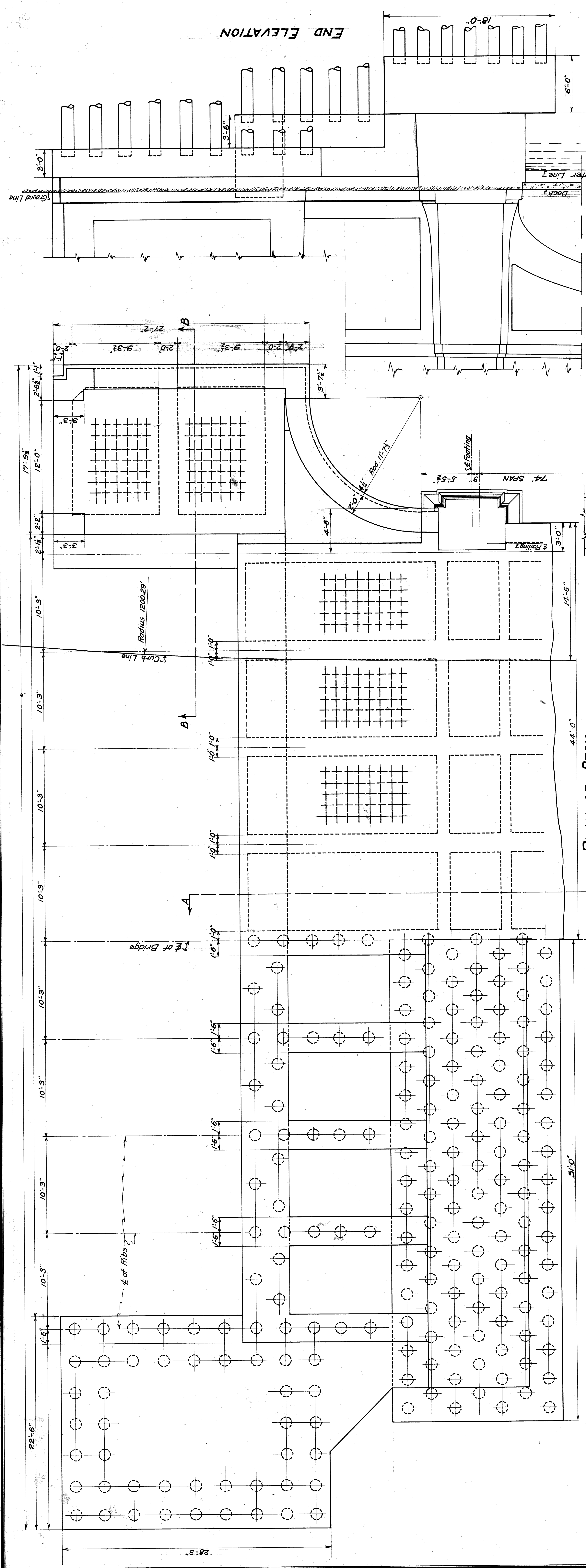


SCALE 1/8" = 1'-0"

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
 PLAN AND DETAIL OF DETROIT ABUTMENT

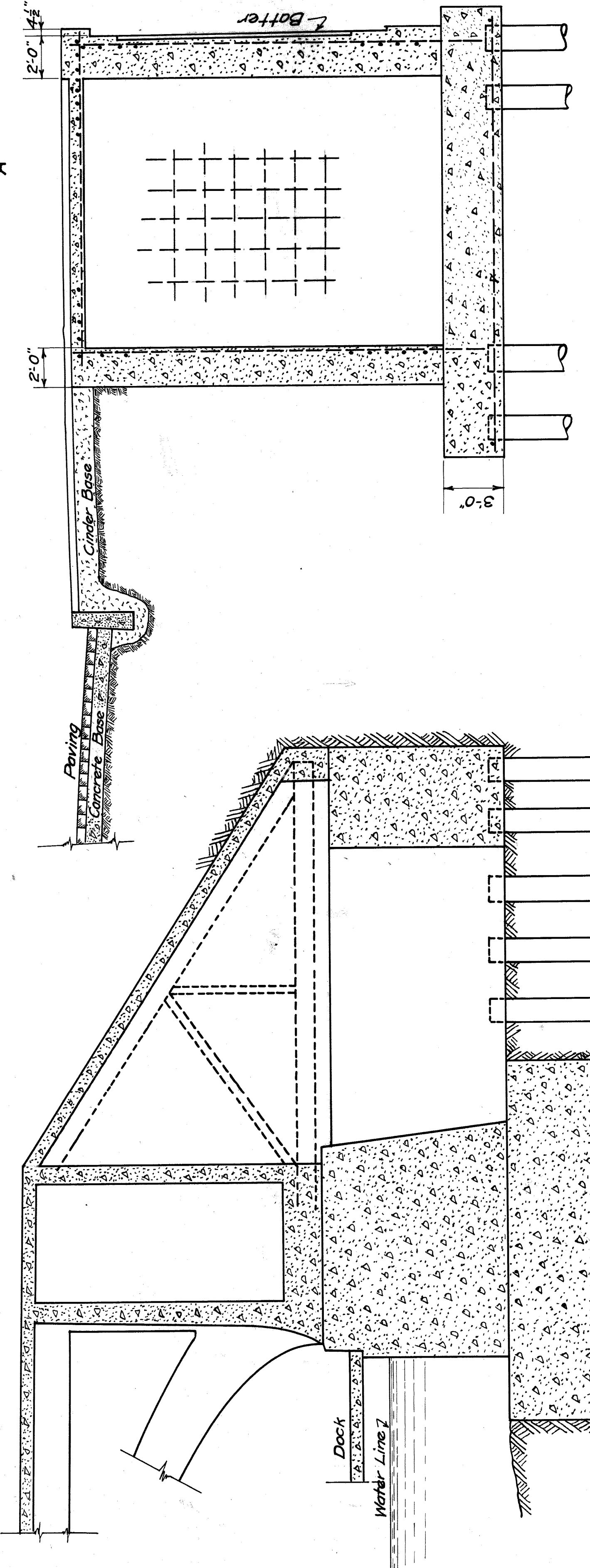
GEORGE H. FENKELL, COMMISSIONER SHEET
 EMIL LORCH, LEWIS M. GRAM, NO.
 ARCHITECT ENGINEER

File 5W 201-83

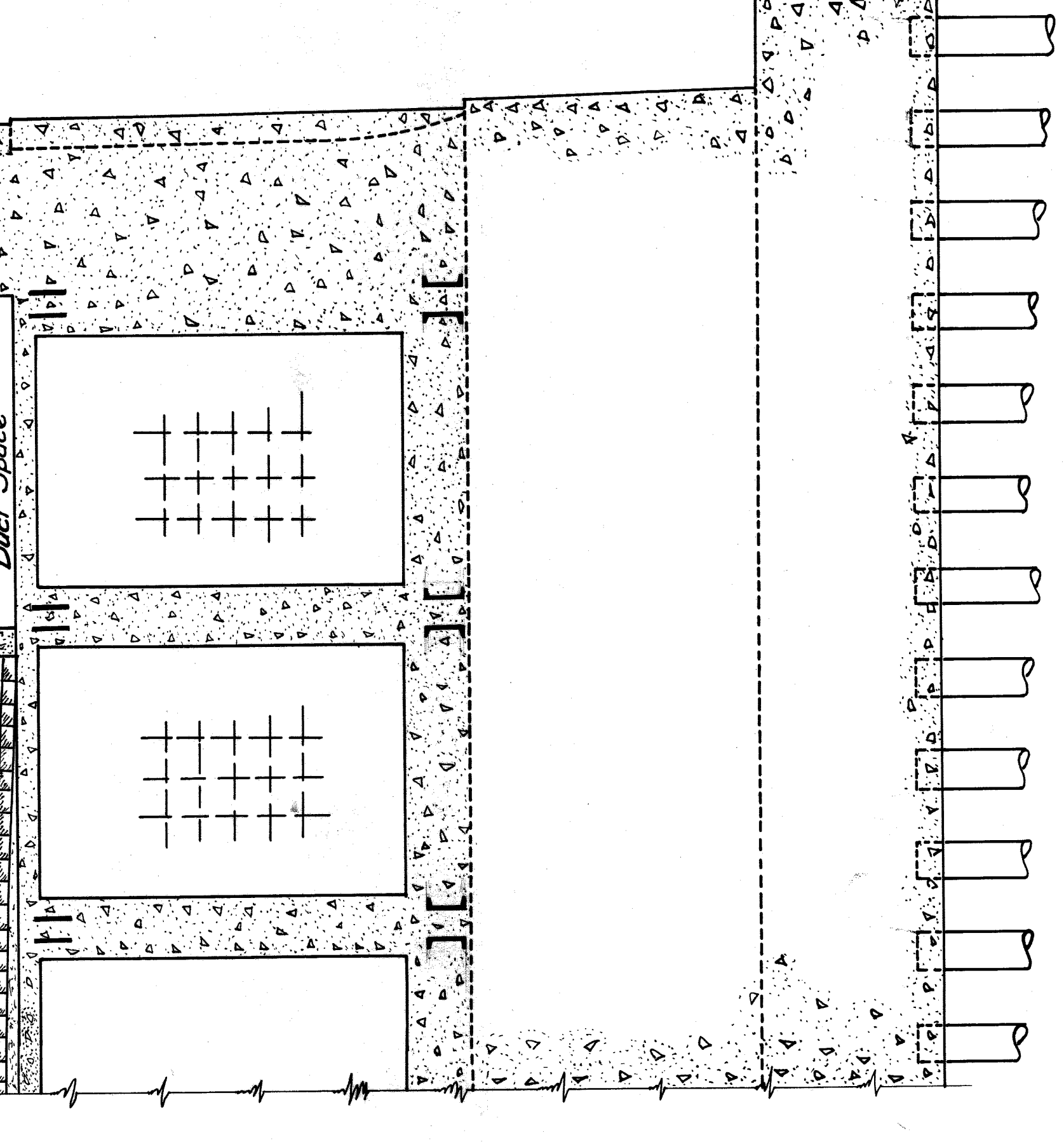


PLAN OF DECK

PLAN OF FOUNDATION



SECTION A-A



SECTION B-B

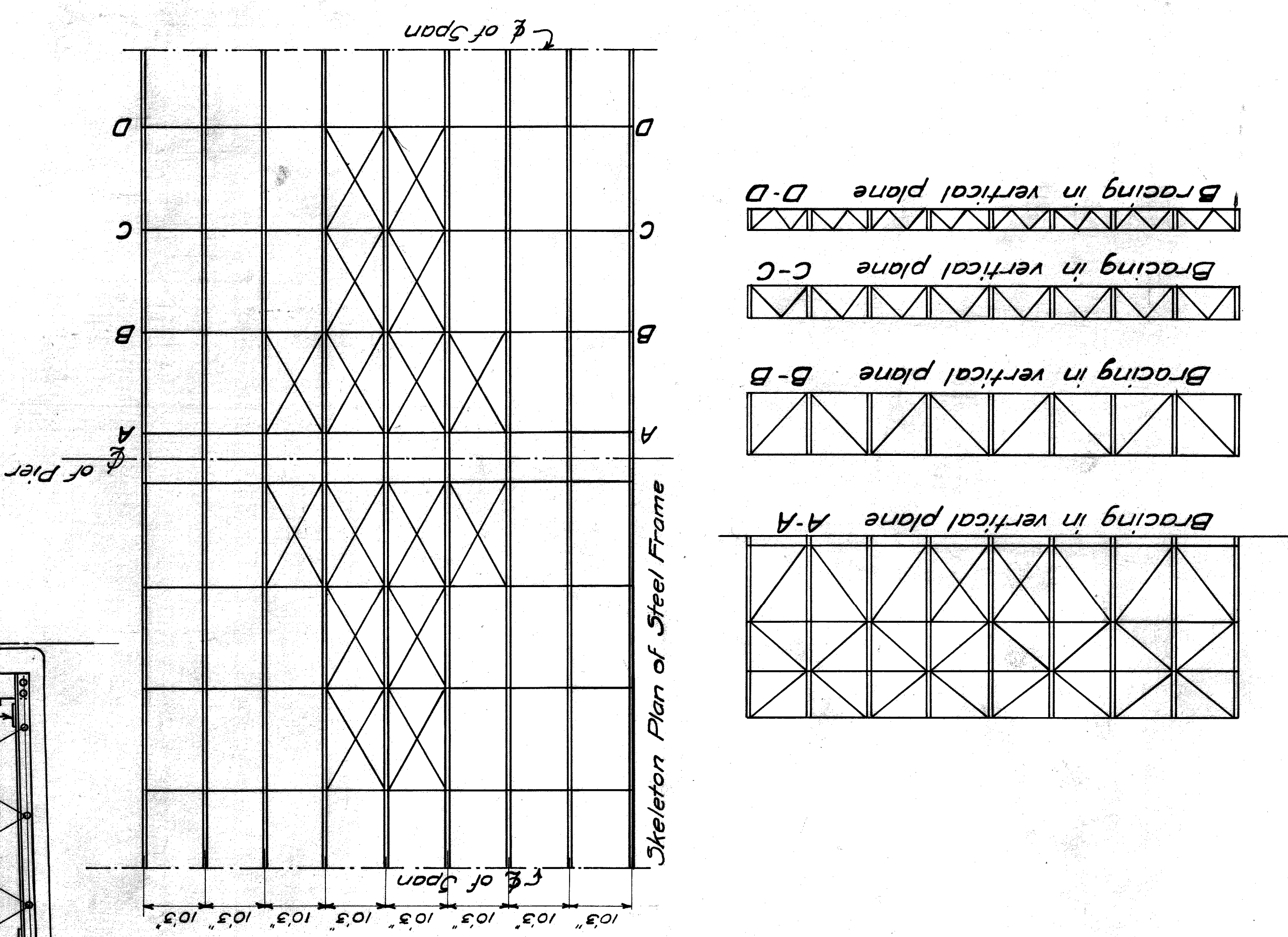
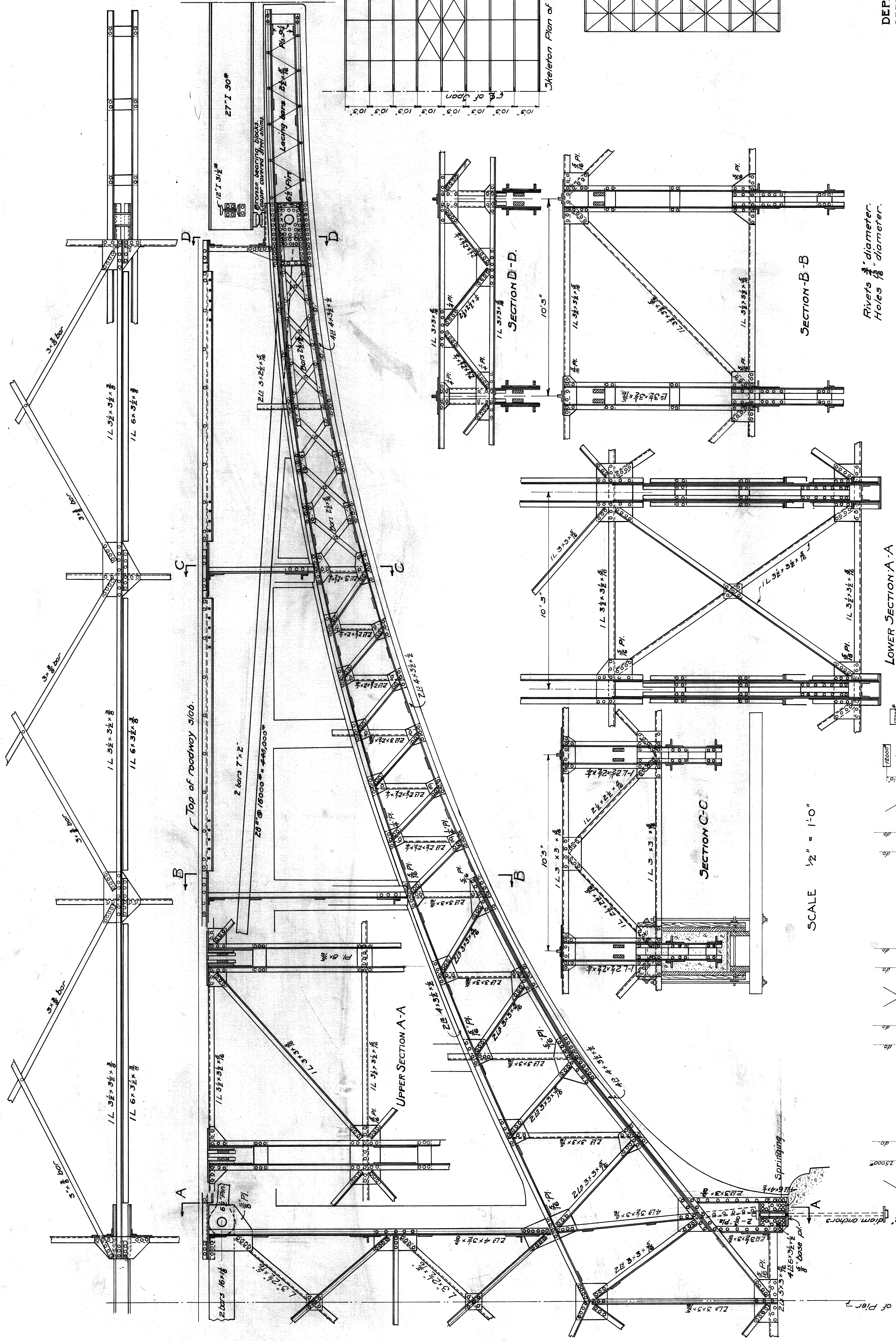
SECTION THROUGH PIER

SCALE 1/4" = 1'-0"

END ELEVATION

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
 PLAN AND DETAILS OF ISLAND ABUTMENT

GEORGE H. FENKELL COMMISSIONER SHEET NO. 5
 EMIL LORCH LEWIS M. GRAM ARCHITECT ENGINEER



Rivets $\frac{3}{4}$ " diameter.
Holes $\frac{1}{8}$ " diameter.

SECTION B-B

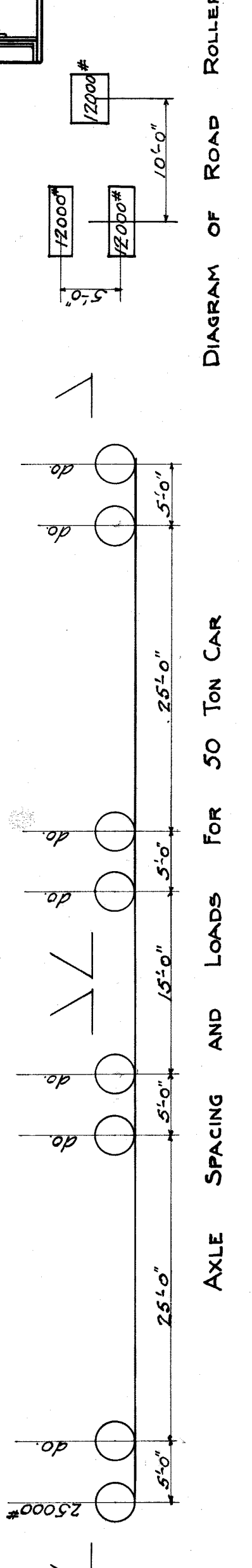
SECTION D-D

LOWER SECTION A-A

UPPER SECTION A-A

SECTION C-C

SCALE $\frac{1}{2}$ " = 1'-0"



2'-2" diam anchors

of Pier 2

Springing

2 bars 10 #

1.3125 #

2.03125 #

4.15625 #

8.3125 #

16.625 #

33.25 #

66.5 #

133 #

266 #

532 #

1064 #

2128 #

4256 #

8512 #

17024 #

34048 #

68096 #

136192 #

272384 #

544768 #

1089536 #

2179072 #

4358144 #

8716288 #

17432576 #

34865152 #

69730304 #

139460608 #

278921216 #

557842432 #

1115684864 #

2231369728 #

4462739456 #

8925478912 #

17850957824 #

35701915648 #

71403831296 #

142807662592 #

285615325184 #

571230650368 #

1142461300736 #

2284922601472 #

4569845202944 #

9139690405888 #

18279380811776 #

36558761623552 #

73117523247104 #

146235046494208 #

292470092988416 #

584940185976832 #

1169880371953664 #

2339760743907328 #

4679521487814656 #

9359042975629312 #

18718085951258624 #

37436171902517248 #

74872343805034496 #

149744687610068992 #

299489375220137984 #

598978750440275968 #

1197957500880551936 #

2395915001761103872 #

4791830003522207744 #

9583660007044415488 #

19167320014088830976 #

38334640028177661952 #

76669280056355323904 #

153338560112710647808 #

306677120225421295616 #

613354240450842591232 #

1226708480901685182464 #

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4906833923606740729856 #

9813667847213481459712 #

19627335694426962919424 #

39254671388853925838848 #

78509342777707851677696 #

157018685555415703355392 #

314037371110831406710784 #

6280747422216628134221664 #

1256149484443325626844328 #

2512298968886651253688656 #

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5145188288279861767554367488 #

1029037657655972353510734976 #

2058075315311944707021469952 #

4116150630623889414042939904 #

8232301261247778828085879808 #

16464602522955557656171759616 #

32929205045911115312343519232 #

65858410091822230624687038464 #

131716820183644461249374076928 #

263433640367288922498748153856 #

526867280734577844997496307712 #

1053734561469155689994992615424 #

2107469122938311379989985230848 #

4214938245876622759979970461696 #

8429876491753245519959940923392 #

16859752983506491039919881846784 #

33719505967012982079839763733568 #

67439011934025964159679527467136 #

134878023868051928319359054934272 #

269756047736103856638718109868544 #

539512095472207713277536219737088 #

107902419094441546555512439474176 #

215804838188883093111048888948352 #

431609676377766186222097777896704 #

8632193527555323724441955557934112 #

1726438705111064744888391110822224 #

345287741022212949777782221644448 #

69057548204442589955556443288896 #

138115096408885179911112887577792 #

27623019281777035982222575555584 #

55246038563554071974445151111168 #

110492077127108139488892302222336 #

220984154254216278977784604444672 #

441968308508432557955572108888944 #

8839366170168651157911144217778888 #

17678732340337303157822288435577776 #

35357464680674606357644576711155552 #

7071492936134921271531111551111104 #

14142984672269842542662222111111104 #

28285969344539685085324442222222104 #

56571938689079370170648884444444208 #

11314387737815874034129768888888416 #

22628775475631748068259537777777632 #

45257550951263496136519075555555264 #

9051510190252699231330381111111104 #

18103020380505398626607622222222104 #

36206040761010797253215244444444208 #

7241208152202159450644488888888416 #

1448241630440311901288897777777632 #

2896483260880623802577795555555264 #

579296652176124760515551111111104 #

11585933043522495210311111111104 #

23171866087044990420622222222104 #

46343732174089980841244444444208 #

9268746434817996168248888888416 #

1853749287763599236497777777632 #

3707498575527198472995555555264 #

741499715105439695591111111104 #

148299943021087911111111111104 #

296599886042175822222222222104 #

593199772084351644444444444208 #

118639954416870328888888888416 #

23727990883374065777777777632 #

47455981766748131555555555264 #

9491196353349626311111111104 #

18982392706899252622222222104 #

37964785413798505244444444208 #

75929570827597010488888888416 #

1518591416551840209777777632 #

30371828331036804195555555264 #

6074365666207360839111111104 #

12148731332147316782222222104 #

24297462664294633564444444208 #

48594925328589267128888888416 #

971898506571785342577777632 #

1943797013435770845555555264 #

388759402687154169111111104 #

777518805374308338222222104 #

1555037610748176764444444208 #

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62201504429927070577777632 #

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7961792550168250347555555264 #

159235851033765069511111104 #

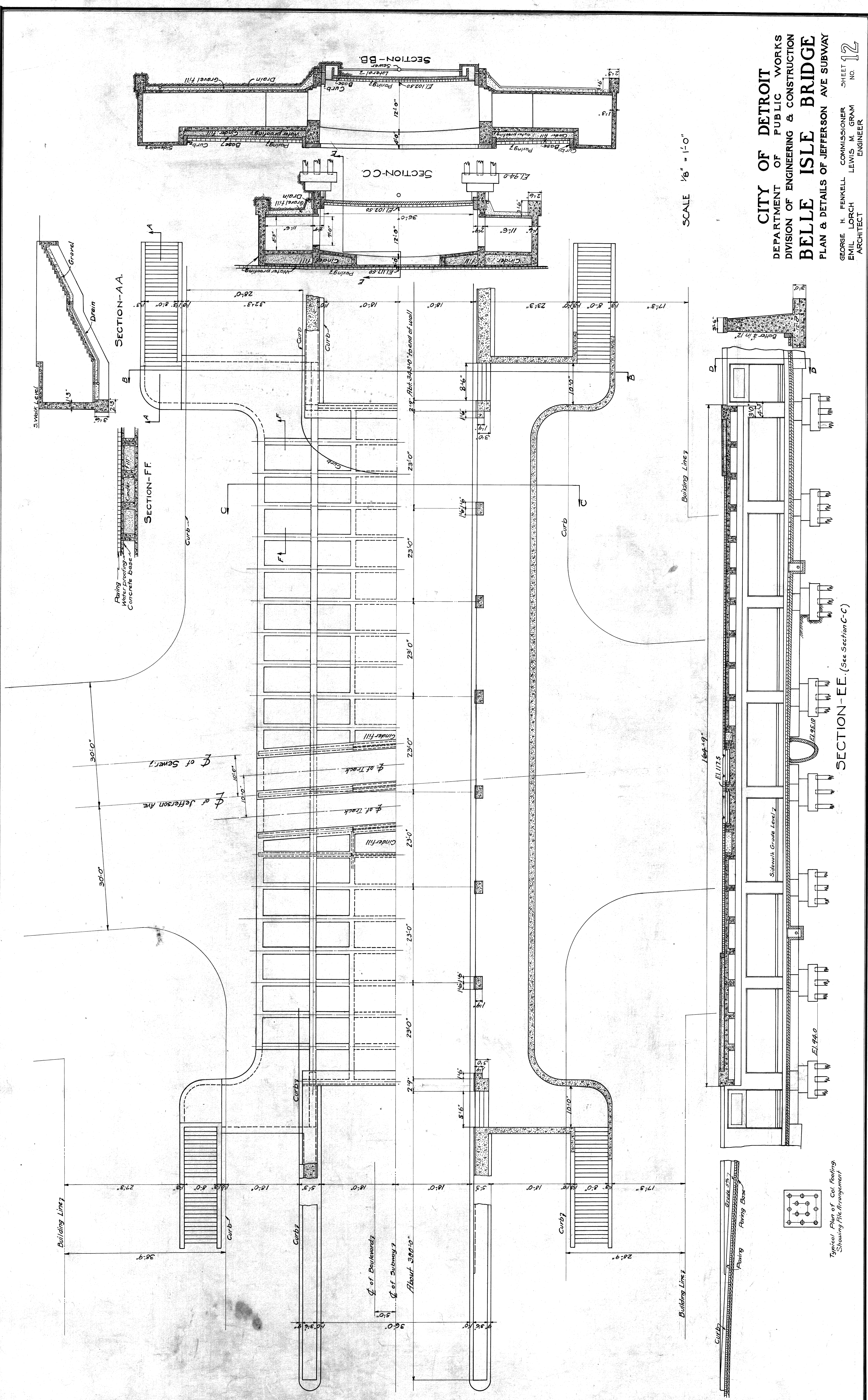
3184717020675301390222222104 #

63694340413506027804444444208 #

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
PLAN & DETAILS OF JEFFERSON AVE SUBWAY

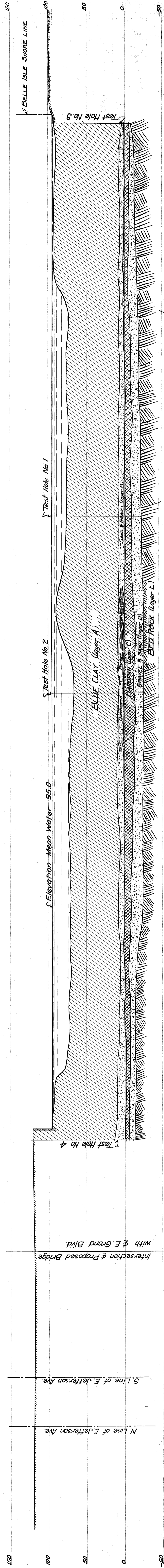
GEORGE H. FENKELL COMMISSIONER SHEET NO. 12
EMIL LORCH LEWIS M. GRAM ARCHITECT ENGINEER

SCALE 1/8" = 1'-0"



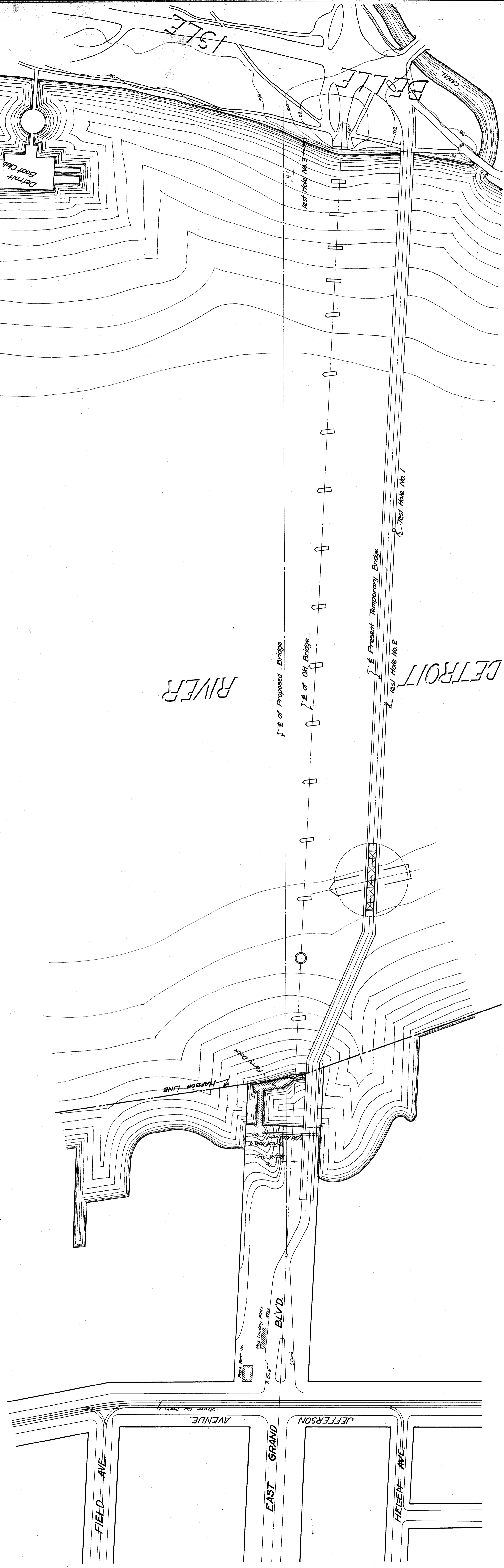
SECTION-EE. (See Section C-C)

Typical Plan of C&I Roofing
Showing File Arrangement



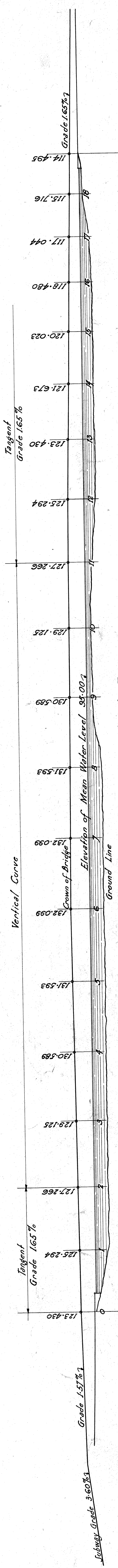
- SYMBOLS:-
- BLUE CLAY
 - HARDPAN
 - SAND & GRAVEL
 - QUICKSAND

PROFILE ON E. OF PROPOSED BRIDGE
 SHOWING PROBABLE CROSS-SECTION OF RIVER BOTTOM

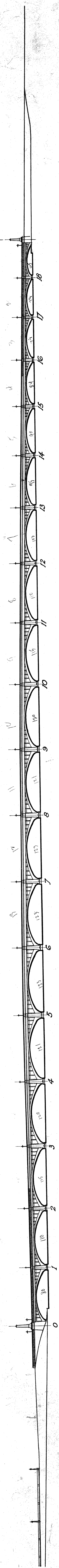


PLAN OF PROPOSED SITE
 Scale - 1" = 100'

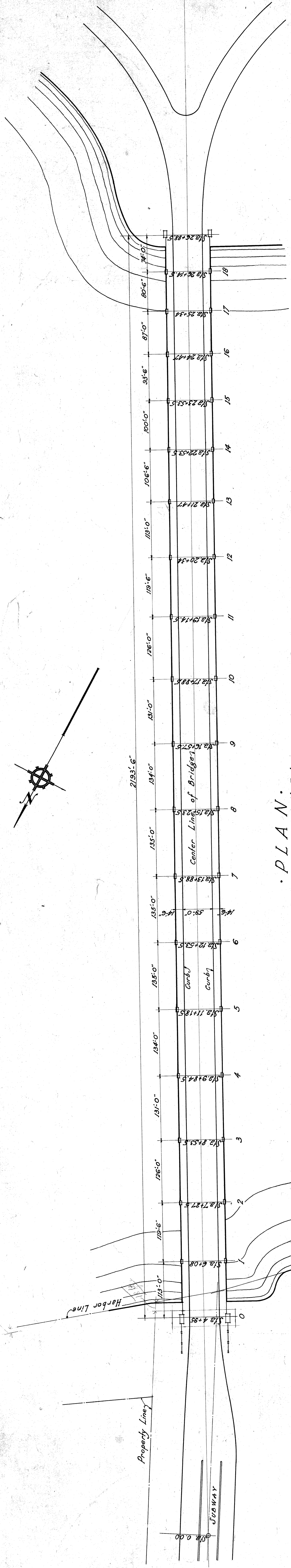
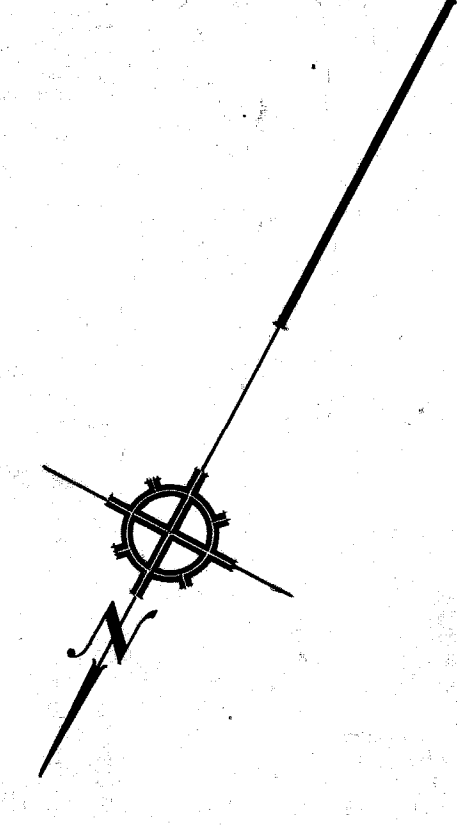
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF ENGINEERING & CONSTRUCTION
BELLE ISLE BRIDGE
 LOCATION MAPS - PROFILE - GENERAL PLANS
 GEORGE H. FENKELL, COMMISSIONER
 EMIL LORCH - LEWIS M. GRAM ARCHITECT ENGINEER
 SHEET NO. **13**



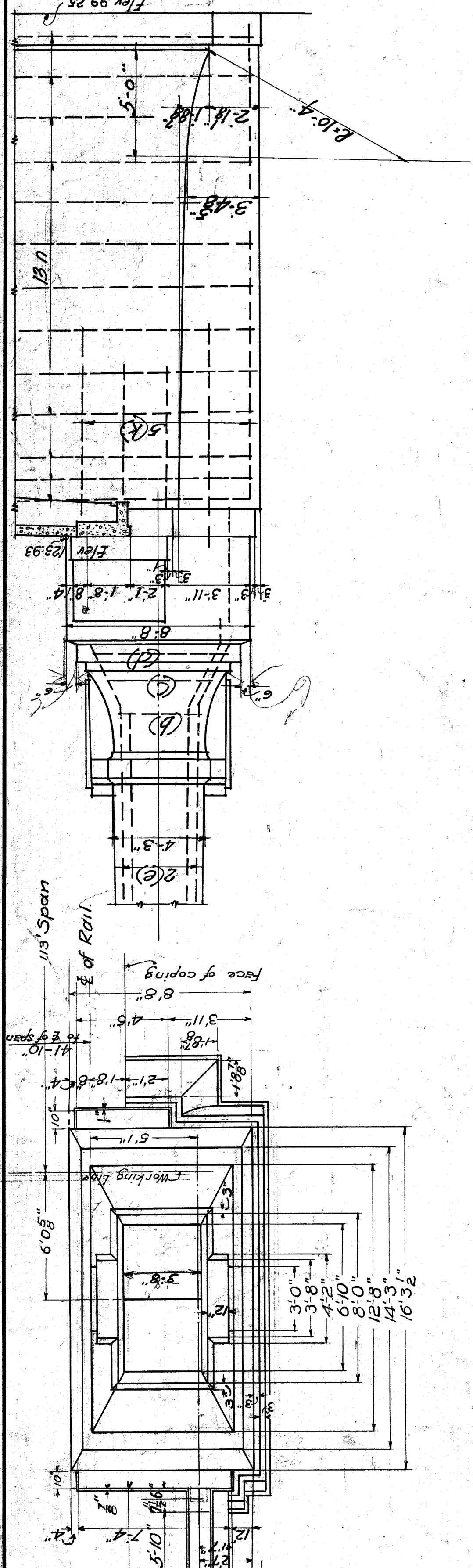
·PROFILE·
Scale - One Inch Equals Eighty Feet



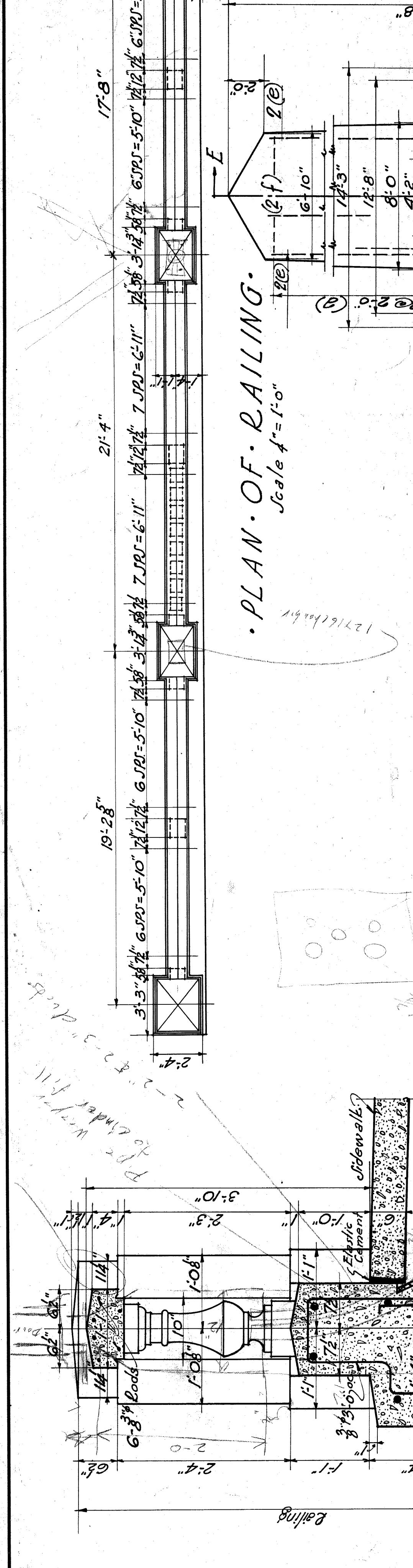
·ELEVATION·
Scale - One Inch Equals Eighty Feet



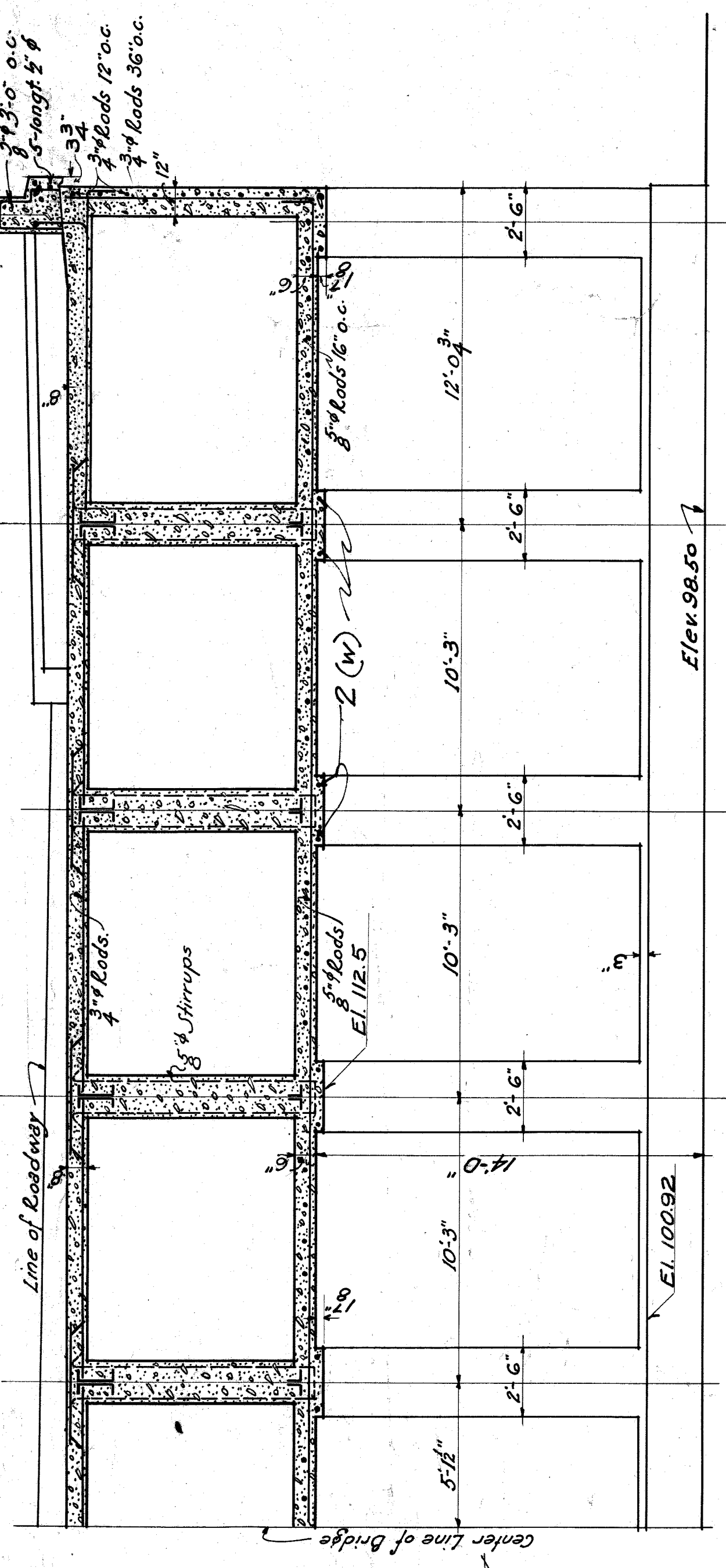
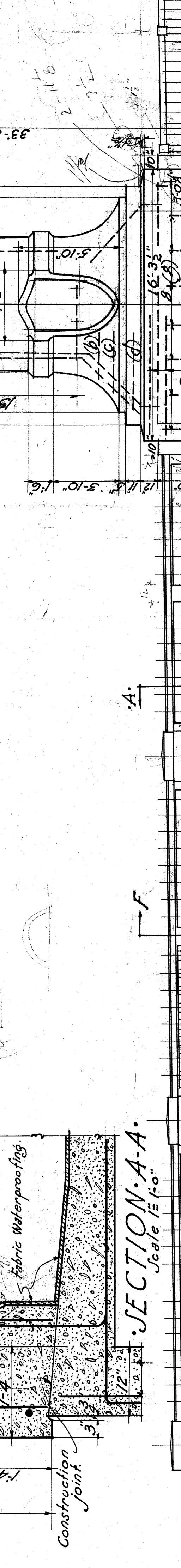
PLAN AND ELEVATION		287
CITY OF DETROIT		ENGINEERS
DEPARTMENT OF PUBLIC WORKS		LEWIS M. GRAHAM, ASSOCIATE
JOSEPH A. MARTIN, COMMISSIONER		DETROIT, MICH.
BELLE ISLE BRIDGE		
DESIGNED BY	F. J. MURPHY	
CHECKED BY	W. M. GRAHAM	
DATE	MAY 1914	
SCALE	1" = 80'	



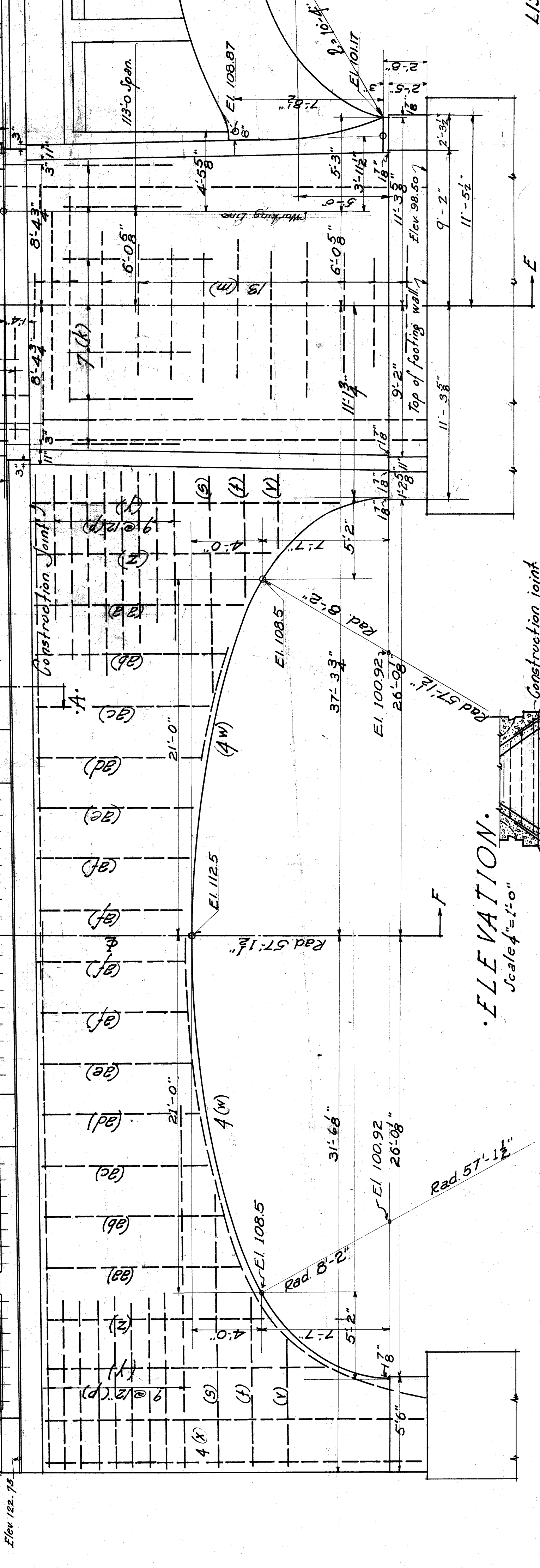
PLAN OF RAILING
Scale 1"=1'-0"



SECTION A-A
Scale 1/2"=1'-0"



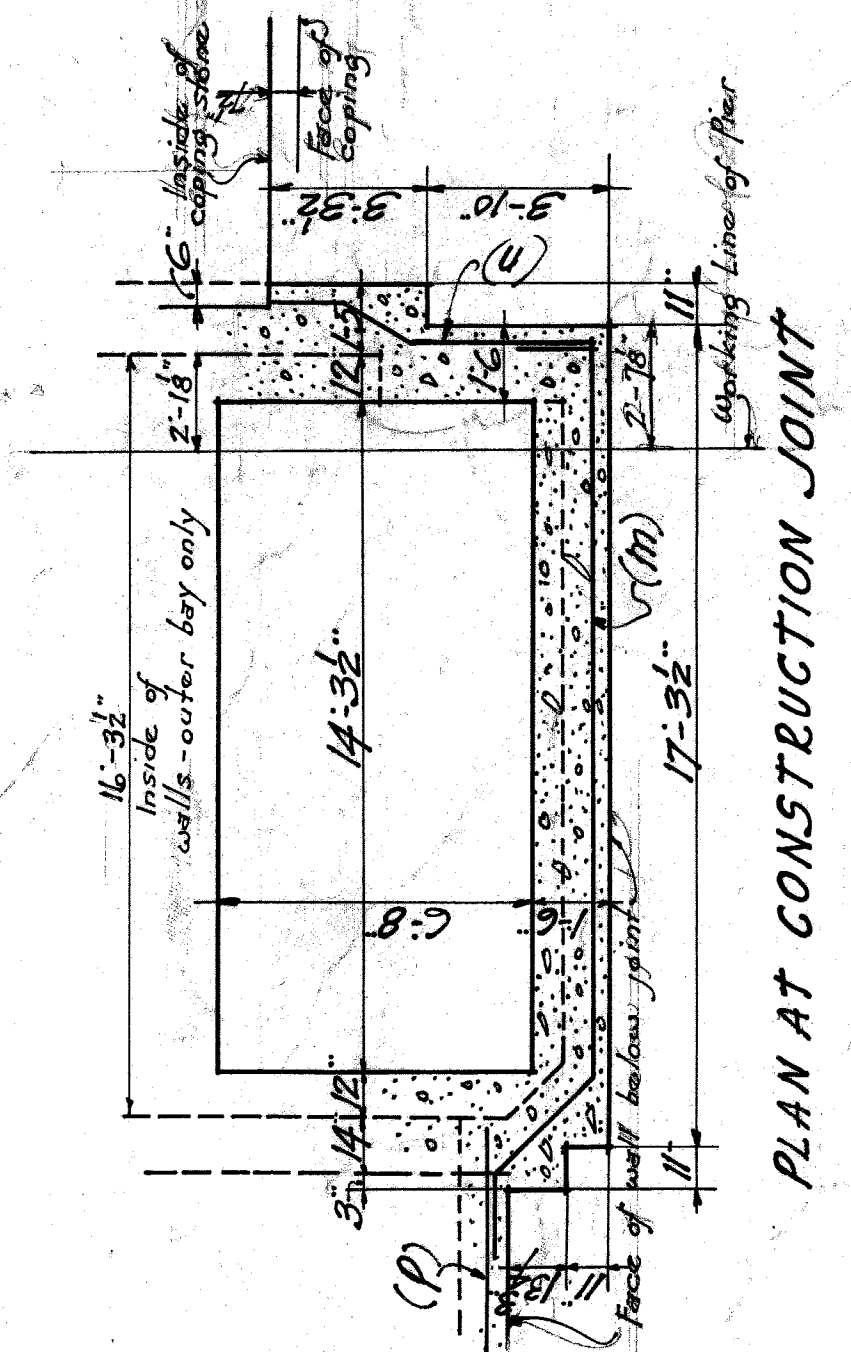
SECTION ON-LINE F-F
Scale 1"=1'-0"



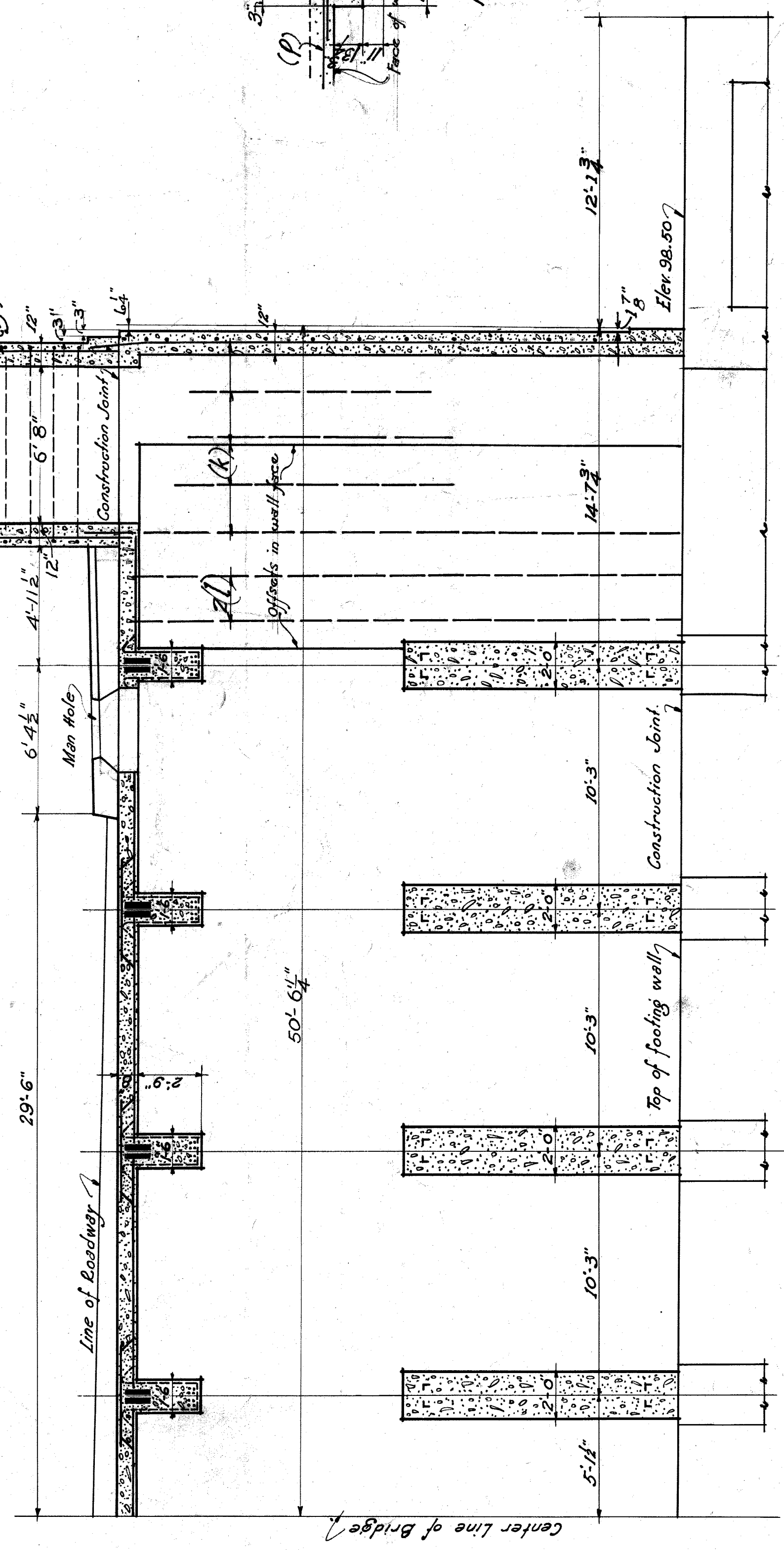
ELEVATION
Scale 1"=1'-0"

LIST OF REINFORCING MATERIALS

NO.	SIZE	LENGTH	MARK	SKETCH
32	2"	11'-3"	a	
4	4"	14'-0"	b	
4	4"	17'-0"	c	
4	4"	22'-6"	d	
8	8"	27'-0"	e	
8	8"	27'-0"	f	
44	8"	8'-6"	g	
24	24"	20'-6"	h	
22	4"	26'-0"	i	
26	3"	25'-0"	m	
26	3"	15'-0"	n	
26	3"	31'-6"	p	
4	4"	16'-0"	s	
4	4"	10'-0"	t	
4	4"	8'-0"	v	
48	3"	35'-0"	w	
8	4"	23'-0"	x	
4	4"	19'-0"	y	
4	4"	12'-0"	z	
4	4"	11'-0"	ab	
4	4"	10'-3"	ac	
4	4"	9'-0"	ad	
4	4"	8'-0"	ae	
8	8"	8'-4"	af	



PLAN AT CONSTRUCTION JOINT



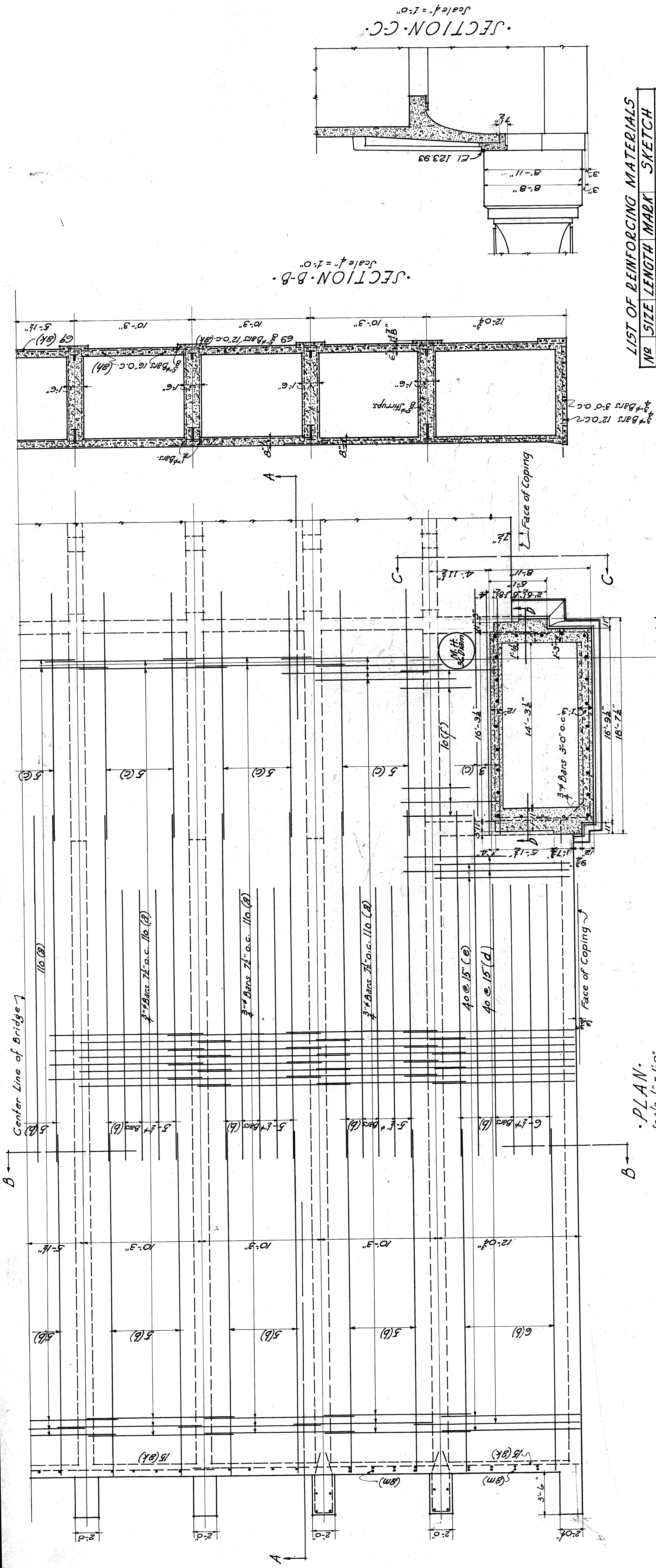
SECTION ON-LINE E-E
Scale 1"=1'-0"

ELEVATION & SECTION - NORTH SHORE SPAN -
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARTIN COMMISSIONER
BELLE ISLE BRIDGE

NOTE: RAIL PRELIMINARILY SUPERSEDED
SEE SHEET # 78

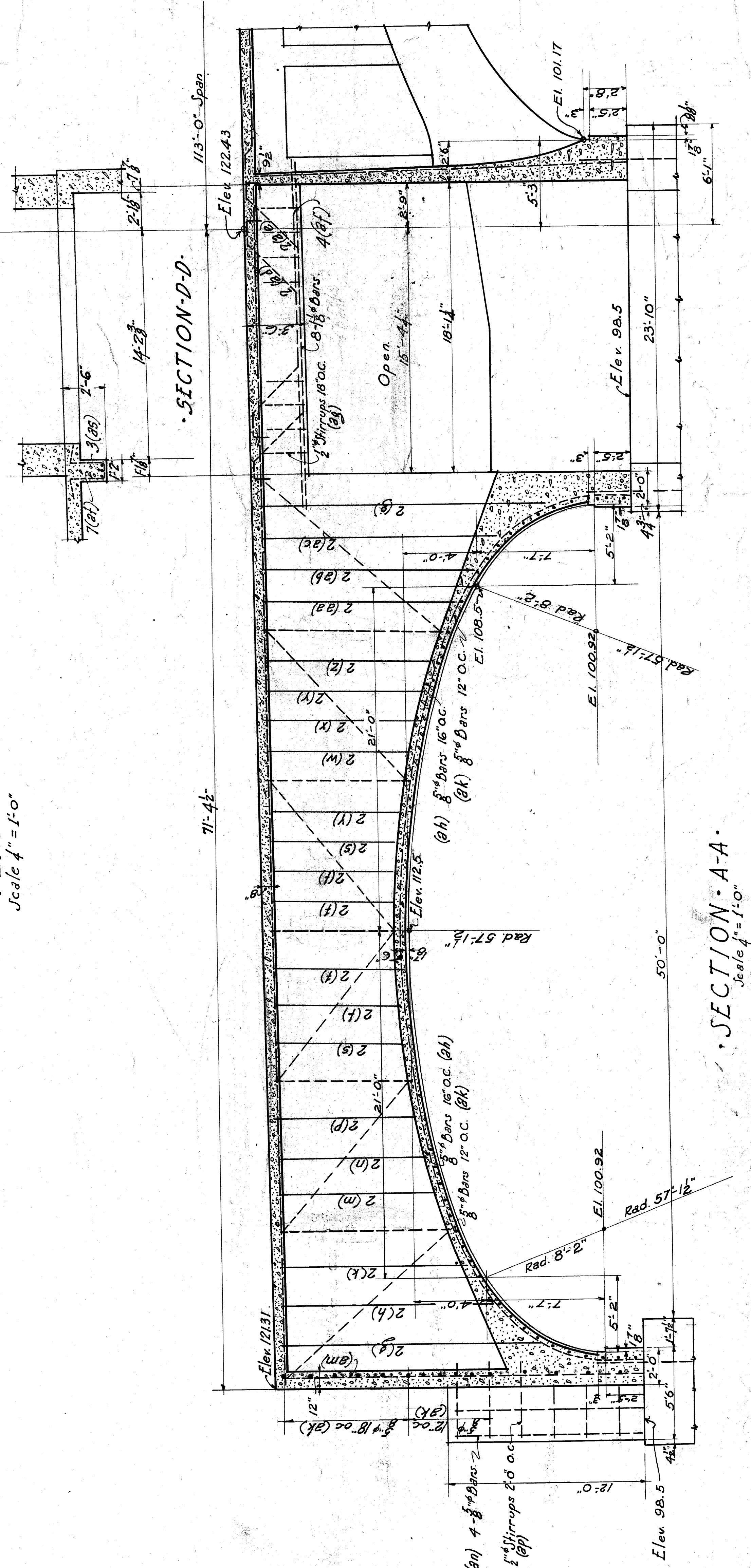
LOCATION DIAGRAM

287
EJELSTYEN-MURPHY
ENGINEERS
LEWIS M. GRAM ASSOCIATE
DETROIT, MICH.



LIST OF REINFORCING MATERIALS

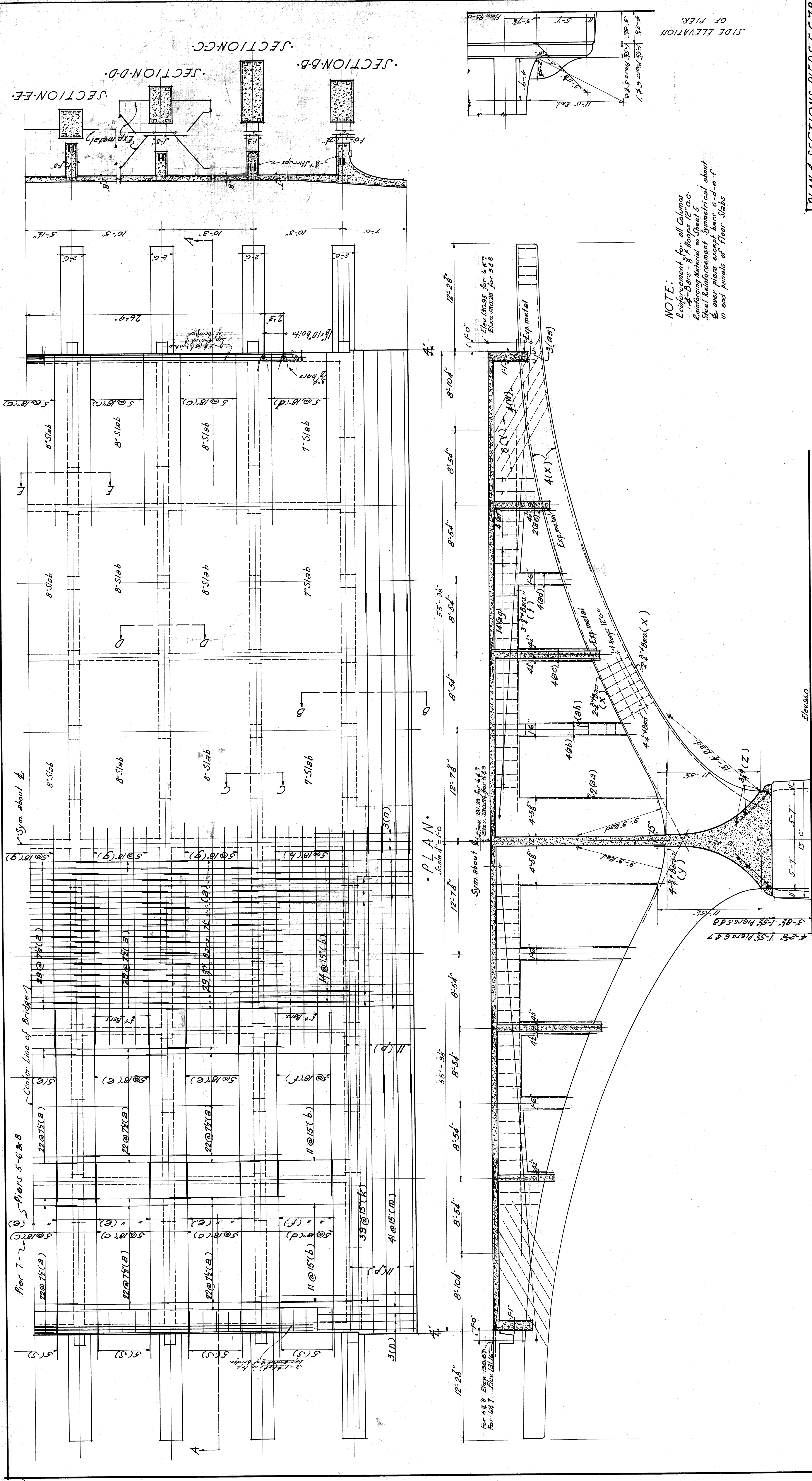
NO	SIZE	LENGTH	MARK	SKETCH
770	3/4"	13'-3"	a	4-5
771	1/2"	30'-0"	b	4-5
772	1/2"	21'-0"	c	4-5
773	3/4"	15'-0"	d	4-5
774	3/4"	13'-0"	e	4-5
775	3/4"	10'-6"	f	4-5
776	3/4"	10'-6"	g	4-5
777	3/4"	12'-0"	h	4-5
778	3/4"	14'-6"	i	4-5
779	3/4"	18'-9"	j	4-5
780	3/4"	12'-3"	k	4-5
781	3/4"	12'-3"	l	4-5
782	3/4"	11'-6"	m	4-5
783	3/4"	11'-6"	n	4-5
784	3/4"	11'-0"	o	4-5
785	3/4"	11'-0"	p	4-5
786	3/4"	11'-0"	q	4-5
787	3/4"	11'-0"	r	4-5
788	3/4"	11'-0"	s	4-5
789	3/4"	11'-0"	t	4-5
790	3/4"	11'-0"	u	4-5
791	3/4"	11'-0"	v	4-5
792	3/4"	11'-0"	w	4-5
793	3/4"	11'-0"	x	4-5
794	3/4"	11'-0"	y	4-5
795	3/4"	11'-0"	z	4-5
796	3/4"	11'-0"	aa	4-5
797	3/4"	11'-0"	ab	4-5
798	3/4"	11'-0"	ac	4-5
799	3/4"	11'-0"	ad	4-5
800	3/4"	11'-0"	ae	4-5
801	3/4"	11'-0"	af	4-5
802	3/4"	11'-0"	ag	4-5
803	3/4"	11'-0"	ah	4-5
804	3/4"	11'-0"	ai	4-5
805	3/4"	11'-0"	aj	4-5
806	3/4"	11'-0"	ak	4-5
807	3/4"	11'-0"	al	4-5
808	3/4"	11'-0"	am	4-5
809	3/4"	11'-0"	an	4-5
810	3/4"	11'-0"	ao	4-5
811	3/4"	11'-0"	ap	4-5
812	3/4"	11'-0"	aq	4-5
813	3/4"	11'-0"	ar	4-5
814	3/4"	11'-0"	as	4-5
815	3/4"	11'-0"	at	4-5



PLAN & SECTIONS NORTH SHORE SPAN-
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH & MARTIN CONSULTING
BELLE ISLE BRIDGE

ESJELTYN-MURPHY 287
ENGINEER-J
LEWIS M. GRAM ASSOCIATE
DETROIT, MICH.

DATE: 10-1-23
REF: 10-1-23



NOTE:
 Reinforcement for all Columns
 A-Bars - 8" Hoops 12" O.C.
 Reinforcing Material on Slab 5
 Steel Reinforcement Symmetrical about
 & over piers except bars c-d-e-f
 in end panels of Floor Slabs

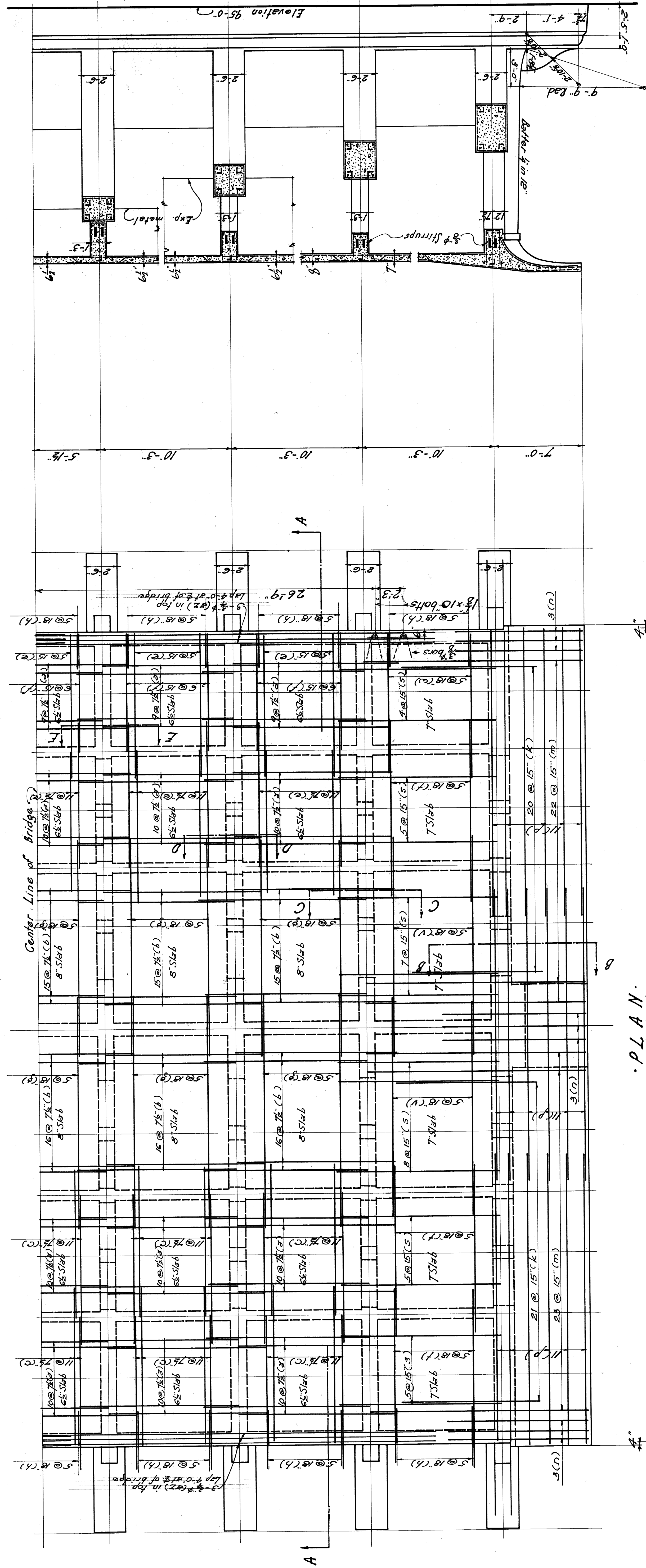
PLAN & SECTIONS - PIERS 5-6 & 8

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
 JOSEPH A. MARLIN, COMMISSIONER
BELLE ULE BRIDGE

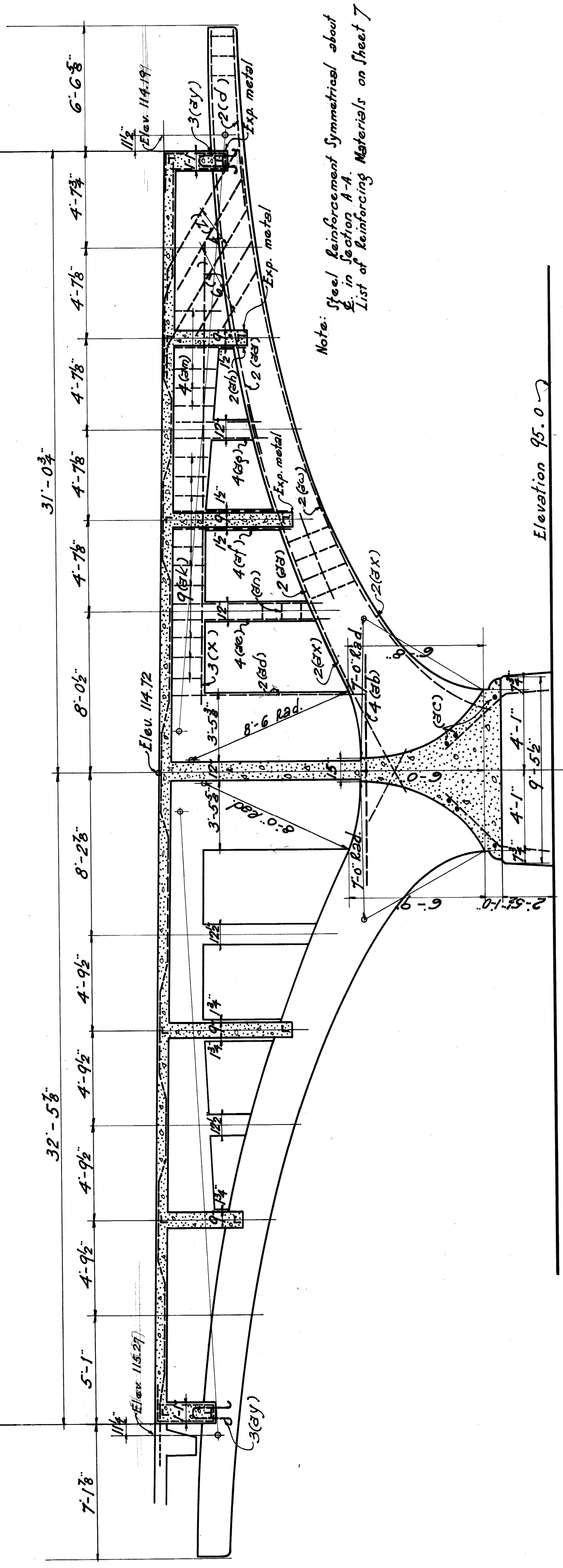
DESIGN BY	V. M. FJELLETTIN-MURPHY	287
CHECKED BY	LEWIS M. GRAM	6
DATE	MARCH 21, 1923	
ENGINEER	DETROIT, MICH.	

File 8W201-94

SECTION-B-B · SECTION-C-C · SECTION-D-D · SECTION-E-E ·
Scale 1/4" = 1'-0"

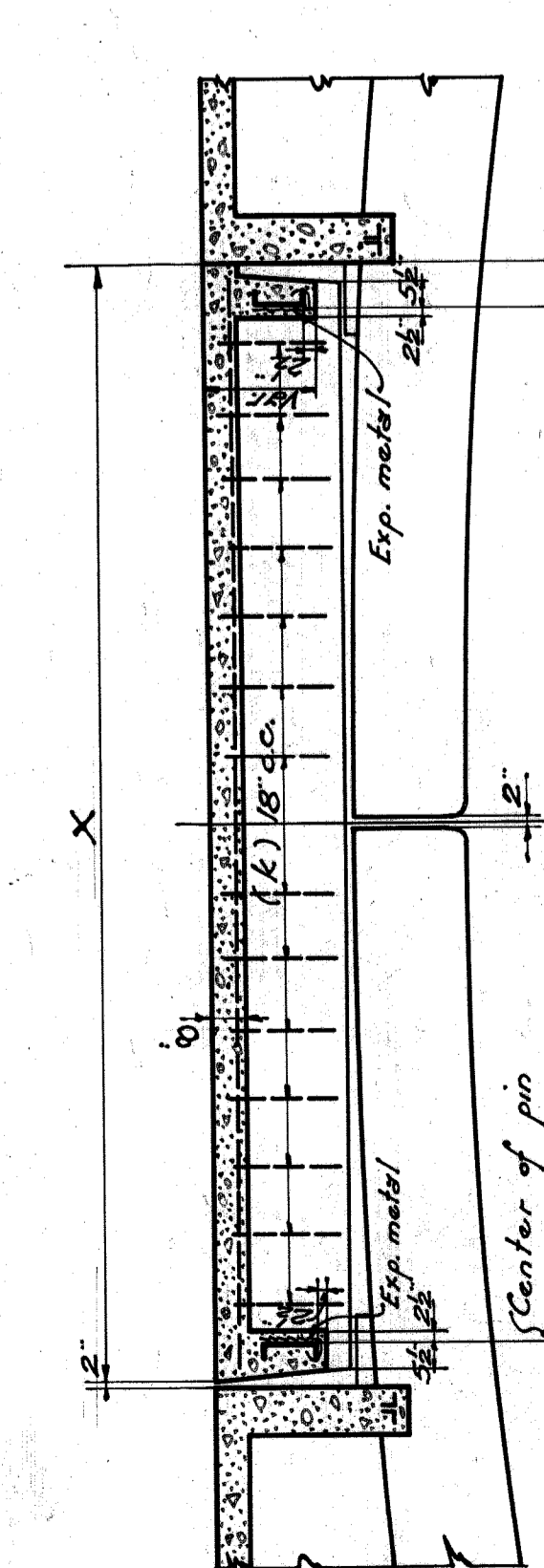


· PLAN ·
Scale 1/4" = 1'-0"

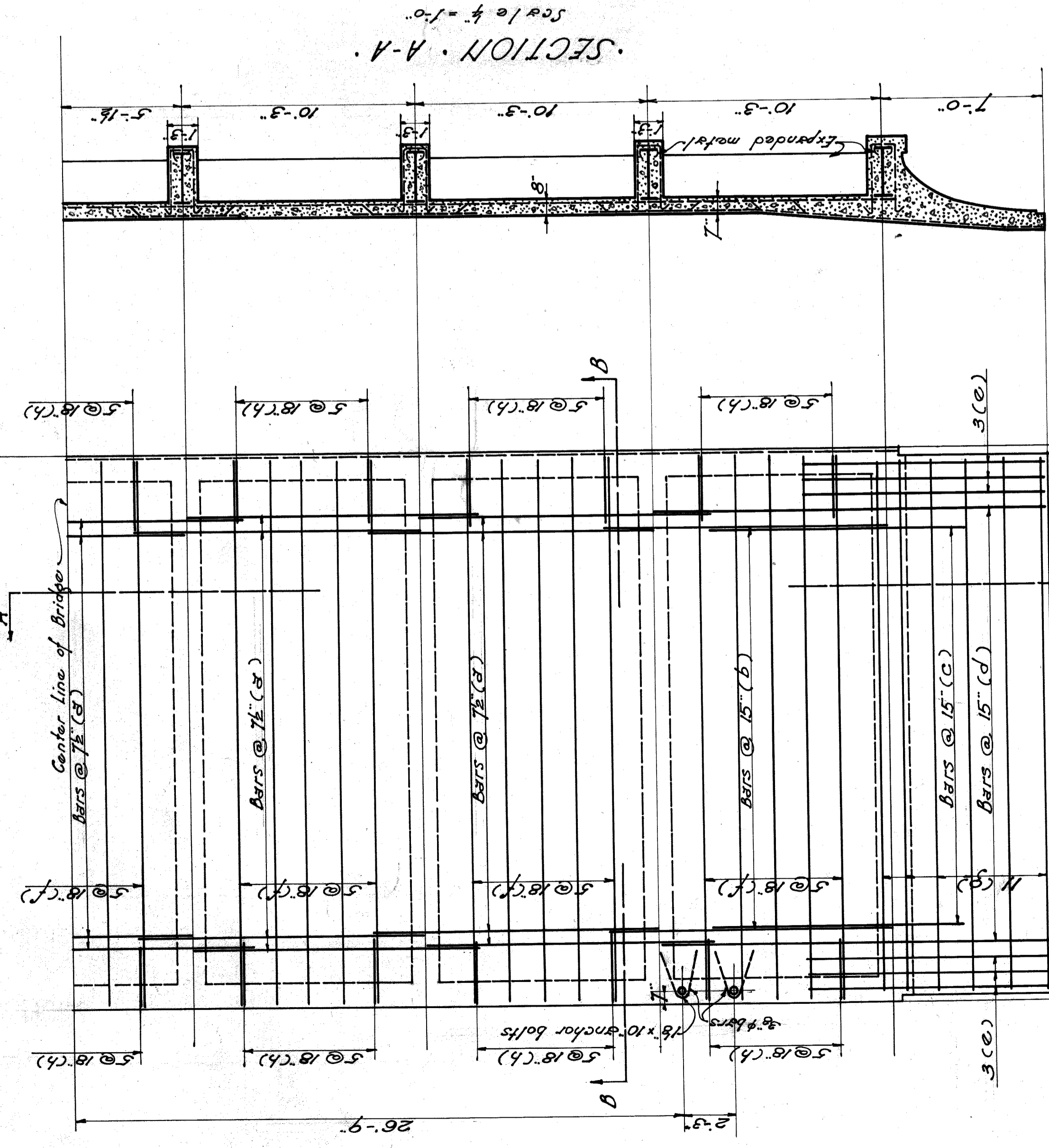


· SECTION · A-A ·
Scale 1/4" = 1'-0"

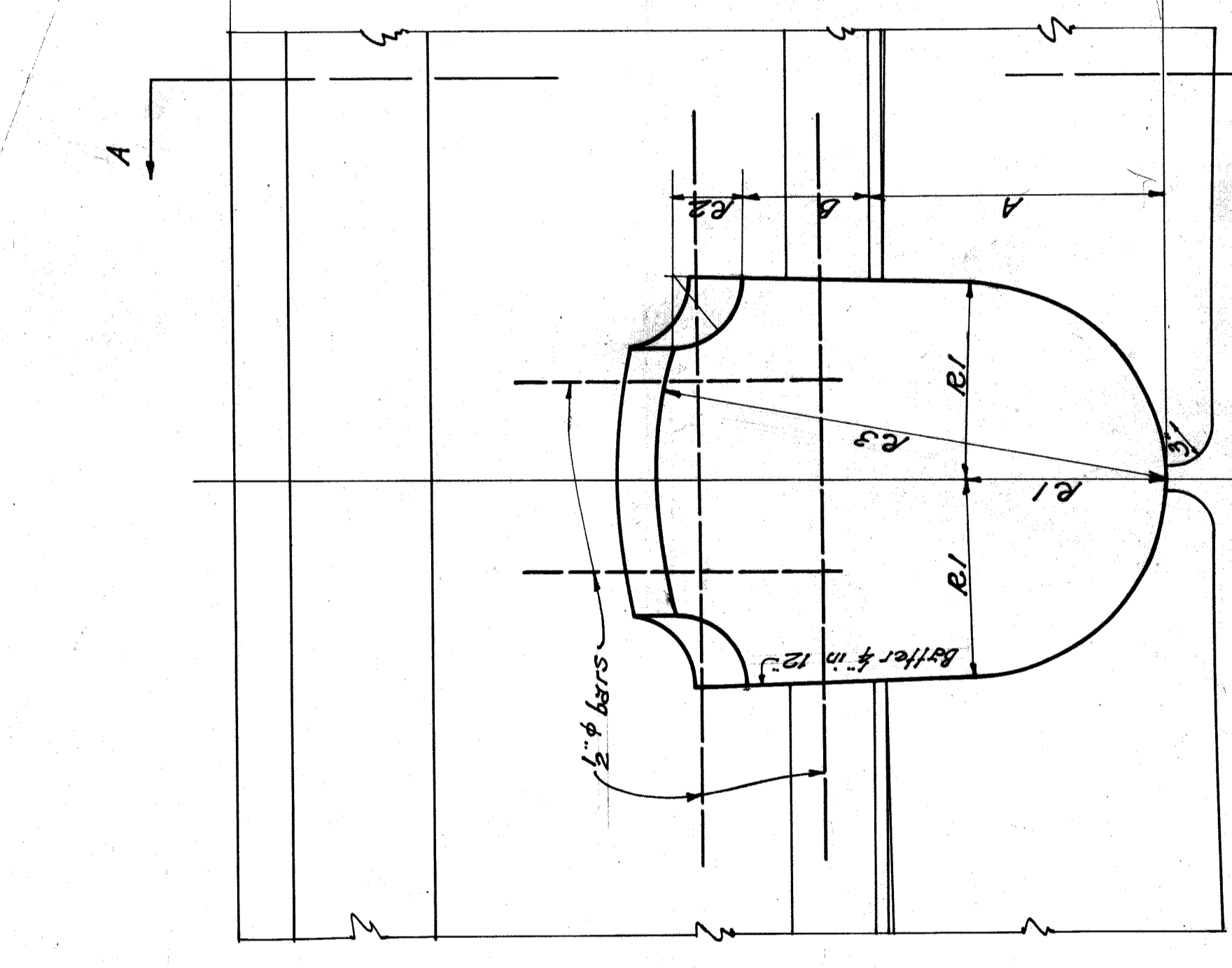
PLAN · C · SECTIONS · PIER · 18 ·	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH · A · MARTIN · COMMISSIONER ·	
BELLE ISLE BRIDGE	
DESIGNED BY · E · F ·	ESSELSTYNN · MURPHY
DRAWN BY · A · B ·	ENGINEERS ·
CHECKED BY · J · W ·	LEWIS · M · GRAM · ASSOCIATE
DATE · 11/21/21	DETROIT · MICH ·
REV · 1 · R · 2 ·	
287	8



SECTION B-B
Scale 1/4" = 1'-0"



PLAN
Scale 1/4" = 1'-0"



ELEVATION
Scale 1/4" = 1'-0"

SCHEDULE OF SHIELD

SPANS	A	B	R1	R2	R3	R4
(1-2) (1-3)	10	2'-2"	10 1/2"	1'-5 1/2"	6 1/2"	5'-0"
(3-4) (9-10)	4	2'-1 1/2"	10"	1'-4 1/2"	6 1/2"	4'-9"
(2-3) (10-11)	4	2'-1"	9 1/2"	1'-4"	6"	4'-6"
(1-2) (11-12)	4	2'-0"	9 1/4"	1'-3 1/2"	5 1/2"	4'-3"
(0-1) (12-13)	4	1'-11"	8 3/4"	1'-2 1/2"	5 1/4"	4'-0"
(14-15)	2	1'-8 3/4"	8"	1'-1"	5"	3'-9"
(15-16)	2	1'-7 1/2"	7 3/4"	1'-0 1/2"	4 1/2"	3'-3"
(16-17)	2	1'-6 1/2"	7 1/4"	11 1/2"	4 1/2"	3'-0"
(17-18)	2	1'-5"	7"	10 3/4"	4 1/2"	2'-9"
(18-19)	2	1'-4"	6 3/4"	10"	4"	2'-6"

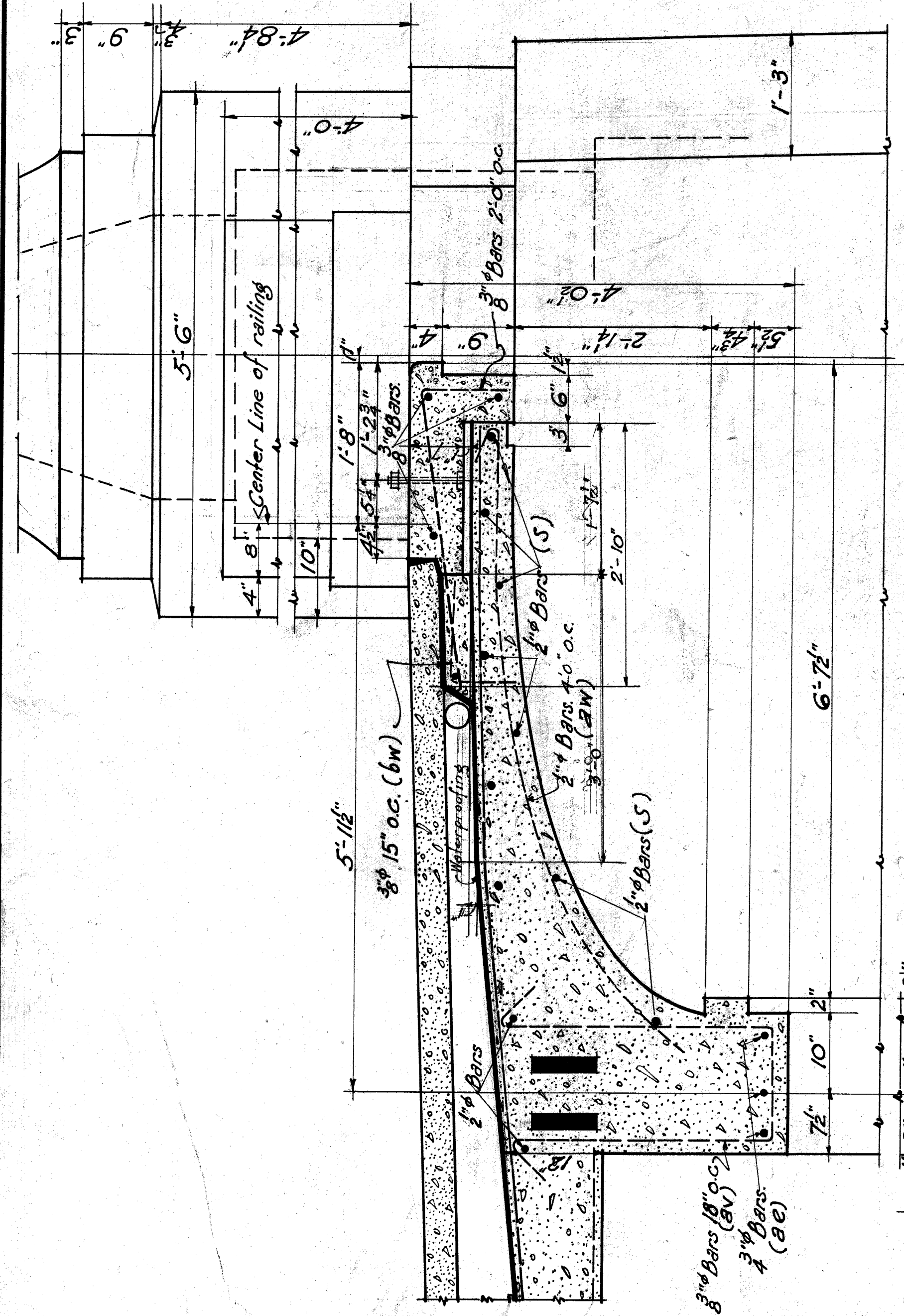
DETAIL OF SHIELD

LIST OF REINFORCING MATERIALS

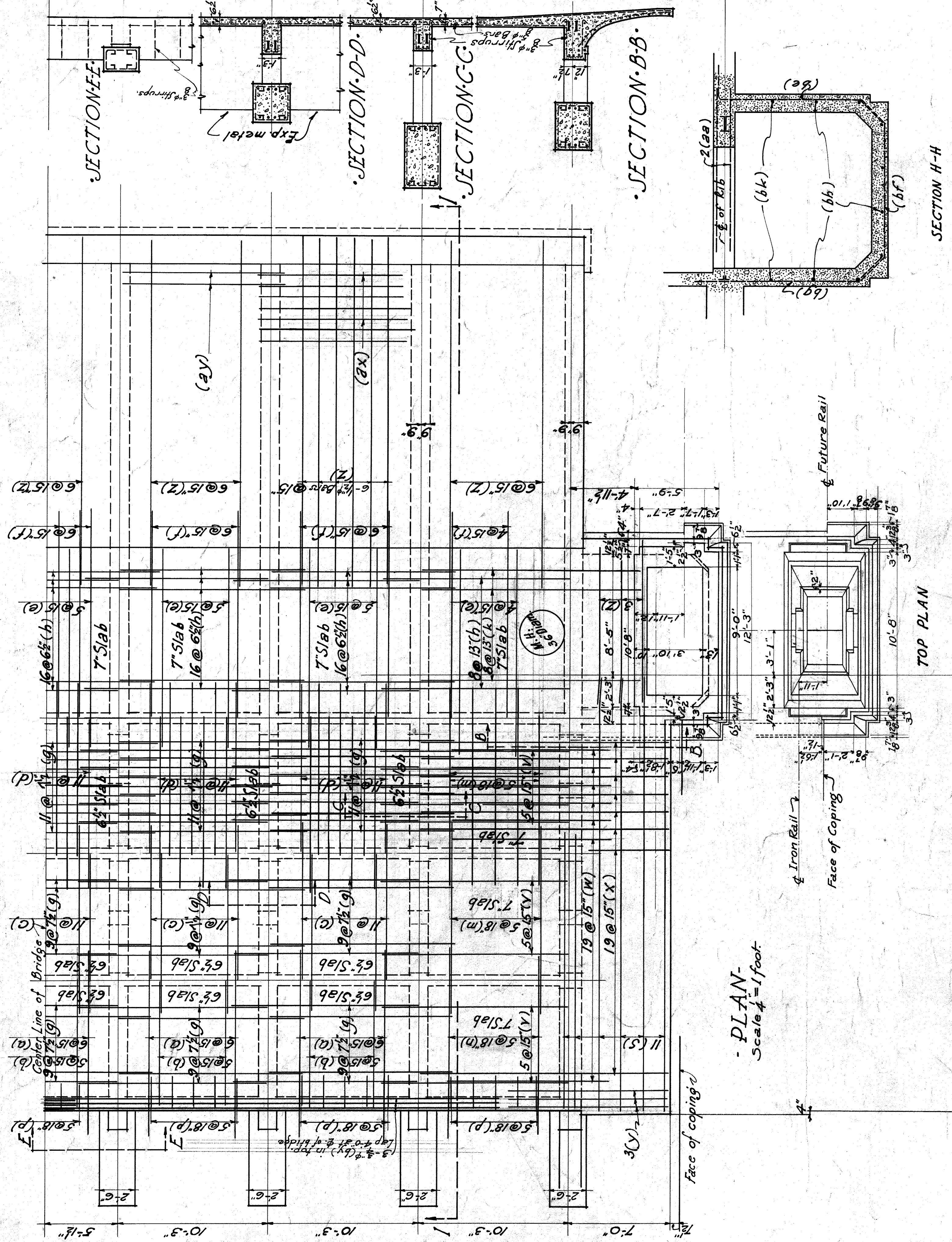
NO OF SPAN	LENGTH	NO OF SPAN	LENGTH	NO OF SPAN	LENGTH	BAR SCHEDULE		Sketch	MARK	NO OF SPAN	LENGTH	NO OF SPAN	LENGTH	BAR SCHEDULE		Sketch	MARK
						Wt. per ft.	Wt. per ft.							Wt. per ft.	Wt. per ft.		
5	4-5	1	16-17	1	16-17	15'-5"	17	6 1/2"	13'-3"	8	4-7	15'-5"	8	4-7	15'-5"	8	4-7
	5-6	2	12-13	2	12-13	20'-3"	12	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	6-7	1	13-14	1	13-14	19'-0"	12	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	7-8	1	14-15	1	14-15	17'-9"	13	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	8-9	1	15-16	1	15-16	16'-7"	14	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
2	3-4	1	17-18	1	17-18	14'-3"	14	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	9-10	2	18-19	2	18-19	12'-11 1/2"	15	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
2	2-3	1	19-20	1	19-20	13'-3"	15	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	10-11	1	20-21	1	20-21	12'-5"	16	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	11-12	1	21-22	1	21-22	11'-6"	17	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	12-13	1	22-23	1	22-23	10'-7"	18	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	13-14	1	23-24	1	23-24	9'-8"	19	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	14-15	1	24-25	1	24-25	8'-9"	20	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	15-16	1	25-26	1	25-26	7'-10"	21	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	16-17	1	26-27	1	26-27	6'-10"	22	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	17-18	1	27-28	1	27-28	5'-11"	23	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	18-19	1	28-29	1	28-29	4'-11"	24	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	19-20	1	29-30	1	29-30	3'-11"	25	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	20-21	1	30-31	1	30-31	2'-11"	26	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	21-22	1	31-32	1	31-32	1'-11"	27	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	22-23	1	32-33	1	32-33	1'-0"	28	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	23-24	1	33-34	1	33-34	11'-6"	29	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	24-25	1	34-35	1	34-35	11'-6"	30	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	25-26	1	35-36	1	35-36	11'-6"	31	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	26-27	1	36-37	1	36-37	11'-6"	32	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	27-28	1	37-38	1	37-38	11'-6"	33	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	28-29	1	38-39	1	38-39	11'-6"	34	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	29-30	1	39-40	1	39-40	11'-6"	35	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	30-31	1	40-41	1	40-41	11'-6"	36	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	31-32	1	41-42	1	41-42	11'-6"	37	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	32-33	1	42-43	1	42-43	11'-6"	38	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	33-34	1	43-44	1	43-44	11'-6"	39	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	34-35	1	44-45	1	44-45	11'-6"	40	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	35-36	1	45-46	1	45-46	11'-6"	41	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	36-37	1	46-47	1	46-47	11'-6"	42	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	37-38	1	47-48	1	47-48	11'-6"	43	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	38-39	1	48-49	1	48-49	11'-6"	44	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	39-40	1	49-50	1	49-50	11'-6"	45	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	40-41	1	50-51	1	50-51	11'-6"	46	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	41-42	1	51-52	1	51-52	11'-6"	47	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	42-43	1	52-53	1	52-53	11'-6"	48	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	43-44	1	53-54	1	53-54	11'-6"	49	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	44-45	1	54-55	1	54-55	11'-6"	50	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	45-46	1	55-56	1	55-56	11'-6"	51	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	46-47	1	56-57	1	56-57	11'-6"	52	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	47-48	1	57-58	1	57-58	11'-6"	53	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	48-49	1	58-59	1	58-59	11'-6"	54	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	49-50	1	59-60	1	59-60	11'-6"	55	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	50-51	1	60-61	1	60-61	11'-6"	56	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	51-52	1	61-62	1	61-62	11'-6"	57	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	52-53	1	62-63	1	62-63	11'-6"	58	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	53-54	1	63-64	1	63-64	11'-6"	59	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	54-55	1	64-65	1	64-65	11'-6"	60	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	55-56	1	65-66	1	65-66	11'-6"	61	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	56-57	1	66-67	1	66-67	11'-6"	62	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	57-58	1	67-68	1	67-68	11'-6"	63	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	58-59	1	68-69	1	68-69	11'-6"	64	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	59-60	1	69-70	1	69-70	11'-6"	65	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	60-61	1	70-71	1	70-71	11'-6"	66	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	61-62	1	71-72	1	71-72	11'-6"	67	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	62-63	1	72-73	1	72-73	11'-6"	68	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	63-64	1	73-74	1	73-74	11'-6"	69	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	64-65	1	74-75	1	74-75	11'-6"	70	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	65-66	1	75-76	1	75-76	11'-6"	71	4 1/2"	11'-6"	6	4-7	15'-5"	6	4-7	15'-5"	6	4-7
	66-67	1	76-77	1	76-												

LIST OF REINFORCING MATERIALS

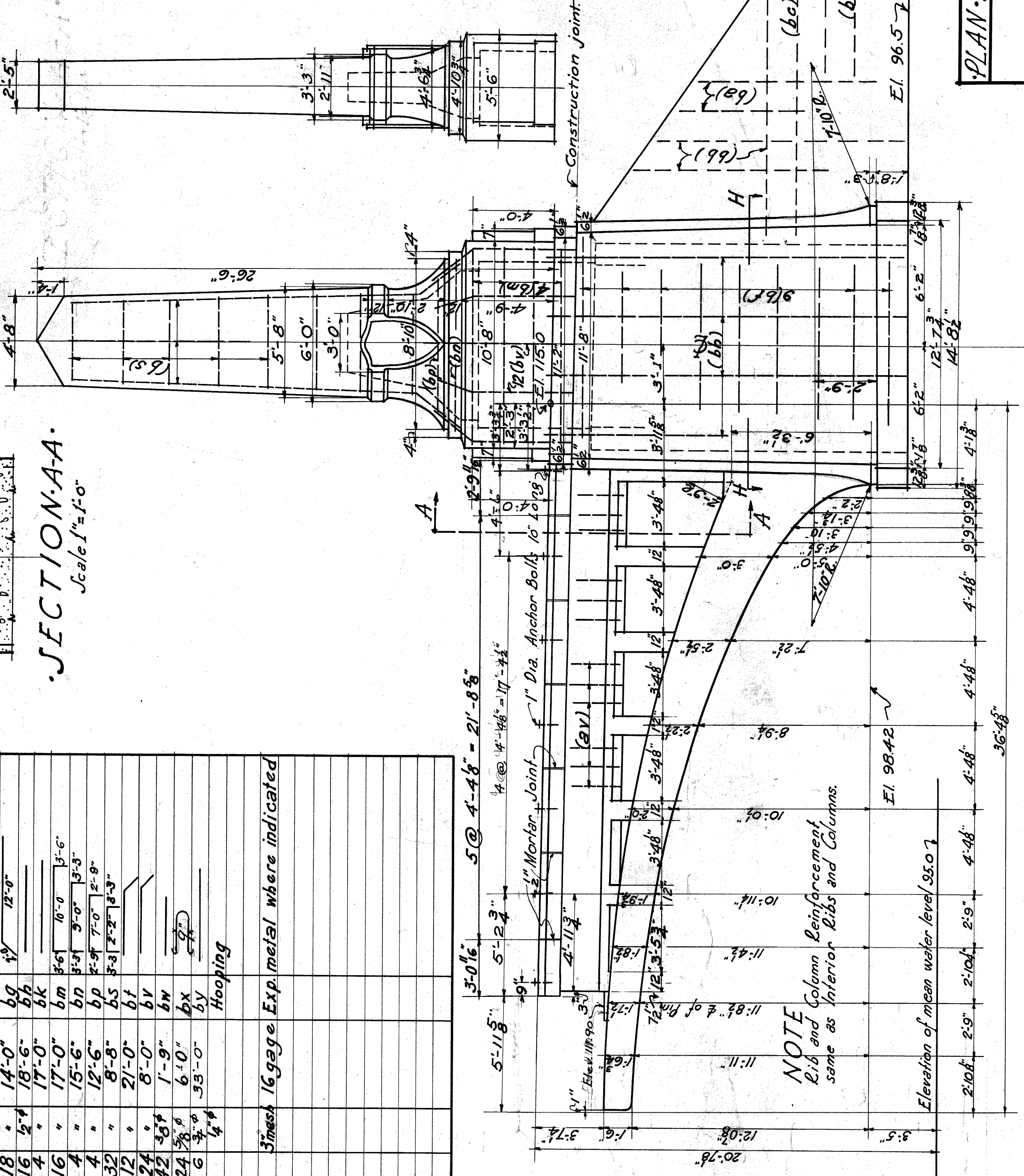
NO.	SIZE	LENGTH	MARK	QUANTITY	SCALE	REMARKS
1	3/8"	13'-3"	C	1	13'-3"	6 3/8"
2	3/8"	10'-9"	C	1	10'-9"	6 3/8"
3	3/8"	11'-6"	C	1	11'-6"	6 3/8"
4	3/8"	14'-3"	C	1	14'-3"	6 3/8"
5	3/8"	13'-9"	C	1	13'-9"	6 3/8"
6	3/8"	13'-0"	C	1	13'-0"	6 3/8"
7	3/8"	15'-0"	C	1	15'-0"	6 3/8"
8	3/8"	12'-6"	C	1	12'-6"	6 3/8"
9	3/8"	13'-0"	C	1	13'-0"	6 3/8"
10	3/8"	15'-0"	C	1	15'-0"	6 3/8"
11	3/8"	13'-0"	C	1	13'-0"	6 3/8"
12	3/8"	15'-0"	C	1	15'-0"	6 3/8"
13	3/8"	13'-0"	C	1	13'-0"	6 3/8"
14	3/8"	15'-0"	C	1	15'-0"	6 3/8"
15	3/8"	13'-0"	C	1	13'-0"	6 3/8"
16	3/8"	15'-0"	C	1	15'-0"	6 3/8"
17	3/8"	13'-0"	C	1	13'-0"	6 3/8"
18	3/8"	15'-0"	C	1	15'-0"	6 3/8"
19	3/8"	13'-0"	C	1	13'-0"	6 3/8"
20	3/8"	15'-0"	C	1	15'-0"	6 3/8"
21	3/8"	13'-0"	C	1	13'-0"	6 3/8"
22	3/8"	15'-0"	C	1	15'-0"	6 3/8"
23	3/8"	13'-0"	C	1	13'-0"	6 3/8"
24	3/8"	15'-0"	C	1	15'-0"	6 3/8"
25	3/8"	13'-0"	C	1	13'-0"	6 3/8"
26	3/8"	15'-0"	C	1	15'-0"	6 3/8"
27	3/8"	13'-0"	C	1	13'-0"	6 3/8"
28	3/8"	15'-0"	C	1	15'-0"	6 3/8"
29	3/8"	13'-0"	C	1	13'-0"	6 3/8"
30	3/8"	15'-0"	C	1	15'-0"	6 3/8"
31	3/8"	13'-0"	C	1	13'-0"	6 3/8"
32	3/8"	15'-0"	C	1	15'-0"	6 3/8"
33	3/8"	13'-0"	C	1	13'-0"	6 3/8"
34	3/8"	15'-0"	C	1	15'-0"	6 3/8"
35	3/8"	13'-0"	C	1	13'-0"	6 3/8"
36	3/8"	15'-0"	C	1	15'-0"	6 3/8"
37	3/8"	13'-0"	C	1	13'-0"	6 3/8"
38	3/8"	15'-0"	C	1	15'-0"	6 3/8"
39	3/8"	13'-0"	C	1	13'-0"	6 3/8"
40	3/8"	15'-0"	C	1	15'-0"	6 3/8"
41	3/8"	13'-0"	C	1	13'-0"	6 3/8"
42	3/8"	15'-0"	C	1	15'-0"	6 3/8"
43	3/8"	13'-0"	C	1	13'-0"	6 3/8"
44	3/8"	15'-0"	C	1	15'-0"	6 3/8"
45	3/8"	13'-0"	C	1	13'-0"	6 3/8"
46	3/8"	15'-0"	C	1	15'-0"	6 3/8"
47	3/8"	13'-0"	C	1	13'-0"	6 3/8"
48	3/8"	15'-0"	C	1	15'-0"	6 3/8"
49	3/8"	13'-0"	C	1	13'-0"	6 3/8"
50	3/8"	15'-0"	C	1	15'-0"	6 3/8"
51	3/8"	13'-0"	C	1	13'-0"	6 3/8"
52	3/8"	15'-0"	C	1	15'-0"	6 3/8"
53	3/8"	13'-0"	C	1	13'-0"	6 3/8"
54	3/8"	15'-0"	C	1	15'-0"	6 3/8"
55	3/8"	13'-0"	C	1	13'-0"	6 3/8"
56	3/8"	15'-0"	C	1	15'-0"	6 3/8"
57	3/8"	13'-0"	C	1	13'-0"	6 3/8"
58	3/8"	15'-0"	C	1	15'-0"	6 3/8"
59	3/8"	13'-0"	C	1	13'-0"	6 3/8"
60	3/8"	15'-0"	C	1	15'-0"	6 3/8"
61	3/8"	13'-0"	C	1	13'-0"	6 3/8"
62	3/8"	15'-0"	C	1	15'-0"	6 3/8"
63	3/8"	13'-0"	C	1	13'-0"	6 3/8"
64	3/8"	15'-0"	C	1	15'-0"	6 3/8"
65	3/8"	13'-0"	C	1	13'-0"	6 3/8"
66	3/8"	15'-0"	C	1	15'-0"	6 3/8"
67	3/8"	13'-0"	C	1	13'-0"	6 3/8"
68	3/8"	15'-0"	C	1	15'-0"	6 3/8"
69	3/8"	13'-0"	C	1	13'-0"	6 3/8"
70	3/8"	15'-0"	C	1	15'-0"	6 3/8"
71	3/8"	13'-0"	C	1	13'-0"	6 3/8"
72	3/8"	15'-0"	C	1	15'-0"	6 3/8"
73	3/8"	13'-0"	C	1	13'-0"	6 3/8"
74	3/8"	15'-0"	C	1	15'-0"	6 3/8"
75	3/8"	13'-0"	C	1	13'-0"	6 3/8"
76	3/8"	15'-0"	C	1	15'-0"	6 3/8"
77	3/8"	13'-0"	C	1	13'-0"	6 3/8"
78	3/8"	15'-0"	C	1	15'-0"	6 3/8"
79	3/8"	13'-0"	C	1	13'-0"	6 3/8"
80	3/8"	15'-0"	C	1	15'-0"	6 3/8"
81	3/8"	13'-0"	C	1	13'-0"	6 3/8"
82	3/8"	15'-0"	C	1	15'-0"	6 3/8"
83	3/8"	13'-0"	C	1	13'-0"	6 3/8"
84	3/8"	15'-0"	C	1	15'-0"	6 3/8"
85	3/8"	13'-0"	C	1	13'-0"	6 3/8"
86	3/8"	15'-0"	C	1	15'-0"	6 3/8"
87	3/8"	13'-0"	C	1	13'-0"	6 3/8"
88	3/8"	15'-0"	C	1	15'-0"	6 3/8"
89	3/8"	13'-0"	C	1	13'-0"	6 3/8"
90	3/8"	15'-0"	C	1	15'-0"	6 3/8"
91	3/8"	13'-0"	C	1	13'-0"	6 3/8"
92	3/8"	15'-0"	C	1	15'-0"	6 3/8"
93	3/8"	13'-0"	C	1	13'-0"	6 3/8"
94	3/8"	15'-0"	C	1	15'-0"	6 3/8"
95	3/8"	13'-0"	C	1	13'-0"	6 3/8"
96	3/8"	15'-0"	C	1	15'-0"	6 3/8"
97	3/8"	13'-0"	C	1	13'-0"	6 3/8"
98	3/8"	15'-0"	C	1	15'-0"	6 3/8"
99	3/8"	13'-0"	C	1	13'-0"	6 3/8"
100	3/8"	15'-0"	C	1	15'-0"	6 3/8"



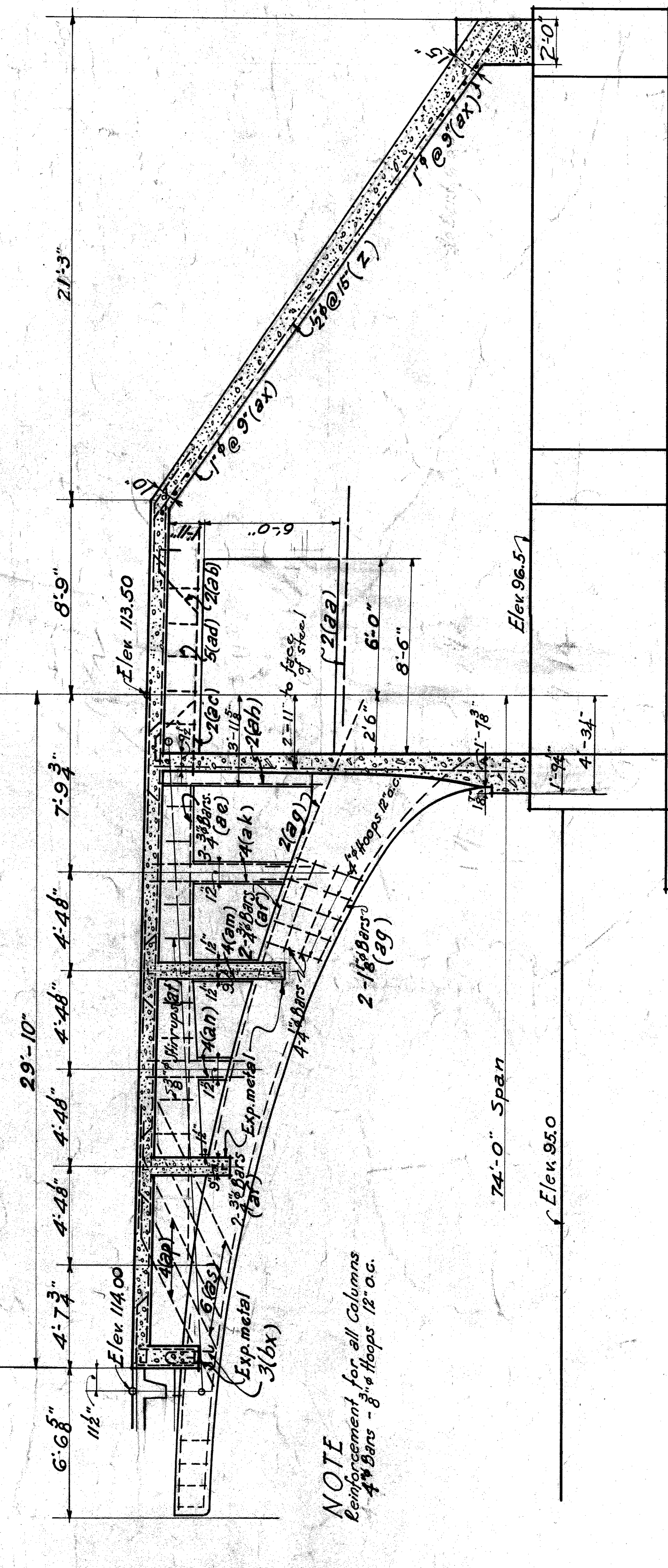
SECTION-A-A
Scale 1/4"=1'-0"



PLAN
Scale 1/4"=1'-0"



SECTION H-H
Scale 1/4"=1'-0"



SECTION A-A-1
Scale 1/4"=1'-0"

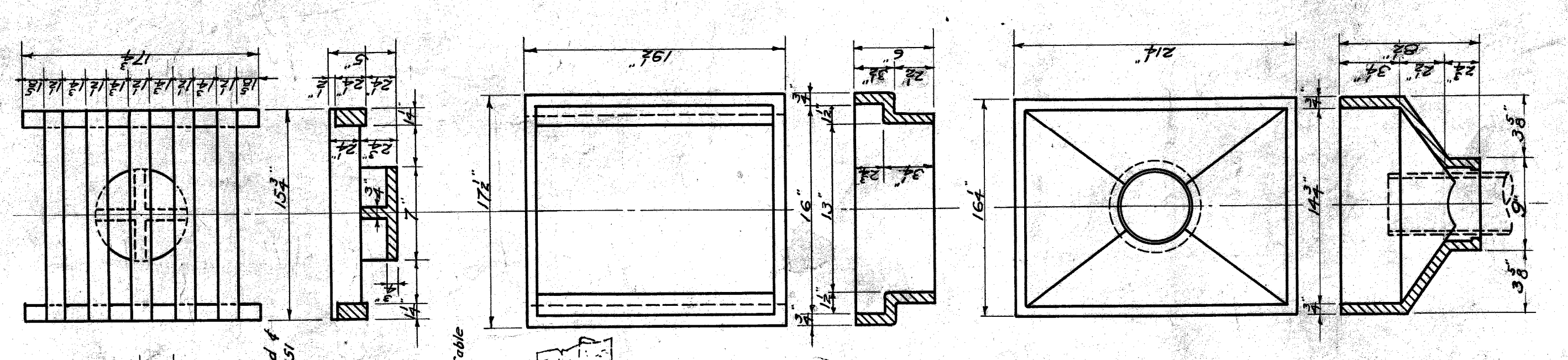
PLAN SECTIONS & DETAILS - S-ABUT.
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARTIN COMMISSIONER
BELLE ISLE BRIDGE

F. WELTYM-MURPHY
ENGINEERS
LEWIS M. BRADY, ASSOCIATE
DETROIT, MICH.
287
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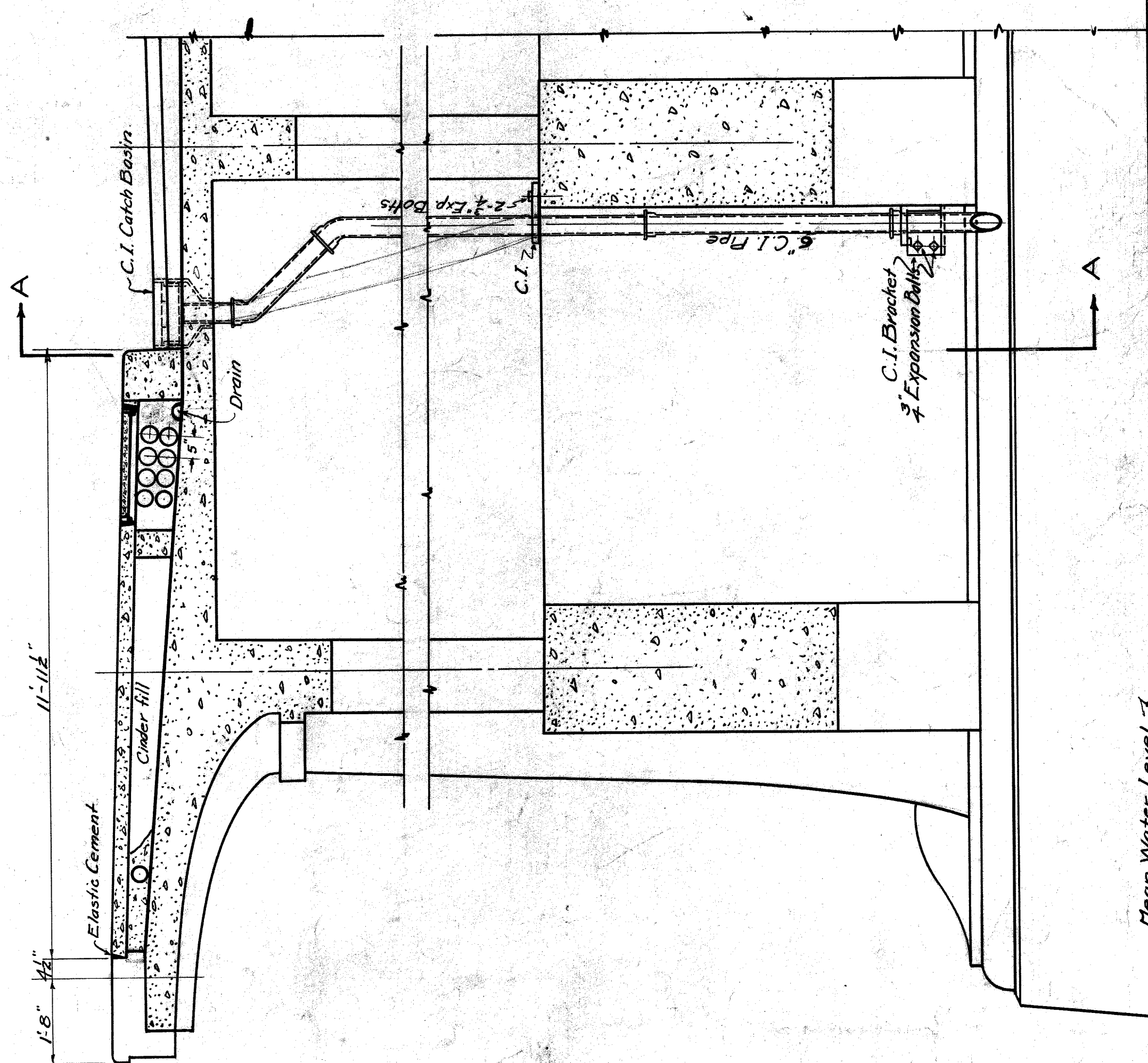
NOTE: RAIL PARTIALLY SUPERSEDED
SEE SHEET #78

WEST ELEVATION
Scale 1/4"=1'-0"

DETAILS OF CAST IRON CATCH BASIN
Scale 1/2" = 1'-0"



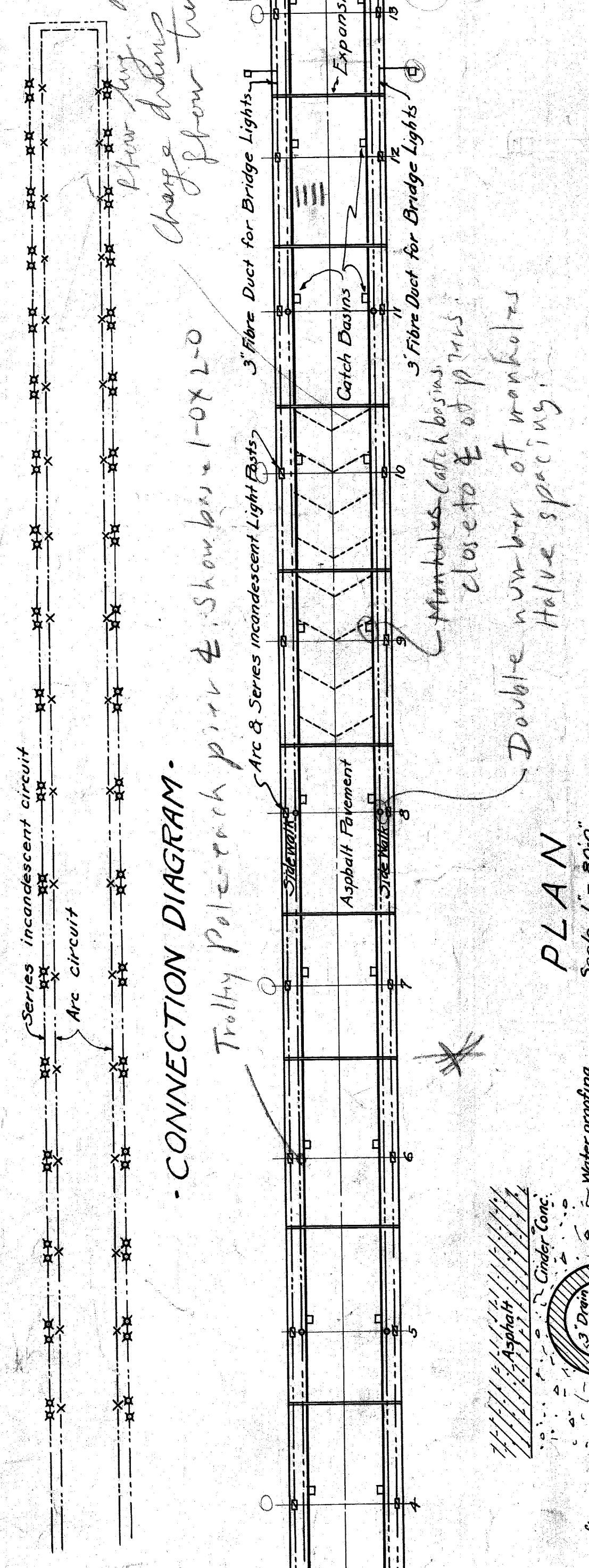
FRONT ELEVATION & SECTION OF LAMP POST BASE
Scale 1" = 1'-0"



PAVING PLAN - DRAINAGE DETAILS - ELECTRIC CONDUITS	
CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS JOSEPH A. MARTIN, COMMISSIONER	
BELLE ISLE BRIDGE	
DR. BY G. W. MURPHY	287
REV. BY G. W. MURPHY	ENGINEERS
CH. BY THORNTON	LOUIS M. GRAY, ASSOCIATE
DATE MAR 21 1912	DETROIT, MICH.
REV. BY G. W. MURPHY	

File BW 287-99

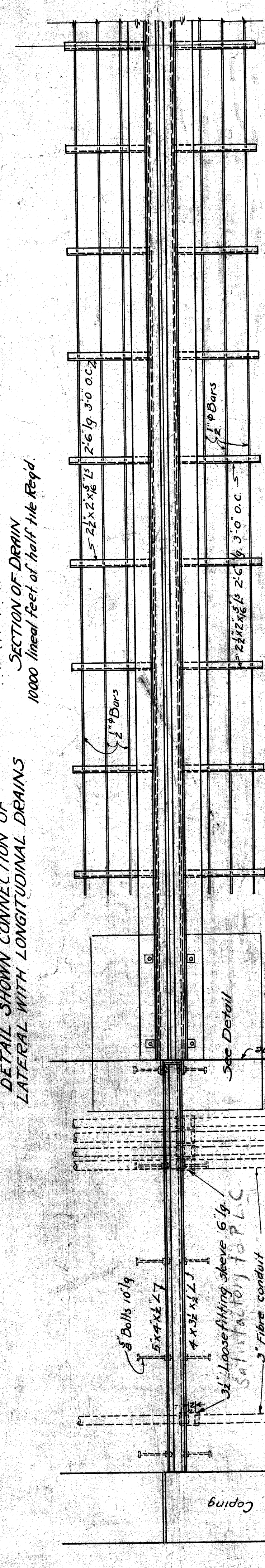
Flow post. Wains 1'-9" back of curbs.
Change string to wire from trucks.
Change tracks 6'-0" & 9'-6" from E. Corb.



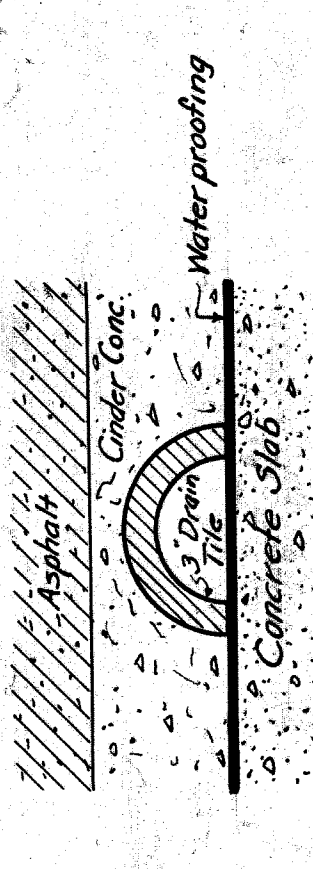
CONNECTION DIAGRAM

Double number of manholes
closets & of pipes

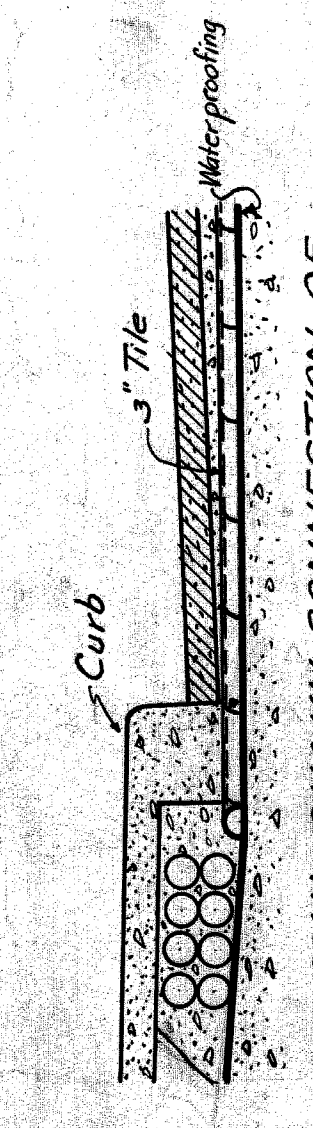
PLAN
Scale 1" = 50'-0"



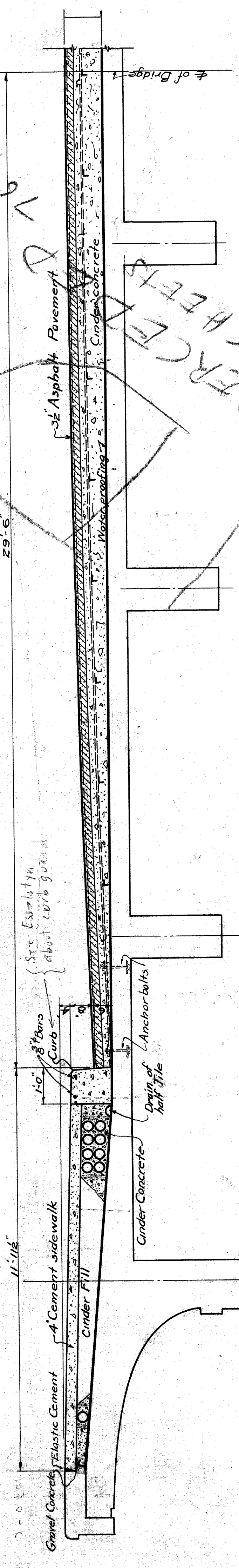
PLAN SHOWING EXPANSION JOINT
Scale 1/2" = 1'-0"



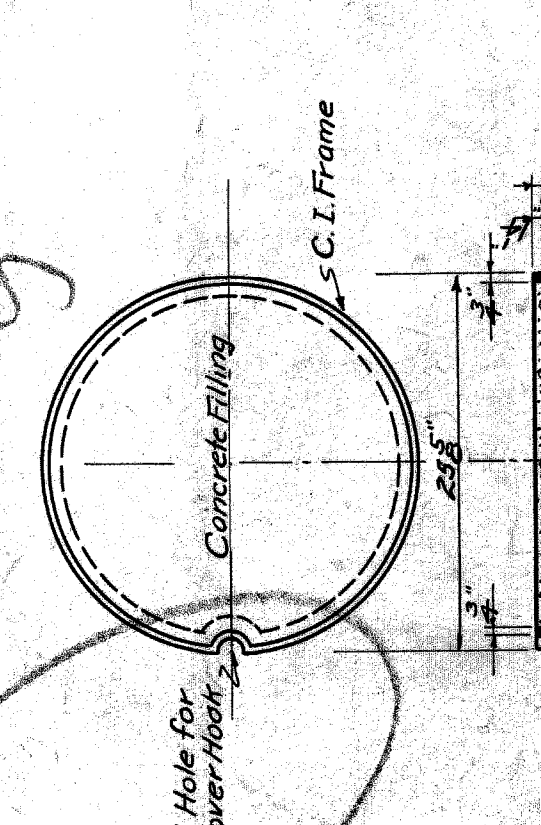
SECTION OF DRAIN
1000' linear feet of half the Road



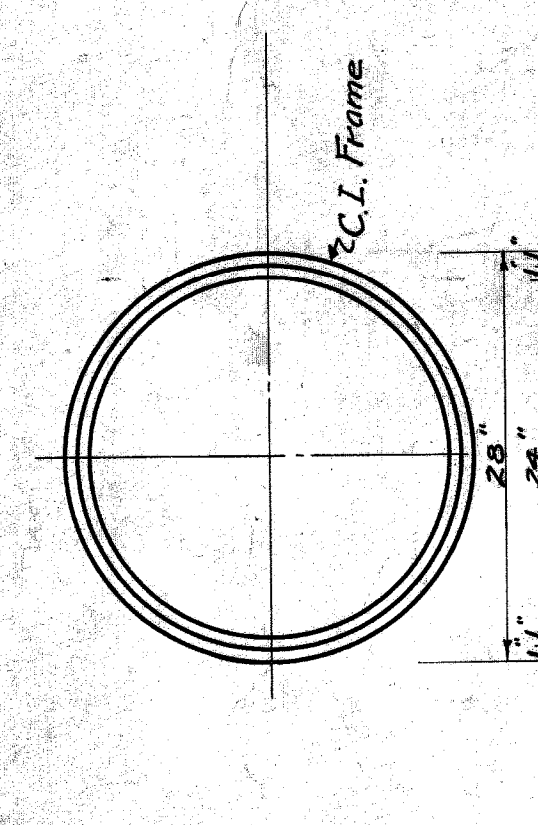
DETAIL SHOWN CONNECTION OF LATERAL WITH LONGITUDINAL DRAINS



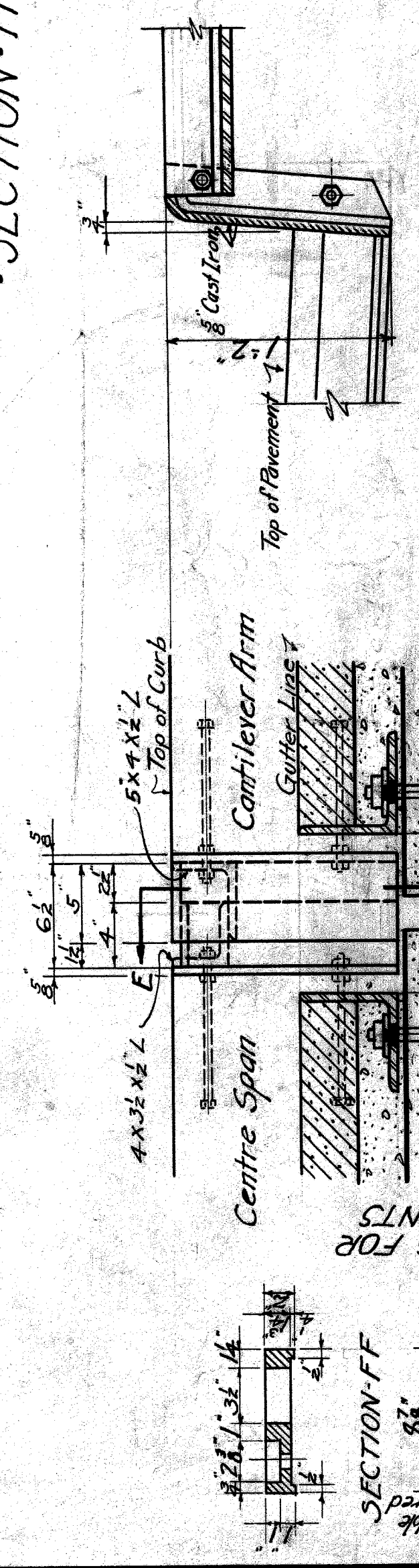
SECTION THRO ROADWAY & SIDEWALK ON BRIDGE
Scale 1/2" = 1'-0"



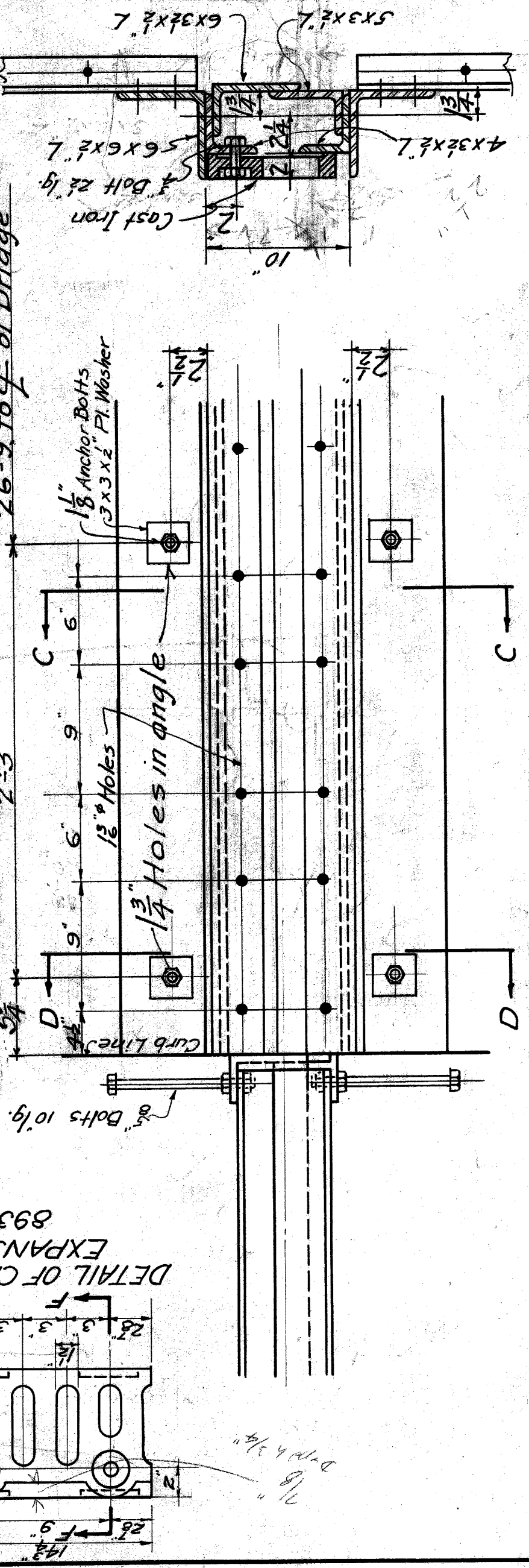
SIDEWALK MANHOLE COVER



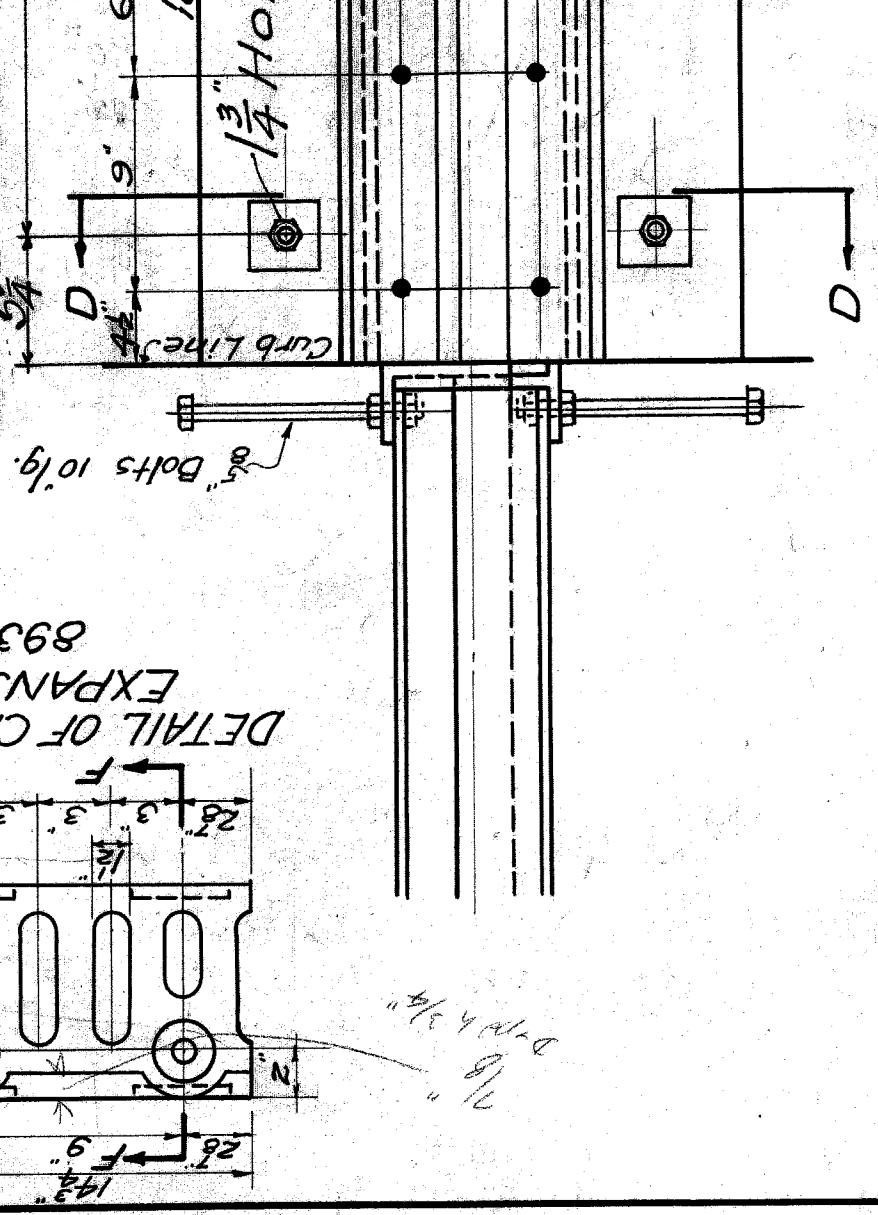
SIDEWALK MANHOLE FRAME



DETAIL OF EXPANSION JOINT AT CURB
Scale 1/2" = 1'-0"

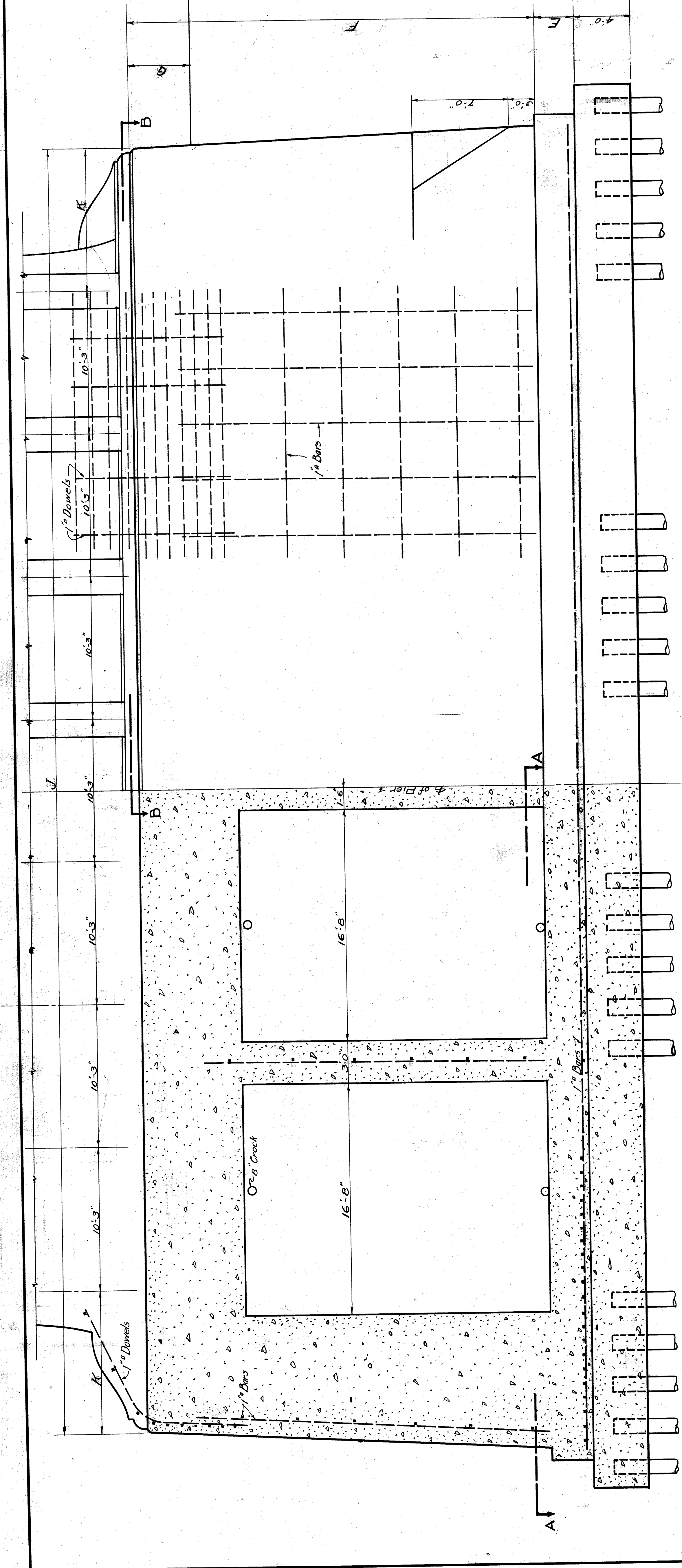


SECTION E-E
26'-9" to 4' of Bridge

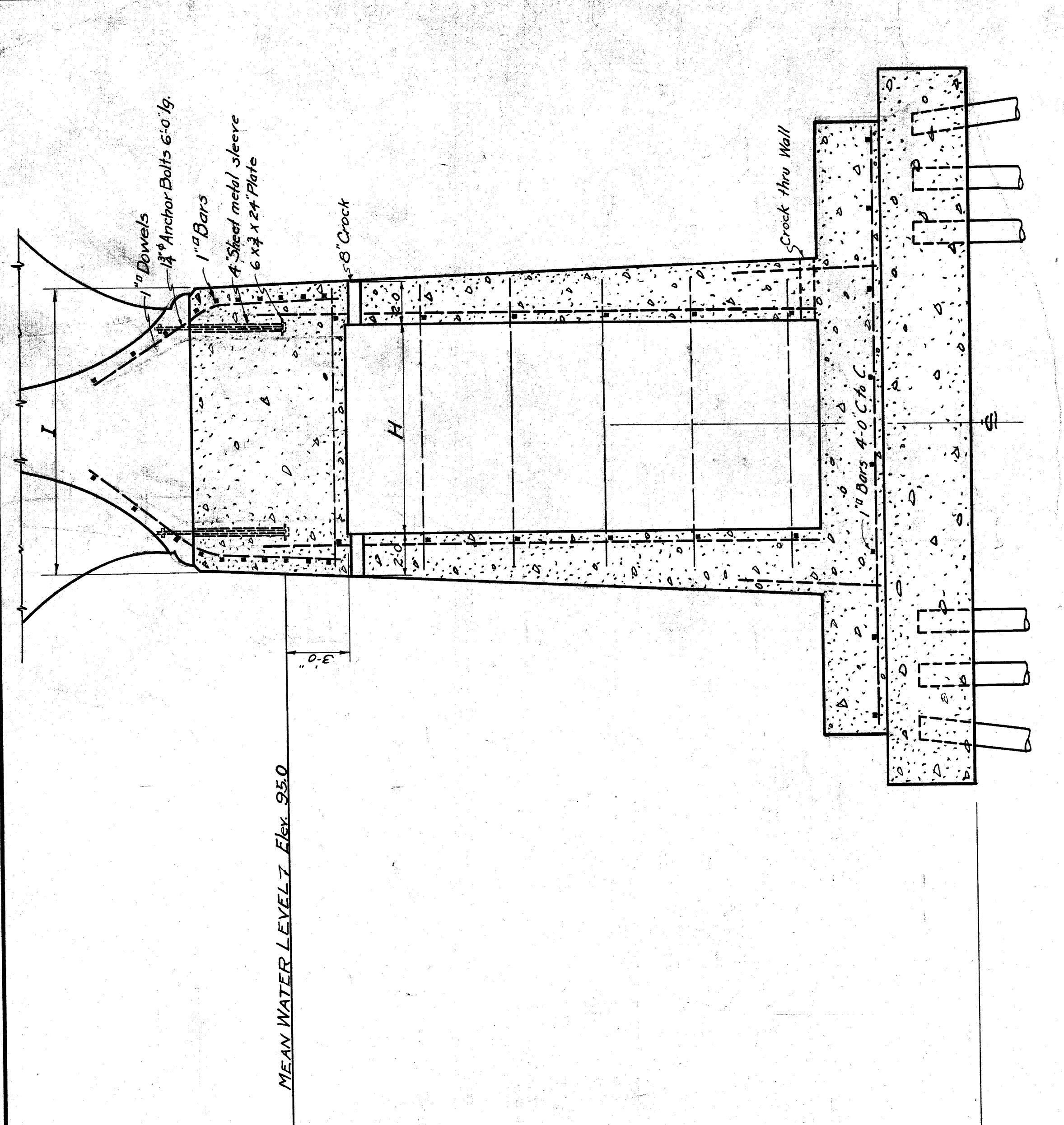


SECTION D-D
893 ROAD

DETAIL OF EXPANSION JOINT AT CURB
Scale 1/2" = 1'-0"

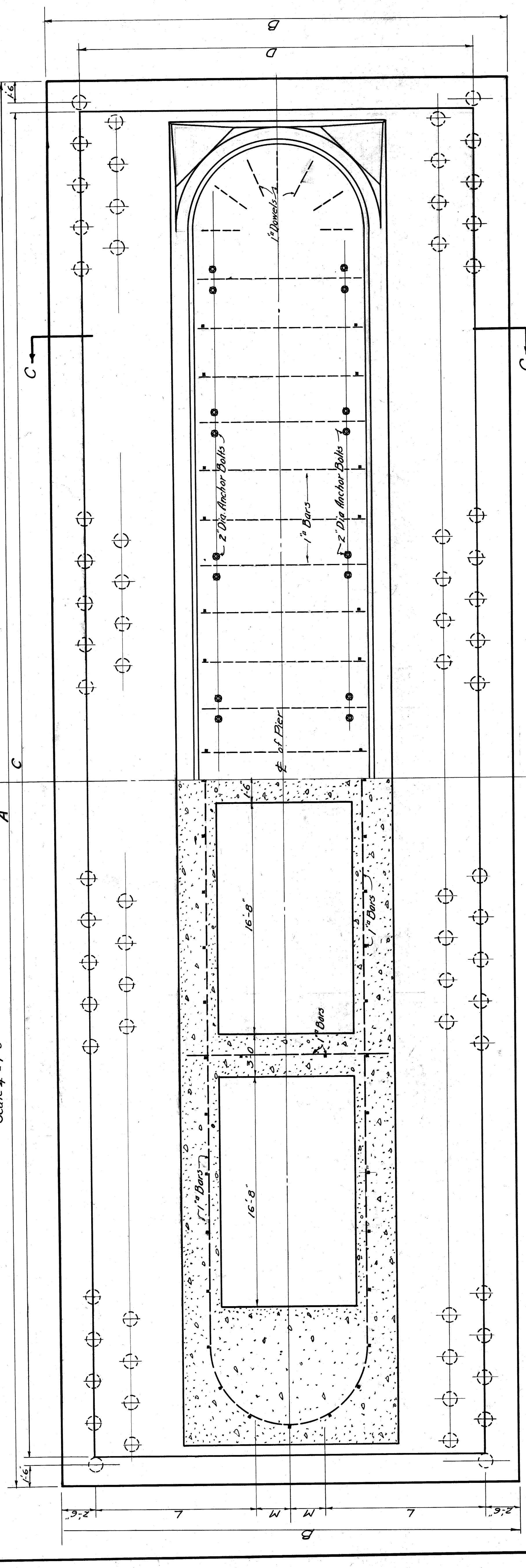


• HALF SECTION THRU PIER •
Scale 1/4" = 1'-0"

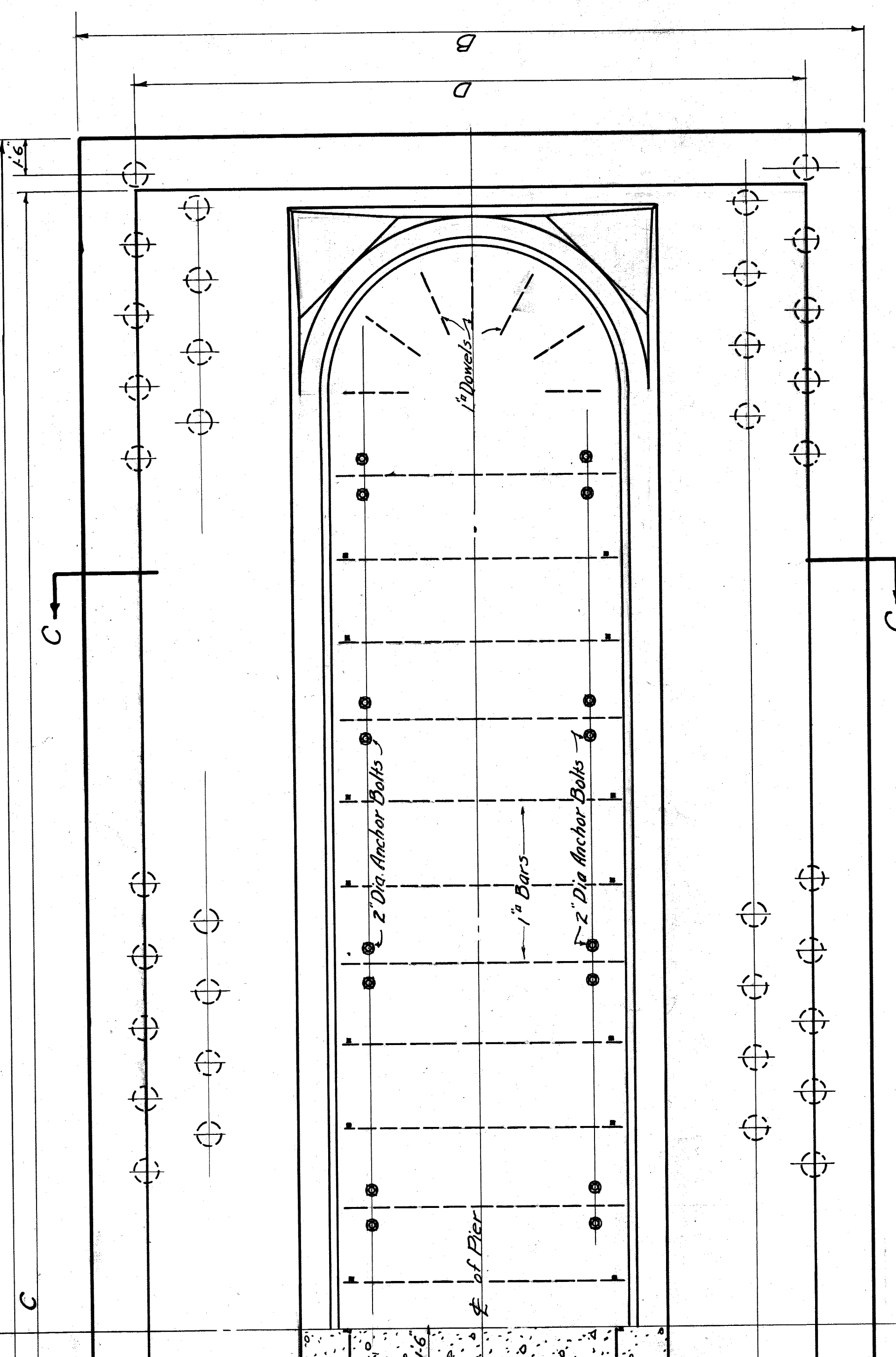


• SECTION C-C •
Scale 1/4" = 1'-0"

• HALF ELEVATION OF PIER •
Scale 1/4" = 1'-0"



• PLAN A-A •



• PLAN B-B •

• SCHEDULE FOR PIERS •

PIER No.	PIERS																		STEEL IN FOOTING	
	A	B	C	D	E	F	G	H	I	J	K	L	M	FORM AREA	TRANSVERSE LONGITUDINAL					
1	96'-0"	27'-6"	94'-0"	23'-0"	3'-0"	28'-0"	3'-0"	7'-0"	11'-4"	89'-4"	8'-8"	10'-0"	48'-2"	1'-3"	14'-10"	1'-0"	14'-0"	1'-0"	306	14'-10"
2	99'-0"	27'-6"	94'-6"	23'-0"	3'-0"	28'-2"	3'-2"	8'-2"	11'-8"	90'-0"	9'-1"	10'-0"	48'-2"	1'-3"	14'-11"	1'-0"	14'-0"	1'-0"	325	14'-11"
3	97'-6"	30'-0"	93'-6"	25'-6"	3'-3"	28'-3"	3'-3"	8'-9"	12'-3"	90'-9"	9'-6"	10'-0"	48'-2"	1'-3"	14'-9"	1'-0"	14'-0"	1'-0"	332	14'-9"
4	102'-0"	30'-0"	97'-6"	25'-6"	3'-3"	28'-3"	3'-3"	9'-2"	12'-8"	91'-6"	9'-6"	10'-0"	48'-2"	1'-3"	14'-11"	1'-0"	14'-0"	1'-0"	369	14'-11"
5-8	99'-0"	32'-6"	97'-0"	28'-0"	3'-6"	28'-7"	3'-7"	9'-6"	13'-0"	92'-0"	10'-8"	10'-8"	50'-6"	1'-3"	14'-10"	1'-0"	14'-0"	1'-0"	390	14'-10"
6-7	99'-0"	32'-6"	97'-0"	28'-0"	3'-6"	29'-0"	4'-0"	9'-7"	13'-0"	92'-0"	10'-8"	10'-8"	50'-6"	1'-3"	14'-10"	1'-0"	14'-0"	1'-0"	390	14'-10"
9	99'-0"	30'-0"	95'-6"	25'-6"	3'-3"	24'-5"	3'-5"	9'-2"	12'-8"	91'-6"	9'-6"	10'-0"	48'-2"	1'-3"	14'-10"	1'-0"	14'-0"	1'-0"	358	14'-10"
10	97'-6"	30'-0"	95'-0"	25'-6"	3'-3"	24'-3"	3'-3"	8'-9"	12'-3"	90'-9"	9'-6"	10'-0"	48'-2"	1'-3"	14'-9"	1'-0"	14'-0"	1'-0"	341	14'-9"
11	96'-0"	27'-6"	94'-0"	23'-0"	3'-0"	24'-2"	3'-2"	8'-2"	11'-8"	90'-0"	9'-1"	10'-0"	48'-2"	1'-3"	14'-10"	1'-0"	14'-0"	1'-0"	315	14'-10"
12	99'-0"	25'-6"	94'-6"	21'-0"	2'-9"	24'-0"	3'-0"	7'-10"	11'-4"	89'-4"	8'-8"	9'-6"	48'-2"	1'-3"	13'-11"	1'-0"	13'-0"	1'-0"	293	13'-11"
13	94'-6"	25'-0"	93'-0"	20'-6"	2'-6"	23'-10"	2'-10"	7'-6"	11'-7"	88'-0"	8'-8"	9'-6"	48'-2"	1'-3"	13'-11"	1'-0"	13'-0"	1'-0"	269	13'-11"
14	96'-0"	23'-6"	92'-6"	19'-0"	2'-6"	23'-10"	2'-10"	7'-10"	10'-8"	88'-0"	8'-8"	9'-6"	48'-2"	1'-3"	13'-11"	1'-0"	13'-0"	1'-0"	252	13'-11"
15	94'-6"	23'-0"	92'-0"	18'-6"	2'-6"	23'-8"	2'-8"	6'-10"	10'-5"	86'-1"	8'-2"	9'-6"	48'-2"	1'-3"	13'-10"	1'-0"	13'-0"	1'-0"	232	13'-10"
16	94'-6"	21'-6"	91'-6"	17'-0"	2'-6"	23'-7"	2'-7"	6'-6"	10'-4"	87'-6"	7'-10"	9'-6"	48'-2"	1'-3"	13'-9"	1'-0"	13'-0"	1'-0"	217	13'-9"
17	93'-0"	20'-0"	91'-0"	15'-6"	2'-6"	23'-5"	2'-5"	6'-3"	9'-5"	87'-2"	7'-8"	9'-6"	48'-2"	1'-3"	13'-8"	1'-0"	13'-0"	1'-0"	197	13'-8"
18	93'-0"	18'-6"	90'-6"	14'-0"	2'-6"	21'-5"	2'-5"	5'-10"	9'-5"	86'-0"	7'-8"	9'-6"	48'-2"	1'-3"	13'-8"	1'-0"	13'-0"	1'-0"	183	13'-8"

This sheet prepared by manual method.

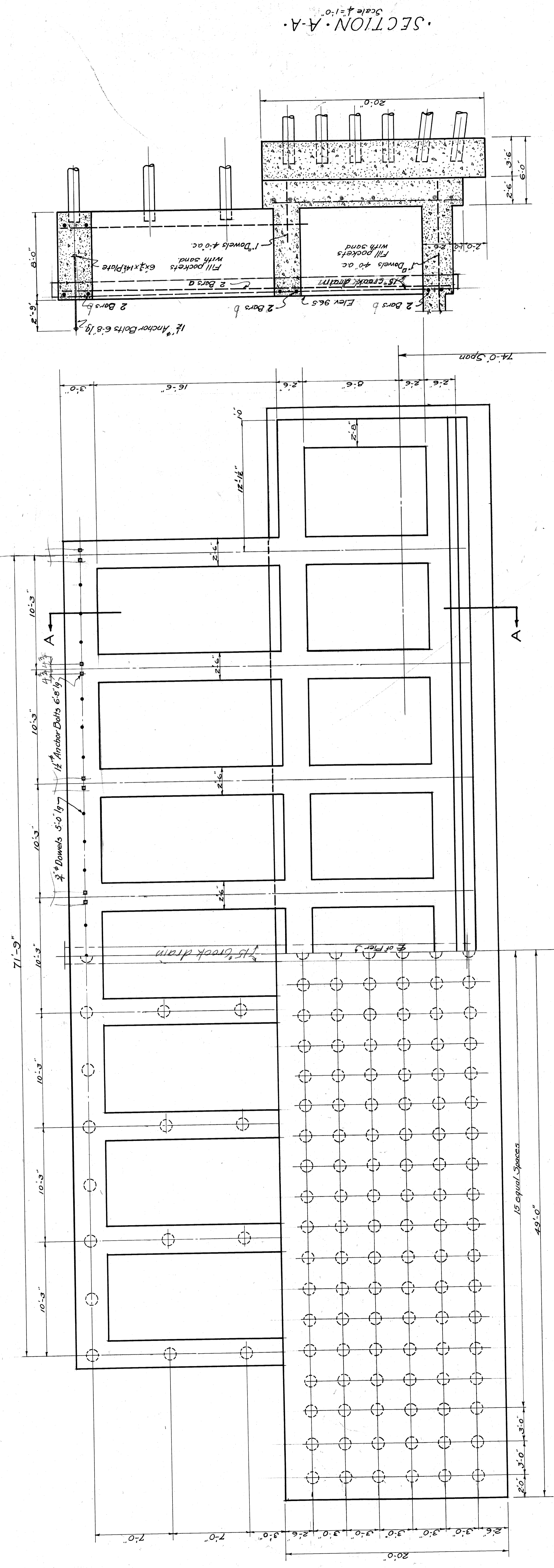
• TYPICAL DETAILS OF PIERS •

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARTIN COMMISSIONER

BELLE ISLE BRIDGE

DESIGNER: E. J. MURPHY
ENGINEER: E. J. MURPHY
CHECKED: LEWIS M. GRAM
DATE: MAR 24, 1910
SCALE: DETROIT, MICH.

287
12

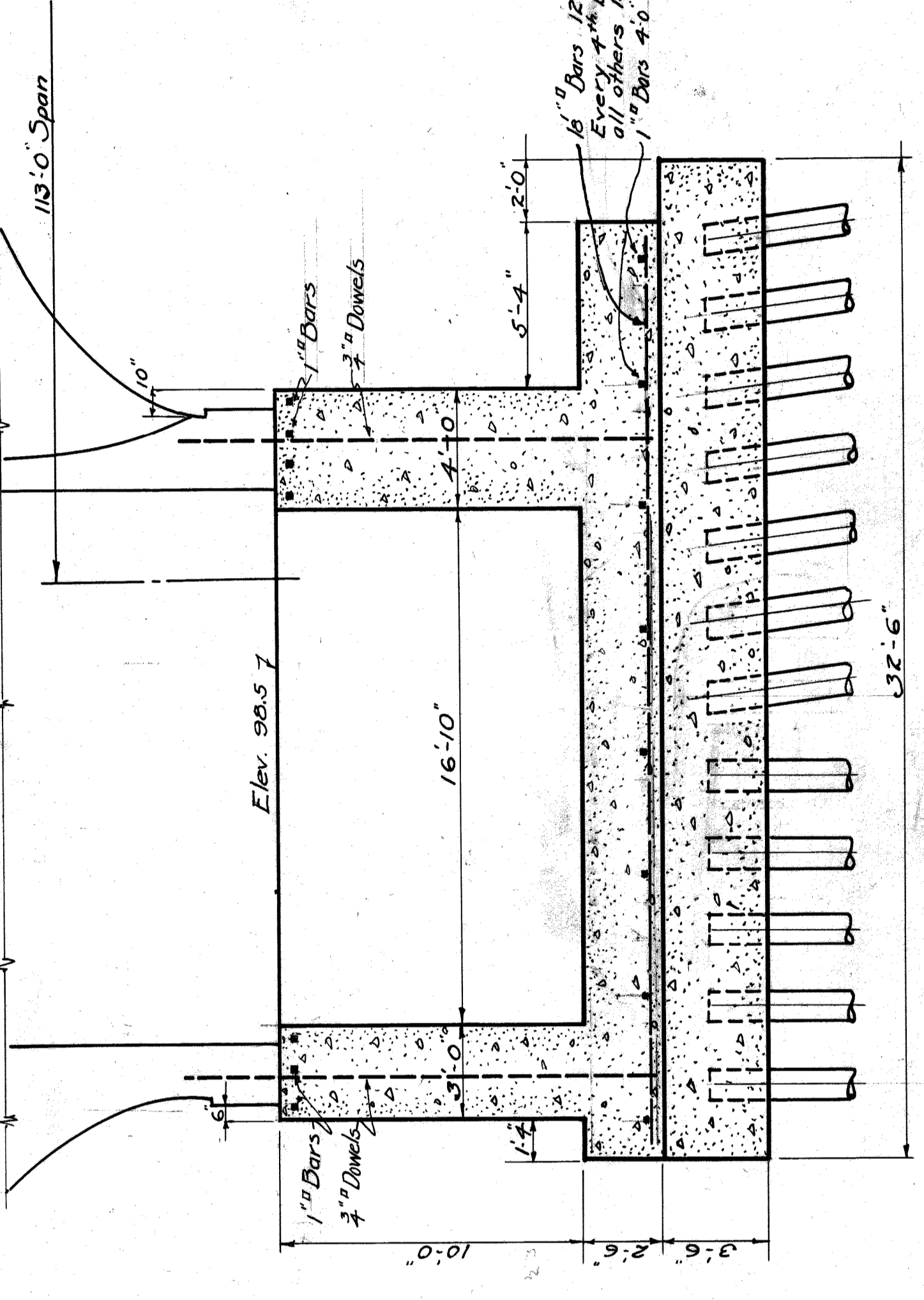
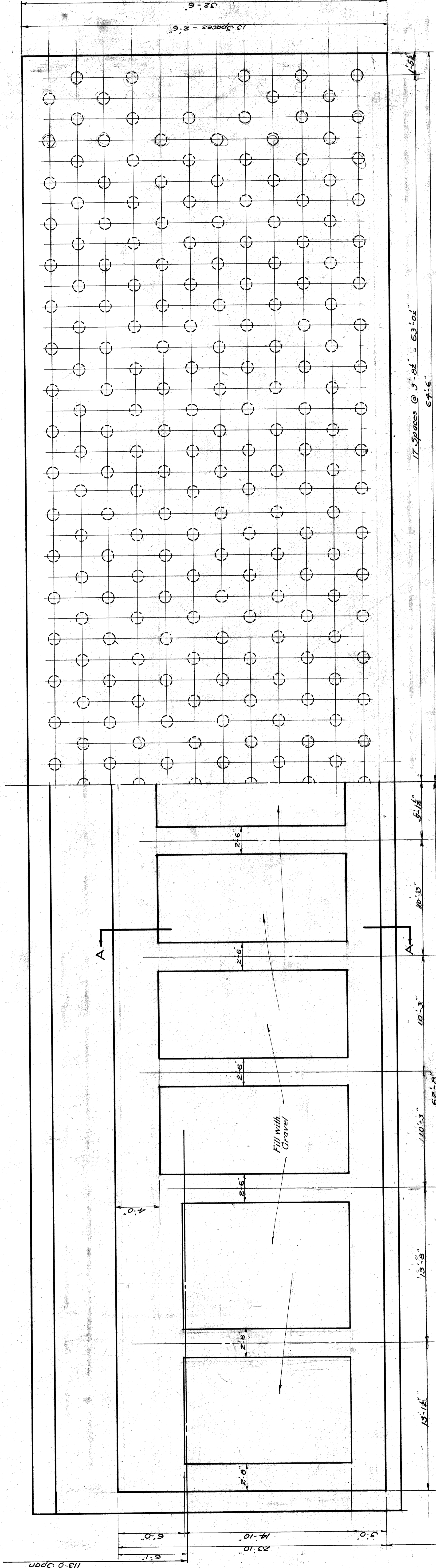


SECTION A-A
Scale 1/4" = 1'-0"

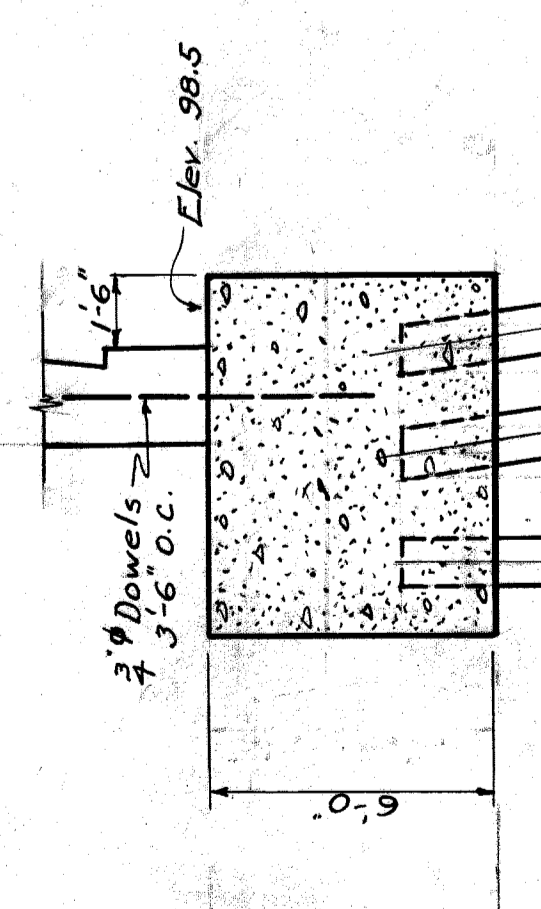
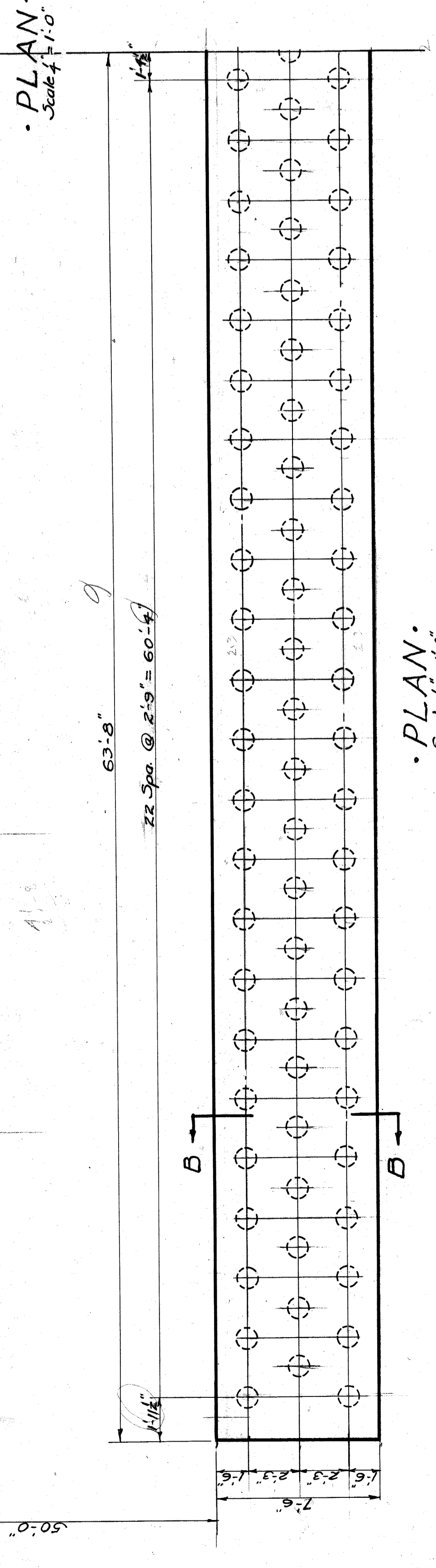
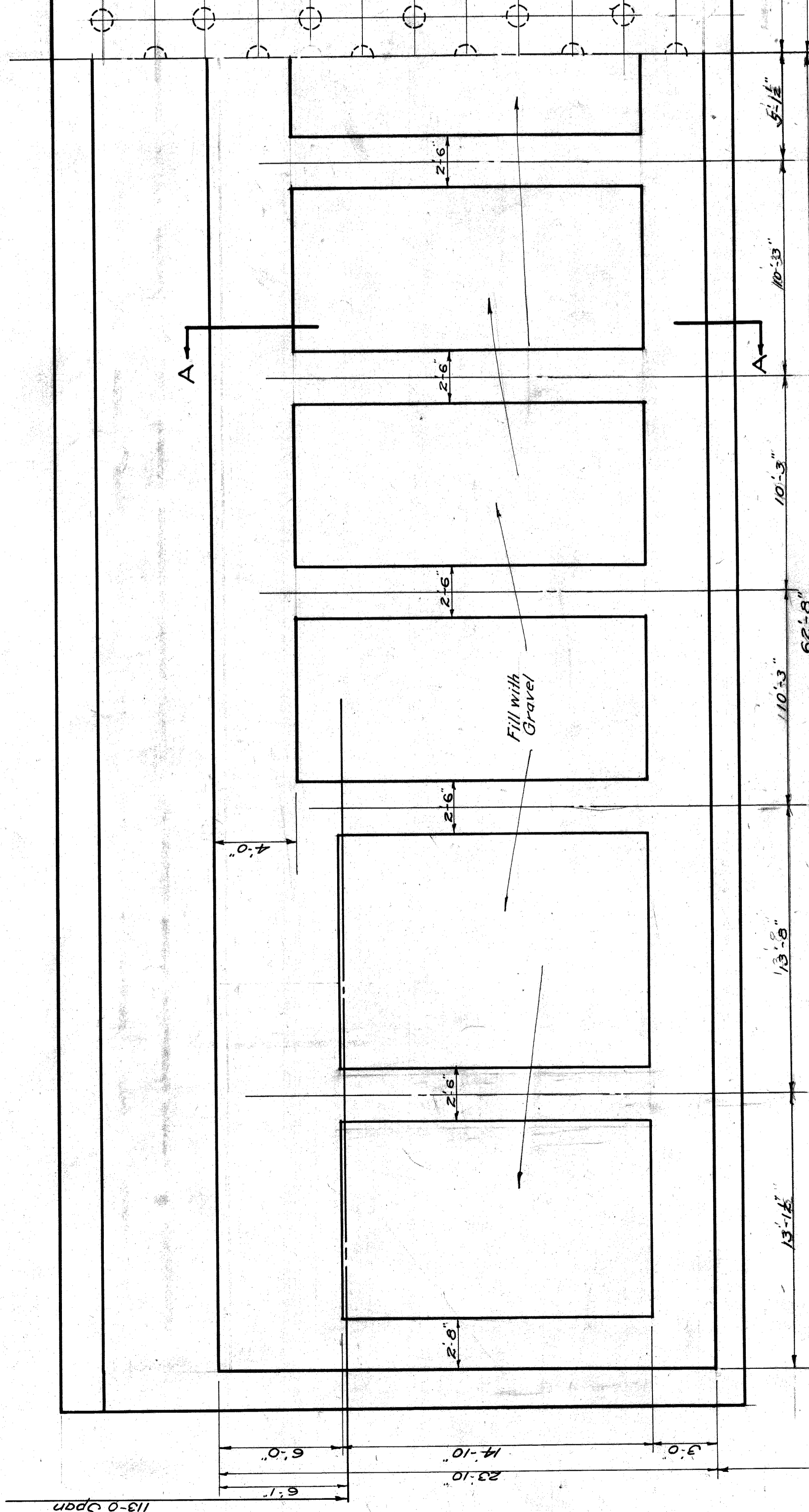
PLAN
Scale 1/4" = 1'-0"

Note -
This sheet is superseded by
small sheet no. 54

FOOTING-PLAN-YOUTH-ABUTMENT	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MAGYI COMMODORE	
BELLE ISLE BRIDGE	
DESIGNED BY	E. JOELSTYN-MURPHY
DATE	207
CHECKED BY	ENGINEERS
DATE	13
BY	LEWIS M. GRAM ASSOCIATE
	DETROIT, MICH.



SECTION A-A
Scale 1/4" = 1'-0"



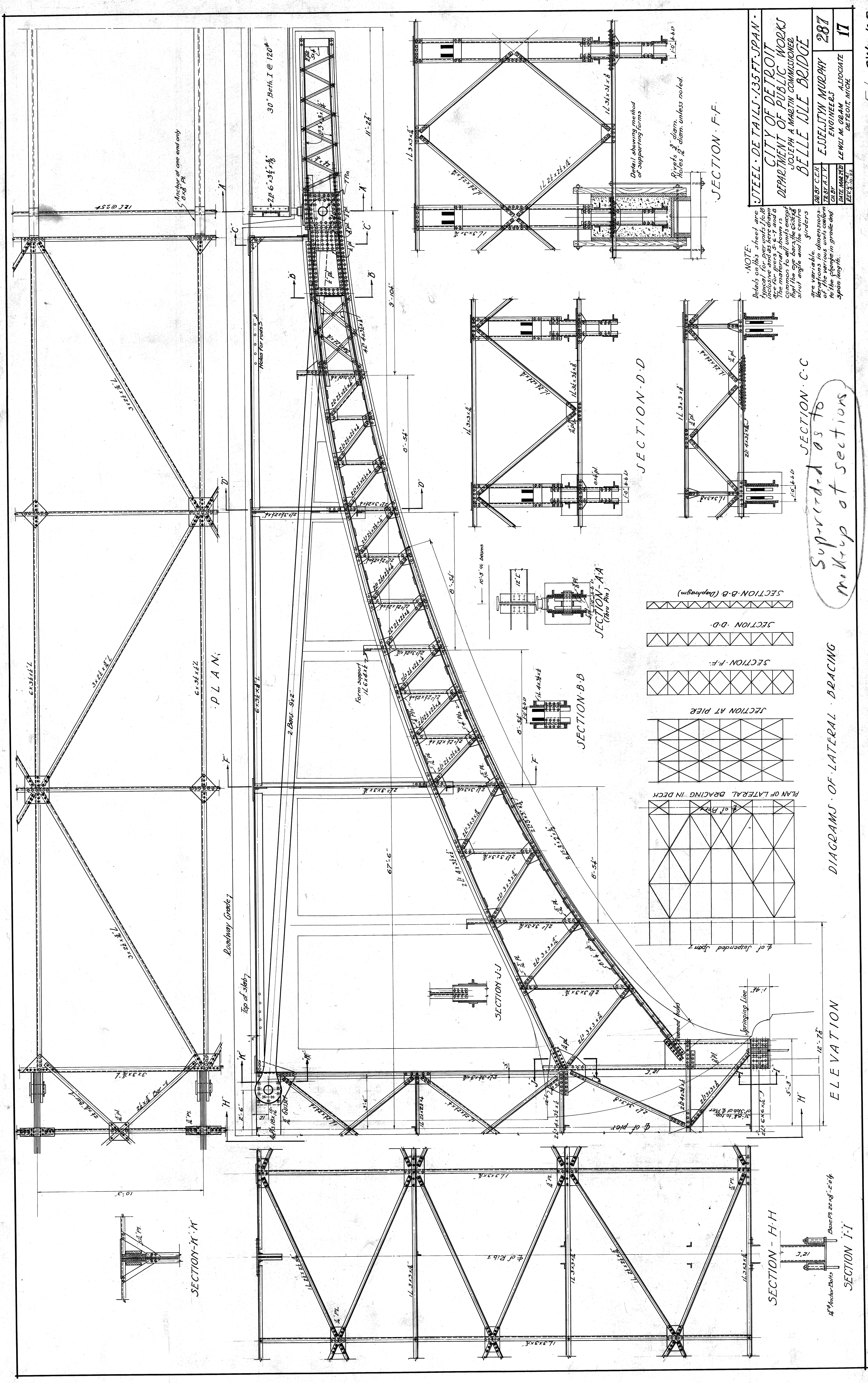
SECTION B-B
Scale 1/4" = 1'-0"

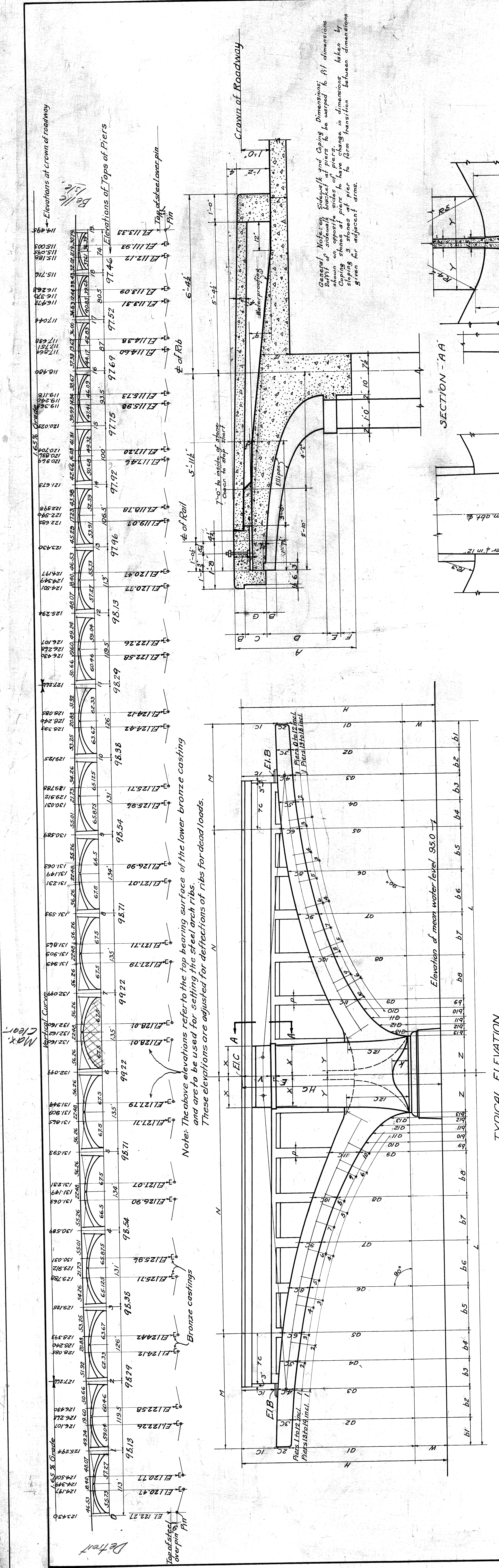
*Note:-
This sheet is superseded by
small sheet no. 55*

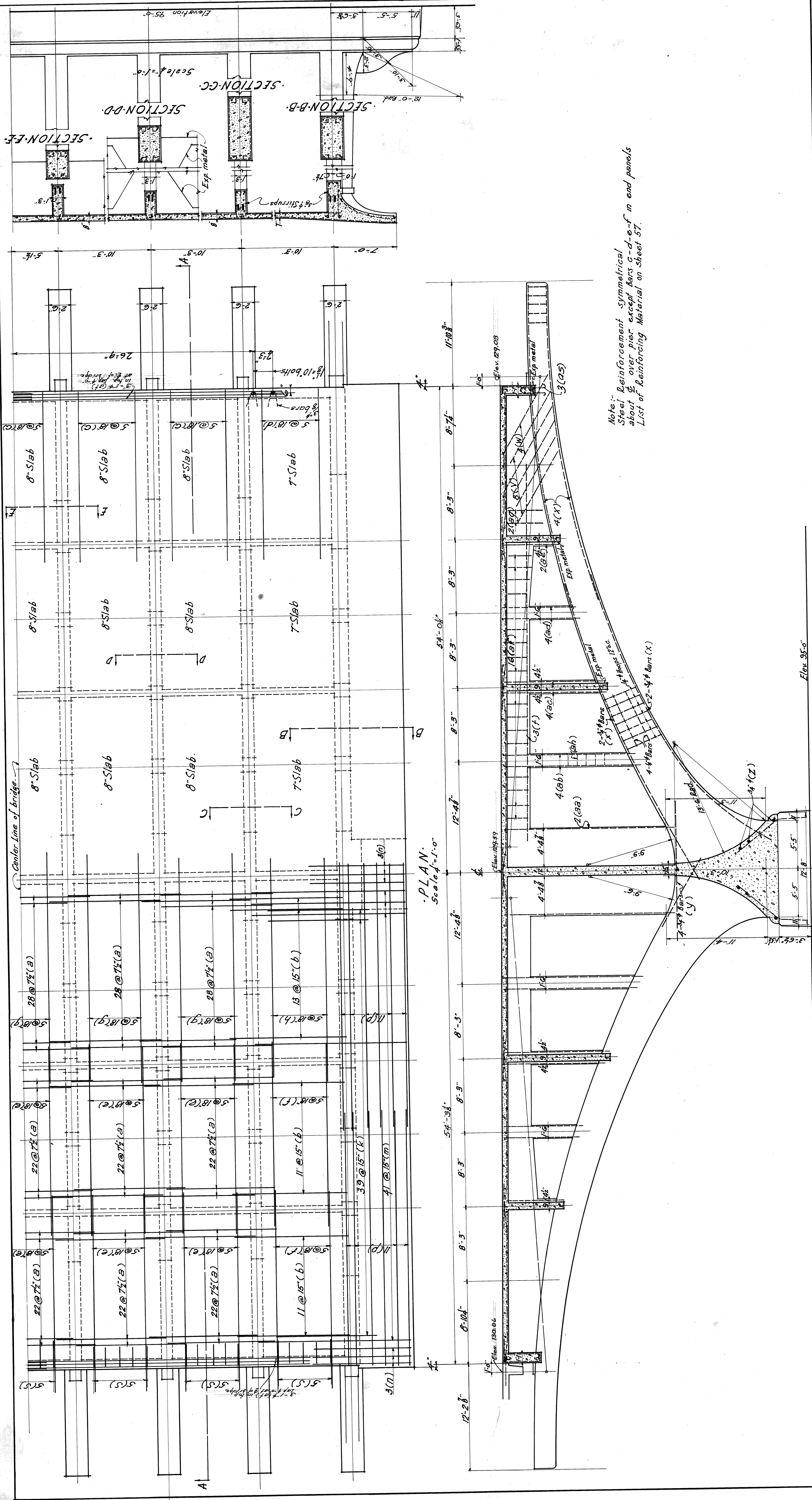
PIER: O&E NORTH ABUTMENT FOOTING

DESIGNED BY	CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN, COMMISSIONER	
ENGINEER	287
DATE PREPARED	14
BY	
FOR	
APPROVED BY	
DATE	

ENGINEERS
EUGENSTYN-MURPHY
LEWIS M. GEAR, ASSOCIATE
DETROIT, MICH.







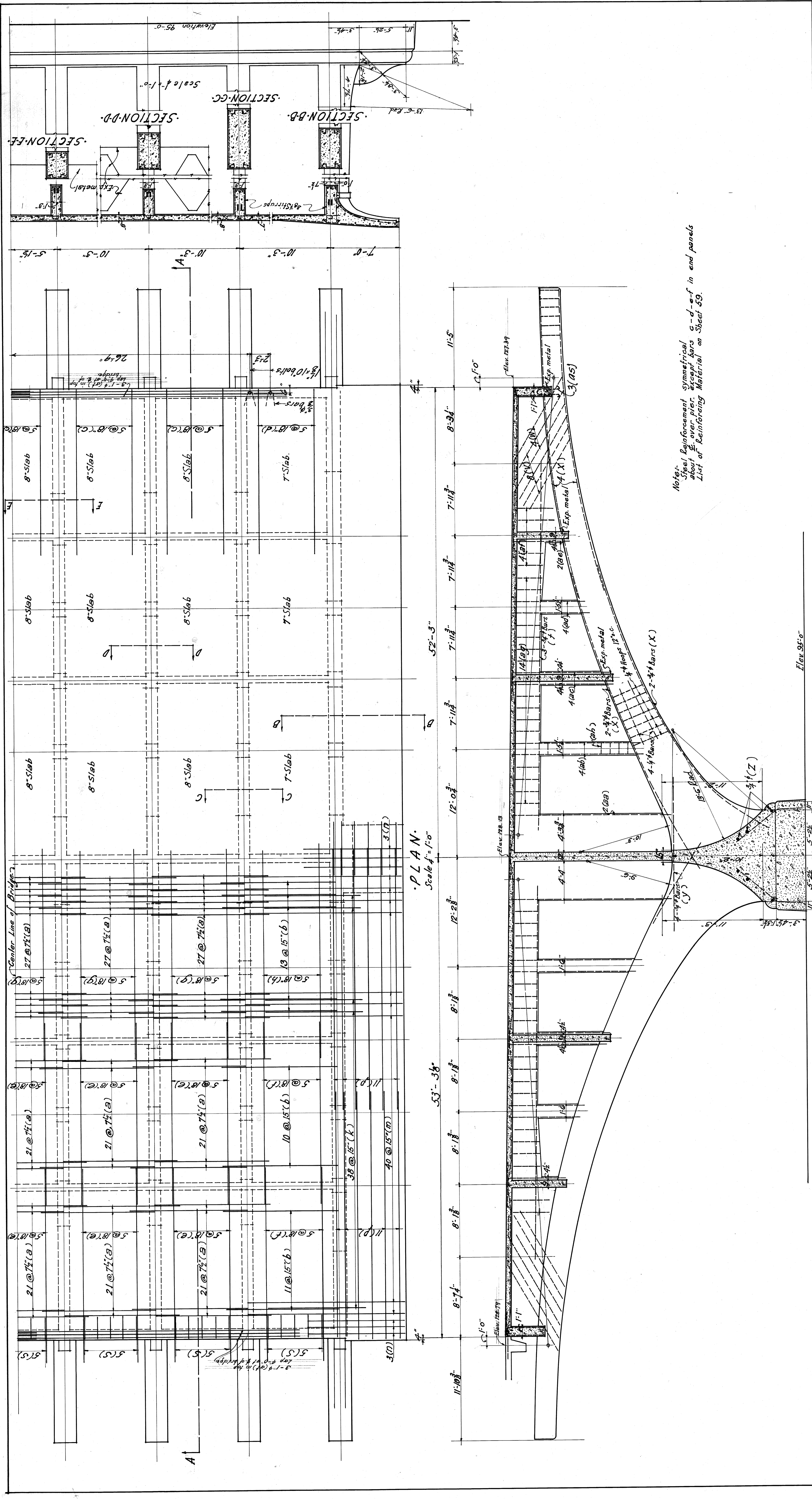
Notes:
 Steel Reinforcement symmetrical
 about *E* over pier, except bars c-d-e-f in end panels
 List of Reinforcing Material on Sheet 57.

SECTION-A-A
 Scale 1/4"=1'-0"

PLAN
 Scale 1/4"=1'-0"

PLAN & SECTIONS - PIER 9 & 4	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN - COMMISSIONER	
BELLE ISLE BRIDGE	
DR. BY V.P.M.	ESSELSTYNN-MURPHY
TR. BY V.P.M.	ENGINEERS
CH. BY THORNTON	LEWIS-K. GRAM, ASSOCIATE
DATE 11/17/21	DETROIT, MICH.
SEE 8-10-22	

File 5W20111

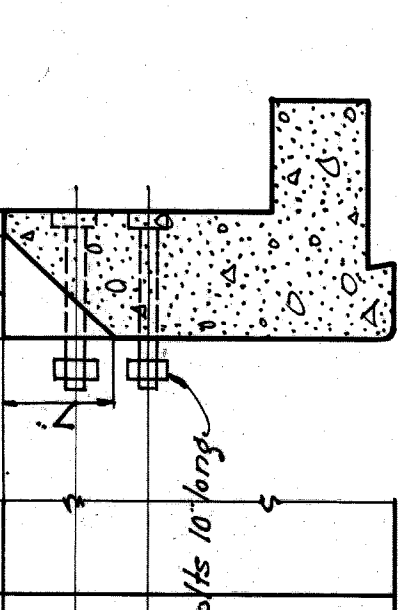
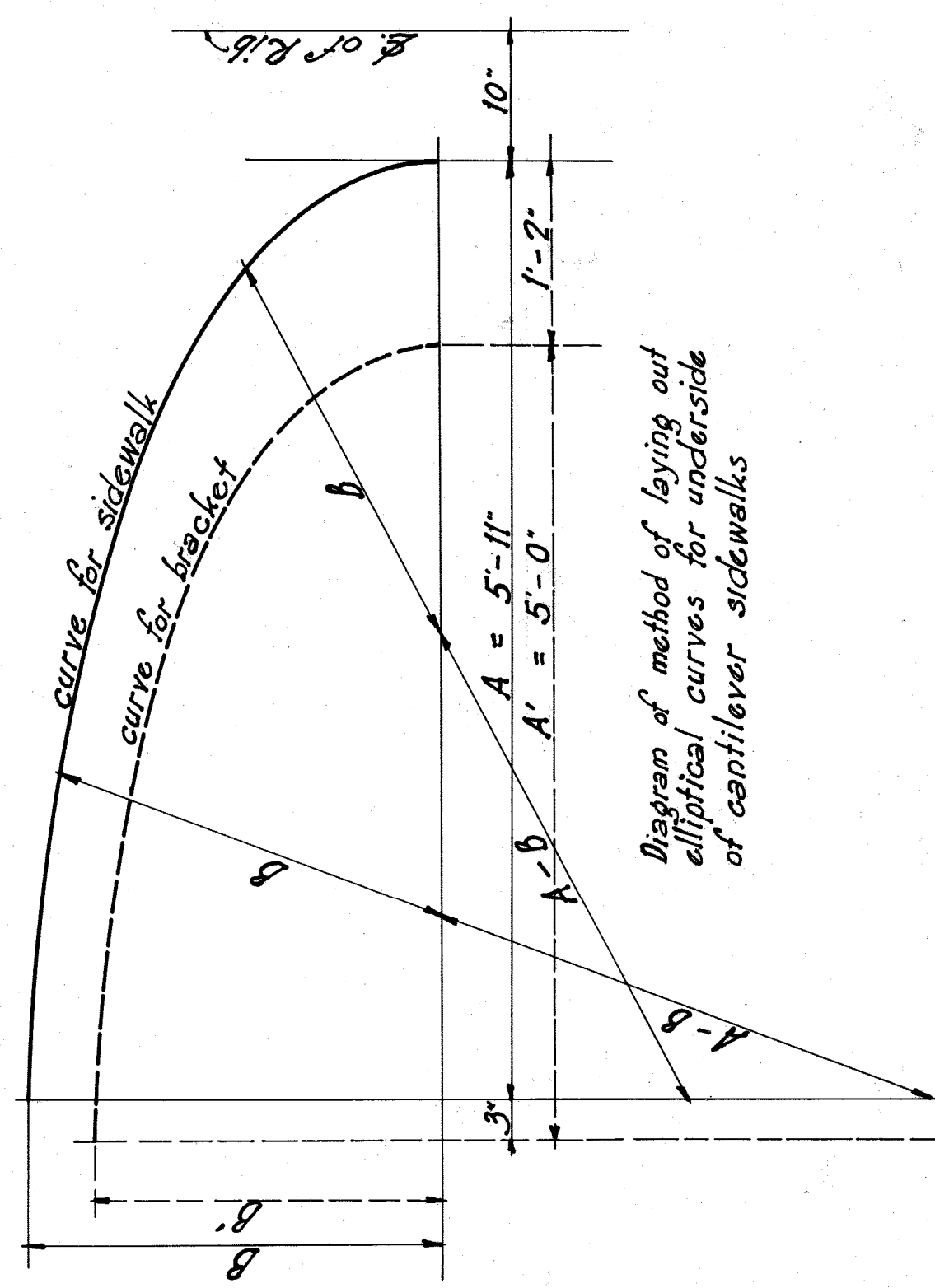
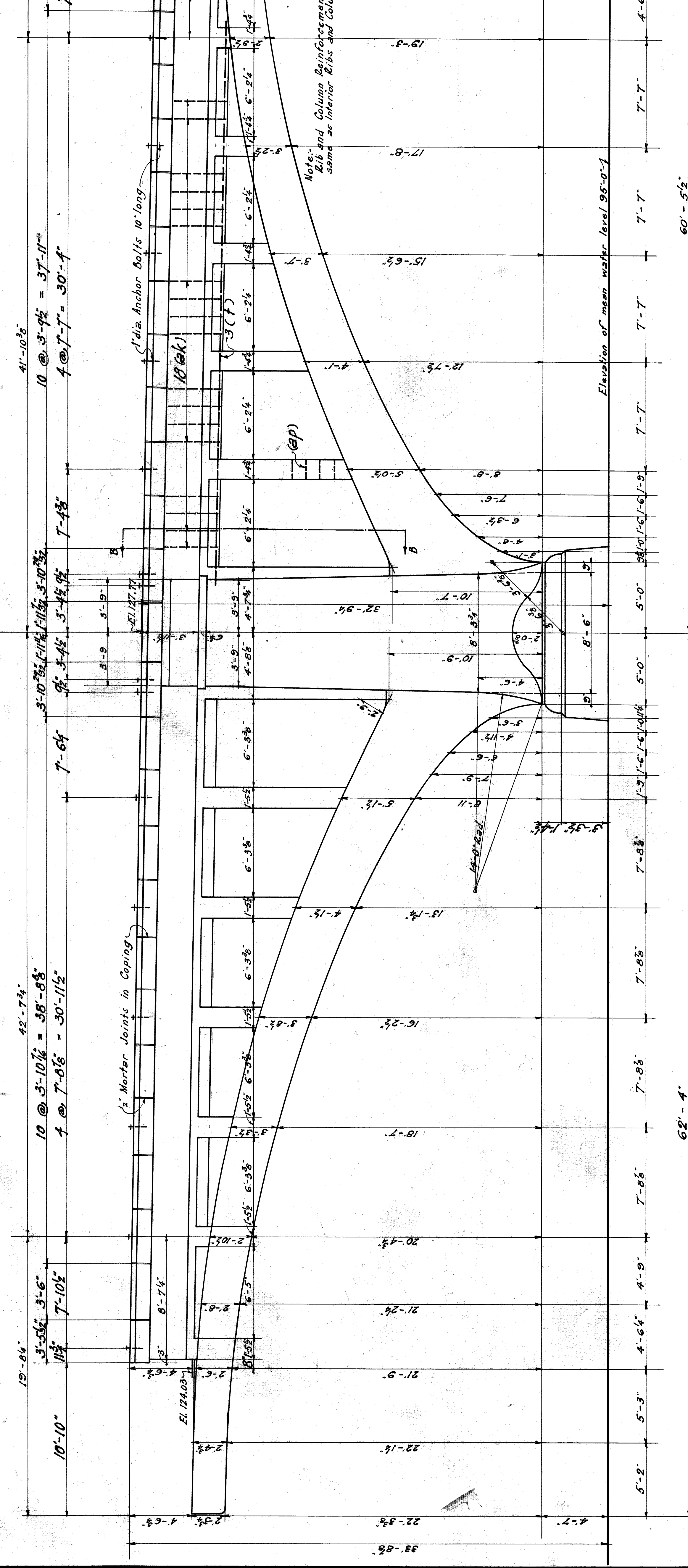
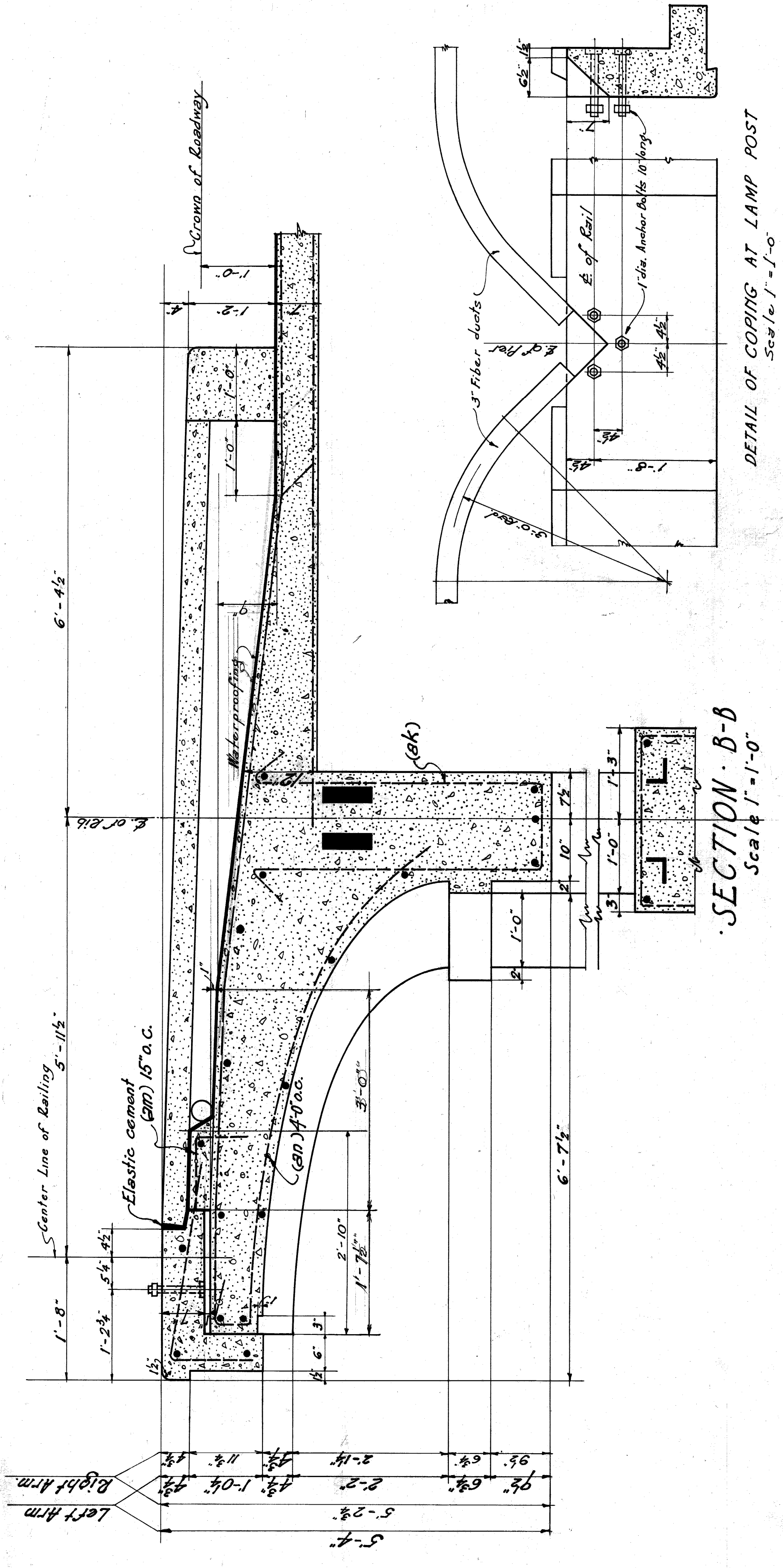


PLAN
Scale 1/4" = 1'-0"

SECTION A-A
Scale 1/2" = 1'-0"

Note:
Steel Reinforcement symmetrical about \bar{X} - \bar{X} over pier, except bars c-d-e-f in end panels
List of Reinforcing Material on Sheet 59.

PLAN & SECTIONS - PIER 10 of 3	
CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS JOSEPH A. MARTIN - COMMISSIONER	
BELLE ISLE BRIDGE	
DESIGNED BY EJSELSTYIN-MURPHY	287
CHECKED BY LEWIS W. GRAM	ASSOCIATE
DATE MAY 17 1922	DETROIT, MICH.



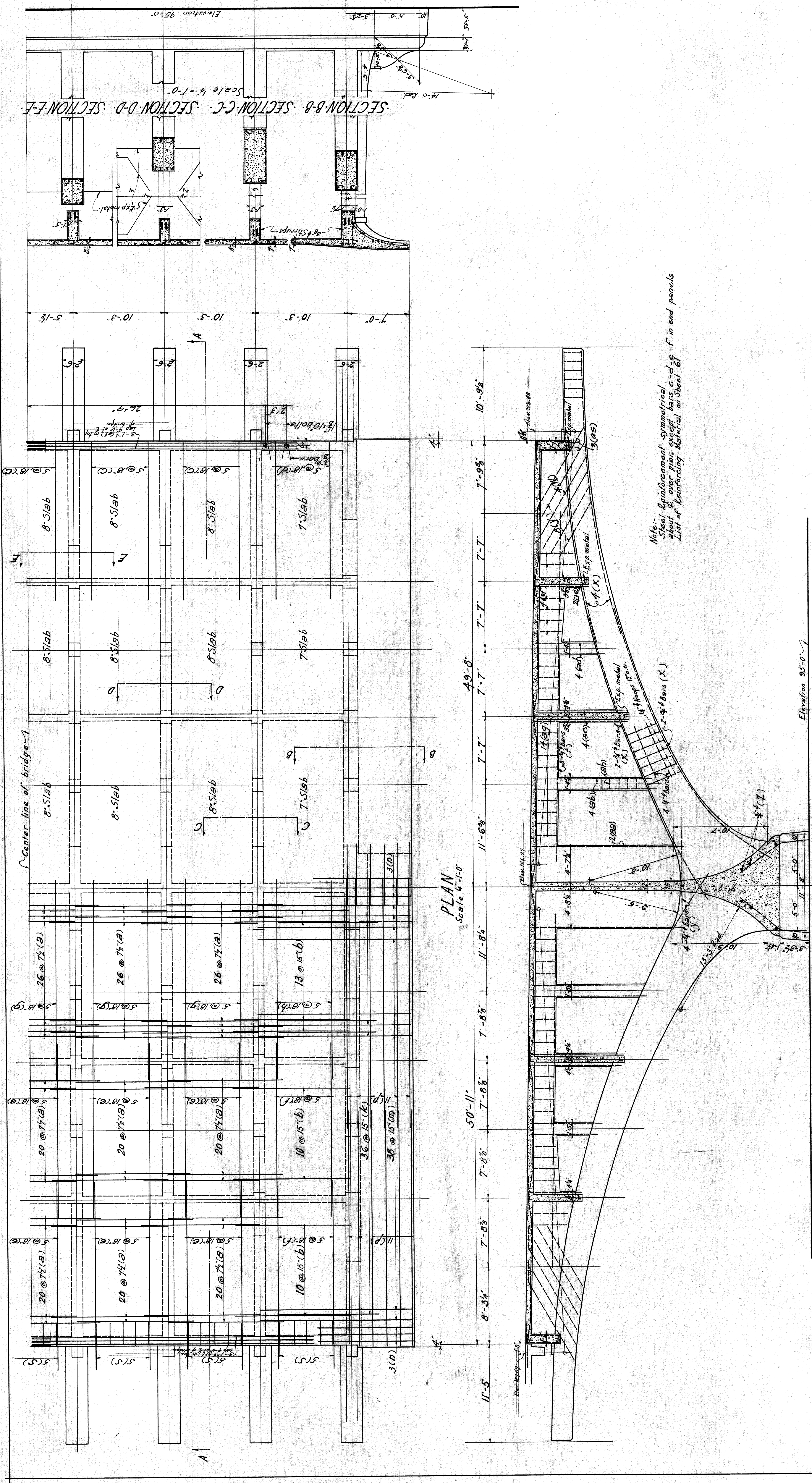
FOR SHEETS 61&62

LIST OF REINFORCING MATERIALS

NO.	SIZE	LENGTH	MARK	SKETCH
1320	3/8"	13'-3"	a	4-5
2674	3/8"	13'-3"	b	4-6
50	3/4"	17'-0"	c	4-7
20	1"	17'-0"	d	4-8
150	20'-0"	20'-0"	e	4-9
60	20'-0"	20'-0"	f	4-10
100	23'-6"	23'-6"	g	4-11
40	23'-6"	23'-6"	h	4-12
289	5/8"	11'-6"	k	4-13
304	1/2"	17'-9"	m	4-14
36	1/2"	11'-0"	n	4-15
140	1/2"	27'-0"	p	4-16
96	3/4"	39'-0"	q	4-17
256	1/2"	9'-6"	r	4-18
128	1/2"	12'-6"	w	4-19
256	1/2"	33'-0"	x	4-20
64	1/2"	13'-0"	y	4-21
24	1/2"	38'-0"	z	4-22
64	1/2"	16'-0"	aa	4-23
128	1/2"	13'-0"	ab	4-24
128	3/8"	9'-6"	ac	4-25
128	1/2"	7'-0"	ad	4-26
64	1/2"	5'-0"	ae	4-27
96	3/8"	10'-0"	af	4-28
336	1/2"	9'-0"	ag	4-29
480	1/2"	5'-0"	ah	4-30
144	1/2"	10'-0"	ai	4-31
328	1/2"	1'-9"	aj	4-32
104	1/2"	8'-0"	ak	4-33
160	3/8"	6'-0"	al	4-34
96	3/8"	6'-0"	am	4-35
24	1/2"	33'-0"	an	4-36
48	3/8"	32000	ao	4-37
				3" mesh 16 gauge expanded metal where noted.

DETAILS PIER II & 2
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARZETTA - COMMISSIONER
BELLE ISLE BRIDGE
DESIGN BY: J. A. L. ESSELSTYNN-MURPHY 287
CHECKED BY: J. A. L. ENGINEERS
DATE: 1/11/21 LEWIS M. GRAM ASSOCIATE
REV: 2/16/21 DETROIT, MICH. 61

WEST ELEVATION PIER II & EAST ELEVATION PIER 2
Scale 1/4" = 1'-0"



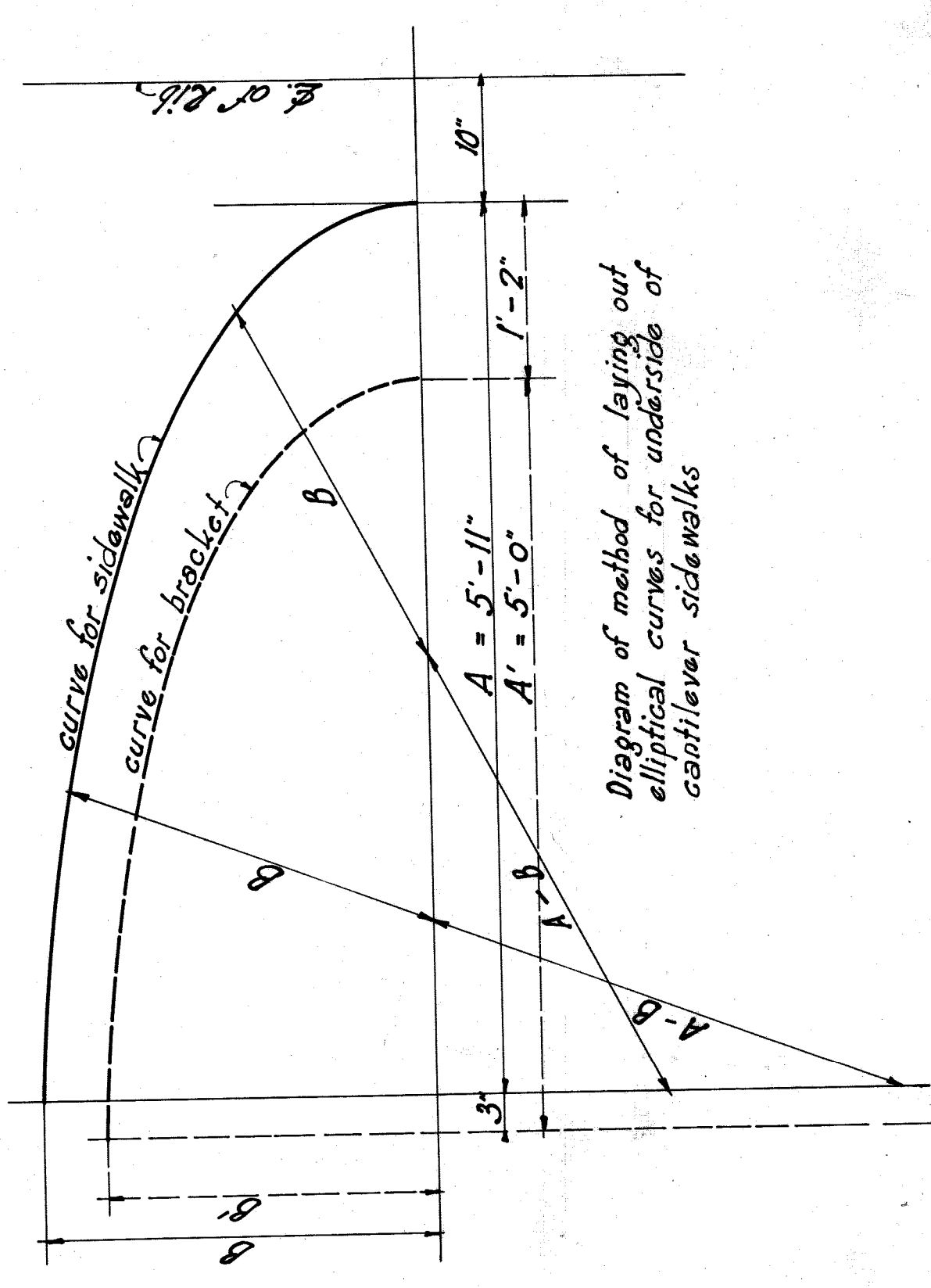
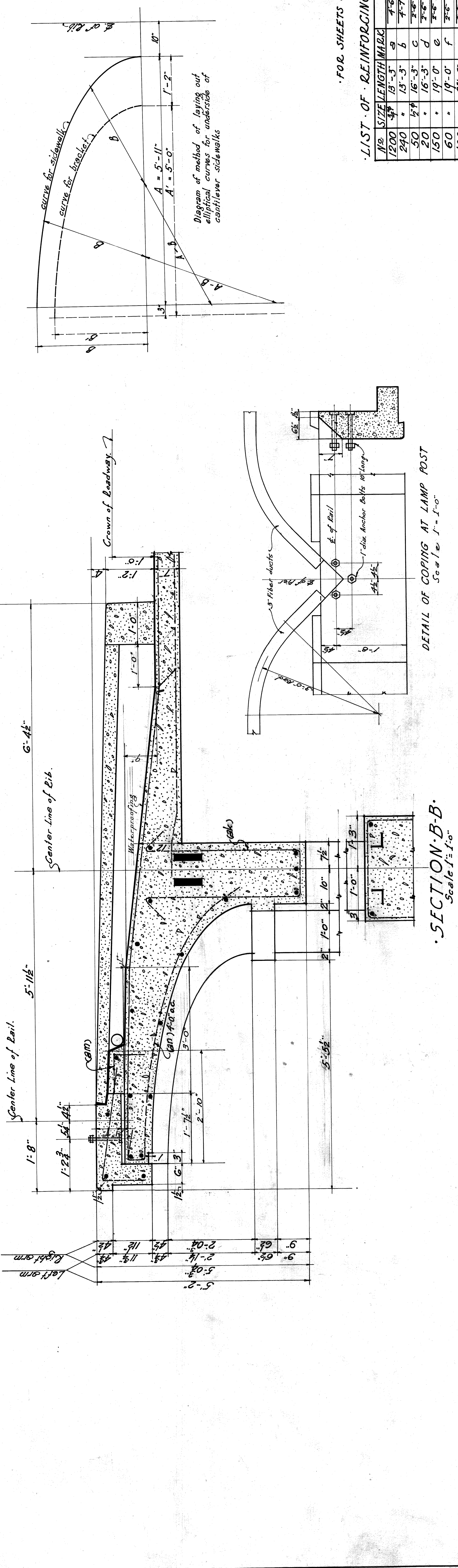
SECTION-B-B · SECTION-C-C · SECTION-D-D · SECTION-E-E
 Scale 1/4" = 1'-0"
 Elevation 95'-0"

PLAN
 Scale 1/4" = 1'-0"

SECTION A-A
 Scale 1/4" = 1'-0"

Note: Steel Reinforcement symmetrical about center line, except bars c-d-e-f in end panels. List of Reinforcing Material on Sheet 61

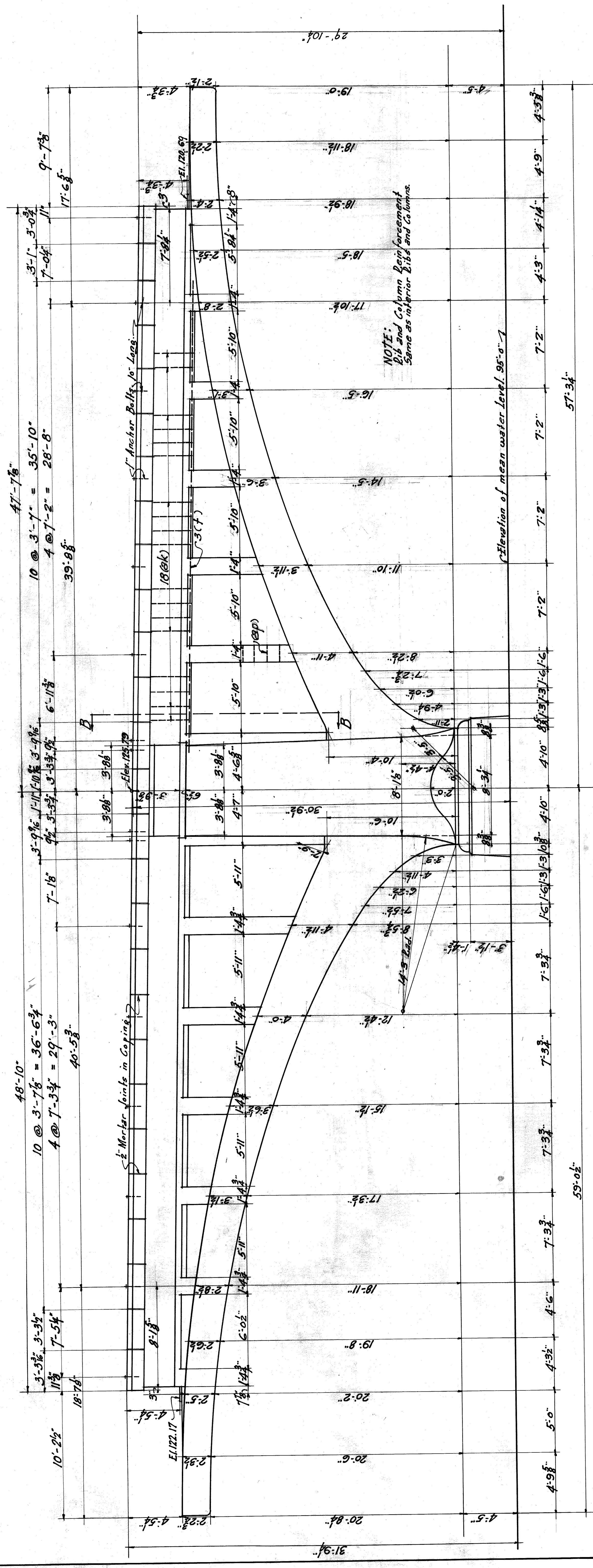
PLAN & SECTIONS · PIER-11 & 2	
CITY OF DETROIT, DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN, COMMISSIONER	
BELLE ISLE BRIDGE	
DESIGNED BY EUSSEL STYNN-MURPHY	287
CHECKED BY LEWIS M. GRAM, ASSOCIATE	62
DATE MAY 11 1923	
BY DETROIT, MICH.	



FOR SHEETS 63 & 64.

LIST OF REINFORCING MATERIALS.

No.	SIZE	LENGTH	MARK	SKETCH
1200	3/4"	15'-3"	a	4-5
240	1/2"	13'-3"	b	4-7
50	5/8"	16'-3"	c	2-6
20	1/2"	16'-3"	d	2-6
150	1/2"	19'-0"	e	2-6
60	1/2"	19'-0"	f	2-6
100	1/2"	23'-0"	g	2-6
40	1/2"	23'-0"	h	2-6
272	5/8"	11'-6"	k	11-2
288	1/2"	17'-2"	m	11-2
36	1/2"	17'-0"	n	11-2
132	5/8"	33'-0"	p	3-7
140	1/2"	10'-0"	s	3-7
96	3/4"	37'-0"	t	3-7
256	1/2"	8'-6"	y	8-6
128	1/2"	11'-0"	w	8-6
256	1/2"	31'-0"	x	8-6
64	1/2"	13'-0"	v	8-6
24	1/2"	38'-0"	z	8-6
64	1/2"	14'-0"	aa	8-6
128	5/8"	11'-6"	bb	8-6
128	5/8"	8'-6"	cc	8-6
64	1/2"	4'-6"	dd	8-6
96	3/4"	9'-0"	ee	8-6
336	1/2"	8'-6"	ff	8-6
360	1/2"	4'-9"	gg	8-6
44	1/2"	10'-0"	hh	8-6
312	1/2"	11'-9"	ii	8-6
100	5/8"	8'-0"	jj	8-6
152	5/8"	6'-0"	kk	8-6
96	3/4"	6'-0"	ll	8-6
24	1/2"	33'-0"	mm	8-6
4	1/2"	30000	nn	8-6
				3 Mesh 16 gauge expanded metal where noted

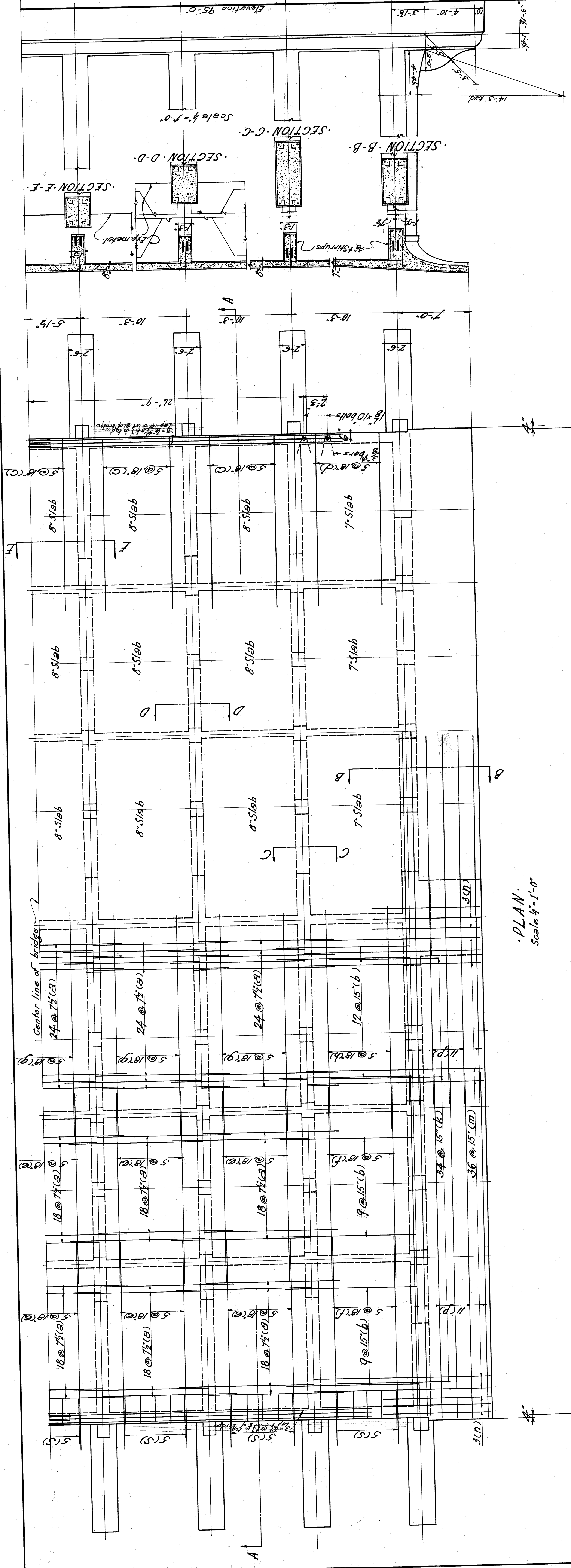


WEST ELEVATION PIER 12 EAST ELEVATION PIER 1
Scale 1/2" = 1'-0"

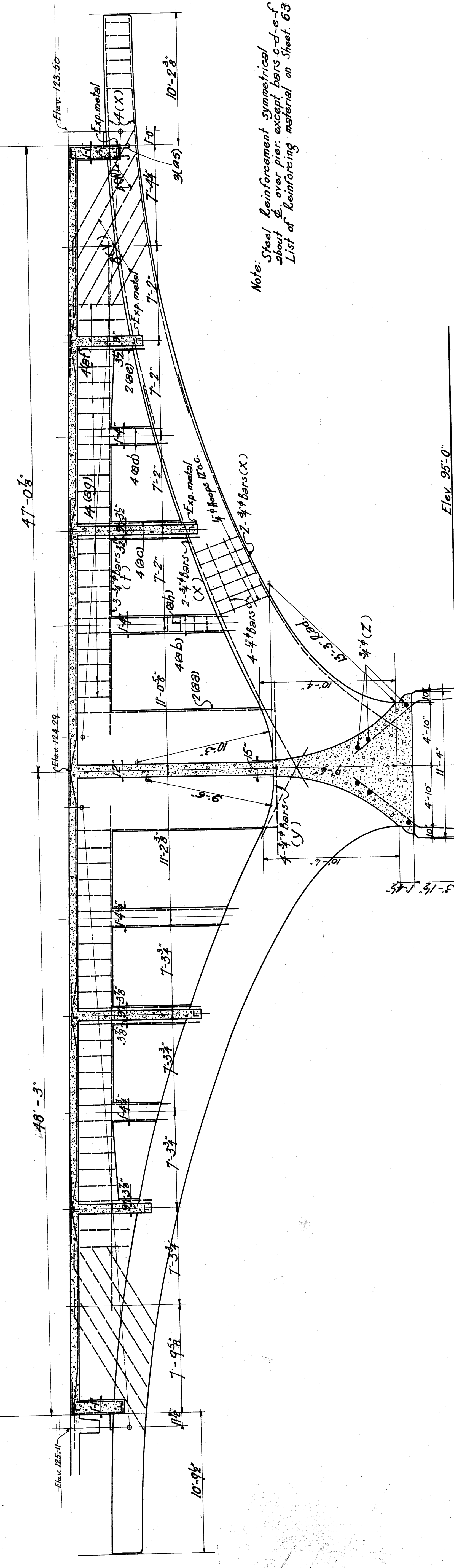
DETAILS PIER 12 & 1
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARTIN COMMISSIONER
BELLE ISLE BRIDGE

DESIGNER: E. SELBY MURPHY
ENGINEER: E. SELBY MURPHY
CHECKED: J. W. BRAY
DATE: 11-23-21
SCALE: 1/2" = 1'-0"

287
63

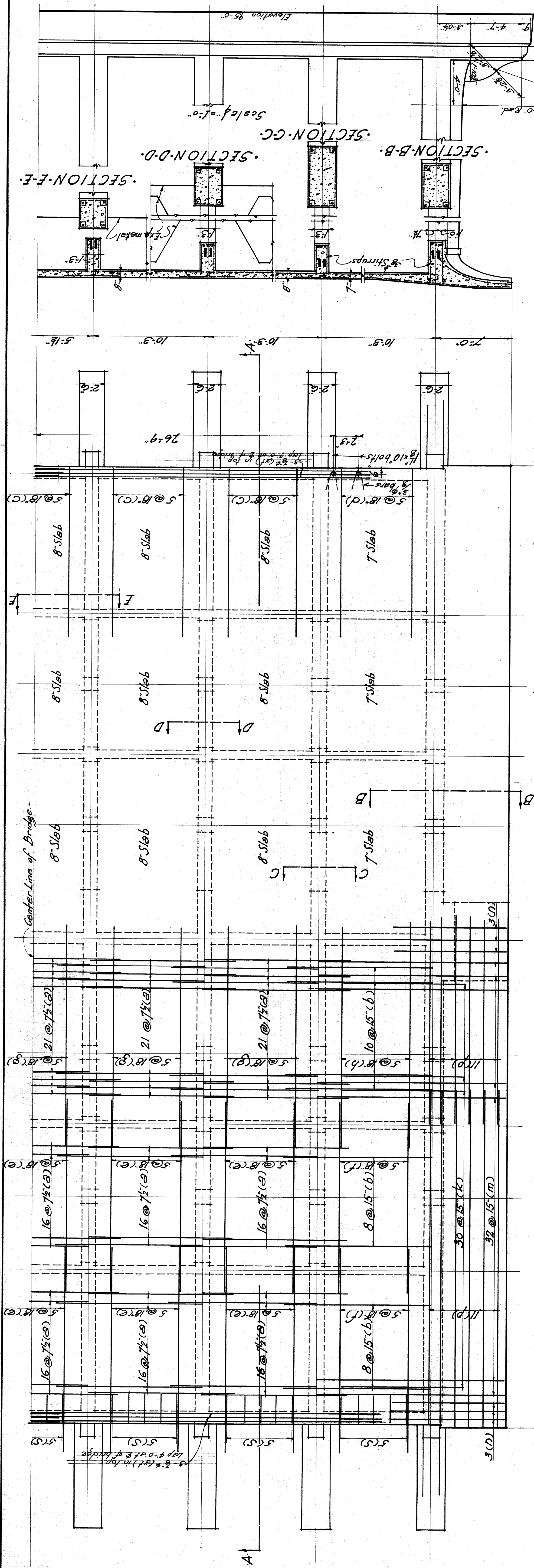


PLAN.
Scale 1/4" = 1'-0"

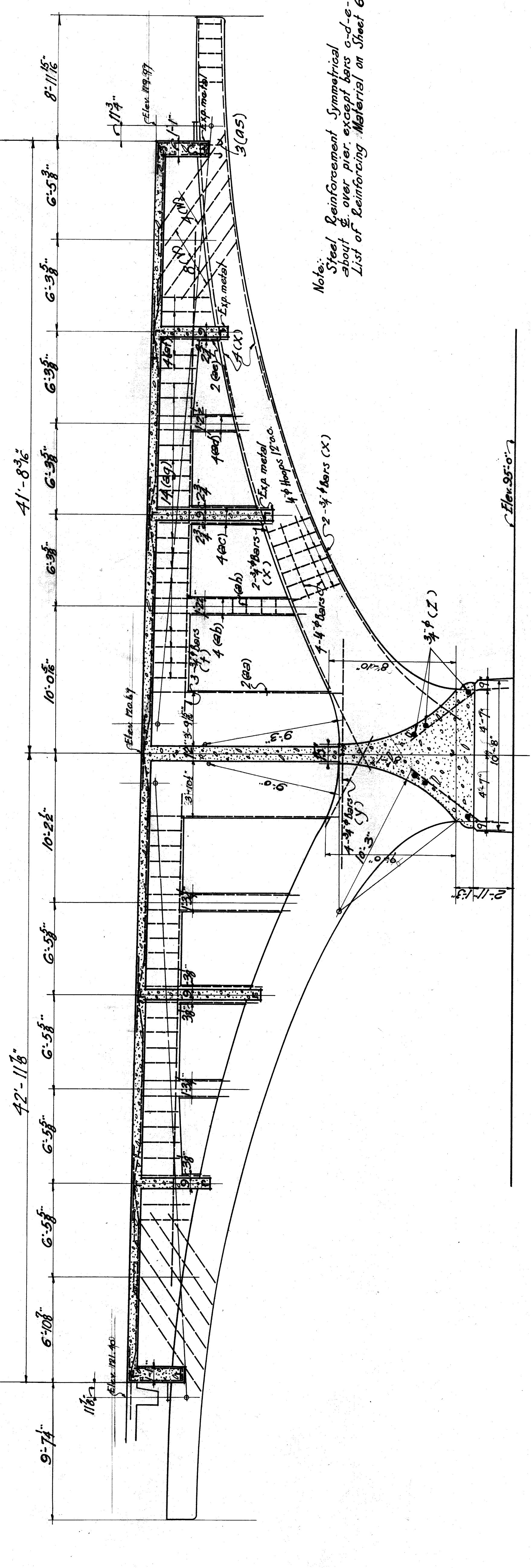
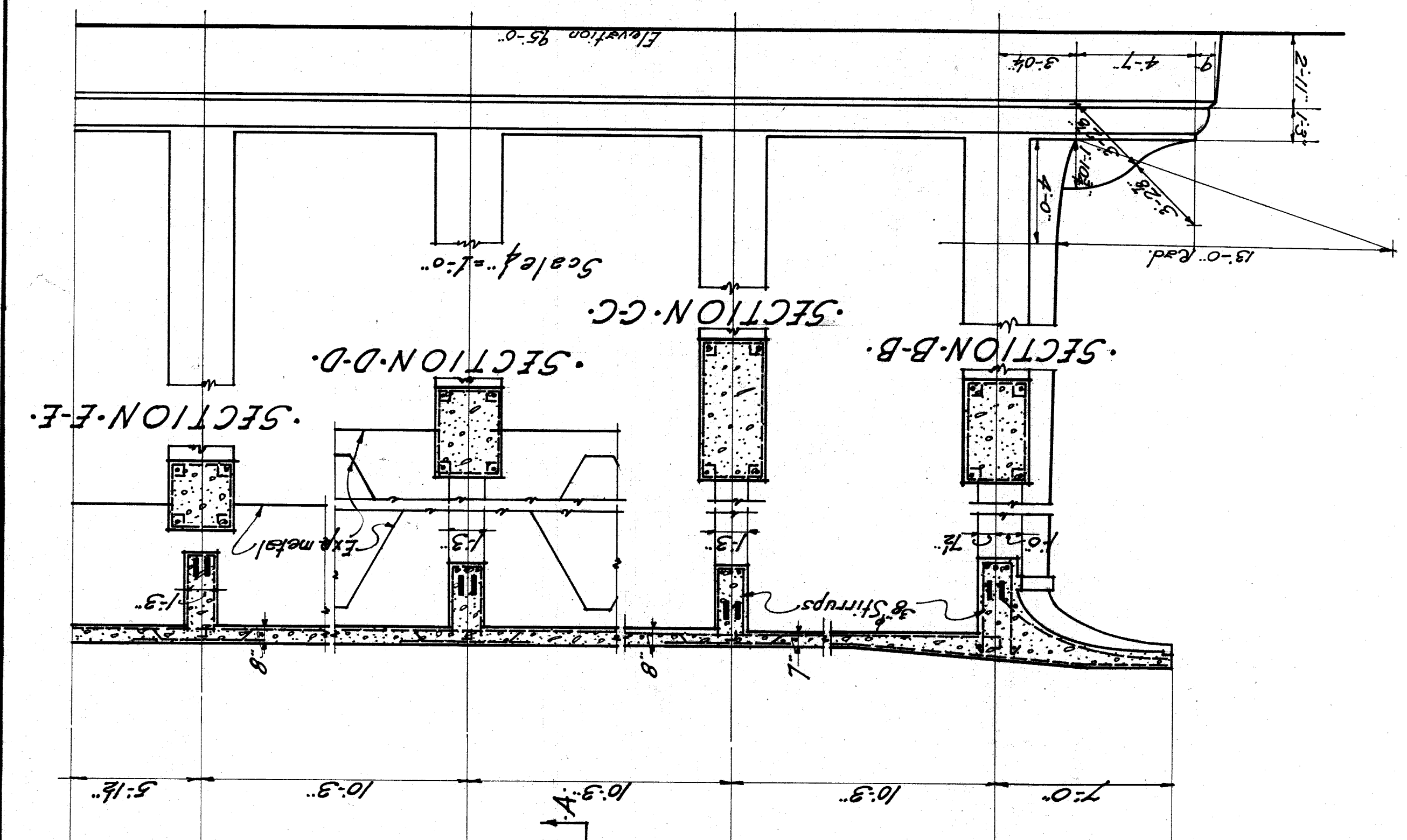


SECTION - A-A
Scale 1/4" = 1'-0"

PLAN & SECTIONS - PIER - 12 & 1.	
CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS JOSEPH A. MARTIN - COMMISSIONER.	
BELLE ISLE BRIDGE	
DESIGNED BY	ESSELSTYEN-MURPHY
DRAWN BY	ENGINEERS
CHECKED BY	287
DATE	LEWIS-M. GRAM, ASSOCIATE
KEY	DETROIT, MICH.
	64



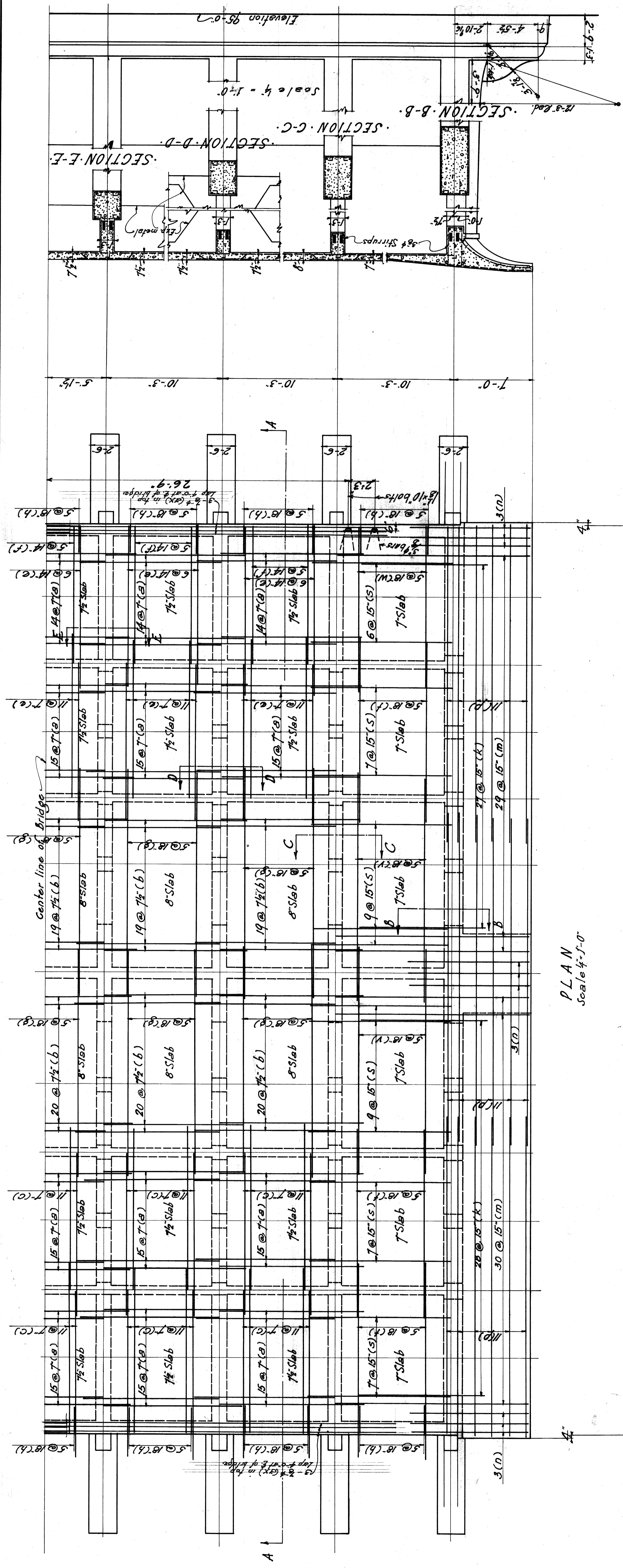
PLAN
Scale 1/4" = 1'-0"



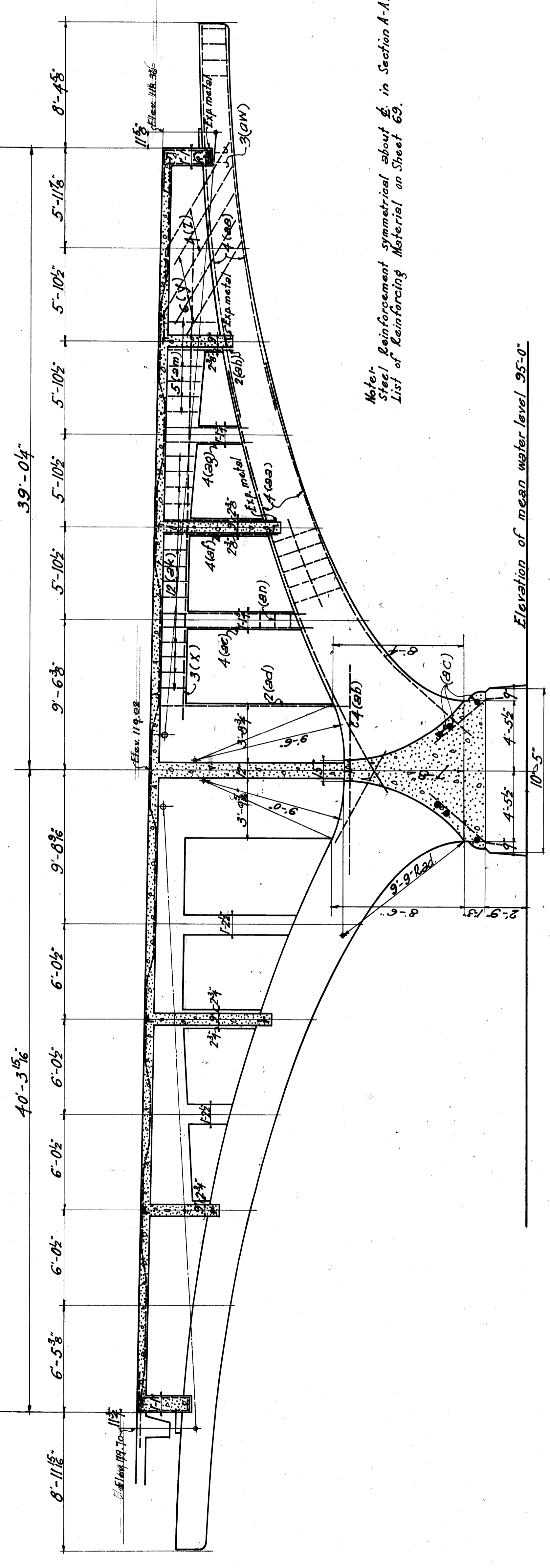
SECTION-A-A
Scale 1/4" = 1'-0"

Note: Steel Reinforcement Symmetrical about center pier, except bars a-d-e-f in end panels. List of Reinforcing Material on Sheet 67.

PLAN AND SECTIONS - PIER 14	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN COMMISSIONER	
BELLE ISLE BRIDGE	
DESIGNED BY	ESSELSTYIN-MURPHY
CHECKED BY	ENGINEERS
DATE	LEWIS M. GRAM ASSOCIATE
REV.	DETROIT, MICH.
287	
68	

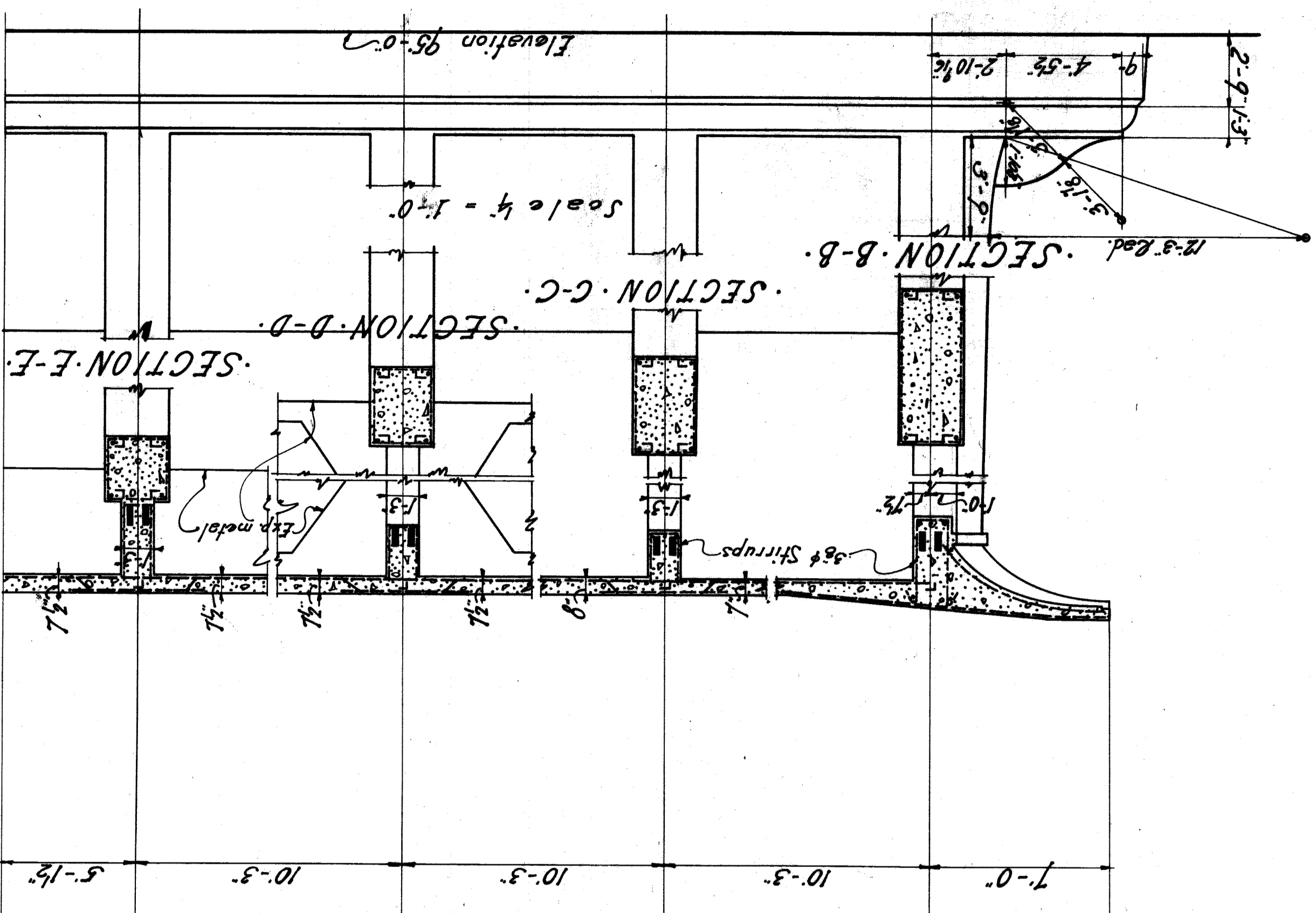


PLAN
Scale 1/4"=1'-0"

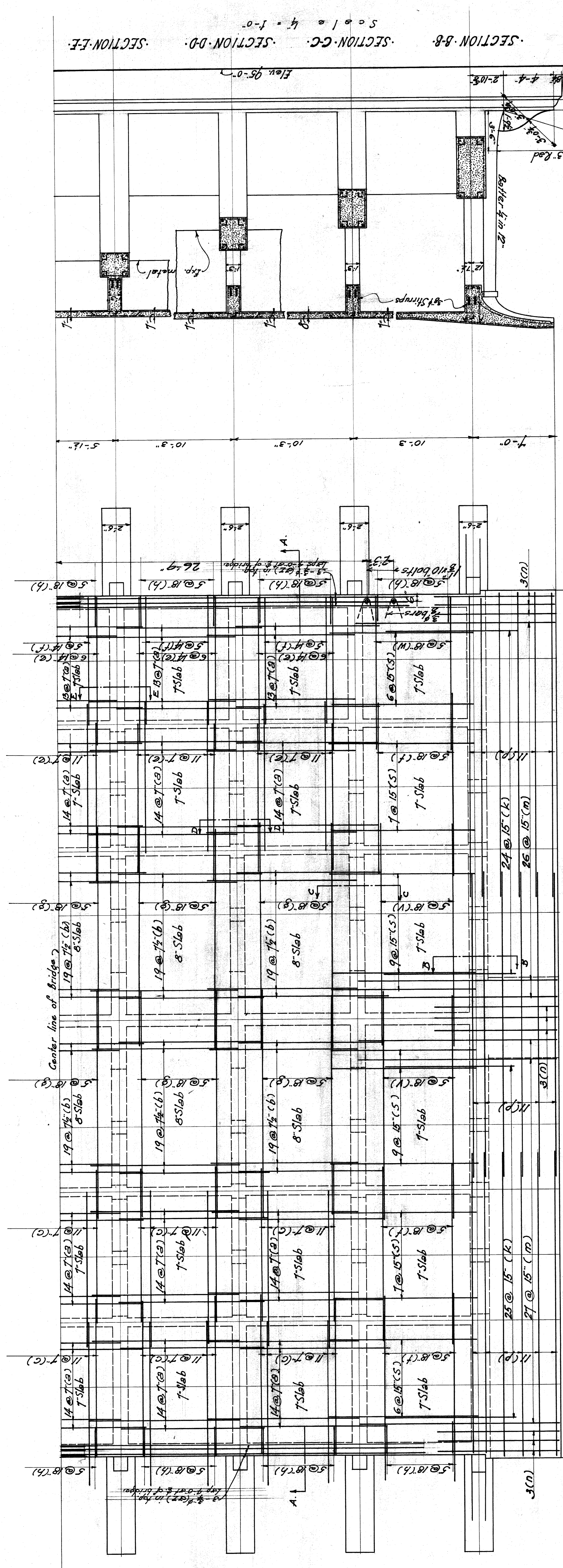


SECTION A-A
Scale 1/4"=1'-0"

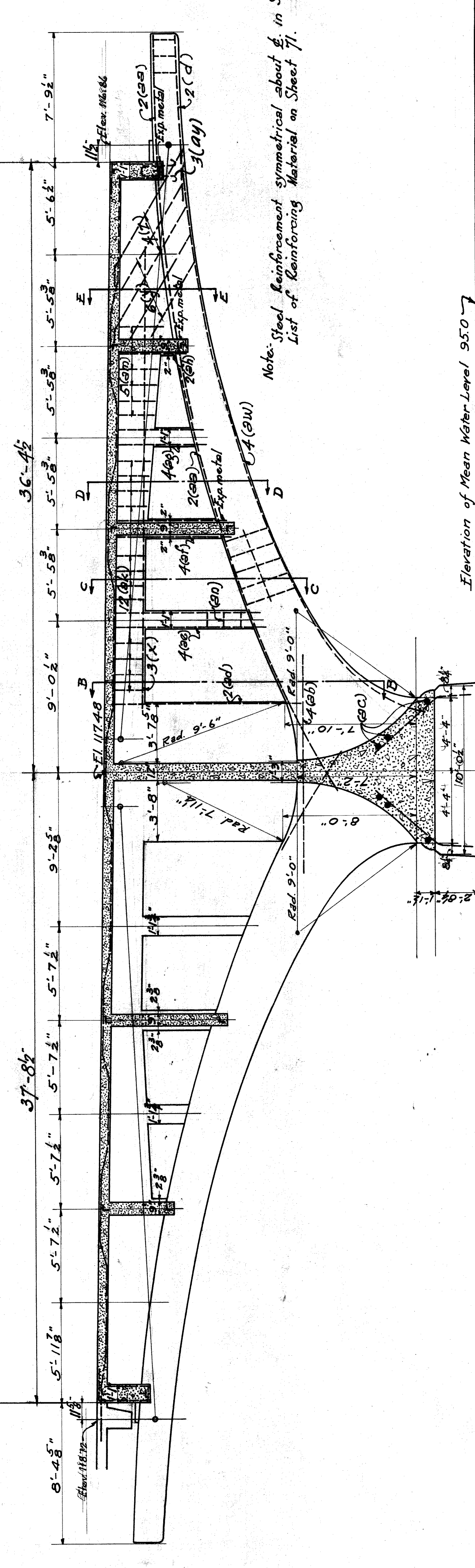
Note: Reinforcement symmetrical about \bar{x} in Section A-A.
List of Reinforcing Material on Sheet 65.



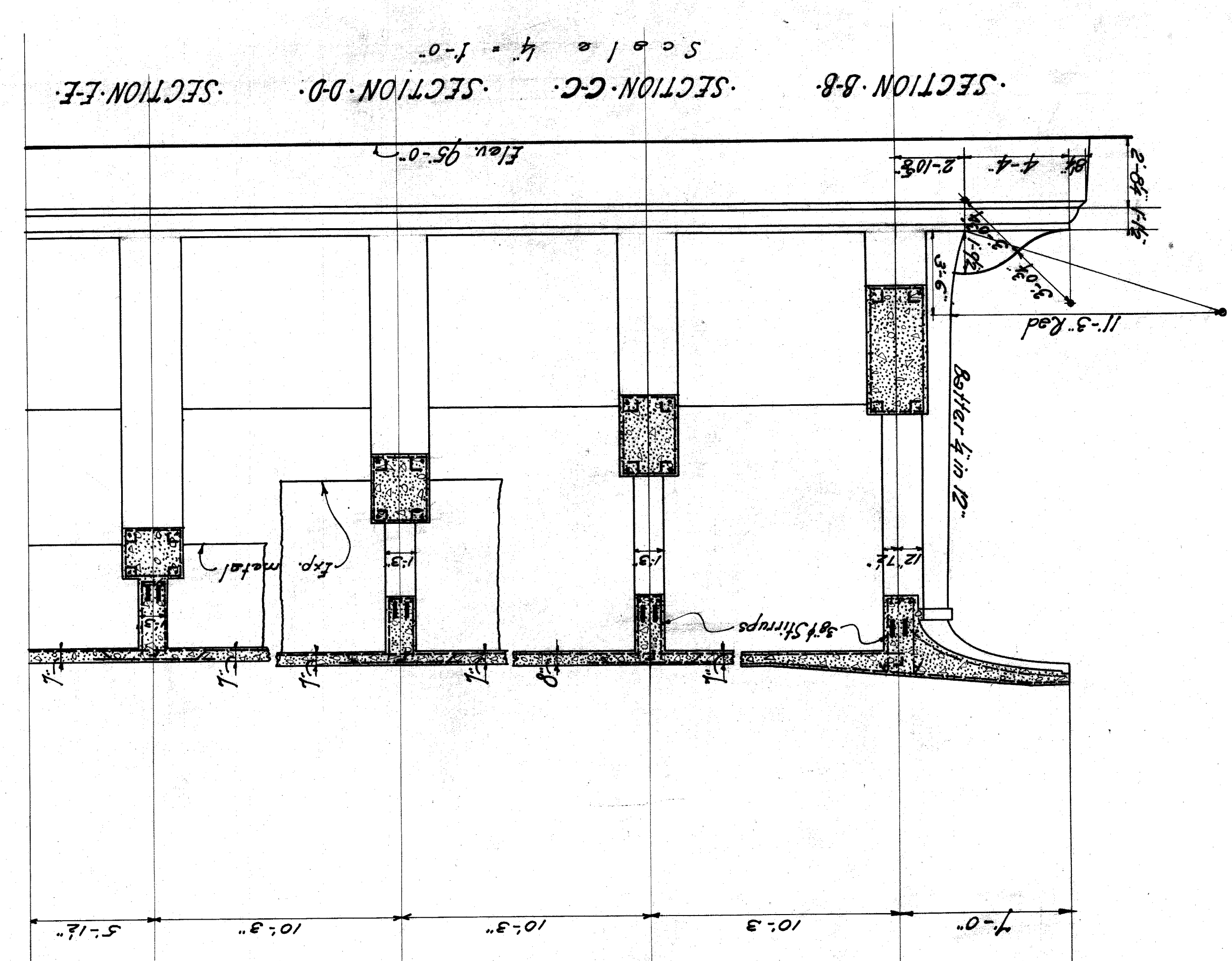
PLAN & SECTIONS - PIER 15	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN - COMMISSIONER	
BELLE ISLE BRIDGE	
DR. BY: A.E.L.	ESSELSTYIN-MURPHY
CHK. BY: J.M.G.	ENGINEERS
DATE: 11/17/21	LEWIS M. GRAM ASSOCIATE
REV. 1-10-23	DETROIT, MICH.
	287
	70



- PLAN -
Scale 1/4" = 1'-0"

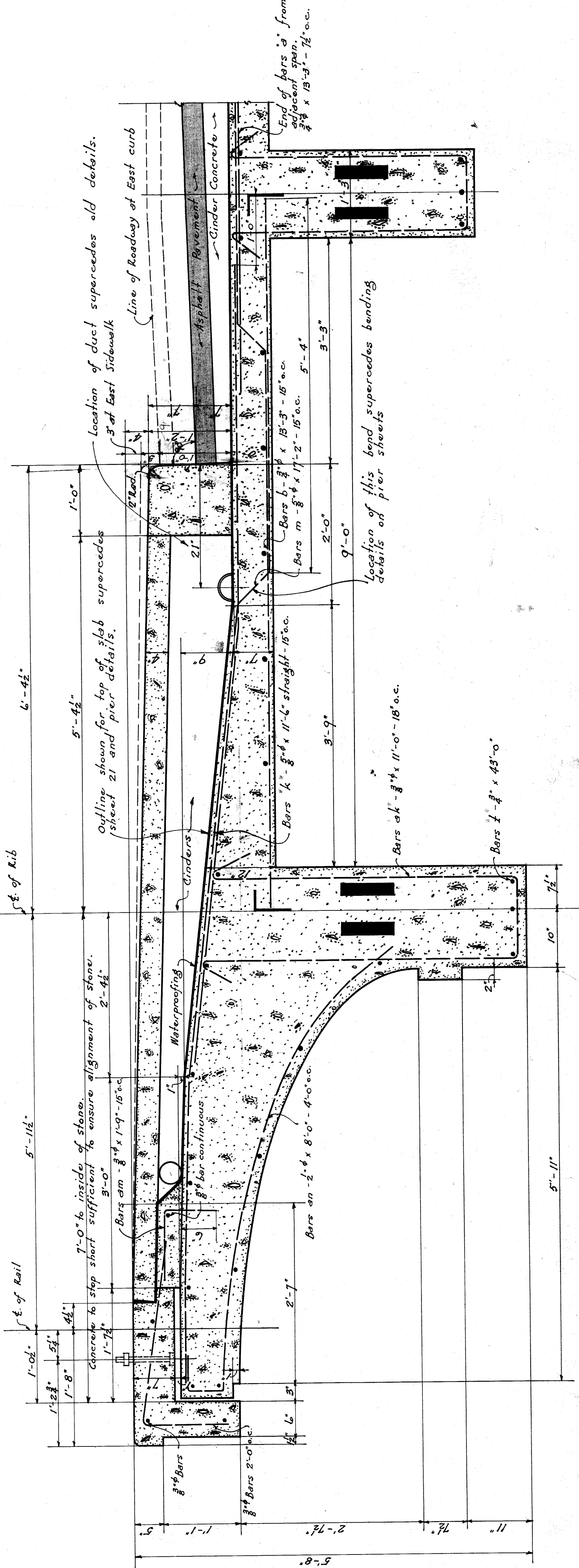


SECTION-AA
Scale 1/4" = 1'-0"

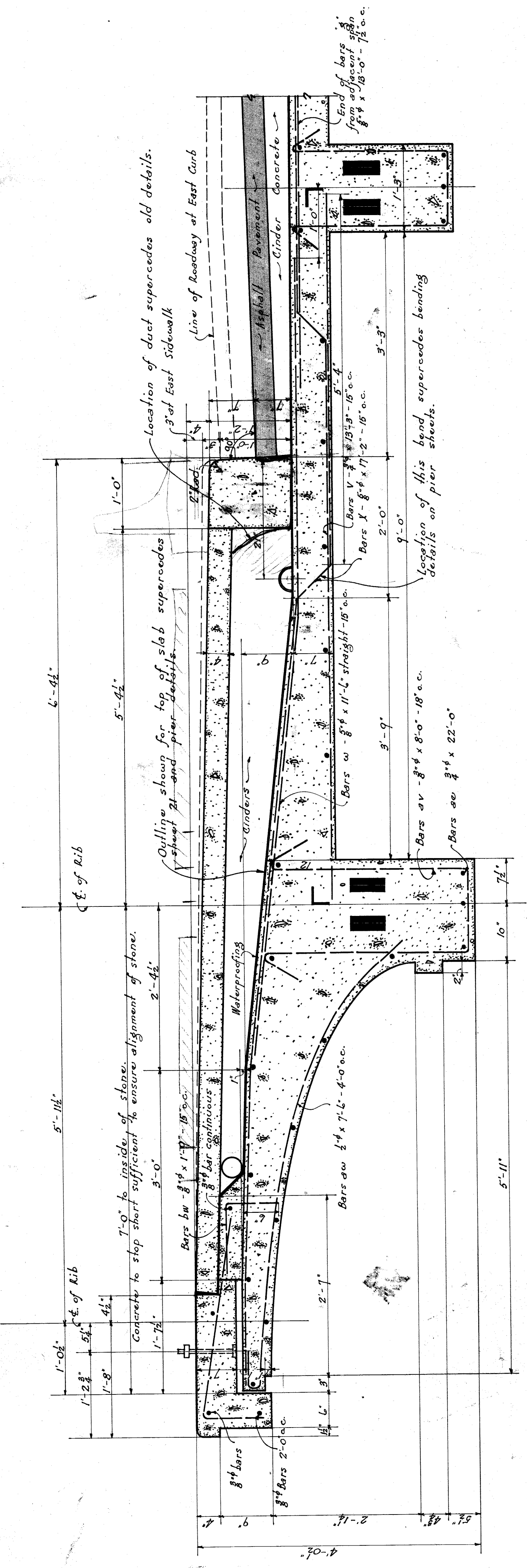


SECTION-BB
SECTION-C-C
SECTION-D-D
SECTION-E-E
Scale 1/4" = 1'-0"

PLAN & SECTIONS - PIER-16	
CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS JOSEPH MARTIN, COMMISSIONER	
BELLE ISLE BRIDGE	
DESIGNER E.S. J. C. P.	ENGINEER E.S. J. C. P.
CHIEF ENGINEER M. T. H. J.	ASSOCIATE L. W. G. G.
DATE MAY 10 1917	PROJECT DETROIT, MICH.
287	72

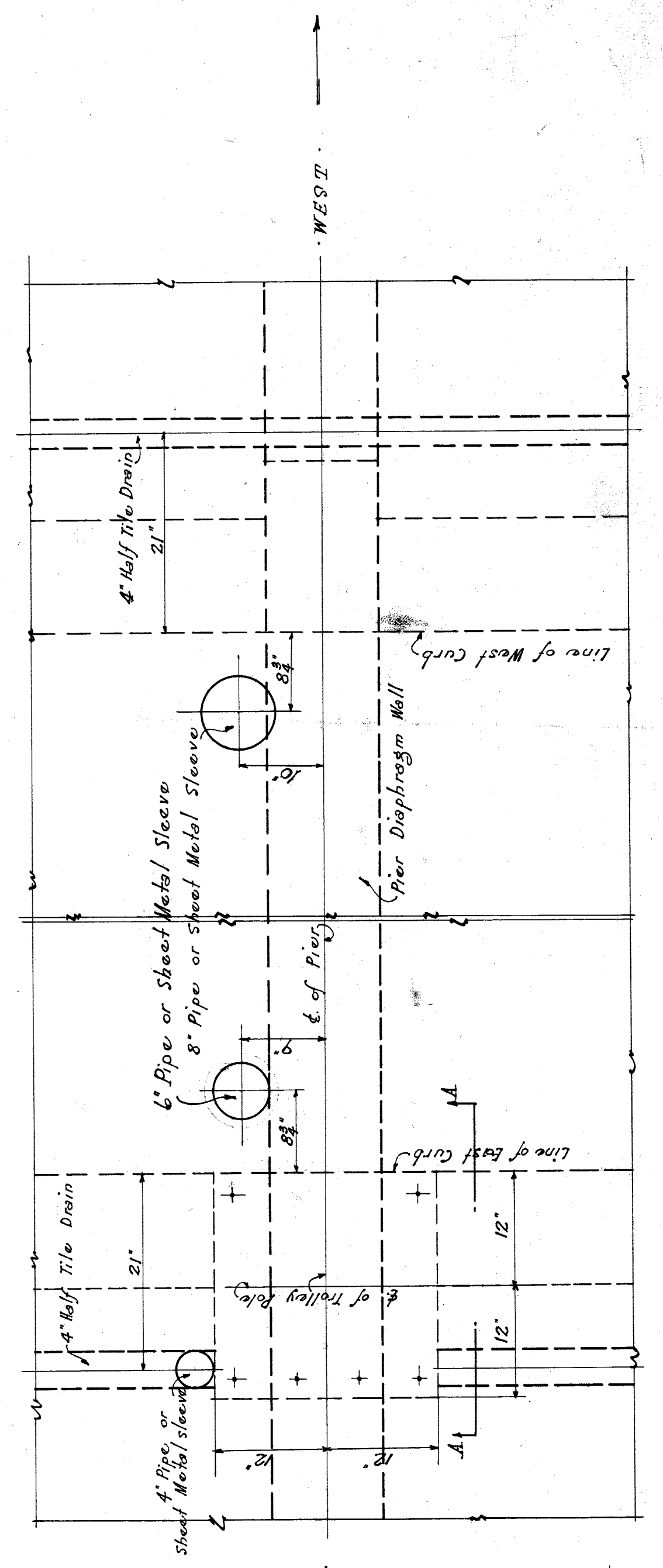


SECTION THRU WEST SIDEWALK
AT PIERS 5-6-I-8
EAST SIDEWALK SAME EXCEPT AS NOTED.
Scale 1" = 1'-0"

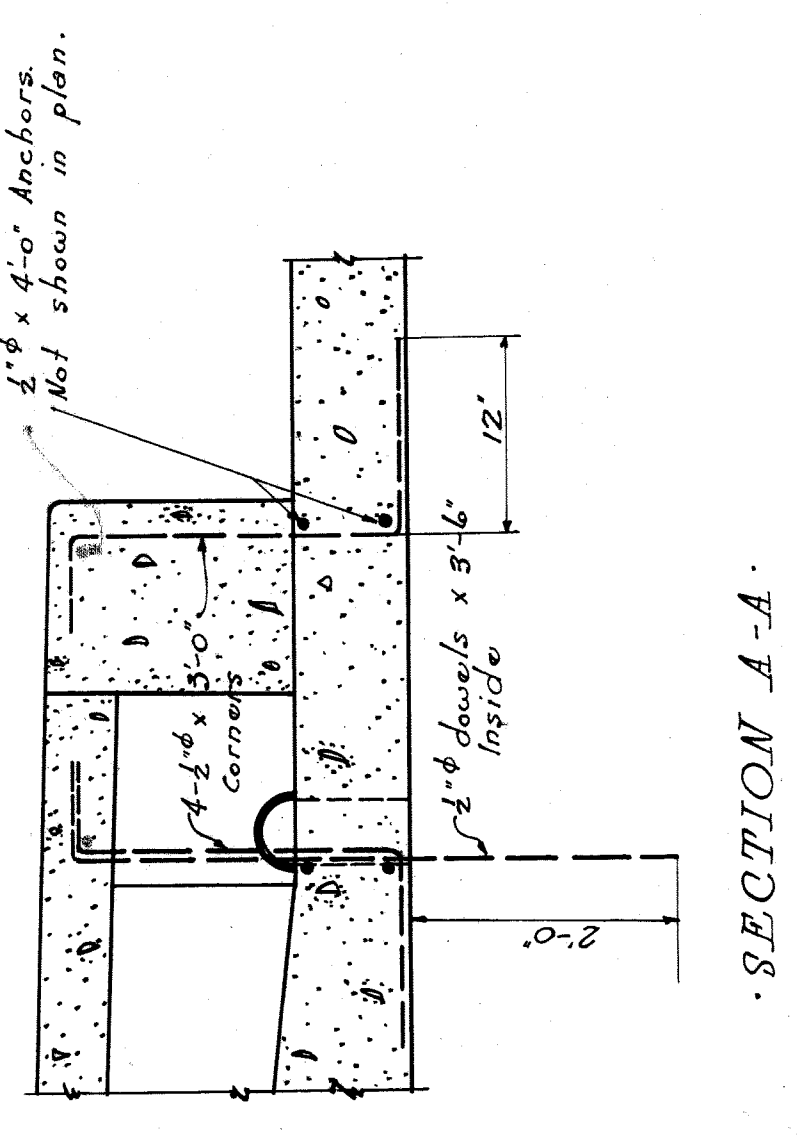


SECTION THRU WEST SIDEWALK
AT PIER 19
EAST SIDEWALK SAME EXCEPT AS NOTED.
Scale 1" = 1'-0"

General Note: Scheduled dimensions covering sidewalk soffits & parapets are to remain as shown on sheet 21 & on pier details. These sheets remain in force except as noted above.
Details shown cover extreme sizes. Intermediate sizes to have similar changes.
Main reinforcing bars in beams & columns to have 1/4" cover.
In slabs to have 3" cover.



PLAN SHOWING PROVISION FOR TROLLEY POLE CONNECTION & DRAINAGE
AS SHOWN AT PIERS 0 TO 6.
SLEEVES OTHER SIDE OF PIER 6, FOR 7 TO 19.
Scale 1" = 1'-0"



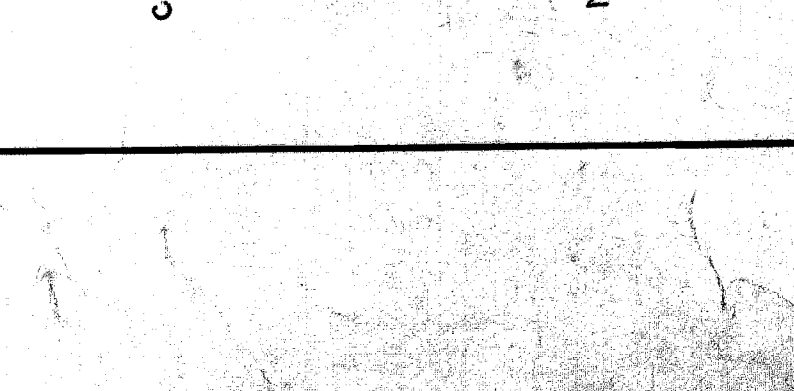
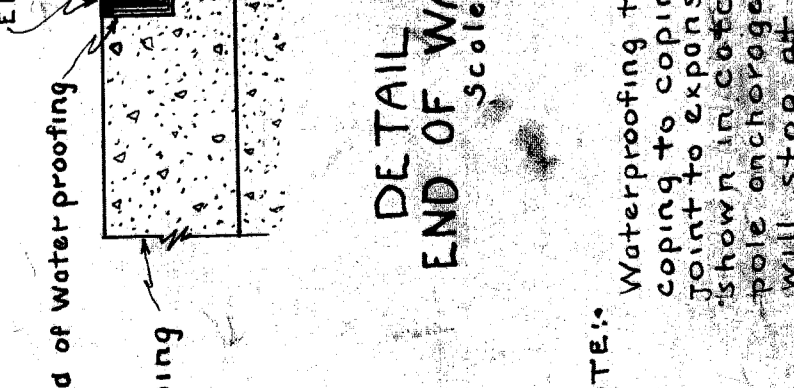
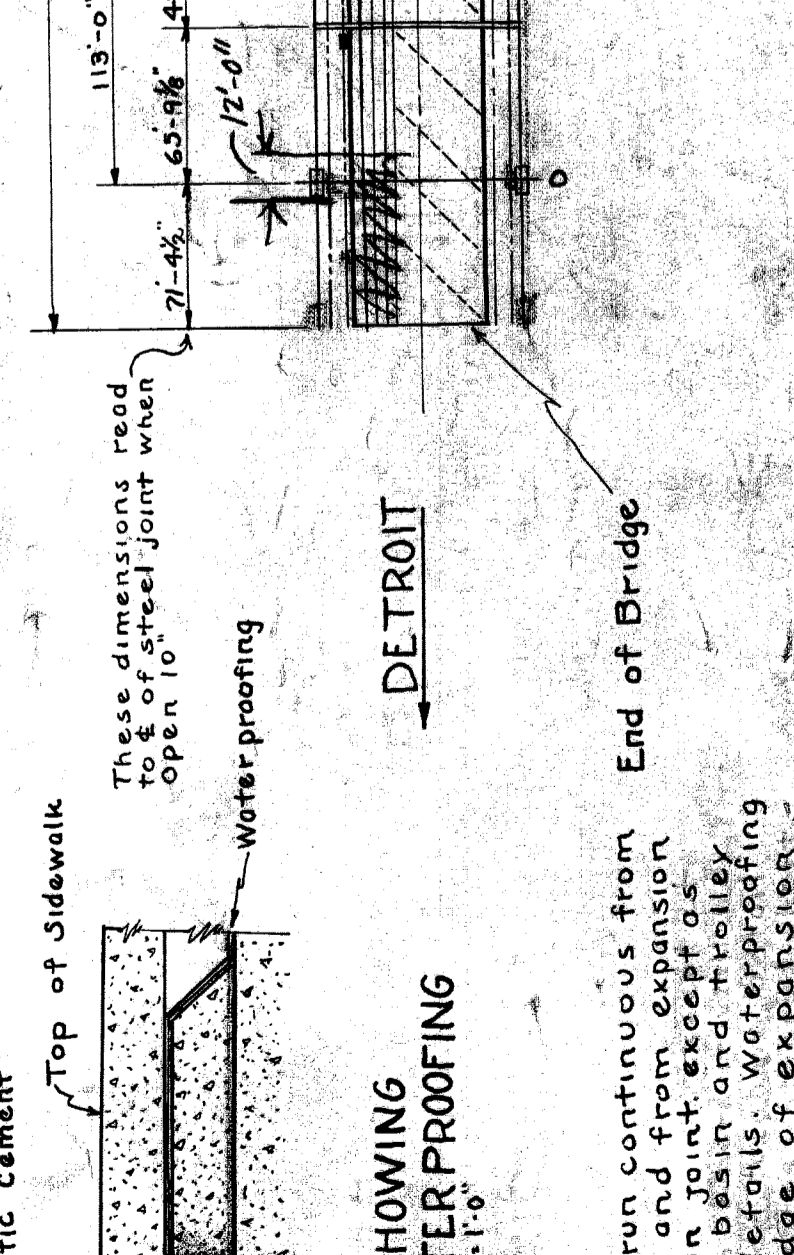
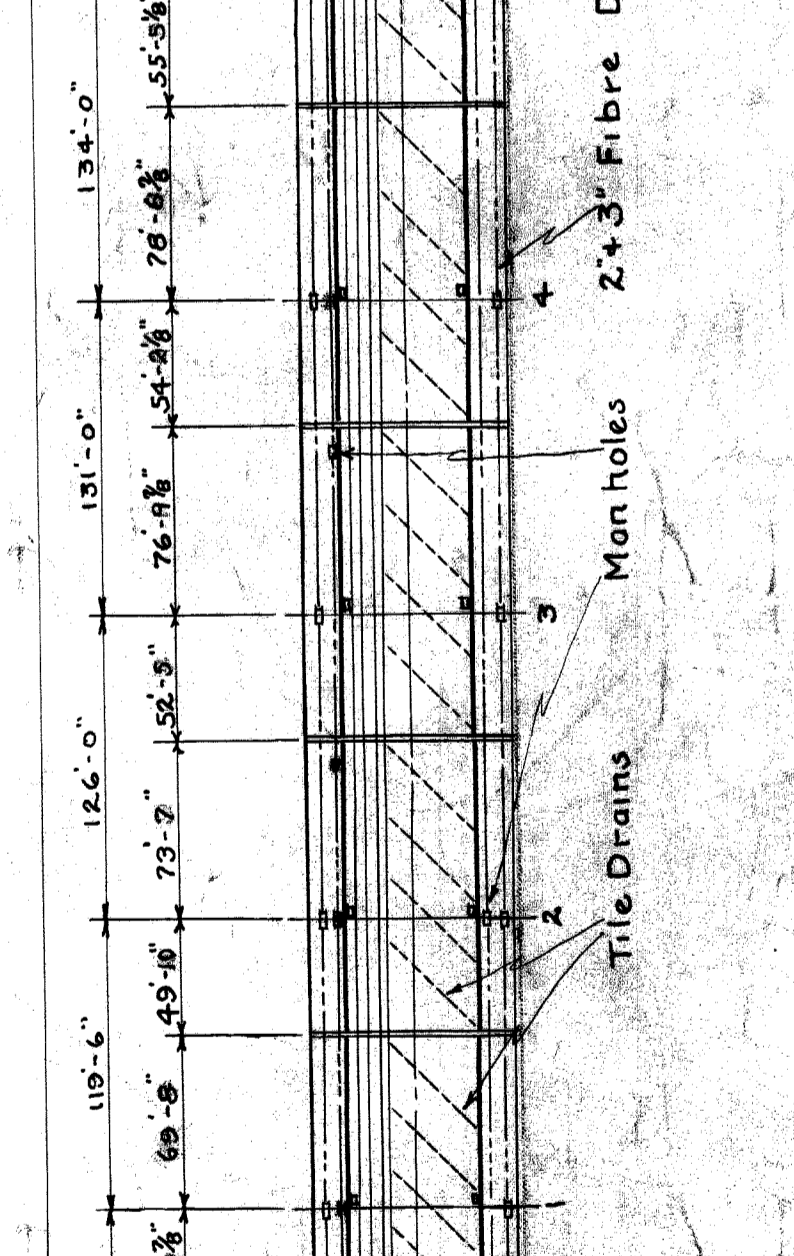
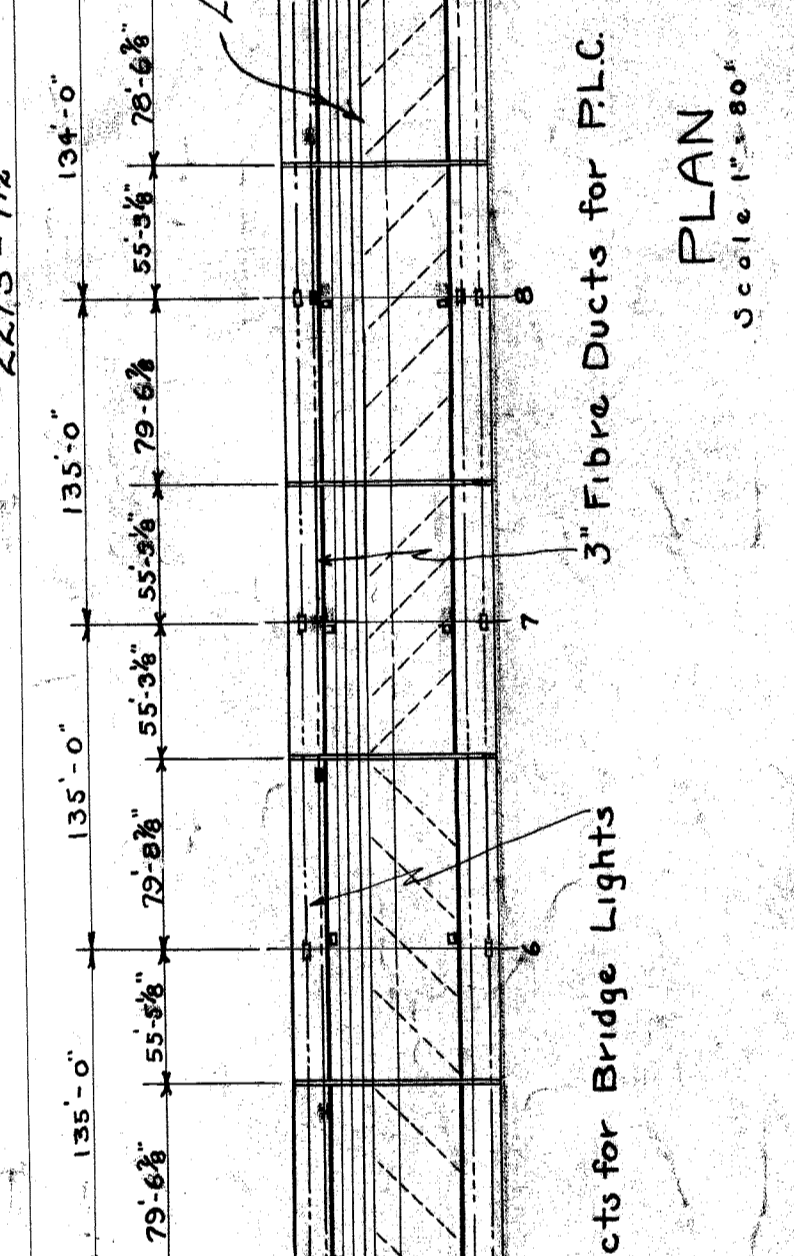
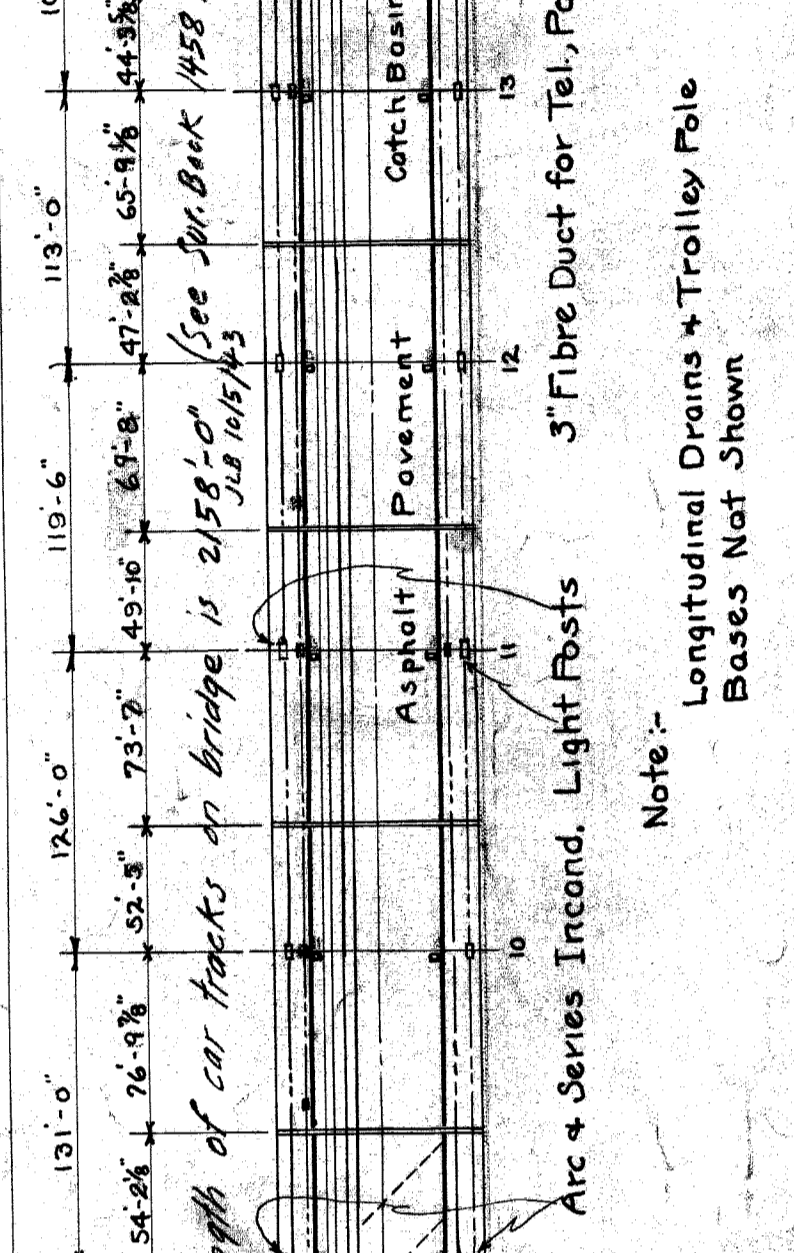
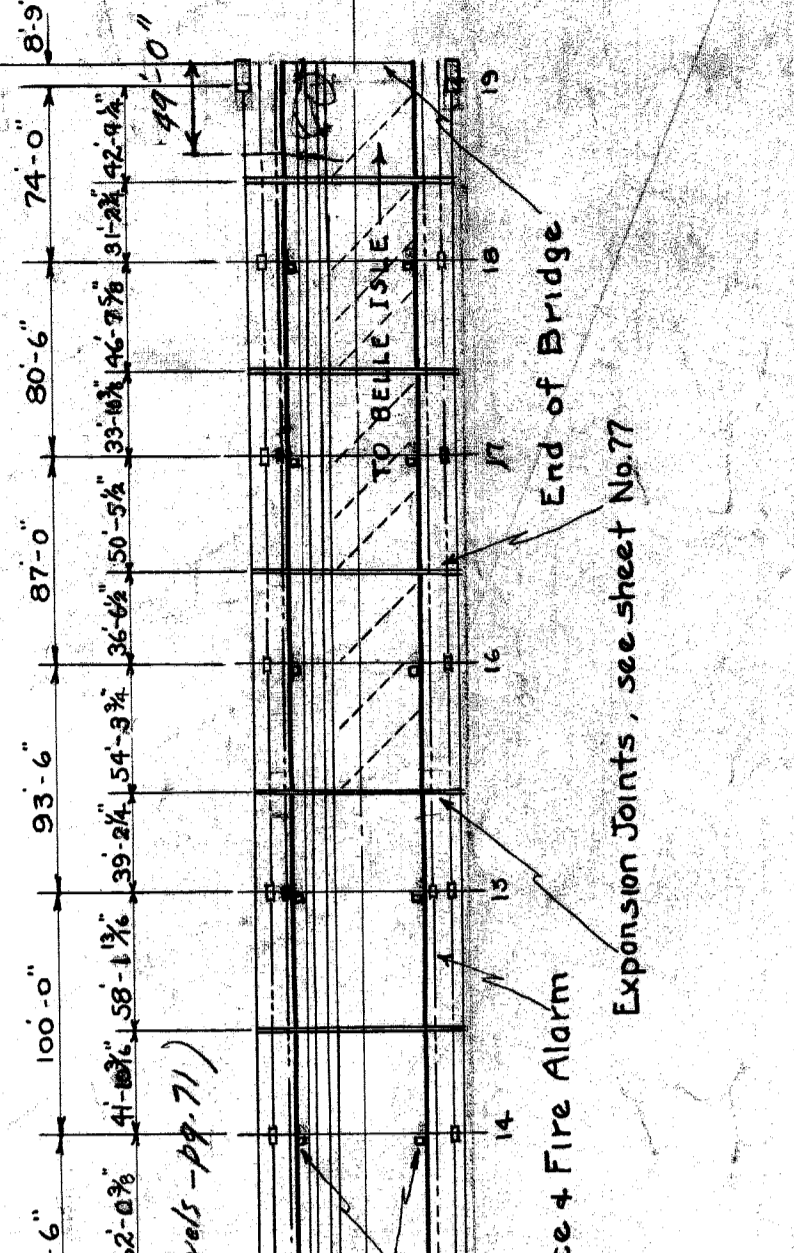
REVISIONS OF DECKS SUPPLEMENTING PREVIOUS DETAILS	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH HARTLEY COMMISSIONER	
BELLE ISLE BRIDGE	
DR. BY F. E. L.	ESSELSTYIM-MURPHY .287
TR. BY F. E. L.	ENGINEERS
DATE: J. 15-22	LEWIS M. GRAM ASSOCIATES
FILE: 126-22	DETROIT, MICH.
DATE APPROVED: 1-20-22	
FILE: 126-22	
FILE: 126-22	

ORDER OF OPERATIONS FOR WORK ABOVE TOP OF SLAB

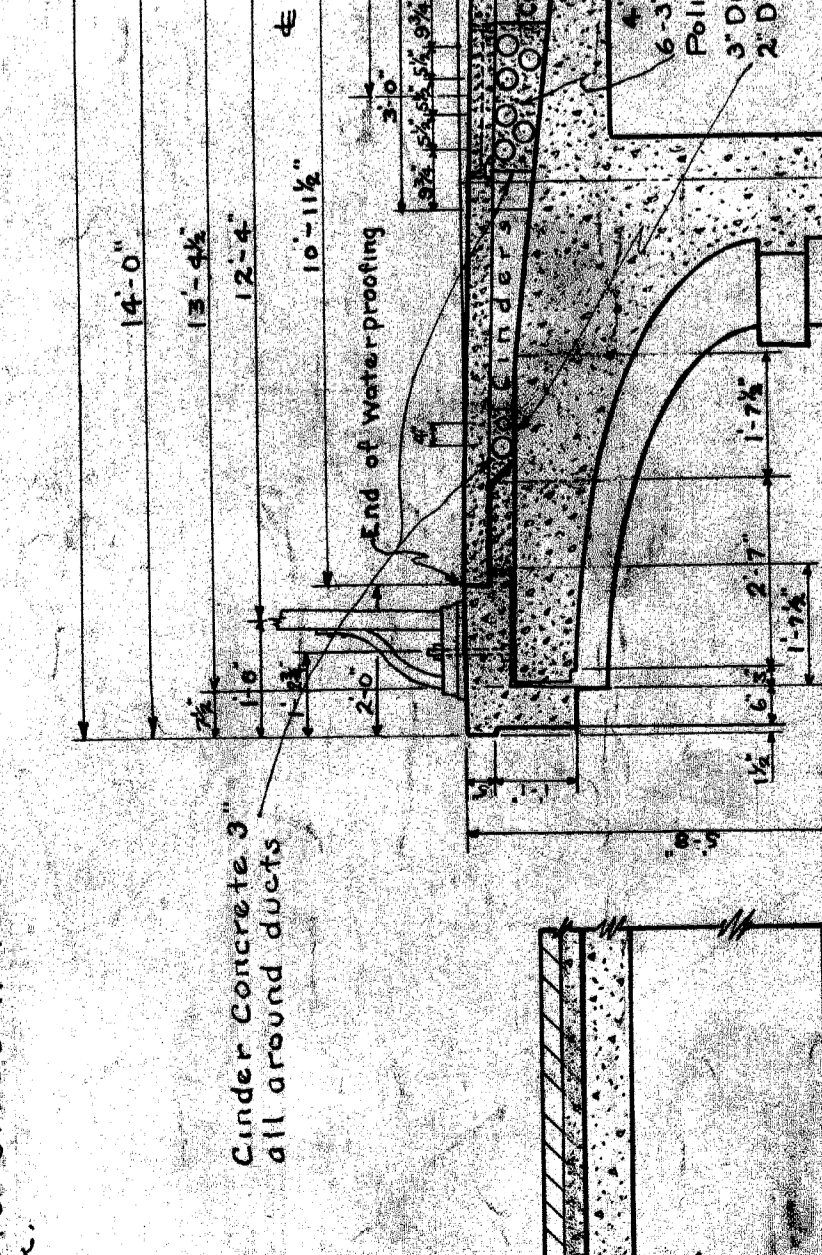
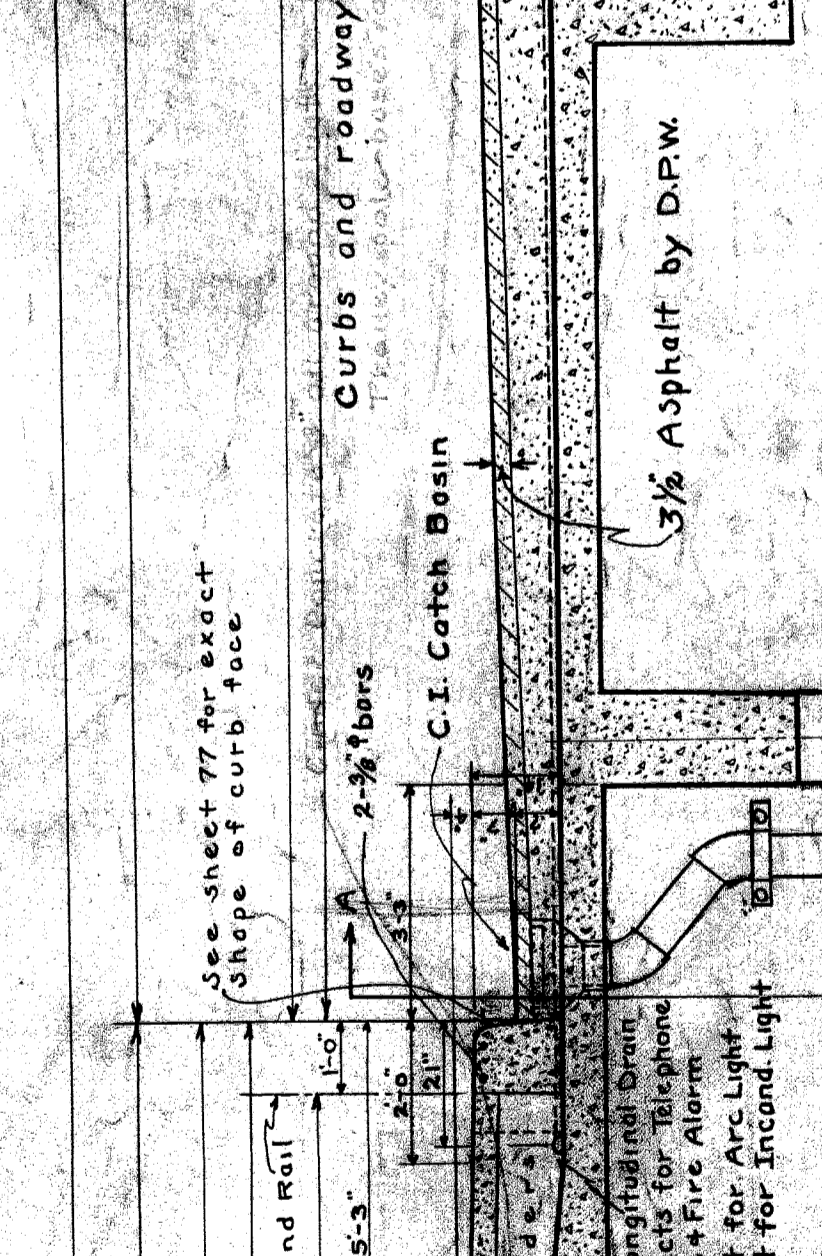
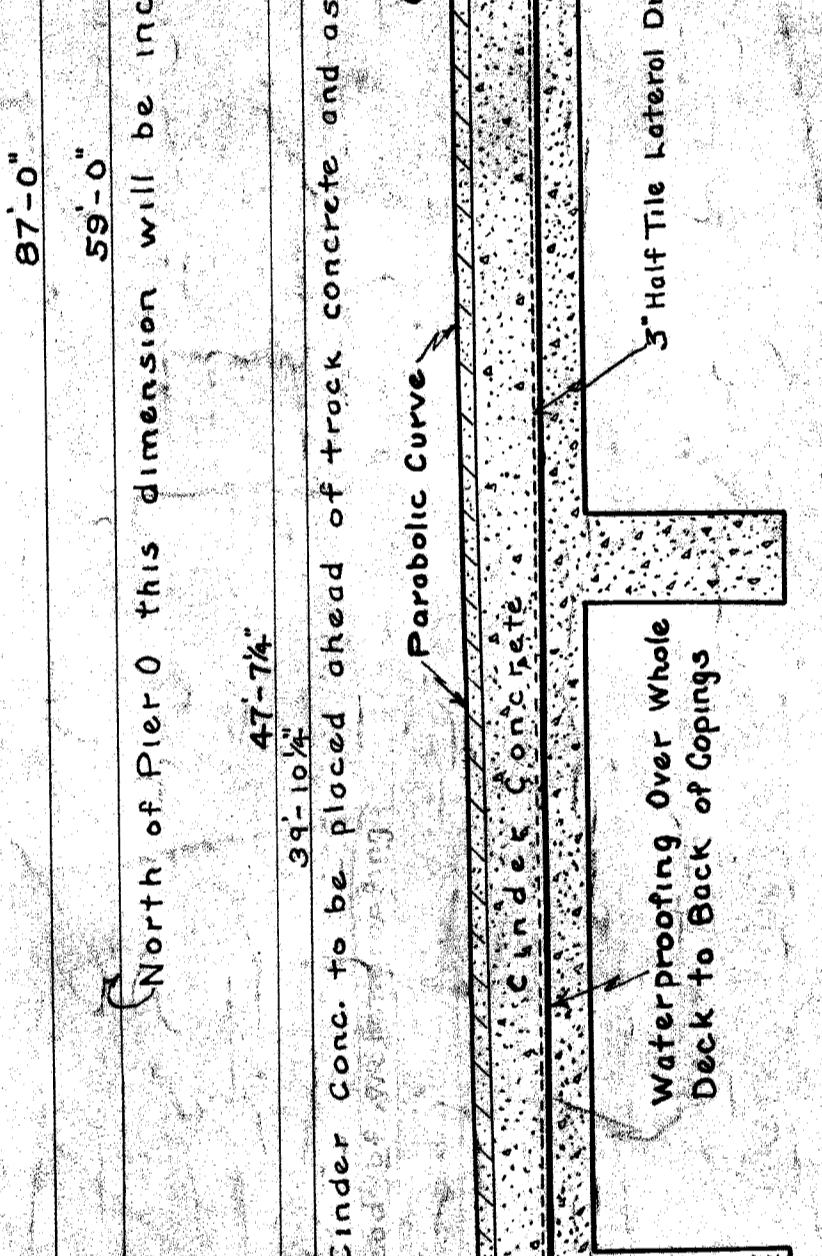
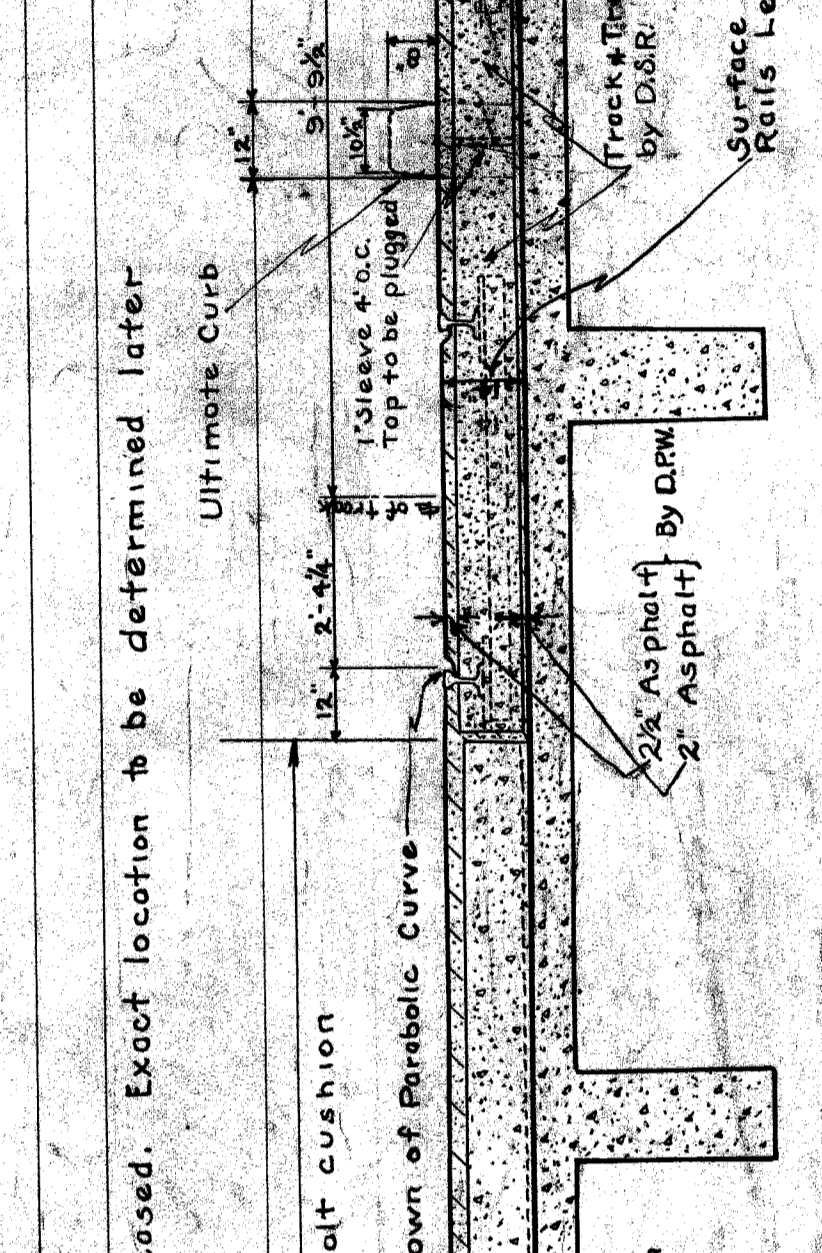
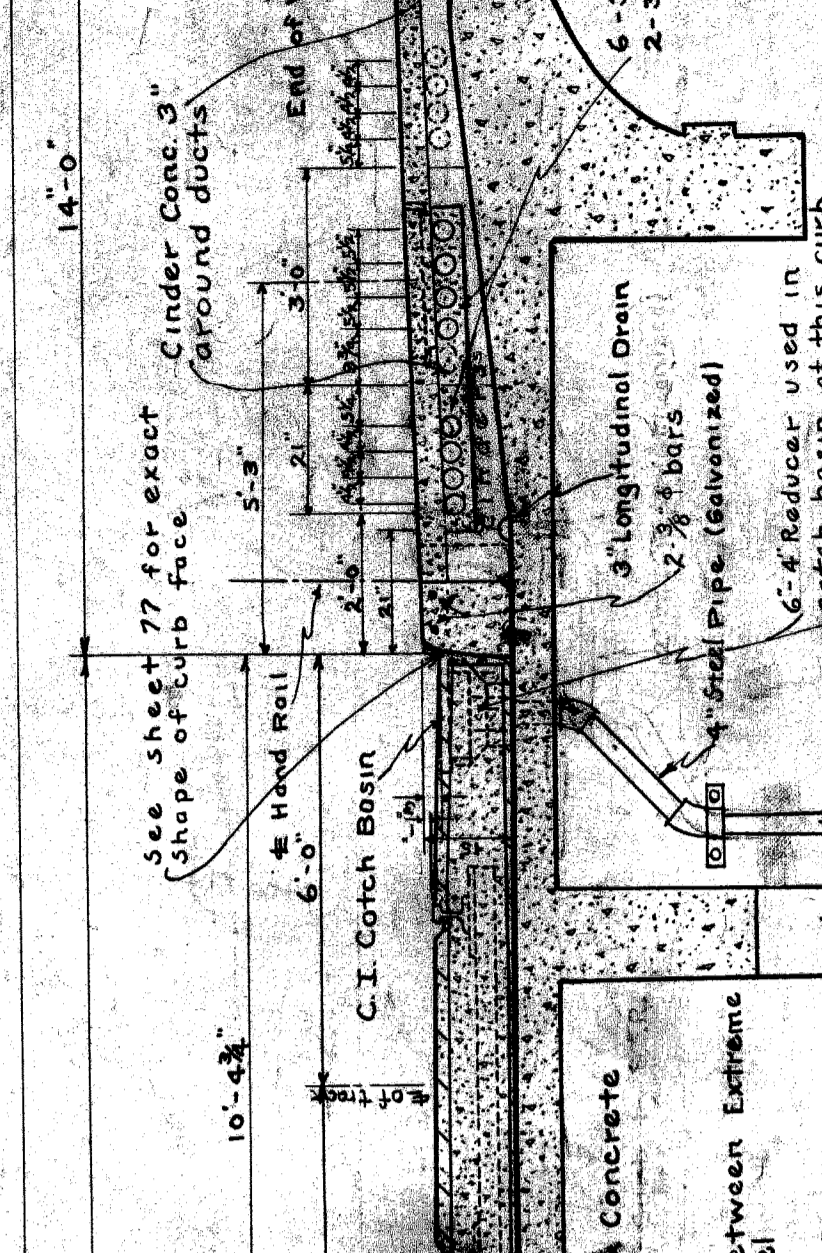
1. Set and erect forms, including anchor bolts for main bridge rails.
2. Set catch basin frames.
3. Set curbs, including trolley pole anchors, but not including curb expansion joints, including roadway expansion joints, asphalt cushion, track expansion joint, and upper track drains. (By D.S.)
4. Lay asphalt pavement with elastic cement (anytime after item 1).
5. Set conductors from manholes (anytime after item 1).
6. Lay side walk, and set manhole frames, hand rails, lighting poles and main hand rails (anytime after item 1).
7. Items not noted by others are by bridge contractor.

NOTE: Castings for cover and frame with 1/2" concrete cover cement with 1/2" concrete on expanded metal

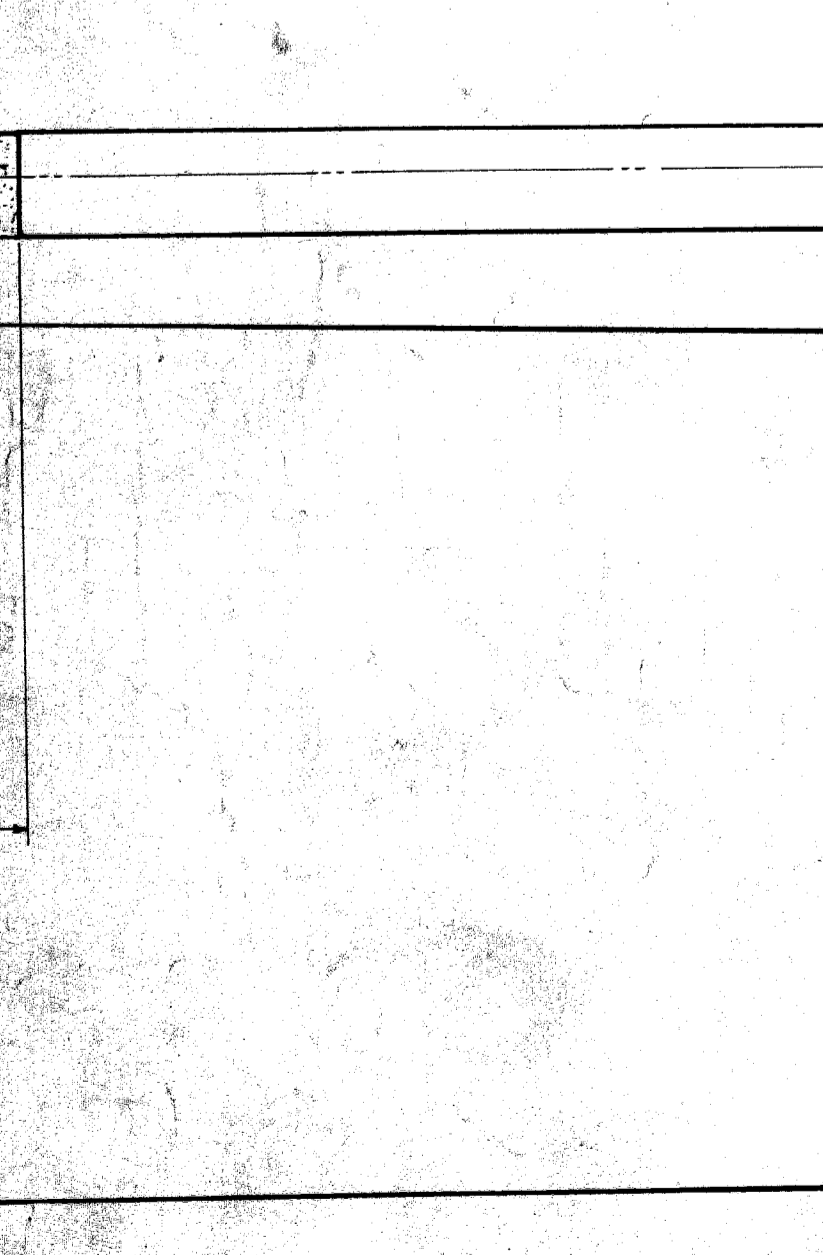
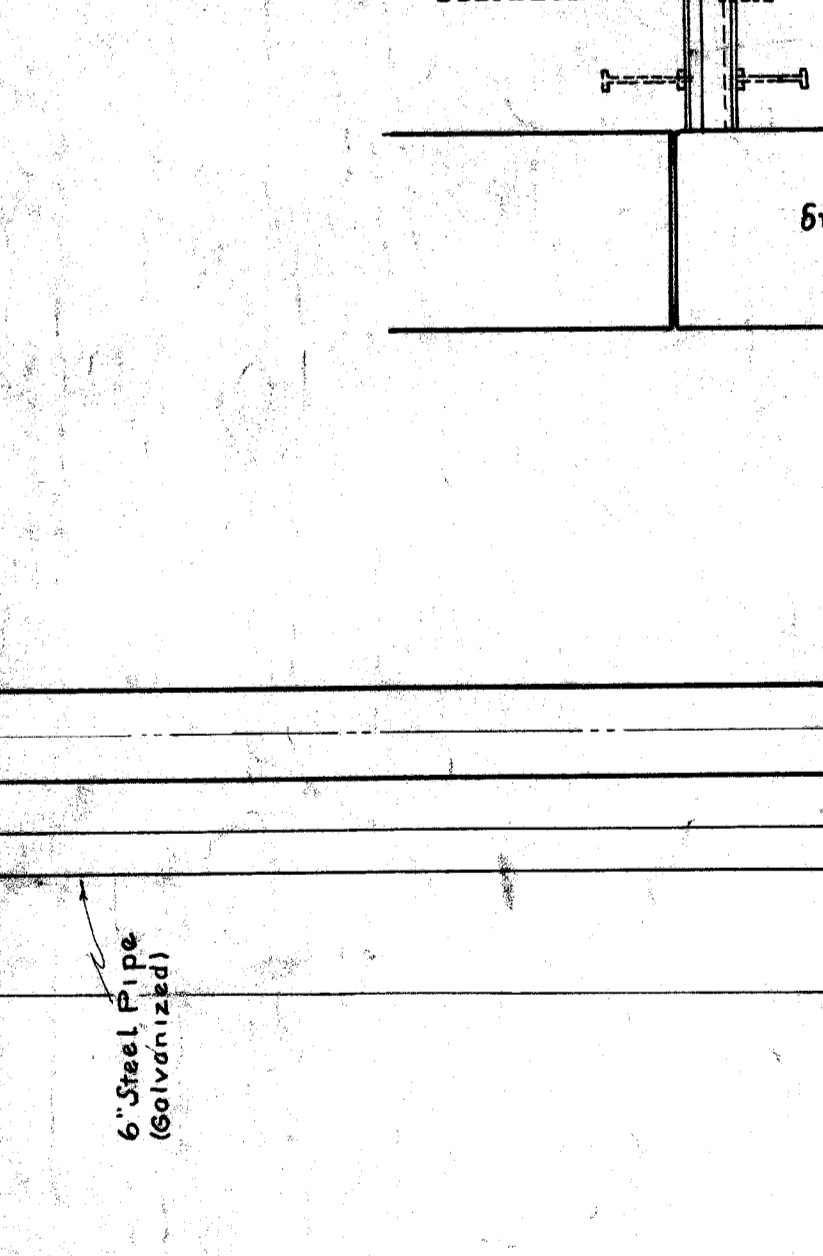
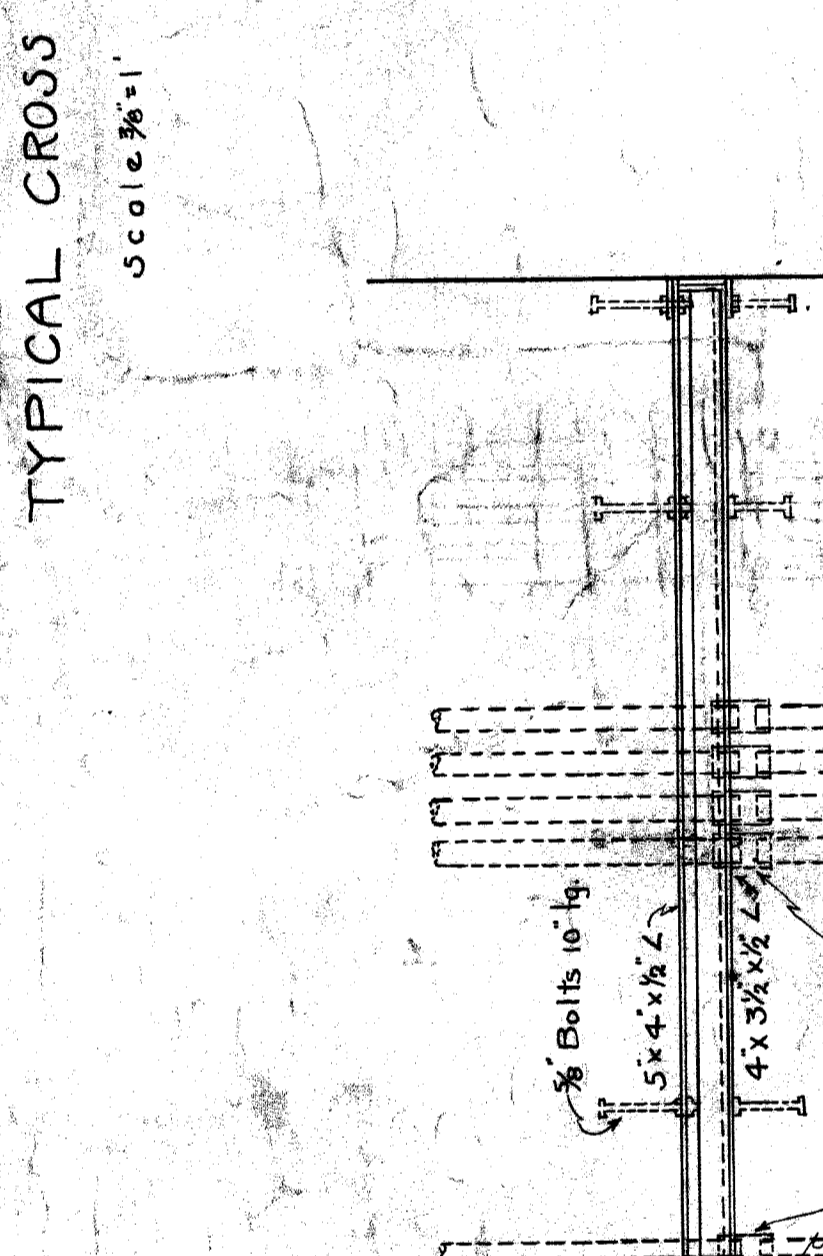
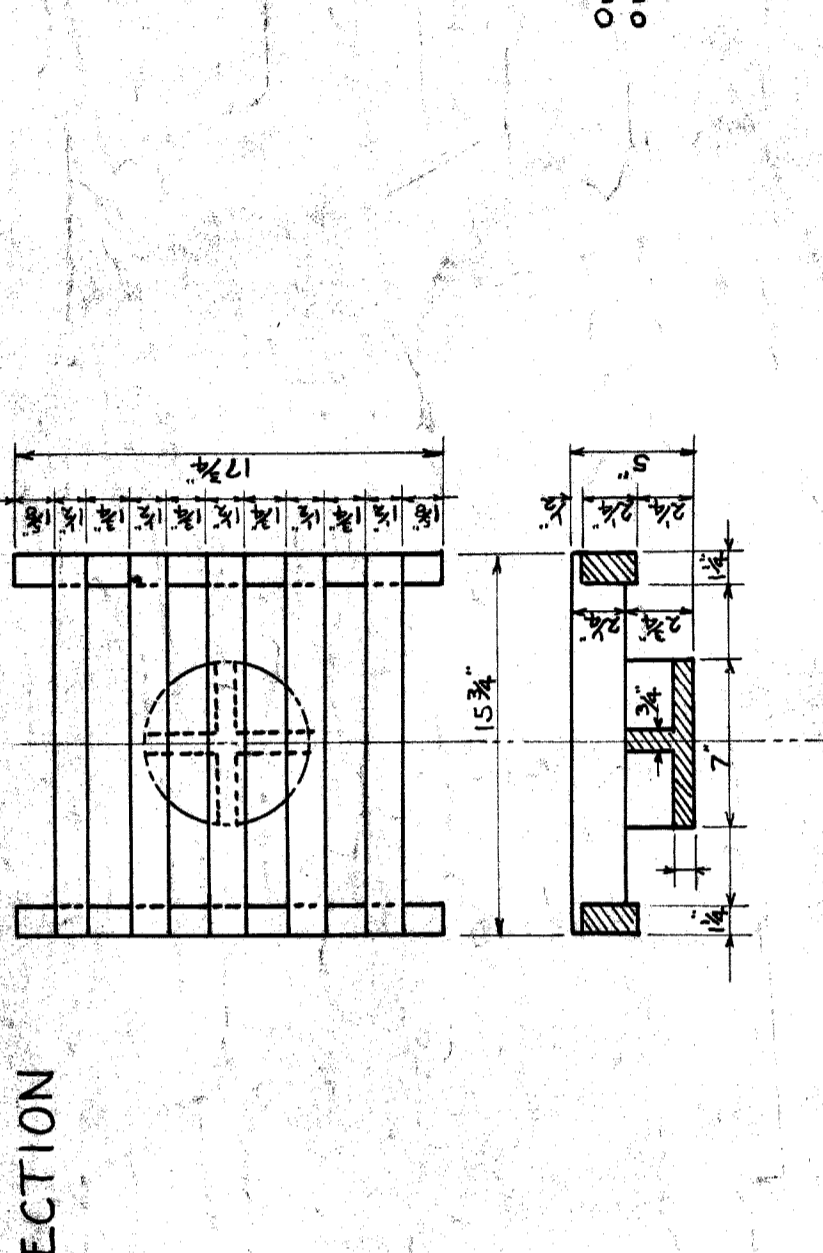
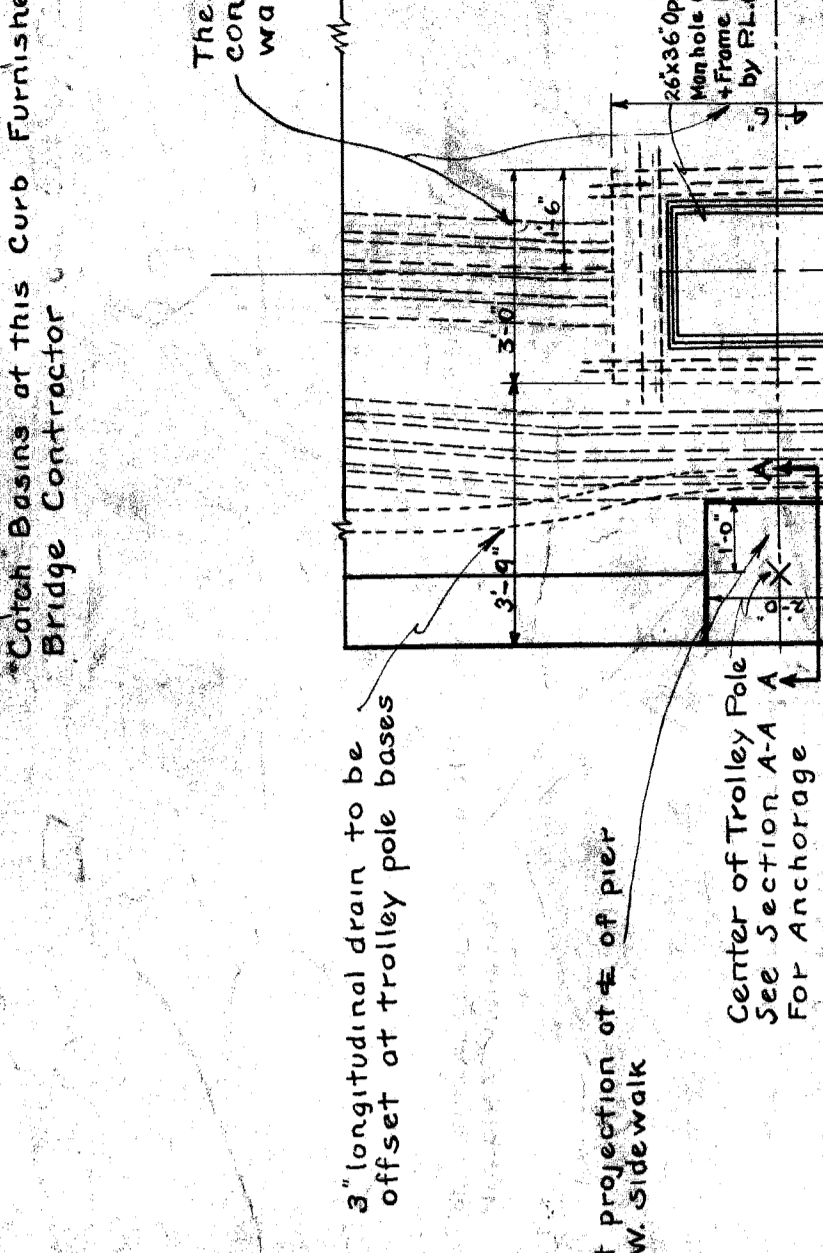
NOTE: Castings for cover and frame with 1/2" concrete cover cement with 1/2" concrete on expanded metal



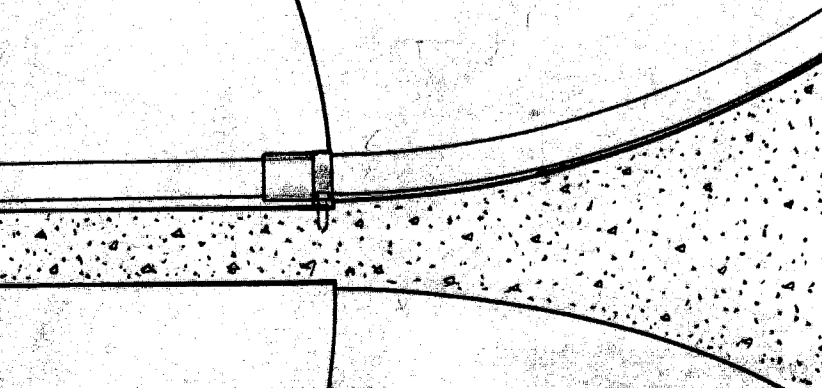
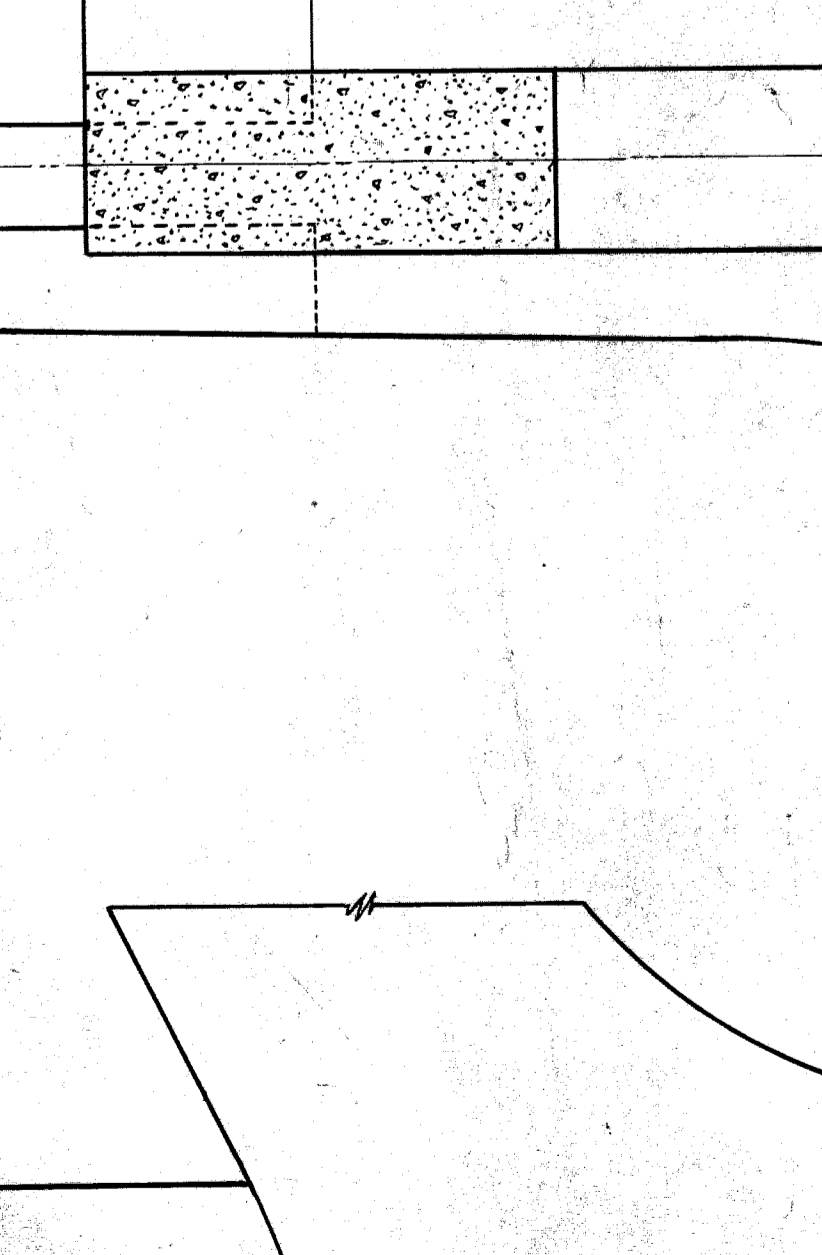
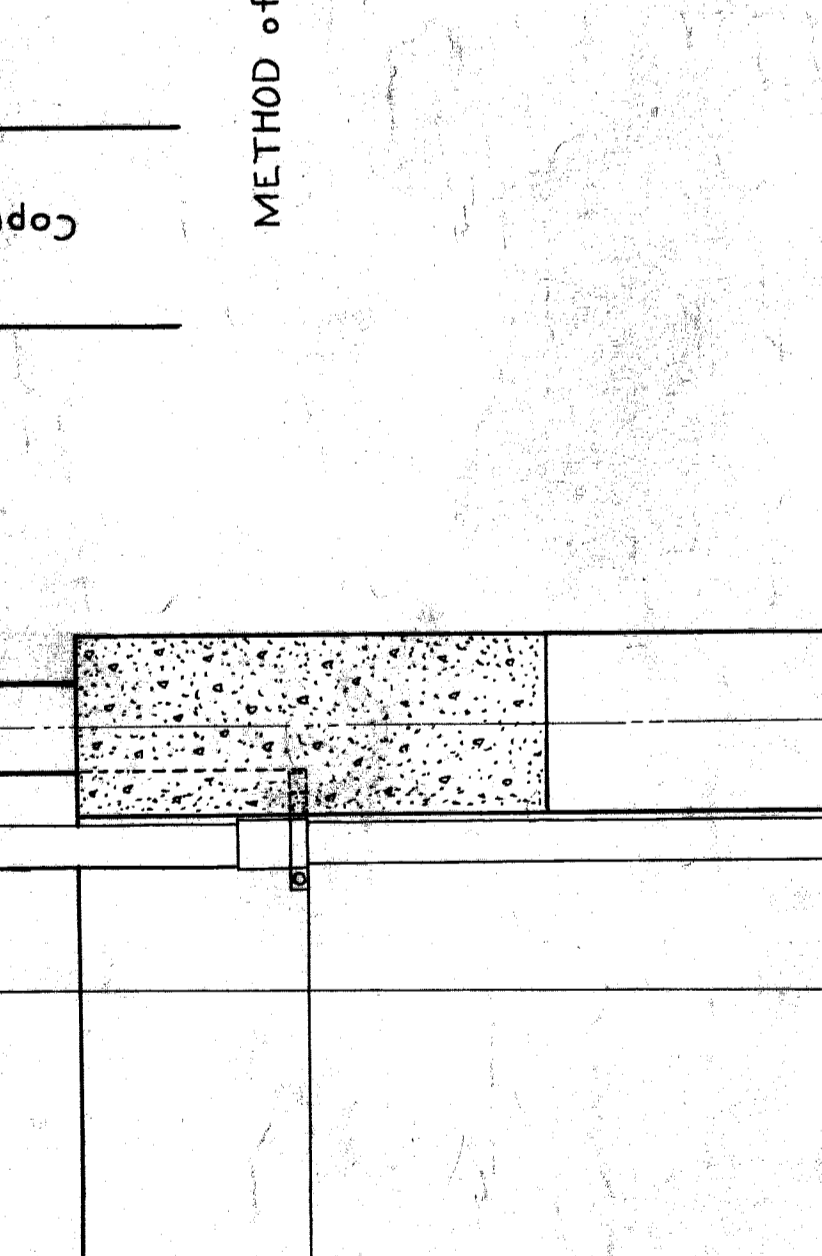
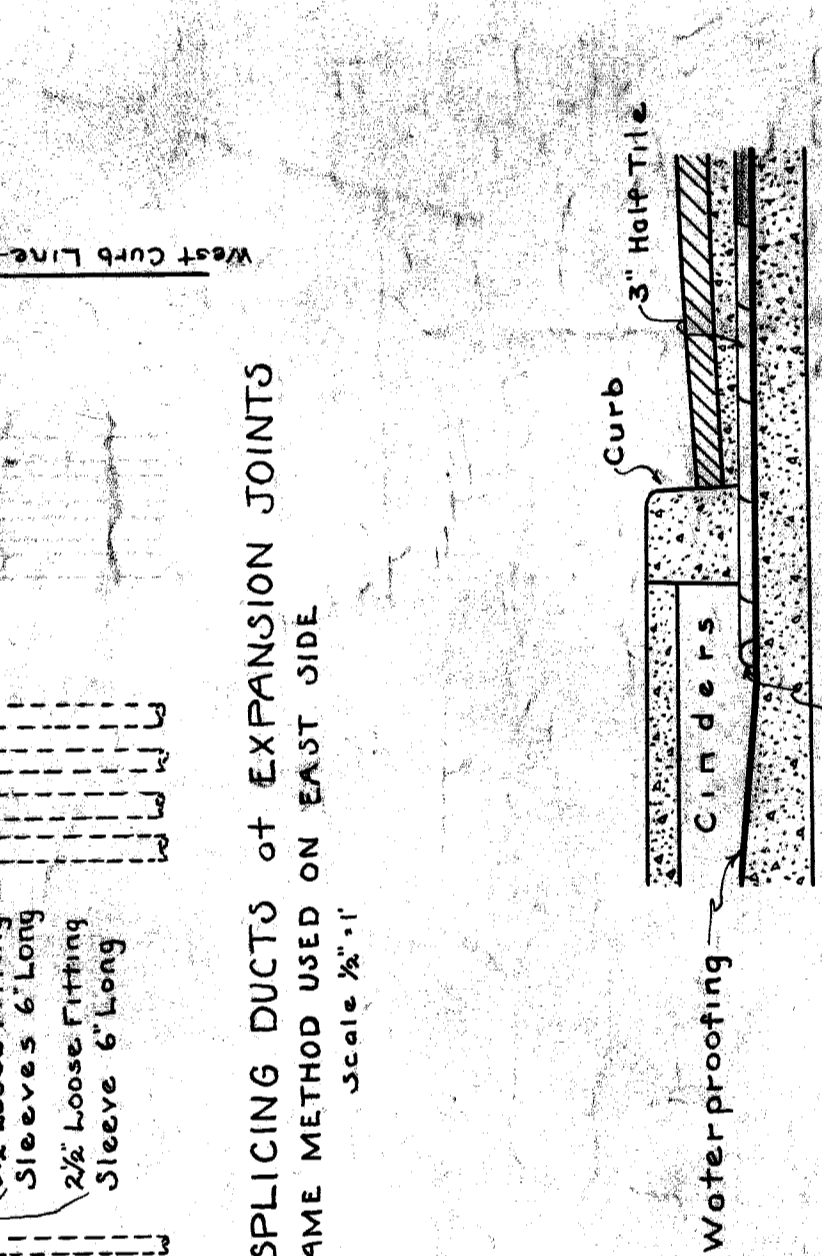
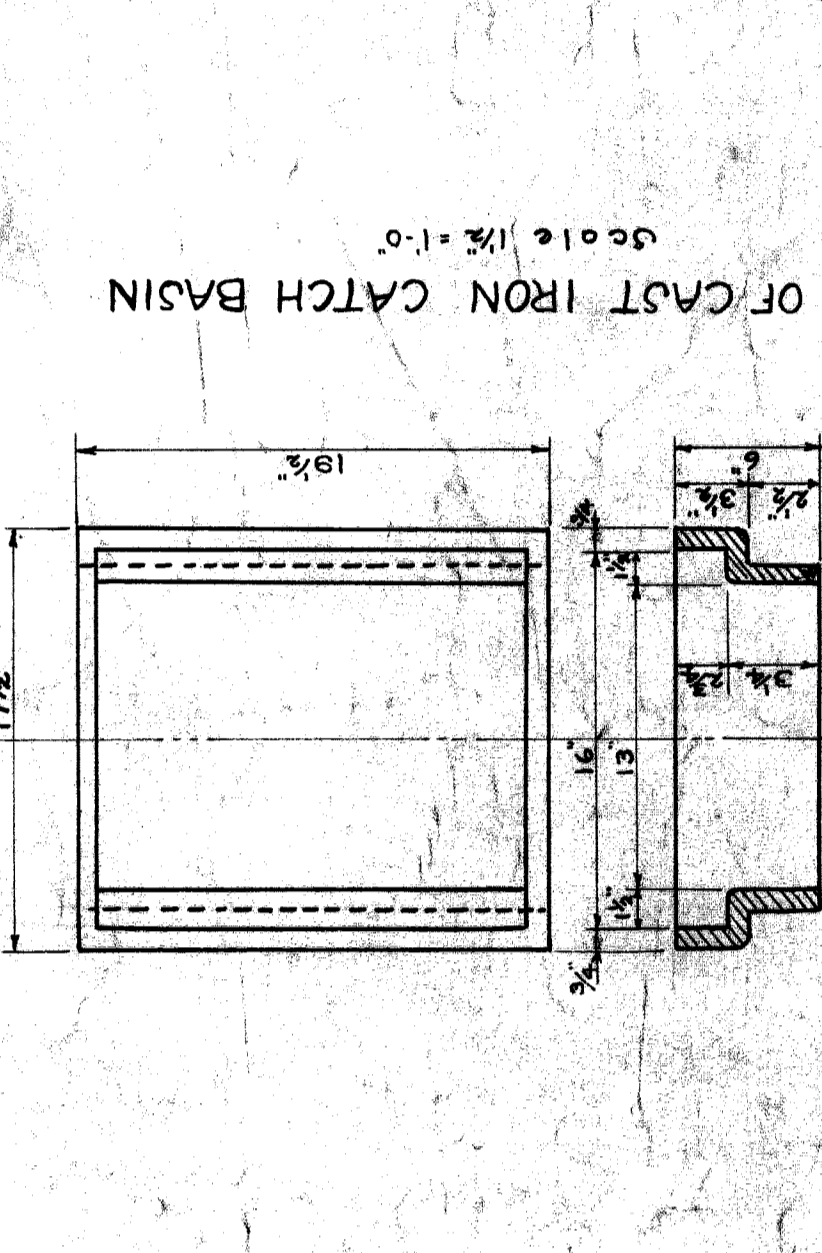
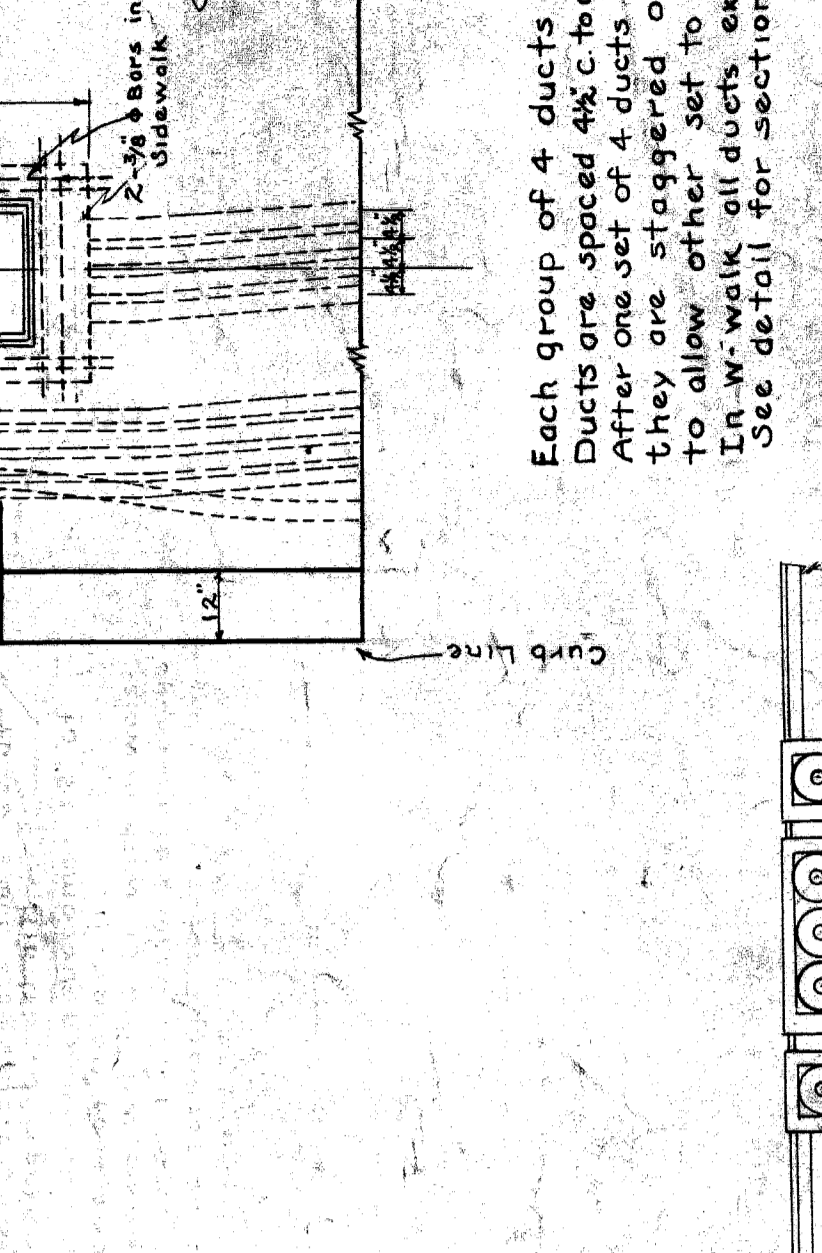
NOTE: Waterproofing to run continuously from joint to expansion joint except as shown in catch basin and railing. Railing will stop at edge of expansion joint in concrete slabs without special work.



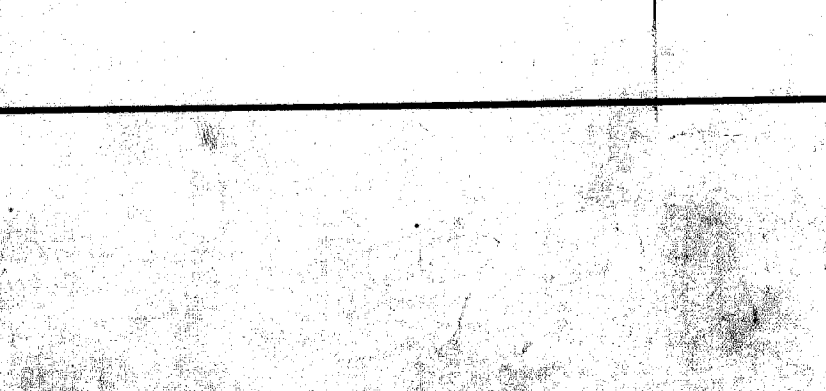
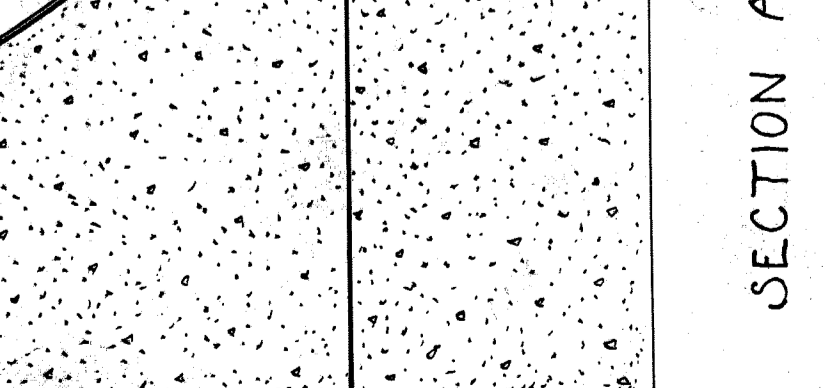
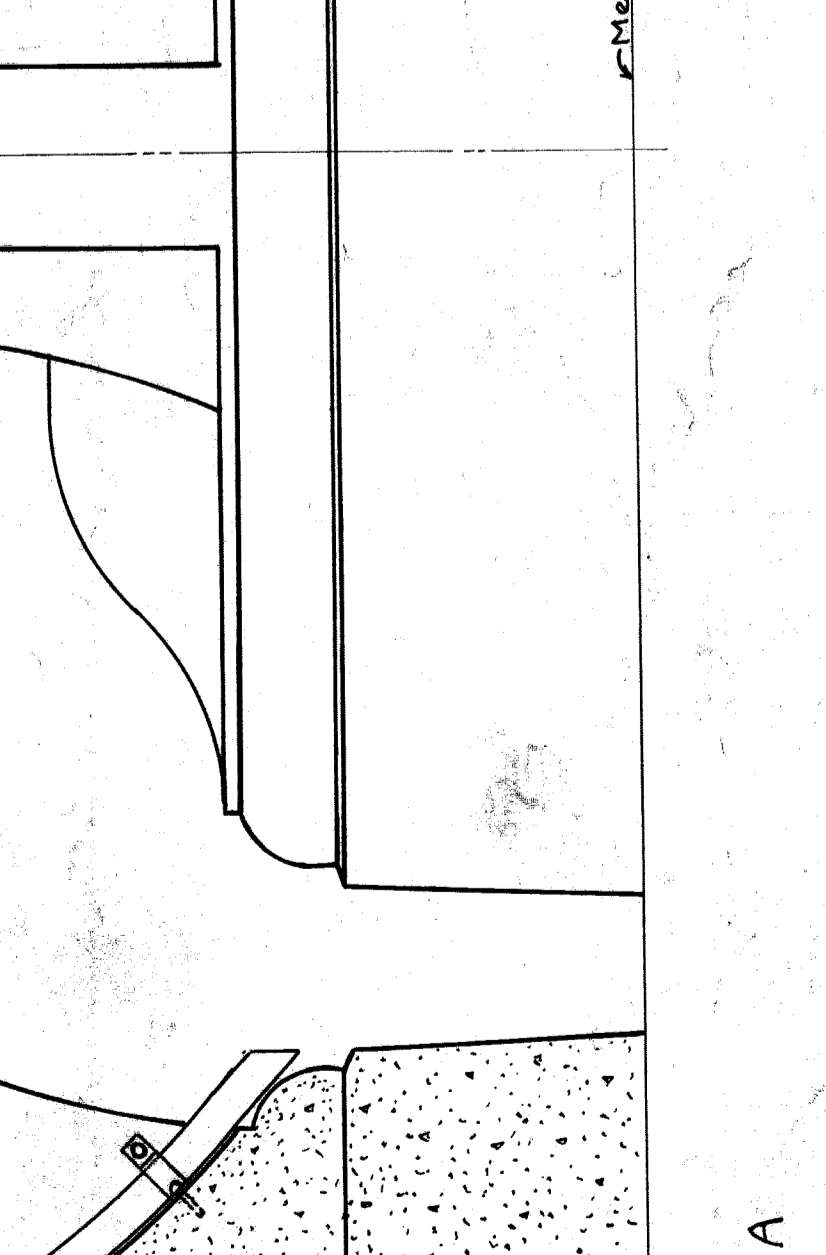
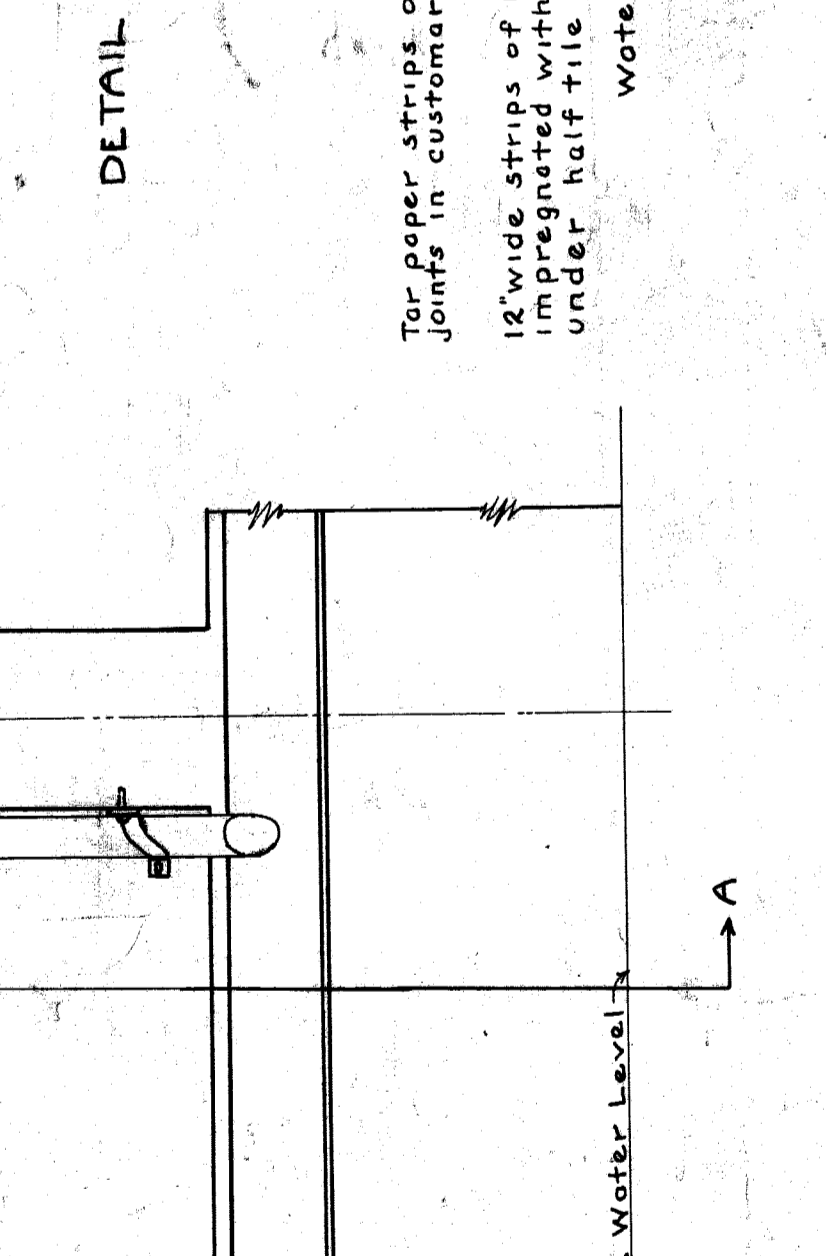
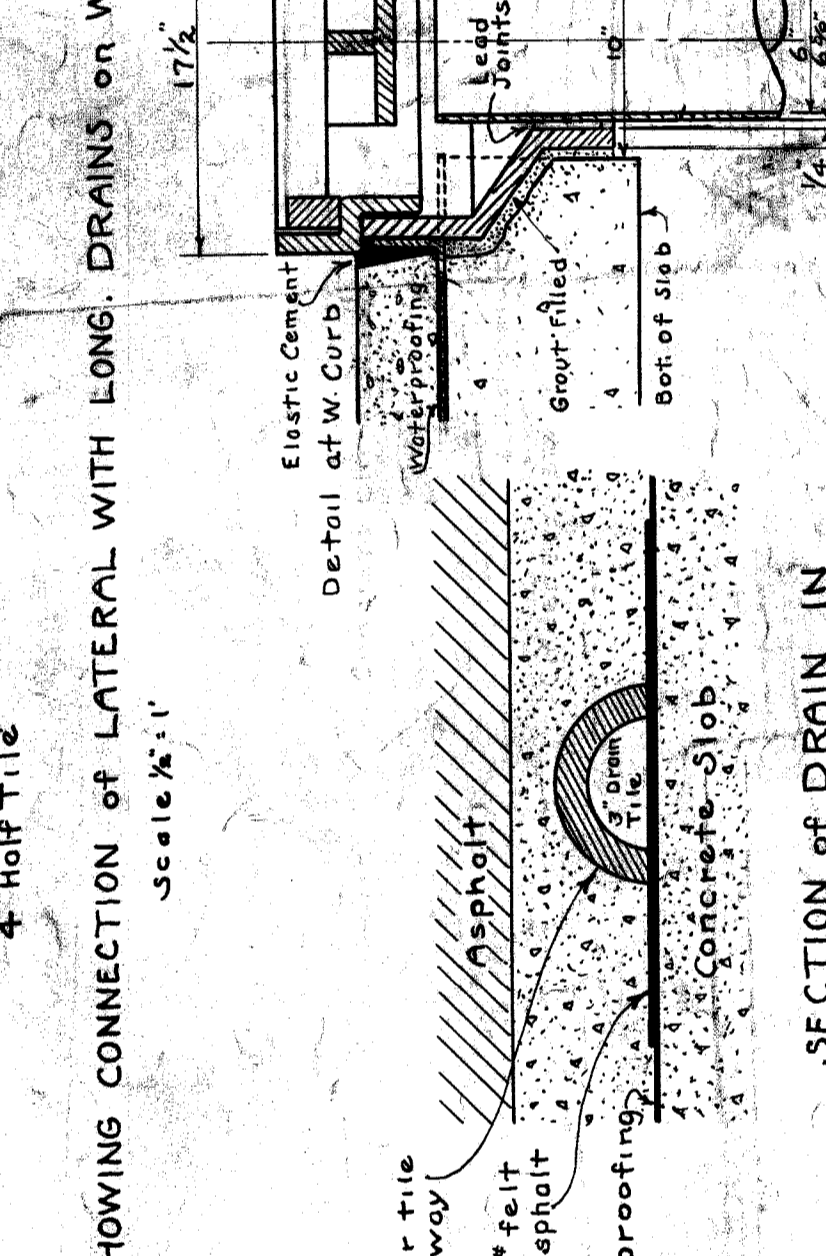
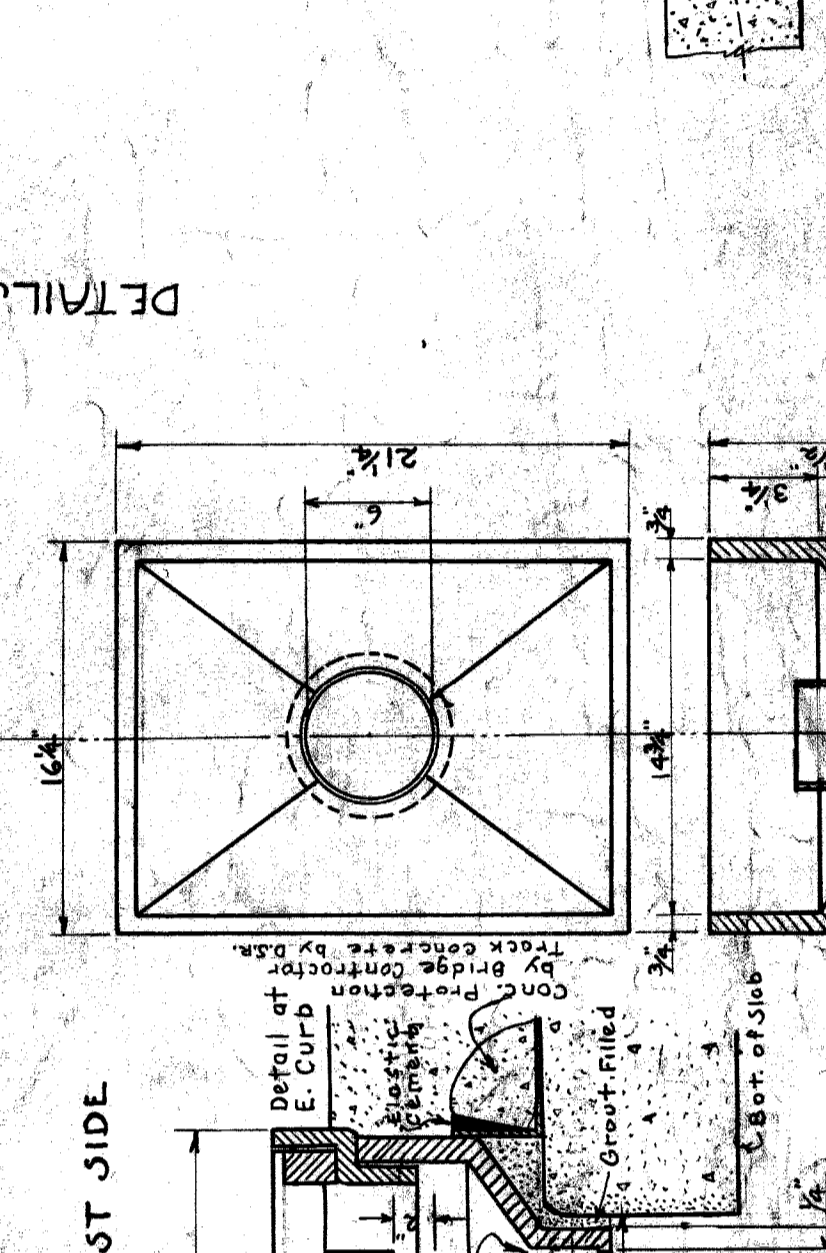
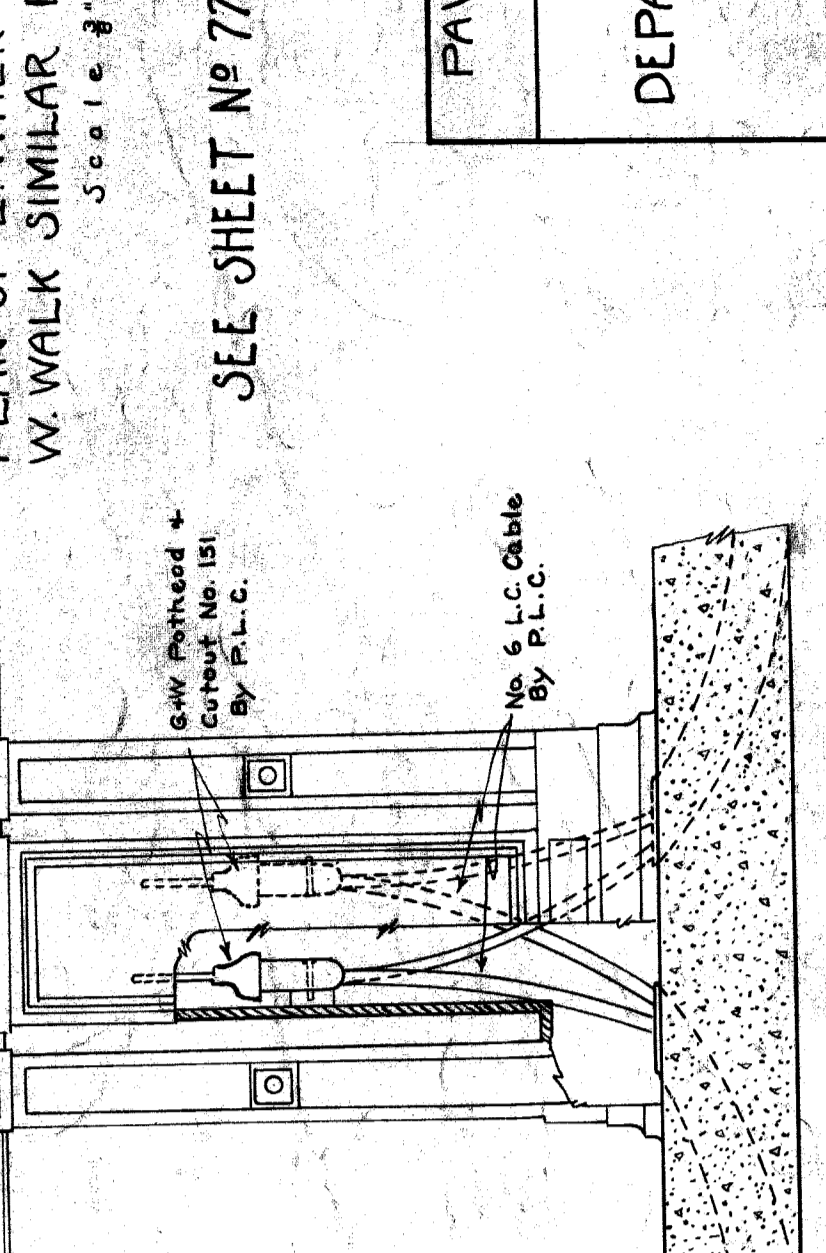
NOTE: Waterproofing to run continuously from joint to expansion joint except as shown in catch basin and railing. Railing will stop at edge of expansion joint in concrete slabs without special work.



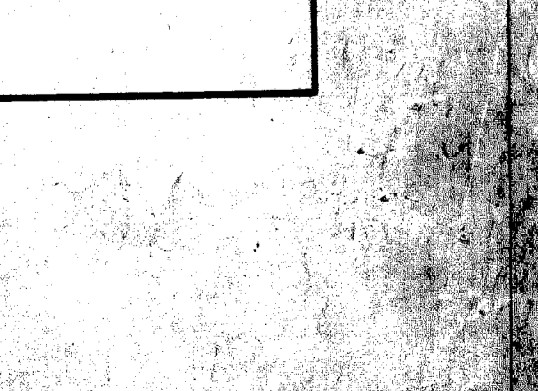
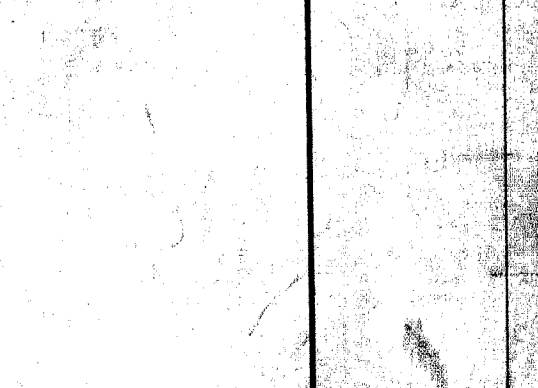
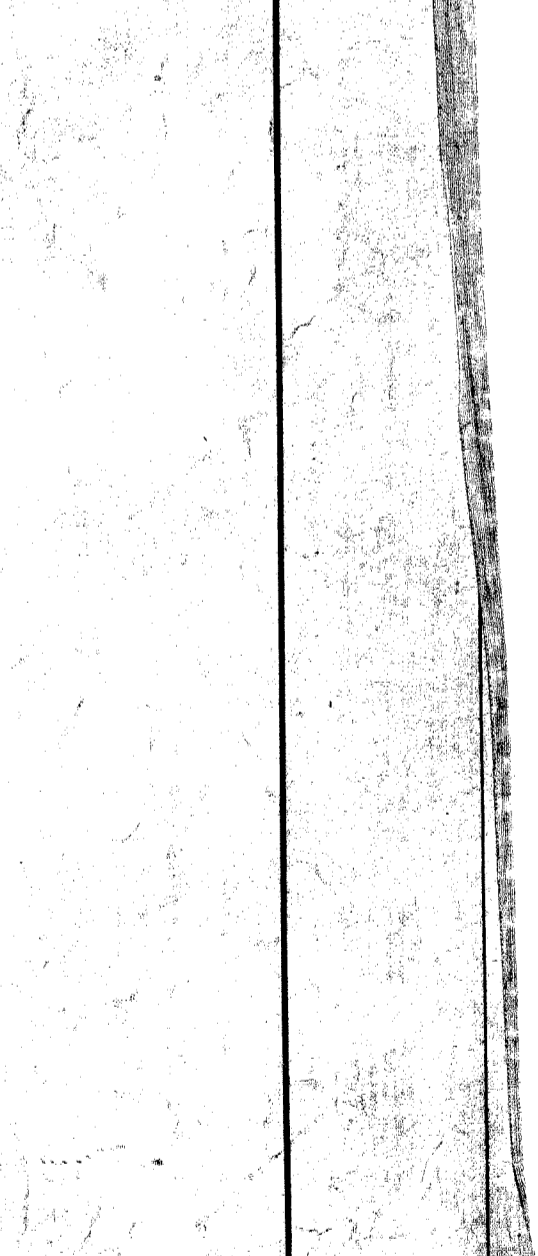
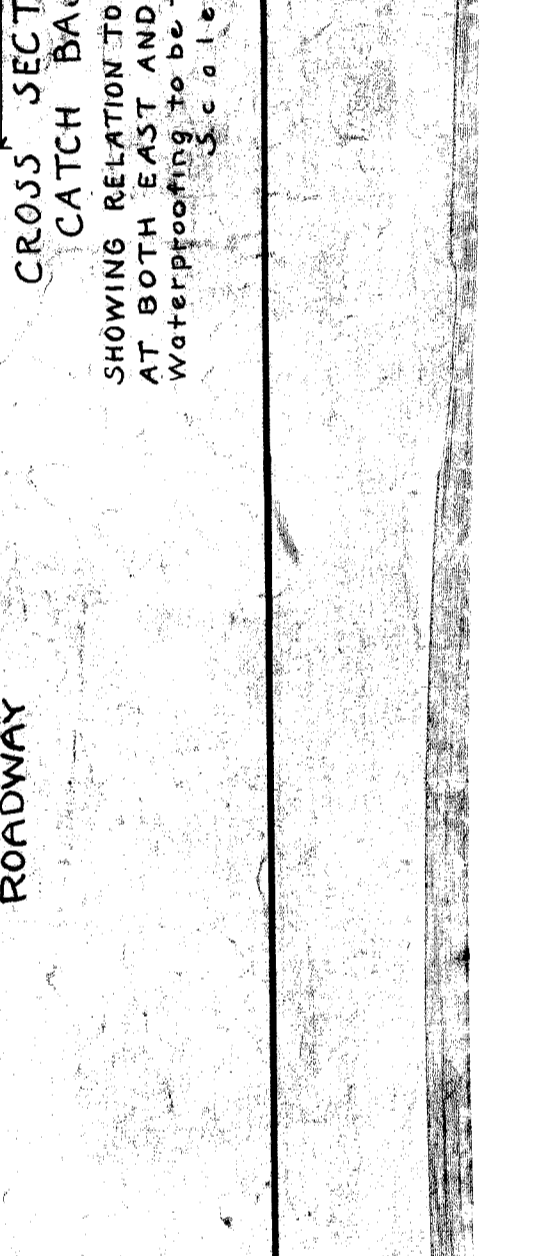
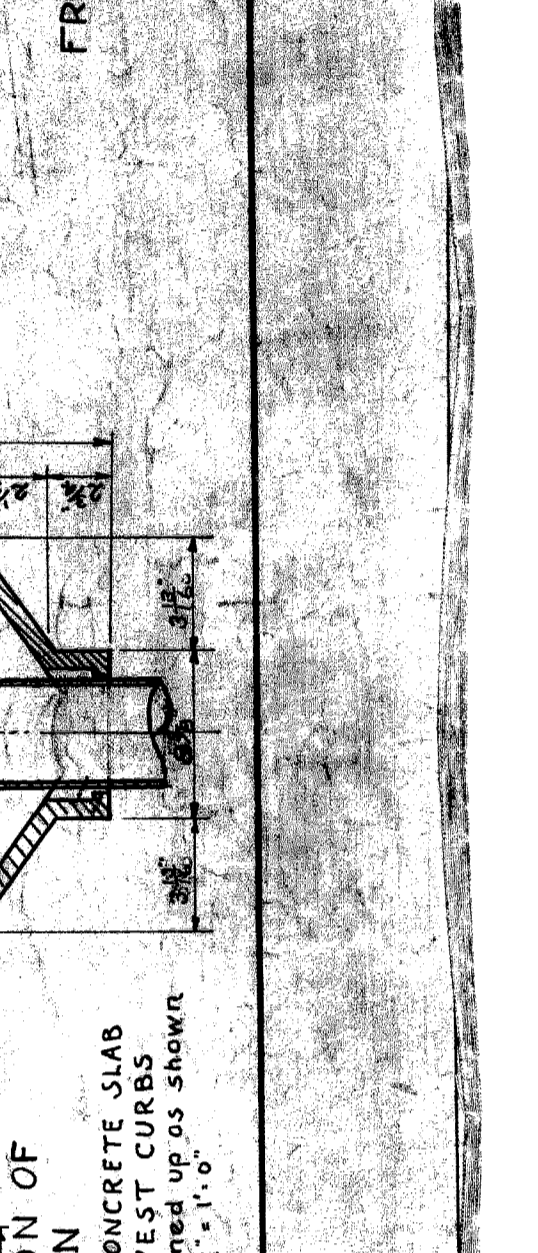
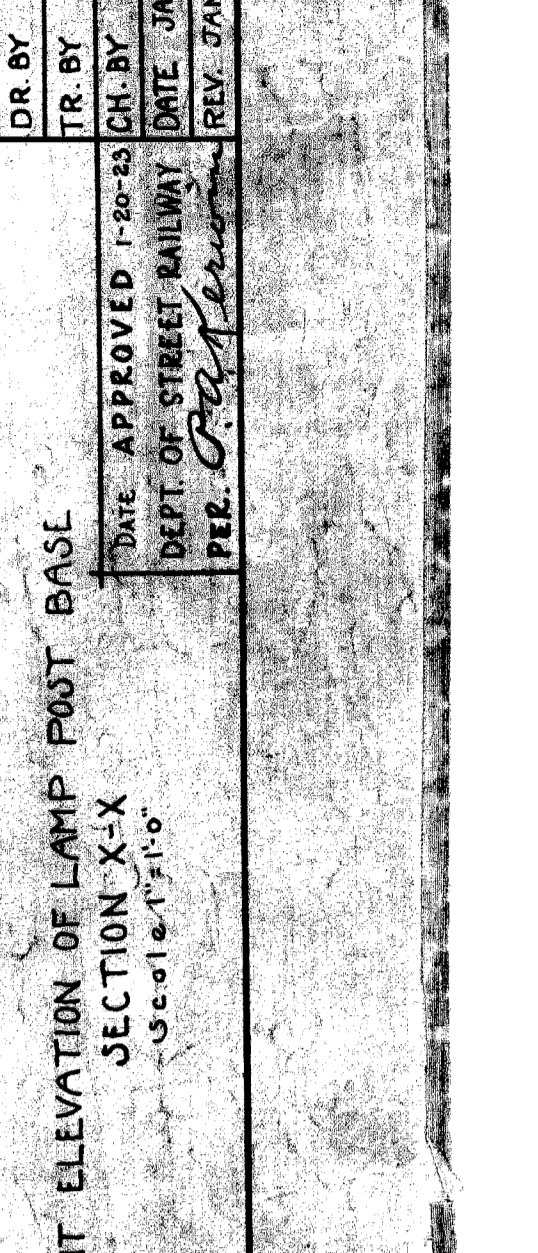
NOTE: Waterproofing to run continuously from joint to expansion joint except as shown in catch basin and railing. Railing will stop at edge of expansion joint in concrete slabs without special work.



NOTE: Waterproofing to run continuously from joint to expansion joint except as shown in catch basin and railing. Railing will stop at edge of expansion joint in concrete slabs without special work.



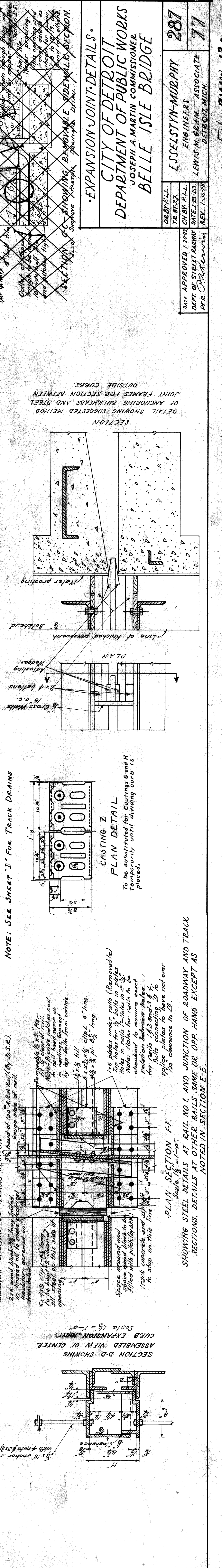
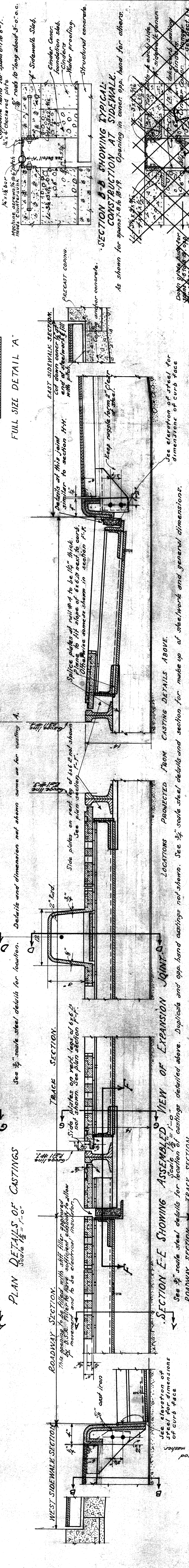
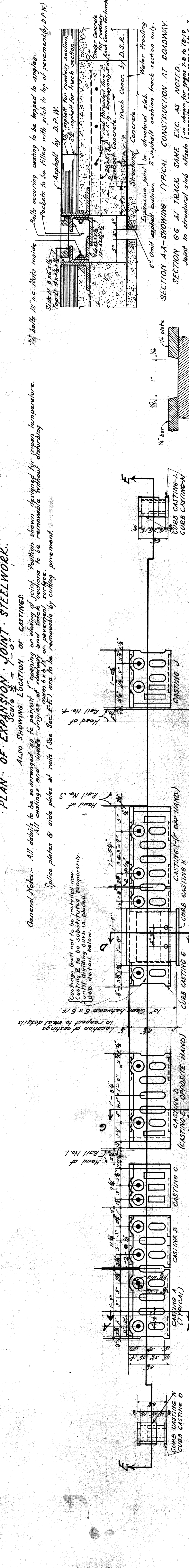
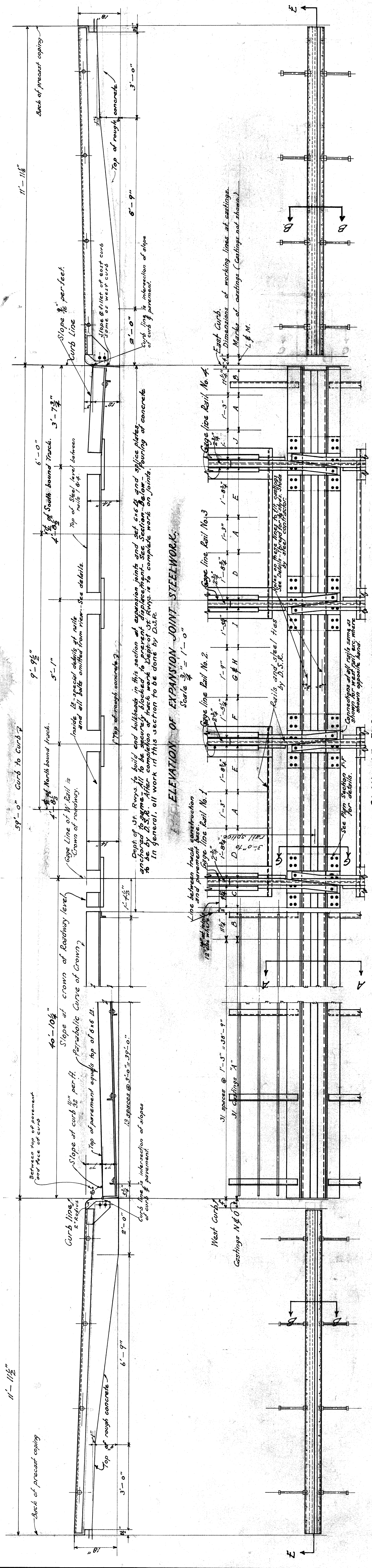
NOTE: Waterproofing to run continuously from joint to expansion joint except as shown in catch basin and railing. Railing will stop at edge of expansion joint in concrete slabs without special work.



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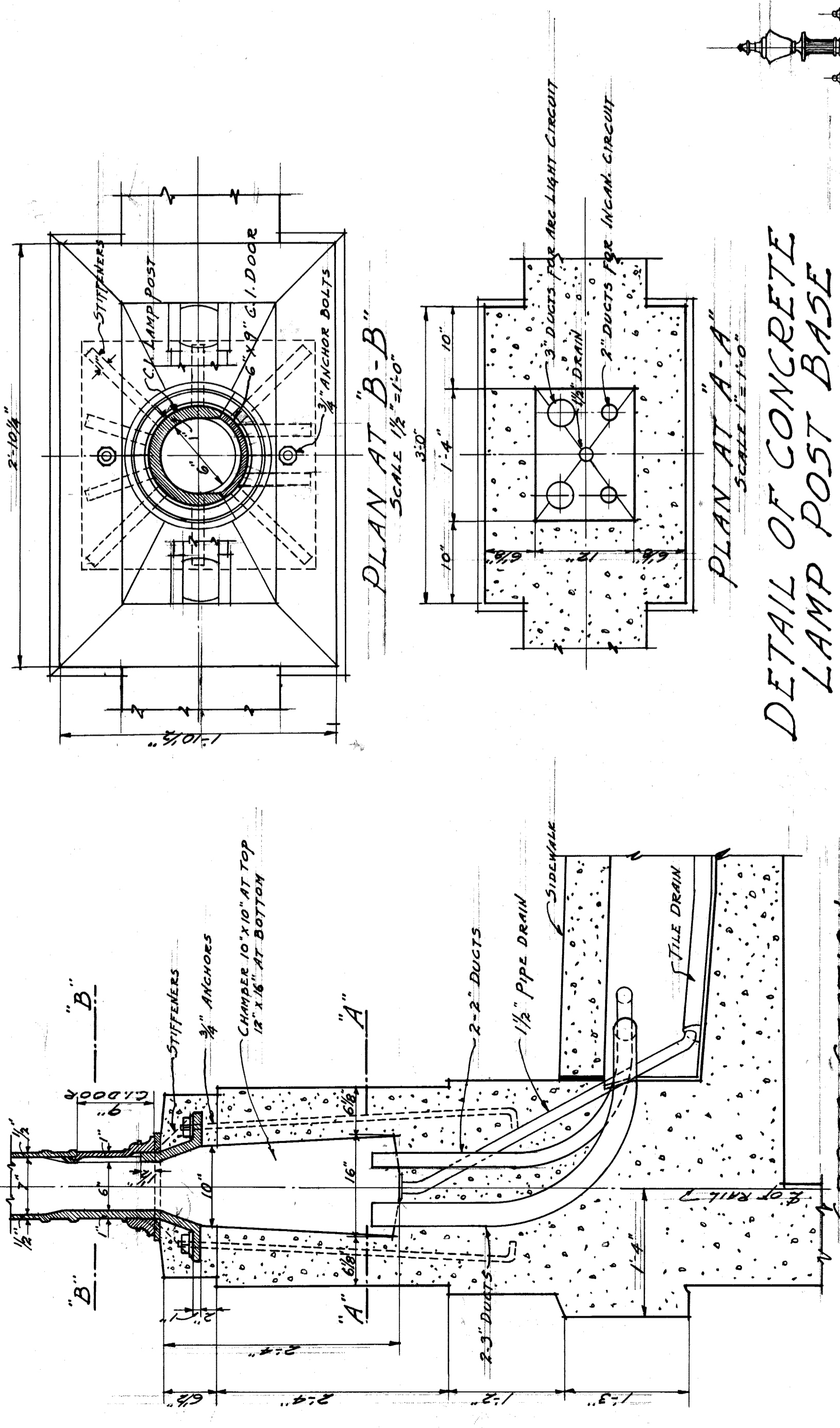


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARTIN COMMISSIONER
BELLE ISLE BRIDGE

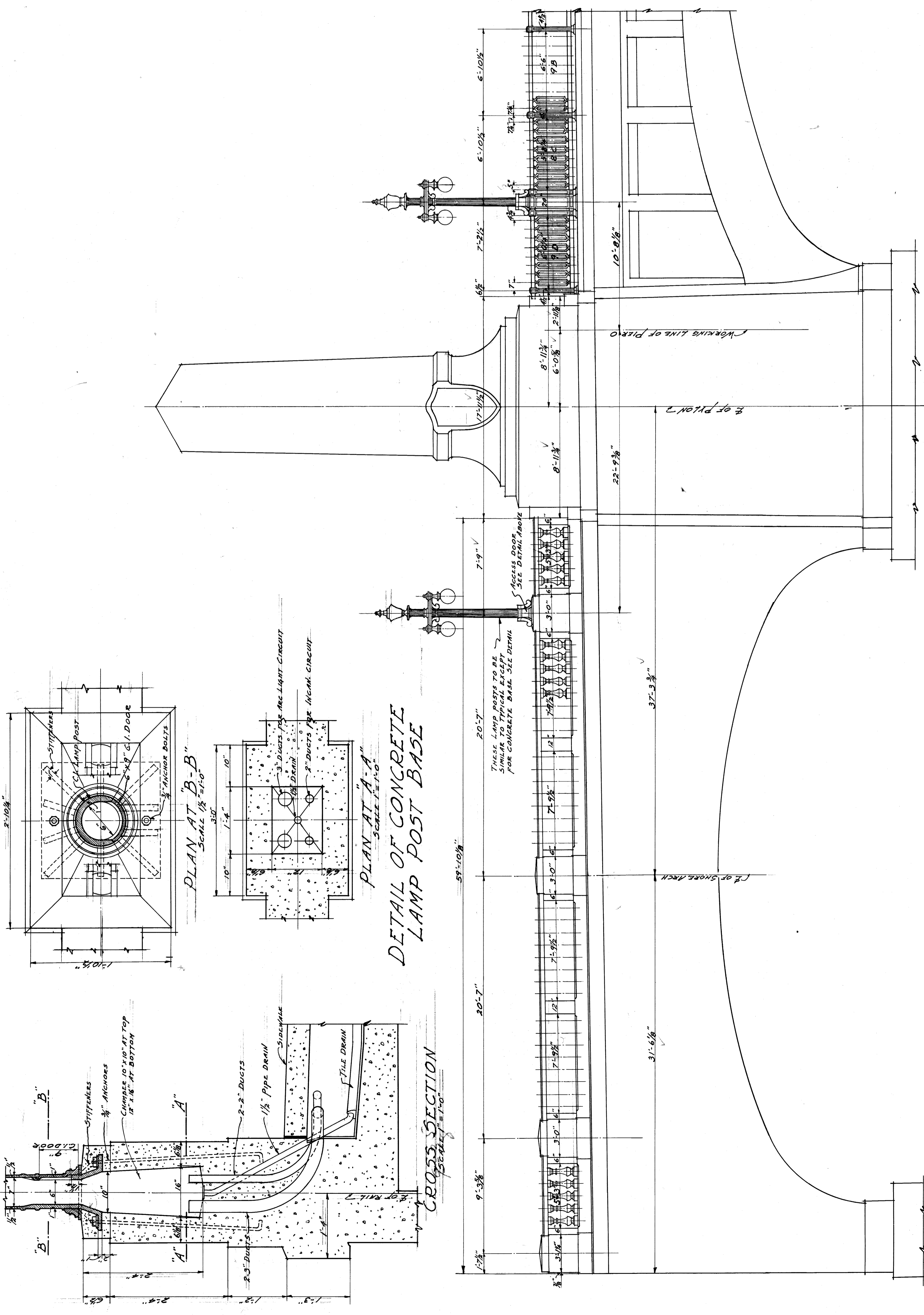
DATE APPROVED 1-20-28	ENGINEERS	287
DEPT. OF STREET RAILWAY	LEWIS H. BEAM, ASSOCIATE	77
PER. C. R. K. W. H. W.	REV. 1-20-28	

ESSELSTYNN-MURPHY
ENGINEERS
LEWIS H. BEAM, ASSOCIATE
DETROIT, MICH.

File BW 29-130



DETAIL OF CONCRETE LAMP POST BASE



NORTH ABUTMENT

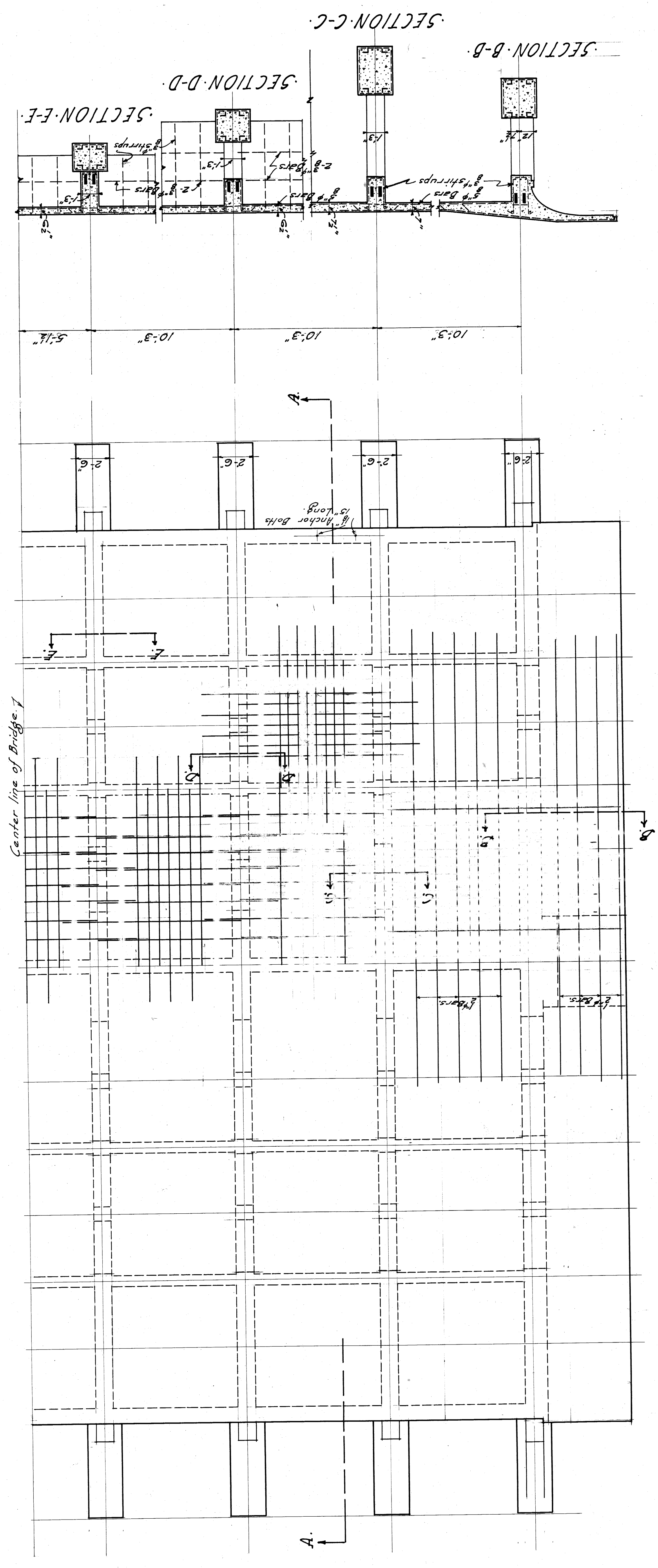
PIER #0

PIER #19 SOUTH ABUTMENT

NOTE: ALL DETAILS & DIMENSIONS NOT SHOWN TO BE CONFORM TO ORIGINAL SURVIVOR ON SILETS 1163, 12, 10, 8, 20

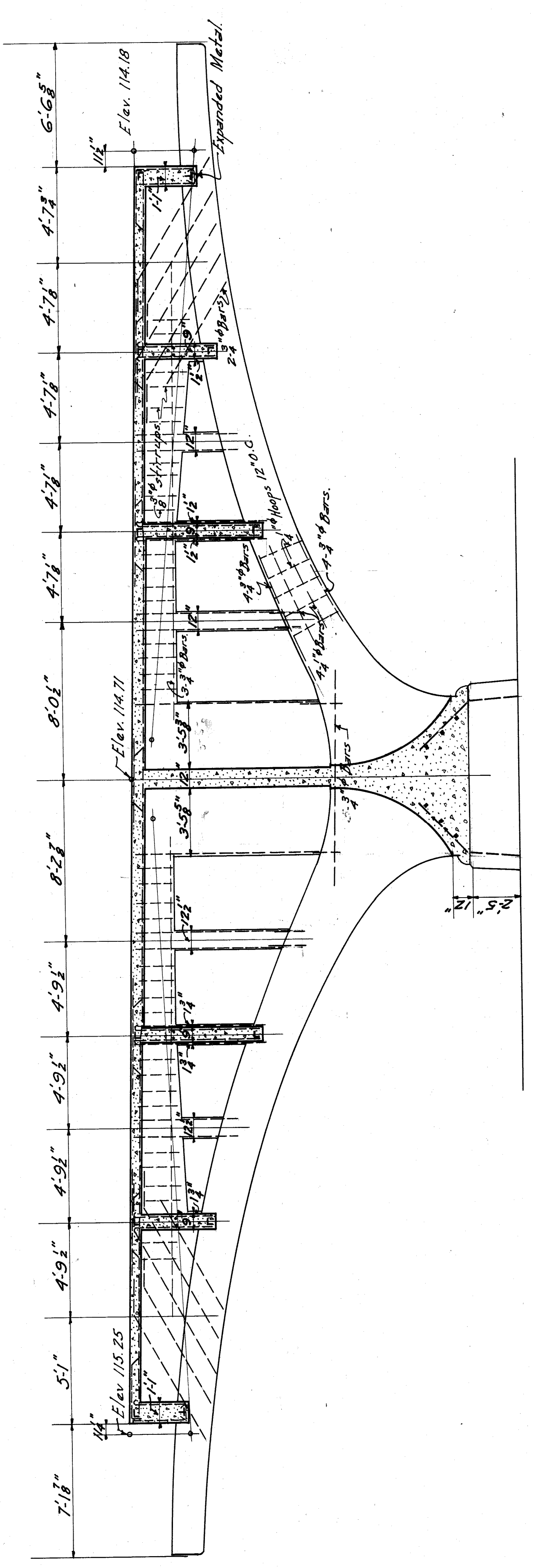
ELEVATION SHOWING CHANGES IN ARRANGEMENT OF RAIL & LAMP POSTS NEAR PYLONS
SCALE 1/4" = 1'-0"

REVISED RAILING NEAR PYLONS	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN COMMISSIONER	
BELLE ISLE BRIDGE	
DR. BY: D.G.	ESSELSTON-MURPHY 287
CR. BY: F.G.	ENGINEERS
DATE: 1-12-23	LEWIS H. GRAM ASSOCIATE
REV:	DETROIT, MICH.
78	



PLAN
Scale 1/4" = 1'-0"

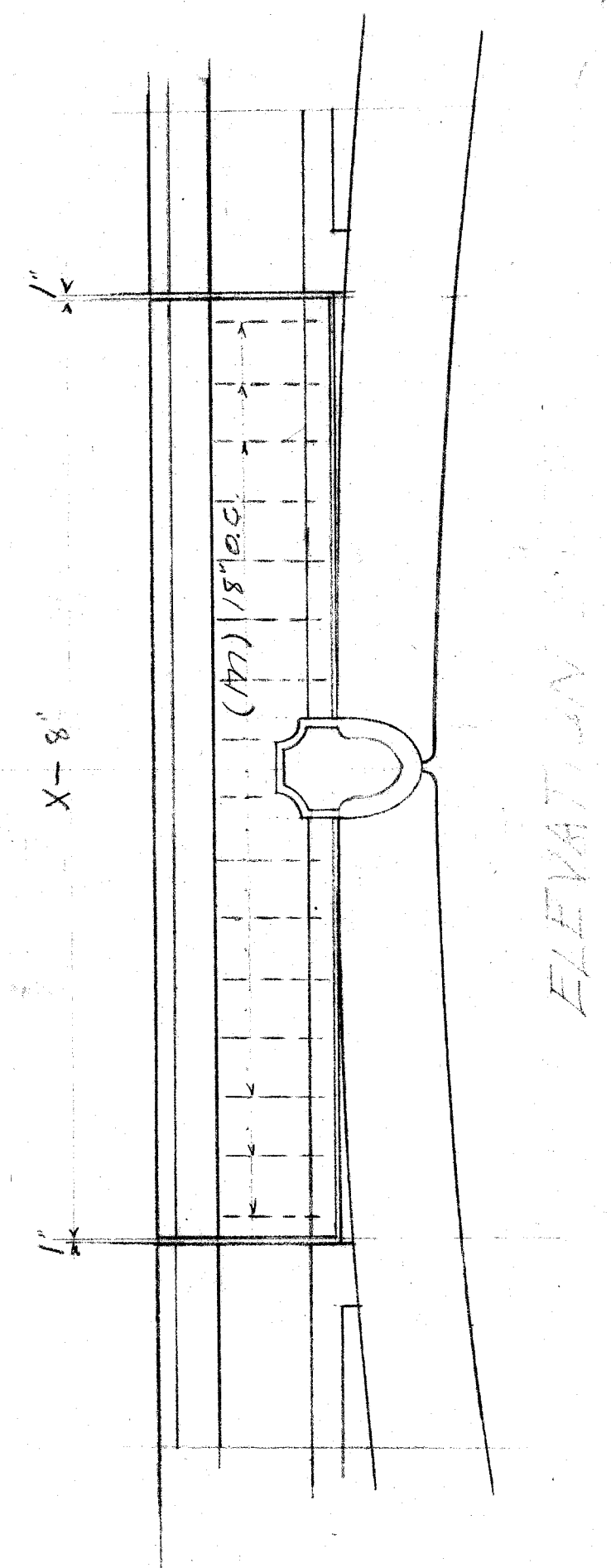
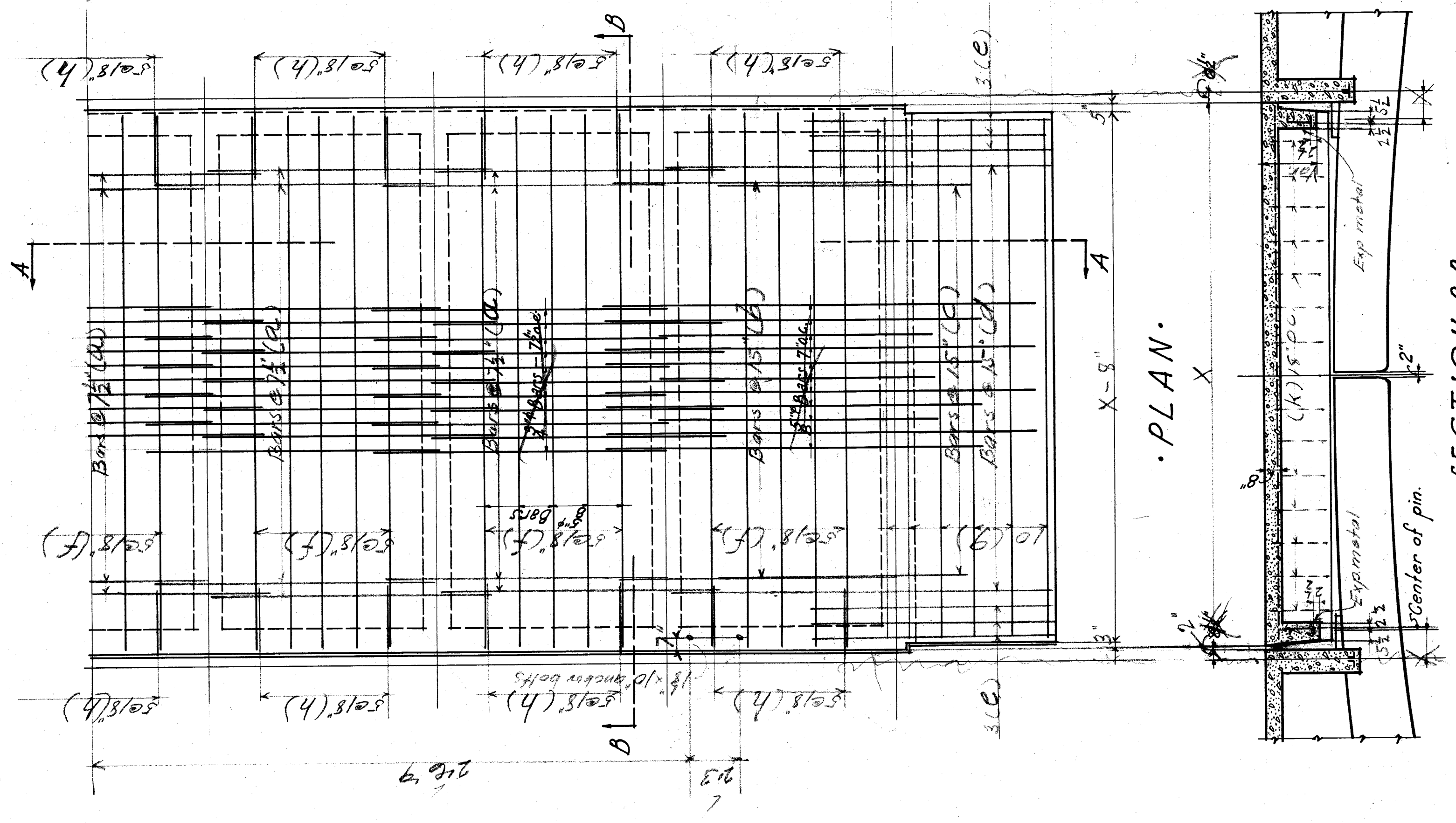
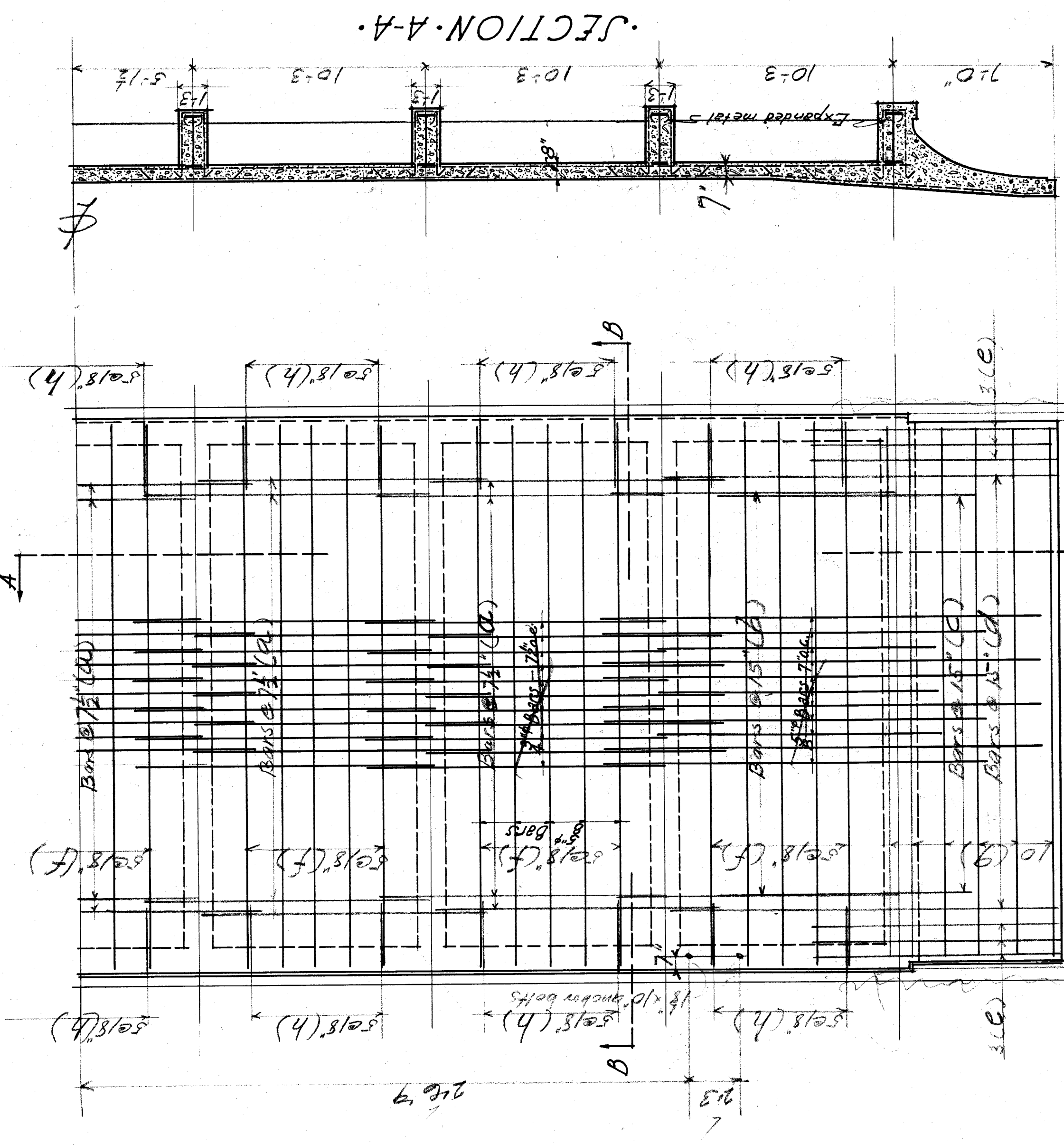
NOTE:
Reinforcement for all Columns
1/2" Bars. 3/4" Hoops 12" O.C.



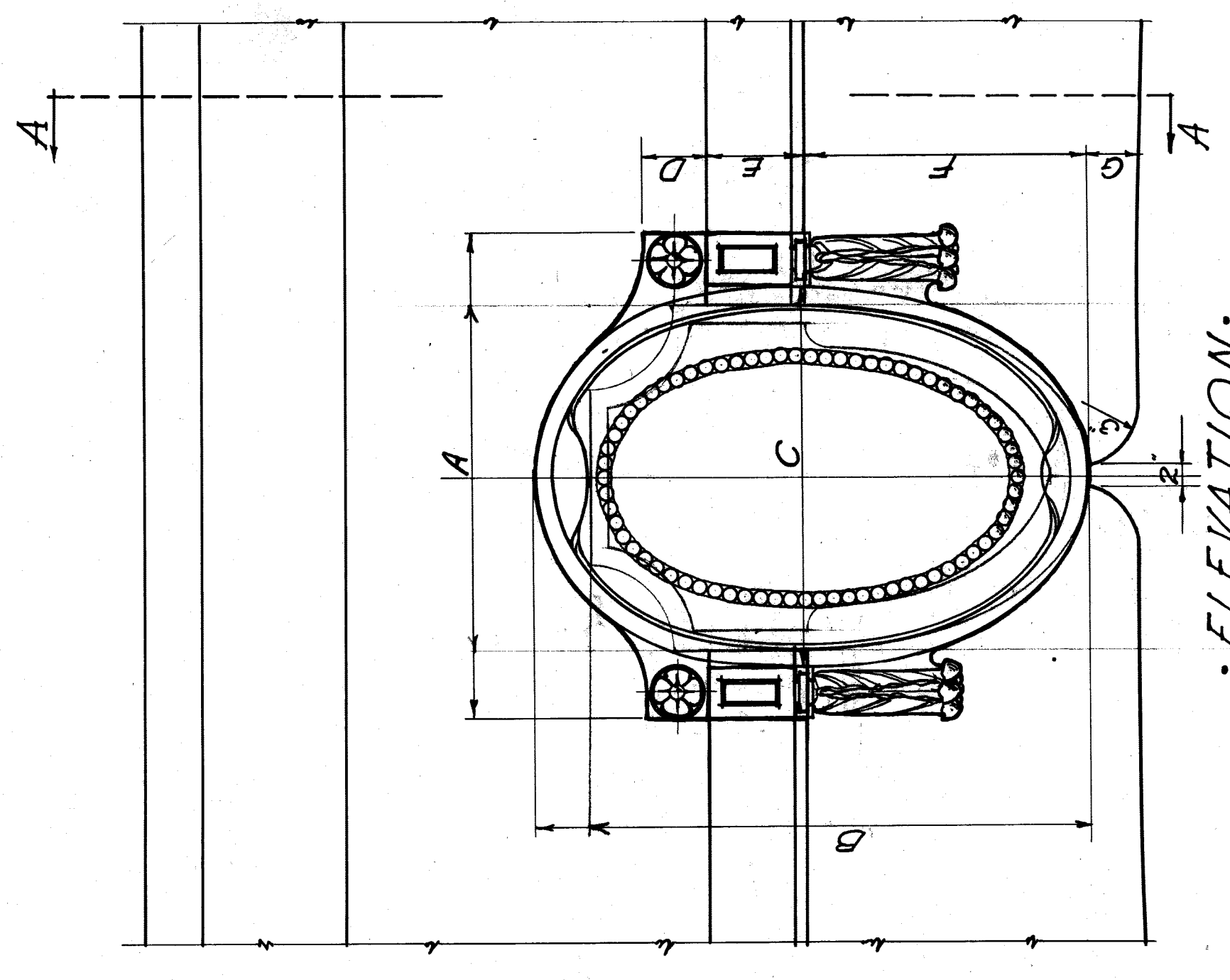
SECTION A-A
Scale 1/2" = 1'-0"

*This sheet superseded
by new sheet 8*

PLAN & SECTIONS - PIER - 18	
CITY OF DETROIT	
DEPARTMENT OF PUBLIC WORKS	
JOSEPH A. MARTIN COMMISSIONER	
BELLE ISLE BRIDGE	
DESIGNED BY	ESSELBY-MURPHY
DATE	1917
ENGINEER	287
ASSOCIATE	8
DETROIT, MICH.	



ELEVATION

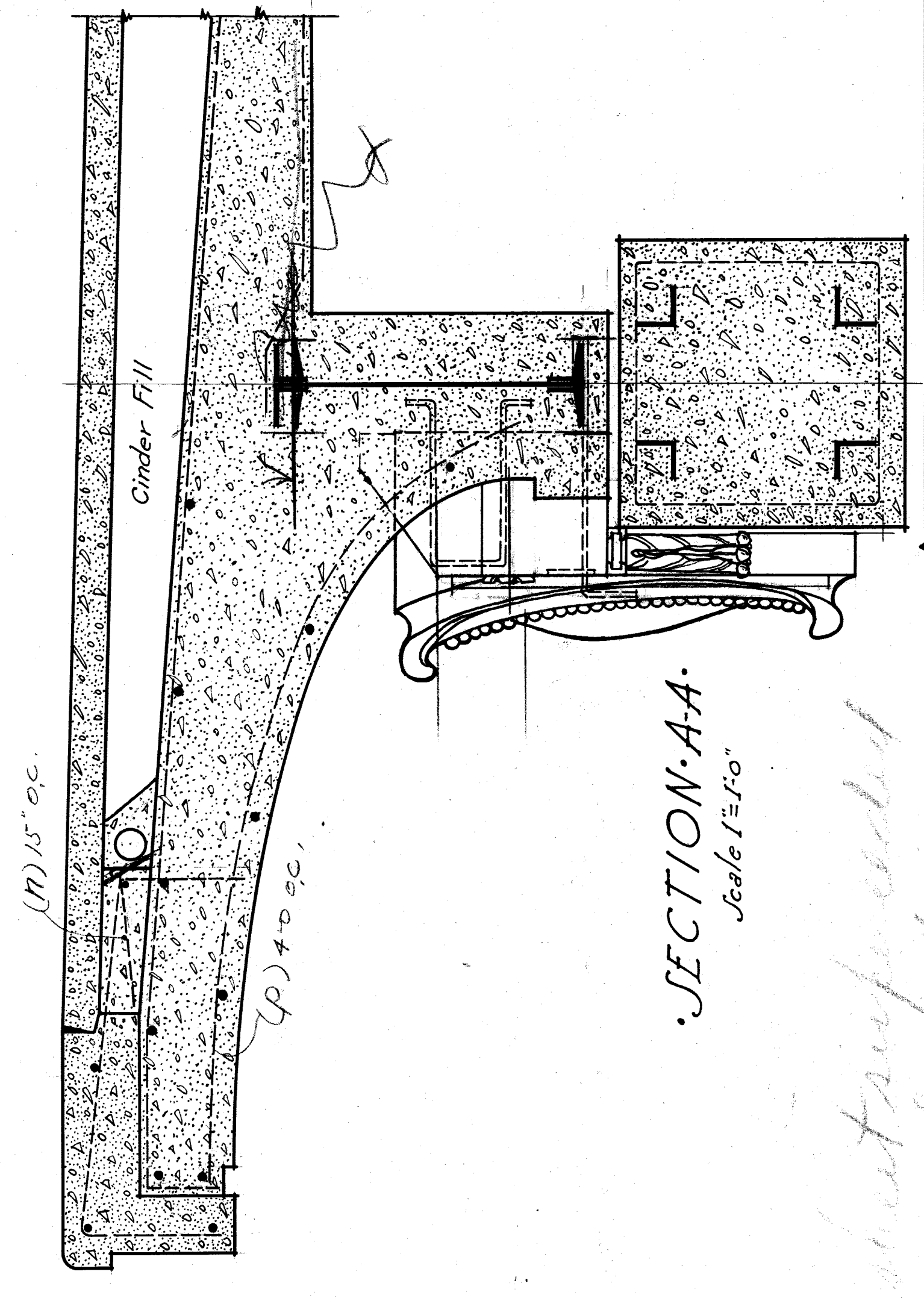


ELEVATION

DETAIL OF CENTER OF SHIELD

SCHEDULE OF SHIELD

SPANS	3-4	2-3	1-2	0-1	13-14	14-15	15-16	16-17	17-18	18-19
INC.	3-4	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
A	3-7	3-11	3-3	3-2	3-4	2-10 1/2	2-8 1/2	2-7 1/2	2-6	2-3 1/2
B	4-1	4-0	3-10 1/2	3-7 1/2	3-5 1/2	3-3 1/2	3-1 1/2	2-10 1/2	2-10 1/2	2-7 1/2
C	2-9	2-8 1/2	2-7 1/2	2-5 1/2	2-3 1/2	2-2 1/2	2-1 1/2	2-0 1/2	1-11	1-9 1/2
D	5	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	3 1/2	3 1/2	3 1/2	3 1/2
E	7 1/2	7 1/2	7 1/2	7	6 1/2	6 1/2	6	6	5 1/2	5 1/2
F	2-1	2-0 1/2	1-11 1/2	1-10	1-10 1/2	1-9	1-8 1/2	1-6 1/2	1-5	1-3 1/2
G	4	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3	3	2 1/2	2 1/2



SECTION-AA

Scale 1/2"=1'-0"

After sheet suspended
by sheet #9

DETAIL OF CENTER FLOOR UNIT
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
JOSEPH A. MARTIN COMMISSIONER
BELLE ISLE BRIDGE
DESIGNED BY F. J. KELLY
DRAWN BY F. J. KELLY
CHECKED BY L. M. GIBSON
DATE NOV. 29, 1927
SCALE 1/2"=1'-0"
ENGINEER
LEWIS M. GIBSON
DETROIT, MICH.
287
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