

LOADS AND SPECIFICATIONS
 20 TON TRUCK, 5/8 ON REAR AXLE, STATE OF OHIO HIGHWAY DEPARTMENT'S AXLES-10'0" CTS WHEELS-6'0" CTS, SPECIFICATIONS FOR BRIDGES, 1918. ROADWAY-150' PER 3' W-100' PER 3' TRUSSES SPANS UP TO 100' 100' PER 15' OF EDWAY-15' PER 3' OF SW 140' SPANS-20' PER 15' OF EDY-70' PER 3' OF SW-140' PER 15' FT OF TRUSS IMPACT-1/2 (except arched)

SPECIFICATIONS
 OHIO STATE HIGHWAY SPECS 1918 1/2 15,000' 100' 20'

MACHINERY AND MOVABLE PARTS
 WADDELLS SPECIFICATIONS FOR MOVABLE BRIDGES.

Approved: Sept 27, 1914
 [Signature]
 COUNTY COMMISSIONERS
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER BUREAU OF BRIDGES AND HIGHWAYS, STATE OF OHIO.

SCHEDULE OF DRAWINGS

SHEET NO.	TITLE
100-	GENERAL PLAN & ELEVATION
1-	GENERAL STRUCTURE PLAN
2-	PIER #2 & TOWER SPAN
3-	DETAIL OF BRACKET, PIER TOP, LAMP FOOT & CONC. HAND RAILING
4-	DETAIL OF PIER #2 & WEST APPROACH SPAN
5-	DETAIL OF PIER #3 & PROTECTION PIER
6-	WEST ABUTMENT & WEST APPROACH SPAN
7-	NO. 22 RT. 25
8-	DETAIL SHEET - SUPERSTRUCTURE
9-	GENERAL PLAN, TOWER SPAN & BALANCE BEAM
10-	TRUSS & MOVING SPAN FLOOR BEAMS
11-	MOVING SPAN TRUSS - JOE END
12-	MOVING SPAN TRUSS - PIER END
13-	DETAIL OF BALANCE BEAM - FRONT END
14-	DETAIL OF BALANCE BEAM - COUNTERWEIGHT END
15-	TOWER DETAIL - UPPER PART
16-	TOWER GIRDERS, HANGER INTLS & OPERATING STRUT
17-	MACHINERY ROOMS & OPERATOR'S HOUSE
18-	COUNTERWEIGHT
19-	TRUNNIONS & LINKS
20-	OPERATING MACHINERY
21-	JOE LOCK BUFFERS & WIRING DIAGRAM
22-	DETAILS OF TOWER & MOVING SPAN DECK

NOTE:
 ALL ELEVATIONS BASED ON U.S. GOV'T. DATUM
 MEAN LAKE LEVEL + 572.0

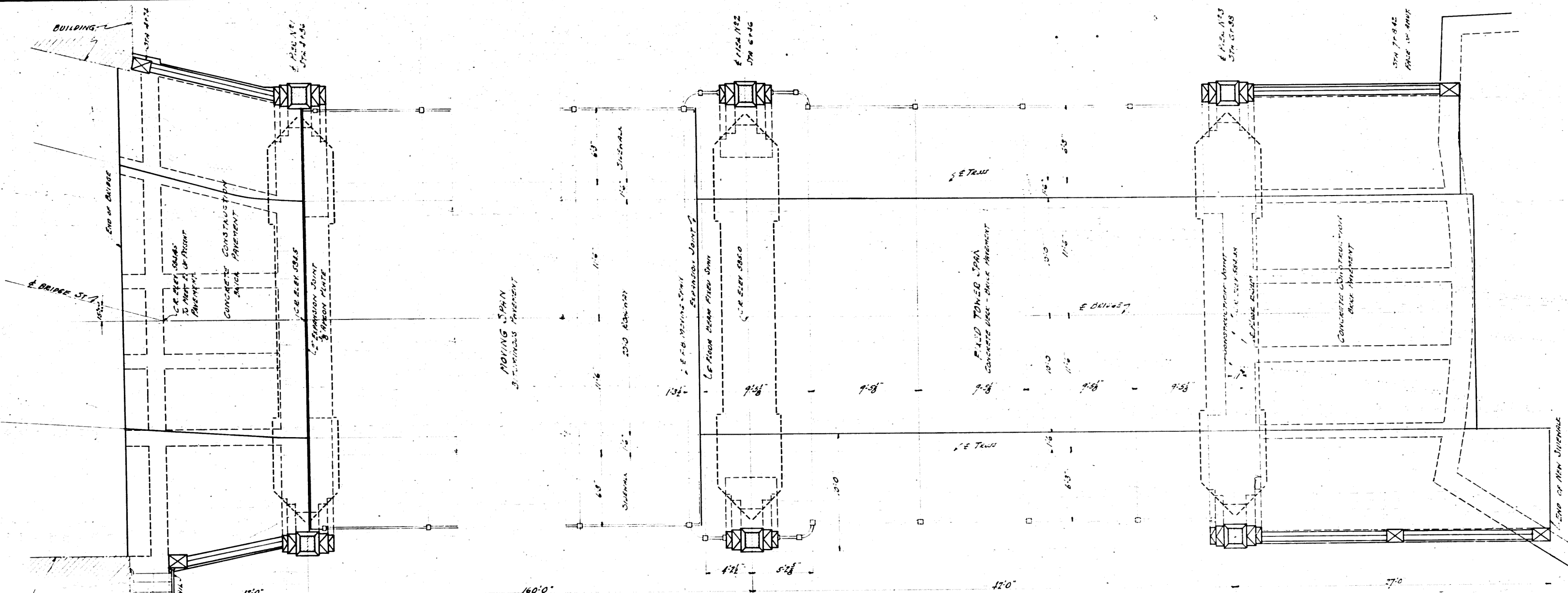
THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO.

BRIDGE STREET BASCULE BRIDGE, ASTABULA, ASTABULA COUNTY, OHIO
 DWALETT COUNTY SURVEYOR
 A. G. DIXLER DEPUTY SURVEYOR

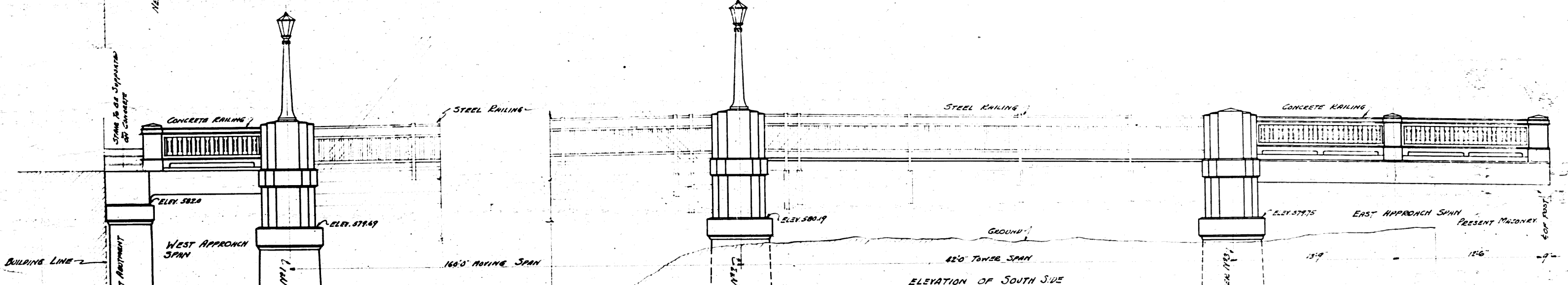
GENERAL PLAN & ELEVATIONS

DATE MADE	DR BY	TR BY	CHEK BY	DATE	APPR. DATE
9-11-14	FRP		W.P.B.		
REV BY	DATE	REMARKS	SCALE	PRINT MADE	
			1"=20'		

130-1



PLAN OF SUB-STRUCTURE

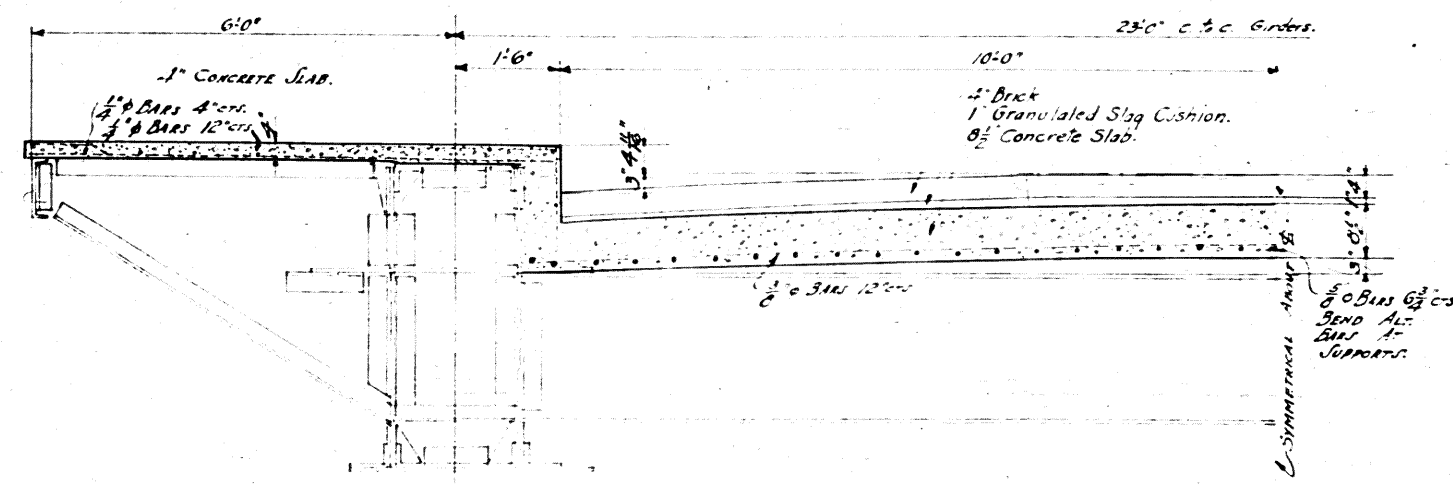
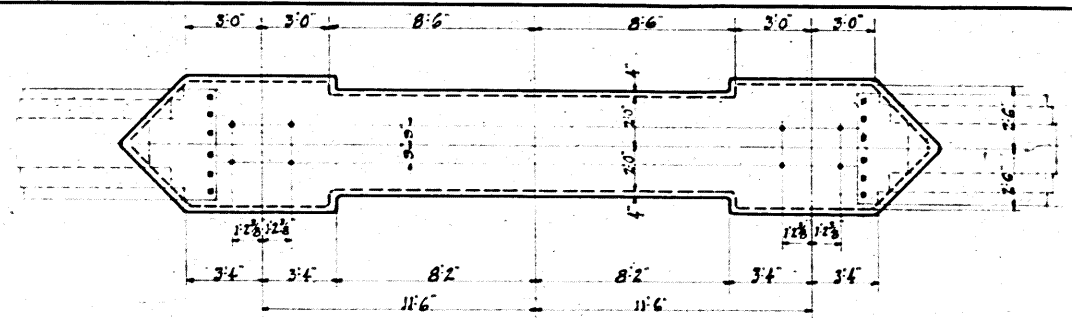


ELEVATION OF SOUTH SIDE

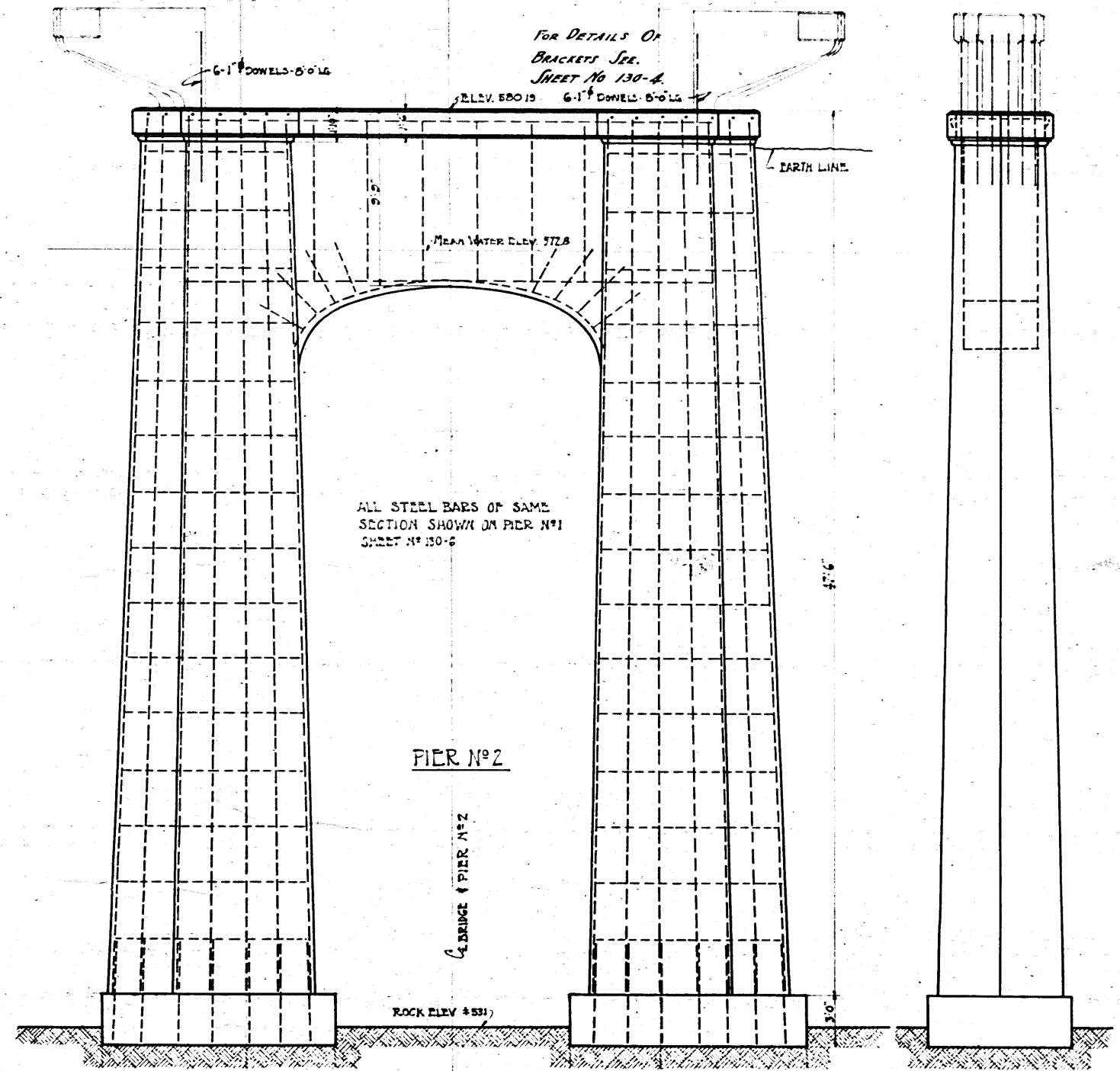
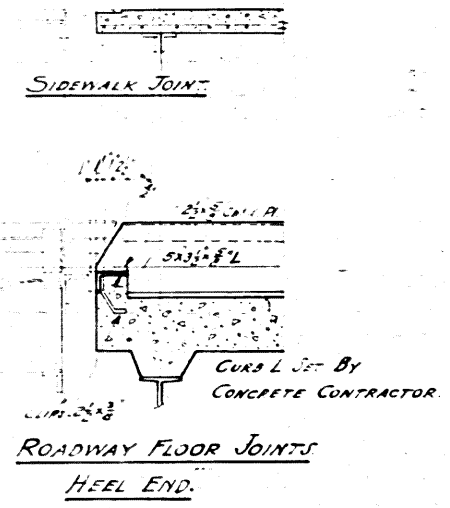
APPROVED 11/17-1924
W. P. Brown
R. G. Bixler
W. J. Leggett

COUNTY COMMISSIONER
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAY AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF HIGHWAYS
 DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. CONSULTING & DESIGNING ENGINEERS CLEVELAND, OHIO	
BRIDGE STREET BASCULE BRIDGE AINTABULA AINTABULA COUNTY, OHIO	
S.W. LEGGETT COUNTY SURVEYOR R.G. BIXLER COUNTY SURVEYOR	
PLAN & ELEVATION OF SUB-STRUCTURE	
DATE MADE NOV. 18 1924	DATE CHECKED DEC. 17 1924
BY W. J. LEGGETT	BY R. G. BIXLER
SCALE 1" = 10'	DATE DEC 17 1924
DRAWN BY W. J. LEGGETT	
NO. 130-2	

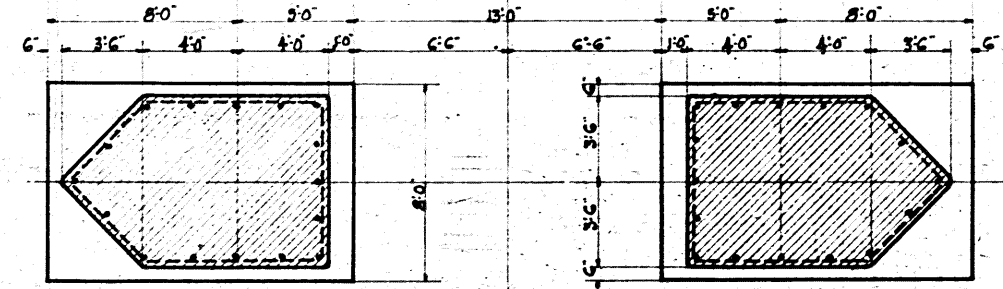


CONCRETE SLAB ON TOWER SPAN
SCALE: 1/4" = 1'-0"
ROADWAY SLAB, CURB, SIDEWALK & PAVING BUILT BY CONTRACTOR FOR SUB-STRUCTURE



ALL STEEL BARS OF SAME SECTION SHOWN ON PIER NO. 1 SHEET NO. 130-2

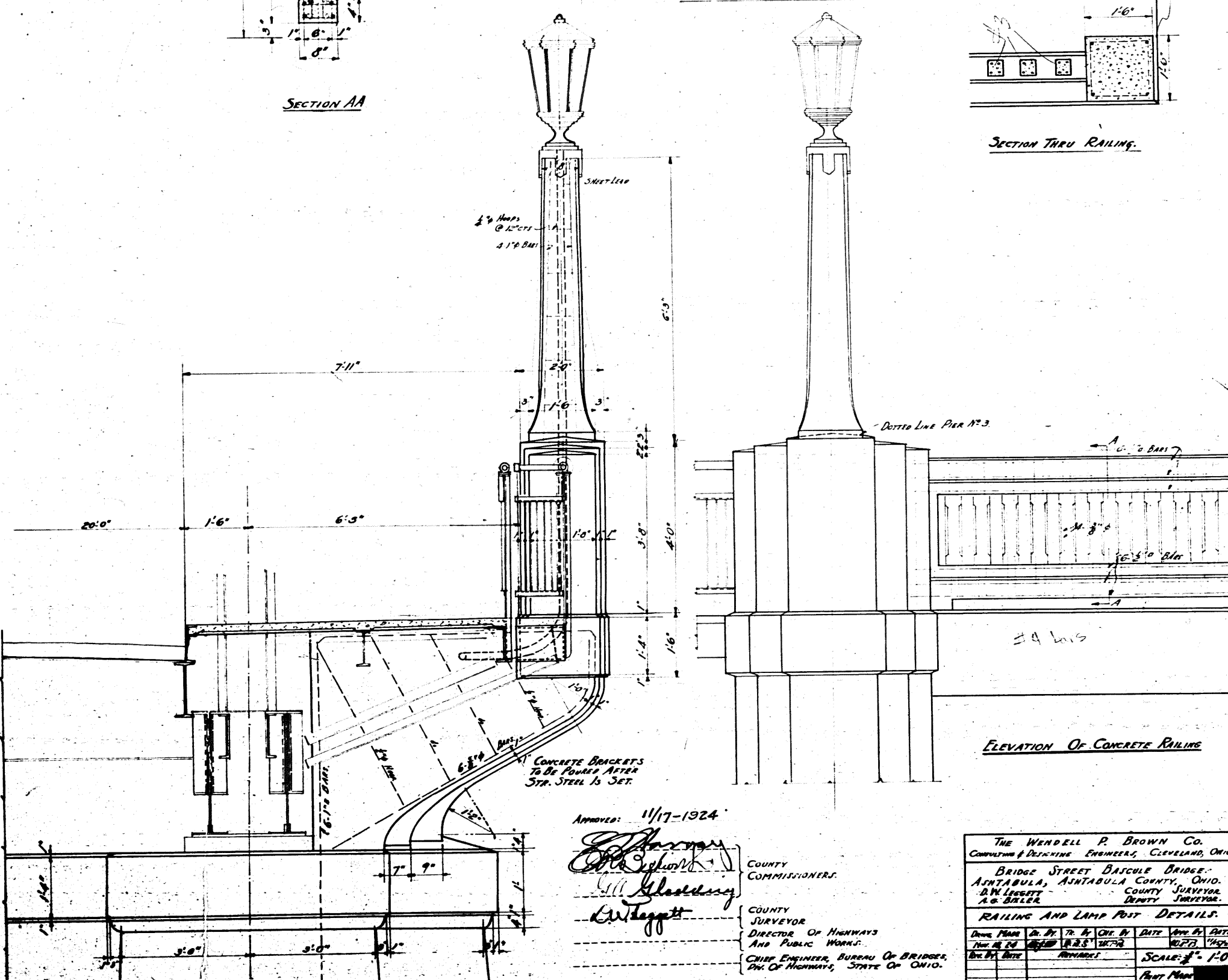
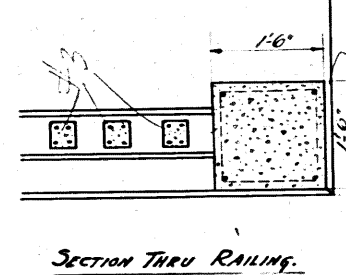
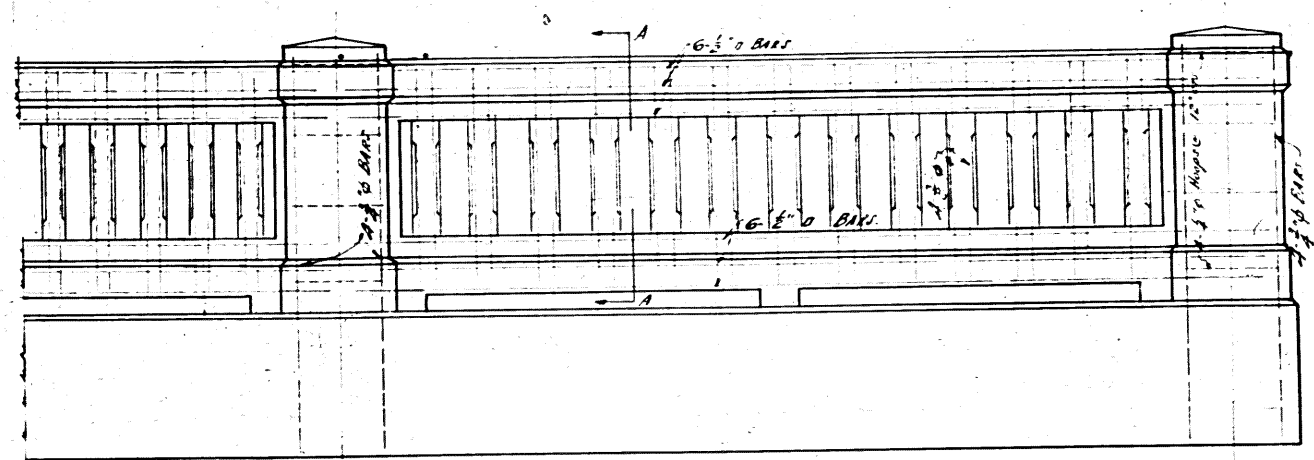
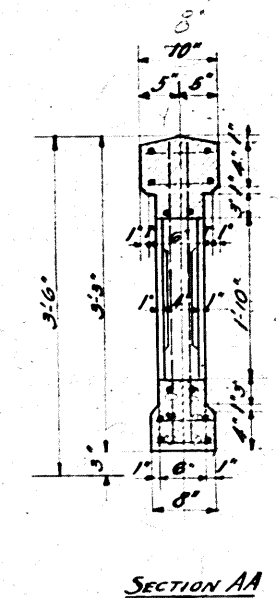
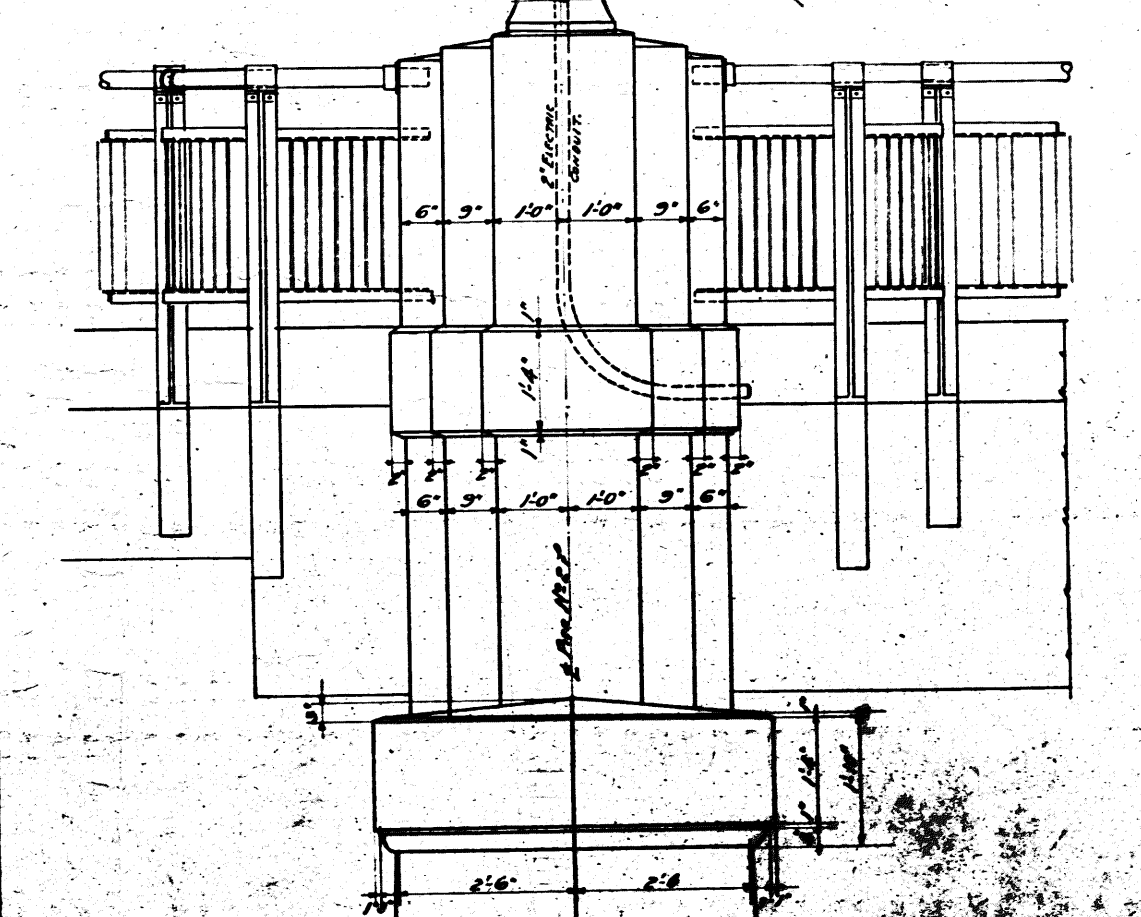
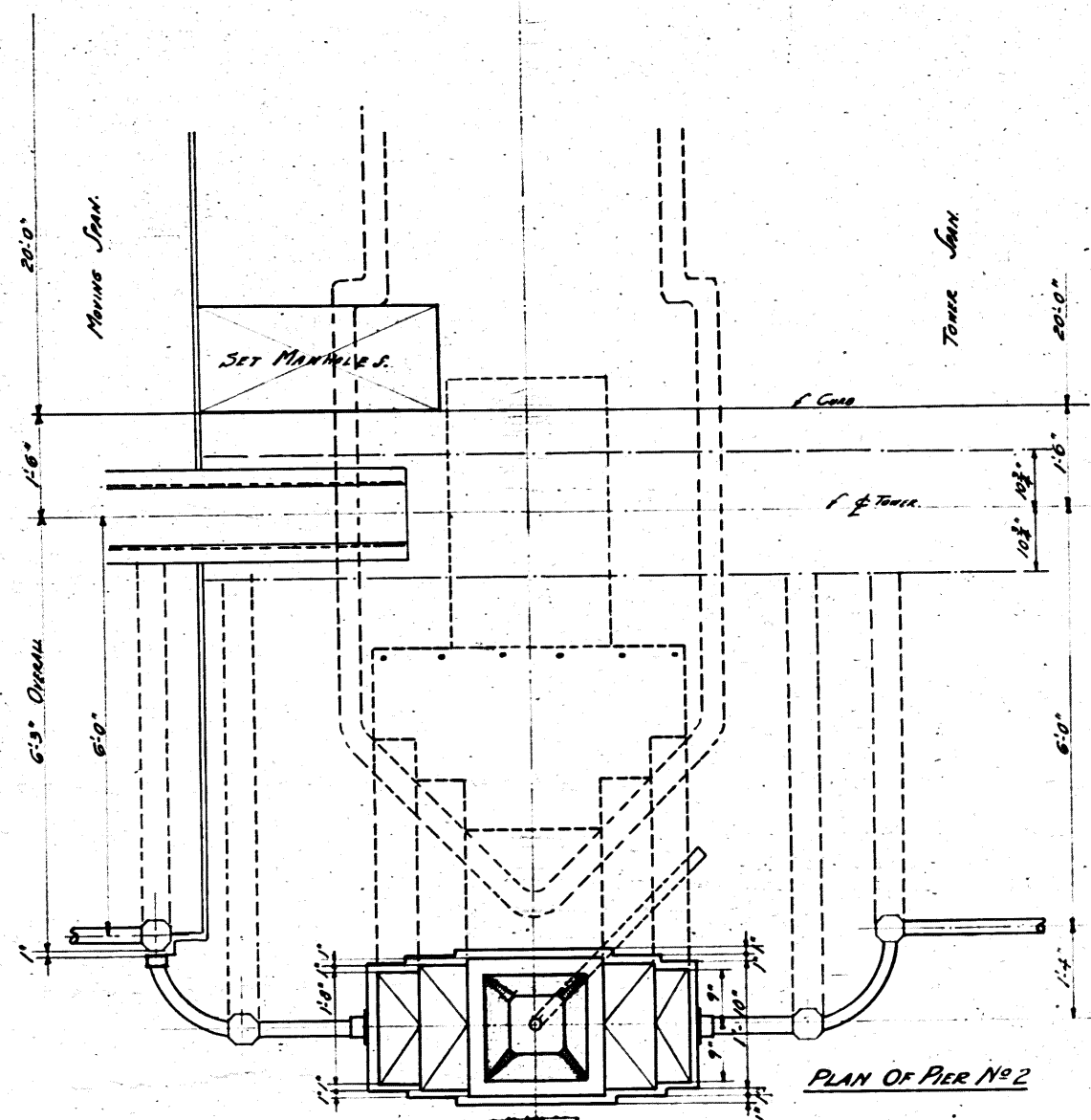
PIER NO. 2



FOUNDATION PLAN
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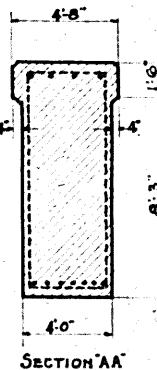
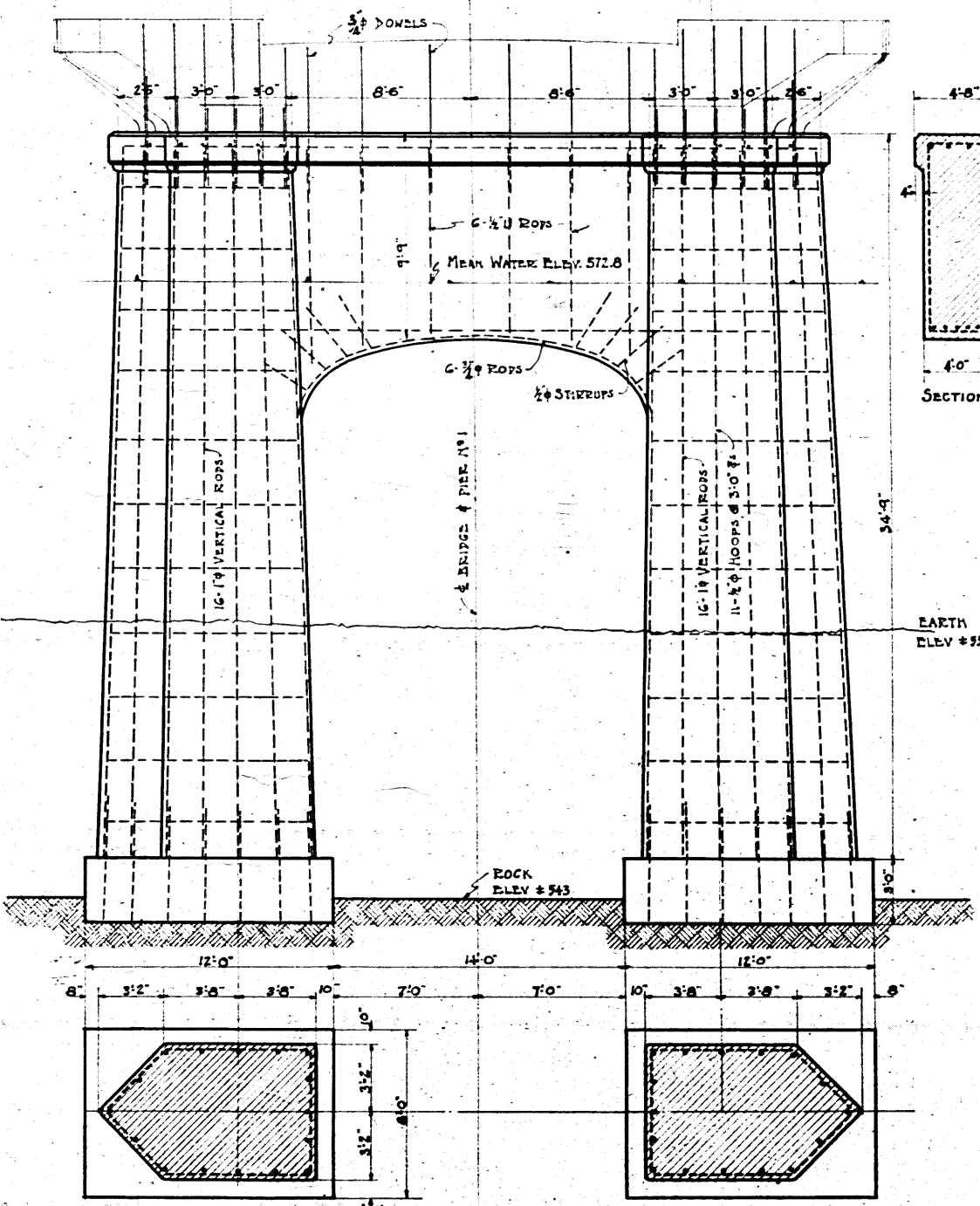
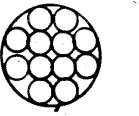
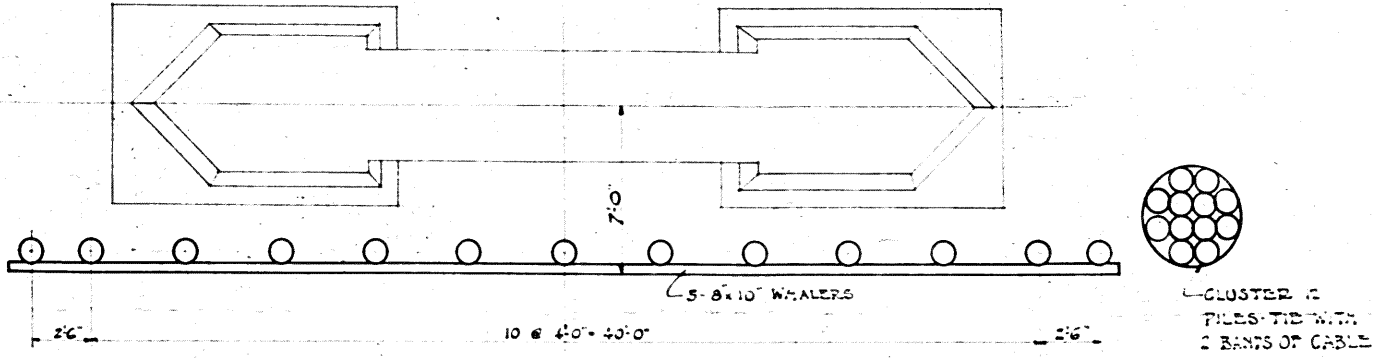
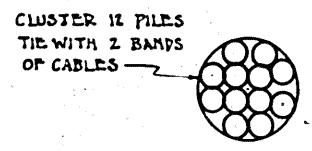
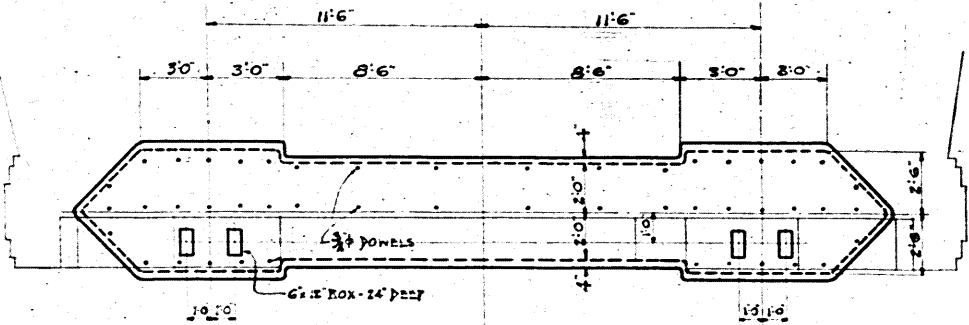
APPROVED 11/17-1924
[Signature]
COUNTY COMMISSIONER
[Signature]
COUNTY SURVEYOR
[Signature]
DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
CHIEF ENGINEER, BUREAU OF BRIDGES DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. CONSULTING & DESIGNING ENGINEERS CLEVELAND, OHIO	
BRIDGE STREET BASCULE BRIDGE ASHTABULA - ASHTABULA COUNTY OHIO	
D. W. FREESTY COUNTY SURVEYOR A. G. BIRLER DEPUTY SURVEYOR	
PIER NO. 2	
DESIGNED BY 11/10-1924	DATE
CHECKED BY 11/17-1924	DATE
APPROVED BY 11/17-1924	DATE
REVISIONS	REMARKS
SCALE: 1/4" = 1'-0"	PRINT MADE
130-3	

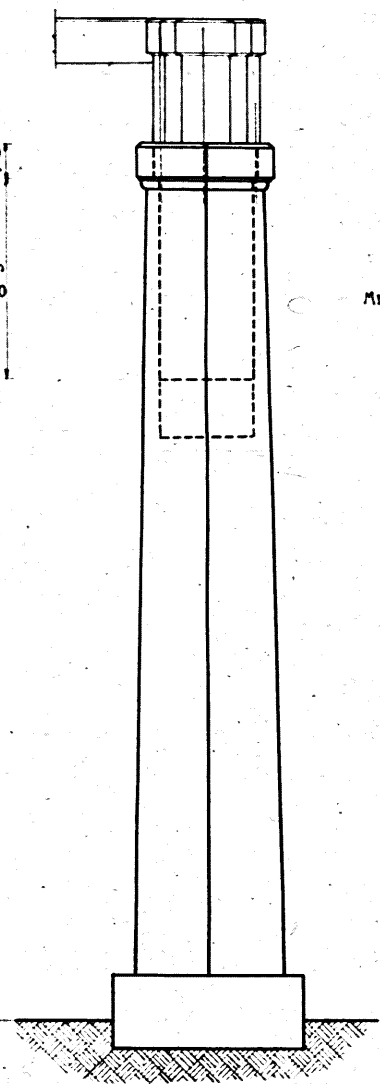


APPROVED: 11/17-1924
[Signature]
 COUNTY COMMISSIONERS
[Signature]
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
[Signature]
 CHIEF ENGINEER, BUREAU OF BRIDGES, DIV. OF HIGHWAYS, STATE OF OHIO.

THE WENDELL P. BROWN CO. CONSULTING & DESIGNING ENGINEERS, CLEVELAND, OHIO.			
BRIDGE STREET BAScule BRIDGE, ASHTABULA, ASHTABULA COUNTY, OHIO.			
D.W. LEGGITT COUNTY SURVEYOR A.G. BRILLER DEPUTY SURVEYOR.			
RAILING AND LAMP POST DETAILS.			
Drawn By	Chk. By	Date	Rev. By
11/17/24	W.P.B.	11/17/24	
REMARKS			SCALE: 1/4" = 1'-0"
Sheet No.			130-A

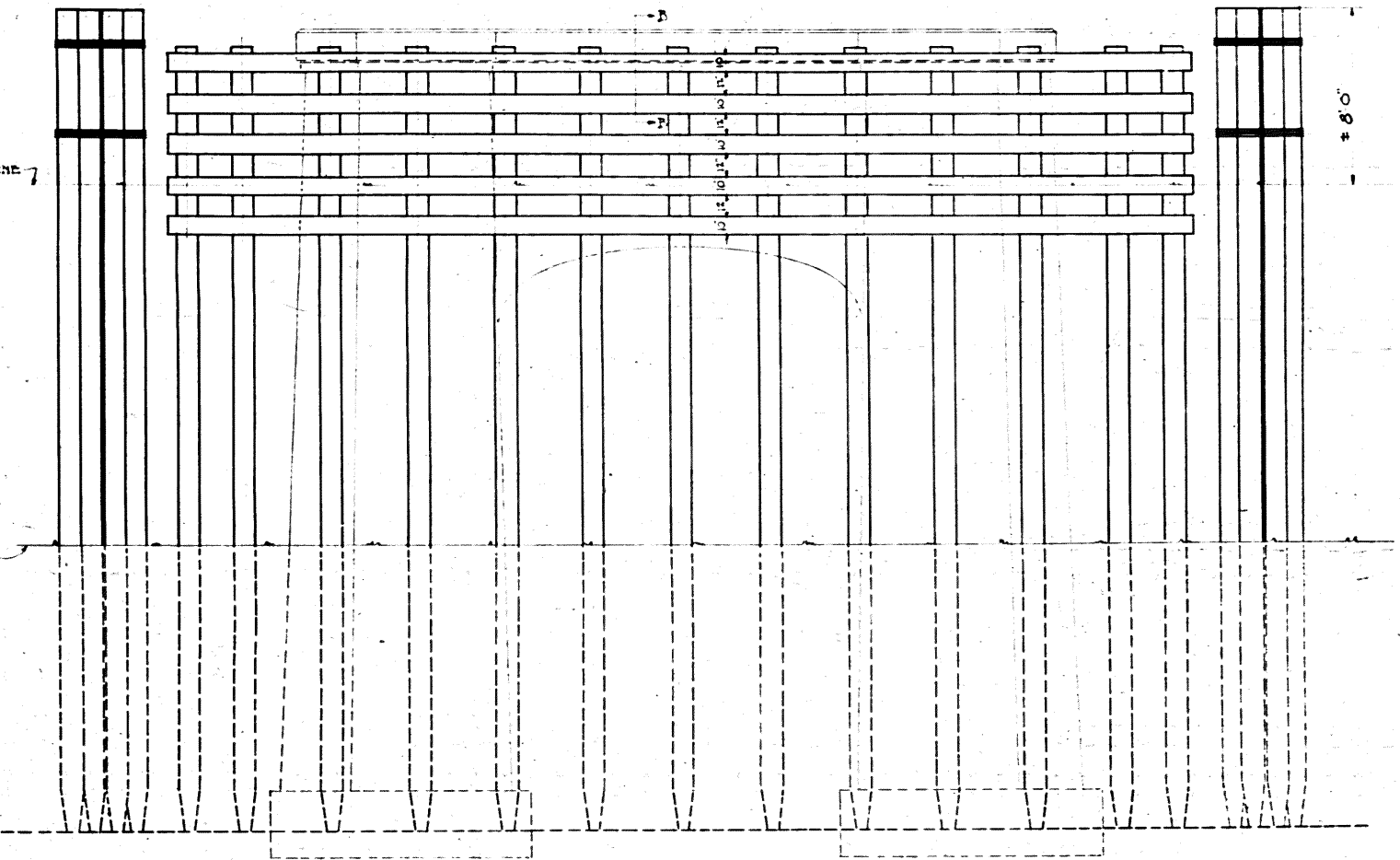


EARTH ELEV. 555

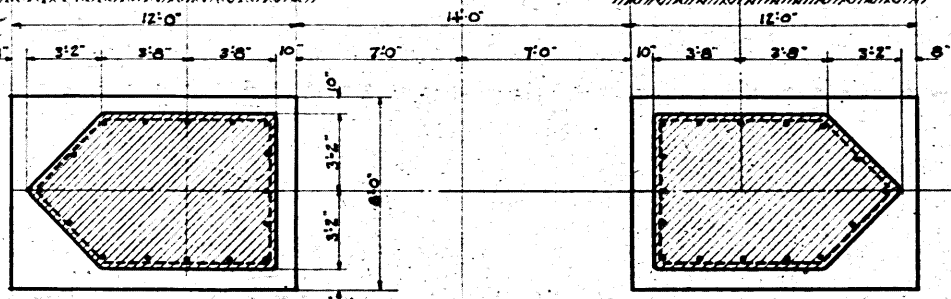


MEAN WATER LINE

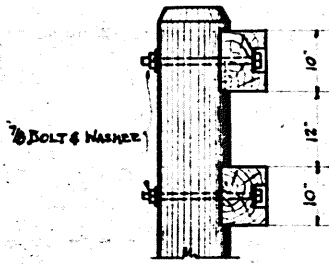
EARTH 555



PROTECTION & FENDER PIER



PIER NO. 1



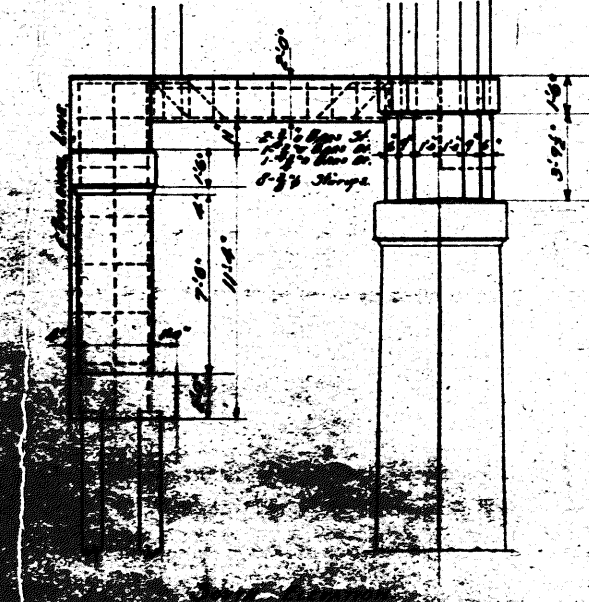
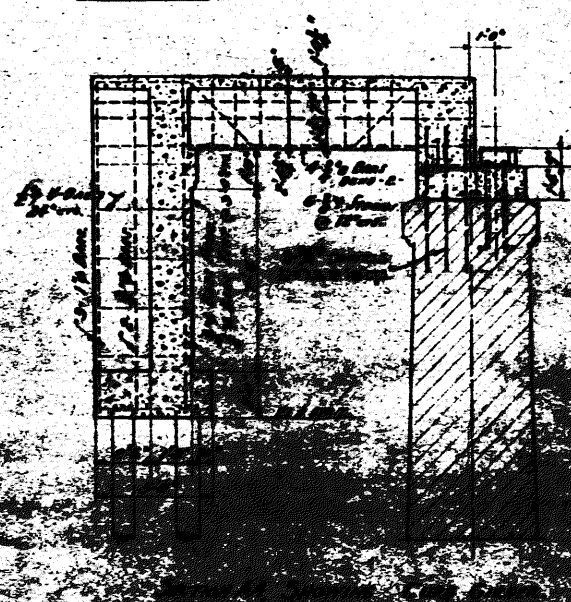
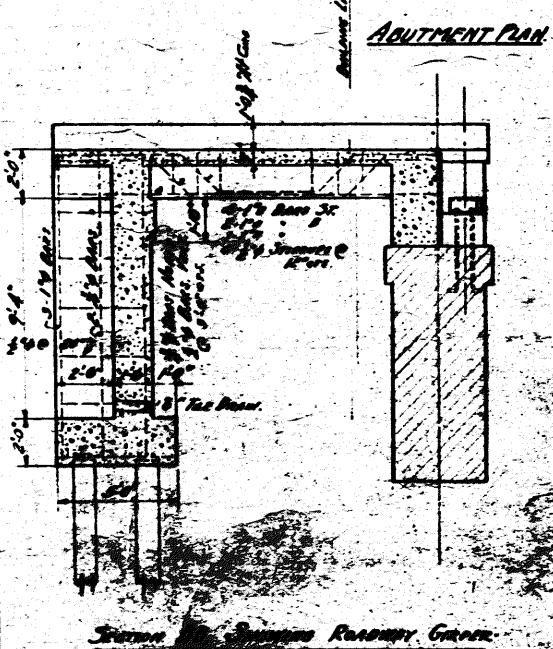
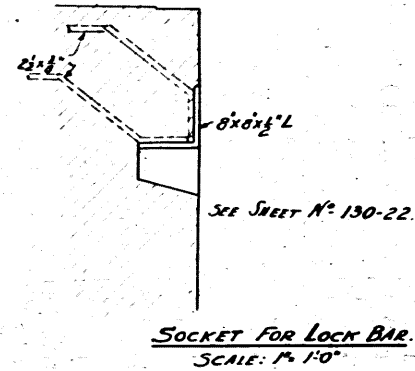
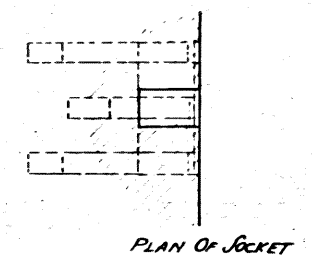
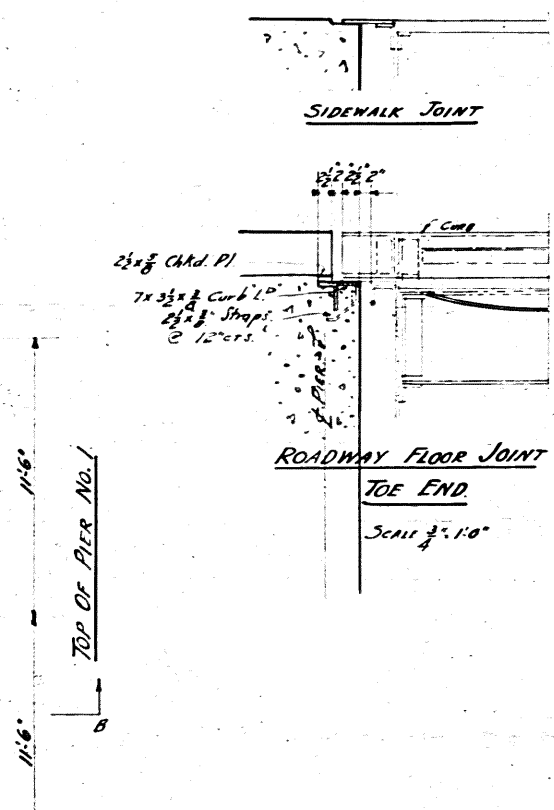
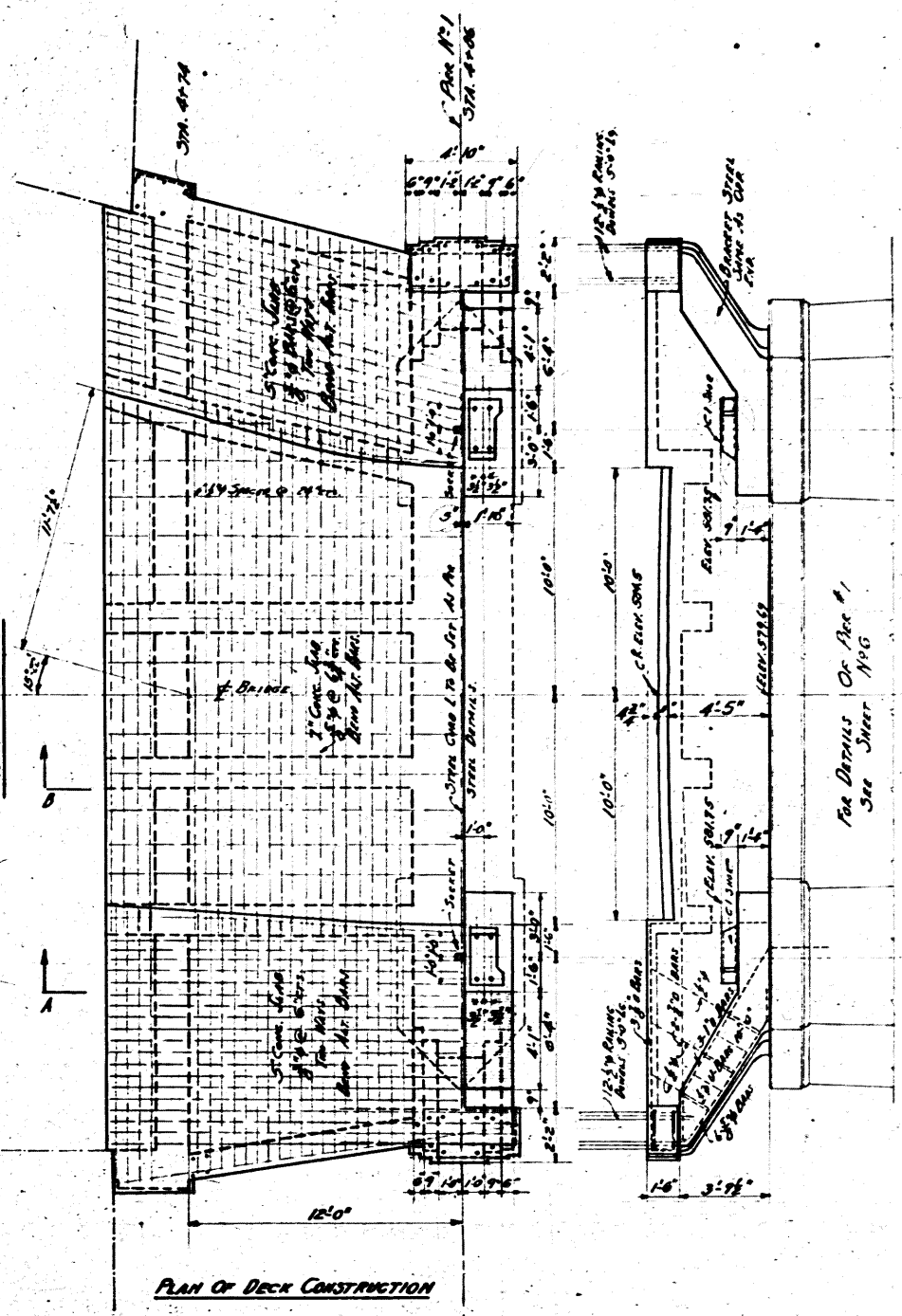
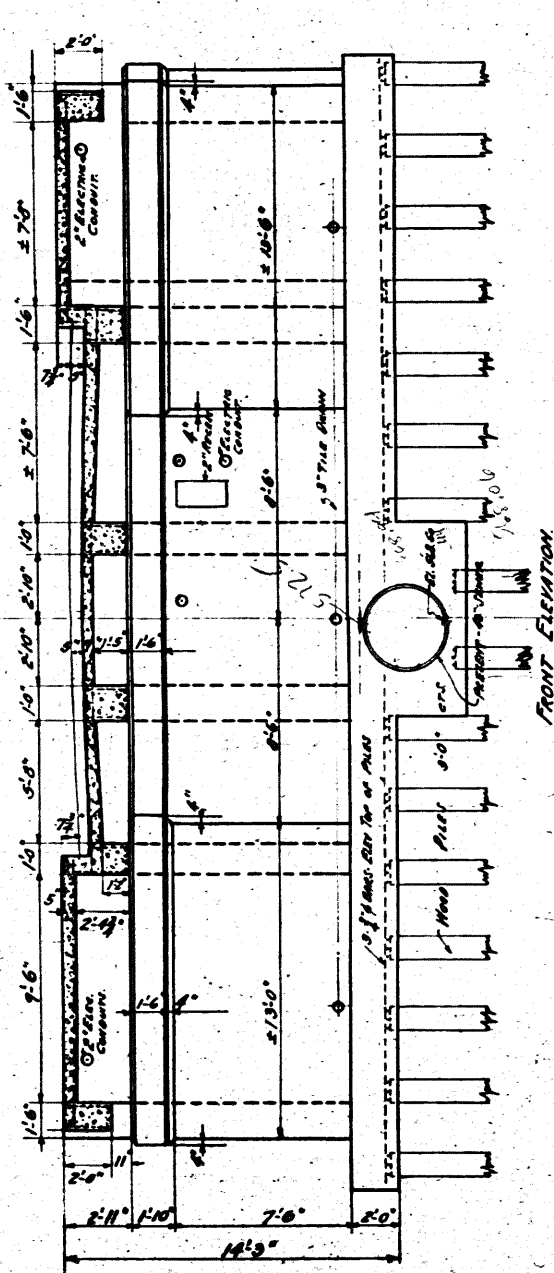
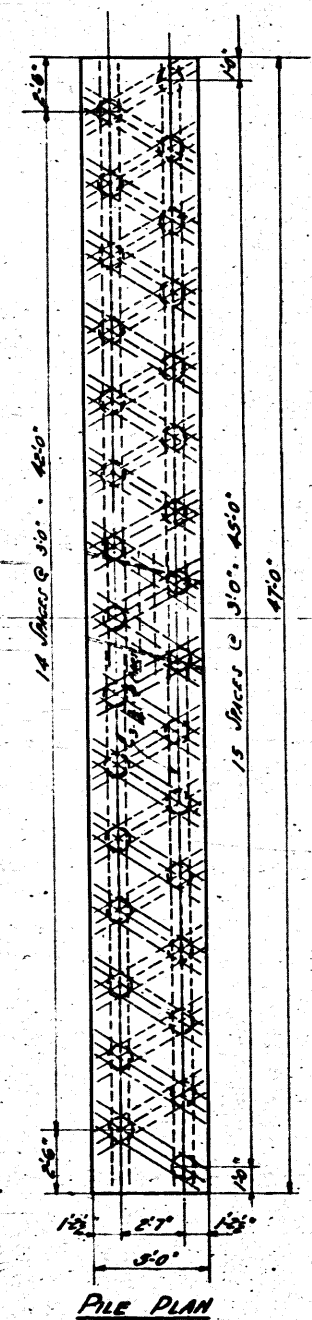
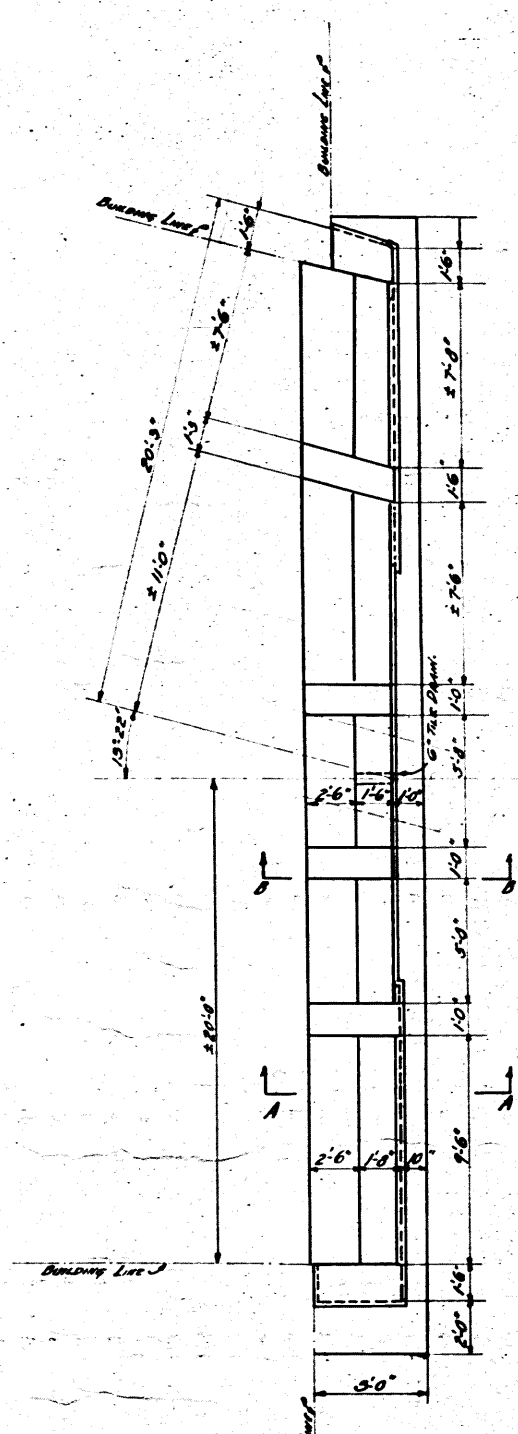
SECTION BB

APPROVED 11/7-1924

[Signatures]

COUNTY COMMISSIONER
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF BRIDGES DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. CONSULTING & DESIGNING ENGINEERS. CLEVELAND, OHIO		BRIDGE STREET BASCULE BRIDGE ASHTABULA ASHTABULA COUNTY OHIO	
R.W. LEGGETT A.C. BAILEY		COUNTY SURVEYOR DEPUTY SURVEYOR	
PIER NO. 1 AND PROTECTION & FENDER PIER			
DESIGNED BY	CHK. BY	TR. BY	DATE
REV. BY	DATE	REMARKS	SCALE 1/2" = 1'-0"
			PRINT NAME
			130-6



APPROVED: *[Signature]* 11/17-1924

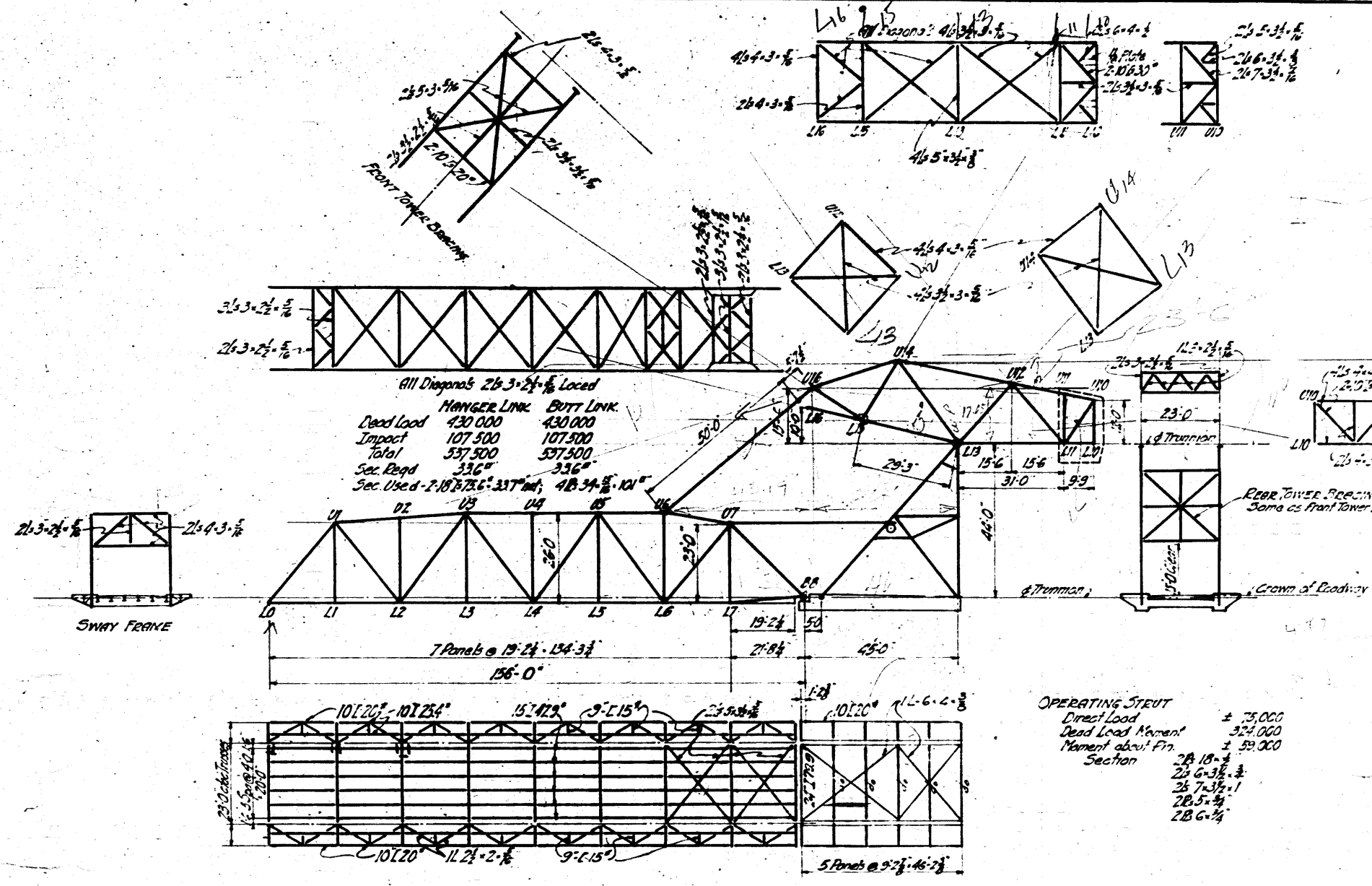
COUNTY COMMISSIONERS

COUNTY SURVEYOR

DIRECTOR OF HIGHWAYS AND PUBLIC WORKS

CHIEF ENGINEER, BUREAU OF BRIDGES, DIV. OF HIGHWAYS, STATE OF OHIO.

THE WENDELL P. BROWN CO. CONSULTING & DESIGNING ENGINEERS, CLEVELAND, OHIO					
BRIDGE STREET BAScule BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO					
B.W. LEGGETT COUNTY SURVEYOR A.G. BITLER DEPUTY SURVEYOR					
WEST APPROACH, ABUTMENT AND DECK					
Drawn	By	Chk	By	DATE	APP'D BY DATE
Nov. 16. 22	W.P.B.	W.P.B.	W.P.B.	11/17/22	W.P.B. 11/17/22
Rev. By	DATE	REVISION	SCALE	1/4" = 1'0"	
			Part Plan	130-7	



TOWER SPAN GIRDERS

Moment of Center (Span Down)	Shear	Rear	Front
Dead Load	+1081 000	80 000	479 000
Live Load	+353 000	30 000	256 000
Impact	+1434 000	112 000	513 000
Total	+2868 000	222 000	1248 000
Moment of Center (Span Up)	Shear	Rear	Front
Dead Load	1228 000	82 000	410 000
Live Load	371 000	30 000	256 000
Impact	1540 000	112 000	513 000
Total	3139 000	224 000	1179 000

Moment of girder: 612 000
 Moment of Front Col. Fin: 1503 000
 Maximum Moment: 1578 000

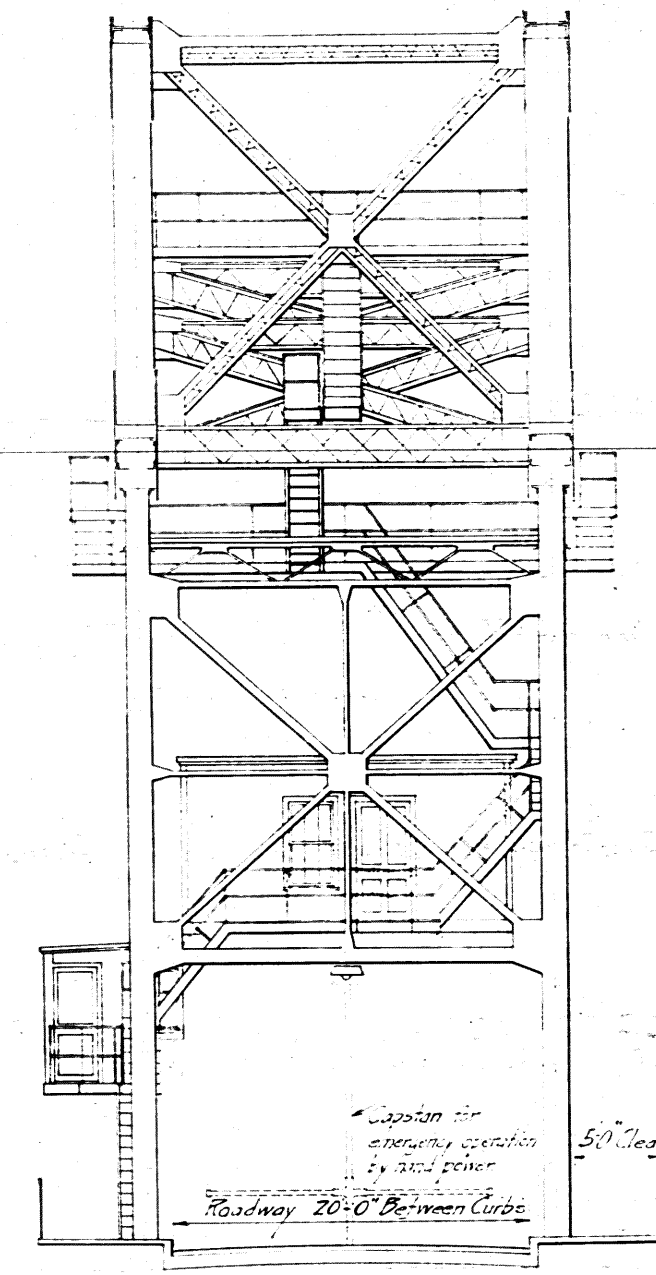
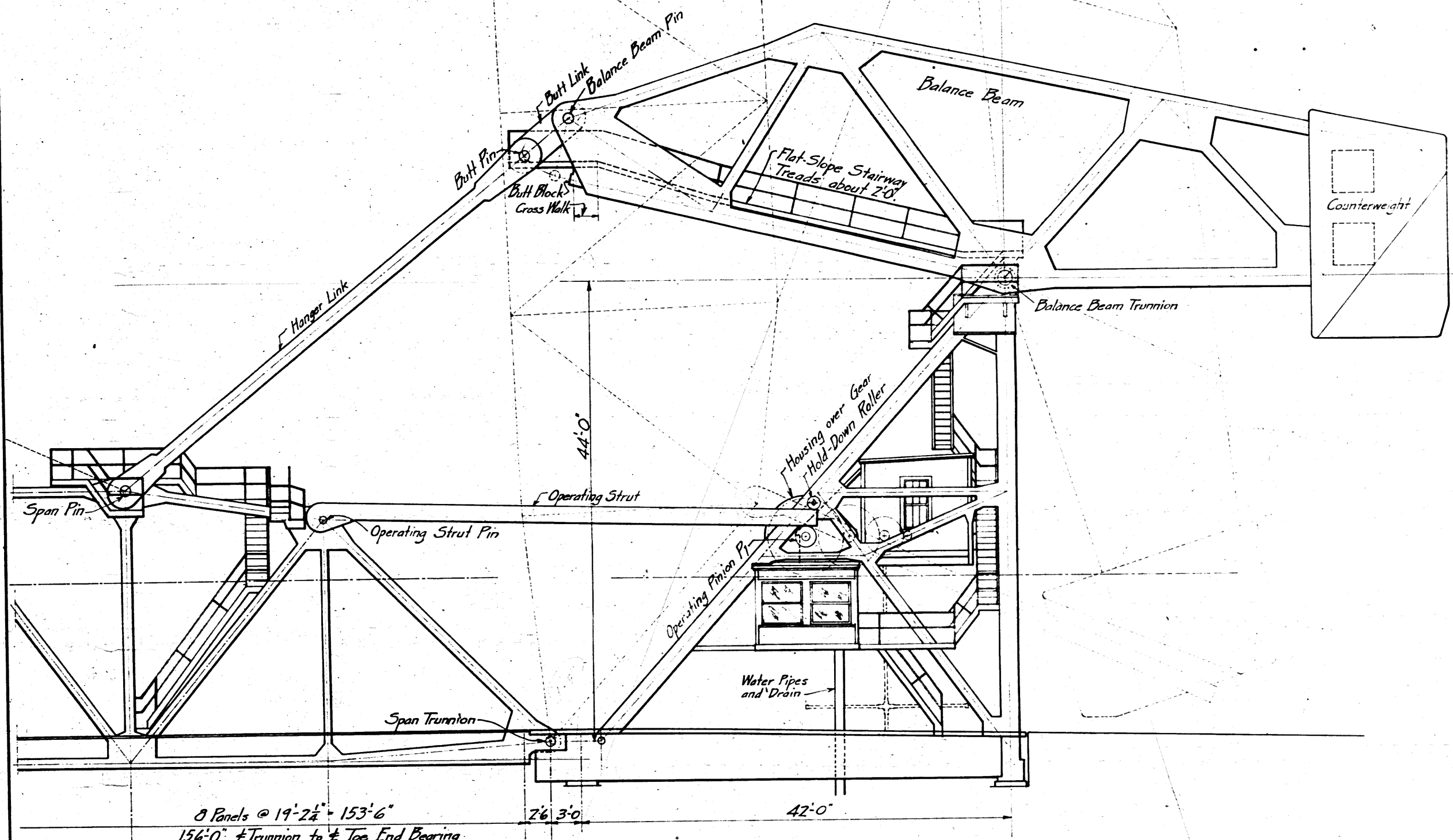
Section: 28.18" x 28.18" (I-beam)
 Section: 28.6" x 28.6" (I-beam)
 Section: 28.5" x 28.5" (I-beam)

BALANCE BEAM STRESSES

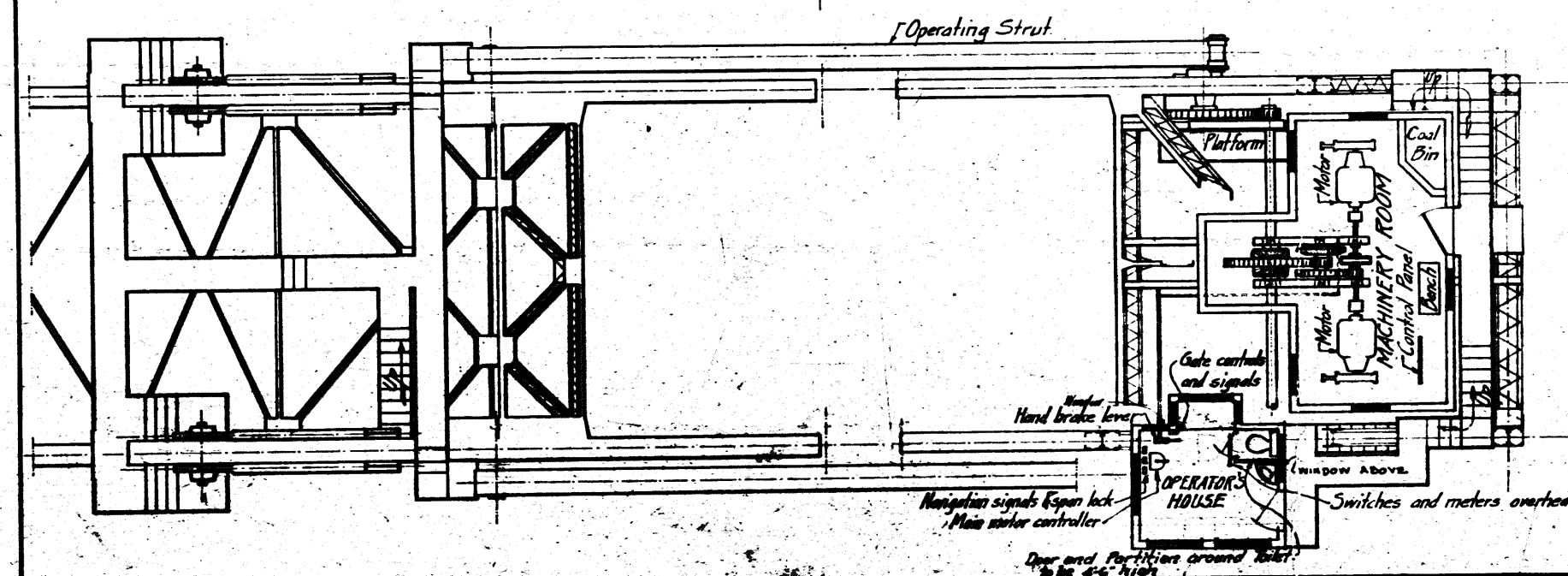
Member	Stress	Area	Force	Section Used
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U2-U3	10120	10.120	103300	28.18" x 28.18"
U3-U4	10120	10.120	103300	28.18" x 28.18"
U4-U5	10120	10.120	103300	28.18" x 28.18"
U5-U6	10120	10.120	103300	28.18" x 28.18"
U6-U7	10120	10.120	103300	28.18" x 28.18"
U7-U8	10120	10.120	103300	28.18" x 28.18"
U8-U9	10120	10.120	103300	28.18" x 28.18"
U9-U10	10120	10.120	103300	28.18" x 28.18"
U10-U11	10120	10.120	103300	28.18" x 28.18"
U11-U12	10120	10.120	103300	28.18" x 28.18"
U12-U13	10120	10.120	103300	28.18" x 28.18"
U13-U14	10120	10.120	103300	28.18" x 28.18"
U14-U15	10120	10.120	103300	28.18" x 28.18"
U15-U16	10120	10.120	103300	28.18" x 28.18"
U16-U17	10120	10.120	103300	28.18" x 28.18"
U17-U18	10120	10.120	103300	28.18" x 28.18"
U18-U19	10120	10.120	103300	28.18" x 28.18"
U19-U20	10120	10.120	103300	28.18" x 28.18"
U20-U21	10120	10.120	103300	28.18" x 28.18"
U21-U22	10120	10.120	103300	28.18" x 28.18"
U22-U23	10120	10.120	103300	28.18" x 28.18"
U23-U24	10120	10.120	103300	28.18" x 28.18"
U24-U25	10120	10.120	103300	28.18" x 28.18"
U25-U26	10120	10.120	103300	28.18" x 28.18"
U26-U27	10120	10.120	103300	28.18" x 28.18"
U27-U28	10120	10.120	103300	28.18" x 28.18"
U28-U29	10120	10.120	103300	28.18" x 28.18"
U29-U30	10120	10.120	103300	28.18" x 28.18"
U30-U31	10120	10.120	103300	28.18" x 28.18"
U31-U32	10120	10.120	103300	28.18" x 28.18"
U32-U33	10120	10.120	103300	28.18" x 28.18"
U33-U34	10120	10.120	103300	28.18" x 28.18"
U34-U35	10120	10.120	103300	28.18" x 28.18"
U35-U36	10120	10.120	103300	28.18" x 28.18"
U36-U37	10120	10.120	103300	28.18" x 28.18"
U37-U38	10120	10.120	103300	28.18" x 28.18"
U38-U39	10120	10.120	103300	28.18" x 28.18"
U39-U40	10120	10.120	103300	28.18" x 28.18"
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U41-U42	10120	10.120	103300	28.18" x 28.18"
U42-U43	10120	10.120	103300	28.18" x 28.18"
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U44-U45	10120	10.120	103300	28.18" x 28.18"
U45-U46	10120	10.120	103300	28.18" x 28.18"
U46-U47	10120	10.120	103300	28.18" x 28.18"
U47-U48	10120	10.120	103300	28.18" x 28.18"
U48-U49	10120	10.120	103300	28.18" x 28.18"
U49-U50	10120	10.120	103300	28.18" x 28.18"
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U59-U60	10120	10.120	103300	28.18" x 28.18"
U60-U61	10120	10.120	103300	28.18" x 28.18"
U61-U62	10120	10.120	103300	28.18" x 28.18"
U62-U63	10120	10.120	103300	28.18" x 28.18"
U63-U64	10120	10.120	103300	28.18" x 28.18"
U64-U65	10120	10.120	103300	28.18" x 28.18"
U65-U66	10120	10.120	103300	28.18" x 28.18"
U66-U67	10120	10.120	103300	28.18" x 28.18"
U67-U68	10120	10.120	103300	28.18" x 28.18"
U68-U69	10120	10.120	103300	28.18" x 28.18"
U69-U70	10120	10.120	103300	28.18" x 28.18"
U70-U71	10120	10.120	103300	28.18" x 28.18"
U71-U72	10120	10.120	103300	28.18" x 28.18"
U72-U73	10120	10.120	103300	28.18" x 28.18"
U73-U74	10120	10.120	103300	28.18" x 28.18"
U74-U75	10120	10.120	103300	28.18" x 28.18"
U75-U76	10120	10.120	103300	28.18" x 28.18"
U76-U77	10120	10.120	103300	28.18" x 28.18"
U77-U78	10120	10.120	103300	28.18" x 28.18"
U78-U79	10120	10.120	103300	28.18" x 28.18"
U79-U80	10120	10.120	103300	28.18" x 28.18"
U80-U81	10120	10.120	103300	28.18" x 28.18"
U81-U82	10120	10.120	103300	28.18" x 28.18"
U82-U83	10120	10.120	103300	28.18" x 28.18"
U83-U84	10120	10.120	103300	28.18" x 28.18"
U84-U85	10120	10.120	103300	28.18" x 28.18"
U85-U86	10120	10.120	103300	28.18" x 28.18"
U86-U87	10120	10.120	103300	28.18" x 28.18"
U87-U88	10120	10.120	103300	28.18" x 28.18"
U88-U89	10120	10.120	103300	28.18" x 28.18"
U89-U90	10120	10.120	103300	28.18" x 28.18"
U90-U91	10120	10.120	103300	28.18" x 28.18"
U91-U92	10120	10.120	103300	28.18" x 28.18"
U92-U93	10120	10.120	103300	28.18" x 28.18"
U93-U94	10120	10.120	103300	28.18" x 28.18"
U94-U95	10120	10.120	103300	28.18" x 28.18"
U95-U96	10120	10.120	103300	28.18" x 28.18"
U96-U97	10120	10.120	103300	28.18" x 28.18"
U97-U98	10120	10.120	103300	28.18" x 28.18"
U98-U99	10120	10.120	103300	28.18" x 28.18"
U99-U100	10120	10.120	103300	28.18" x 28.18"

MOVING SPAN STRESSES

Span	Down	Up	Max Stress	Design Stress	Actual Stress	Sections Used
L1-L2	15	17	79	65	72	28.18" x 28.18"
L2-L3	18	18	152	54	27	28.18" x 28.18"
L3-L4	20	22	154	115	32	28.18" x 28.18"
L4-L5	23	24	246	15	340	28.18" x 28.18"
L5-L6	26	27	247	15	340	28.18" x 28.18"
L6-L7	29	30	247	15	340	28.18" x 28.18"
L7-L8	32	33	114	0	22	28.18" x 28.18"
L8-L9	35	36	67	0	15	28.18" x 28.18"
L9-L10	38	39	107	0	22	28.18" x 28.18"
L10-L11	41	42	150	0	30	28.18" x 28.18"
L11-L12	44	45	200	0	40	28.18" x 28.18"
L12-L13	47	48	250	0	50	28.18" x 28.18"
L13-L14	50	51	300	0	60	28.18" x 28.18"
L14-L15	53	54	350	0	70	28.18" x 28.18"
L15-L16	56	57	400	0	80	28.18" x 28.18"
L16-L17	59	60	450	0	90	28.18" x 28.18"
L17-L18	62	63	500	0	100	28.18" x 28.18"
L18-L19	65	66	550	0	110	28.18" x 28.18"
L19-L20	68	69	600	0	120	28.18" x 28.18"
L20-L21	71	72	650	0	130	28.18" x 28.18"
L21-L22	74	75	700	0	140	28.18" x 28.18"
L22-L23	77	78	750	0	150	28.18" x 28.18"
L23-L24	80	81	800	0	160	28.18" x 28.18"
L24-L25	83	84	850	0	170	28.18" x 28.18"
L25-L26	86	87	900	0	180	28.18" x 28.18"
L26-L27	89	90	950	0	190	28.18" x 28.18"
L27-L28	92	93	1000	0	200	28.18" x 28.18"
L28-L29	95	96	1050	0	210	28.18" x 28.18"
L29-L30	98	99	1100	0	220	28.18" x 28.18"
L30-L31	101	102	1150	0	230	28.18" x 28.18"
L31-L32	104	105	1200	0	240	28.18" x 28.18"
L32-L33	107	108	1250	0	250	28.18" x 28.18"
L33-L34	110	111	1300	0	260	28.18" x 28.18"
L34-L35	113	114	1350	0	270	28.18" x 28.18"
L35-L36	116	117	1400	0	280	28.18" x 28.18"
L36-L37	119	120	1450	0	290	28.18" x 28.18"
L37-L38	122	123	1500	0	300	28.18" x 28.18"
L38-L39	125	126	1550	0	310	28.18" x 28.18"
L39-L40	128	129	1600	0	320	28.18" x 28.18"
L40-L41	131	132	1650	0	330	28.18" x 28.18"
L41-L42	134	135	1700	0	340	28.18" x 28.18"
L42-L43	137	138	1750	0	350	28.18" x 28.18"
L43-L44	140	141	1800	0	360	28.18" x 28.18"
L44-L45	143	144	1850	0	370	28.18" x 28.18"
L45-L46	146	147	1900	0	380	28.18" x 28.18"
L46-L47	149	150	1950	0	390	28.18" x 28.18"
L47-L48	152	153	2000	0	400	28.18" x 28.18"
L48-L49	155	156	2050	0	410	28.18" x 28.18"
L49-L50	158	159	2100	0	420	28.18" x 28.18"
L50-L51	161	162	2150	0	430	28.18" x 28.18"
L51-L52	164	165	2200	0	440	28.18" x 28.18"
L52-L53	167	168	2250	0	450	28.18" x 28.18"
L53-L54	170	171</				



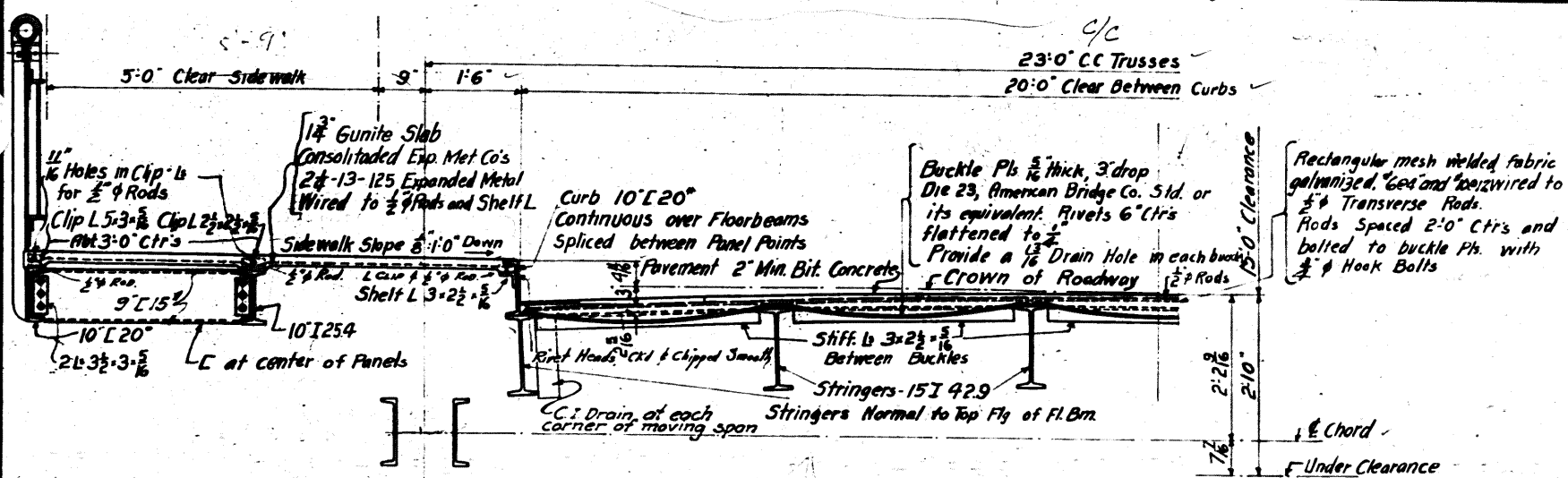
23'-0" c. to c. Trusses



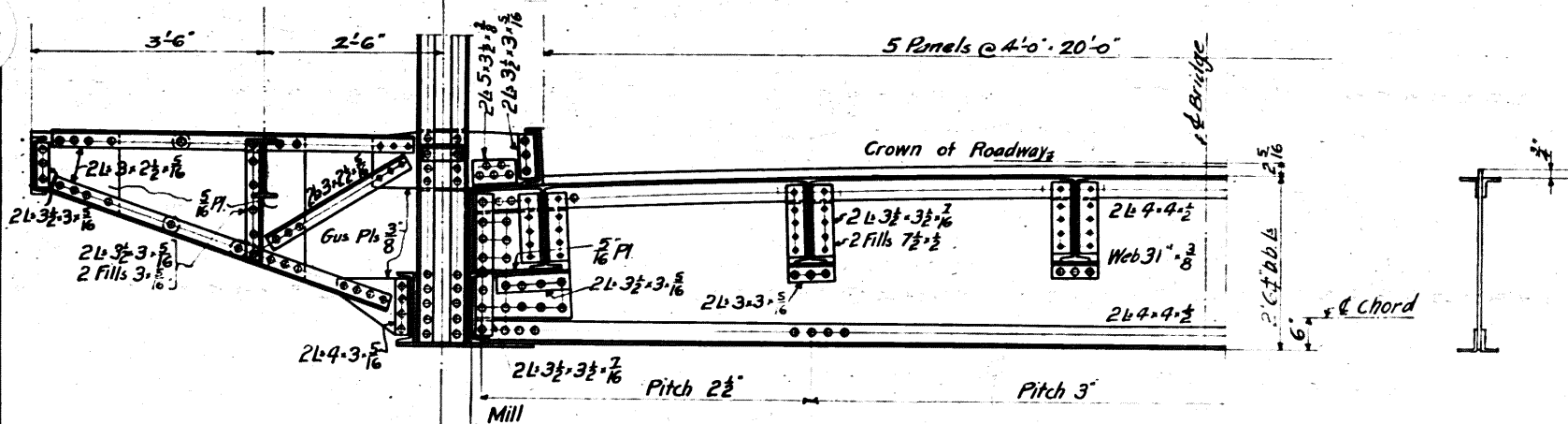
Approved 4/17-1924
Harry C. ...
 COUNTY COMMISSIONERS
W. H. ...
 COUNTY SURVEYOR
 THOS. E. BROWN JR.
 CHIEF ENGINEER, BUREAU OF BRIDGES
 DIV. OF HIGHWAYS, STATE OF OHIO

BROWN BASCULE BRIDGE		MYSTIC TYPE	
PATENTED JULY 2, 1918 OTHER PATENTS PENDING THOS. E. BROWN JR. CONSULTING ENGINEER NEW YORK CITY			
DATE MADE	DR BY	TR BY	CHK BY
11-15-24	W.P.B.	W.P.B.	W.P.B.
REV BY	DATE	REMARKS	SCALE
			1/2" = 1'-0"
PRINT MADE			130-10

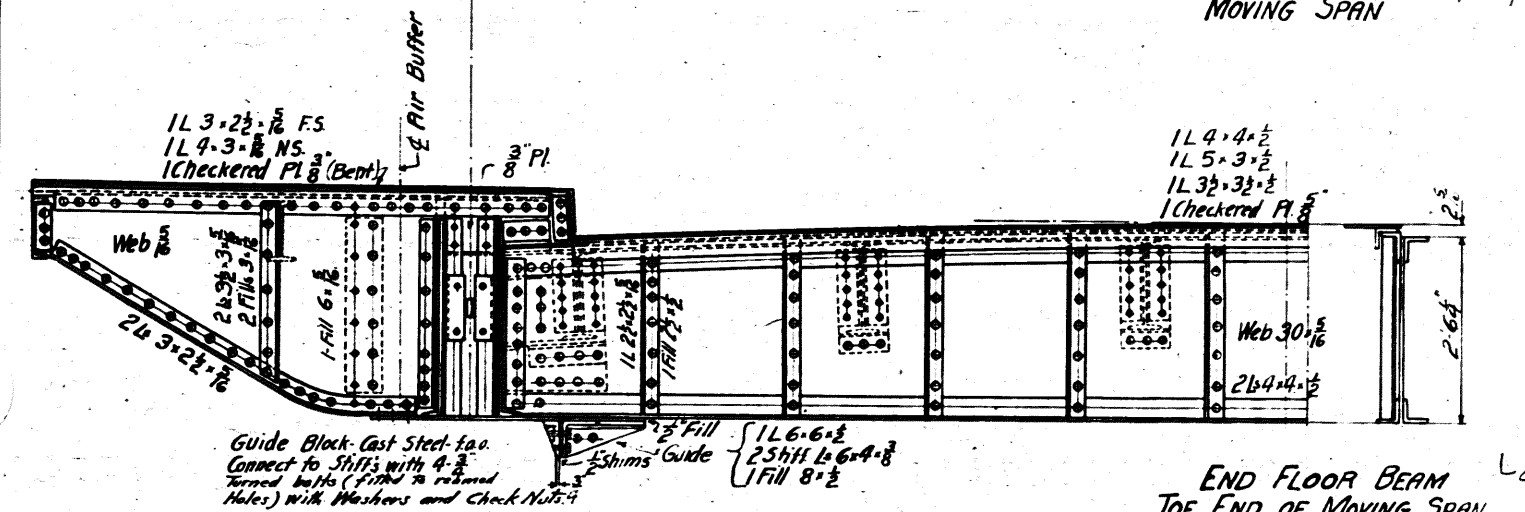
THE WENDELL P. BROWN CO.
 ENGINEERS
 CLEVELAND, OHIO
 BRIDGE STREET BASCULE BRIDGE
 ASHTABULA, ASHTABULA COUNTY, OHIO
 D. W. LEGGETT COUNTY SURVEYOR
 A. G. BULLER DEPUTY SURVEYOR



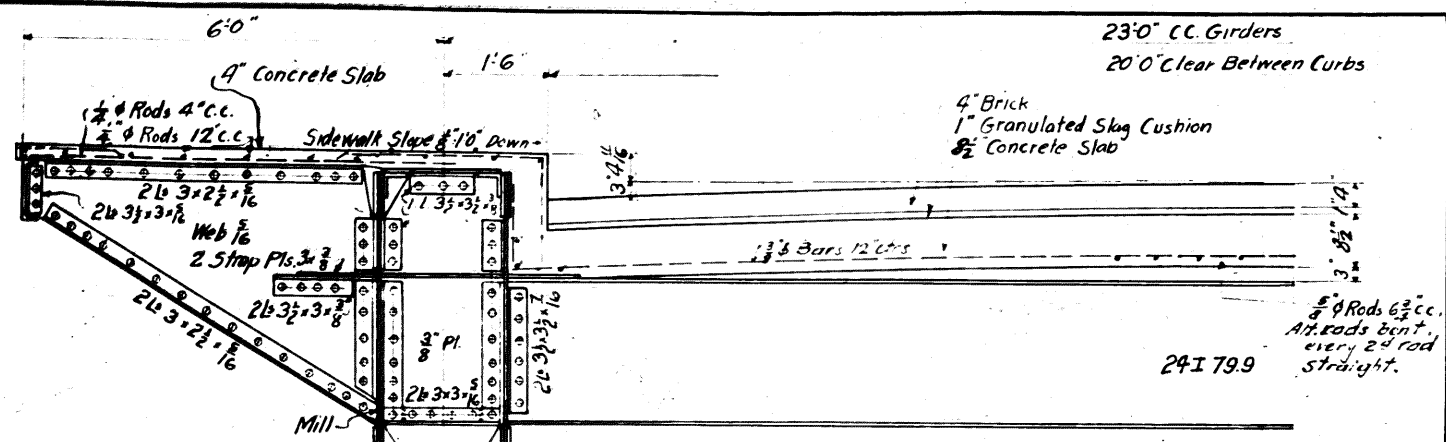
HALF CROSS SECTION OF FLOOR MOVING SPAN



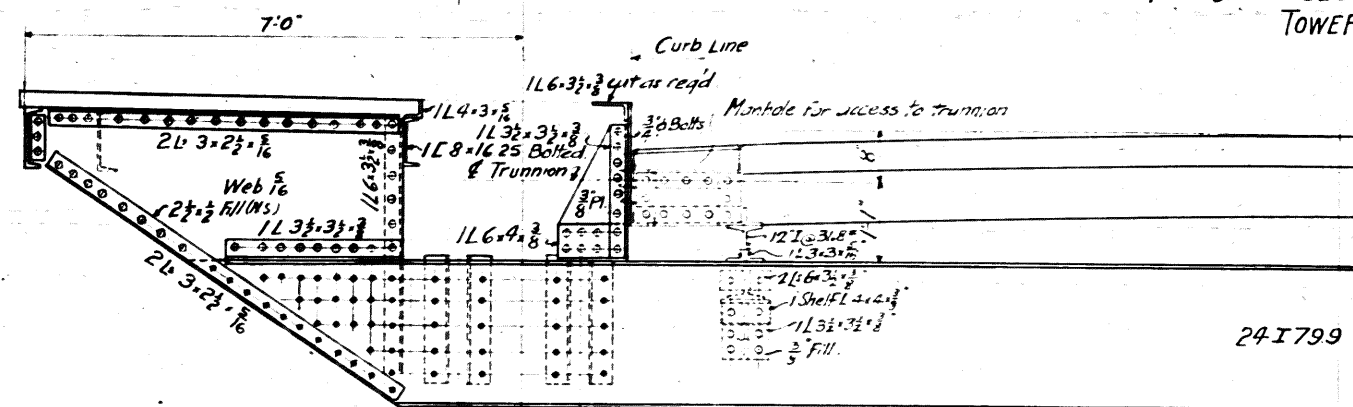
INT. FLOOR BEAM MOVING SPAN



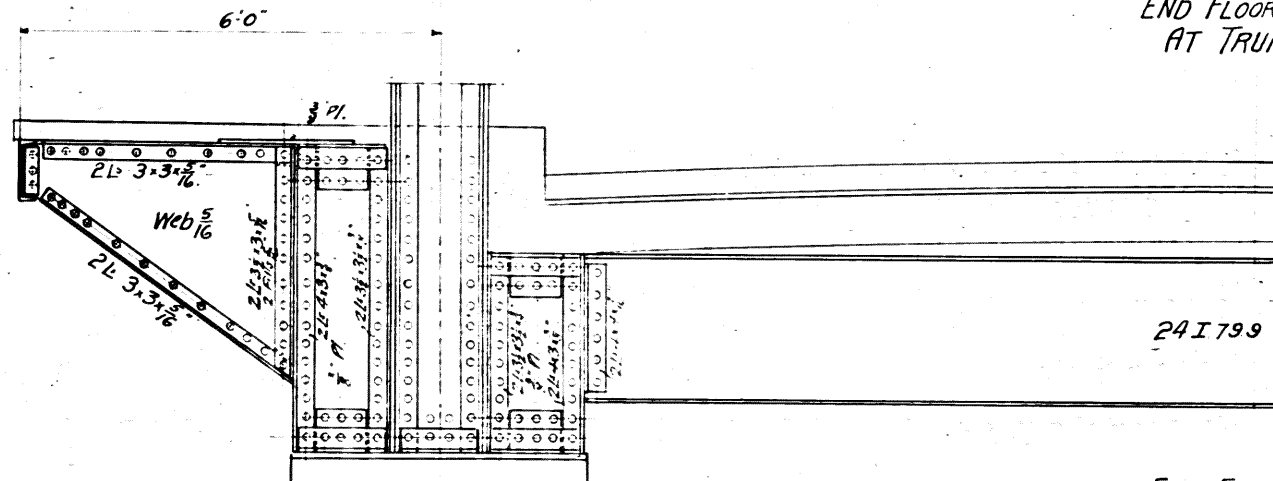
END FLOOR BEAM TOE END OF MOVING SPAN



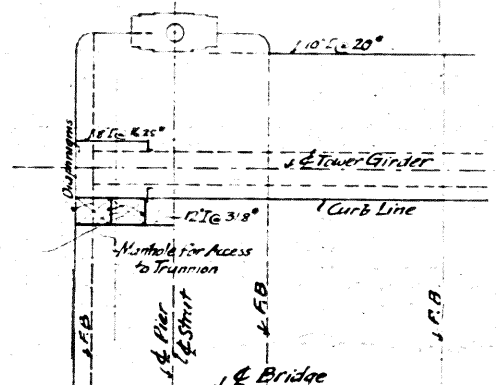
INT. CROSS SECTION OF FLOOR TOWER SPAN



END FLOOR BEAM AT TRUNNION

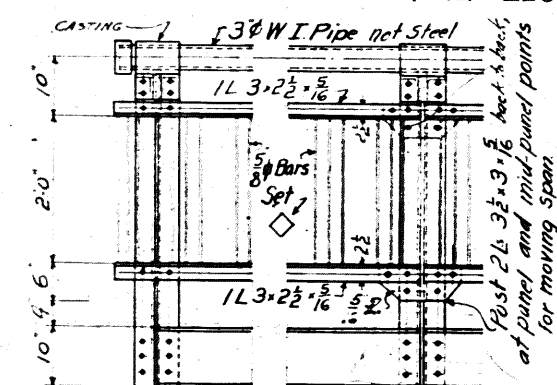


END FLOOR BEAM AT REAR TOWER LEG

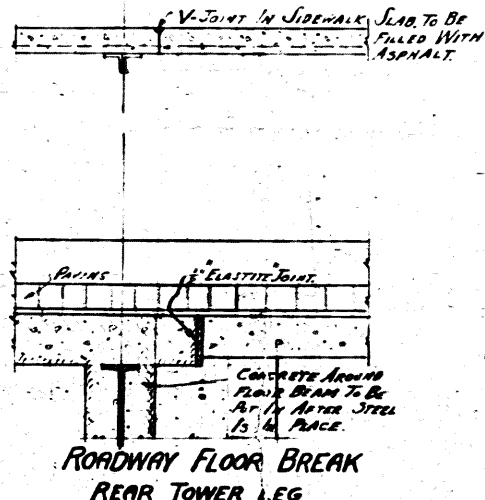
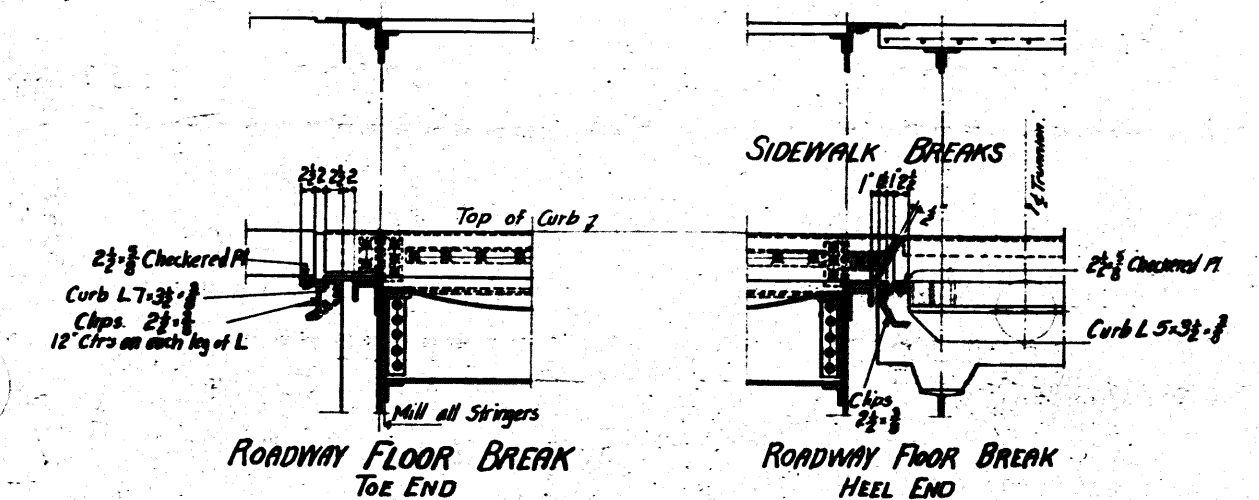


PLAN SHOWING FLOOR AT TRUNNION

Rivets:
In Moving Span 3"
In Tower Span 3"
except in Sidewalk Brackets and Stringers.



LONGITUDINAL VIEW OF HANDRAIL



Approved 11/17-1924

[Signatures]

COUNTY COMMISSIONERS

COUNTY SURVEYOR

DIRECTOR OF HIGHWAYS AND PUBLIC WORKS

CHIEF ENGINEER, BUREAU OF BRIDGES

DIV. OF HIGHWAYS, STATE OF OHIO

BROWN BASCULE BRIDGE
MYSTIC TYPE
PATENTED JULY 7, 1914
OTHER PATENTS PENDING

THOS. E. BROWN JR.
CONSULTING ENGINEER
NEW YORK, C.T.Y.

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO

BRIDGE STREET BASCULE BRIDGE
ASHTABULA, ASHTABULA COUNTY OHIO
D.W. LEGGETT COUNTY SURVEYOR
A.G. BIXLER DEPUTY SURVEYOR

TOWER AND MOVING SPAN FLOOR DETAILS

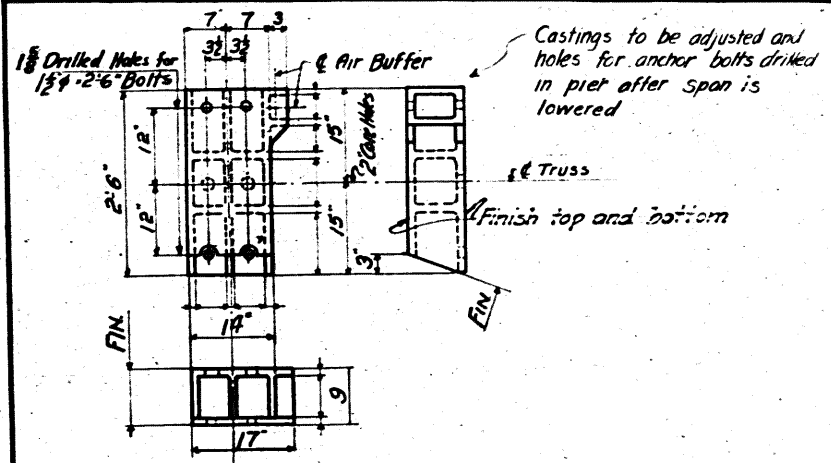
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11-15-24	WLD	WLD				

REVISIONS

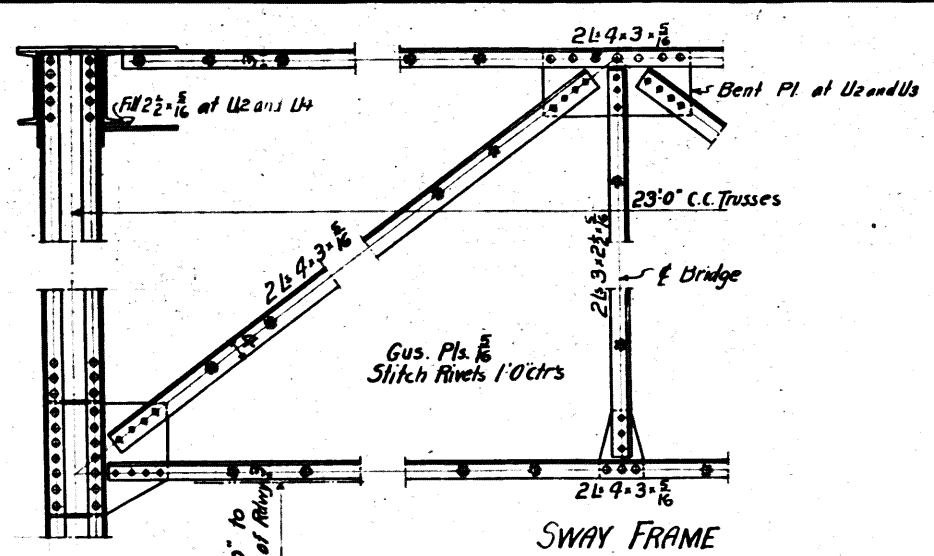
REV. BY	DATE	REMARKS

SCALE: 1/4" = 1'-0"

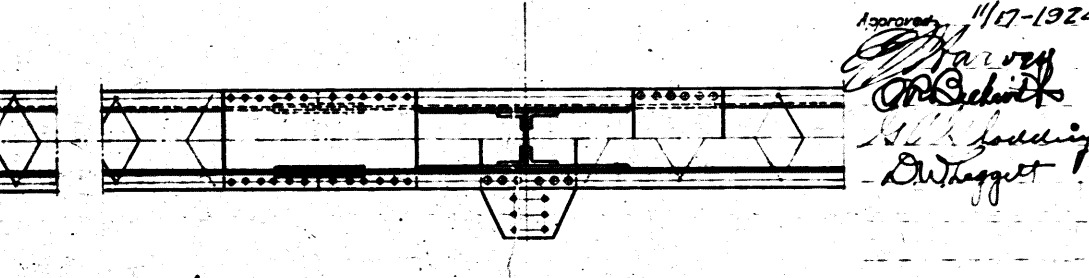
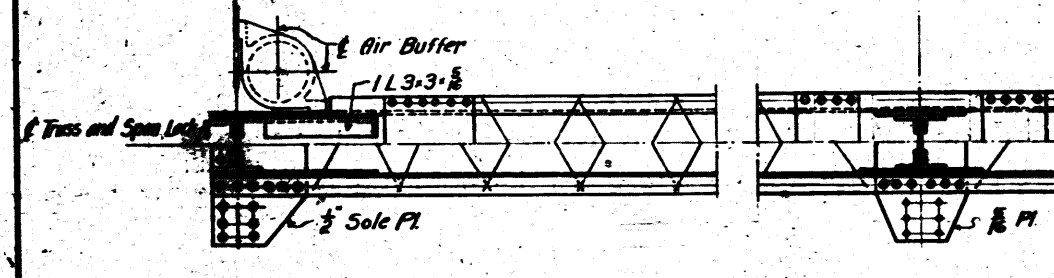
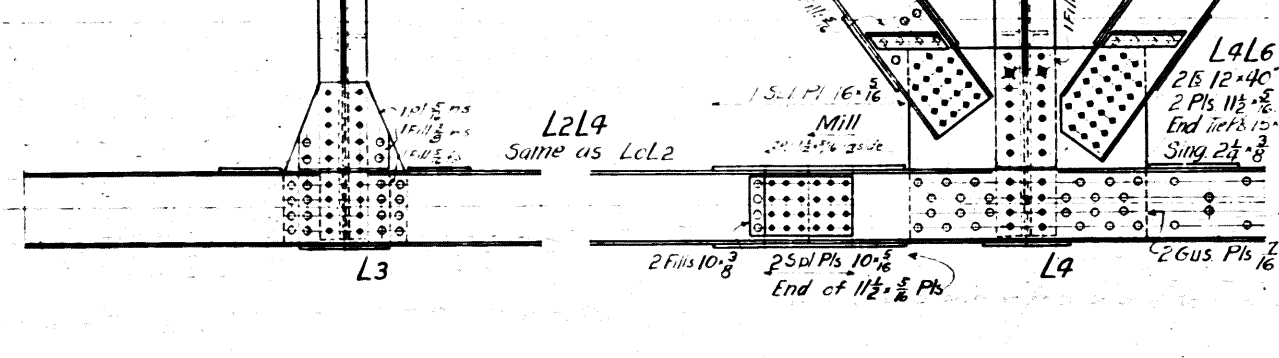
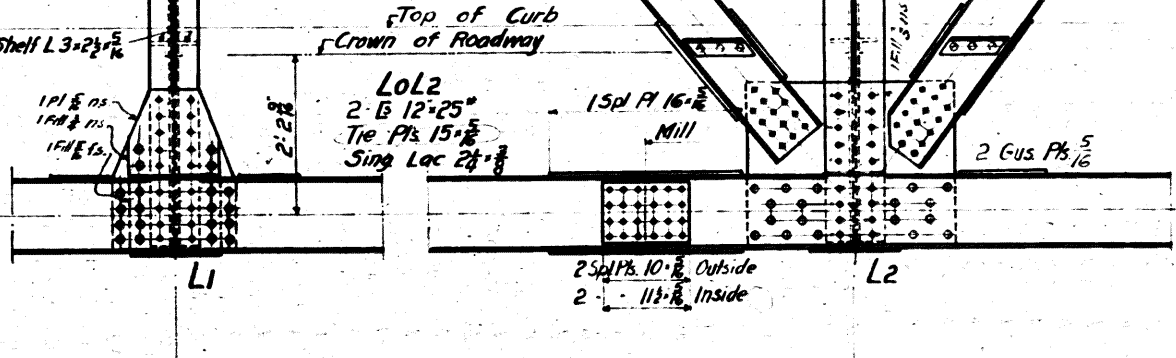
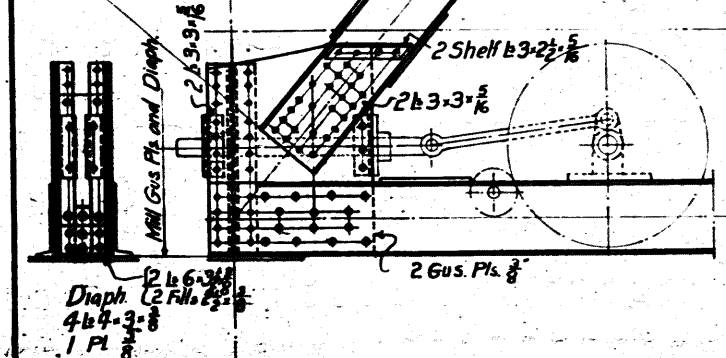
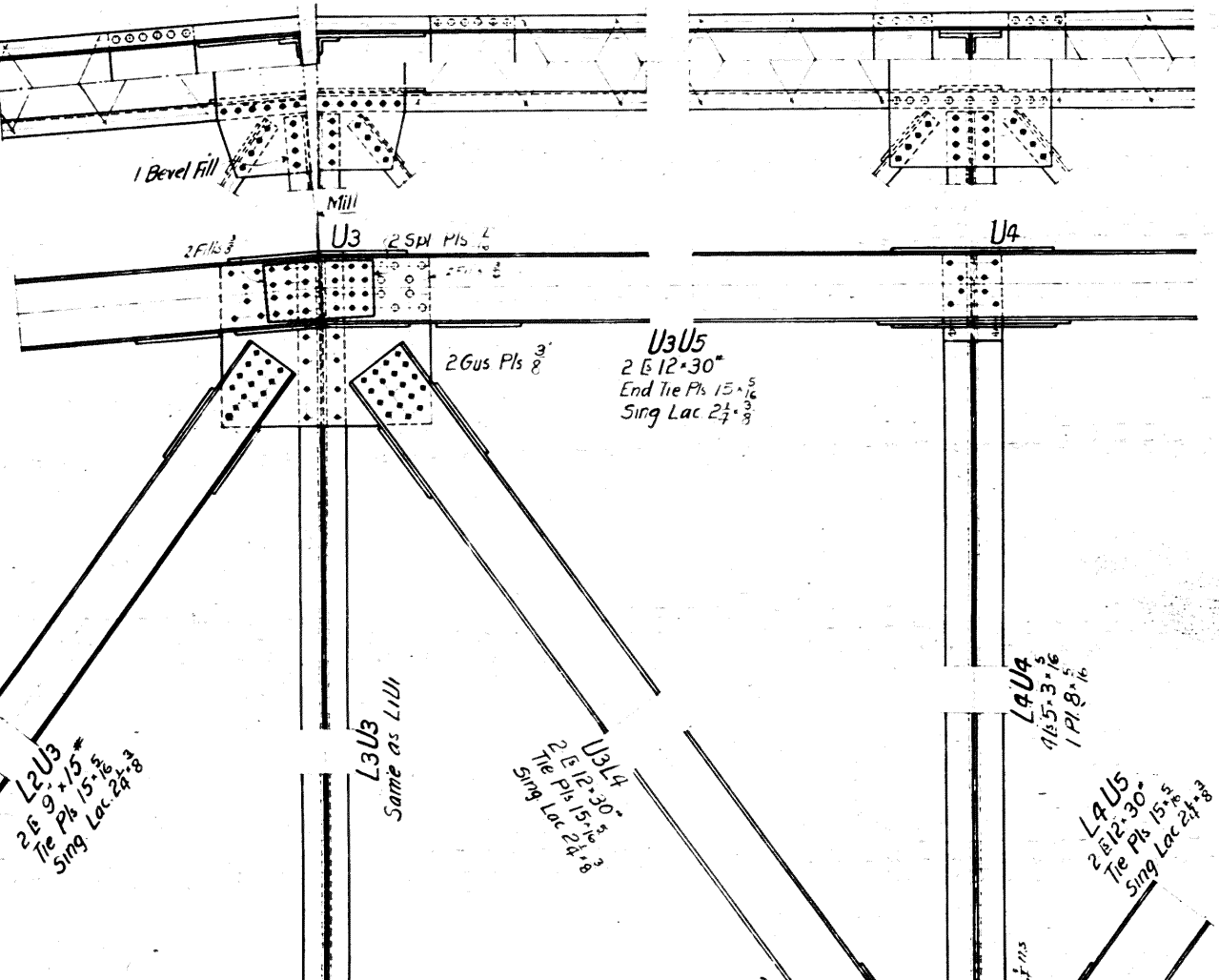
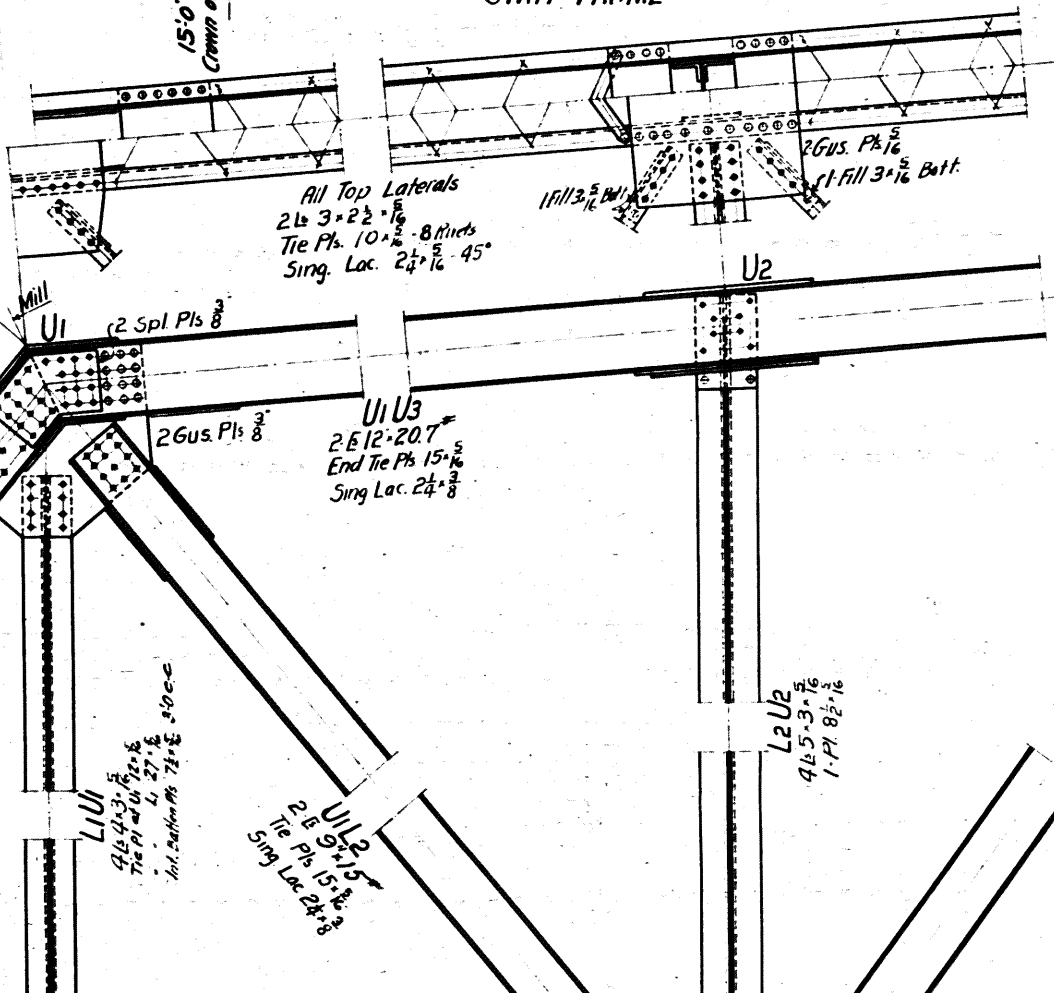
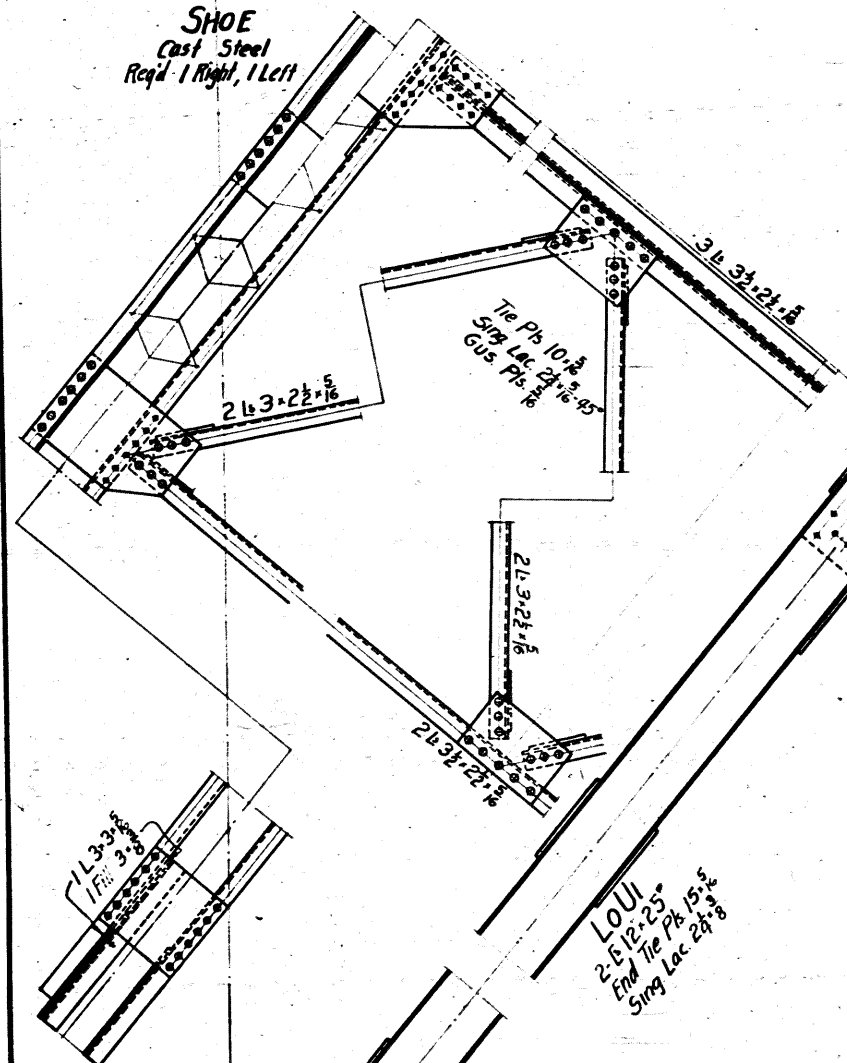
PRINT MADE 130-11



Castings to be adjusted and holes for anchor bolts drilled in pier after span is lowered



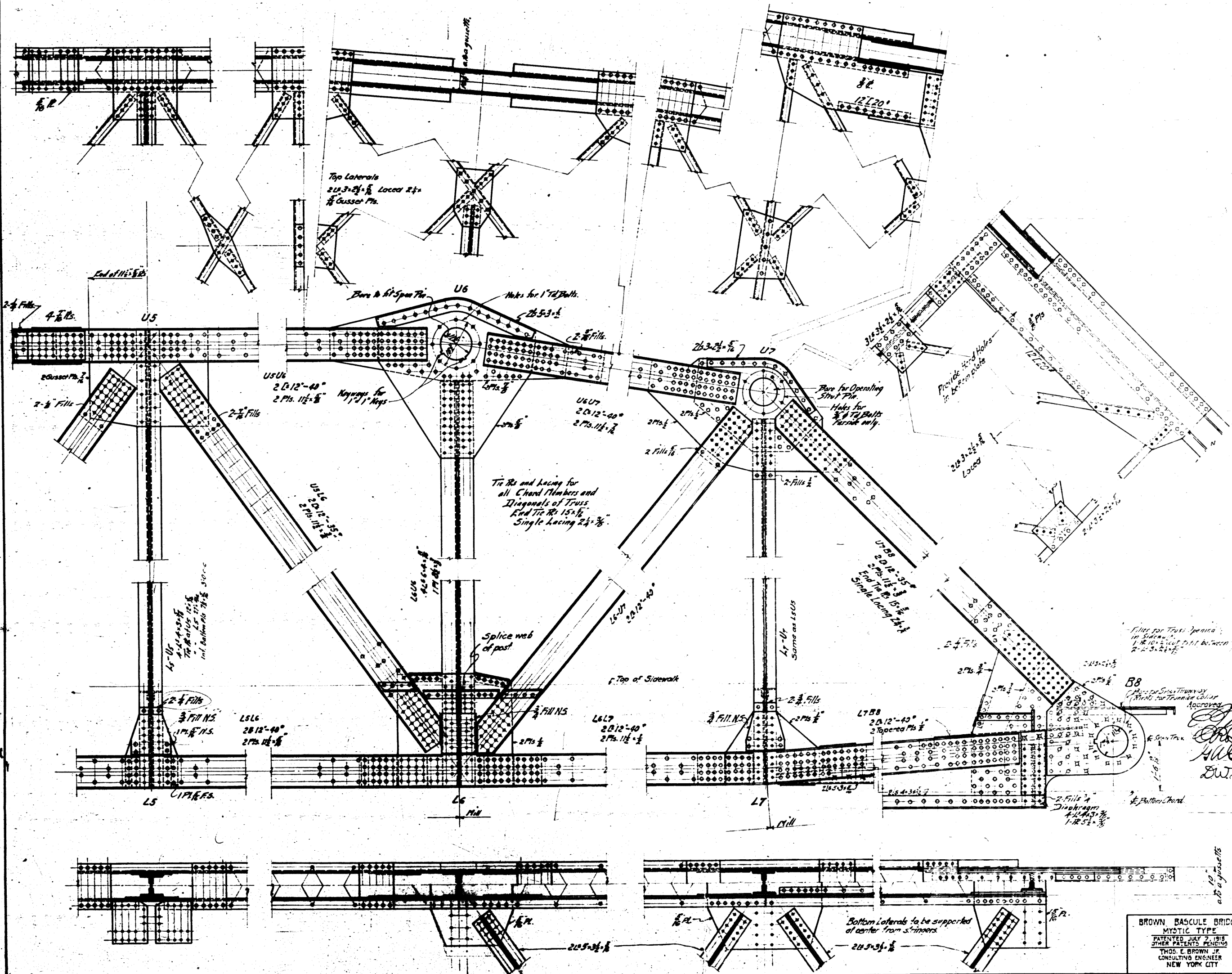
SWAY FRAME



Approved 11/7-1924
Harvey
C. Schmitt
D. Huggert

COUNTY COMMISSIONERS
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF BRIDGES
 DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO ENGINEERS CLEVELAND, OHIO		
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO		
D. W. LEGGETT COUNTY SURVEYOR	A. S. BYLER DEPUTY SURVEYOR	
MOVING SPAN TRUSS - TOE END		
DRAWN BY 11-15-24 WLD/WLD	CHECKED BY WLD	DATE 10/28/24
REVISED BY DATE	REMARKS	SCALE: 3/4" = 1'-0"
BROWN BASCULE BRIDGE MYSTIC TYPE PATENTED JULY 9, 1818 OTHER PATENTS PENDING THOS. E. BROWN JR. CONSULTING ENGINEER NEW YORK CITY		PRINT MADE 130-12



All Rivets $\frac{3}{4}$ ϕ .

Files for Truss Spacing in Side...
 1-R-10-1/2 cut D.O.M. between joints
 2-2-3-2-1/2

11-17-1924

W. Leggett
 COUNTY COMMISSIONERS

W. Leggett
 COUNTY SURVEYOR

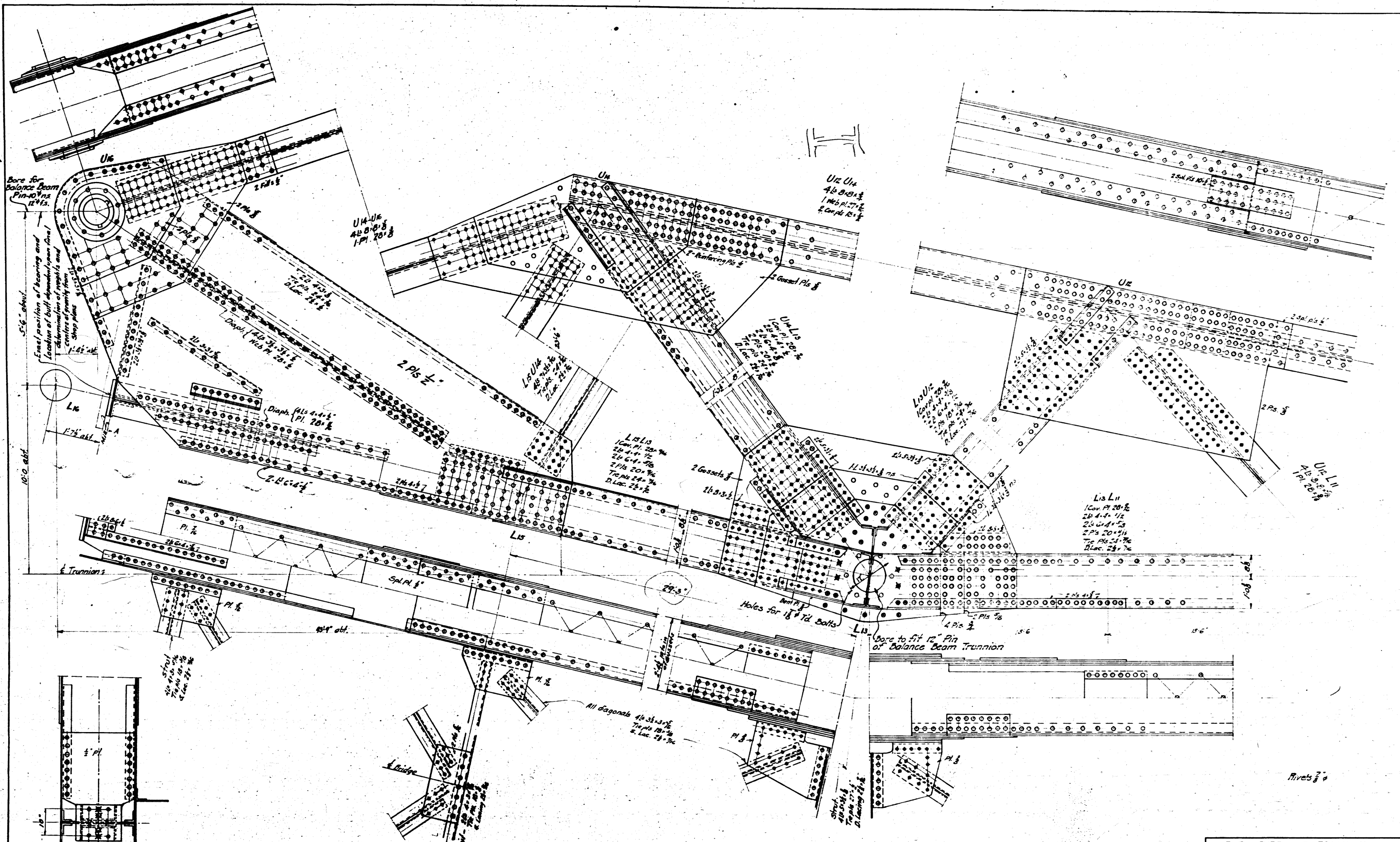
W. Leggett
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS

W. Leggett
 CHIEF ENGINEER, BUREAU OF BRIDGES, DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO ENGINEERS CLEVELAND, OHIO											
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY OHIO											
A.G. BIKER COUNTY SURVEYOR DEPUTY SURVEYOR											
MOVING SPAN TRUSS - HEEL END											
DESIGNED BY	DR BY	TR BY	CHK BY	DATE	APPR BY	DATE					
11-15-24	WR	WR	WR	11/24	WR	11/24					
REV BY	DATE	REMARKS				SCALE: 1/4"=1'-0"					
						PRINT MADE					
130-13											

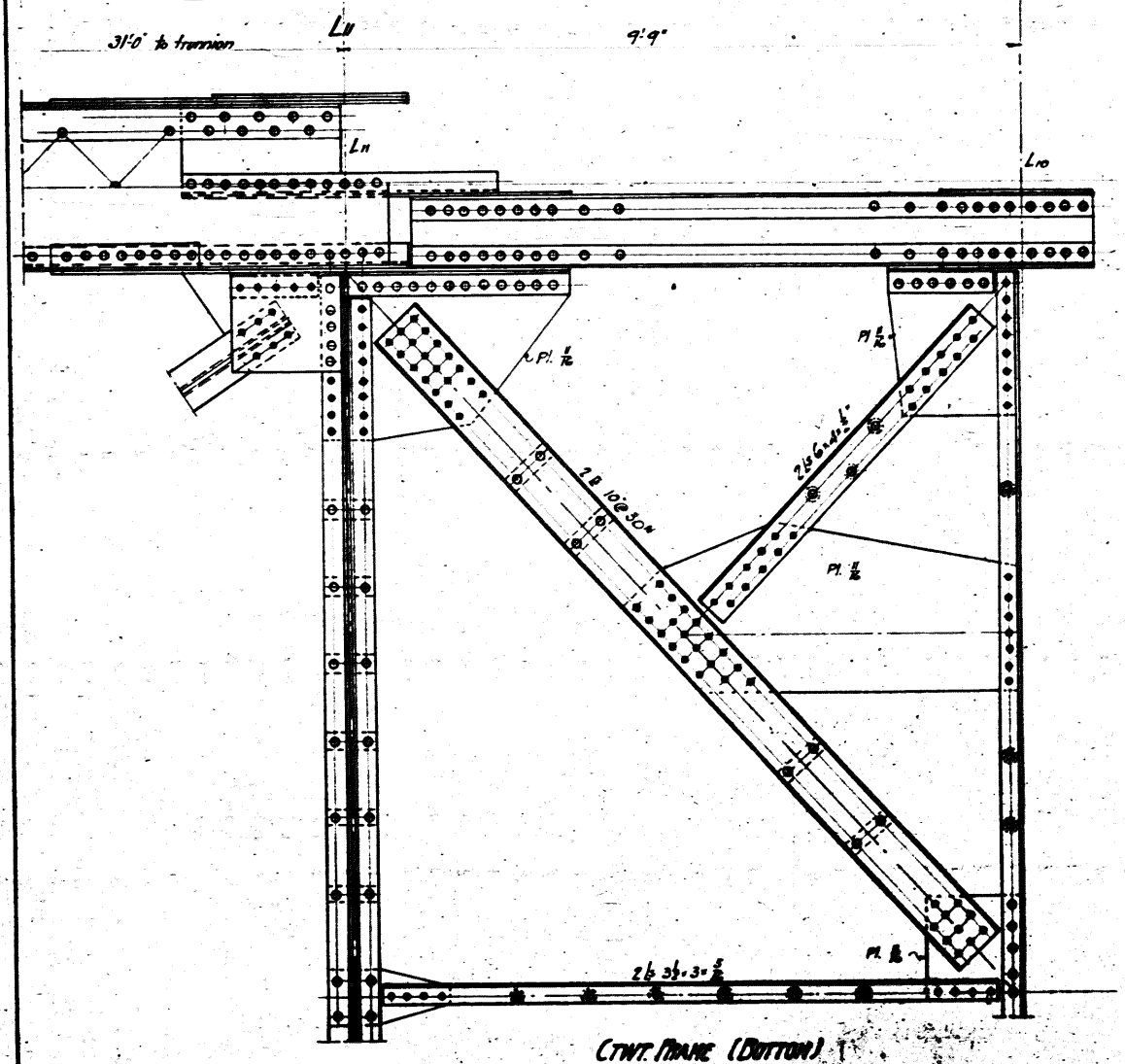
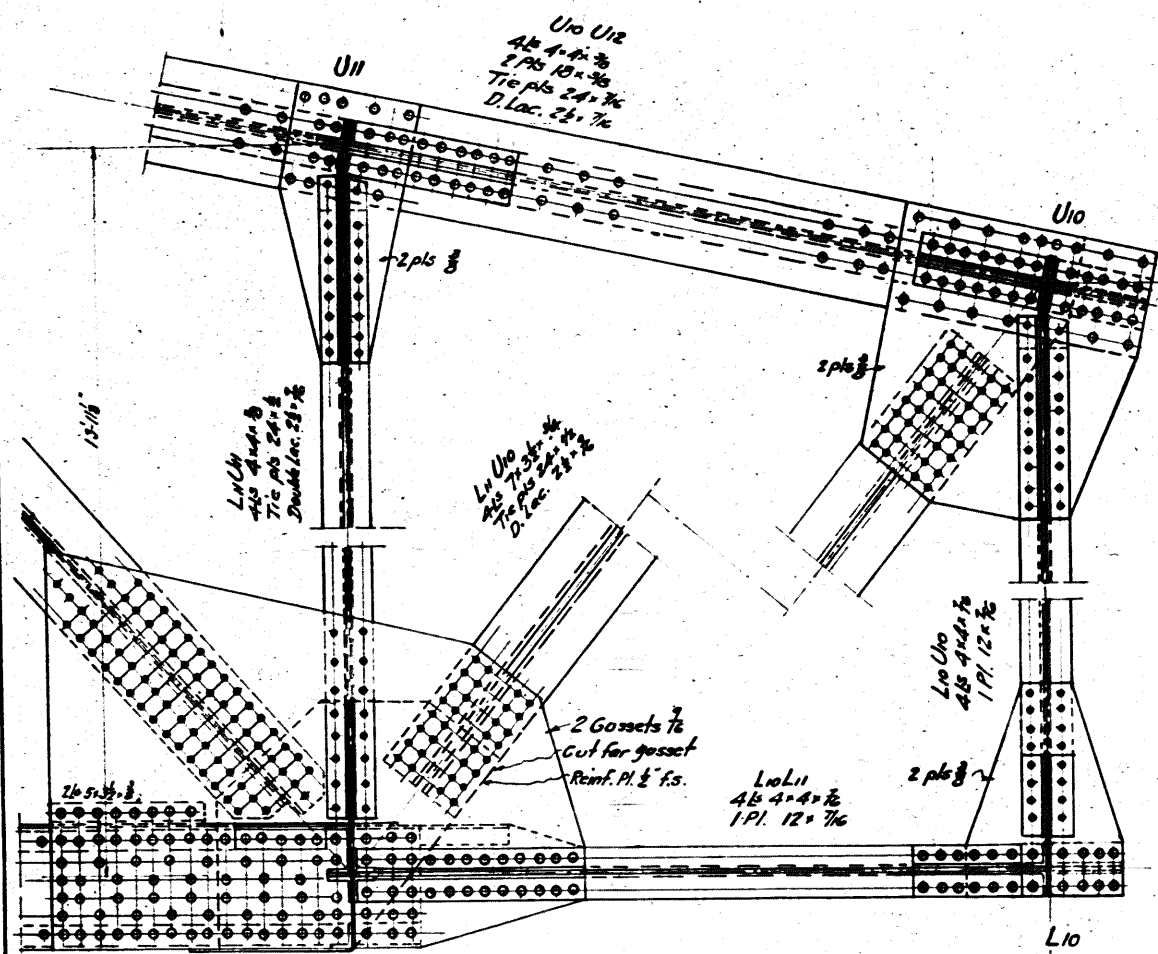
BROWN BASCULE BRIDGE
 MYSTIC TYPE
 PATENTED JULY 2, 1918
 OTHER PATENTS PENDING
 THOS. E. BROWN JR.
 CONSULTING ENGINEER
 NEW YORK CITY

Bottom Laterals to be supported
 at center from S'immers.

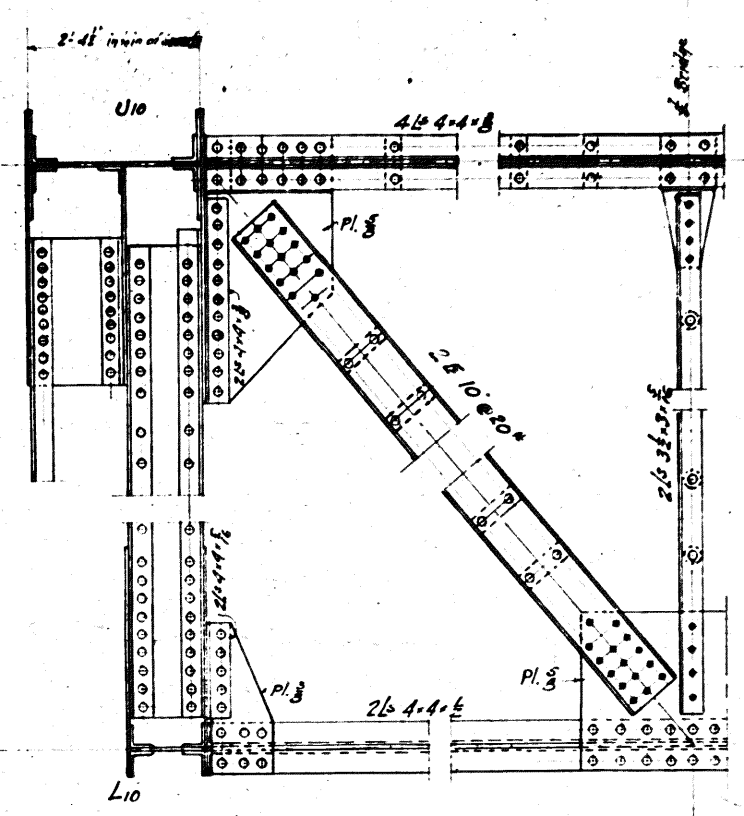


Approved 11/17-1924
[Signature]
 COUNTY COMMISSIONERS
[Signature]
 COUNTY SURVEYOR
[Signature]
 CHIEF ENGINEER BUREAU OF BRIDGES
 DIVISION OF HIGHWAYS, STATE OF OHIO

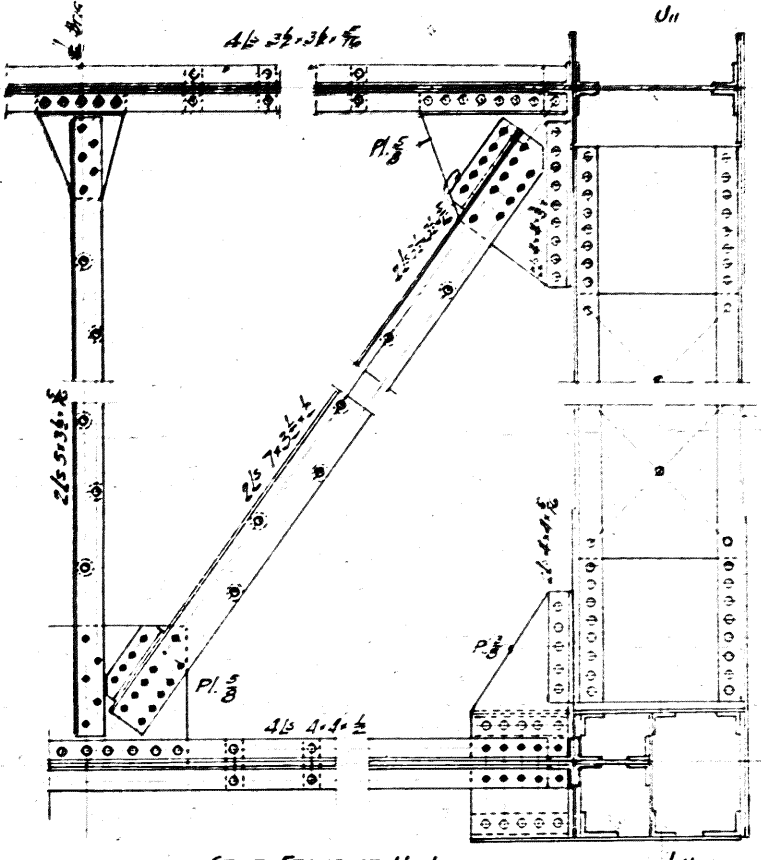
THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO		BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO	
D. W. LEGGETT COUNTY SURVEYOR		A. G. BULLER DEPUTY SURVEYOR	
BALANCE BEAM - FORWARD END			
DATE MADE	DR BY	TR BY	CHK BY
11-15-24	W.C.	W.C.	
REV BY	DATE	REMARKS	SCALE: 3/4"=1'-0"
			PRINT MADE
BROWN BASCULE BRIDGE MYSTIC TYPE PATENTED MAY 7, 1910 OTHER PATENTS PENDING THOS. E. BROWN JR. CONSULTING ENGINEER NEW YORK CITY			130 - 14



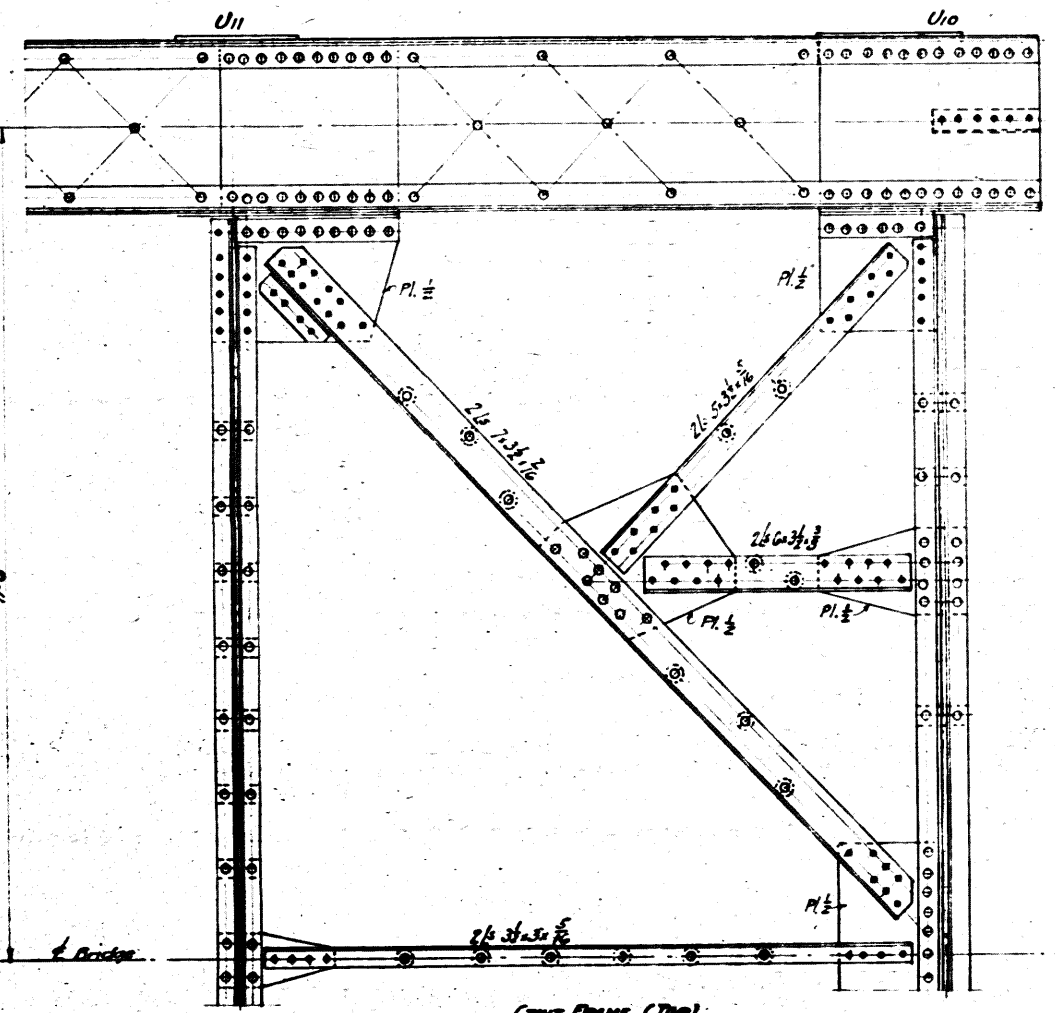
CWT. FRAME (BOTTOM)



CWT. FRAME AT U10/L10



CWT. FRAME AT U11/L11



CWT. FRAME (TOP)

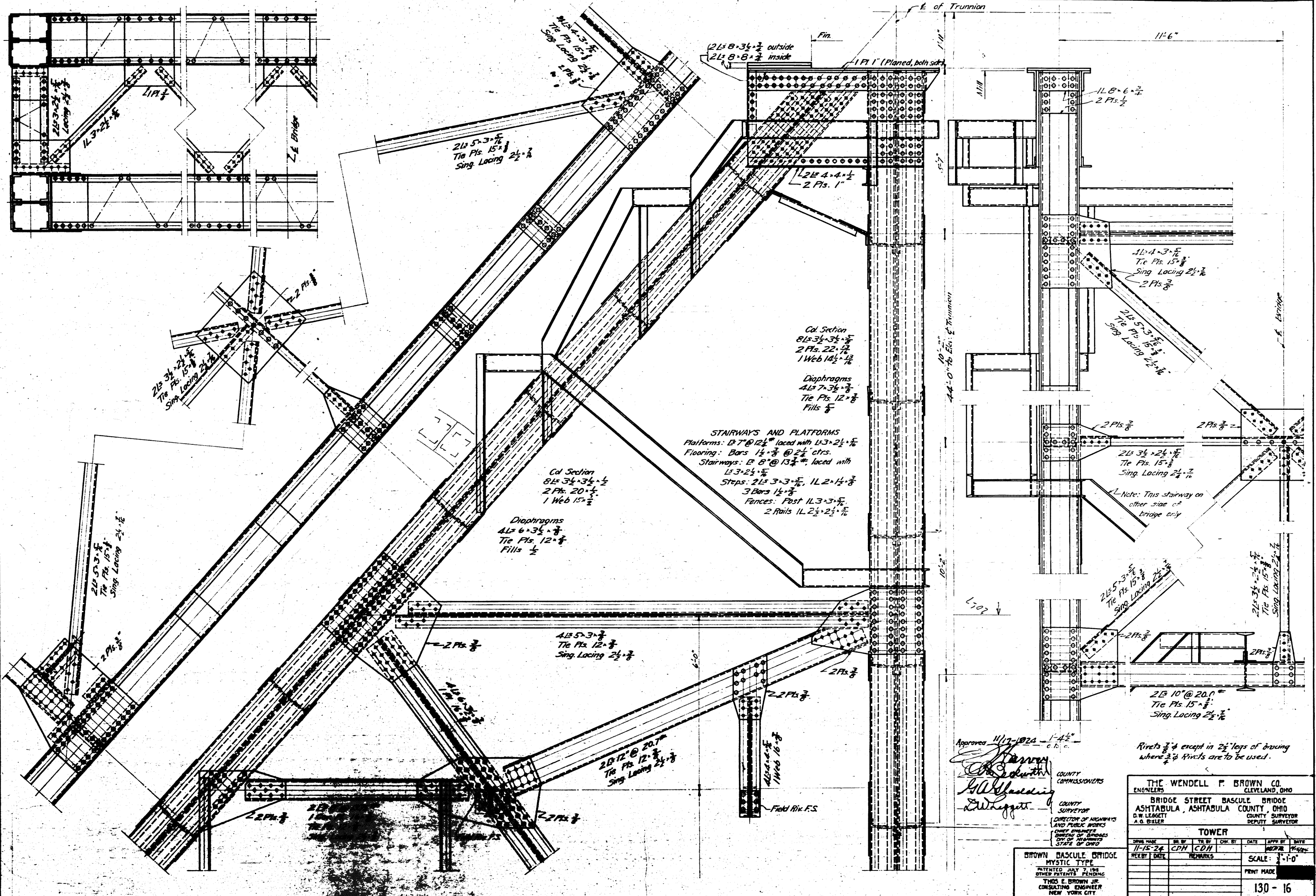
Approved 11-17-1924

[Signature]
[Signature]
[Signature]

COUNTY COMMISSIONERS
 COUNTY SUPERVISOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER BUREAU OF BRIDGES
 DIVISION OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO	
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO	
D.W. LEGGETT COUNTY SURVEYOR	A.G. BIXLER DEPUTY SURVEYOR
BALANCE BEAM - COUNTERWEIGHT END	
DRWG MADE	CHK BY
11-15-24	NC NC
REV BY	DATE
REMARKS	
SCALE: 3/4"=1'-0"	
PRINT NAME	
130 - 15	

BROWN BASCULE BRIDGE
 MYSTIC TYPE
 PATENTED JULY 7, 1914
 OTHER PATENTS PENDING
 THOS. E. BROWN JR.
 CONSULTING ENGINEER
 NEW YORK CITY

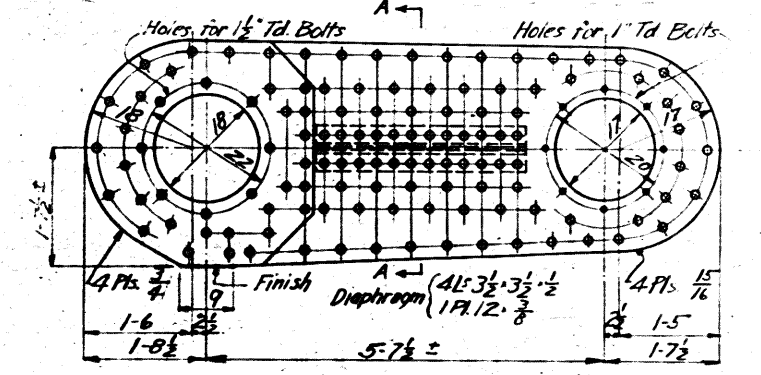
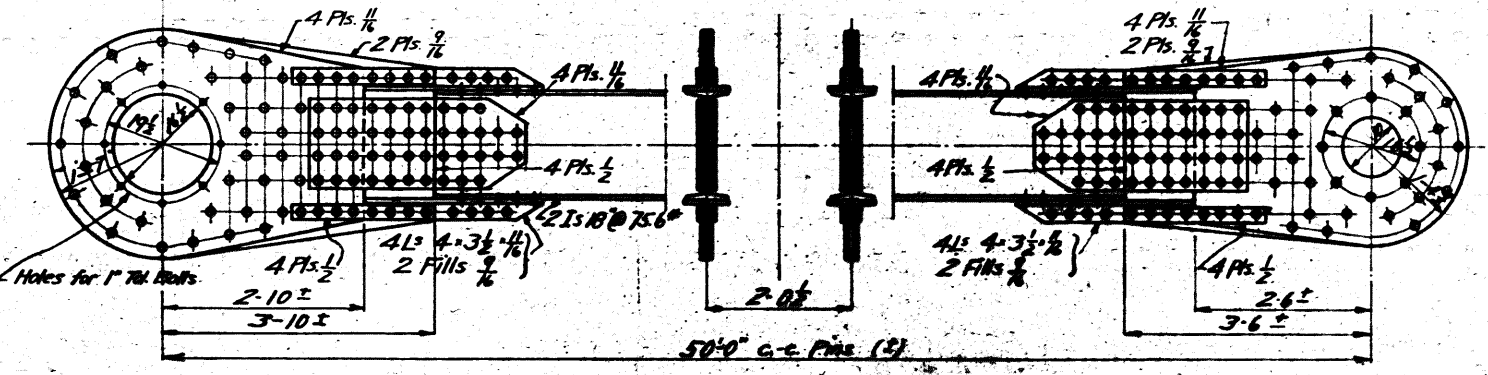
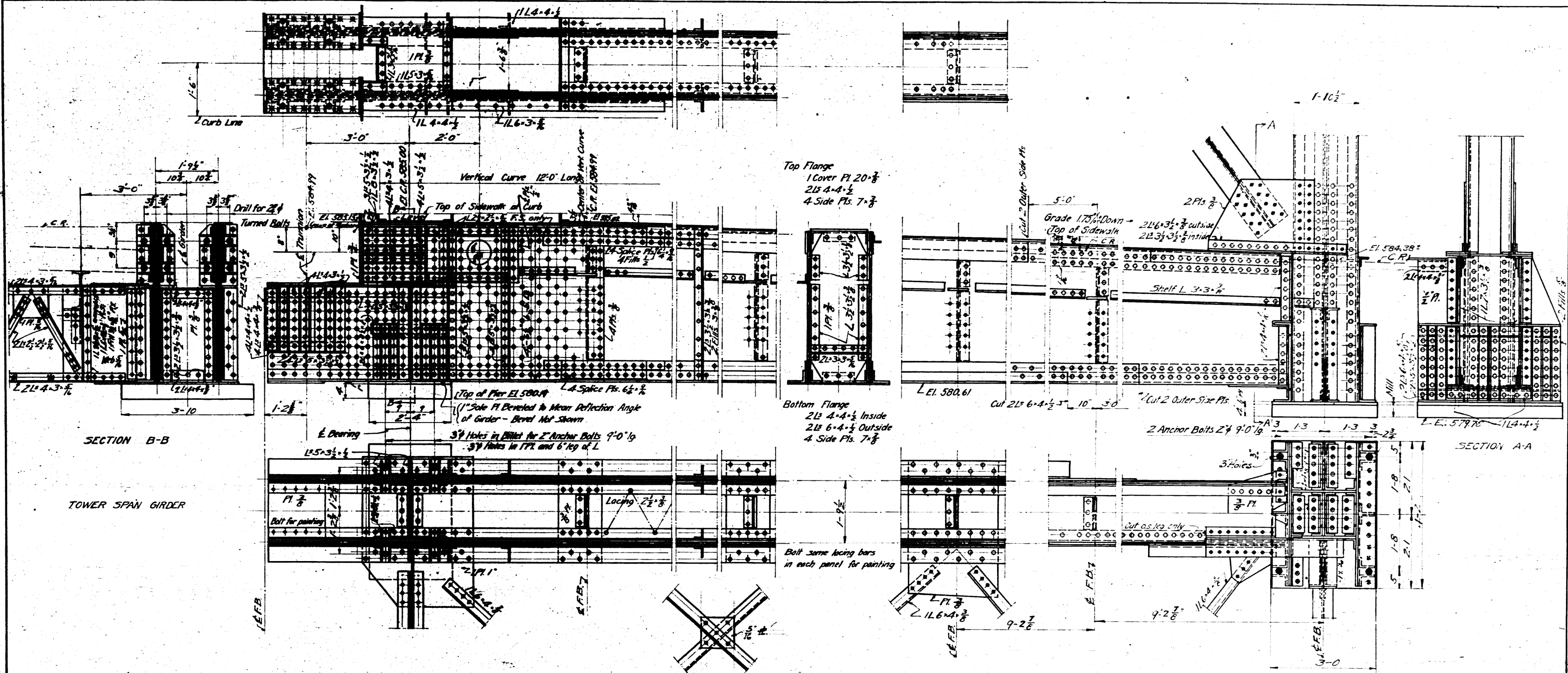


Approved 11/17-1924
 COUNTY COMMISSIONERS
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER
 DIVISION OF BRIDGES
 STATE OF OHIO

Rivets 3/4 except in 2 1/2\"/>

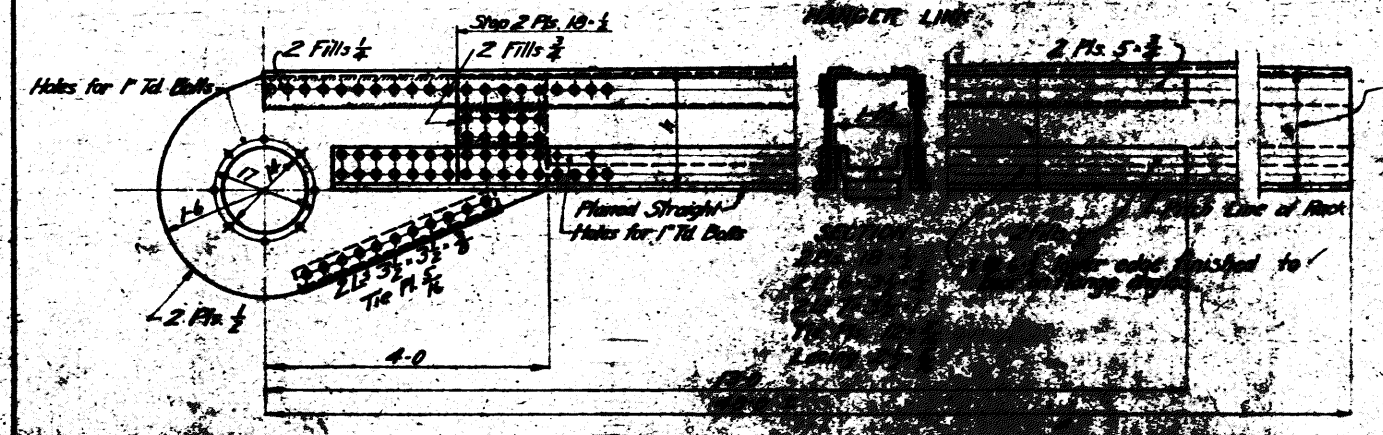
BROWN BASCULE BRIDGE
 MYSTIC TYPE
 PATENTED JULY 7, 1908
 OTHER PATENTS PENDING
 THOS. E. BROWN JR.
 CONSULTING ENGINEER
 NEW YORK CITY

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO		BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO D.W. LEAGETT COUNTY SURVEYOR A.G. BILLEN DEPUTY SURVEYOR	
TOWER			
DRWS. MADE	BY	TR. BY	CHK. BY
11-15-24	CPH	CDH	
REV. BY	DATE	REMARKS	SCALE: 1/2" = 1'-0"
			PRINT MADE
			130 - 16



Rivets 3/4"

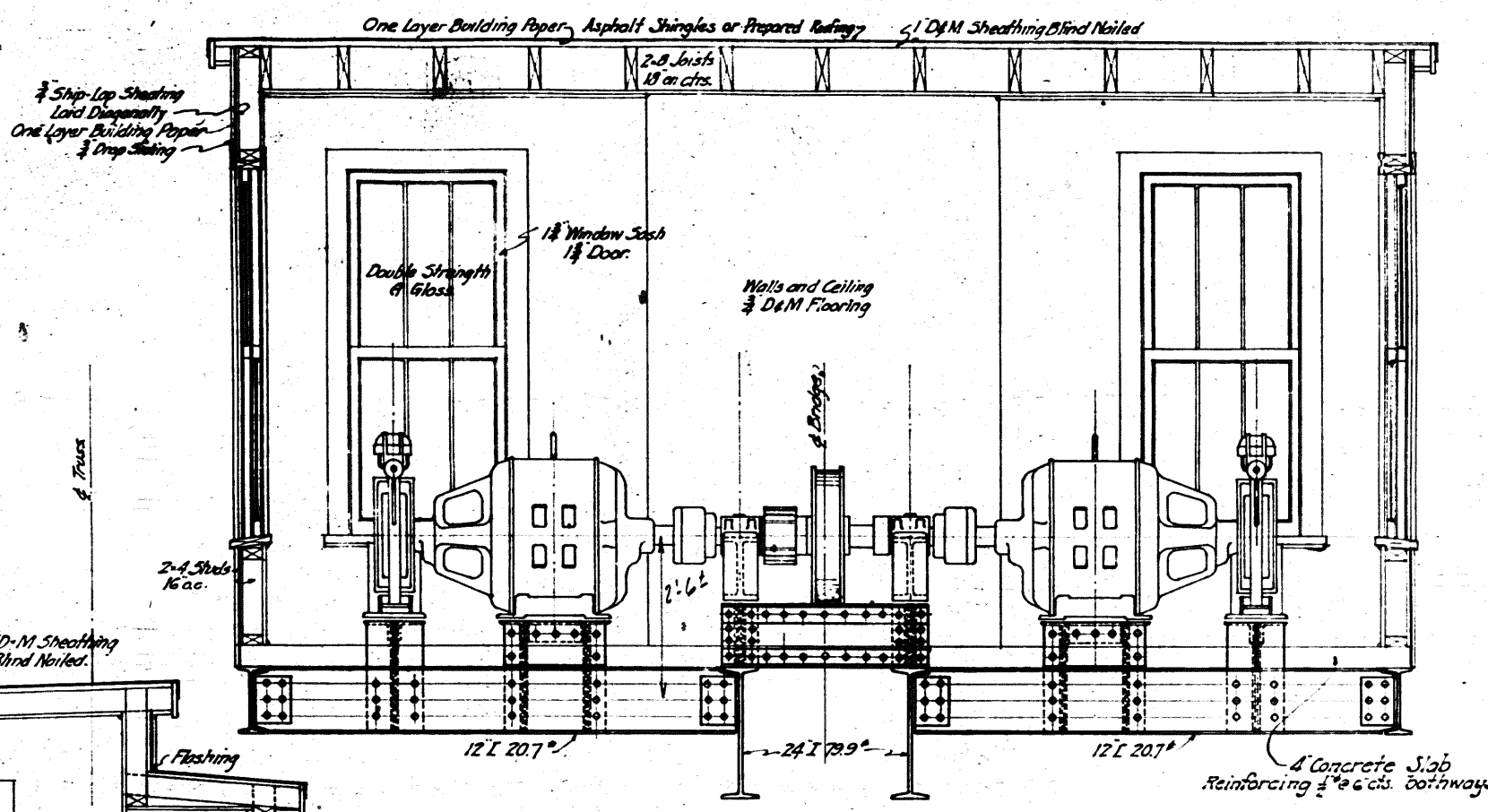
Note: Lengths of hanger and butt link given are approximate only and dependent on position of centers of gravity of moving members which must be determined from shop drawings.



Depth of strut, back to back of 1/2", varying so as to maintain required clearance 1/8" between tread 1/2" and hold-down rollers. Variation obtained in gaps line of rivets. Maximum variation in dimension 1/16"

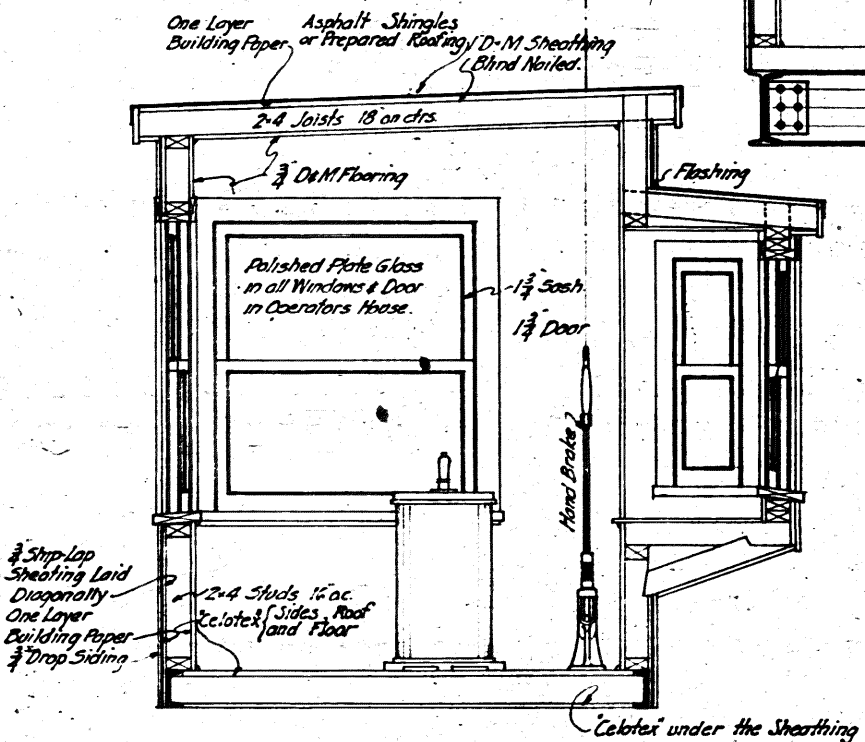
Approved 11/7-1924
[Signature]
 COUNTY COMMISSIONERS
 COUNTY SUPERVISOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF BRIDGES
 DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO	
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO	
J. W. LEGGETT COUNTY SURVEYOR A. G. BULLER DEPUTY SURVEYOR	
TOWER SPAN GIRDERS - HANGER LINKS & OPERATING STRUT	
DWG. NO. 11-15-24	REV. BY FDS CDH
DATE 11-15-24	REMARKS
SCALE: 3/8" = 1'-0"	PRINT MADE
BROWN BASCULE BRIDGE HYSTIC TYPE PATENTED JULY 7, 1914 OTHER PATENTS PENDING THOS. E. BROWN JR. CONSULTING ENGINEER NEW YORK CITY	
130 - 17	

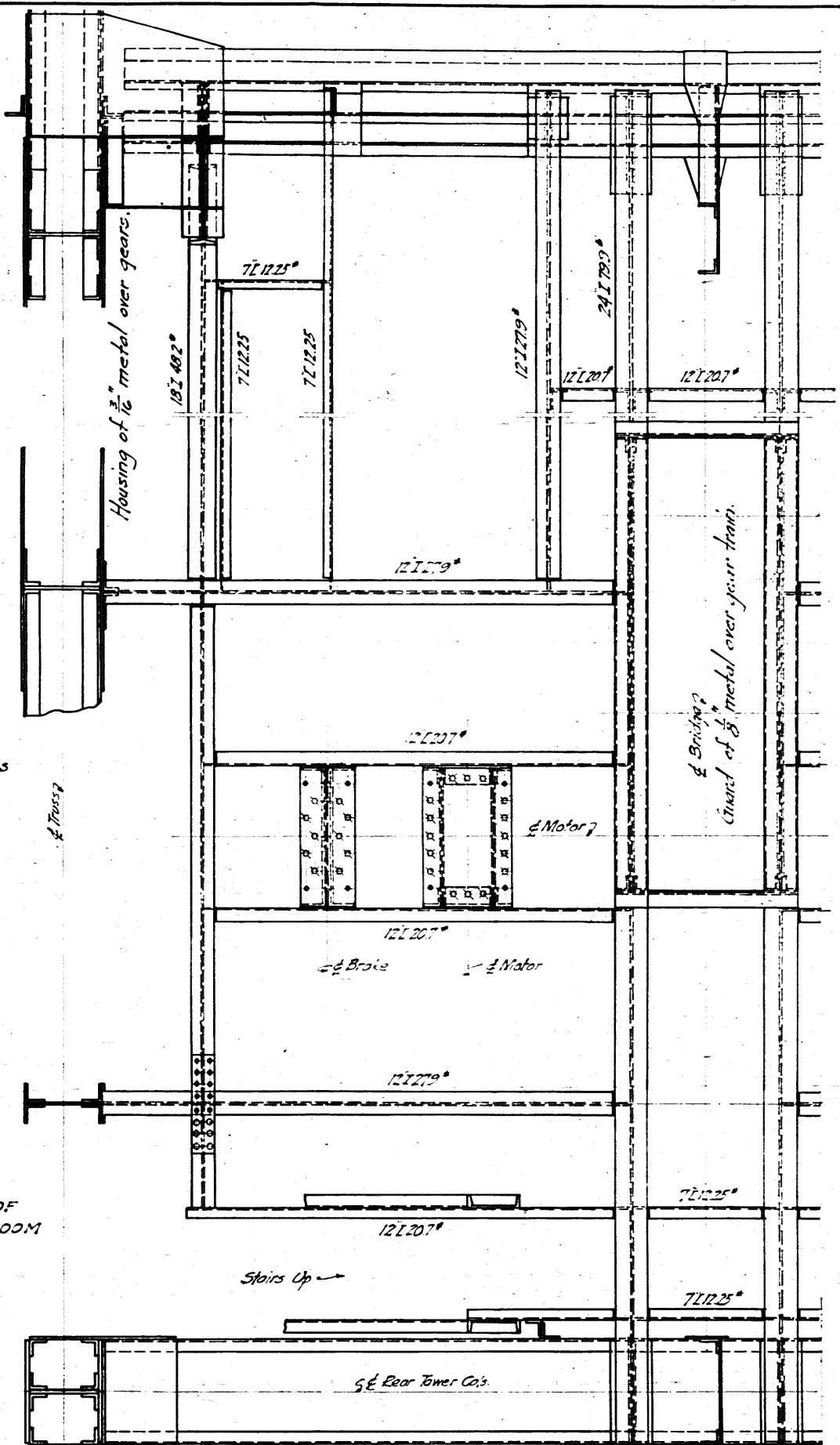


SECTION THROUGH MACHINERY ROOM

GENERAL NOTES
 Windows double hung box frames, 1 1/2" sash, complete with pulleys, chains and weights.
 Doors supplied with mortise lock set with cylinder lock, S.L.P. Butts.
 All hardware in triple plate light bronze.
 Window sills 2".
 All Mill work to be primed before delivery.
 Exterior of Houses to have three coats of lead and oil as directed.
 Interior of Houses including floors & ceilings to be filled and have two coats of Spar Varnish.
 Copper gutters and downspouts on both the operators house and machinery room. Downspouts to go to roadway level.



SECTION THROUGH OPERATOR'S HOUSE

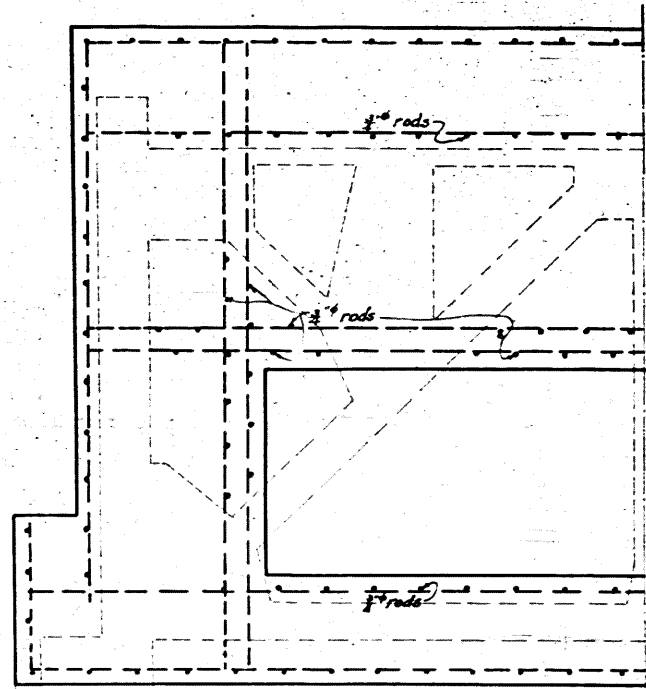


HALF PLAN OF MACHINERY ROOM FRAMING

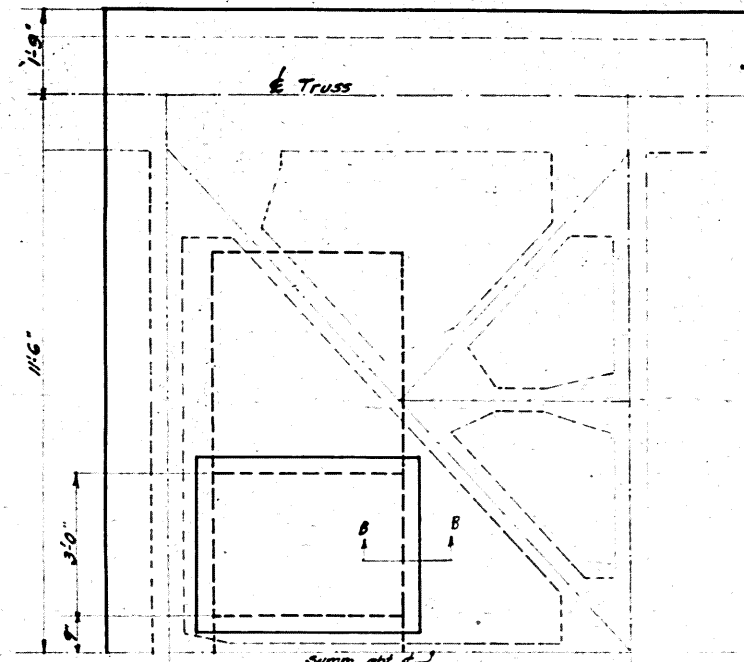
Approved 11/11-1924
 [Signature]
 COUNTY COMMISSIONERS
 [Signature]
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF BRIDGES
 DIV. OF HIGHWAYS, STATE OF OHIO

BROWN BASCULE BRIDGE
 MYSTIC TYPE
 PATENTED JULY 9, 1901
 OTHER PATENTS PENDING
 THOS. F. BROWN, JR.
 CONSULTING ENGINEER
 NEW YORK CITY

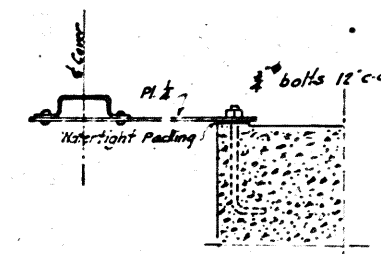
THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO	
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO	
D.W. LEGGETT COUNTY SURVEYOR	A.G. BRALER DEPUTY SURVEYOR
MACHINERY ROOM AND OPERATOR'S HOUSE	
DRWG. MADE BY DATE	CHKD BY DATE
REV. BY DATE	REMARKS
SCALE: 1/2" = 1'-0"	PRINT MADE
130 - 18	



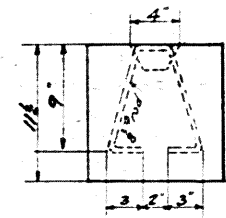
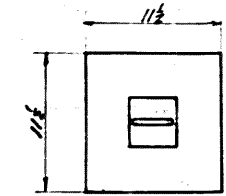
SECTION A-A
26'6" 0-0



TOP VIEW

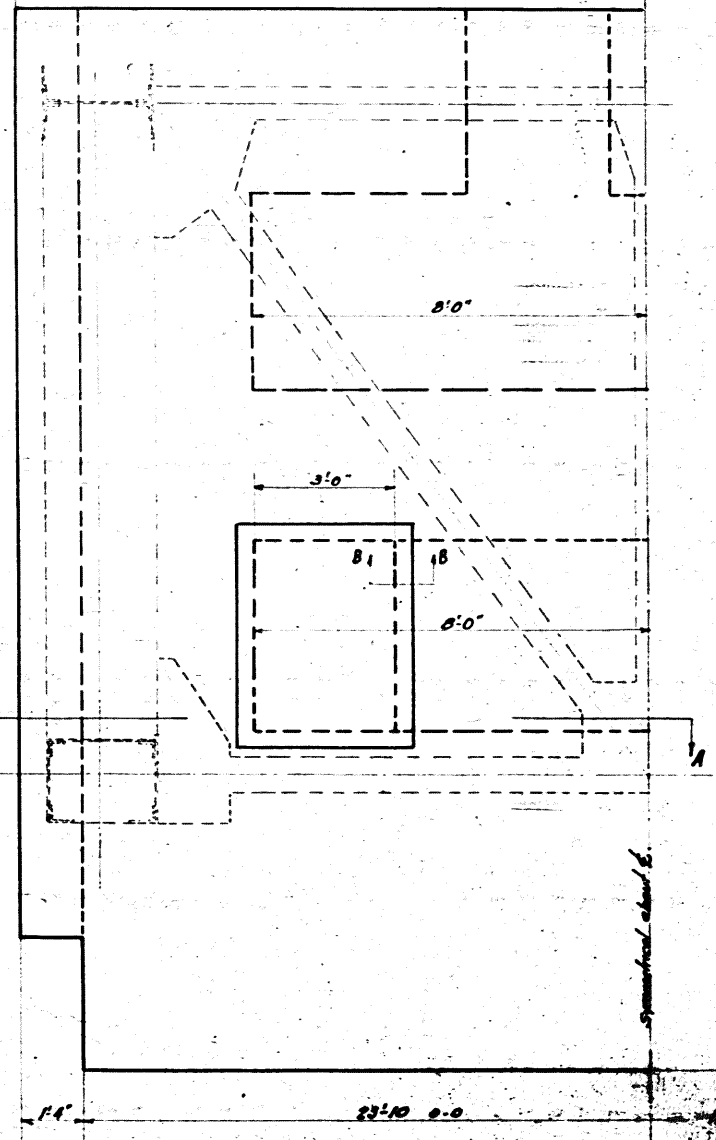


SECTION B-B
Showing detail of Corners for Pockets

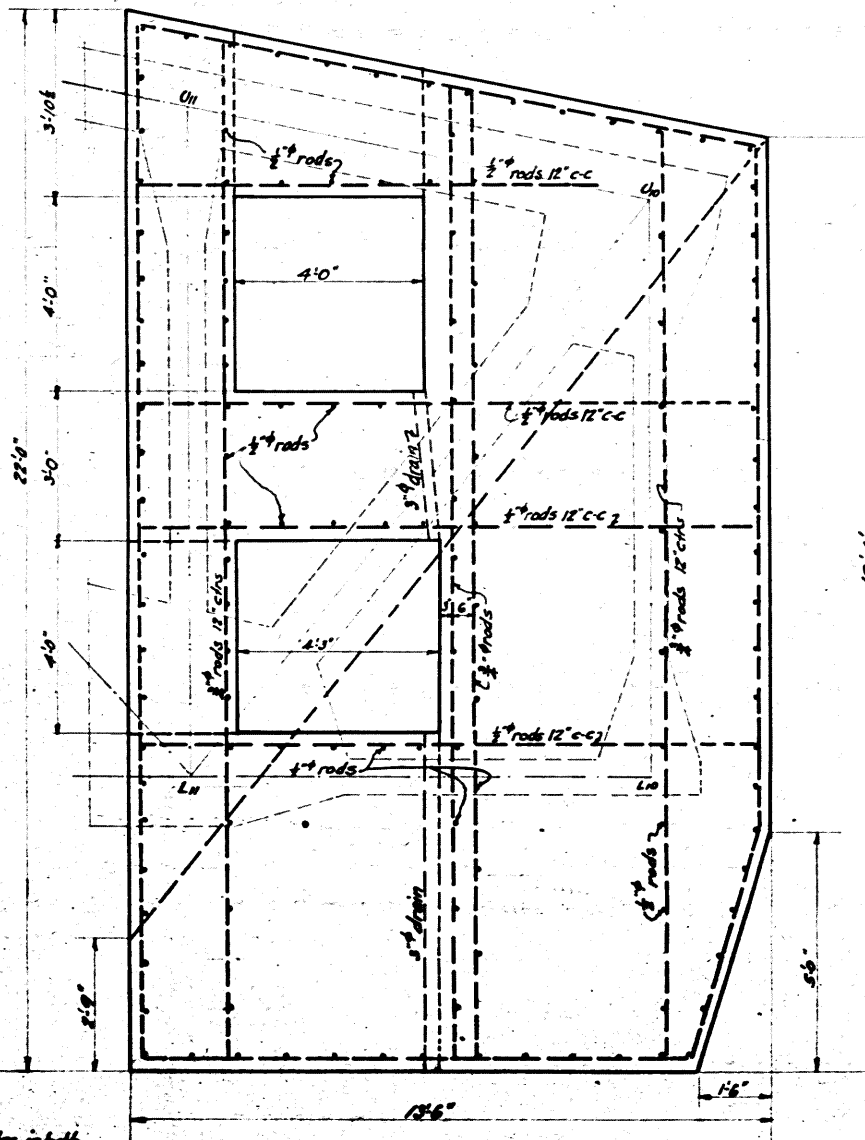


FILLING BLOCKS
Provide 380 blocks
(More blocks to be supplied if
required for balance)

Note -
Exact position and dimensions of counterweight to be determined
accurately after locations of centers of gravity and exact weights of
movable span and balance beam have been determined from shop
details.
All exposed Edges are to be finished with a 1" bevel
The minimum radii of bends shall be 15 diameters of the bars
except for hooks.
Hooks shall be of the dimensions shown in the following sketch:
A = 1/2 diameters of the bar
B = 5
Bars are to be securely fastened at intersections
For splicing the bars are to be overlapped 40 diameters.



FRONT VIEW

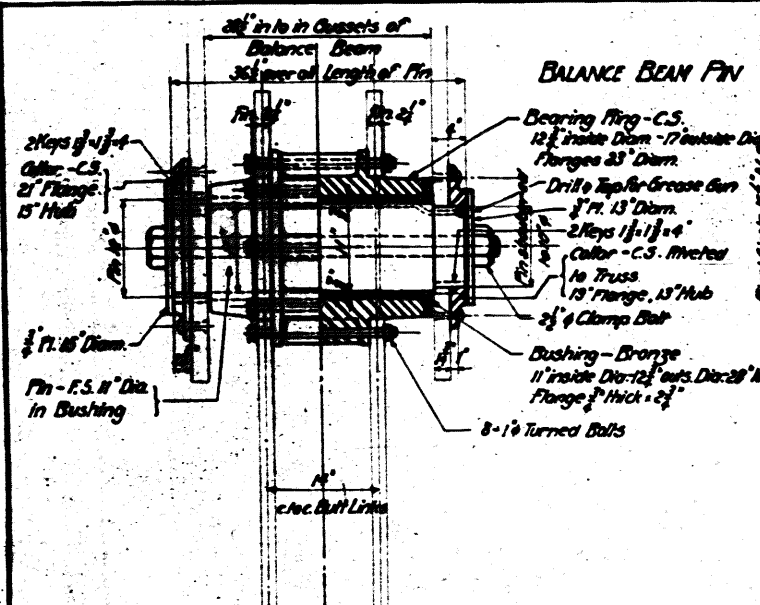


SECTION ON & C BRIDGE

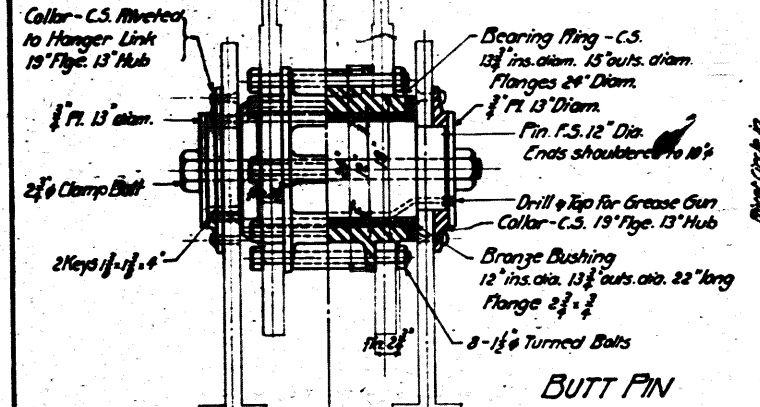
Approved 11/17-1924
[Signature]
COUNTY COMMISSIONERS
[Signature]
COUNTY SURVEYOR
DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
CHIEF ENGINEER, BUREAU OF BRIDGES
DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO		BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO		COUNTY SURVEYOR A. G. STALEY	
COUNTERWEIGHT					
DESIGNED BY	DATE	TR. BY	CHK. BY	DATE	APPR. BY
11-15-24	NC	NC			W.P.B. Staley
REV. BY	DATE	REMARKS	SCALE: 1/2" = 1'-0"		
			PRINT MADE		
			130-19		

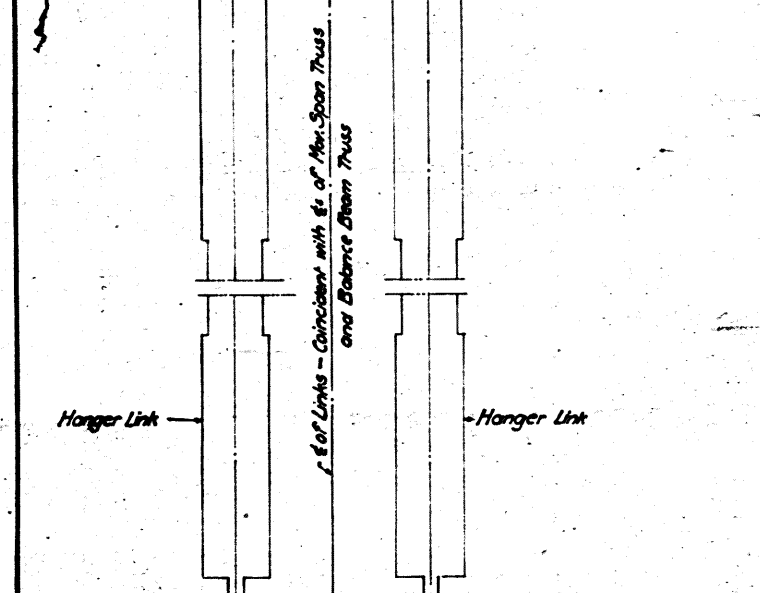
BROWN BASCULE BRIDGE
MYSTIC TYPE
PATENTED JULY 2, 1884
OTHER PATENTS PENDING
THOS. E. BROWN JR.
CONSULTING ENGINEER
NEW YORK CITY



BALANCE BEAM PIN

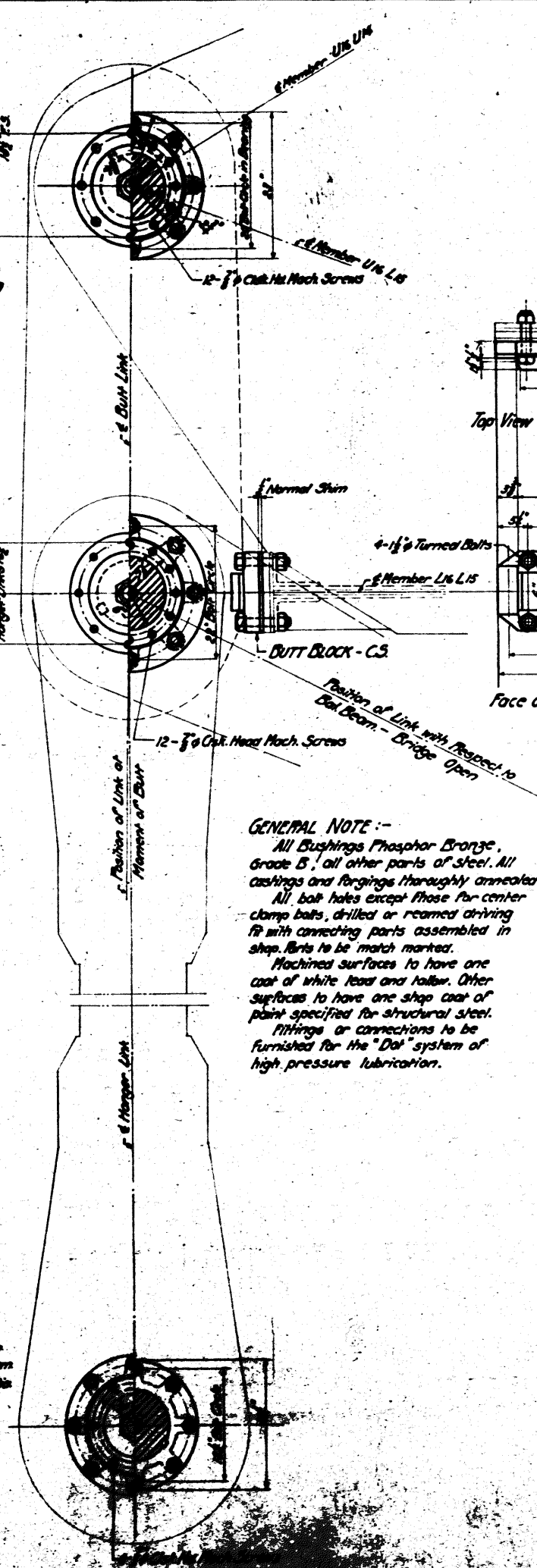


BUTT PIN



SPAN PIN

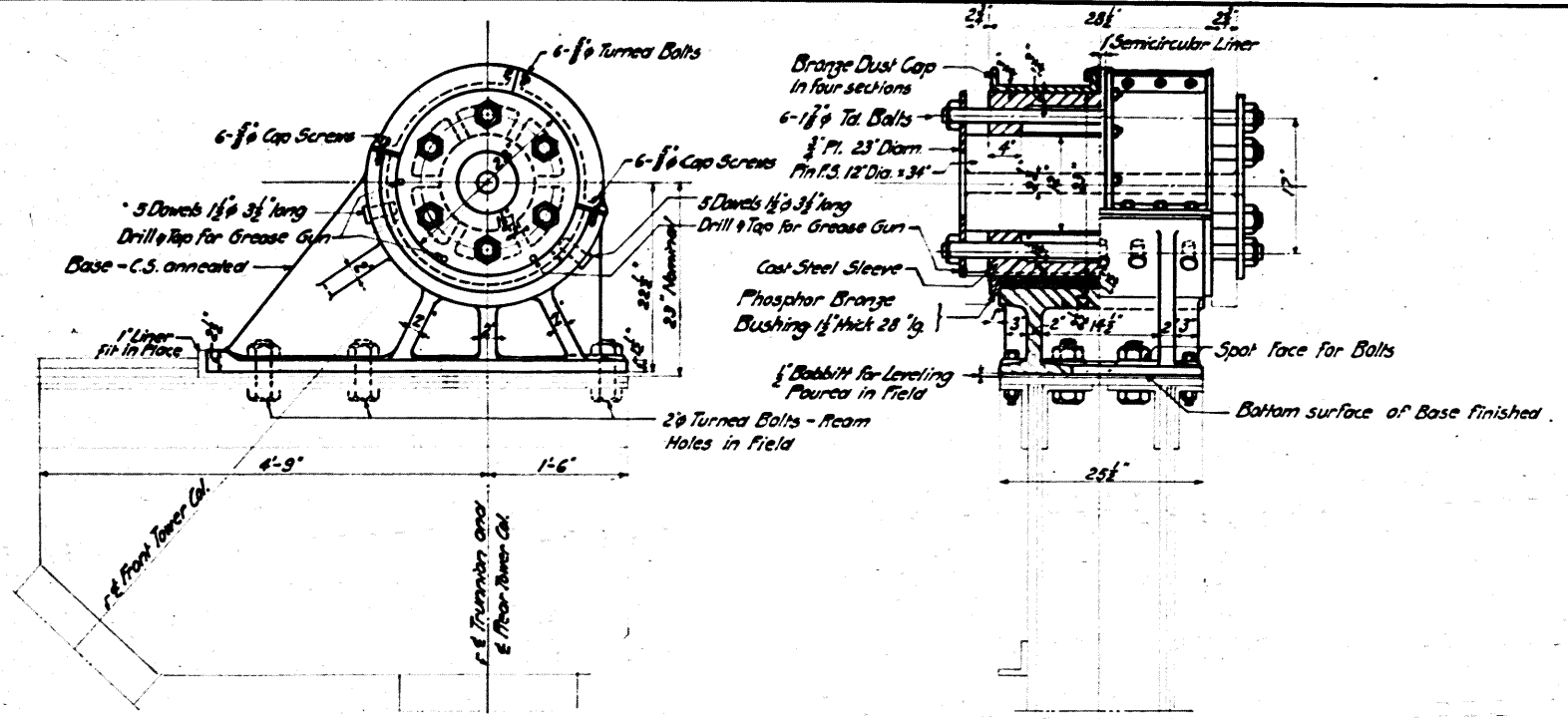
DETAILS OF BALANCE LINK PINS
 2 Complete Sets Required, one for each Main Truss



Top View of Butt Block

Face of Butt Block

GENERAL NOTE :-
 All Bushings Phosphor Bronze, Grade B, all other parts of steel. All castings and forgings thoroughly annealed. All bolt holes except those for center clamp bolts, drilled or reamed driving fit with connecting parts assembled in shop. Holes to be match marked. Machined surfaces to have one coat of white lead and talcum. Other surfaces to have one shop coat of paint specified for structural steel. Fittings or connections to be furnished for the "Dot" system of high pressure lubrication.

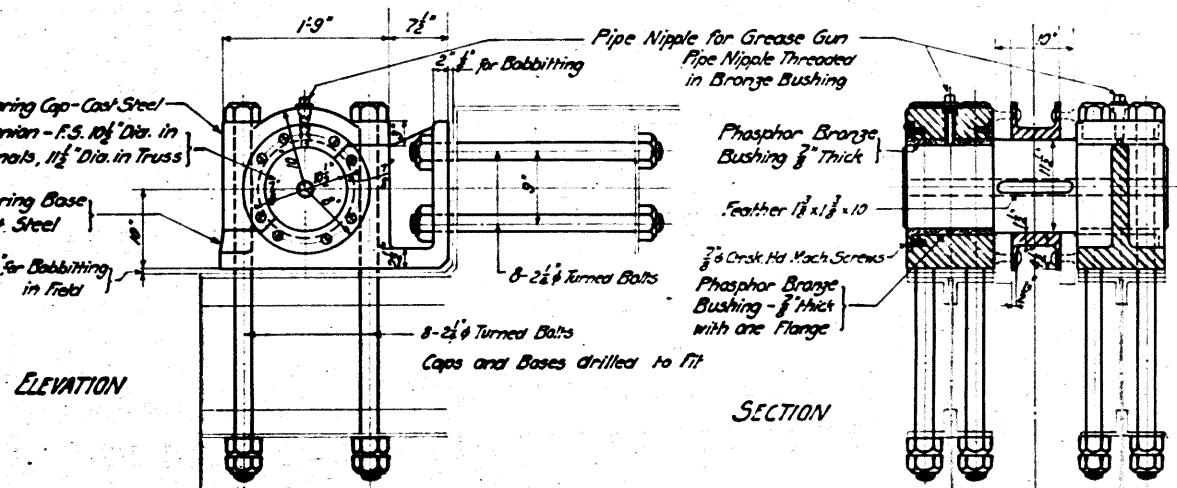


ELEVATION

PLAN OF BASE

SECTION THROUGH TRUNNION & TRUNNION

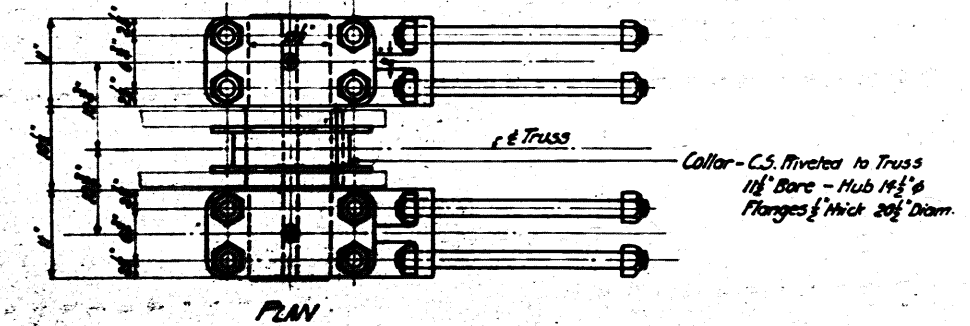
BALANCE BEAM TRUNNION
 2 Required - Cast Steel



ELEVATION

SECTION

Section through web of Box

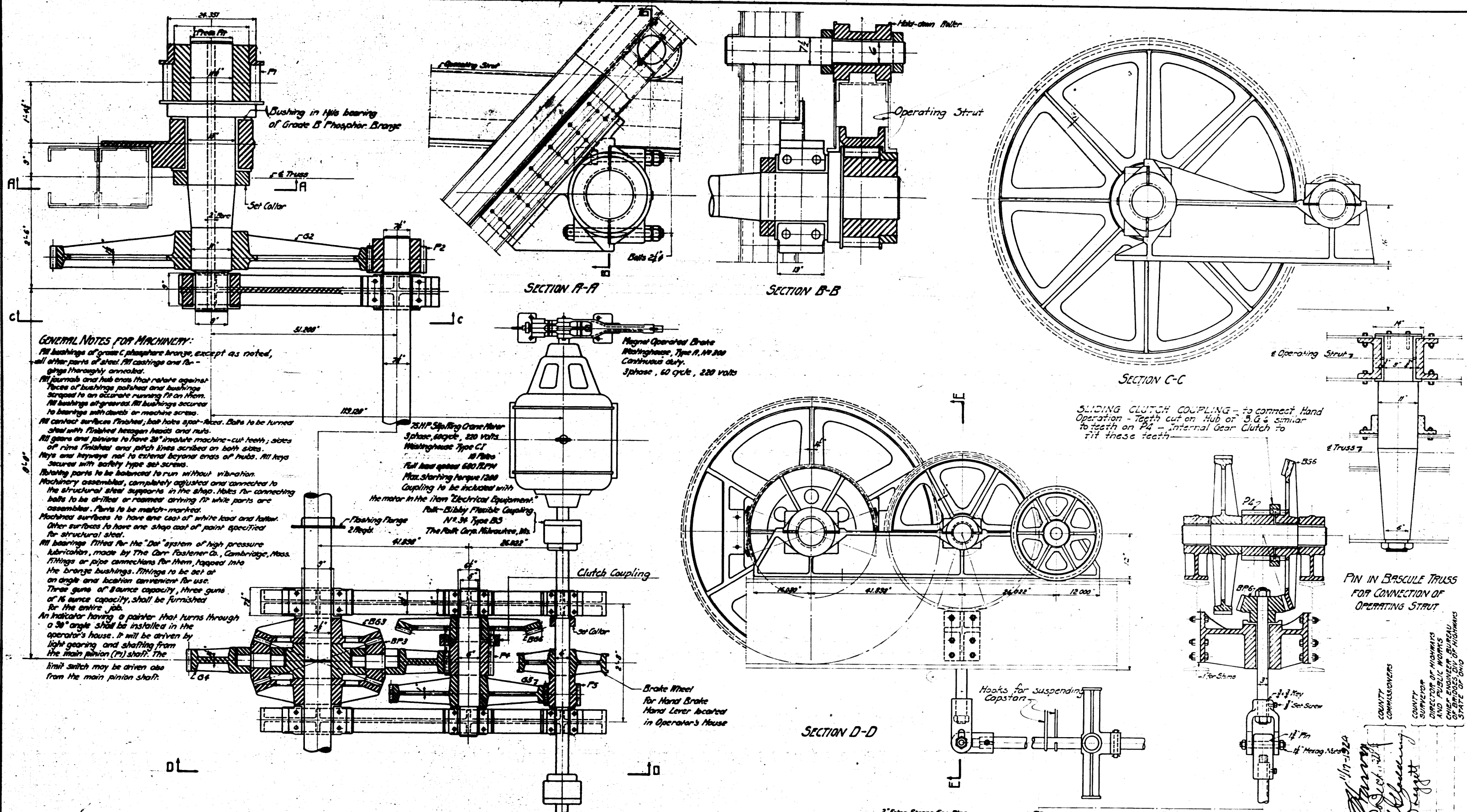


PLAN

SPAN TRUNNION
 4 Bases Required - Cast Steel
 2 PH. & 2 LH. Counter-bored for Flange on Bushing

Approved: *[Signature]*
 COUNTY COMMISSIONERS
 SUPERVISOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF BRIDGES
 DIV. OF HIGHWAYS, STATE OF OHIO

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO			
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO			
D.W. LESGETT A.S. DYLLER		COUNTY SURVEYOR DEPUTY SURVEYOR	
TRUNNIONS AND LINK PINS			
DATE MADE	REV. BY	TR. BY	CHK. BY
7/17/24			
REV. BY	DATE	REMARKS	SCALE: 1"-1'-0"
			PRINT MADE
BROWN BASCULE BRIDGE MYSTIC TYPE PATENTED JULY 7, 1913 OTHER PATENTS PENDING THOS. E. BROWN, JR. CONSULTING ENGINEER NEW YORK CITY			130-20



GENERAL NOTES FOR MACHINERY:

All bushings of grade C phosphor bronze, except as noted, all other parts of steel. All castings and forgings thoroughly annealed.

All journals and hubs cross that rotate against faces of bushings polished and bushings scraped to an accurate running fit on them.

All bushings of grade A. All bushings secured to bearings with dowels or machine screws.

All contact surfaces finished; ball holes spot-faced. Dots to be turned steel with finished hexagon heads and nuts.

All gears and pinions to have 20° involute machine-cut teeth; slots of rims finished and pitch lines scribed on both sides.

Keys and keyways not to extend beyond ends of hubs. All keys secured with safety type set screws.

Rotating parts to be balanced to run without vibration.

Machinery assembled, completely adjusted and connected to the structural steel supports in the shop. Holes for connecting bolts to be drilled or reamed arriving in white parts are assembled. Parts to be match-marked.

Machined surfaces to have one coat of white lead and tallow.

Other surfaces to have one shop coat of paint specified for structural steel.

All bearings fitted for the "Dot" system of high pressure lubrication, made by The Carr Fastener Co., Cambridge, Mass. Fittings or pipe connections for them, tapered into the bronze bushings. Fittings to be set at an angle and location convenient for use.

Three guns of 8 ounce capacity, three guns of 16 ounce capacity, shall be furnished for the entire job.

An indicator having a pointer that turns through a 30° angle shall be installed in the operator's house. It will be driven by light gearing and shafting from the main pinion (P) shaft. The limit switch may be driven also from the main pinion shaft.

75 HP Stalling Crane Motor
3 phase, 60 cycle, 220 volts
Westinghouse Type C7
18 Poles
Full load speed 600 RPM
Max. starting torque 1200
Coupling to be included with the motor in the item Electrical Equipment.

Magnet Operated Brake
Westinghouse, Type A, No. 200
Continuous duty.
3 phase, 60 cycle, 220 volts

Clutch Coupling
Full-Bibby Flexible Coupling
No. 34 Type BS
The Park Corp. Milwaukee, Wis.
25.00"

Flashing Targe
2 Req'd.
41.850"

Brake Wheel for Hand Brake
Hand Lever located in Operator's House

SLIDING CLUTCH COUPLING - to connect Hand Operation - Teeth cut on Hub of "3, G & similar to teeth on P4 - Internal Gear Clutch to fit these teeth.

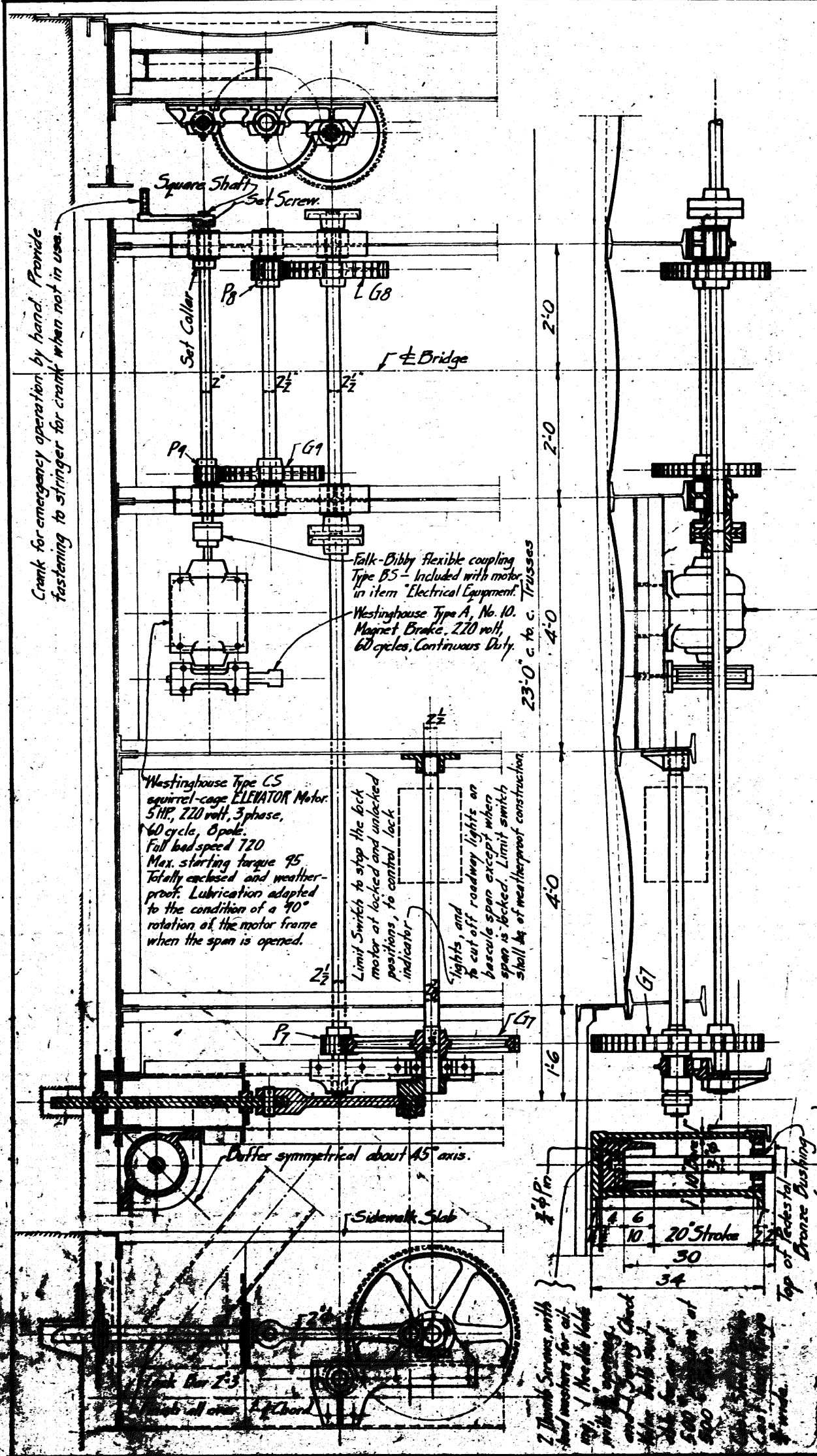
PIN IN BASCULE TRUSS FOR CONNECTION OF OPERATING STRUT

COUNTY COMMISSIONERS
COUNTY SUPERVISOR
DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
CHIEF ENGINEER, BUREAU OF HIGHWAYS
STATE OF OHIO

Approved: *[Signature]* 11/17-1924
[Signature]
[Signature]

THE WENDELL P. BROWN CO. ENGINEERS CLEVELAND, OHIO		BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO	
D.W. LEGGETT A.G. BILLET		COUNTY SURVEYOR DEPUTY SURVEYOR	
OPERATING MACHINERY			
OHIO MADE	DR BY	TR BY	CHK BY
11-15-24	OB	OB	
REV BY DATE	REMARKS	SCALE: 1"=1'-0"	PRINT MADE
			130-21

BROWN BASCULE BRIDGE
MYSTIC TYPE
PATENTED JULY 7, 1919
OTHER PATENTS PENDING
THOS. E. BROWN JR.
CONSULTING ENGINEER
NEW YORK CITY



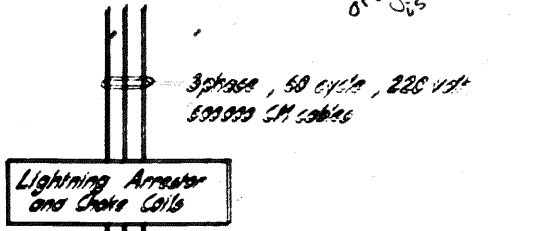
110-VOLT LIGHTING CIRCUIT.

Fused knife switch for incoming line.
 Provide space on panel for integrating watt meter.
 Fused switches on control panel for:-
 A. Roadway and Navigation lights.
 B. Pier Lights and Navigation Lights.
 C. Roadway lights on bridge.
 D. Lights in operator's house, and machinery room, and on stairways.

Push buttons or switches in operator's house for:-
 A. East and West Roadway Signals. Present signals to remain in service.
 B. Sirens.

Navigation lights controlled by span limit switch to show red when span is not fully open and green when span is fully open.
 Roadway lights on bascule span controlled by span lock limit switch.
 Pilot lights in operator's house to indicate:-
 A. Red or green as shown by navigation lights.
 B. Locked and unlocked positions of toe lock.

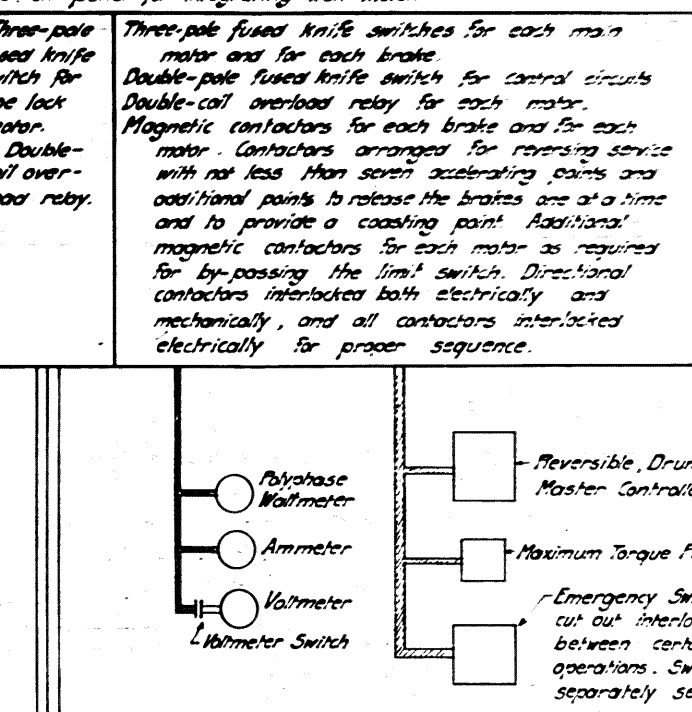
Snap switches in operator's house for lights in operator's house and lights on stairways.
 Three way snap switches in operator's house and in machinery room for lights in machinery room.
 Lights on West pier to be on a separate circuit with switch on that side of the river.



CONTROL PANEL AND RESISTORS IN MACHINERY ROOM

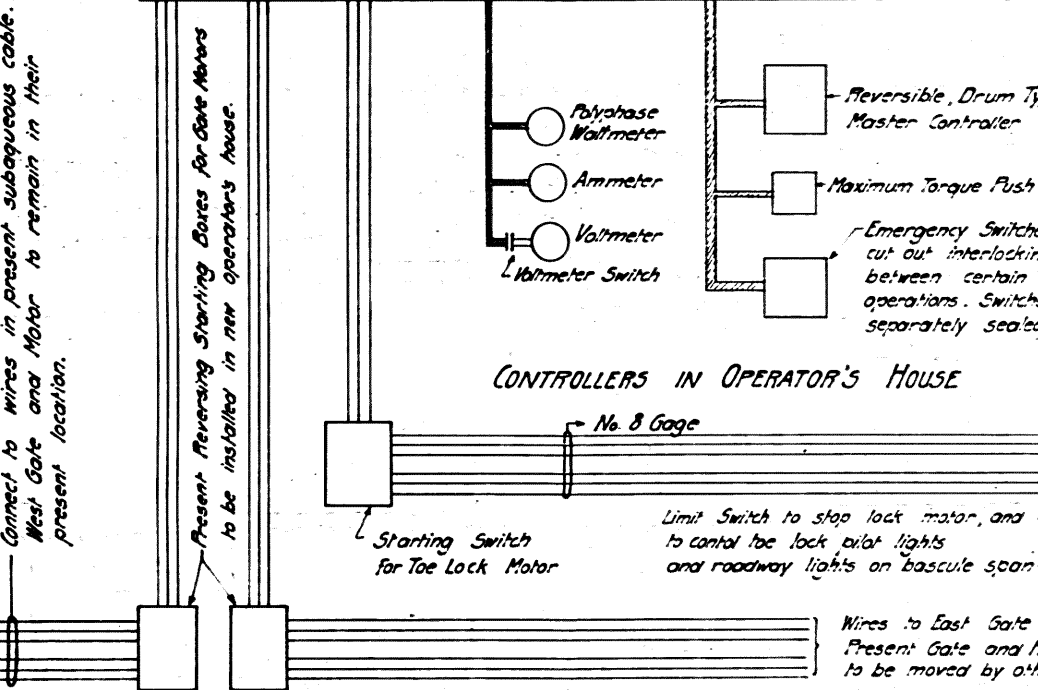
Three-pole fused knife switch for incoming power line.
 Protection against low voltage, phase failure, and phase reversal.
 Provide space on panel for integrating watt meter.

Three-pole fused knife switches for each main motor and for each brake.
 Double-pole fused knife switch for control circuits.
 Double-coil overload relay for each motor.
 Magnetic contactors for each brake and for each motor. Contactors arranged for reversing service with not less than seven accelerating points and additional points to release the brakes one at a time and to provide a coasting point. Additional magnetic contactors for each motor as required for by-passing the limit switch. Directional contactors interlocked both electrically and mechanically, and all contactors interlocked electrically for proper sequence.



Mount Motor Westinghouse Type A, No. 10 Continuous Duty
 Mount Motor Westinghouse Type A, No. 10 25HP 3phase 60cycle 220 volt Full load speed 620 Starting Torque 95
 Motor and Brake same as for other side

CONTROLLERS IN OPERATOR'S HOUSE



Limit Switch located in machinery room, to cut off motors and set brakes at certain intervals near open and closed positions of span, but arranged so that after the span has run through the limit, the motors may be started again by turning the master controller to the off position. Limit switch to cut off all current from the motors and brakes at the fully open position of the span.

Westinghouse Type C5 Squirrel-Cage Elevator Motor 5HP, 3phase, 60cycle, 220 volt 8 pole, full load speed .720 Starting Torque .95 Totally enclosed and weatherproof. Lubrication adapted for 30° rotation of motor frame.
 Magnet Brake Westinghouse Type A No. 10 220 volt, 60 cycle Continuous Duty.

For Notes on Machinery See Sheet 21.

TABLE OF GEARS (Cut Teeth, 20° Involute)

No.	No. of Teeth	Pitch Diameter	Hub Diameter	Hub Length	Keys
1	10	2.5	3.5	1.5	1
2	20	5.0	7.0	3.0	1
3	40	10.0	14.0	6.0	1
4	60	15.0	21.0	9.0	1
5	80	20.0	28.0	12.0	1
6	100	25.0	35.0	15.0	1
7	120	30.0	42.0	18.0	1
8	140	35.0	49.0	21.0	1
9	160	40.0	56.0	24.0	1
10	180	45.0	63.0	27.0	1

TOE BUFFERS REQUIRED (Cast Steel)

Approved 11/17-1924
 W. J. Leggett

COUNTY COMMISSIONERS
 COUNTY SURVEYOR
 DIRECTOR OF HIGHWAYS AND PUBLIC WORKS
 CHIEF ENGINEER, BUREAU OF BRIDGES
 DIR. OF HIGHWAYS, STATE OF OHIO

BROWN BASCULE BRIDGE
 MYSTIC TYPE
 PATENTED JULY 7, 1918
 OTHER PATENTS PENDING
 THOS. E. BROWN JR.
 CONSULTING ENGINEER
 NEW YORK CITY

THE WENDELL P. BROWN CO.
 ENGINEERS
 CLEVELAND, OHIO

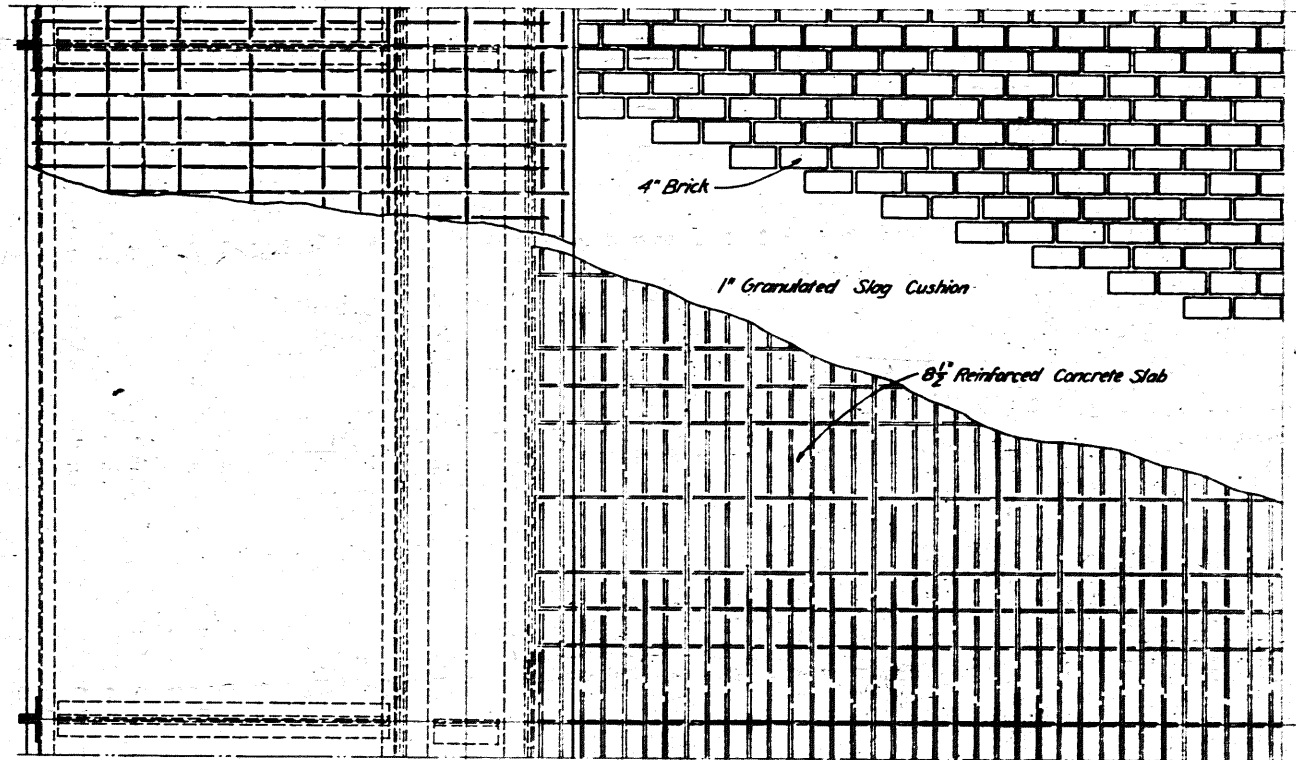
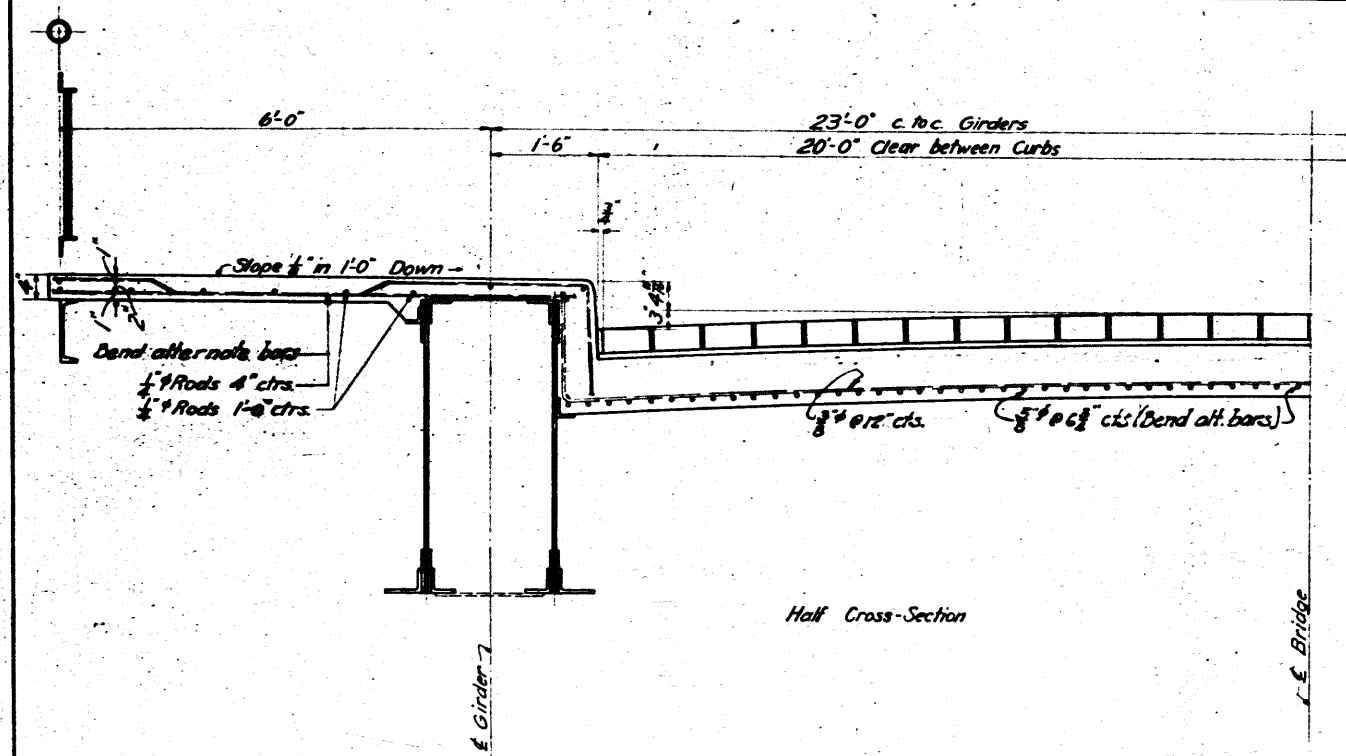
BRIDGE STREET BASCULE BRIDGE
 ASHTABULA, ASHTABULA COUNTY, OHIO
 A. G. BULLER COUNTY SURVEYOR
 A. G. BULLER DEPUTY SURVEYOR

TOE LOCKS, BUFFERS, AND WIRING DIAGRAM

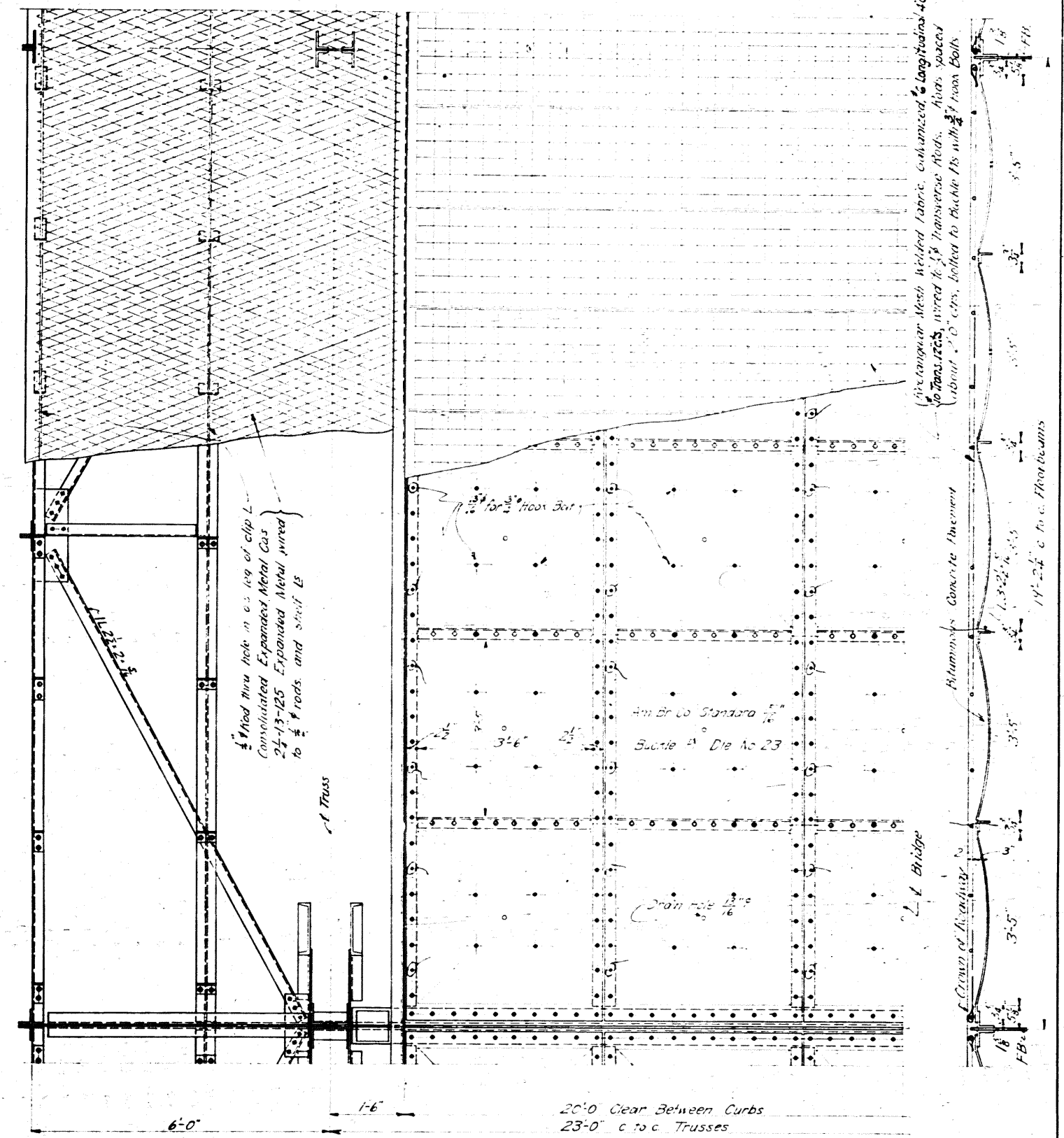
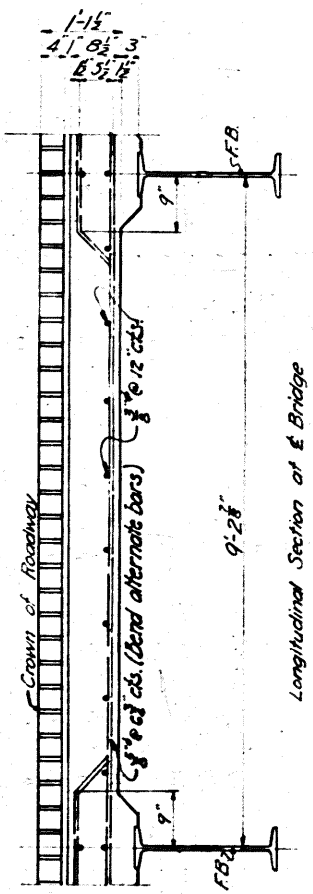
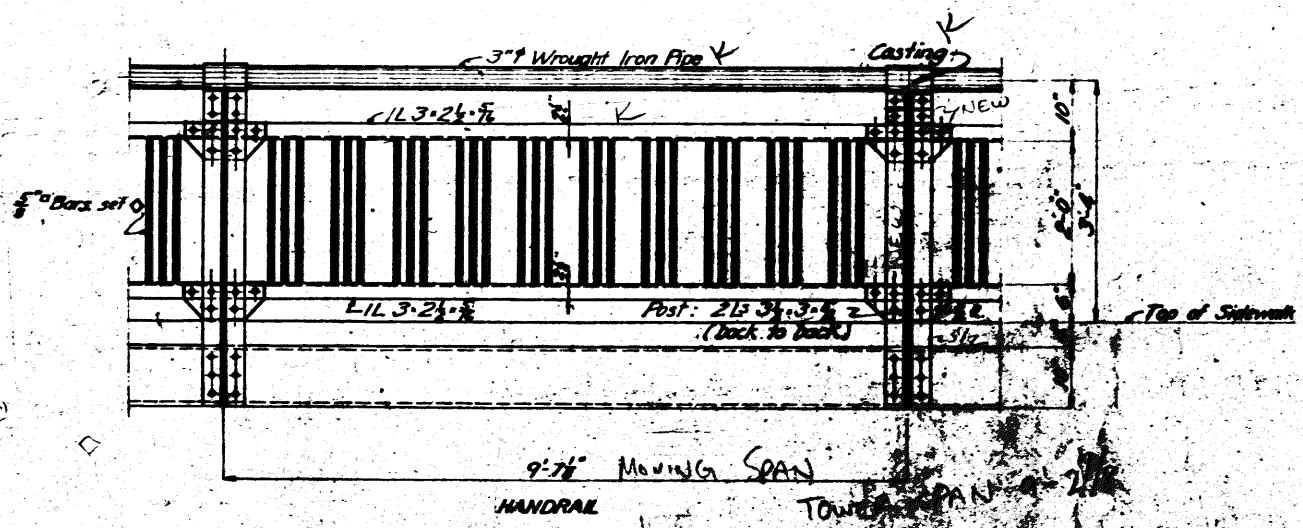
DATE MADE 11-15-24
 DRAWN BY W.B.W.
 CHECKED BY C.B.

DATE APR BY DATE
 11/23/24
 DATE APR BY DATE
 11/23/24

SCALE: 1"-1'-0"
 PRINT MADE 130-22



TOWER SPAN DECK



NOTE:
All rivet heads on upper side of buckle plates to be cast, and flattened to 1/2" high.

Approved _____

COUNTY COMMISSIONERS

COUNTY SURVEYOR

DIRECTOR OF HIGHWAYS AND PUBLIC WORKS

CHIEF ENGINEER, BUREAU OF BRIDGES
DIV. OF HIGHWAYS, STATE OF OHIO

BROWN BASCULE BRIDGE
MYSTIC TYPE
PATENTED JULY 7, 1918.
OTHER PATENTS PENDING
THOS. E. BROWN JR.
CONSULTING ENGINEER
NEW YORK CITY

THE WENDELL F. BROWN CO. ENGINEERS CLEVELAND, OHIO	
BRIDGE STREET BASCULE BRIDGE ASHTABULA, ASHTABULA COUNTY, OHIO	
D.W. LEGGETT A.G. BIXLER	COUNTY SURVEYOR DEPUTY SURVEYOR
DETAILS OF TOWER AND MOVING SPAN DECK	
DRWG. MADE BY 11/14/24	DATE 11/22/24
BY G.D.M.	BY T.E.B.
REV. BY	DATE
REMARKS	DATE
SCALE: 1/4" = 1'-0"	
PRINT MADE	
130-23	