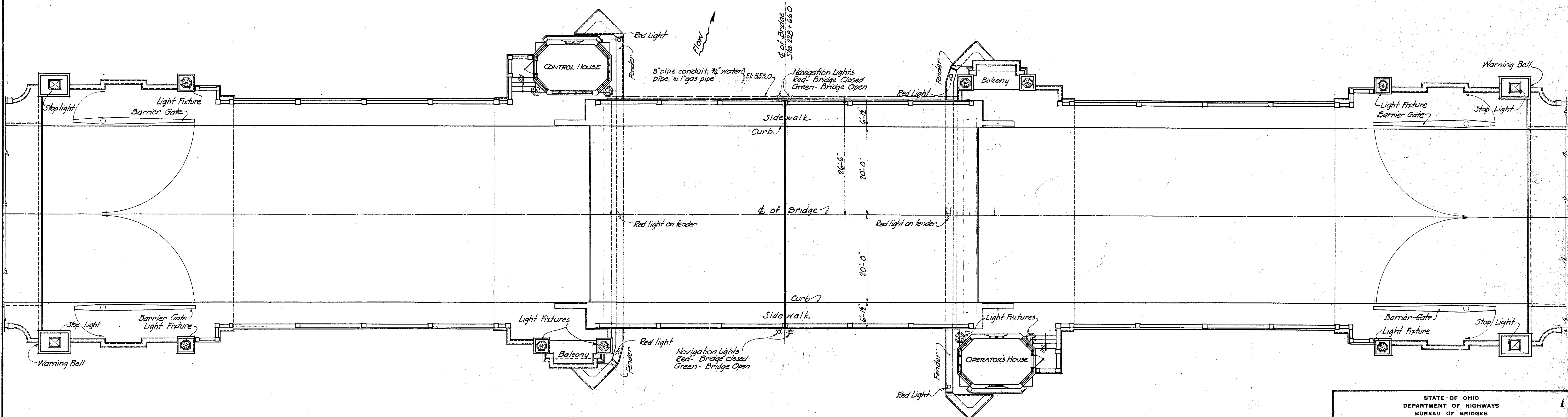
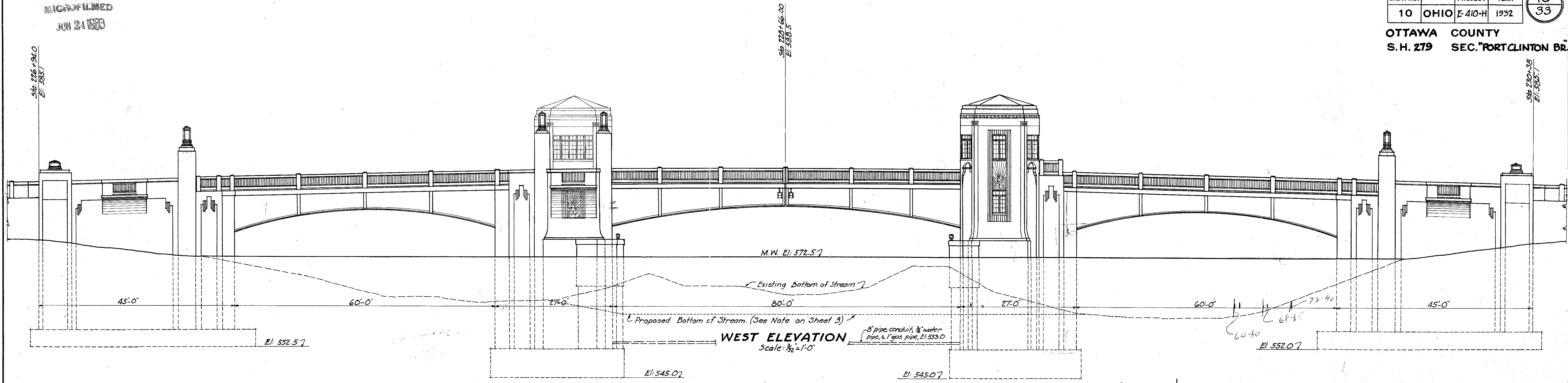


MICROFILMED
JUN 24 1983

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	10 33
10	OHIO	E-410-H	1932	

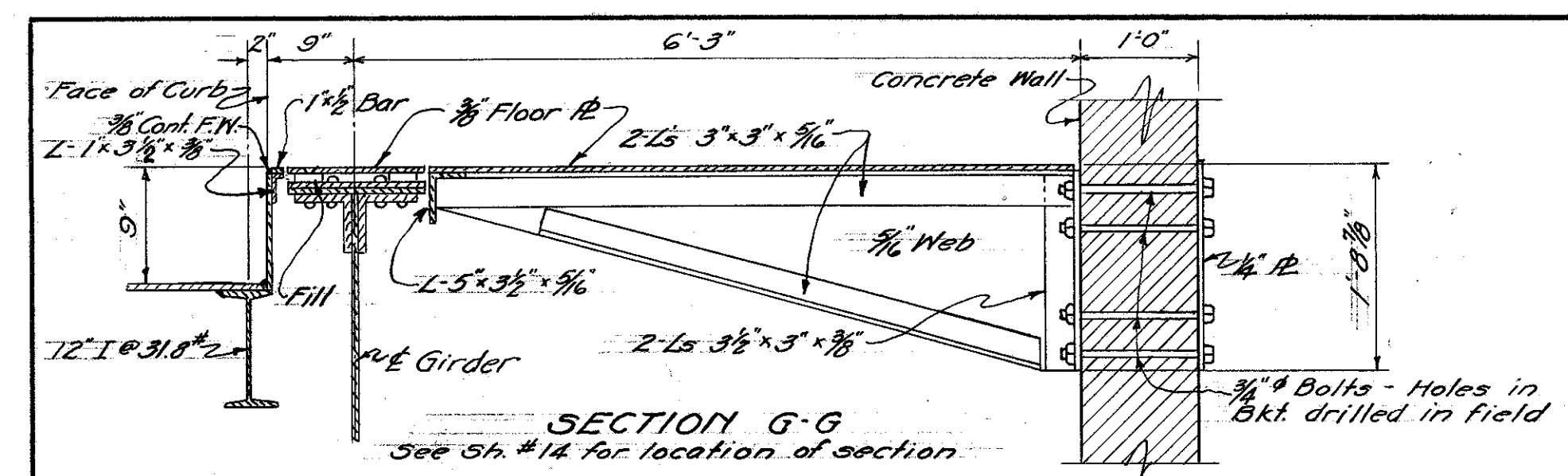
OTTAWA COUNTY
S.H. 279 SEC. "PORT CLINTON BR."



GENERAL PLAN
Scale: 1/2" = 1'-0"

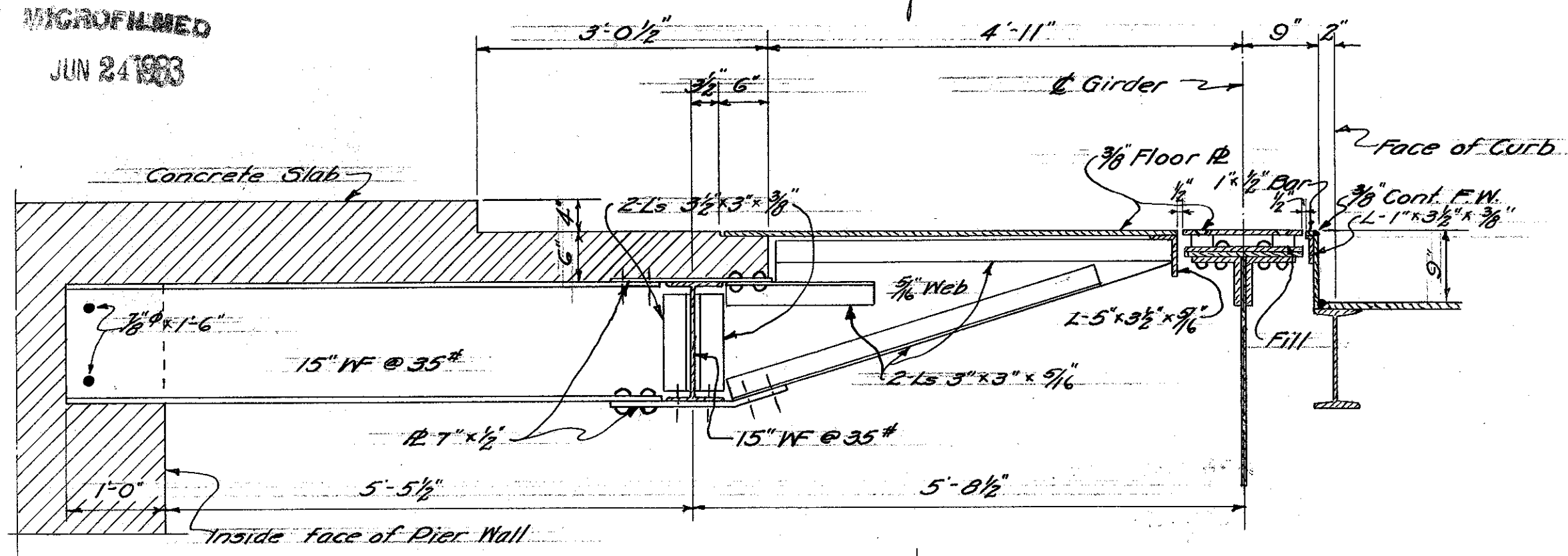
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						
GENERAL PLAN AND ELEVATION						
BRIDGE NO. OT-2-208 OVER PORTAGE RIVER						
S.H. 279 SEC. "PORT CLINTON BR."			OTTAWA COUNTY STA. 228+66.00			
DESIGNED J.P.P. H.W.B.	DRAWN J.P.P.	TRACED J.P.P.	CHECKED W.H.L.	REVIEWED W.H.L.	DATE 12-14-32	REVISED 12-14-32

OTTAWA COUNTY
S.H. 279 SEC. PORT CLINTON BRIDGE

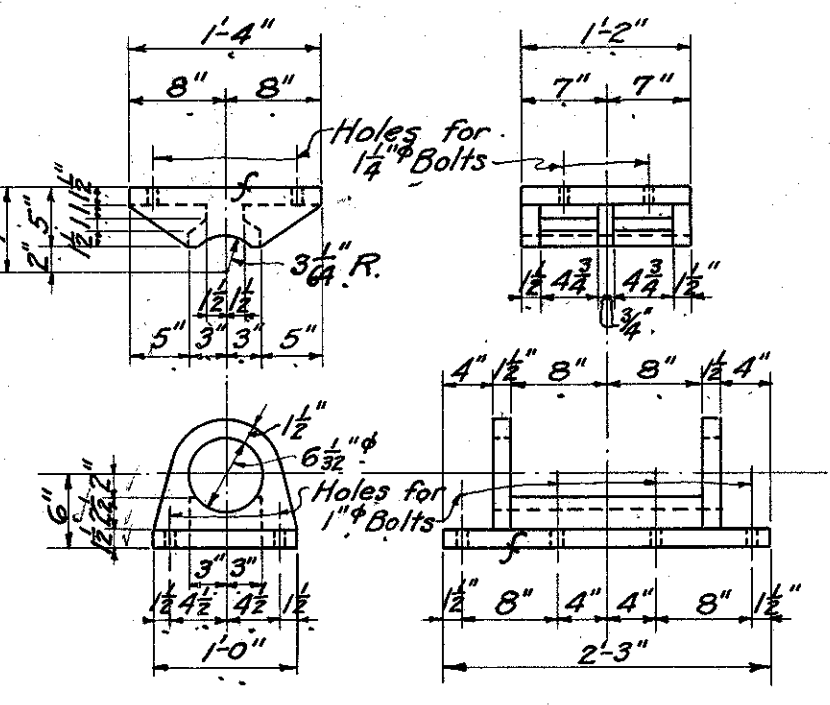
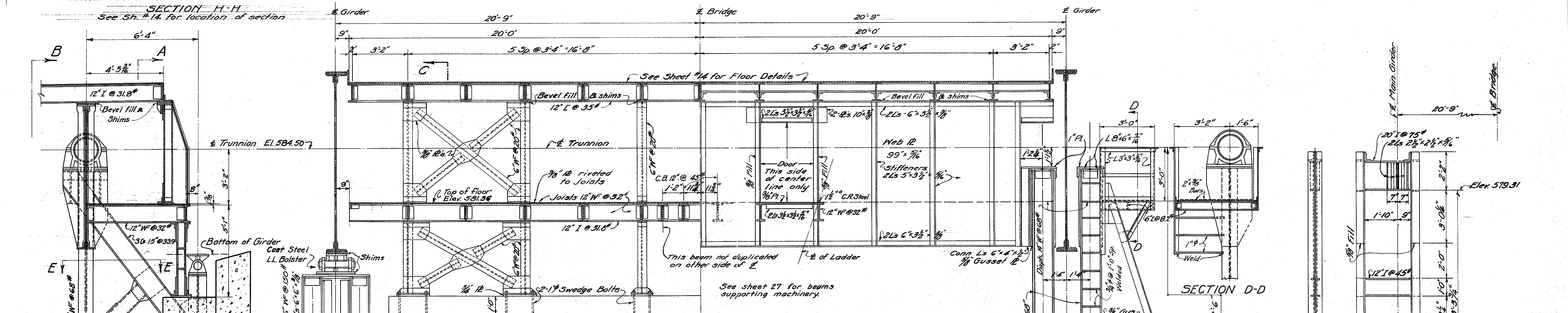


SECTION G-G
See Sh. # 14 for location of section

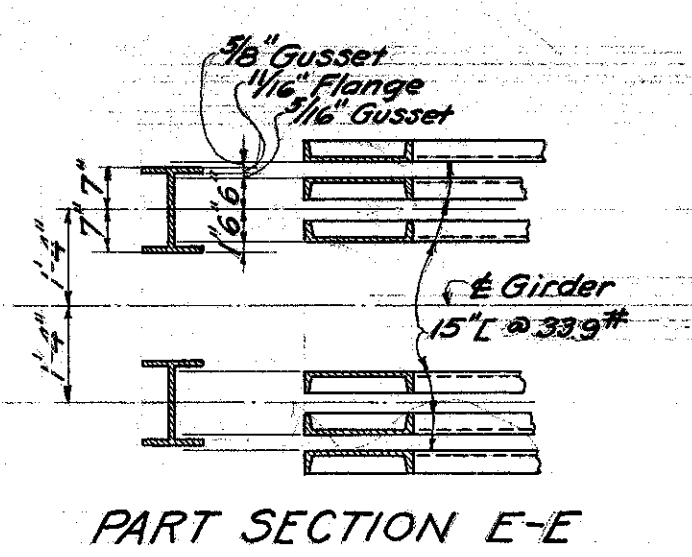
MICROFILMED
JUN 24 1963



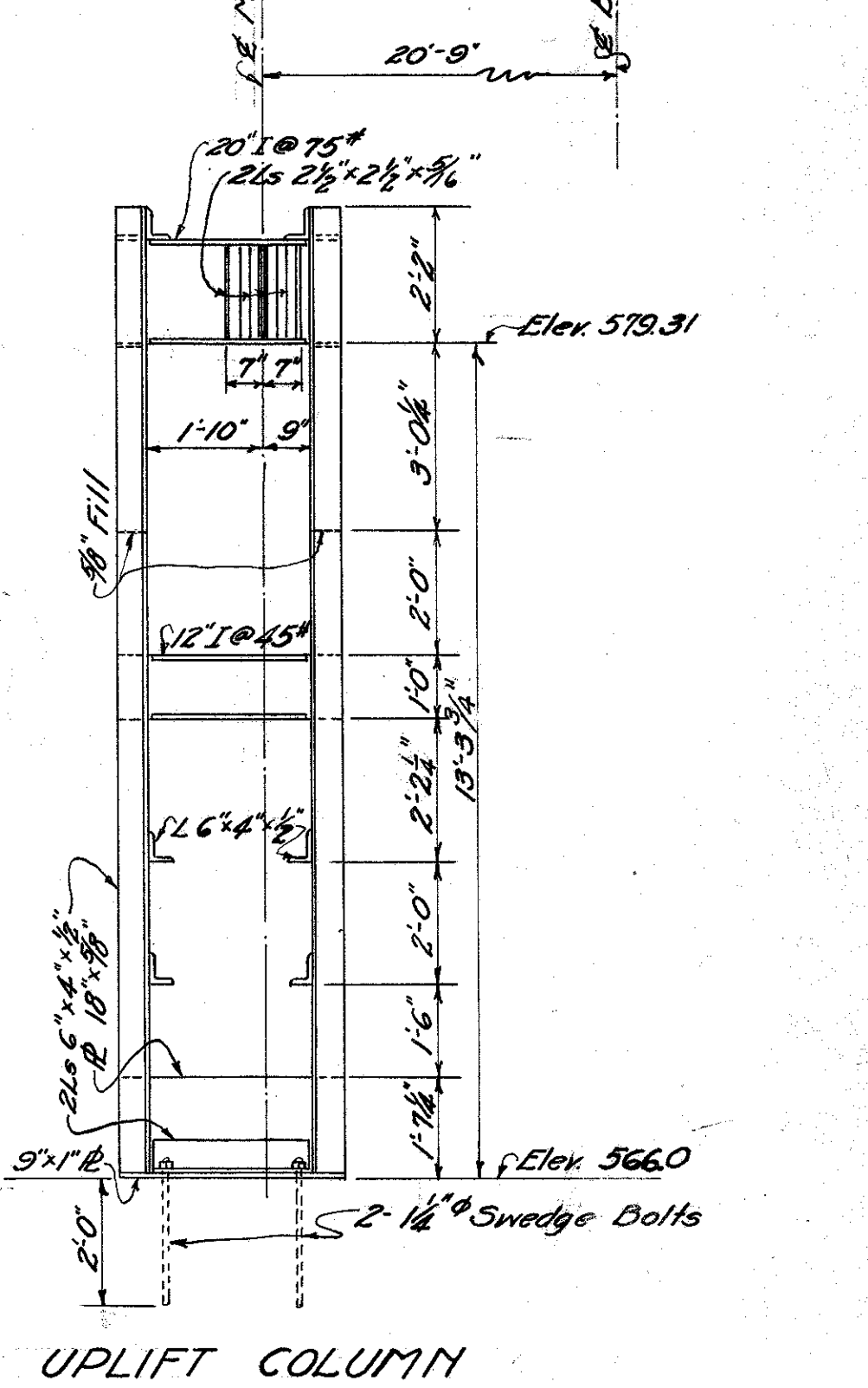
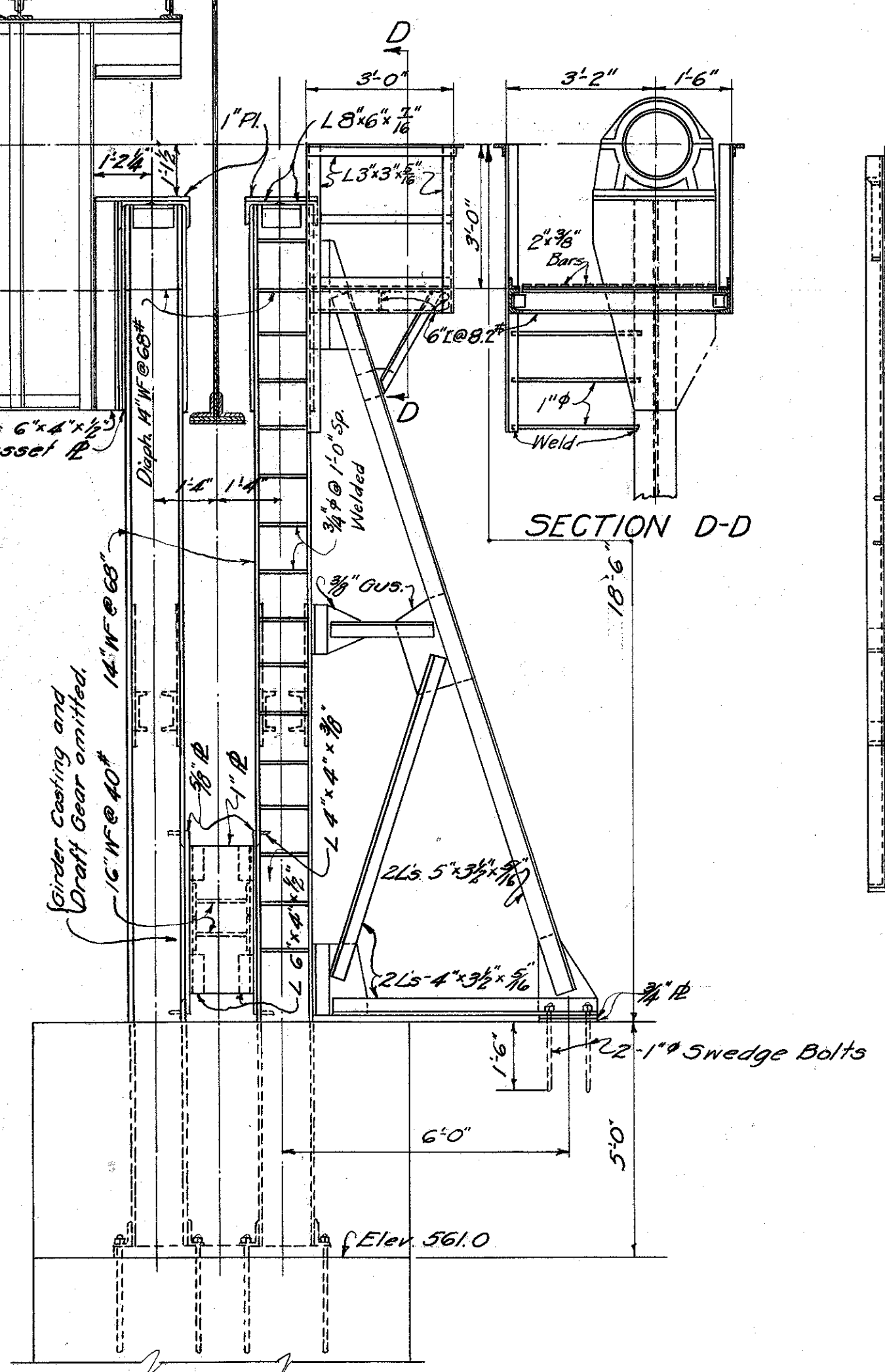
SECTION H-H
See Sh. # 14 for location of section



CAST STEEL L.L. BOLSTER
4 REQ'D



PART SECTION E-E



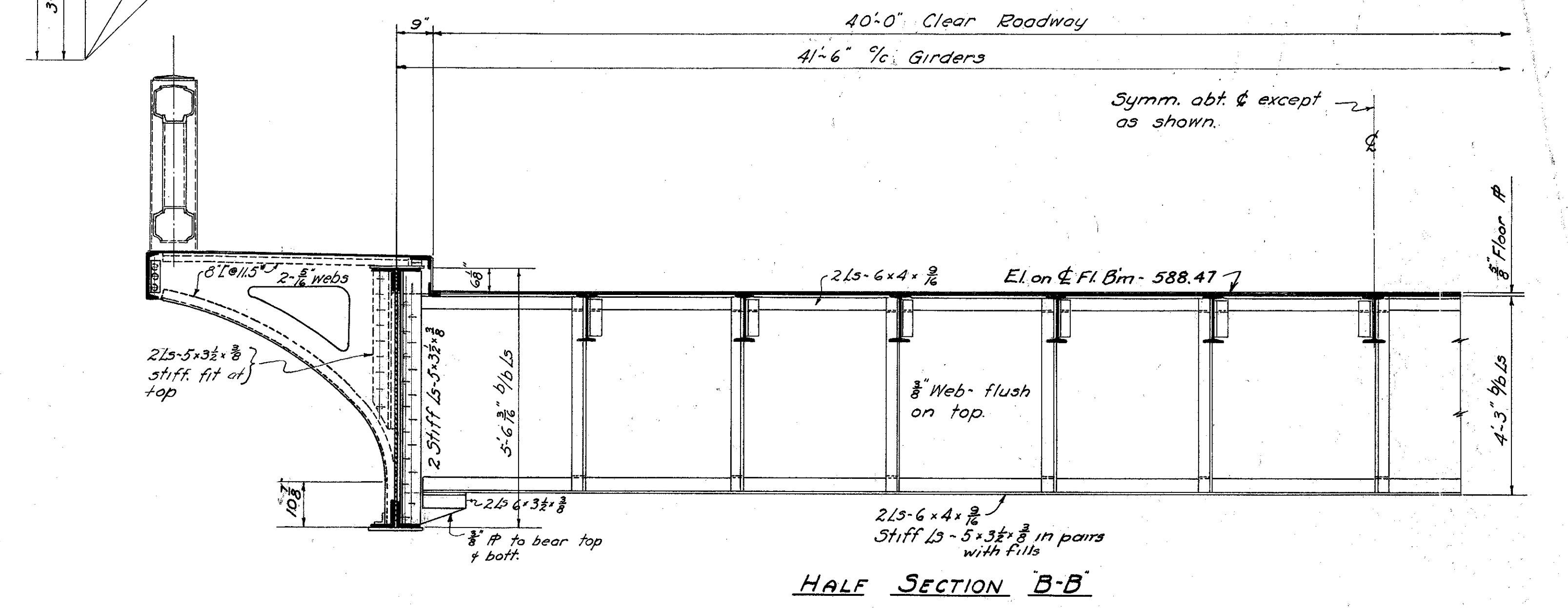
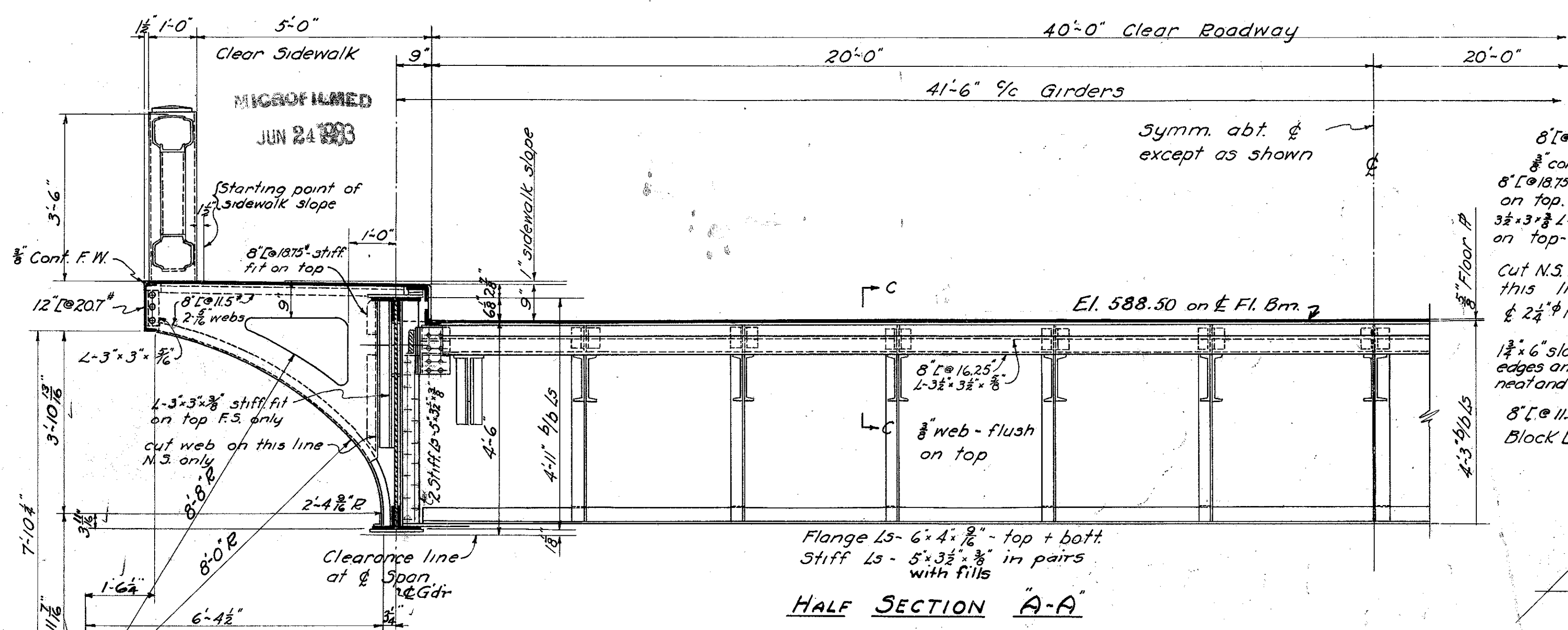
UPLIFT COLUMN

FULL SECTION C-C

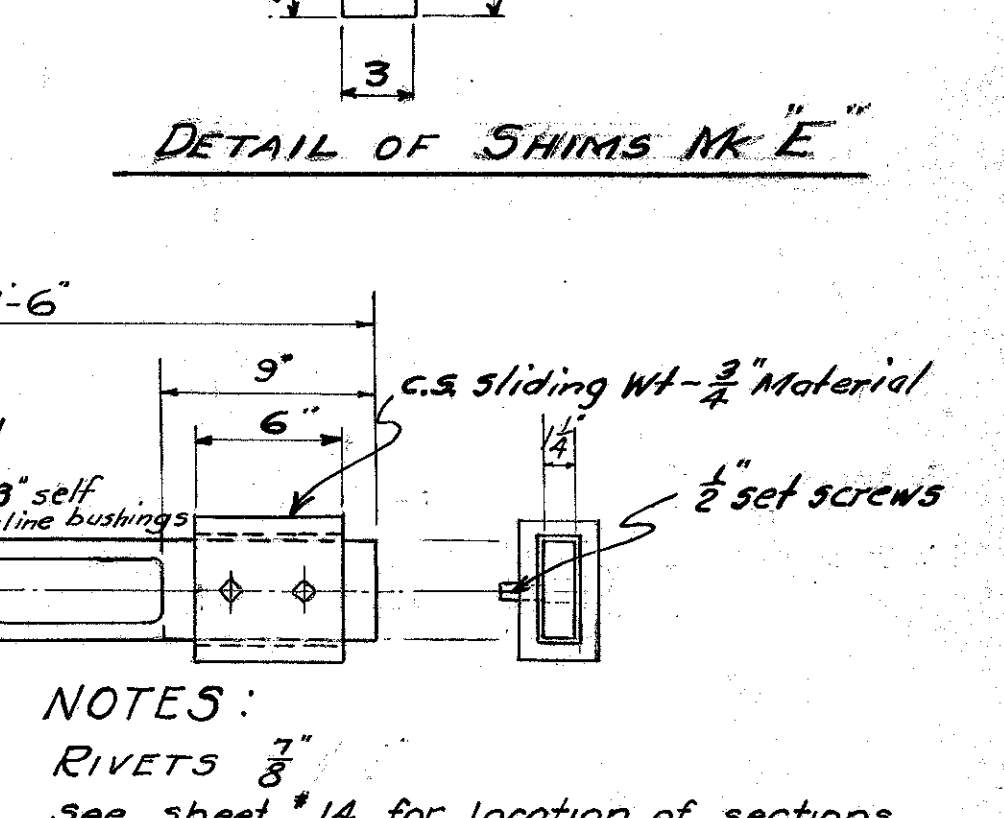
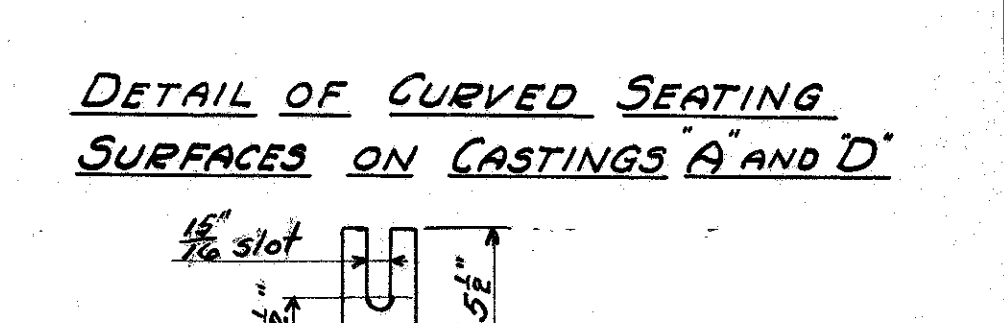
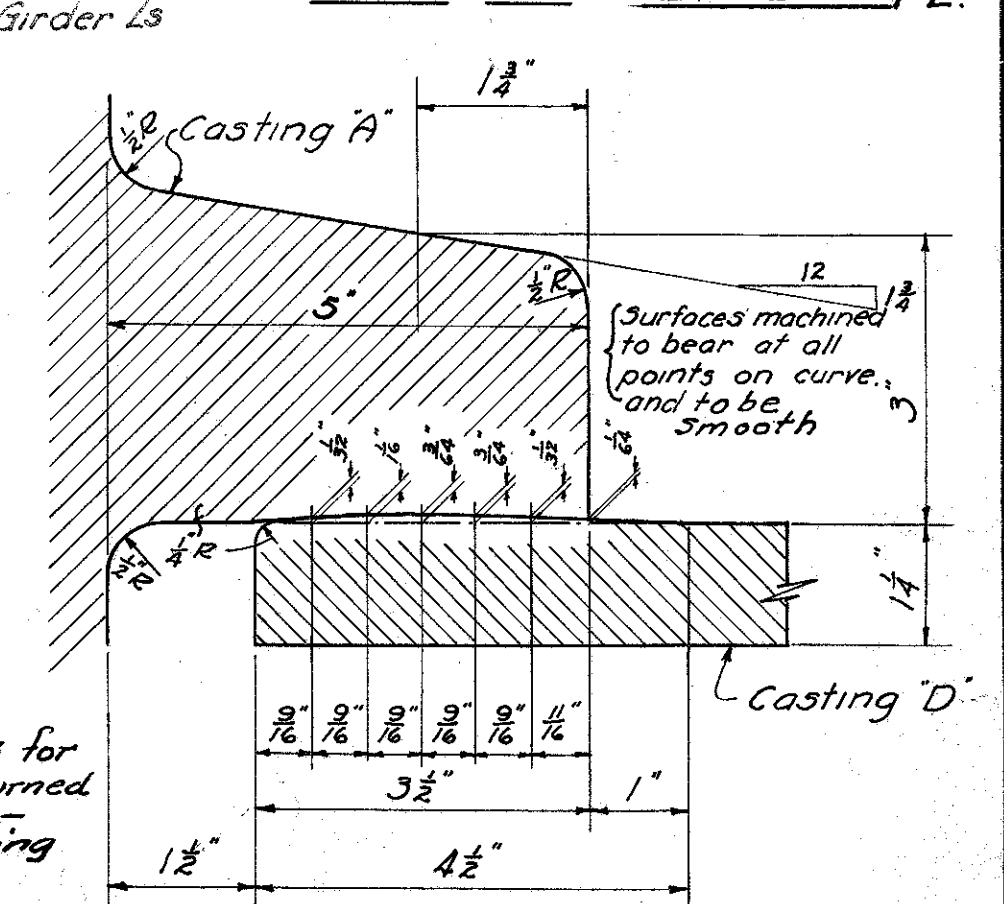
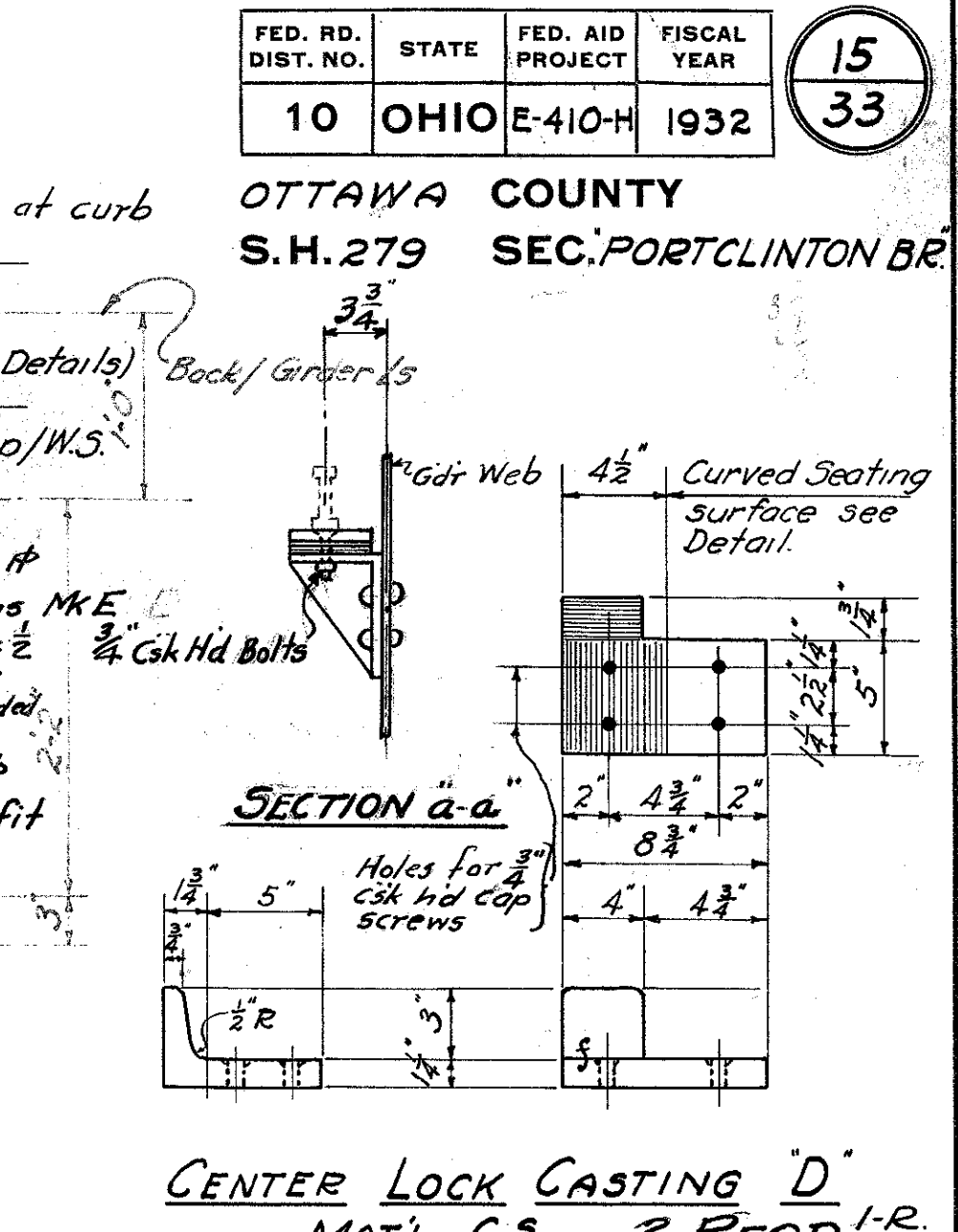
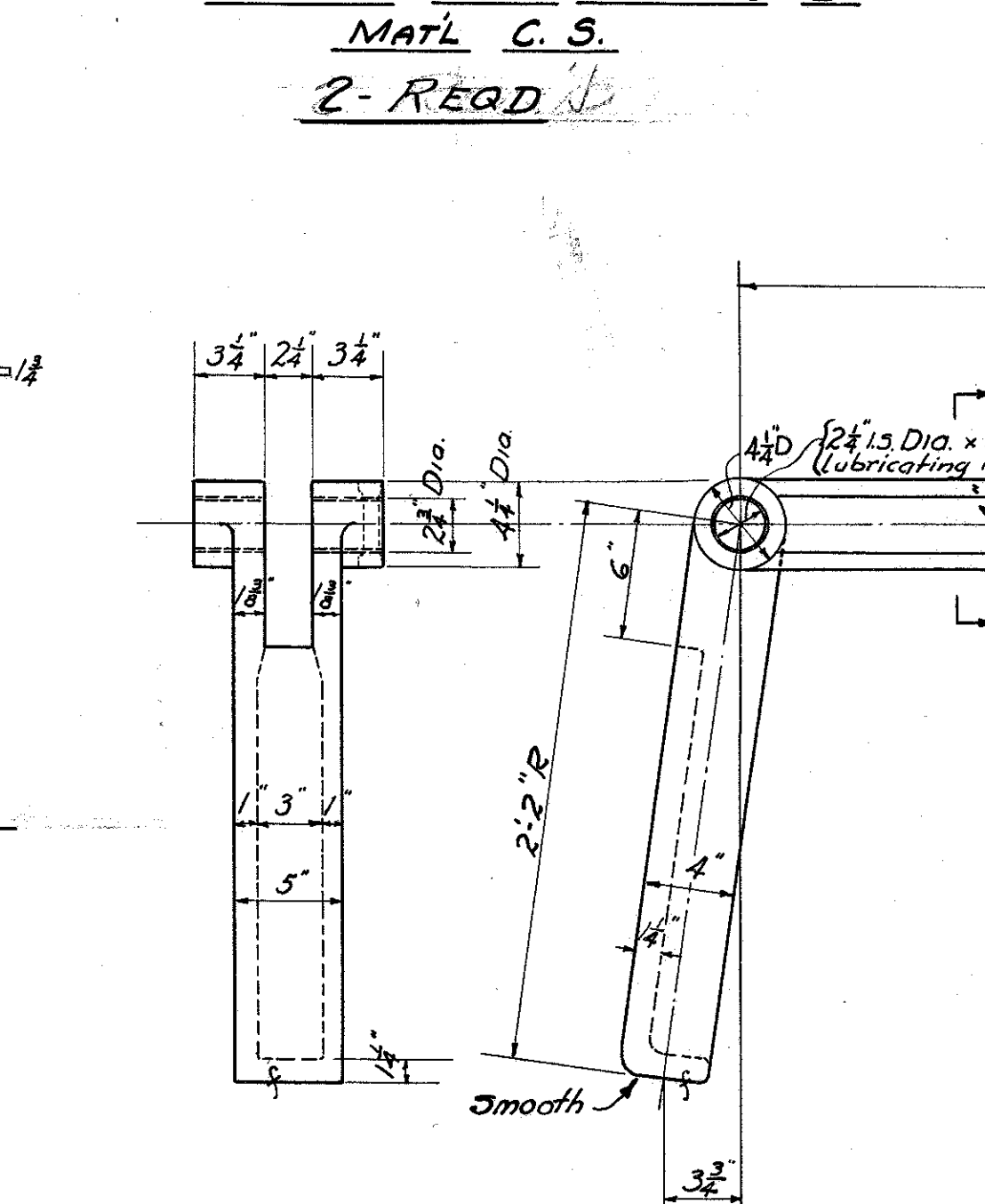
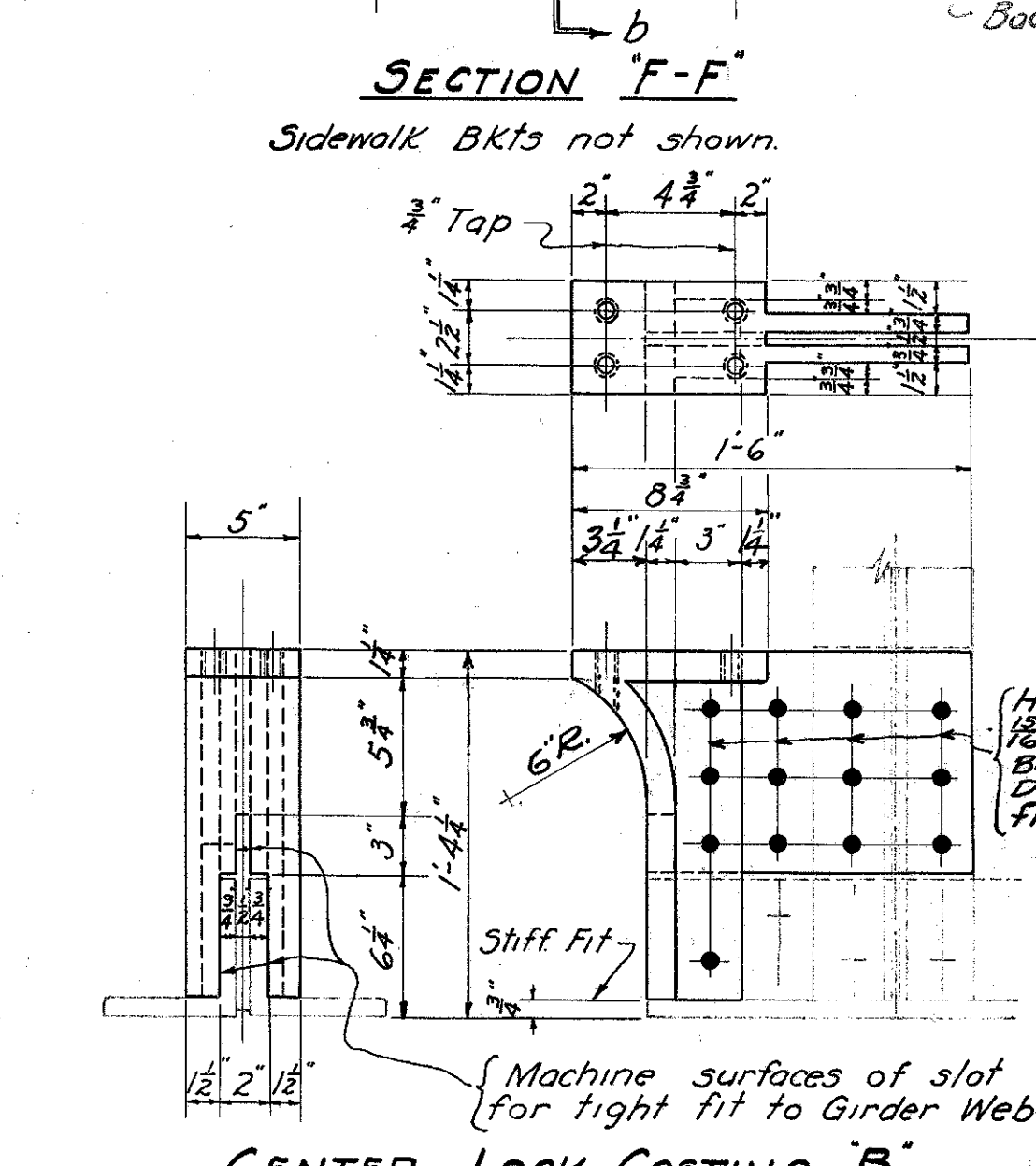
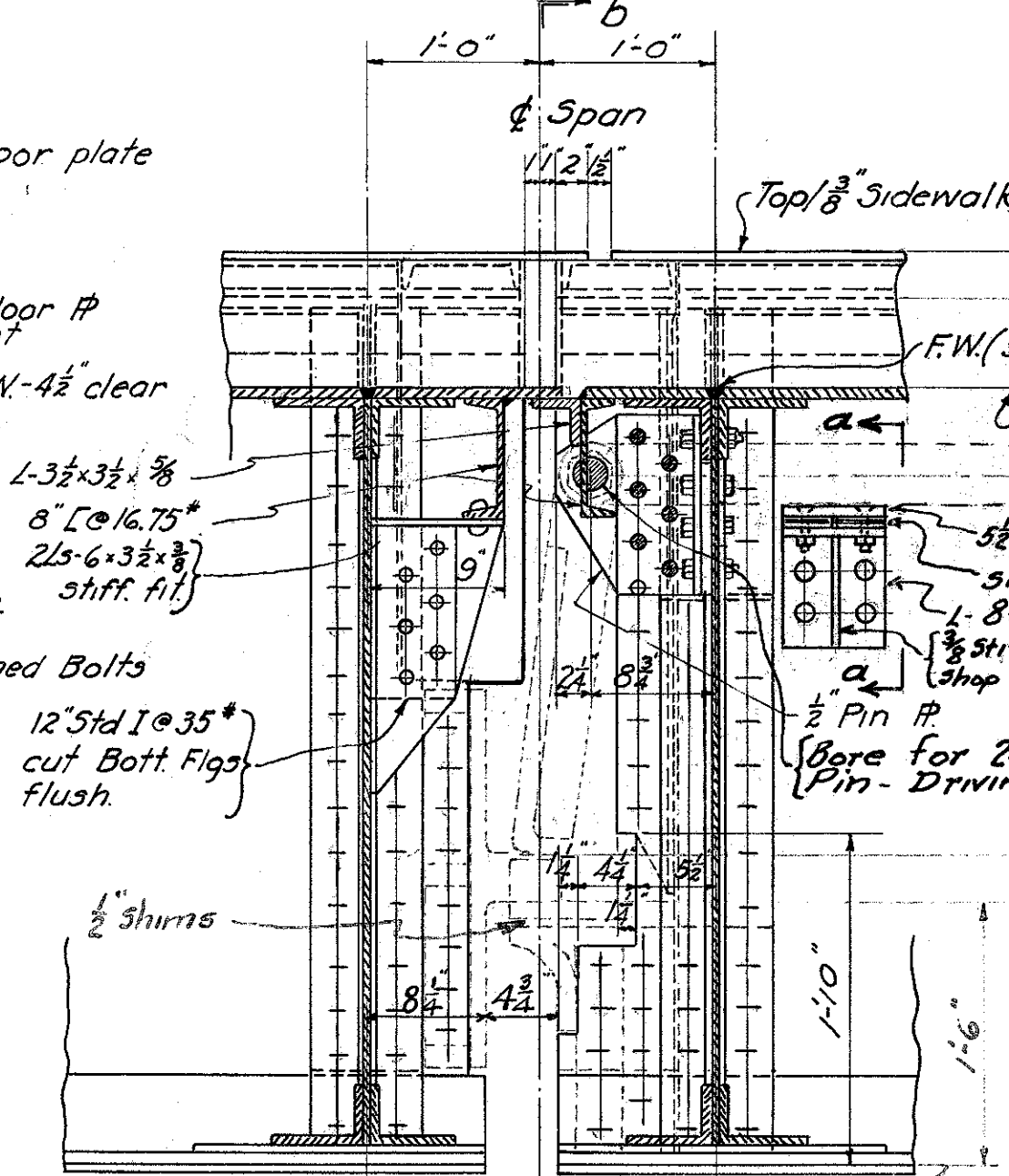
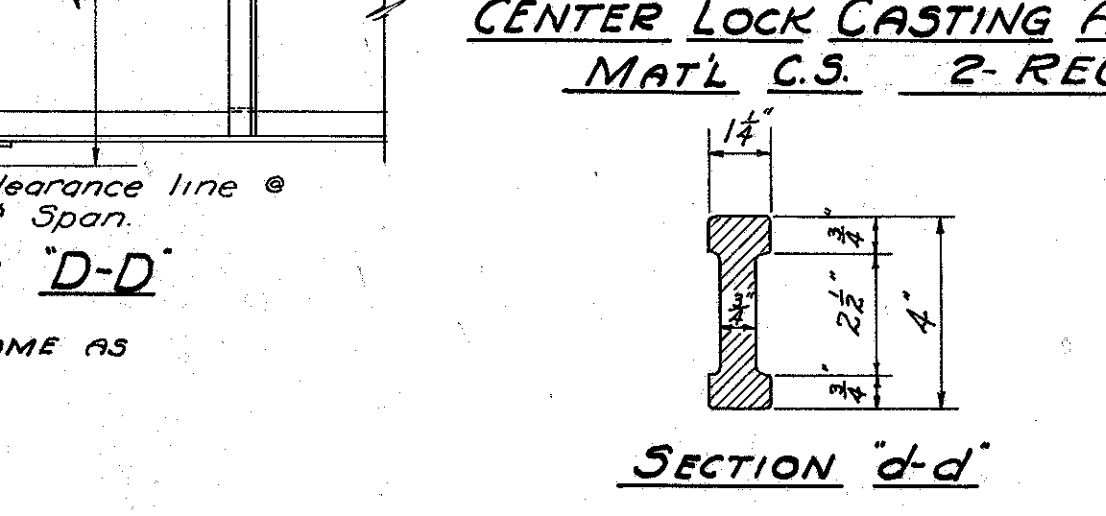
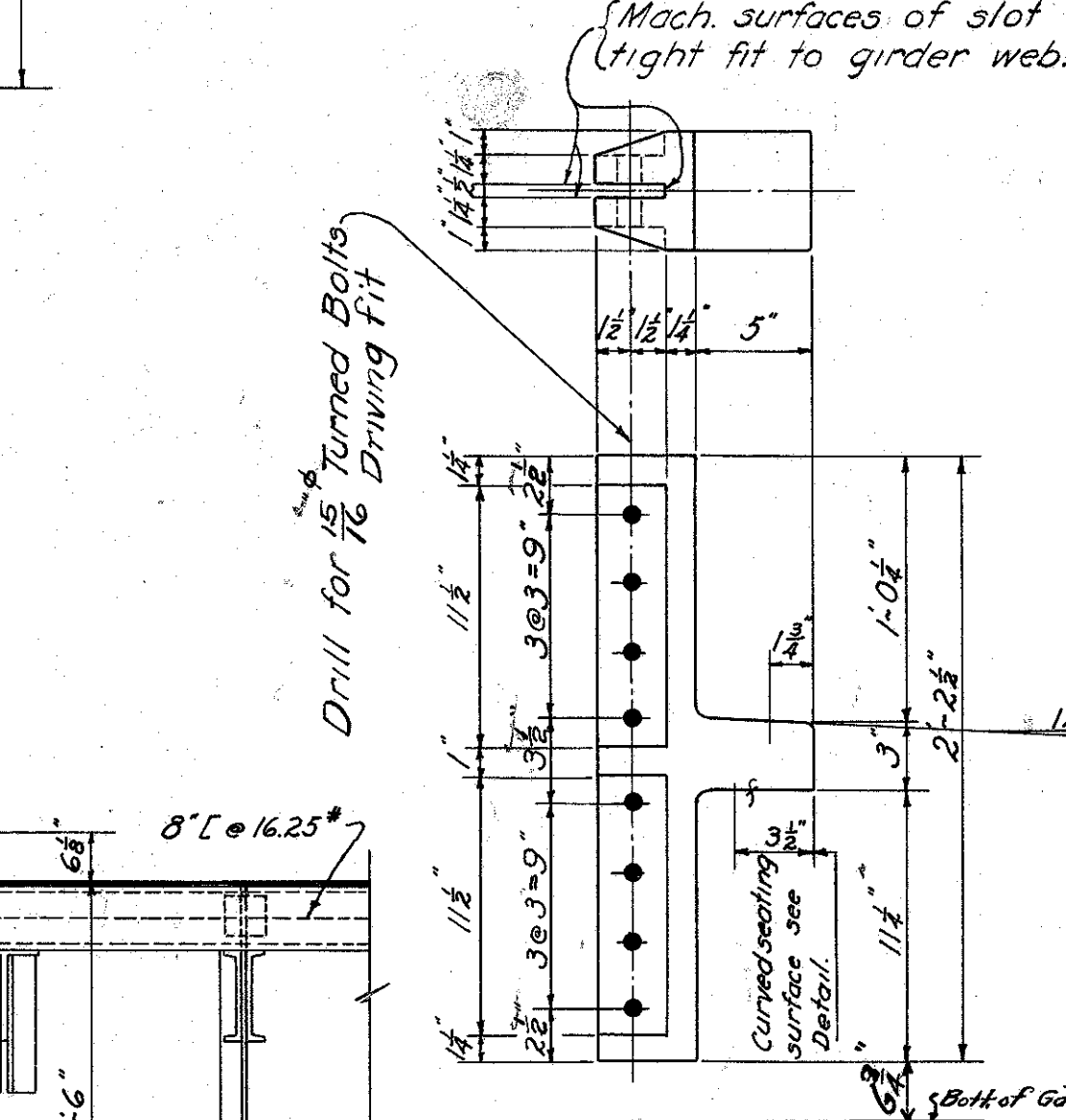
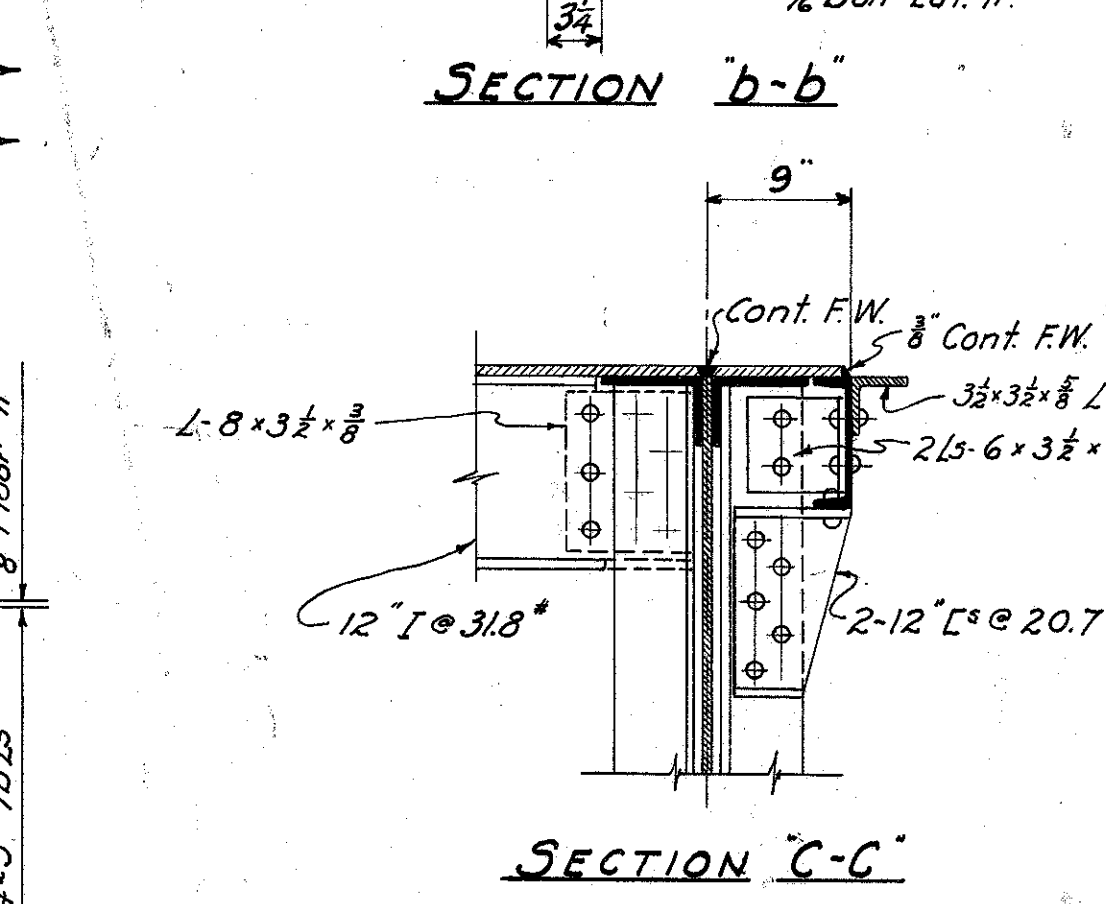
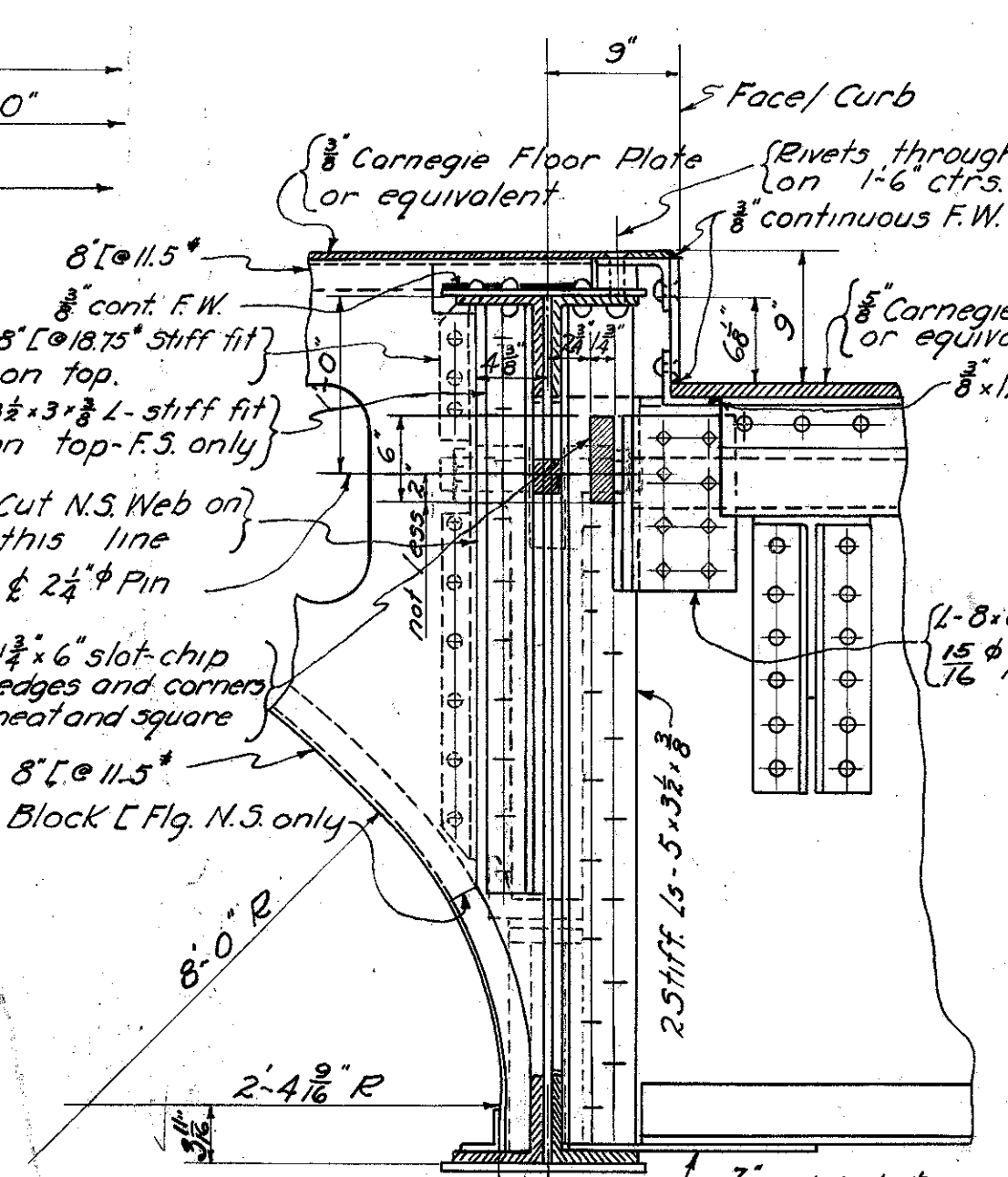
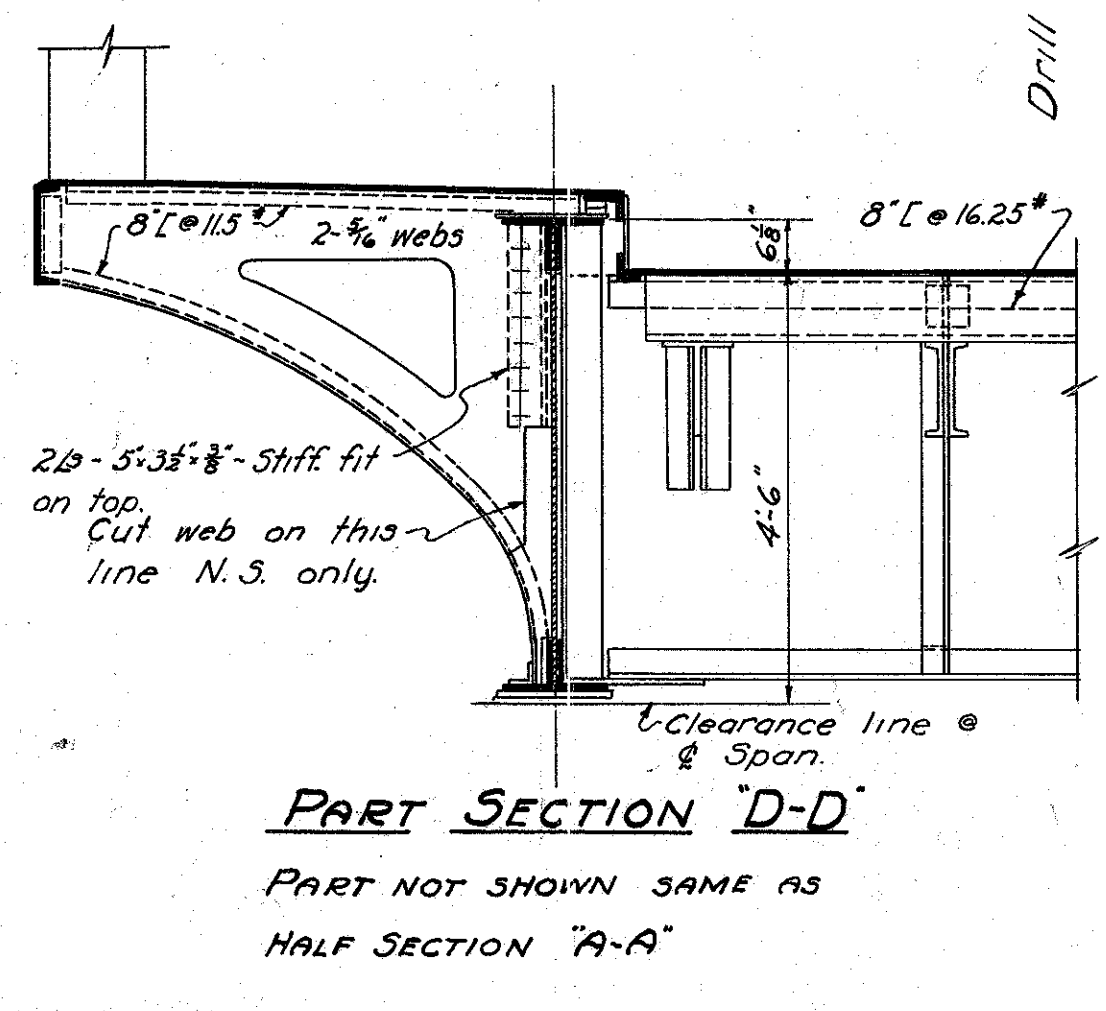
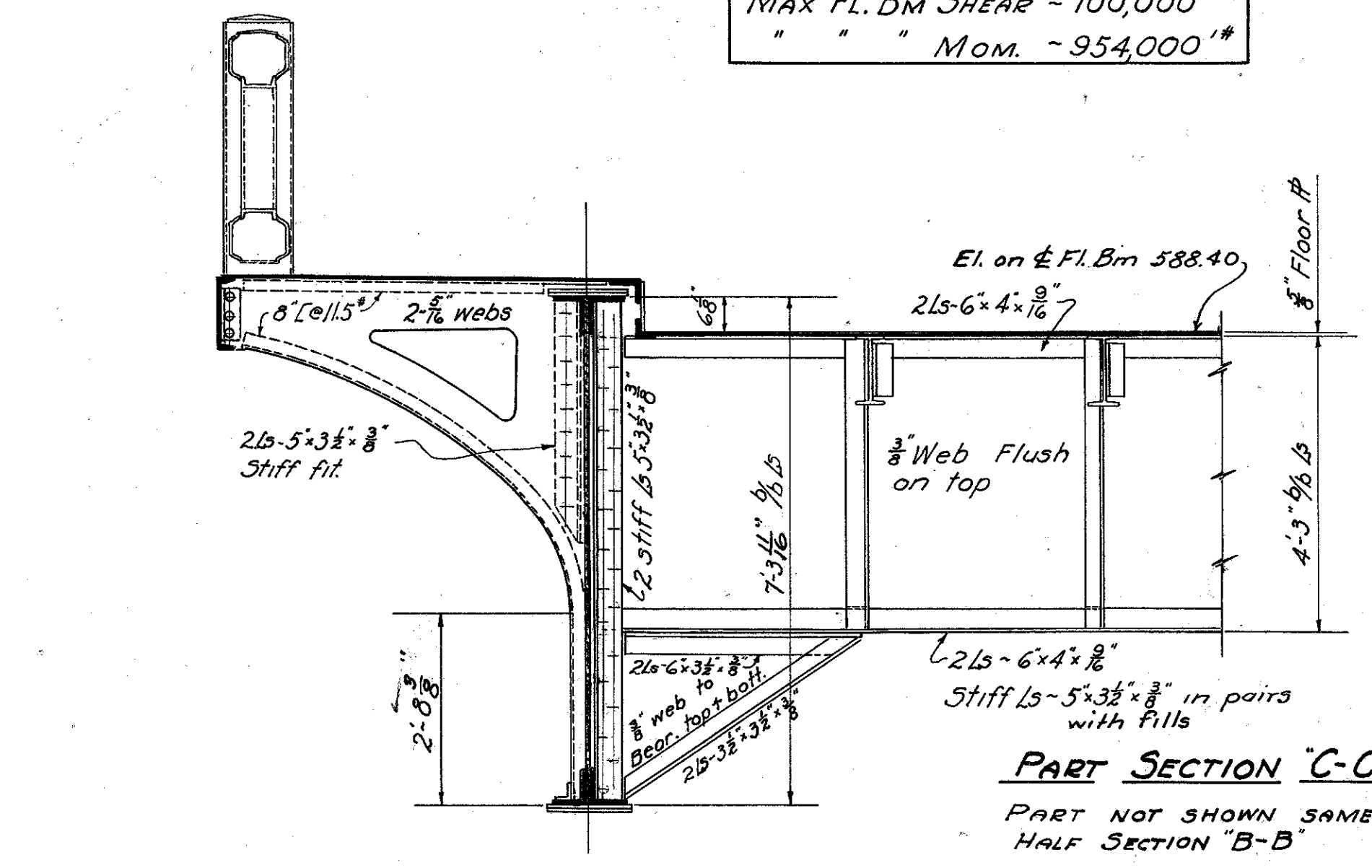
HALF-SECTION A-A

HALF-ELEVATION B-B

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					
MAIN SUPPORTING FRAMES					
BR. NO. OT-2-208 OVER PORTAGE RIVER					
S.H. 279			OTTAWA COUNTY		
SEC. PORT CLINTON BR. STA. 288+66.0					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
N.W.B.	N.W.B.	S.K.	J.R.	W.H.	12-14-32
				REVISION	DATE
				1	10/23/32



MAX FL. BM SHEAR - 100,000 #
" " " MOM. - 954,000 #'



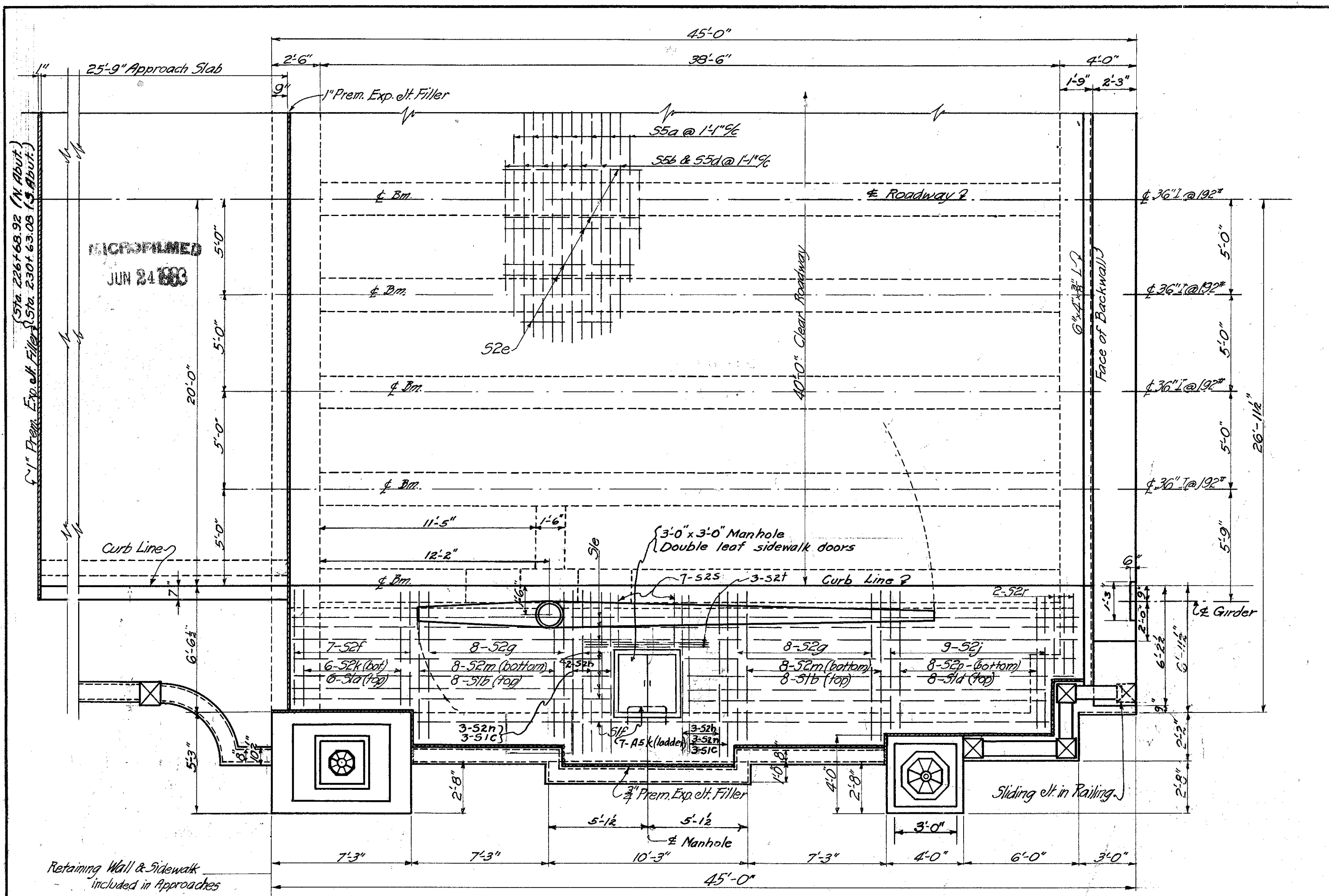
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

FLOOR BEAM & CENTER LOCK DETAILS
BRIDGE NO OT-2-208
OVER PORTAGE RIVER
OTTAWA COUNTY S.H. 279
SEC. PORTCLINTON BR. STA. 228+66.0

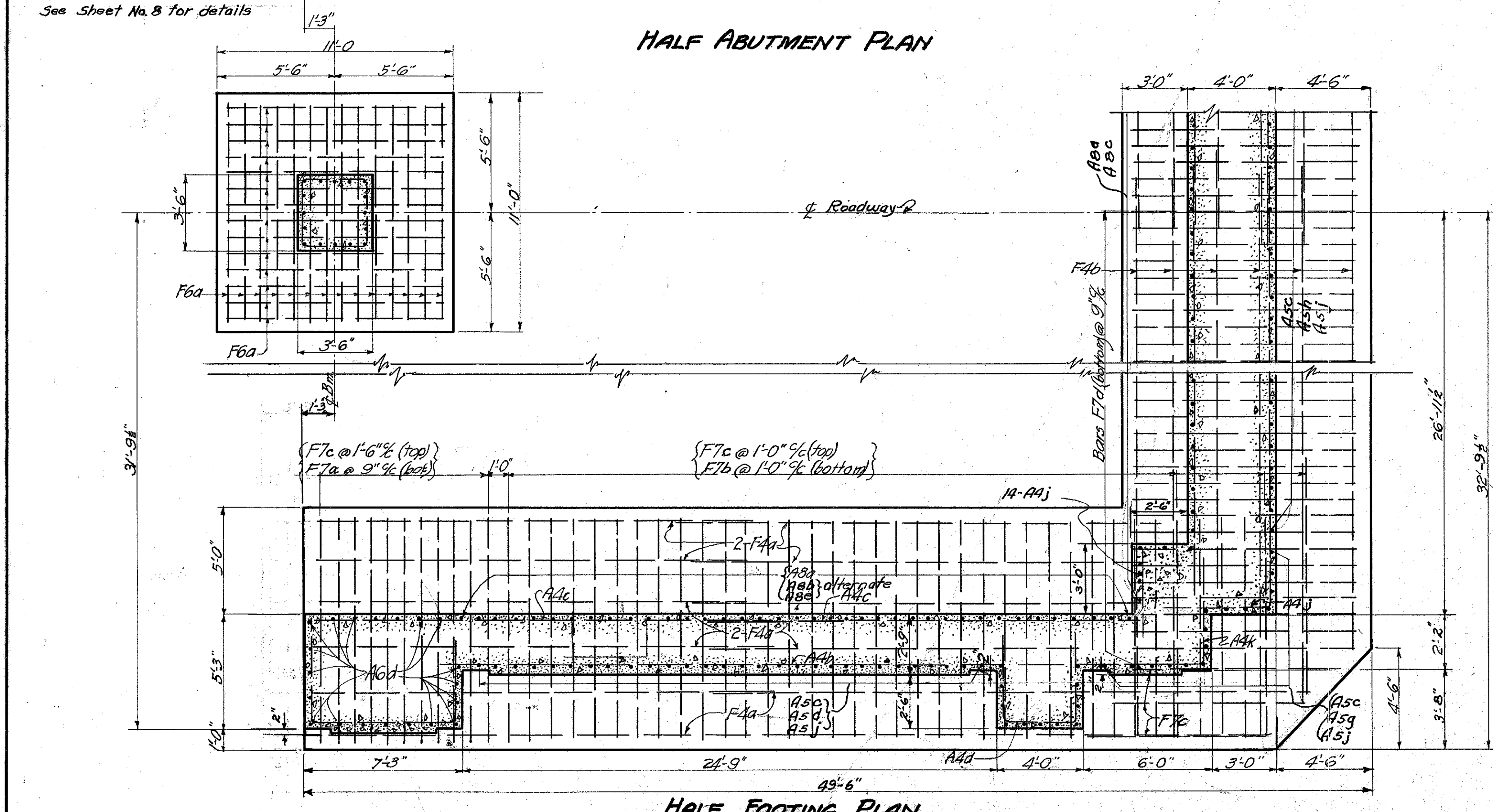
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.W.B.	H.W.B.	W.C.K.	H.S.E.	H.W.B.	10/29/32	12-14-32

Note: Sidewalk bkt web p/s welded to girder web with 3/8" x 2" F.W. 10" clear

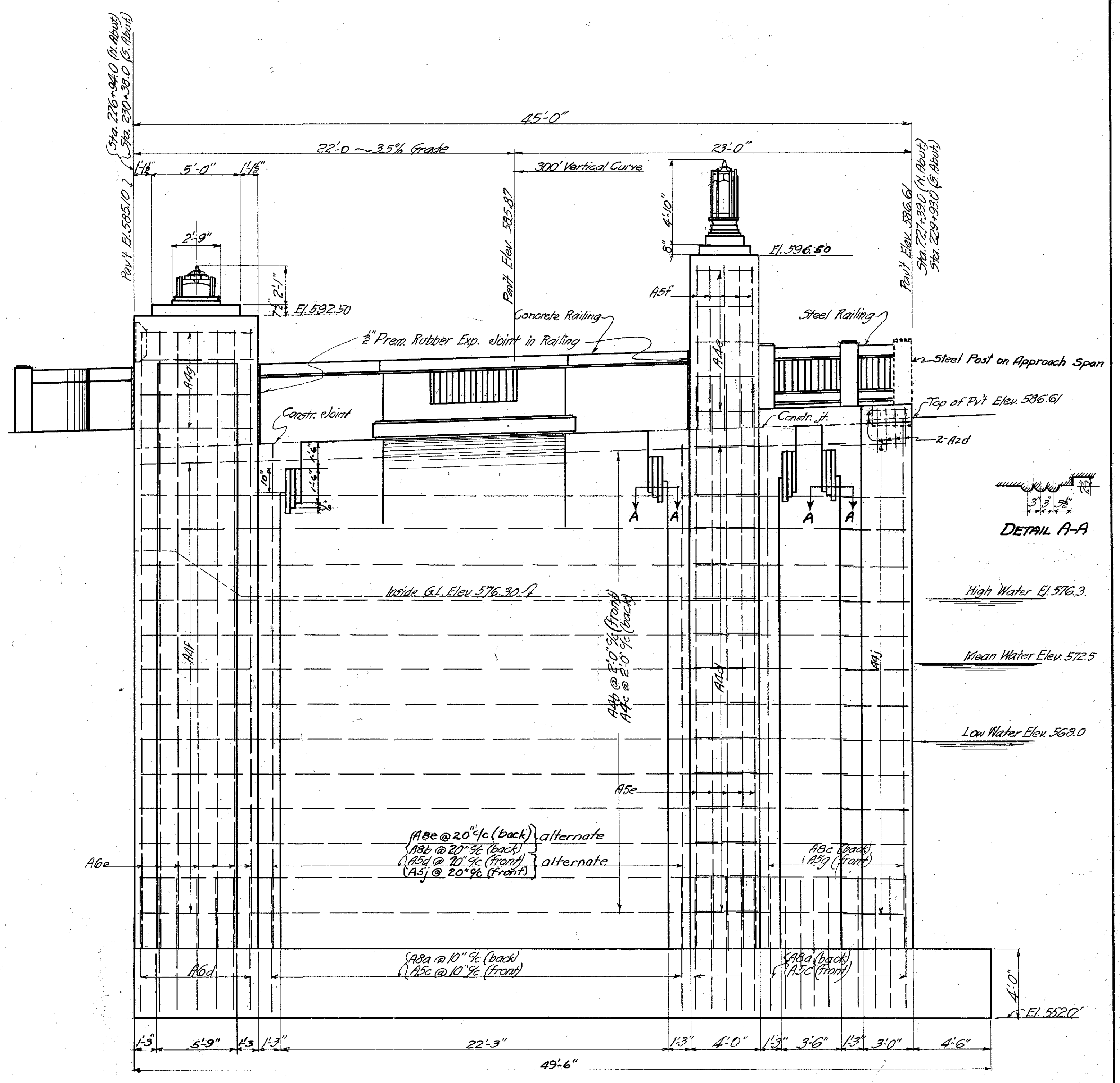
OTTAWA COUNTY
S.H. 279 SEC. PORT CLINTON BR.



HALF ABUTMENT PLAN



HALF FOOTING PLAN



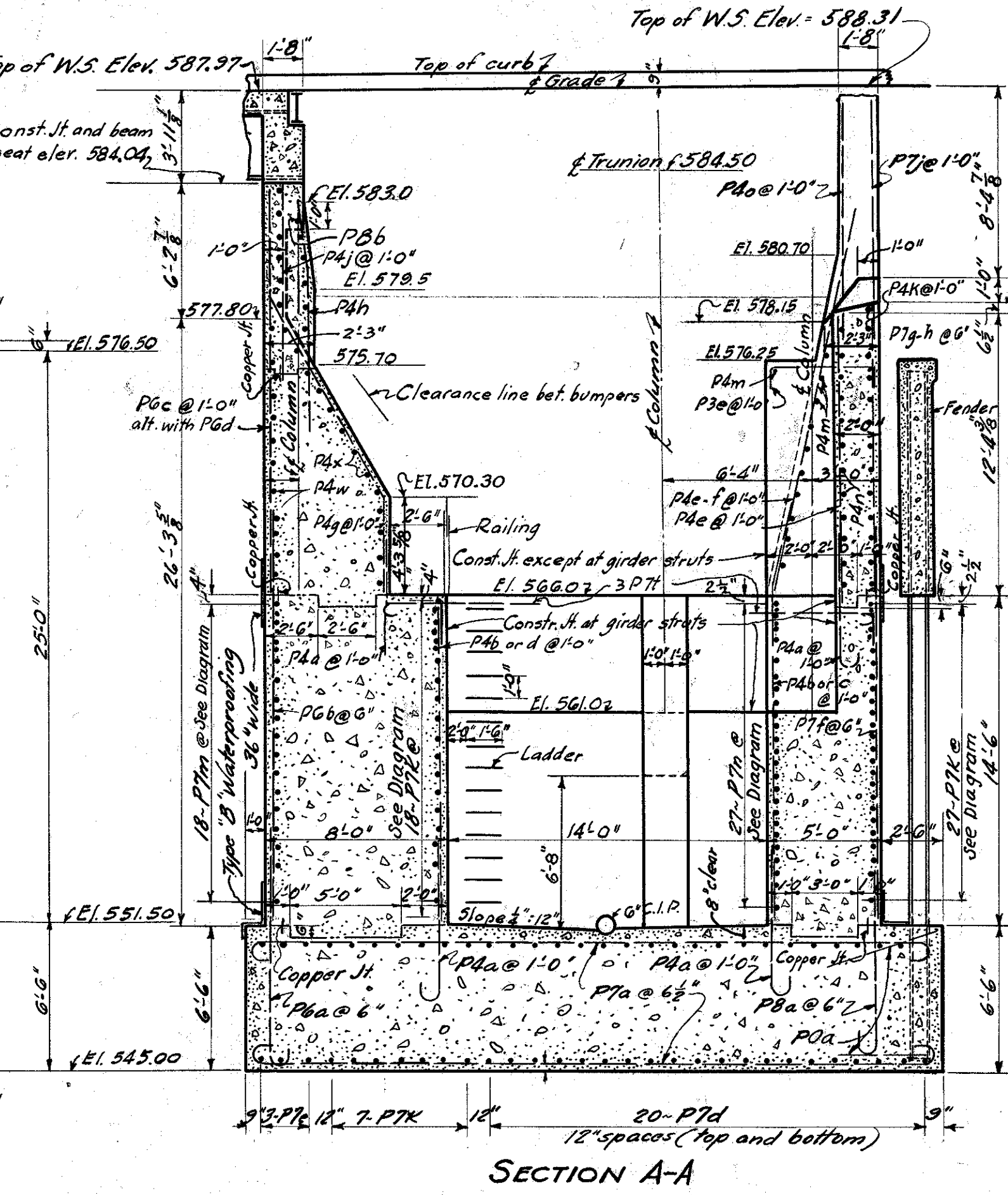
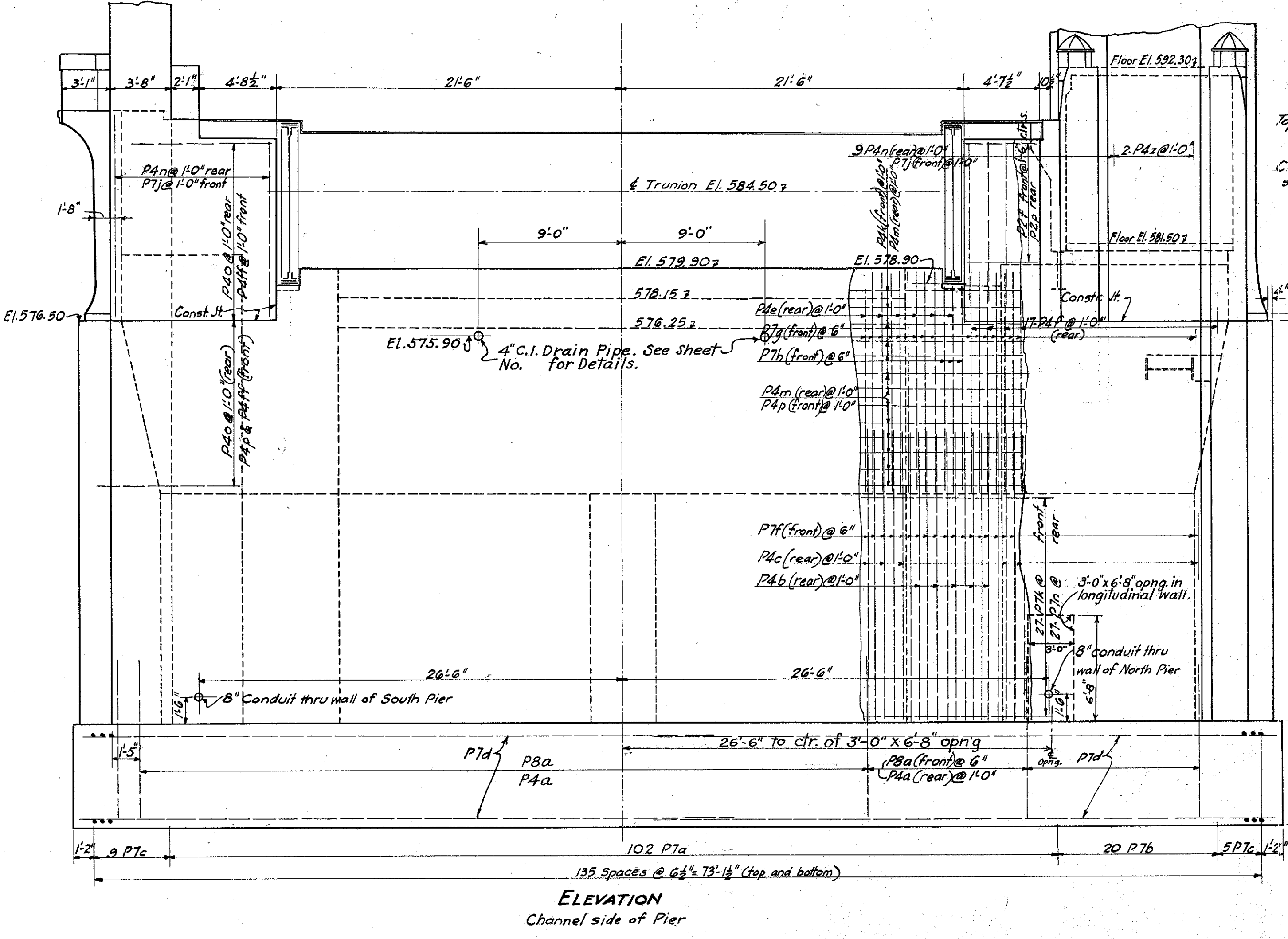
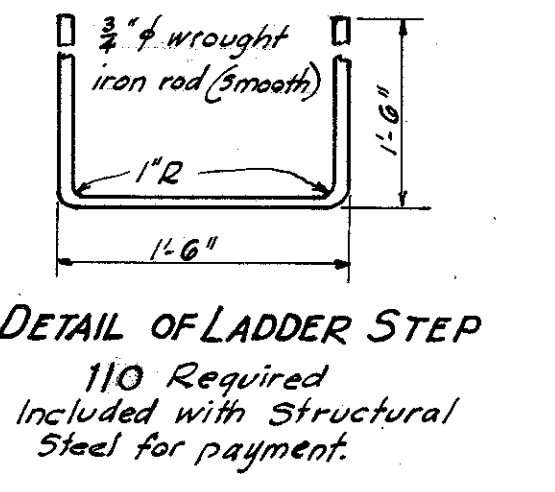
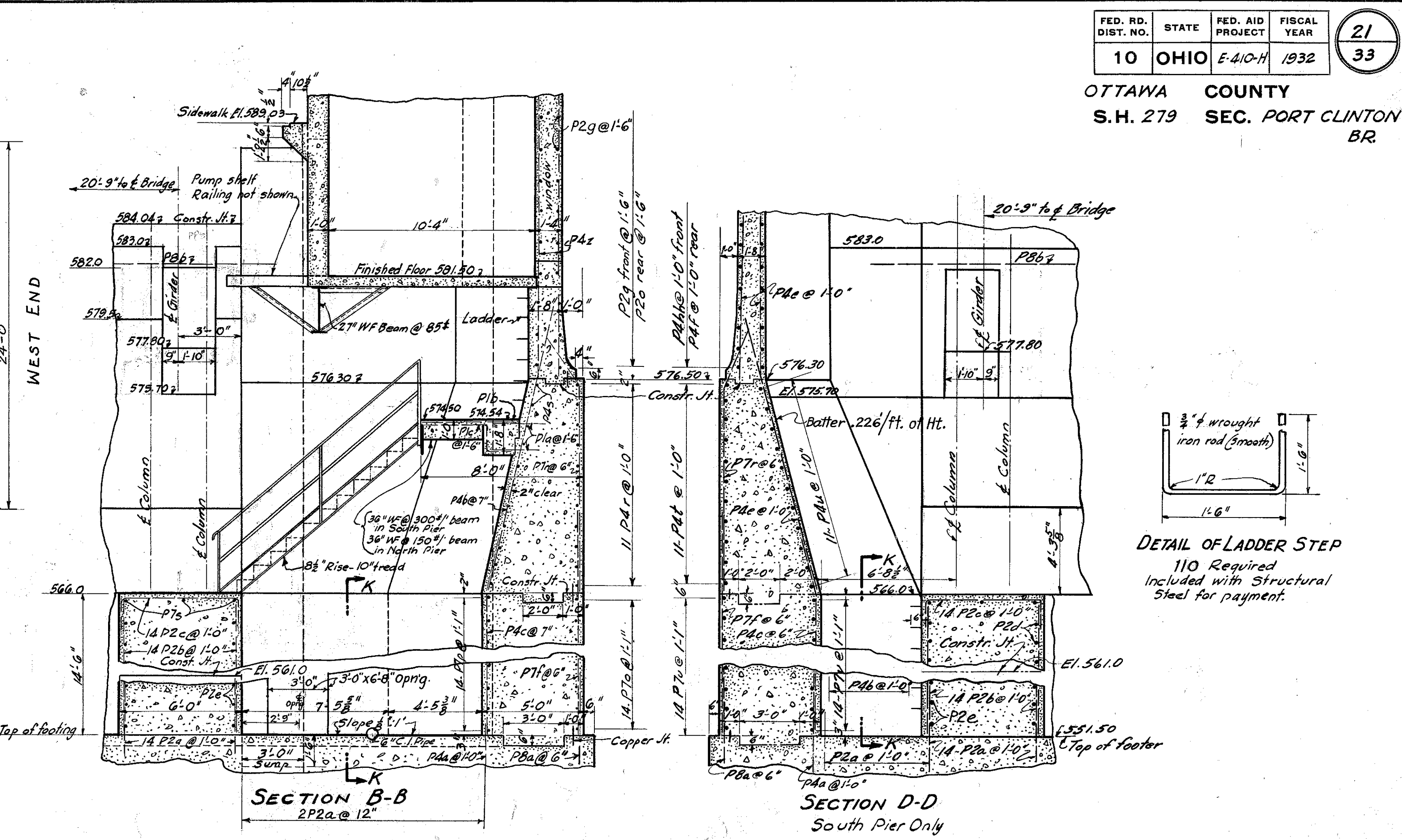
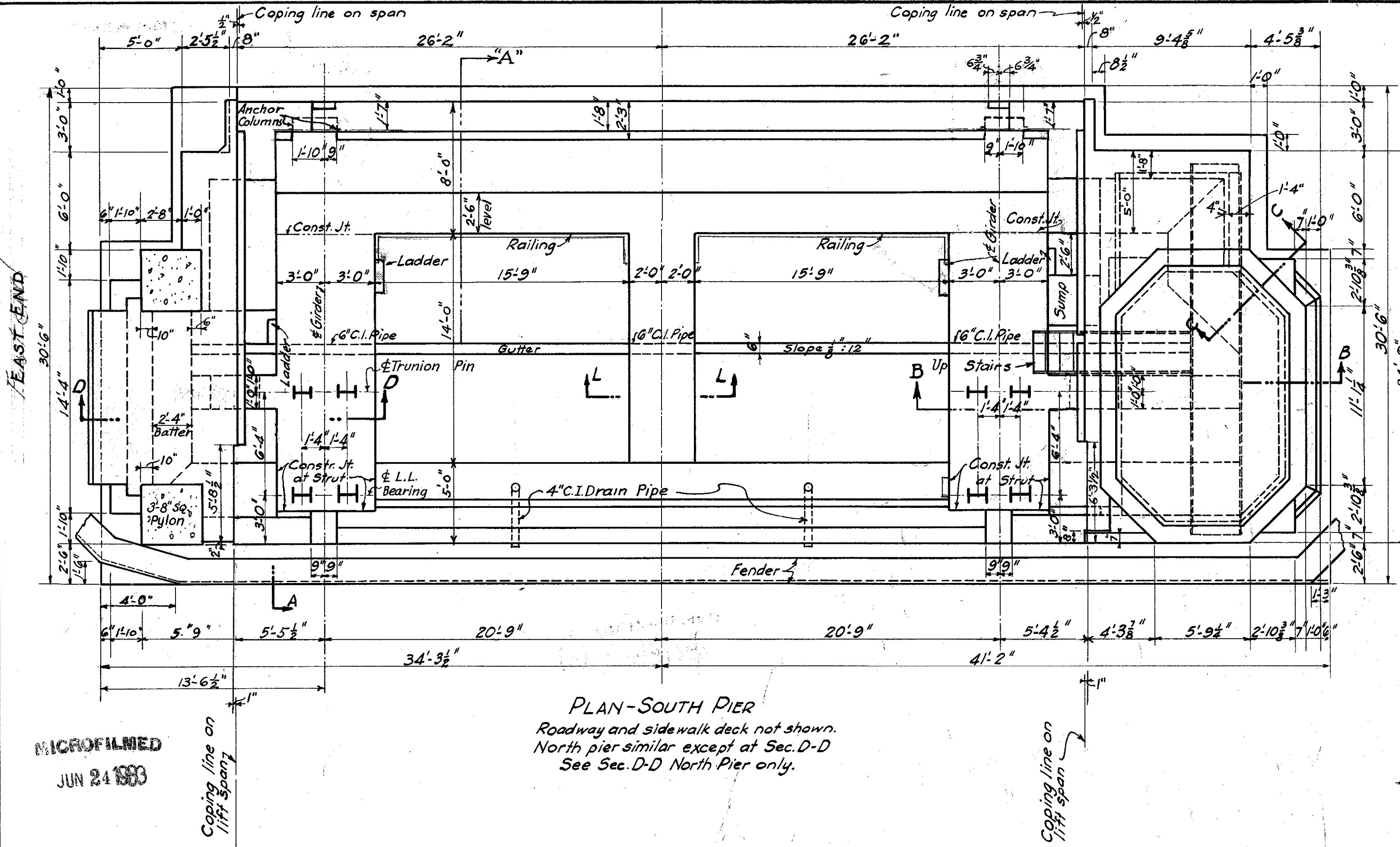
SIDE ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

ABUTMENT DETAILS
BRIDGE NO. OT-2-208
OVER PORTAGE RIVER

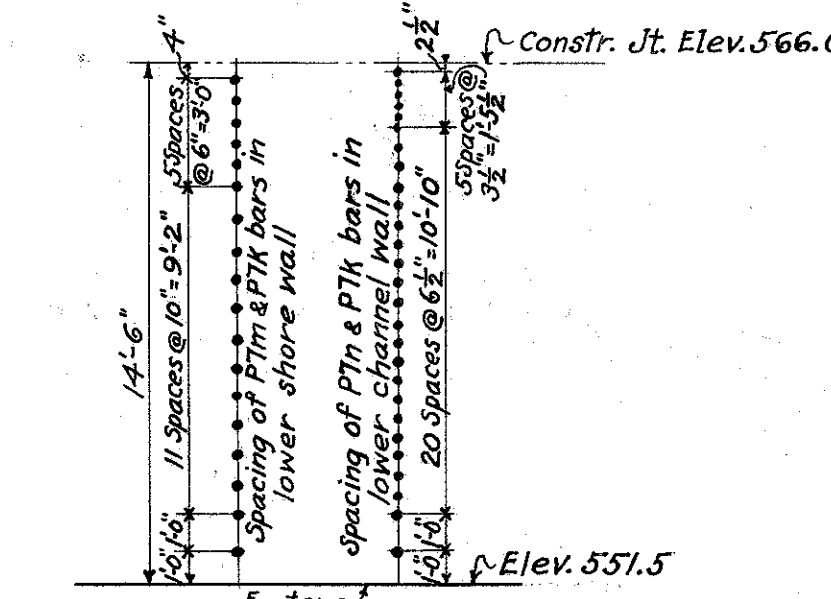
OTTAWA COUNTY
SEC. PORT CLINTON BR. STA. 228+66.0

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.U.S.	R.U.S.	R.U.S.	R.U.S.	R.U.S.	10/27/32	12-14-32



NOTES

CONCRETE in footings shall be 1:6½ mix. All other concrete shall be 1:5½ mix.
REINFORCING STEEL shall be two inches clear of faced walls unless otherwise shown.
CONSTRUCTION JOINTS other than those shown will be allowed only upon permission of the Director of Highways.
WATERPROOFING, TYPE "B", 36" wide, shall be placed over all construction joints below low water level.
Copper JOINTS, 24 oz. per sq. ft. in strips 9" wide shall be placed 6" from the face of wall in all construction joints. All joints in the copper strip shall be riveted and soldered. Special care shall be taken while placing concrete around copper joints in order not to displace them from their correct position.
PRESSURE on footing for maximum loading conditions equals 4600 lbs. per sq. ft.
COFFERDAMS for each pier shall be started at about the same time, and the schedule of progress shall be such that similar operations on each pier shall be done as nearly simultaneously as possible.



NOTE - Loop P7a bars snugly around fender columns

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

PIER DETAILS
BR. N^o OT-2-208
OVER PORTAGE RIVER

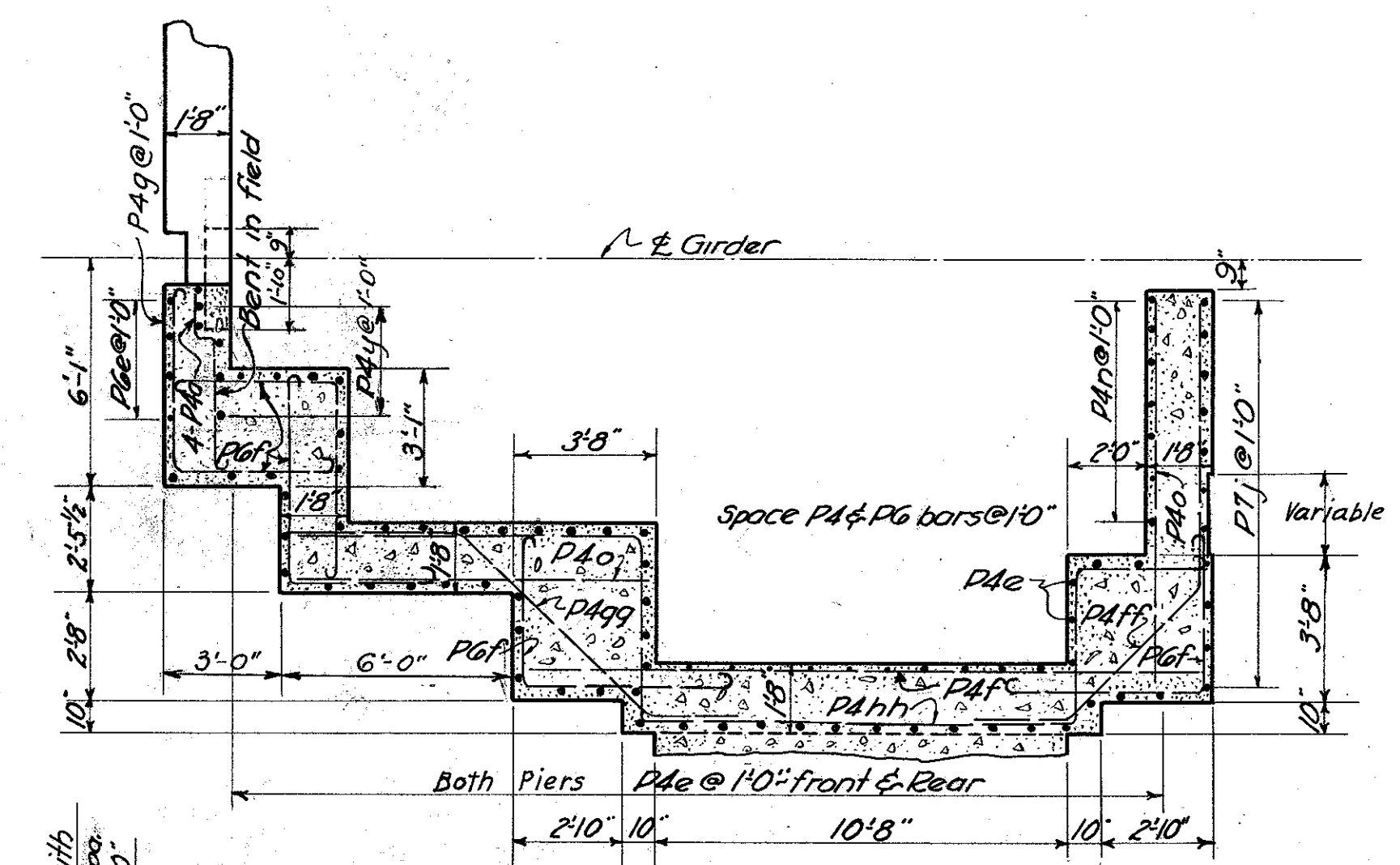
S.H. 279 OTTAWA COUNTY
SEC. PORT CLINTON BR. STA. 228+66.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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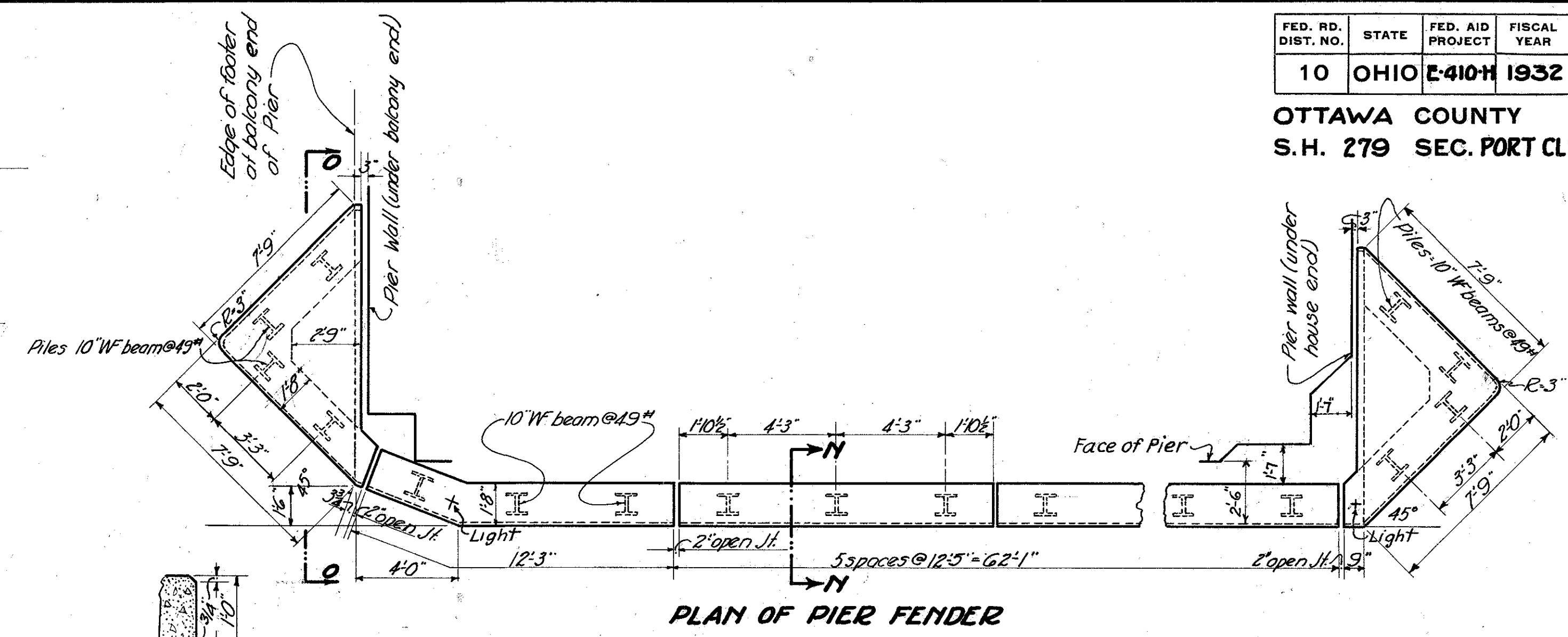
MICROFILMED
JUN 24 1983

MICROFILMED
JUN 24 1983

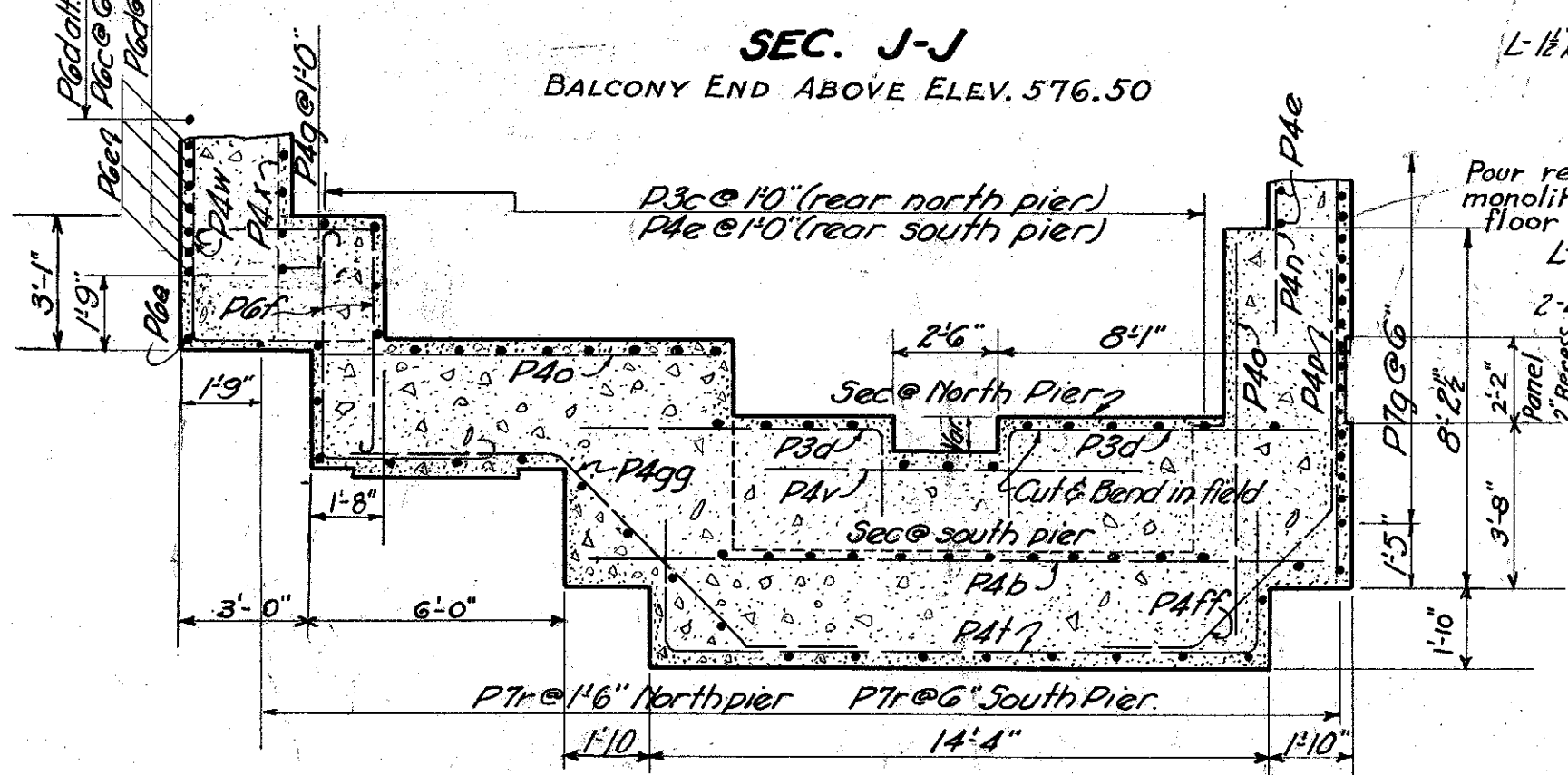
OTTAWA COUNTY
S.H. 279 SEC. PORT CLINTON BR.



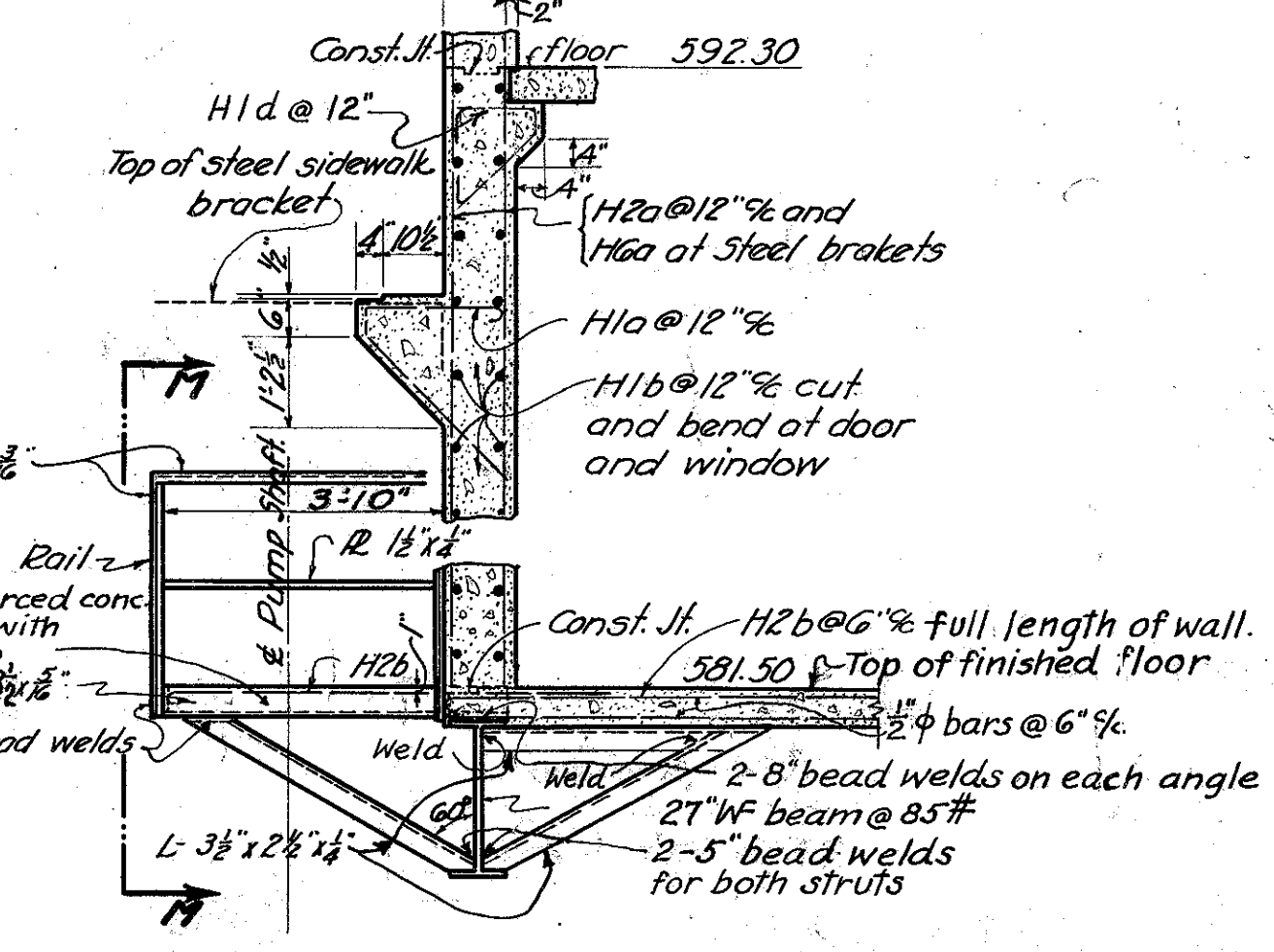
PLAN OF SIDEWALK SLAB
At balcony end of pier
Railing not shown.



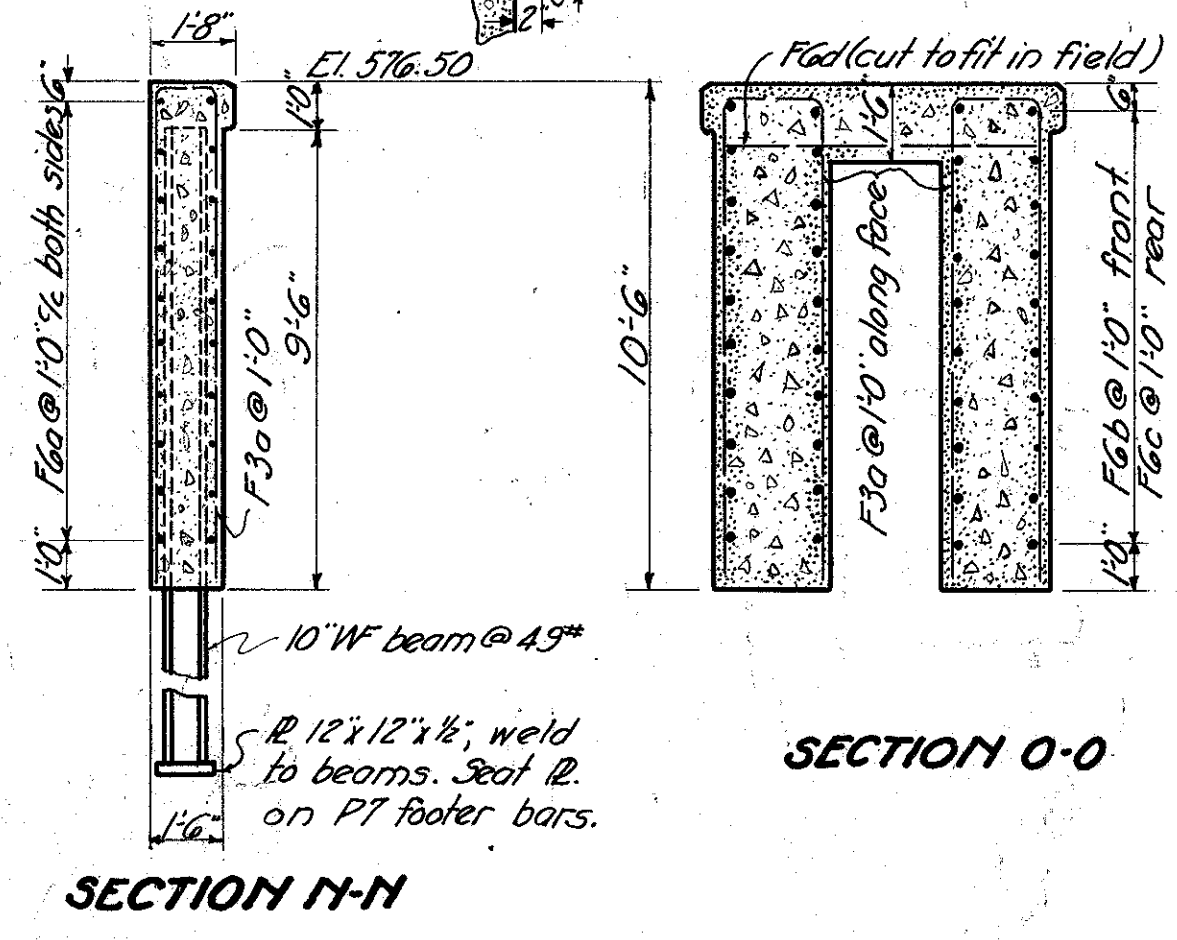
PLAN OF PIER FENDER



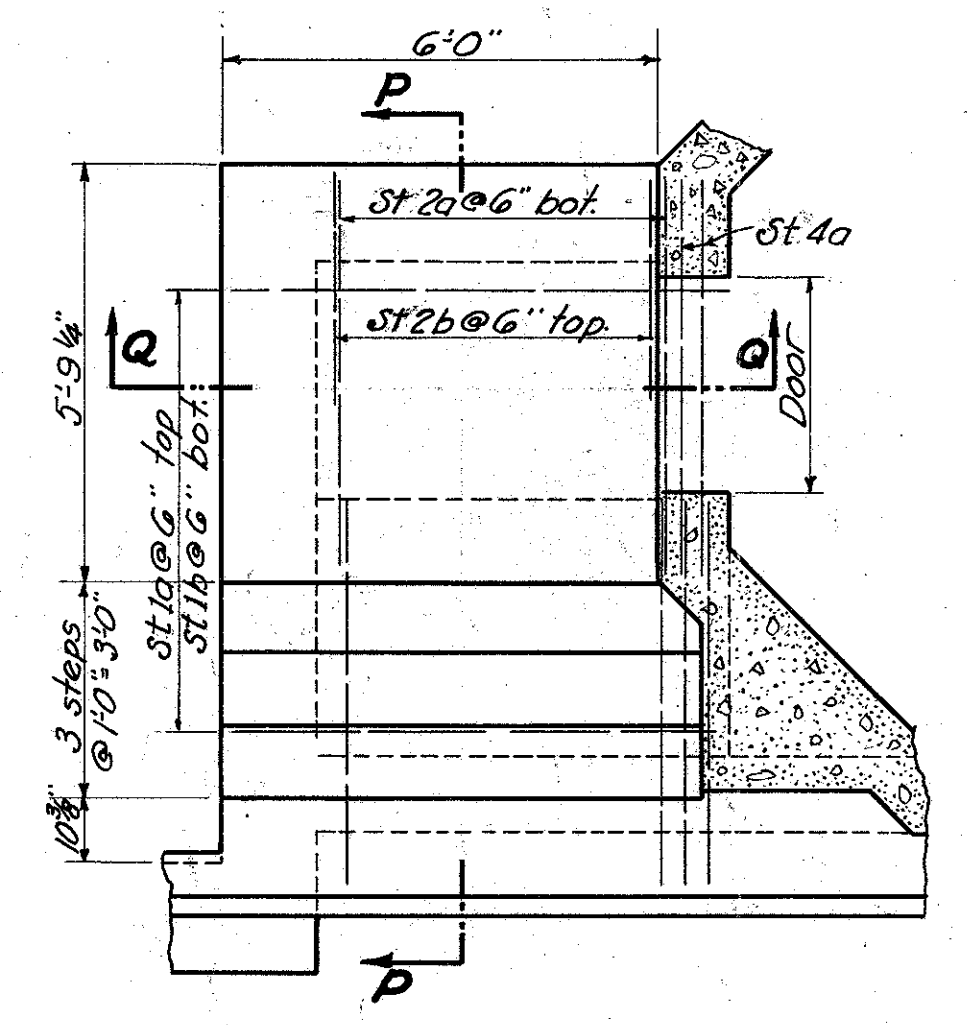
SEC. J-J
BALCONY END ABOVE ELEV. 576.50



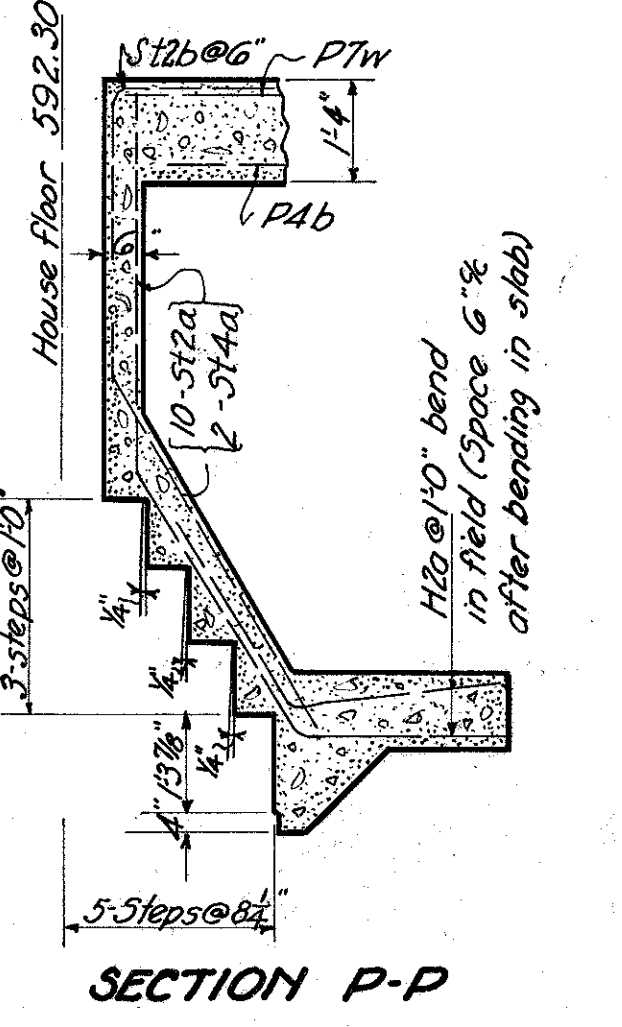
SECTION OF HOUSE WALL
Near Pump Platform.



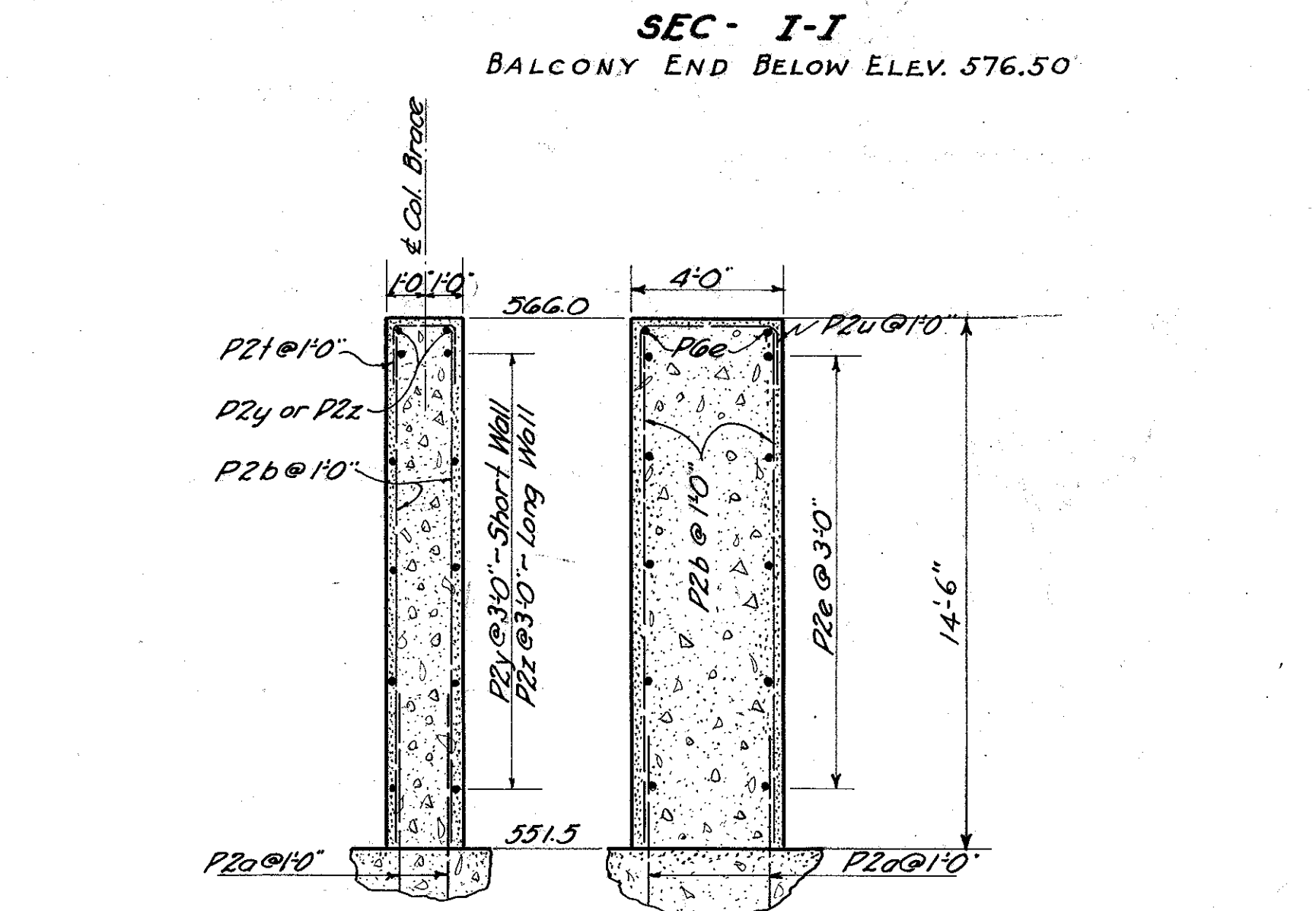
SECTION O-O
SECTION N-N



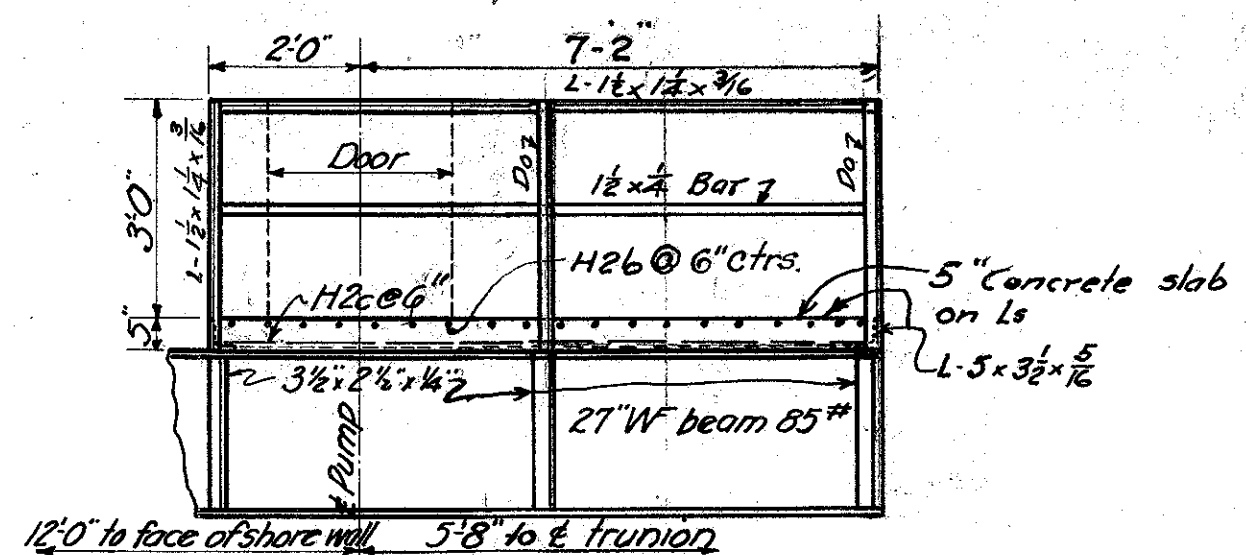
PLAN OF STEPS AT HOUSE
Railing not shown



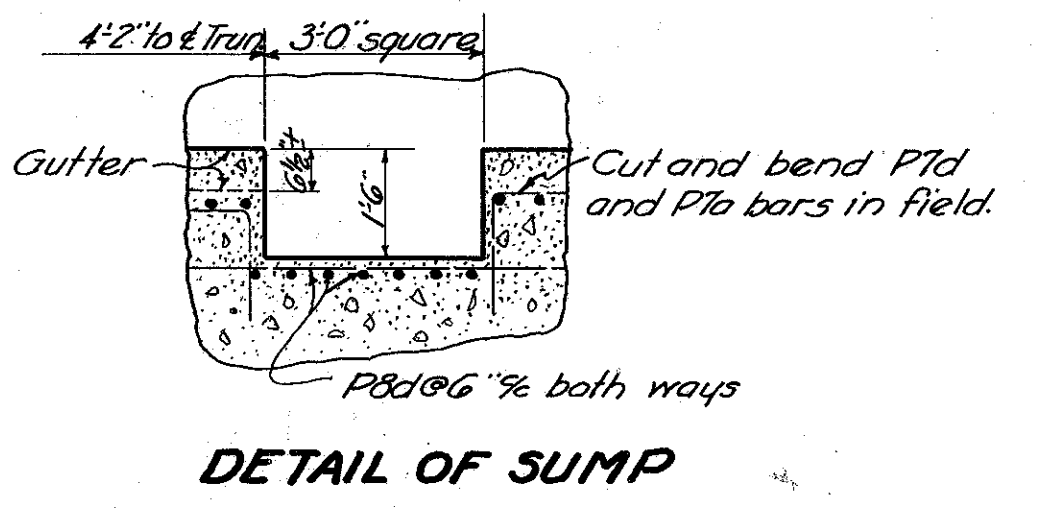
SECTION P-P



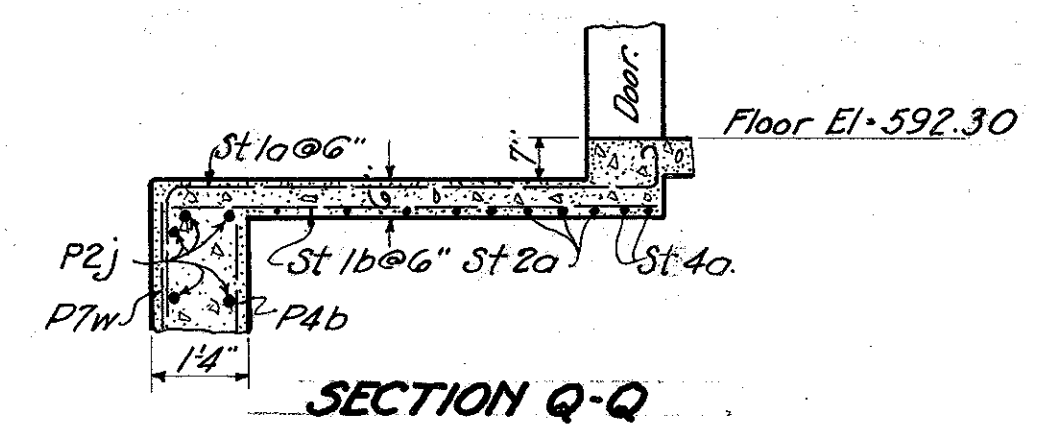
SEC. I-I
BALCONY END BELOW ELEV. 576.50



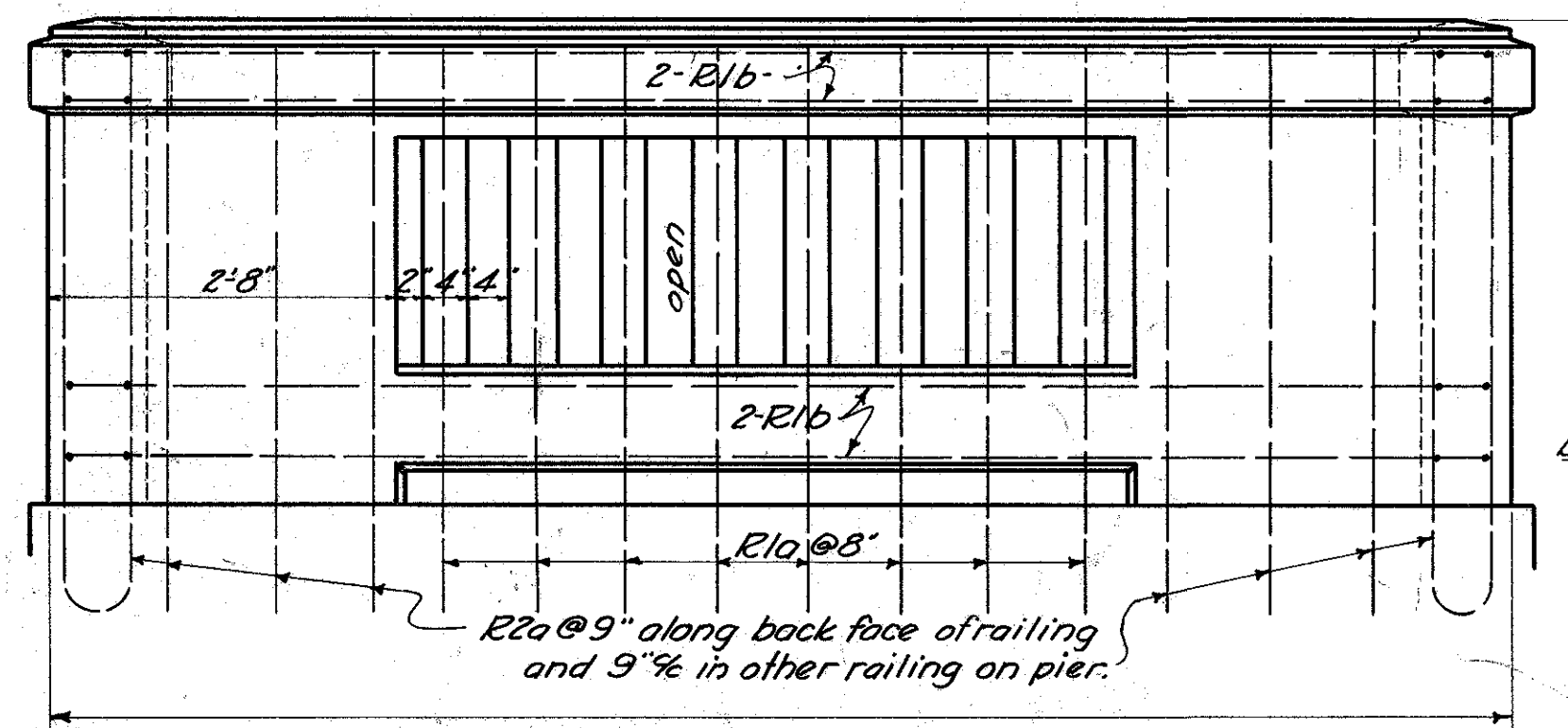
VIEW M-M
of Pump Bracket.



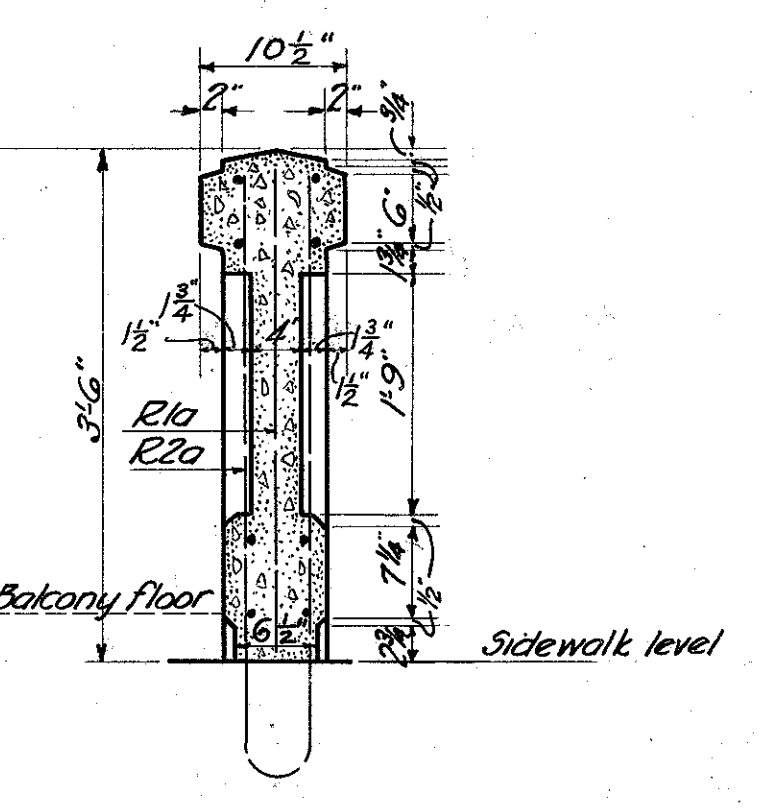
DETAIL OF SUMP



SECTION Q-Q



ELEVATION OF BALCONY RAIL
Cut & bend R1b bars in field to fit various rails.



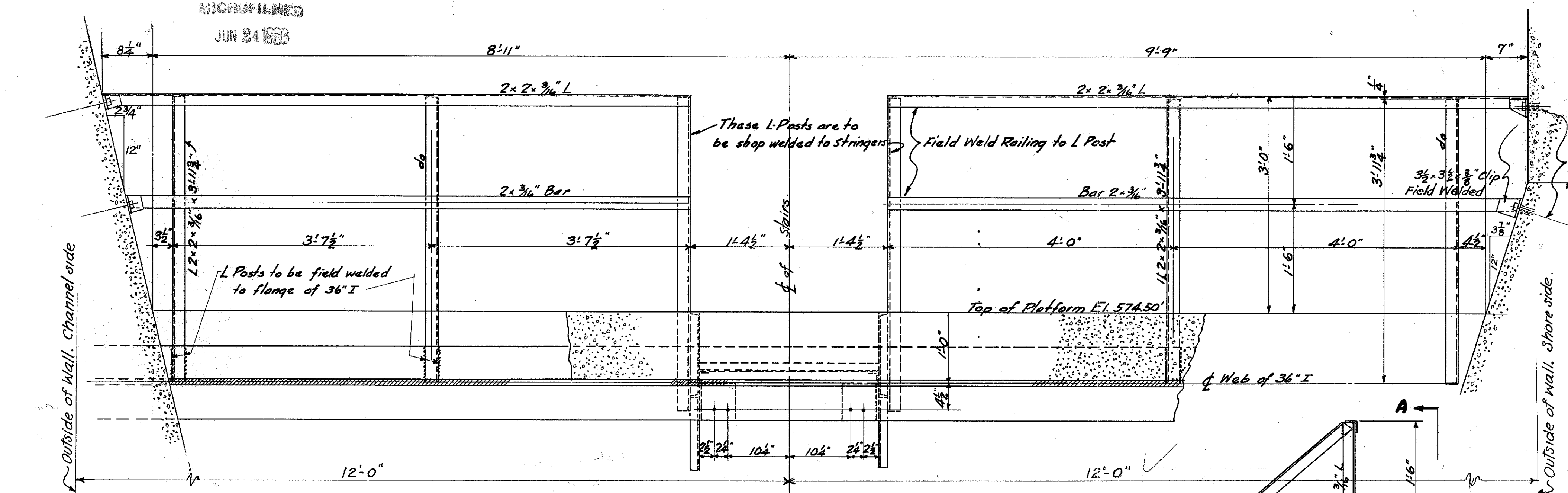
SECTION OF PIER RAIL
Spinalles on balcony only

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					
PIER DETAILS					
BRIDGE No. 07-2-208					
OVER PORTAGE RIVER					
S.H. 279		OTTAWA COUNTY		STA. 228+66.00	
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
J.H.H.	J.H.H.	J.H.H.	J.H.H.	J.H.H.	12-14-32
REVISED 12-14-32					

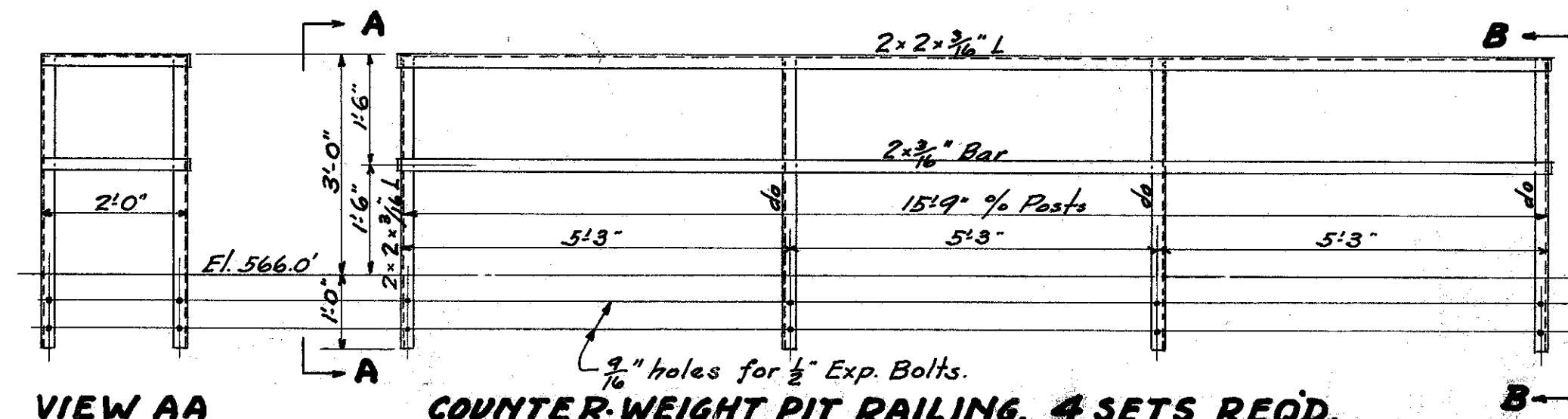
NOT REPRODUCED
JUN 24 1933

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	24 33
10	OHIO	E-410-H	1932	

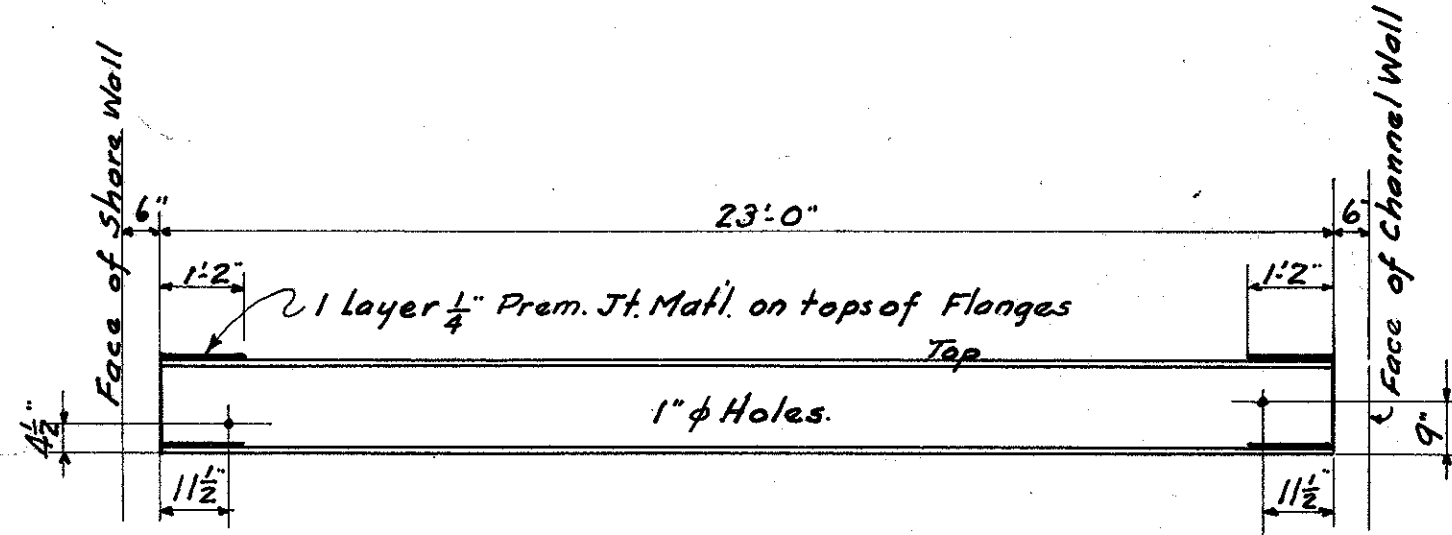
OTTAWA COUNTY
S.H. 279 SEC. PORT CLINTON BR



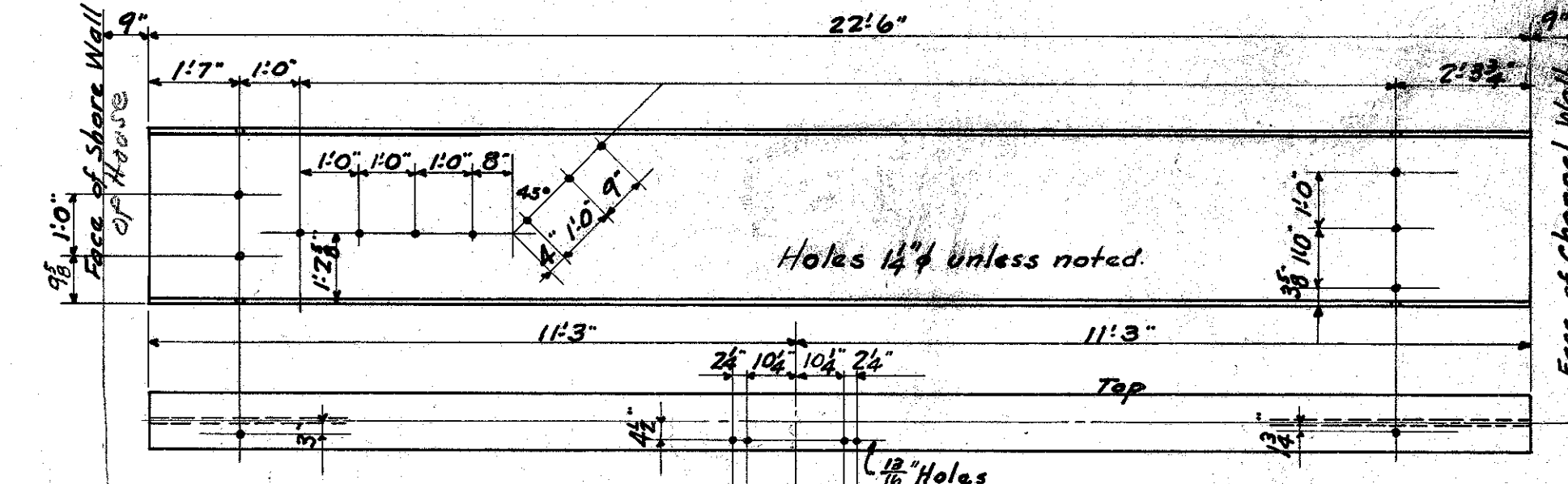
SECTION AA
2 COMPLETE SETS OF RAILING REQ'D.



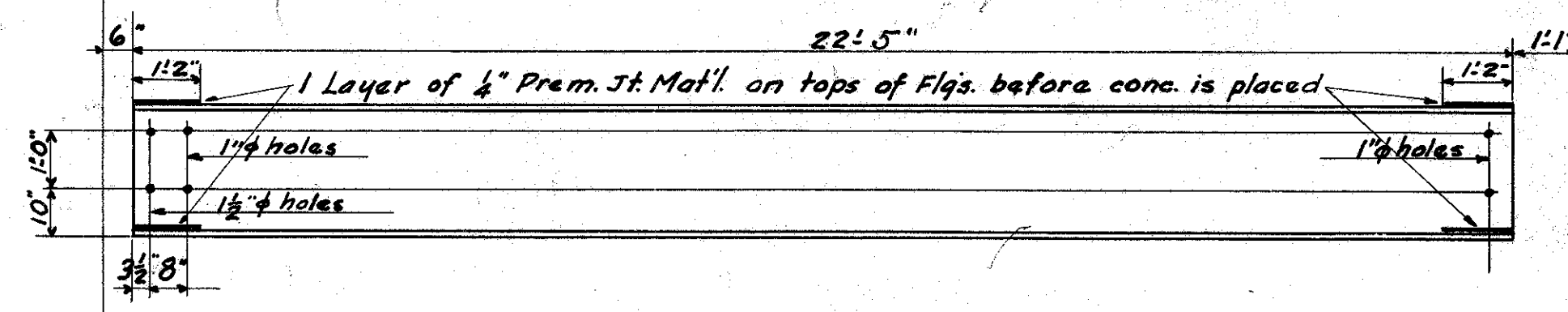
VIEW AA
VIEW BB OPP HAND
COUNTER-WEIGHT PIT RAILING. 4 SETS REQ'D.



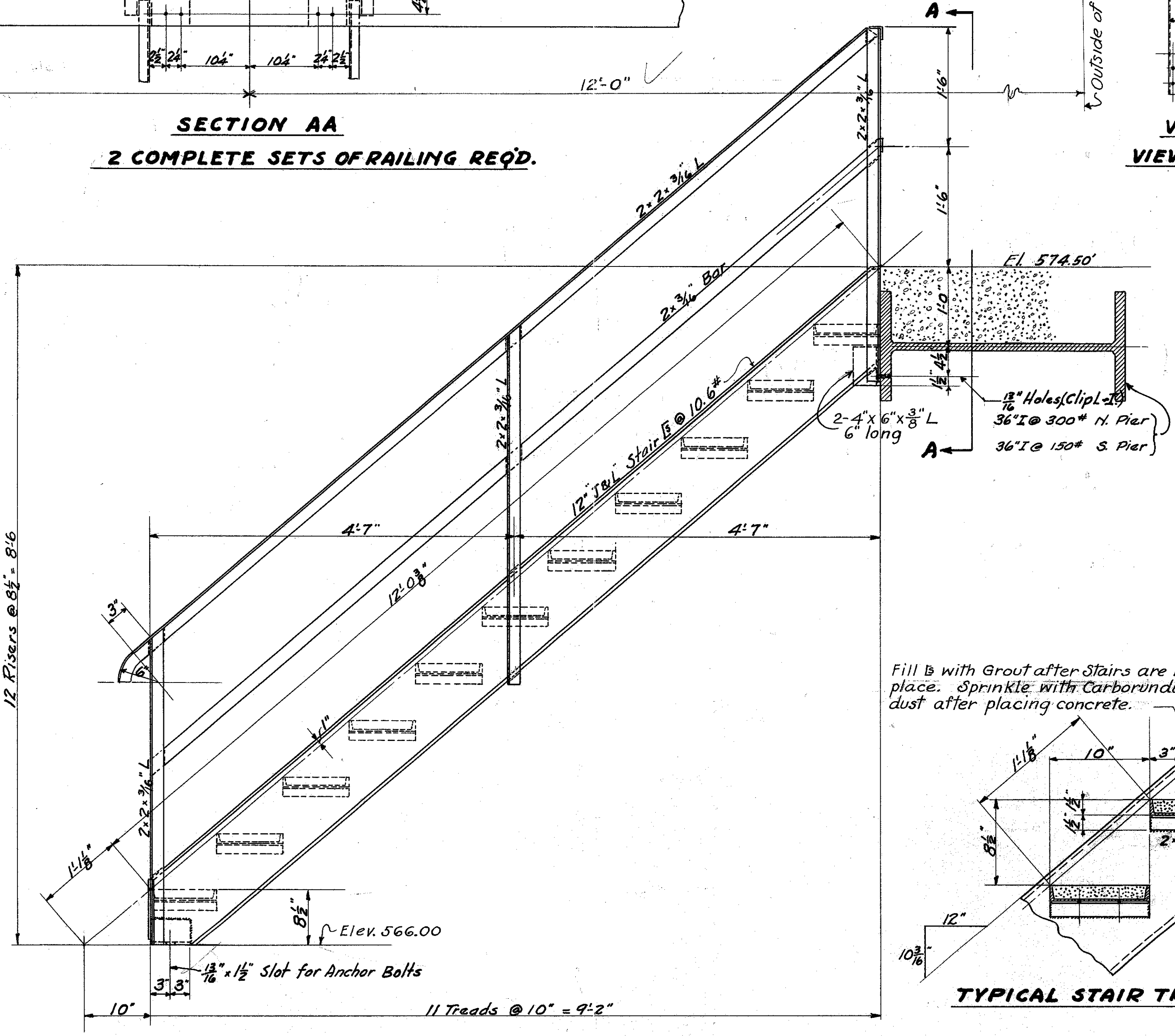
2 BEAMS REQ'D. 15 W @ 35#



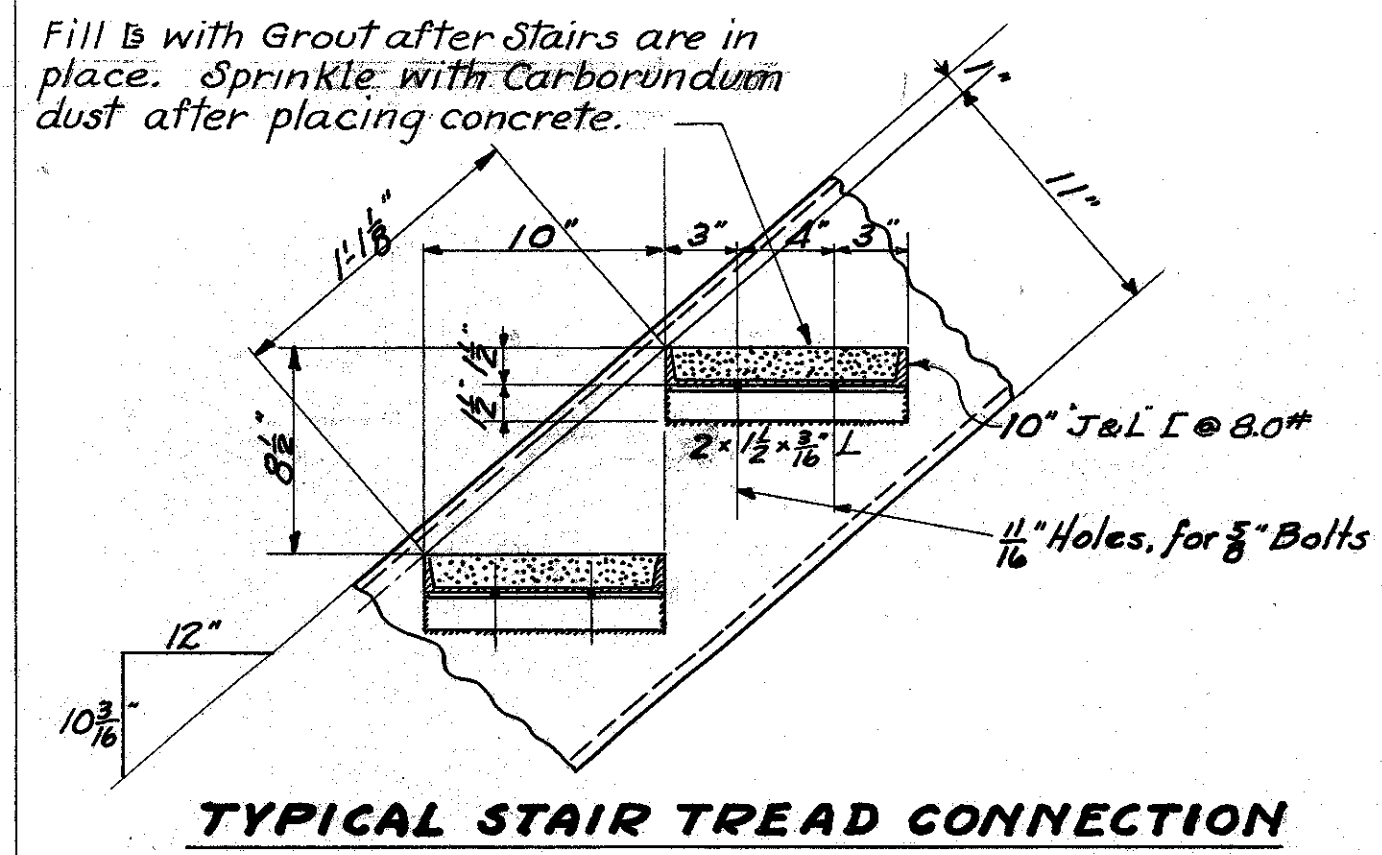
ONE BEAM REQ'D 36 W @ 300# ONE BEAM REQ'D. 36 @ 150#



2 BEAMS REQ'D. 27 W @ 85#



ELEVATION OF STAIRS
2 SETS REQUIRED

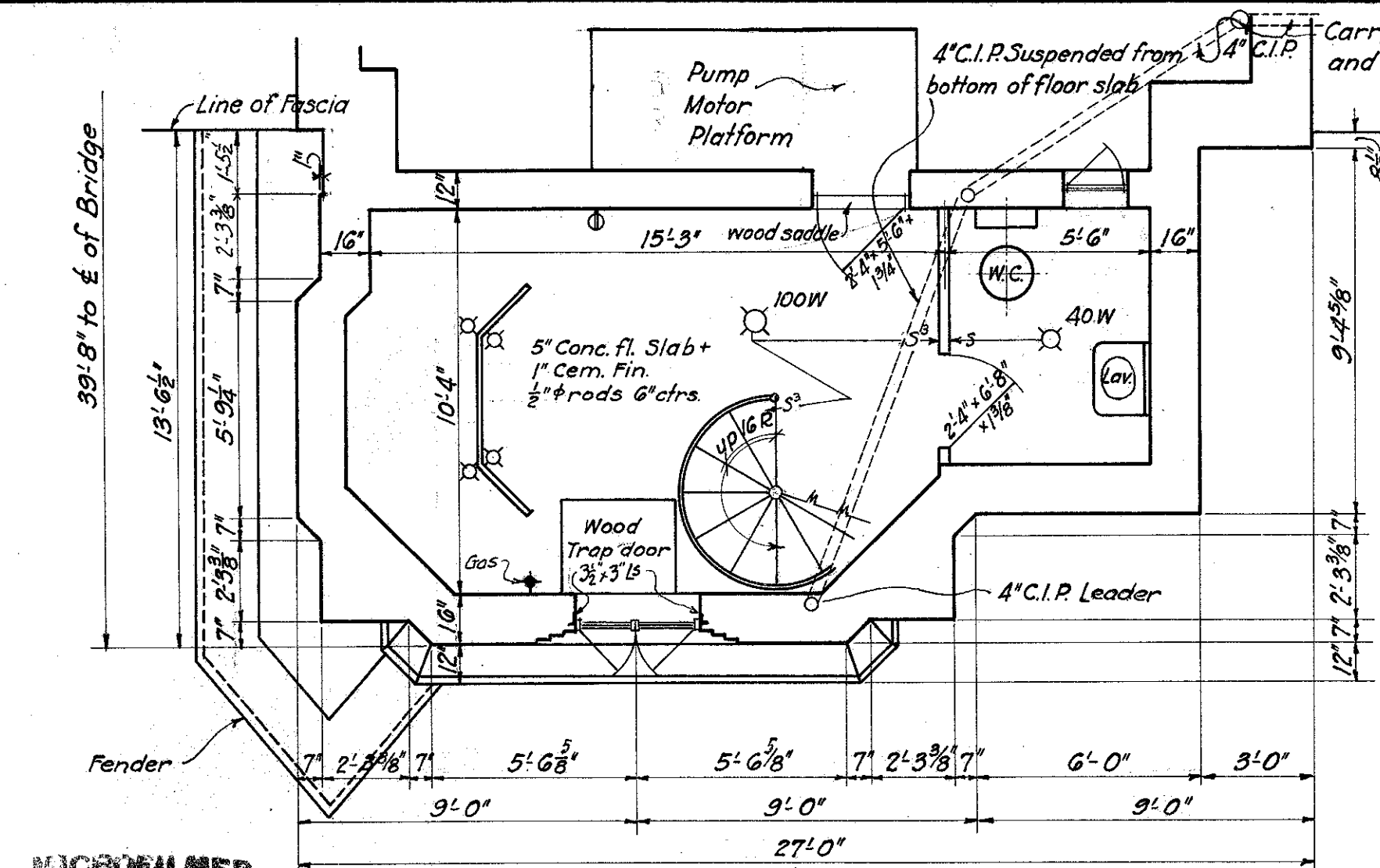


TYPICAL STAIR TREAD CONNECTION

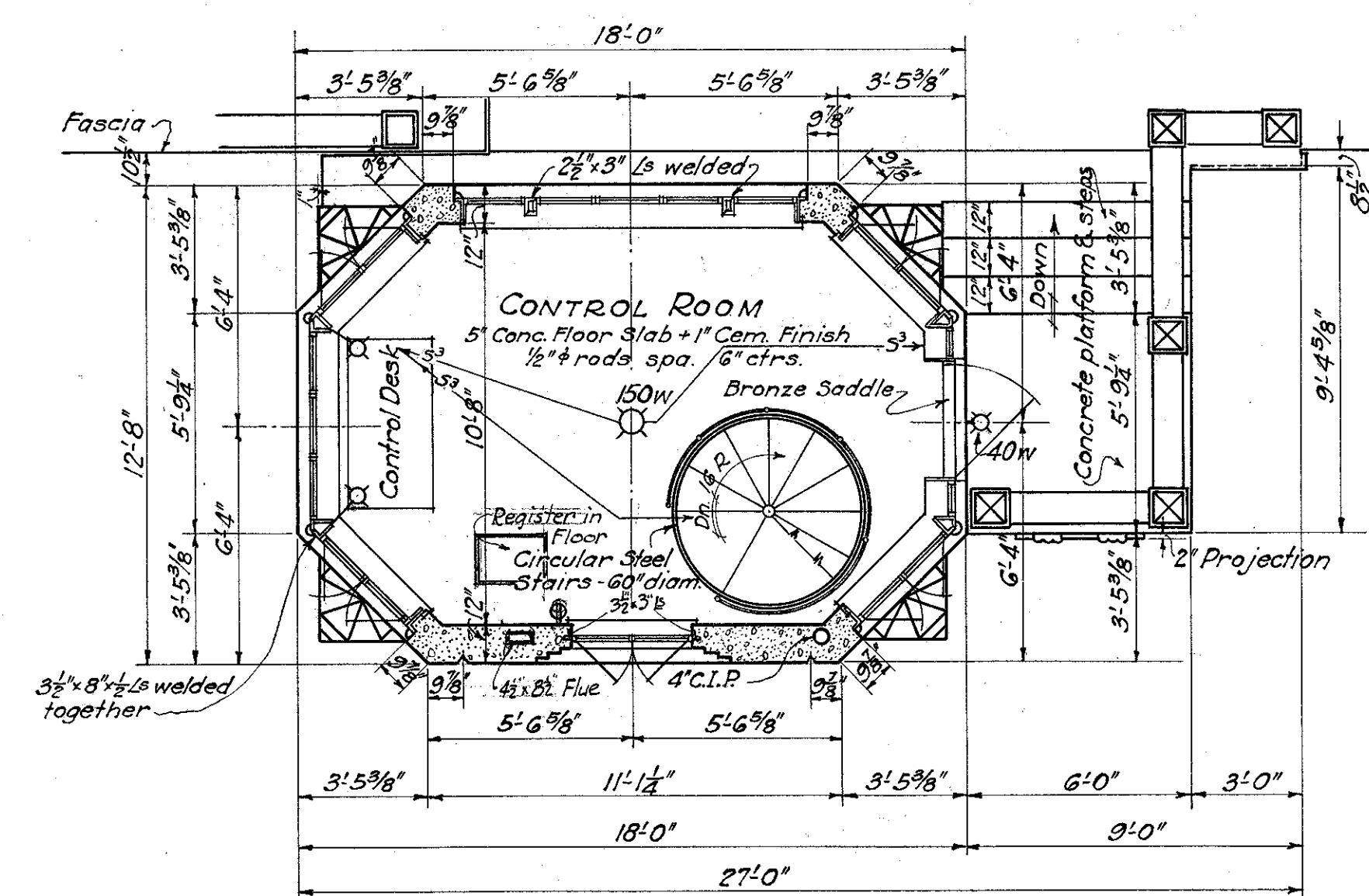
Note: All connections for stairs and railing shall be electric welded unless otherwise shown or noted.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					
DETAIL OF STAIRS, RAILING & BEAMS					
BRIDGE NO 07-2-208					
OVER PORTAGE RIVER					
S.H. 279			OTTAWA COUNTY		
SEC. PORT CLINTON BR. STA. 228+66.00					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
H.H.B.	H.H.B.	H.H.B.	H.H.B.	H.H.B.	12-14-32
W.H.R.					10/27/32

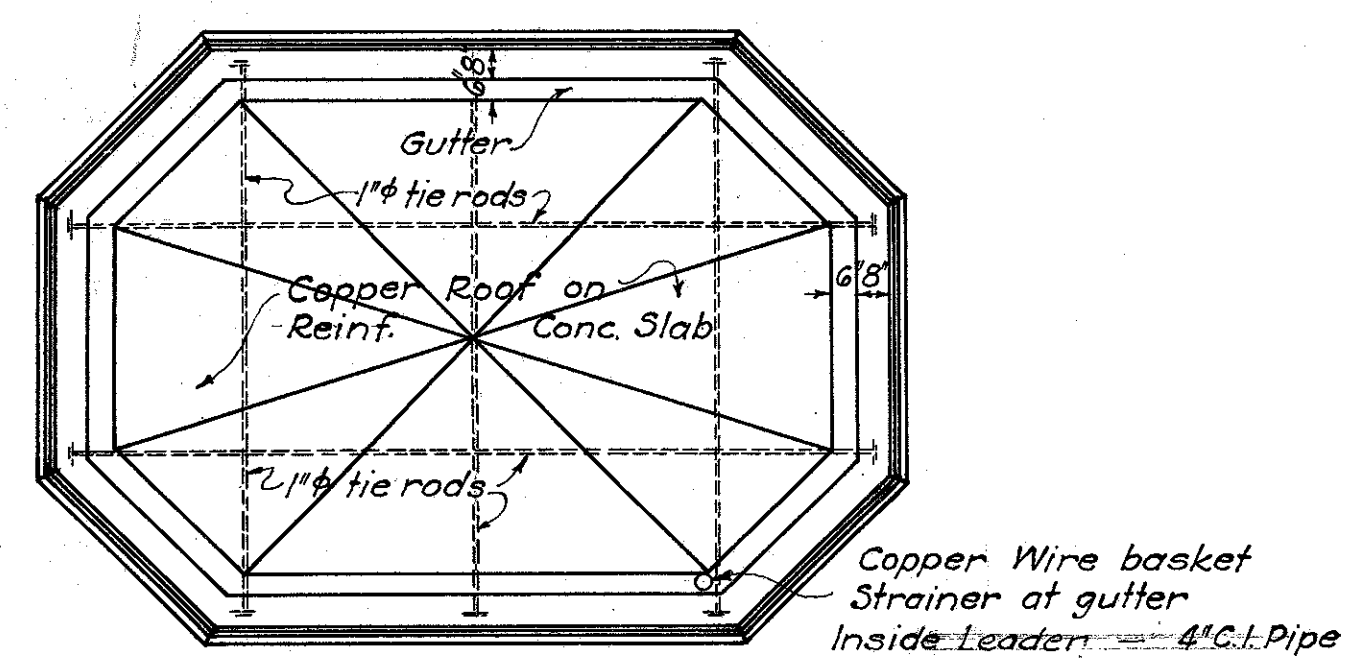
NOTES
All concrete in houses to be reinforced. Reinforcing estimated on basis of 200 pounds per cu. yd. of concrete. Forms shall be lined and all edges and corners shall be made sharp and true. Especial care shall be taken to have all openings accurate and true. Contractor shall ascertain where all pipes, wires, conduits, etc. are located in concrete walls and floor slabs and build them in accordingly.



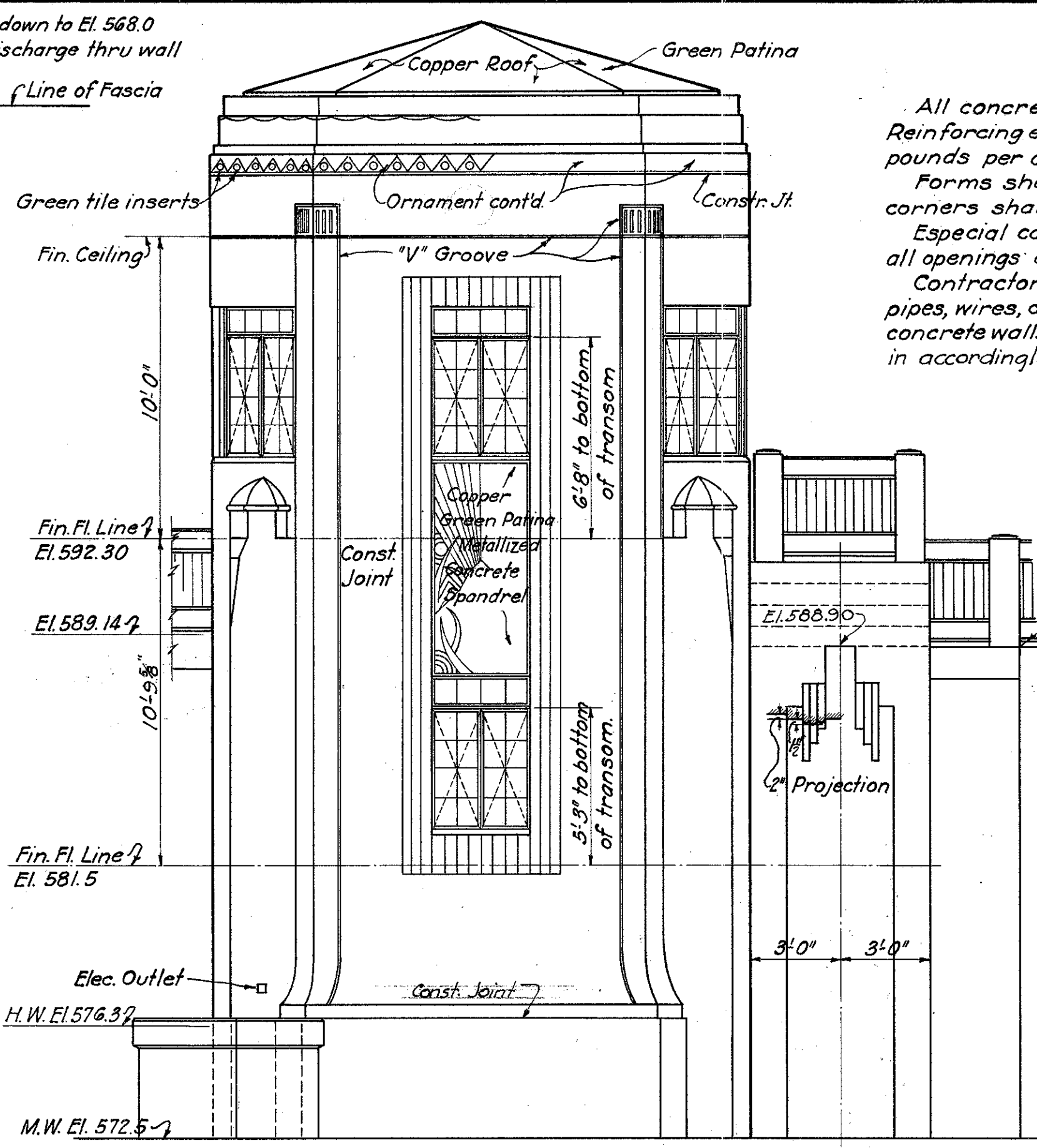
PLAN OF LOWER FLOOR



PLAN OF UPPER FLOOR



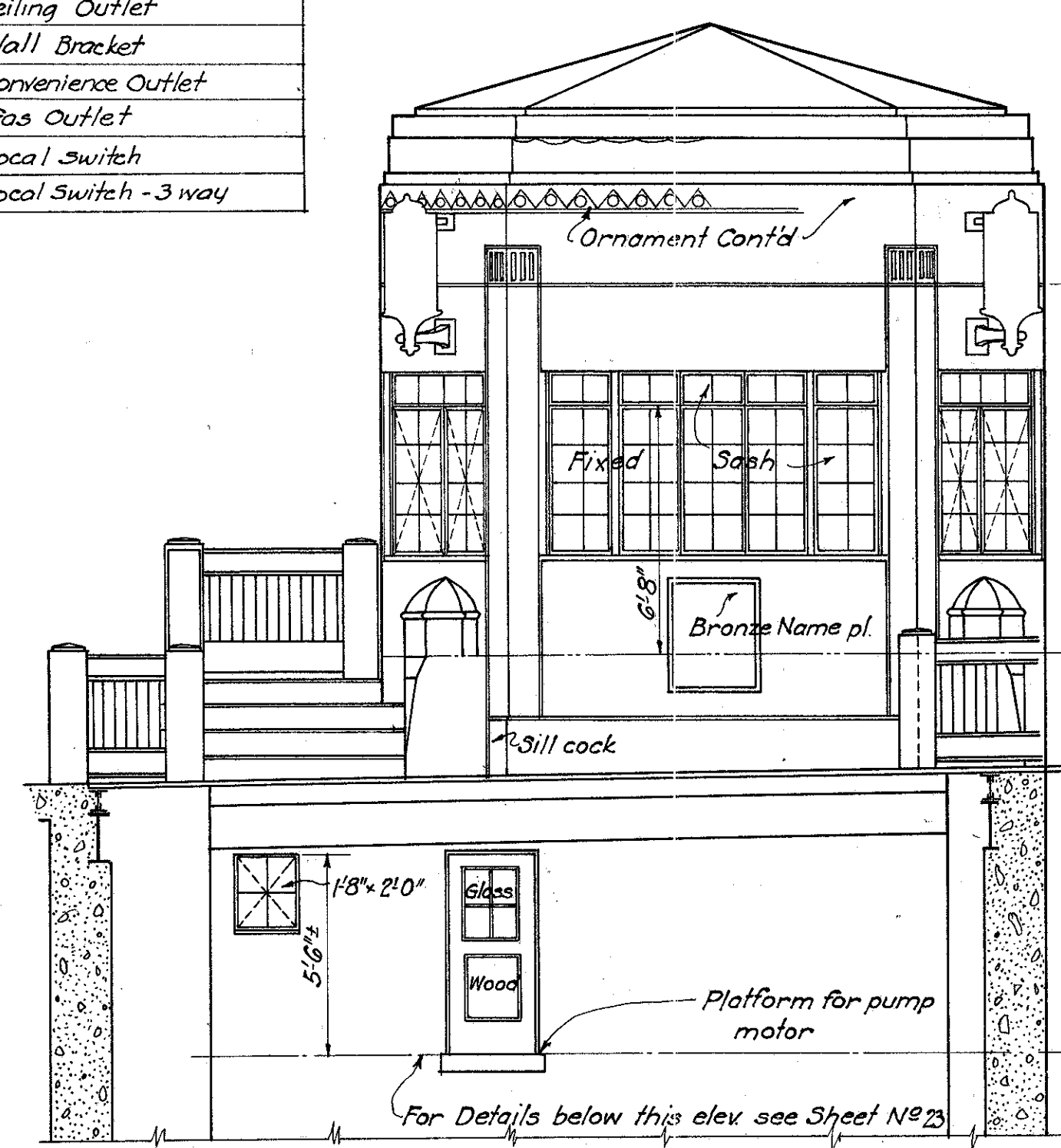
ROOF PLAN



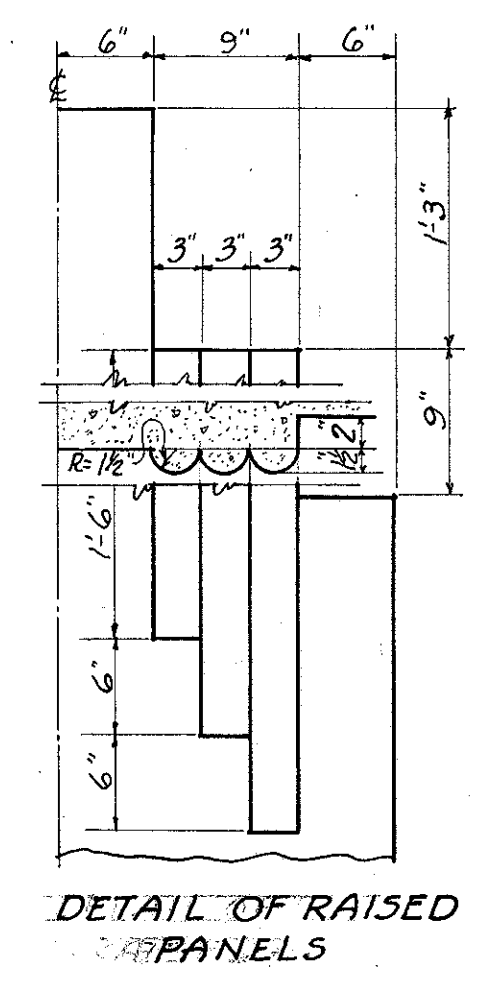
EAST ELEVATION

SYMBOLS USED ON FLOOR PLANS

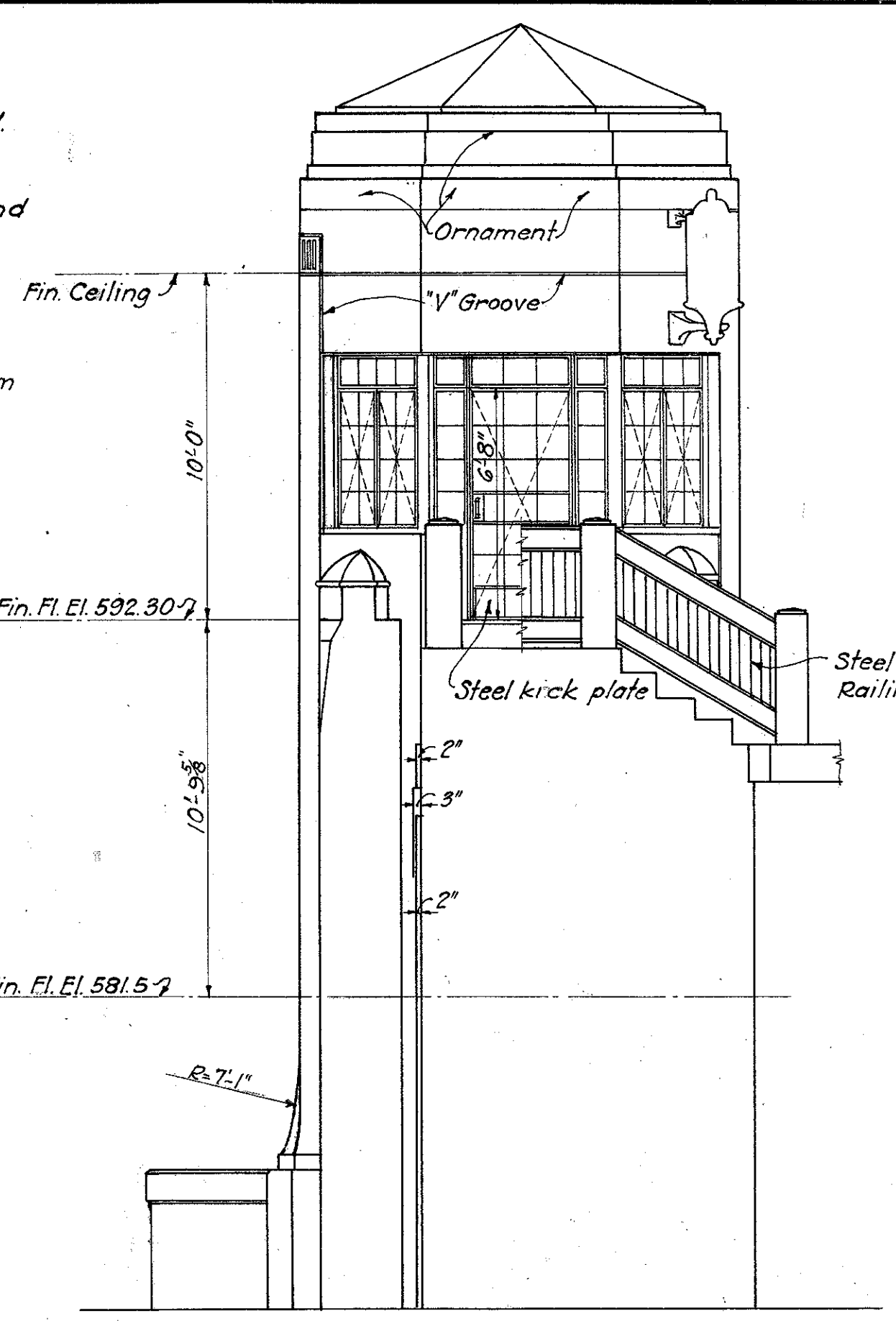
	Ceiling Outlet
	Wall Bracket
	Convenience Outlet
	Gas Outlet
	Local Switch
	Local Switch - 3 way



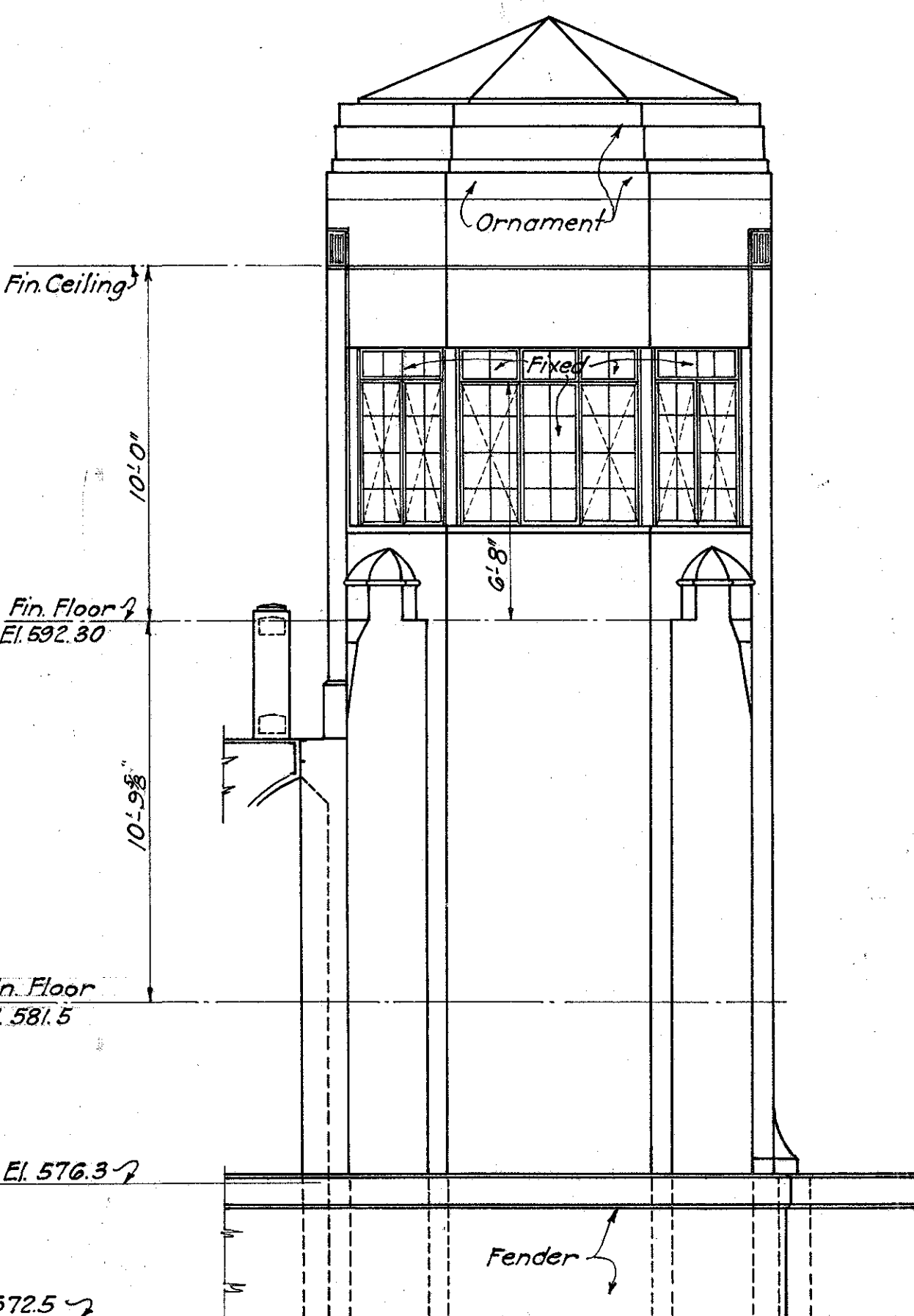
WEST ELEVATION



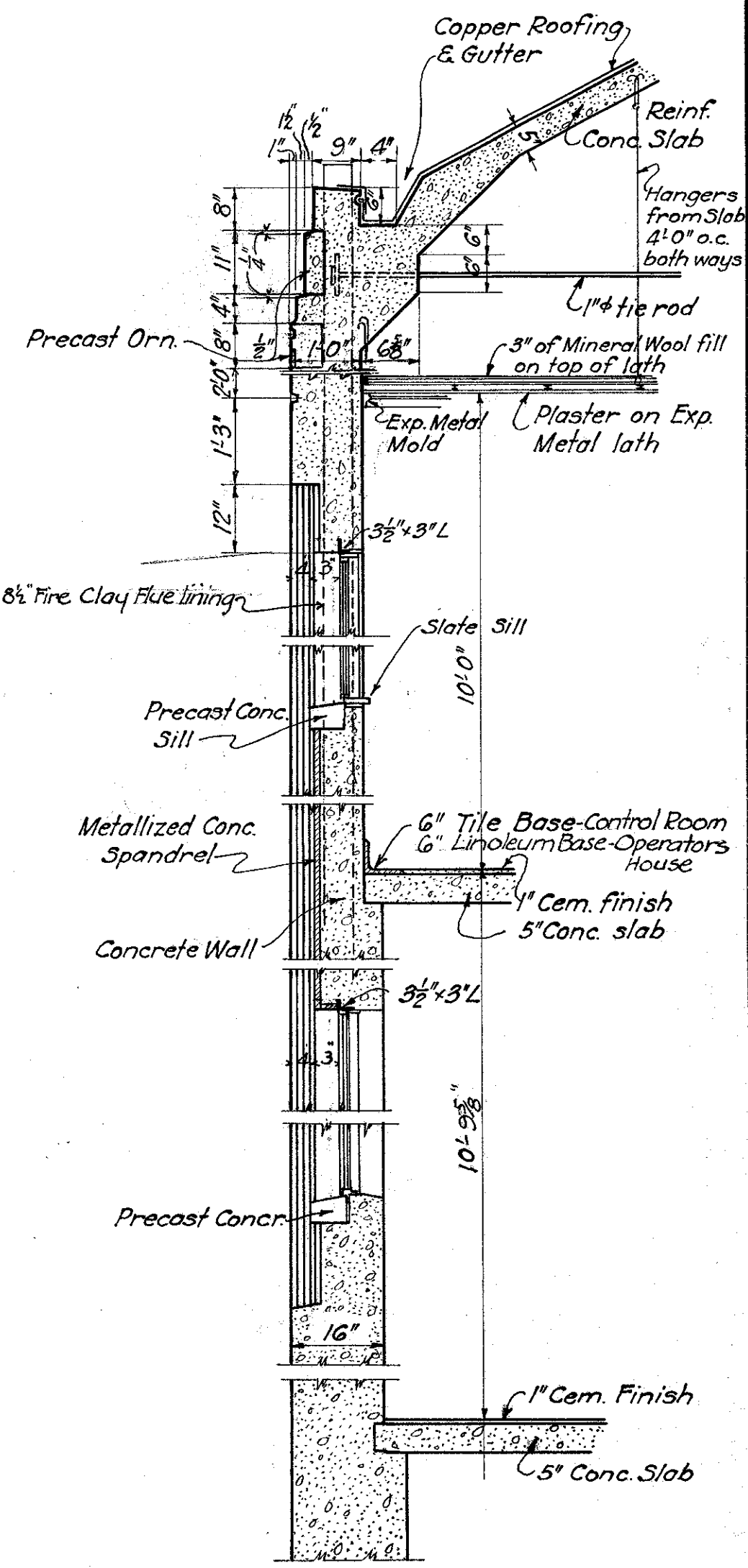
DETAIL OF RAISED PANELS



NORTH ELEVATION



SOUTH ELEVATION



WALL SECTION

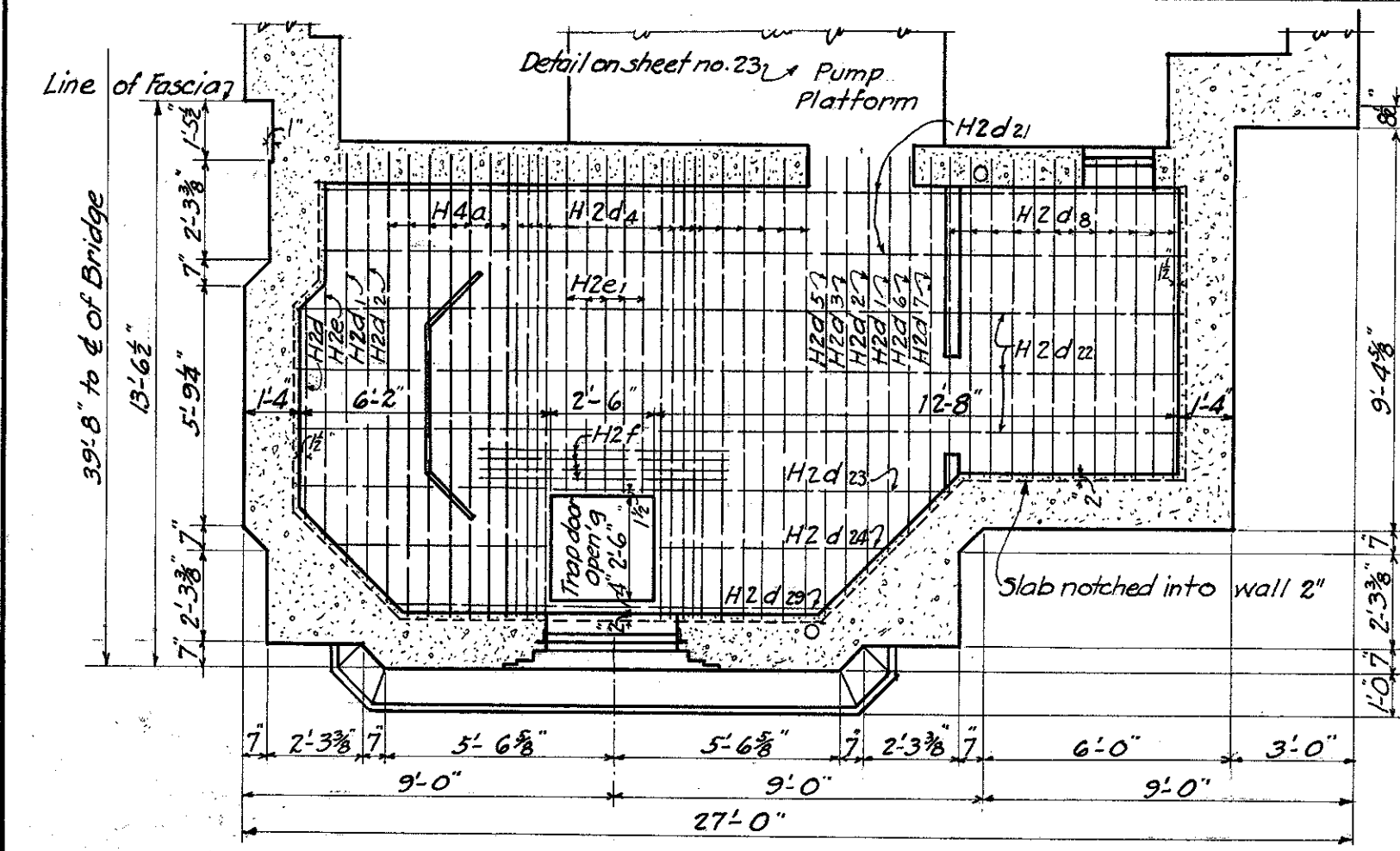
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DETAILS OF CONTROL HOUSE
BR. NO OT-2-208
OVER PORTAGE RIVER

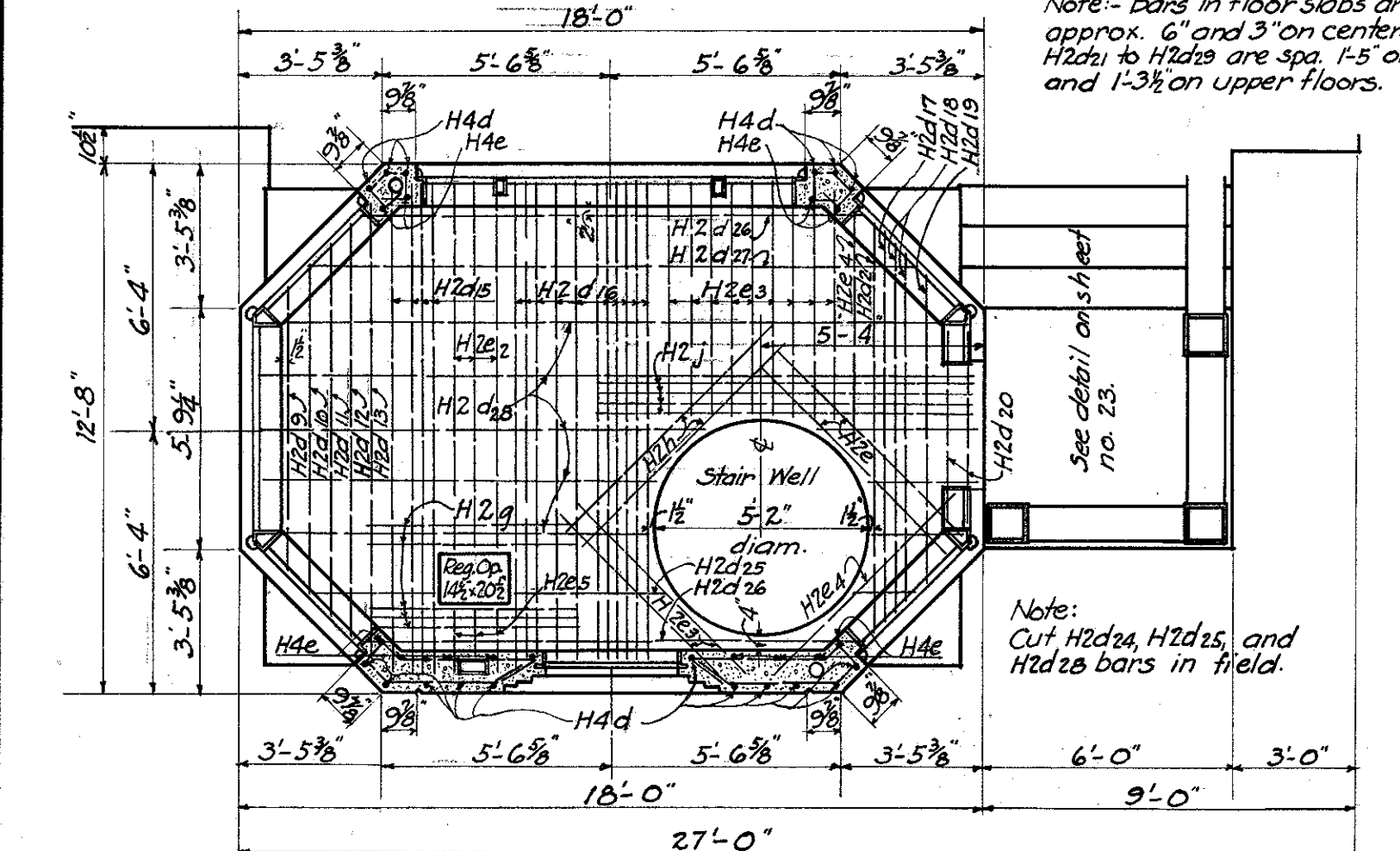
S.H. 279 OTTAWA COUNTY
SEC. PORT CLINTON BR. STA. 228+66.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.H.B.	J.P.P.	J.P.P.	J.P.P.	M.C.H.	11/29/32	12-14-32

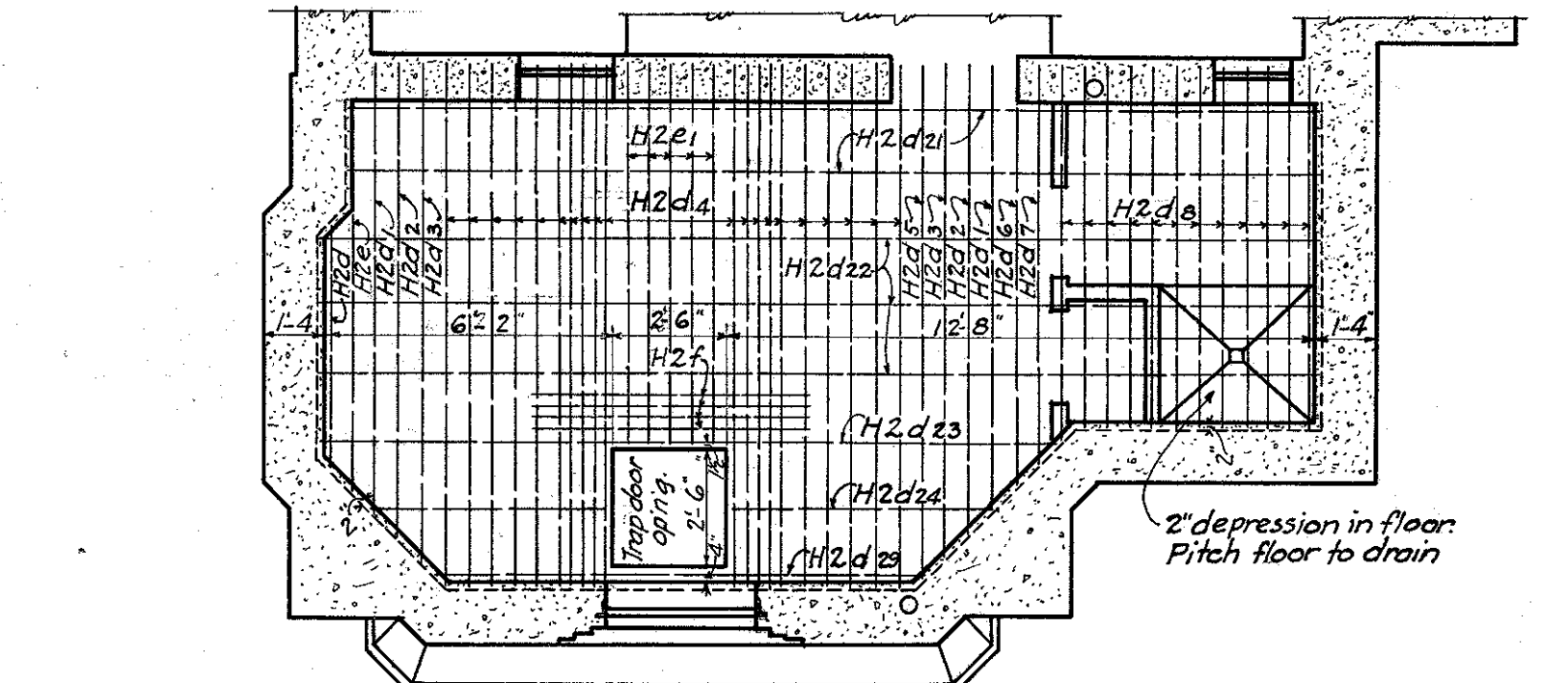
MICROFILMED
JUN 24 1983



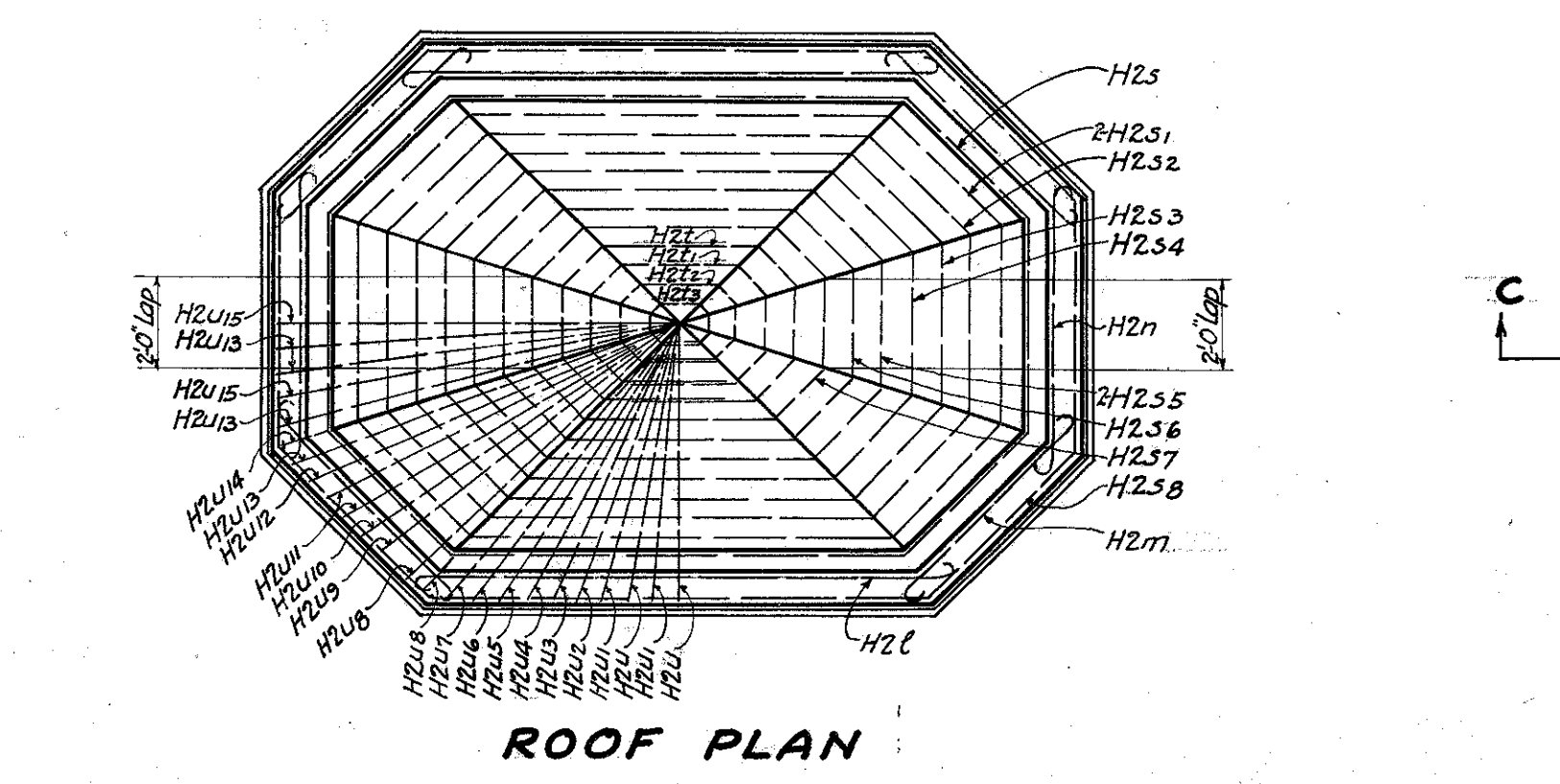
PLAN OF LOWER FLOOR OF CONTROL HOUSE
For reinforcing steel in walls see detail on sheet number 22.



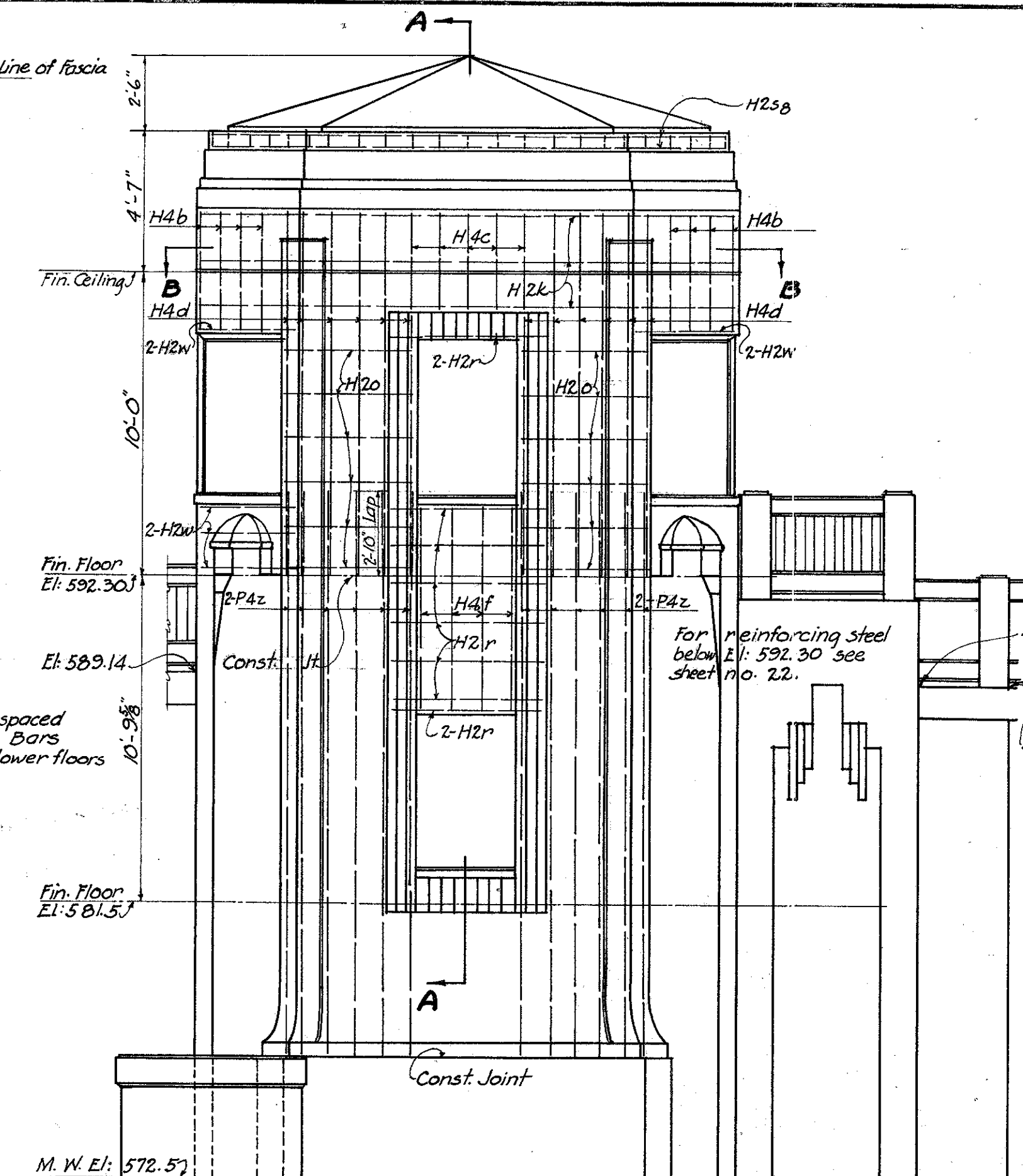
PLAN OF UPPER FLOOR OF CONTROL HOUSE
Note: Plan of Upper Floor of Operator's House is the same except window on sidewalk face; and Register opening is on opposite side.



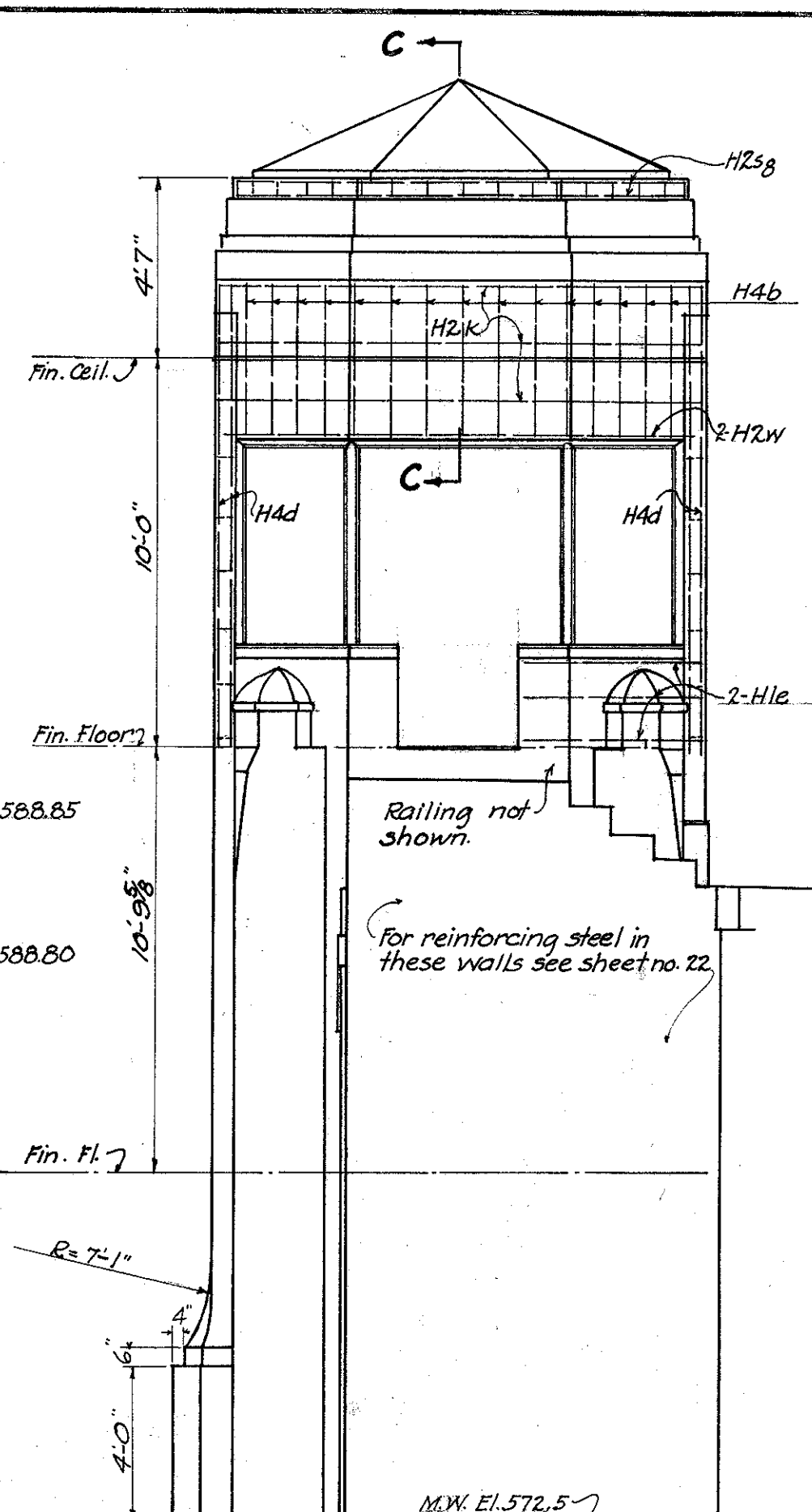
PLAN OF LOWER FLOOR OF OPERATORS HOUSE



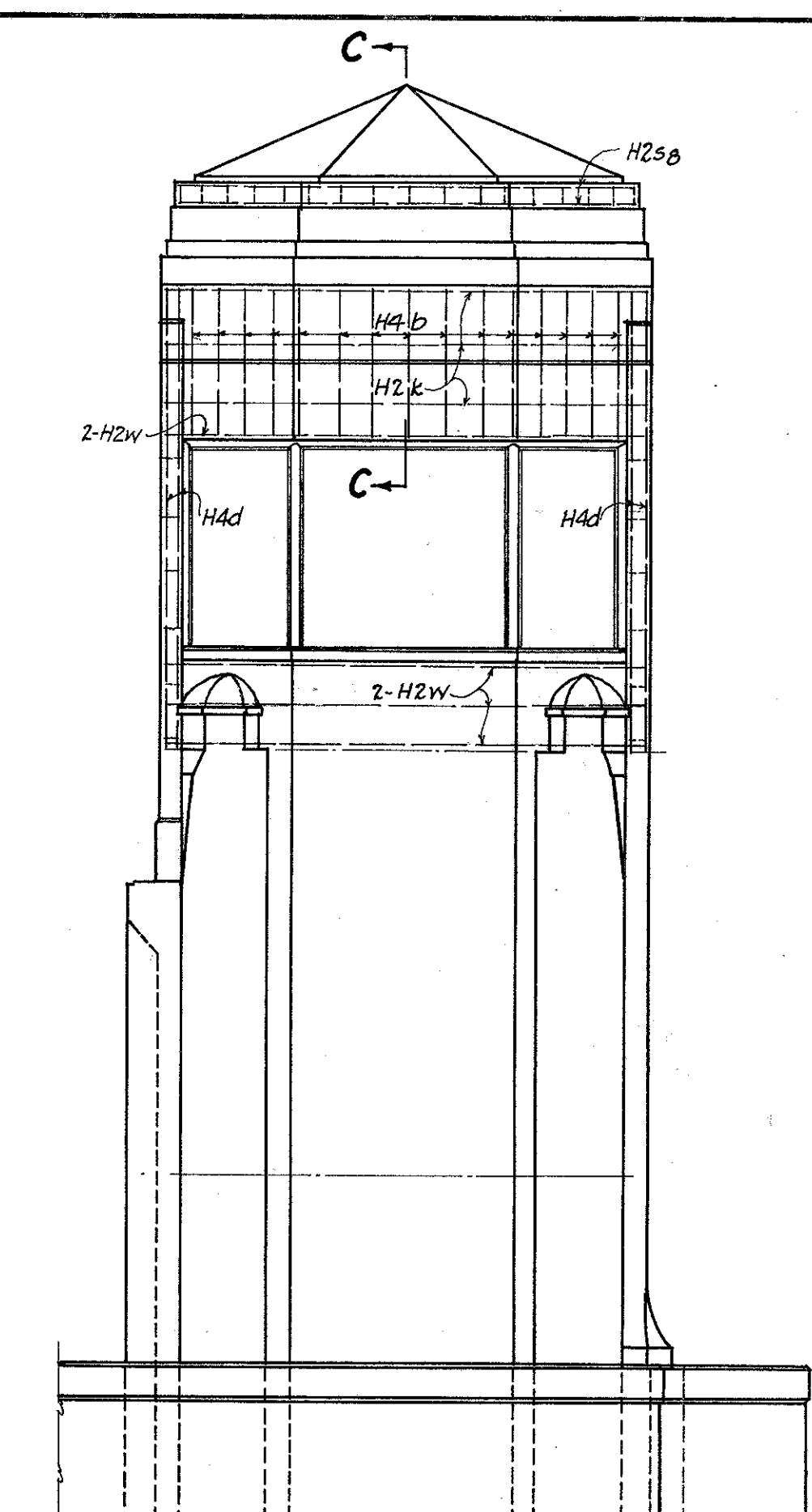
ROOF PLAN



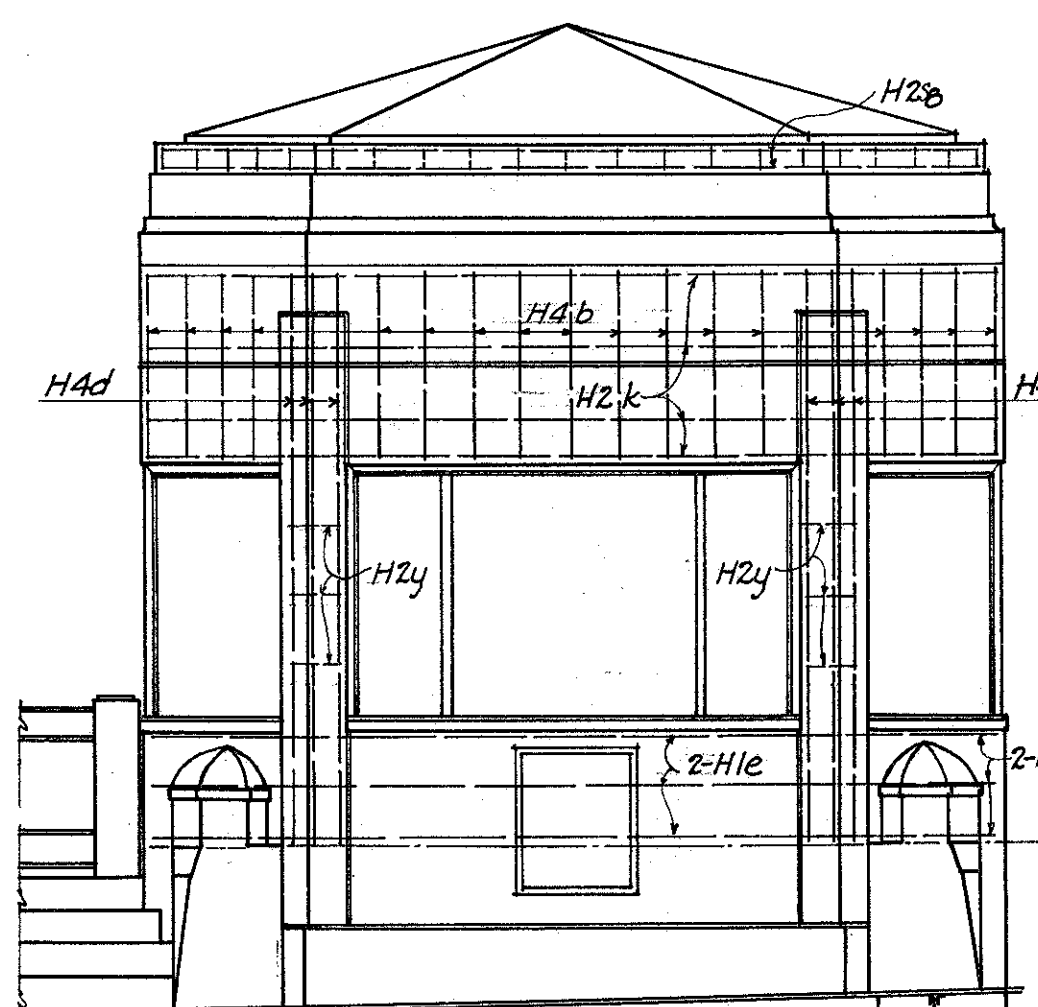
EAST ELEVATION OF CONTROL HOUSE
West Elevation of Operator's House is the same.



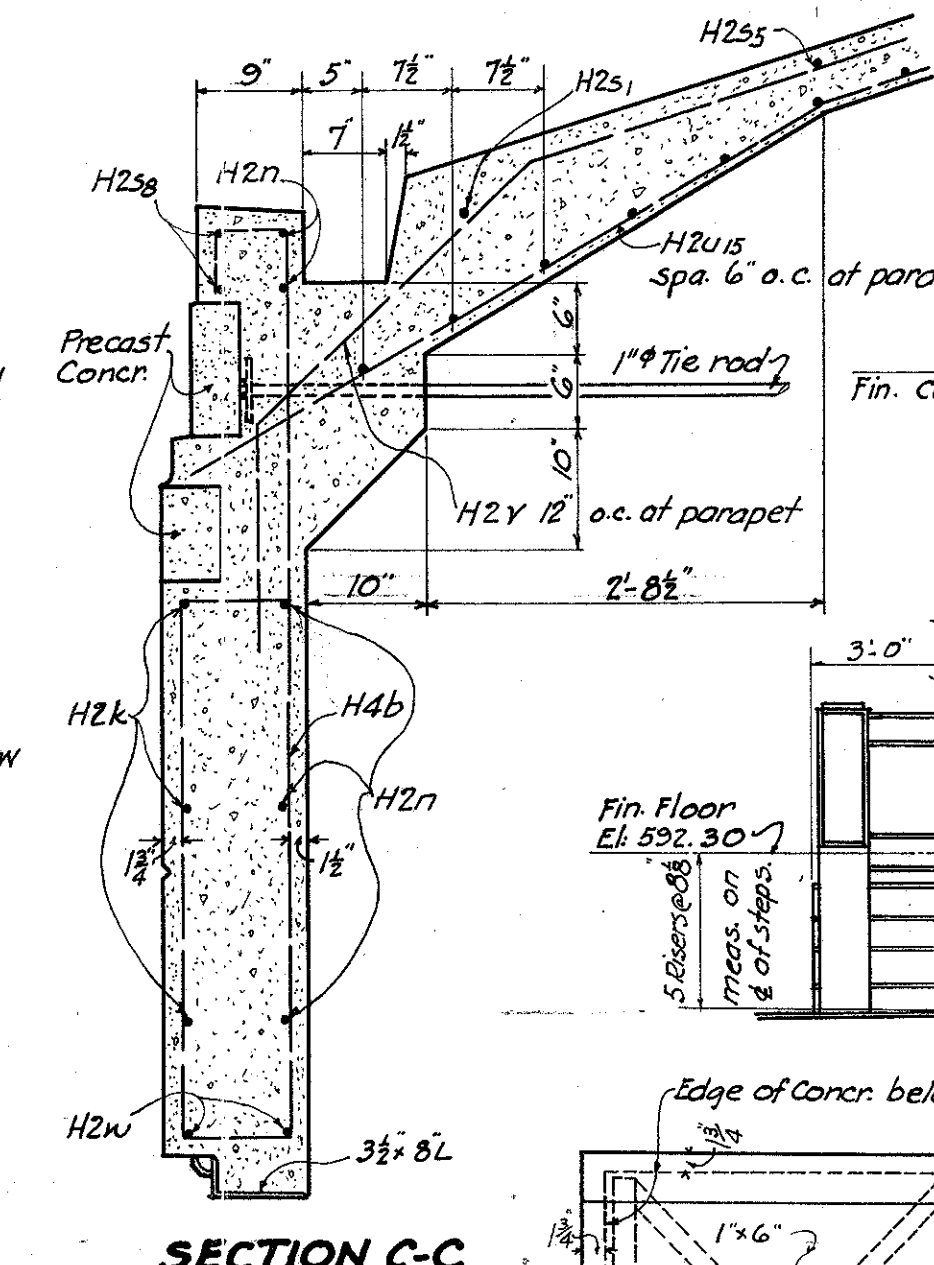
NORTH ELEVATION OF CONTROL HOUSE
South Elev. of Operator's House is the same.



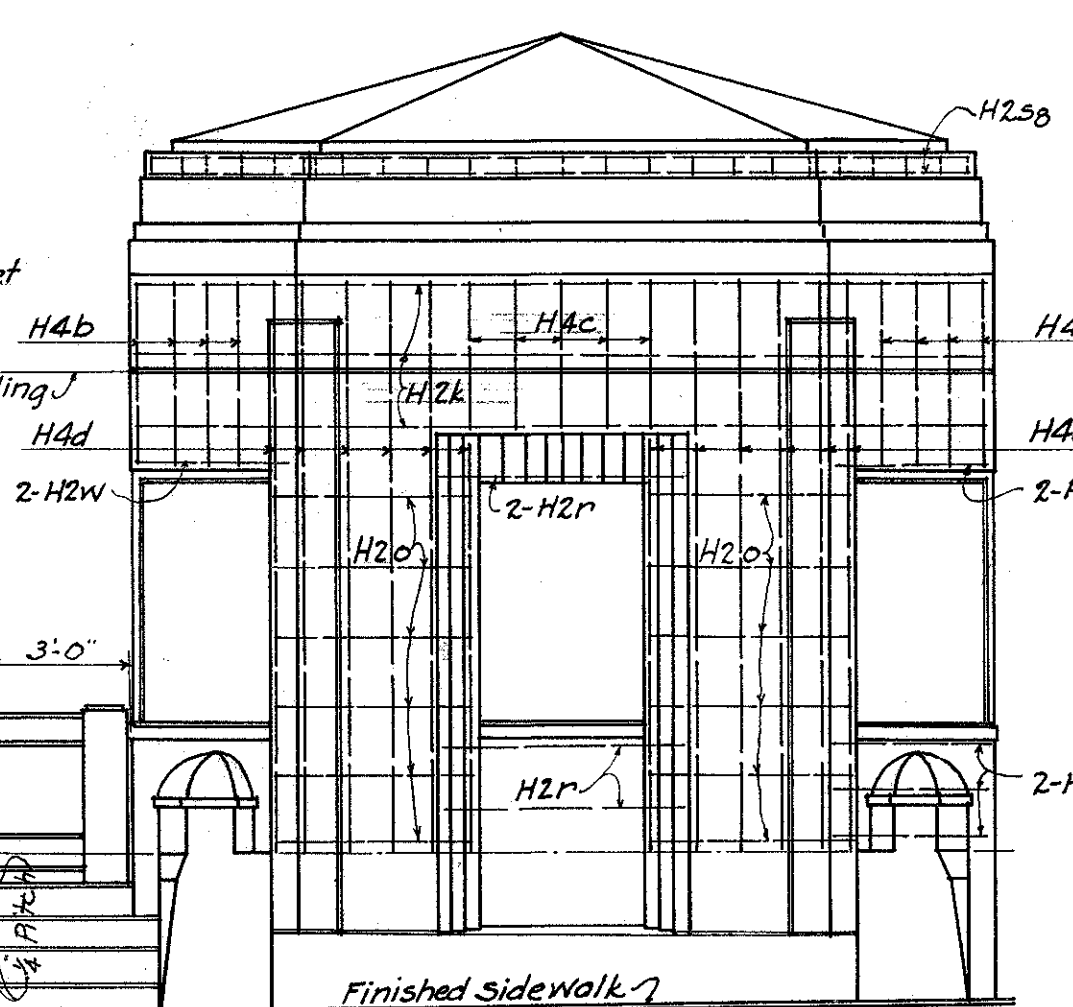
SOUTH ELEVATION OF CONTROL HOUSE
North Elev. of Operator's House is the same.



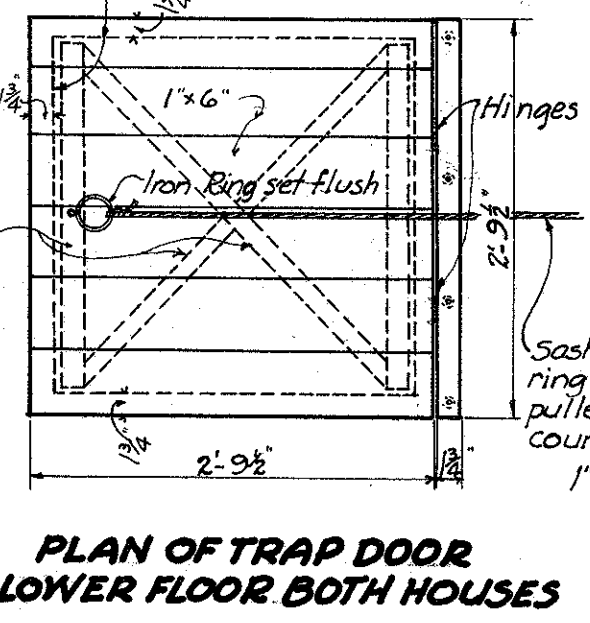
WEST ELEVATION OF CONTROL HOUSE



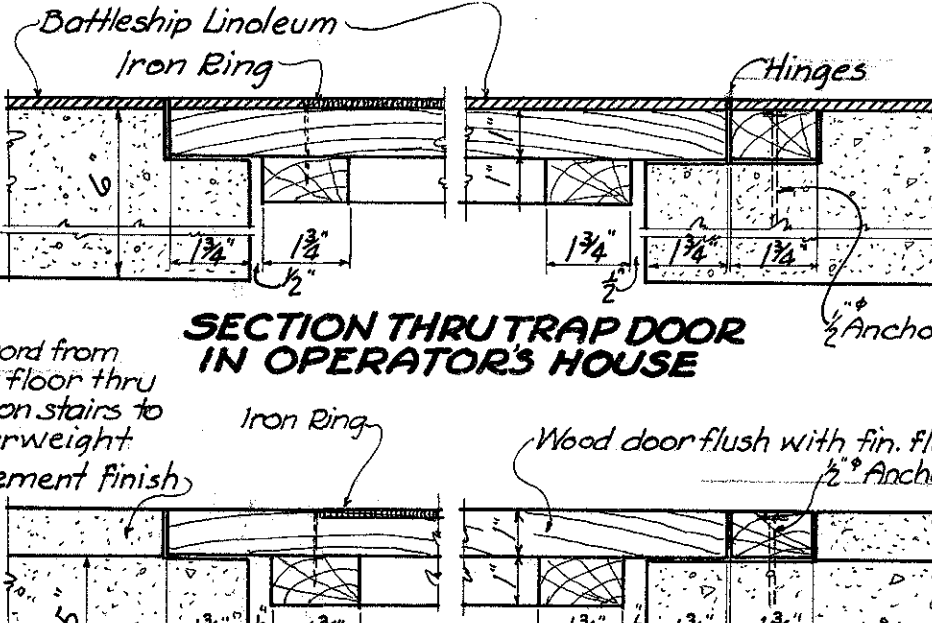
SECTION C-C



EAST ELEVATION OF OPERATORS HOUSE



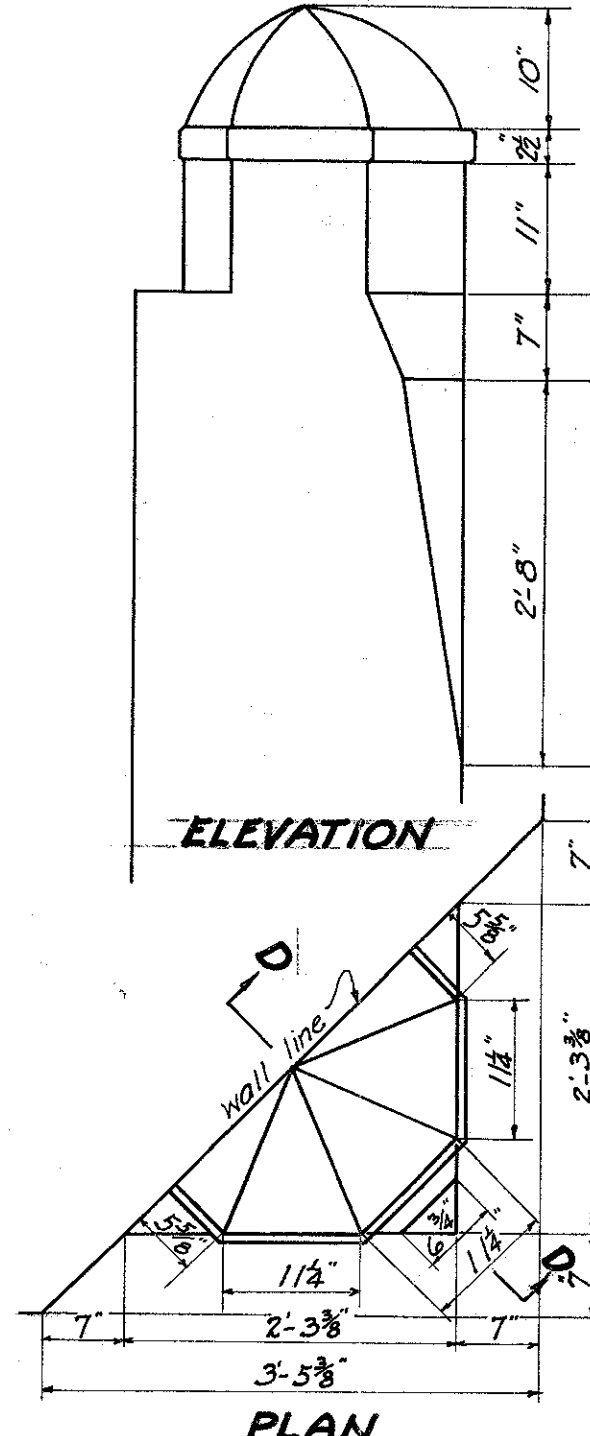
PLAN OF TRAP DOOR LOWER FLOOR BOTH HOUSES



SECTION THRU TRAP DOOR IN OPERATORS HOUSE

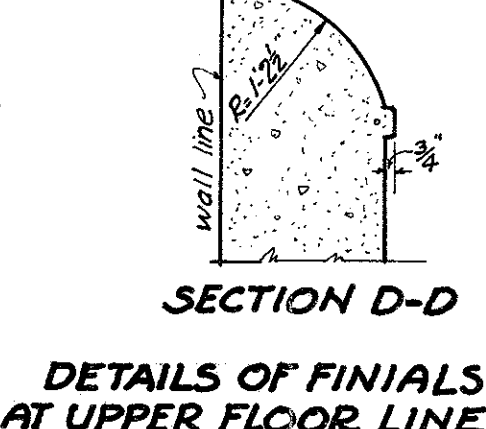


SECTION THRU TRAP DOOR CONTROL HOUSE

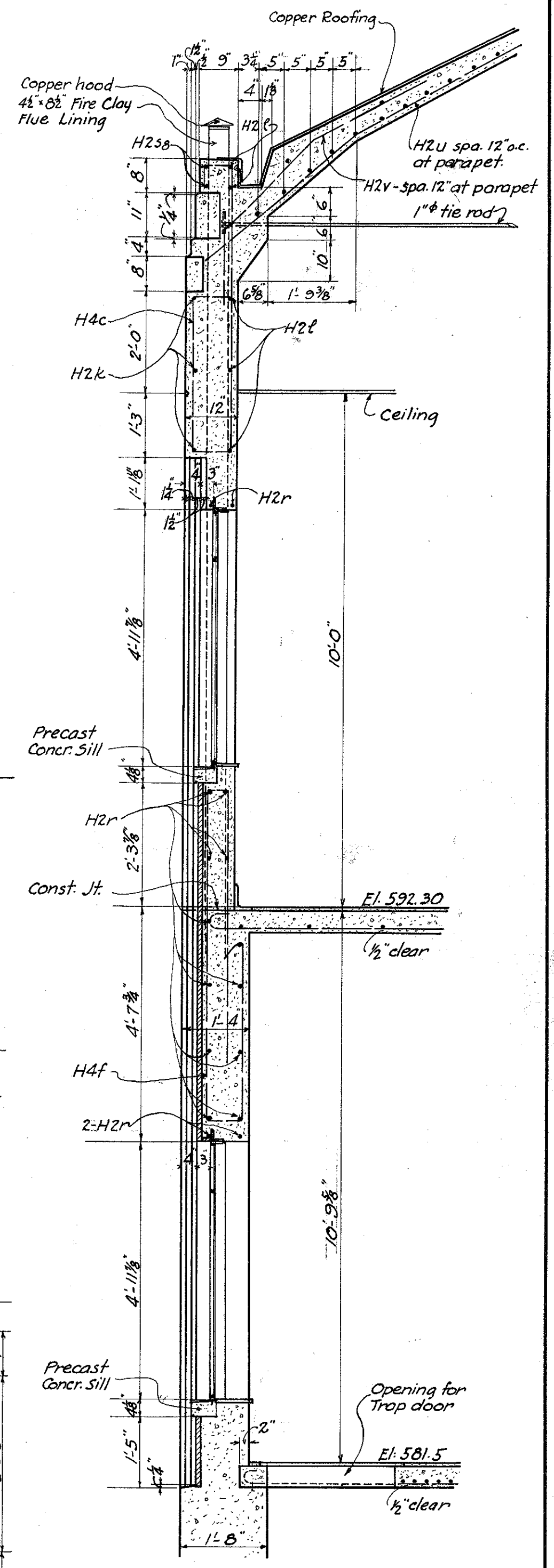


ELEVATION

PLAN

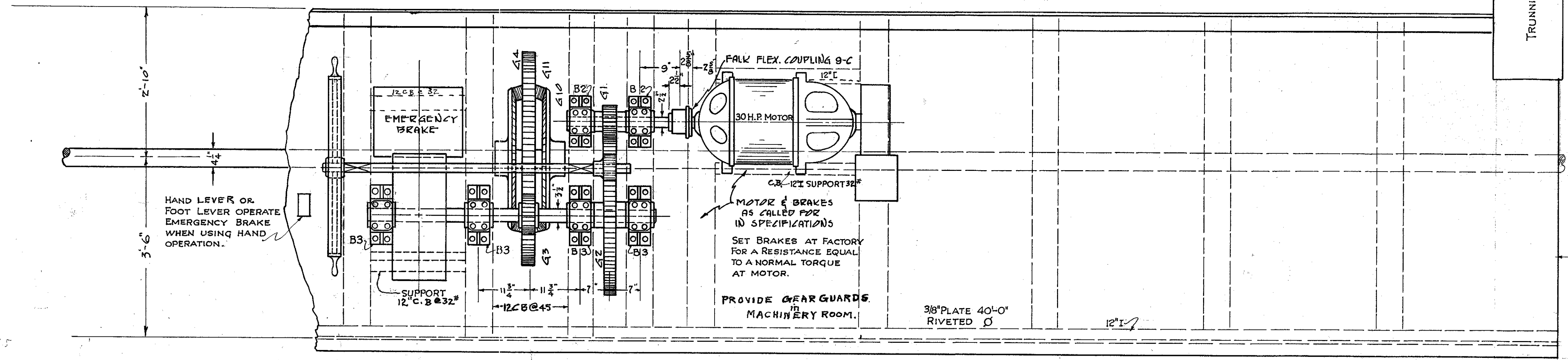
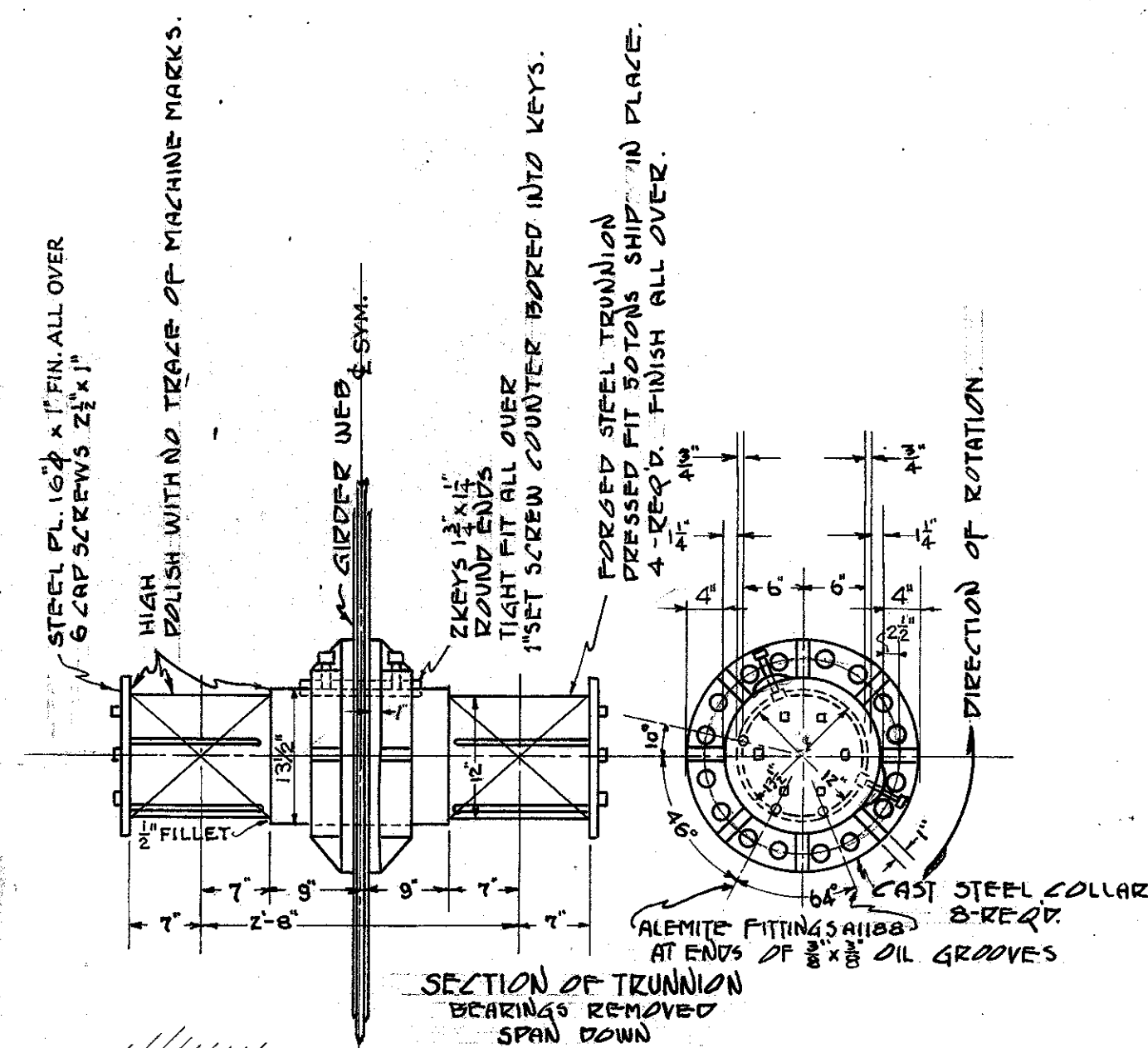


SECTION D-D

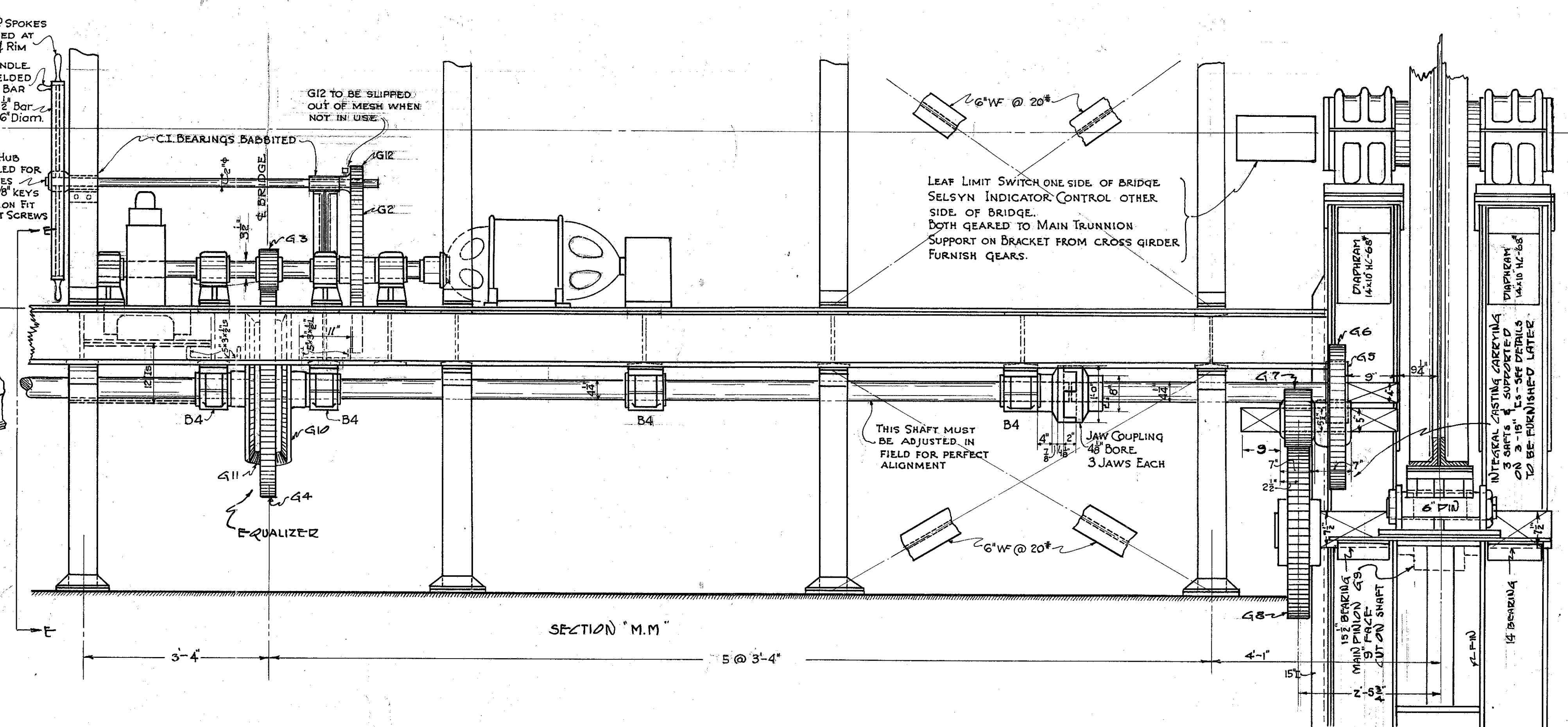
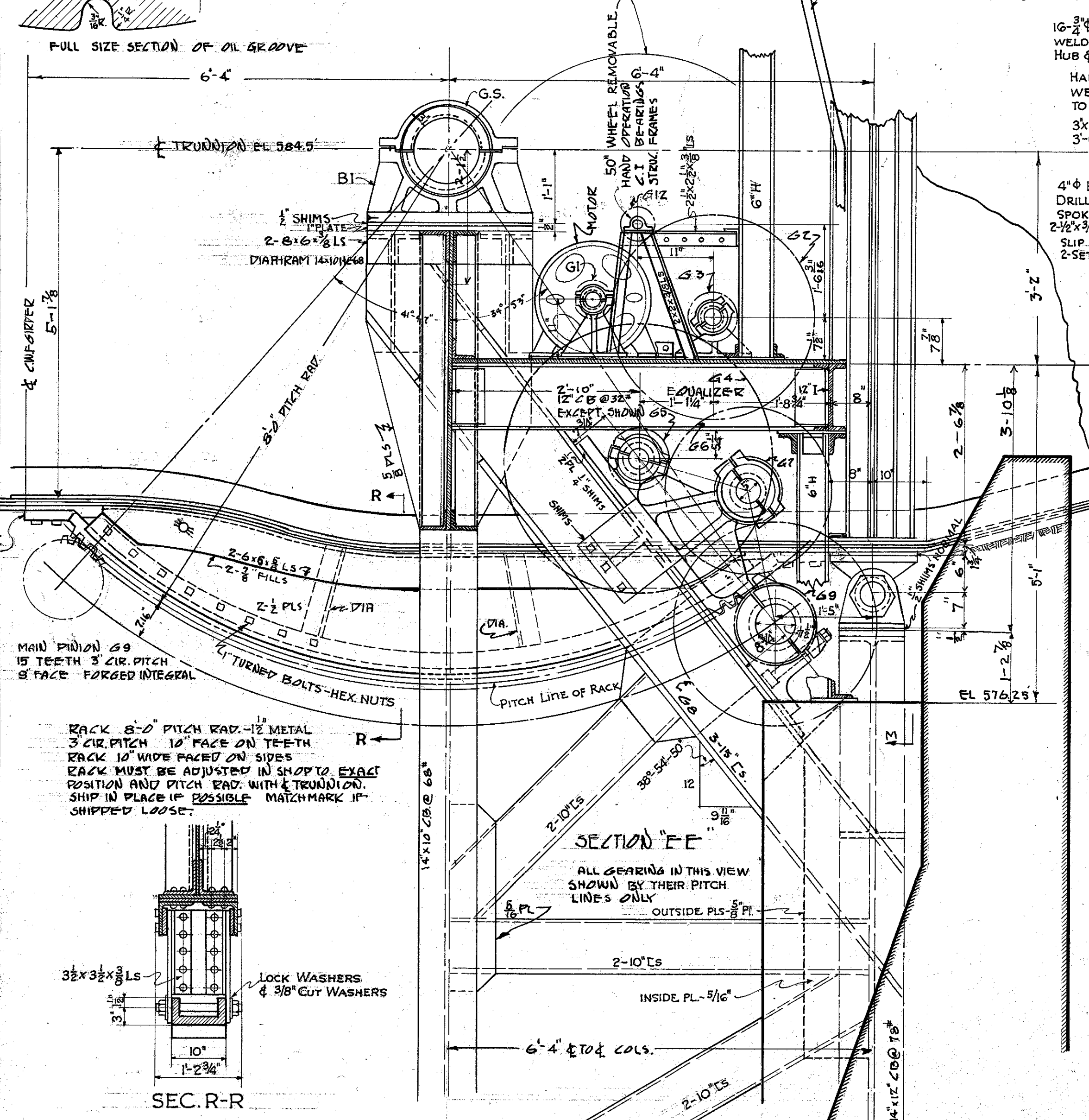


**SECTION A-A
ADDITIONAL SHEET**

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					
REINFORCING STEEL IN HOUSES DETAILS OF TRAP DOORS & FINIALS					
BRIDGE NO. OT-2-208 OVER PORTAGE RIVER					
S. H. 279 SEC. PORT CLINTON BR.		OTTAWA COUNTY STA. 228+60			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
J.P.P.	J.P.P.	J.P.P.	J.P.P.	J.P.P.	10-1-32



TOP VIEW

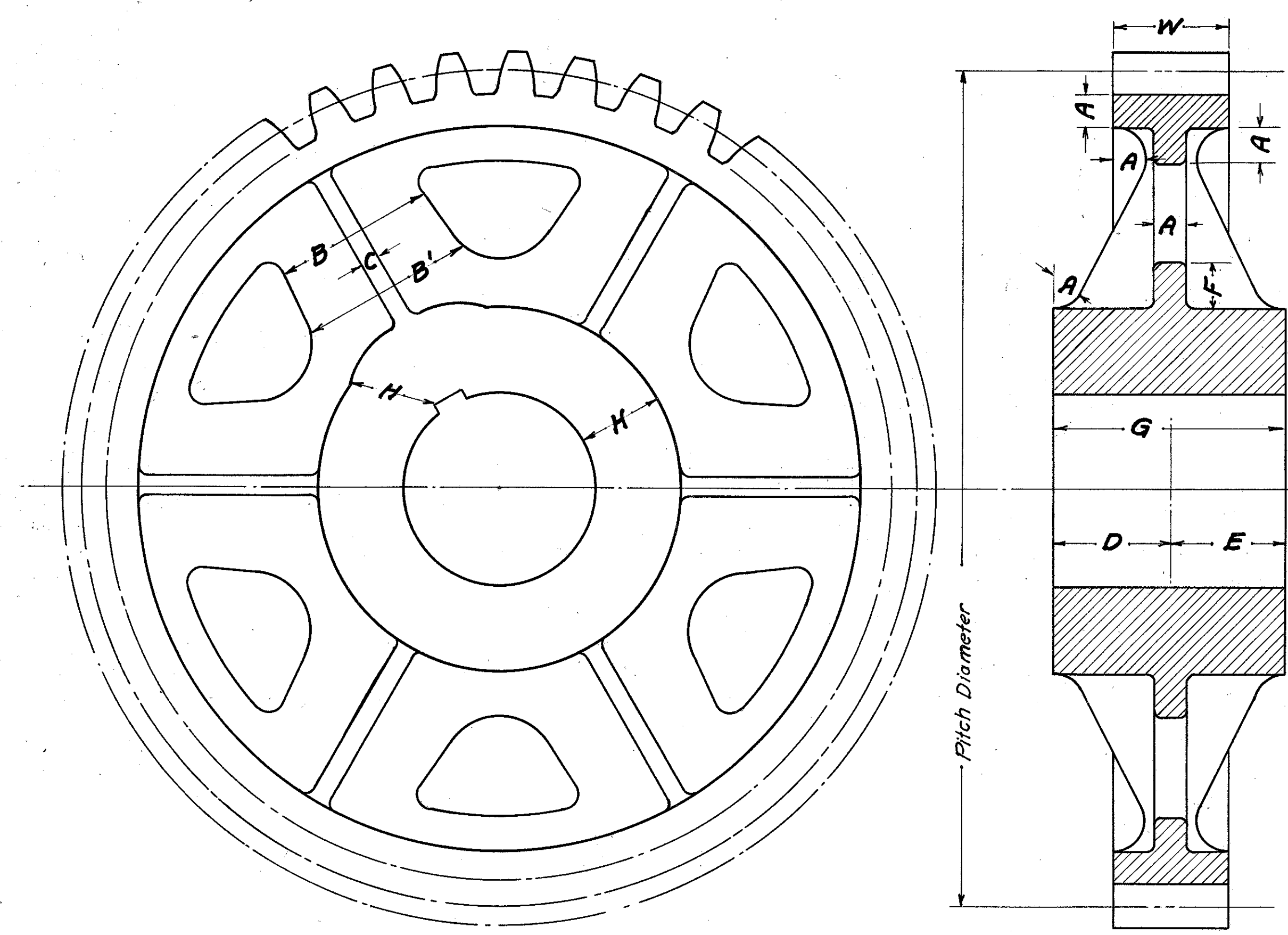
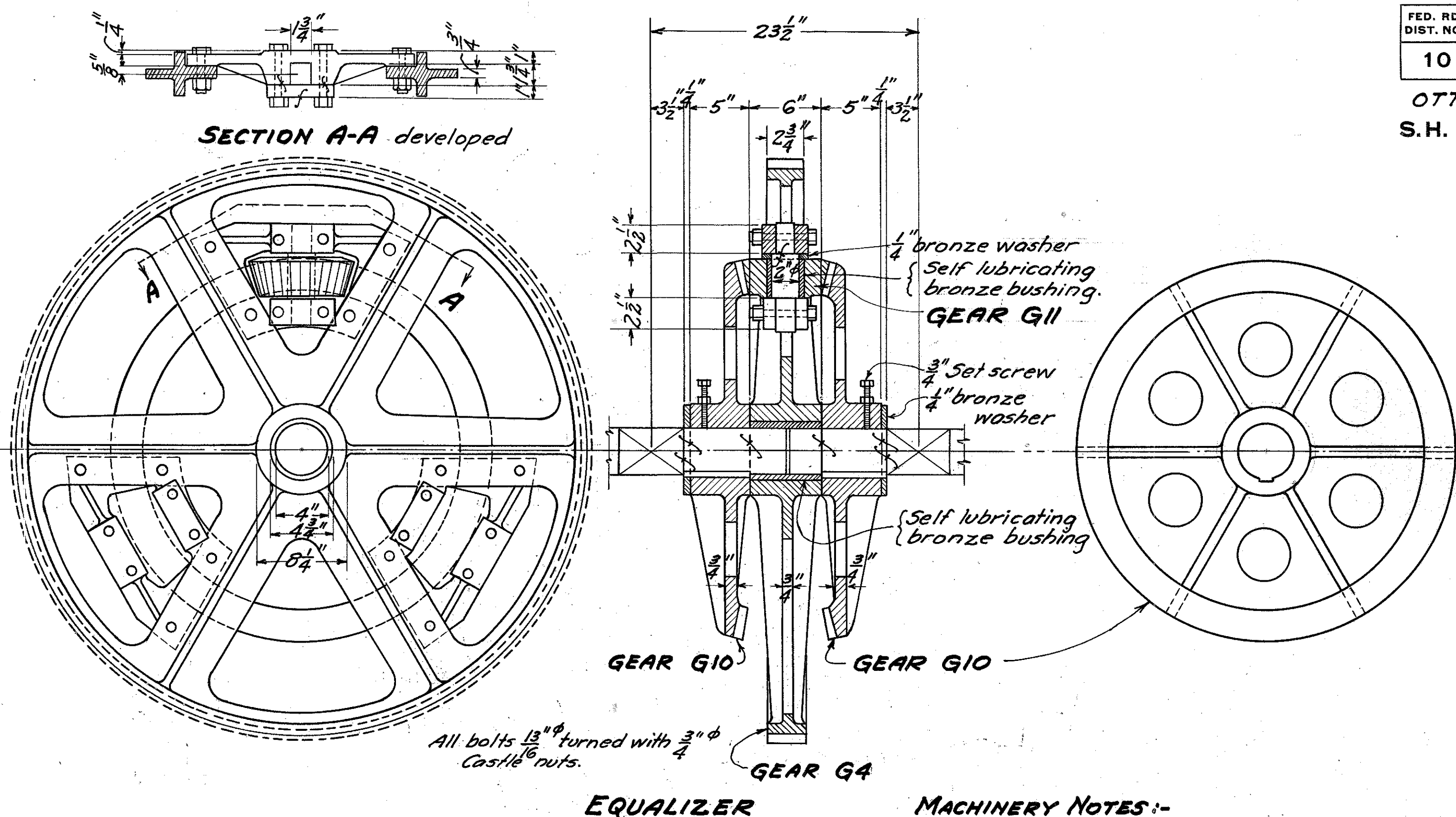


SECTION "M.M"

REVISIONS 11-28-32
SECTION R-R ADDED.
HAND OPERATION SHOWN MORE COMPLETELY.
JAW COUPLING ADDED TO 4 1/2\"/>

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES						
GENERAL PLAN OF MACHINERY						
BRIDGE NO. OT-2-208 OVER PORTAGE RIVER						
S.H. 279 SEC. PORT CLINTON BR.			OTTAWA COUNTY STA. 228 + 66.00			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.W.B.	H.W.B.	W.J.G.		W.H.C.	10/24/32	12-14-32

Gear	No. Req'd	No. of Teeth	Pitch	Pitch Diam.	Face	Teeth	Keys Per Gear	Bore	Hub Diam.	Length	Material
Rack	4		3"		10"	Std. 20° cut involute					Cast Steel
G1	2	15	1½"	7.162"	2¼"	do.	1 - 5/8" x 7/16"	2½"	5"	4½"	Forged Steel
G2	2	76	1½"	36.287"	2¼"	do.	1 - 3/4" x 1/2"	3"	6"	4½"	Cast Steel
G3	2	15	1¾"	8.35"	3"	do.	1 - 3/4" x 1/2"	3"	6"	4½"	Forged Steel
G4	2	87	1¾"	48.46"	2¾"	do.	3/8" Bronze Bushing	4 7/8"	8"	6"	Cast Steel
G5	4	15	2¼"	10.74"	3"	do.	1 - 1" x 5/8"	4 1/8"	8"	6"	Forged Steel
G6	4	42	2¼"	30.08"	3"	do.	2 - 1" x 3/4"	5 1/4"	10"	7"	Cast Steel
G7	4	15	2½"	11.93"	4½"	do.	2 - 1" x 3/4"	5 1/4"	10"	7"	Forged Steel
G8	4	46	2½"	36.60"	4½"	do.	2 - 1¼" x 1"	7 1/2"	14 1/2"	9"	Cast Steel
G9	4	15	3"	14.32"	9"	do.	Int. Part Shaft - S4				Forged Steel
G10	4	96	1 1/8"	34.377"	3"	do.	1 - 7/8" x 5/8"	4 1/8"	8"	5"	Cast Steel
G11	6	24	1 1/8"	8.594"	3"	do.	1/4" Bronze Bushing	2 1/2"	4"	3 1/4"	Forged Steel
G12	2	13	1½"	6.207"	2¼"	do.		2"	3 1/2"	4"	Forged Steel
G13	4	15	1¼"	5.968"	2½"	do.	1 - 1/2" x 3/8"	2 1/4"	4 1/4"	2 3/4"	Forged Steel
G14	4	49.1190°	1¼"	77.886"	2 1/2"	do.	2 - 3/4" x 1" x 6"	1 1/4"	17 1/4"	6"	Cast Steel



Gear	A	B	B'	C	D	E	F	G	H	W
Rack	1½"									9"
G1	3/4"				2 1/4"	2 1/4"		4 1/2"	1 1/4"	2 1/4"
G2	3/4"	3 3/4"	4 1/2"	5/8"	2 1/4"	2 1/4"	1 1/8"	4 1/2"	1 1/2"	2 1/4"
G3	7/8"				2 1/4"	2 1/4"		4 1/2"	1 1/2"	2 3/4"
G4	7/8"	4 3/8"	5 1/2"	3/4"	3"	3"	1 1/4"	6"	1 1/16"	2 3/4"
G5	1 1/8"				3"	3"		6"	1 1/16"	3"
G6	1 1/8"	5 5/8"	6 1/4"	3/4"	2 1/2"	4 1/2"	1 1/2"	7"	2 3/8"	3"
G7	1 1/4"				2 1/2"	4 1/2"		7"	2 3/8"	4 1/2"
G8	1 1/4"	6 1/4"	7"	3/4"	4"	5"	1 3/4"	9"	3 1/2"	4 1/2"
G9	1 1/2"									9"
G10					1 1/2"	3 1/2"		5"	1 1/16"	3"
G11					1 1/2"	1 3/4"		3 1/4"	3/4"	3"
G12										
G13	See Gear Details on Gate									
G14	See Gear Details on Gate									

NOTE:- for Gear G10 & G11 See Equalizer.

EQUALIZER

MACHINERY NOTES:-

- All pinions shall be forged.
- All castings and forgings shall be made of steel and shall be annealed unless noted otherwise.
- All gears, pinions and racks shall have machine cut teeth.
- All gears, pinions and racks shall have pitch lines plainly marked on both sides of each.
- All shafts from 0" to 3 3/4" shall be cold rolled, from 3 3/4" to 4 1/2" shall be rolled, shafts greater than 4 1/2" shall be forged.
- Gib Head Tapered Keys shall be used where possible.
- Each collar shall be secured in place with two (2) set screws counter bored in shafts and provided with lock nuts.
- Shanks of turned bolts shall be 1/16" larger than the threaded ends.
- Except as noted, all holes in machinery supports for bolts connecting machinery parts to supports shall be subdrilled and reamed in the field with the machinery parts in place. The holes in the machinery parts shall be subdrilled in the shop. Bolts to have light driving fit.
- All bearings shall be provided with ALEMITE Button Head type fittings except where self lubricating bearings are specified.
- Spring Lock Washers shall be used under all nuts or bolts where lock nuts are not shown or called for.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GEAR DETAILS

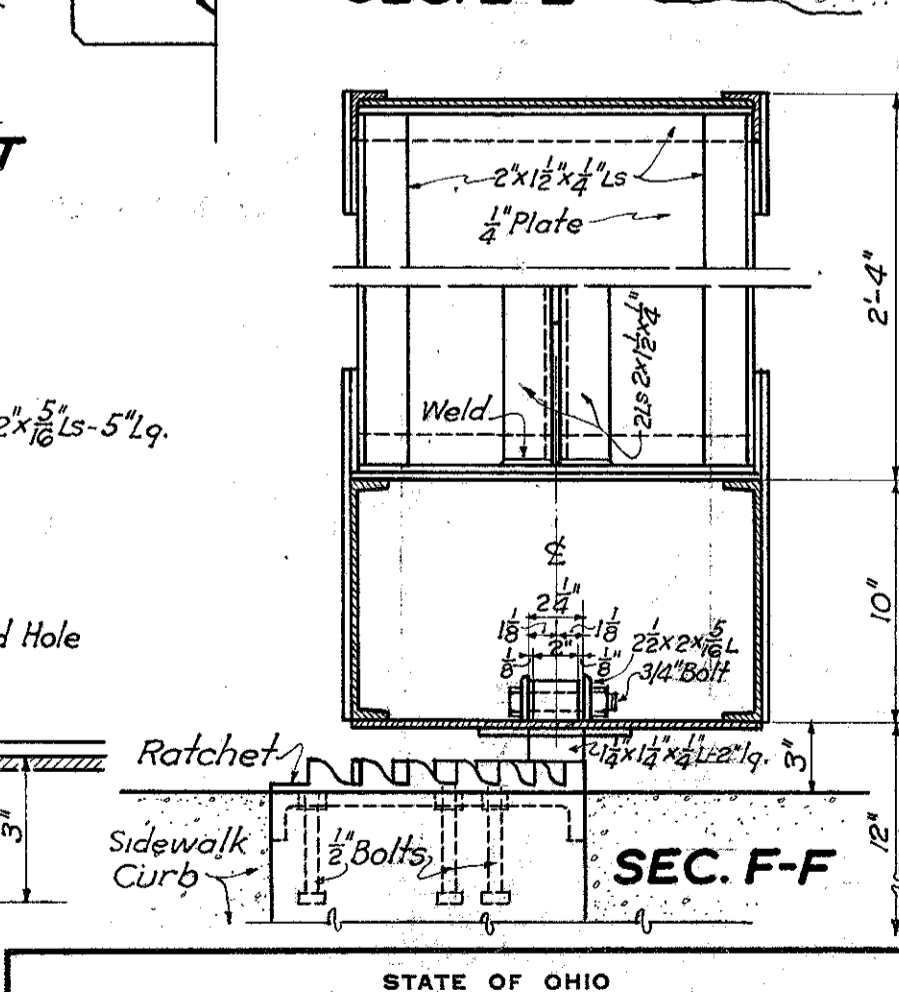
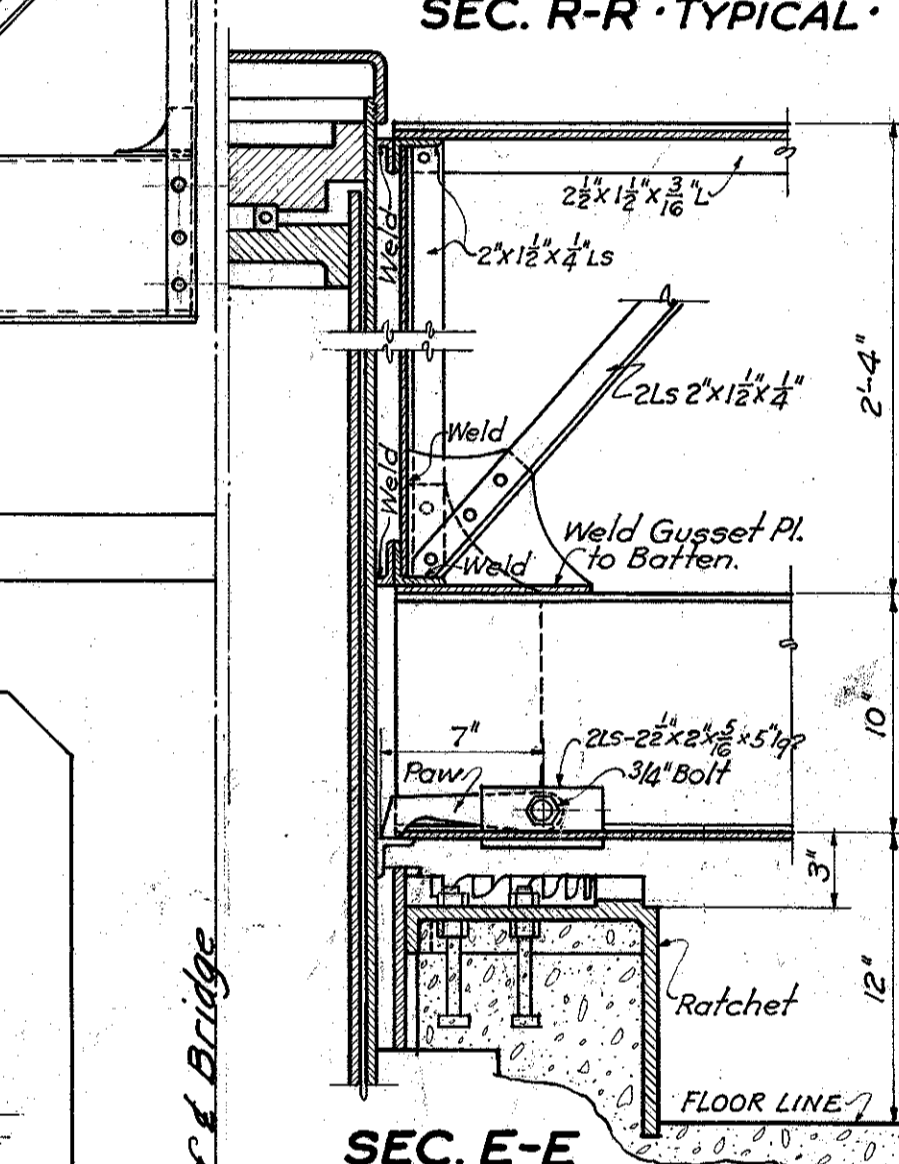
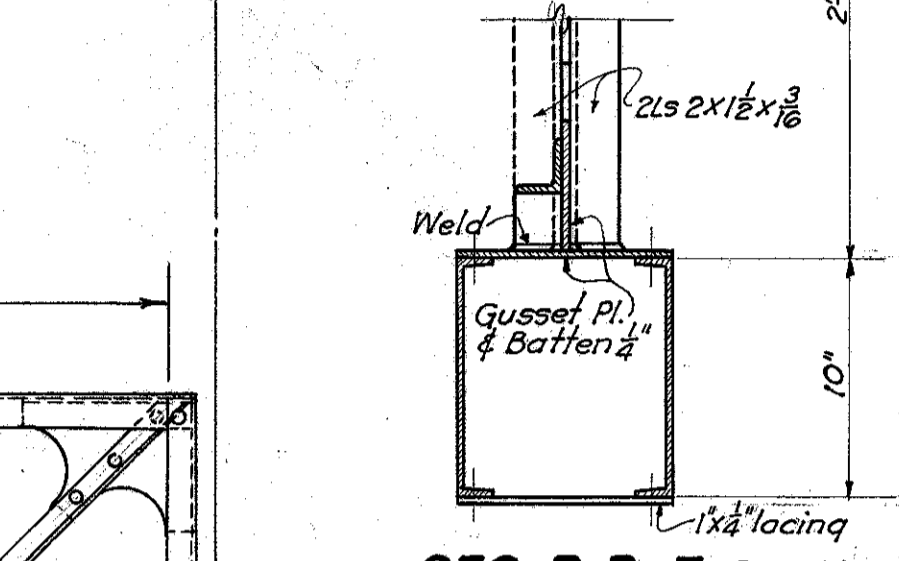
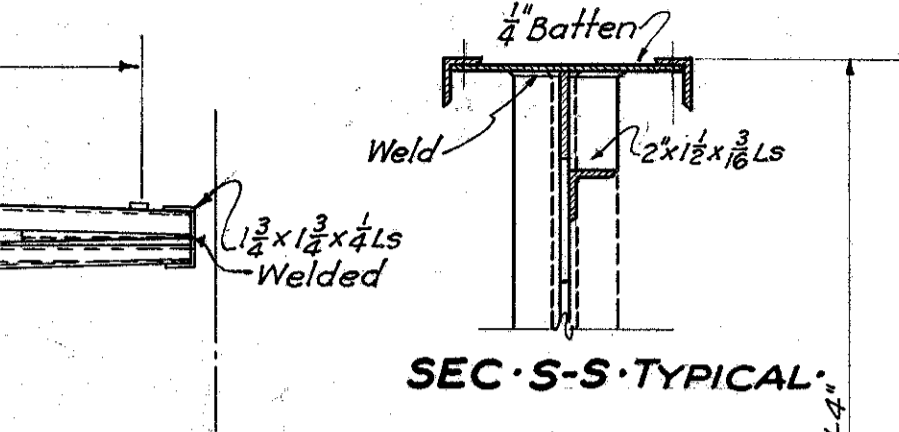
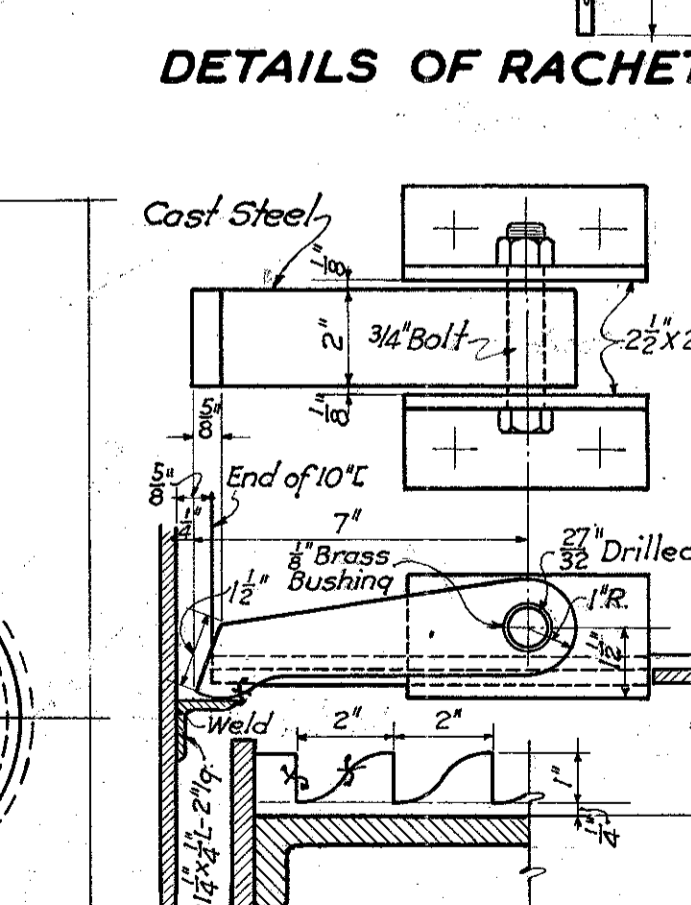
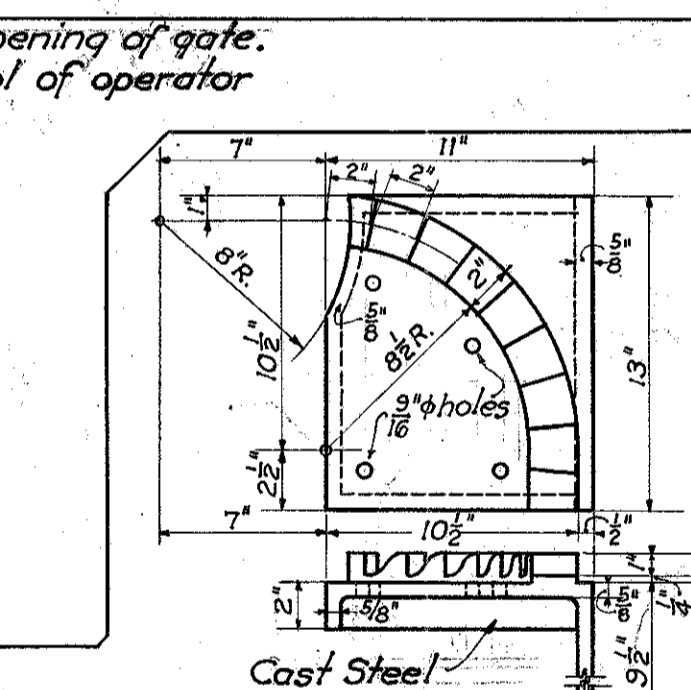
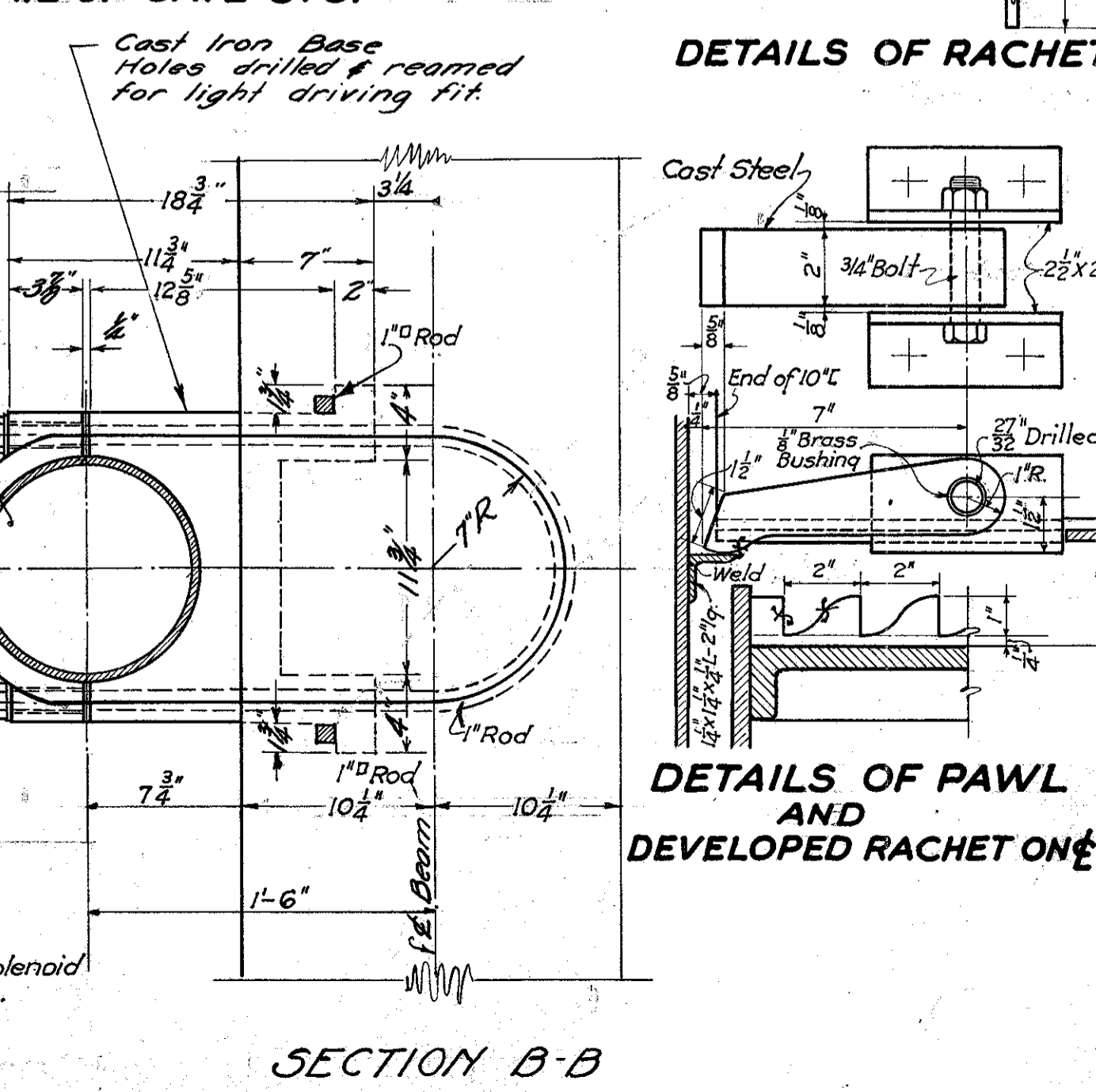
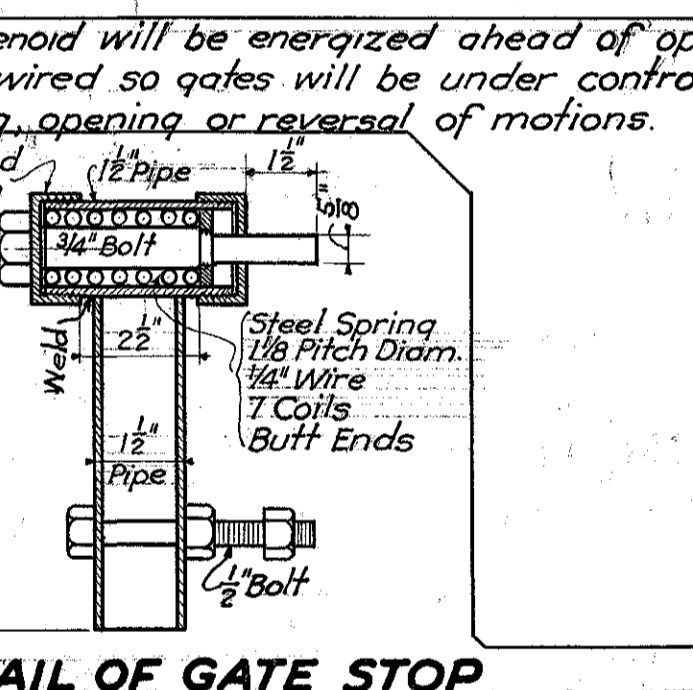
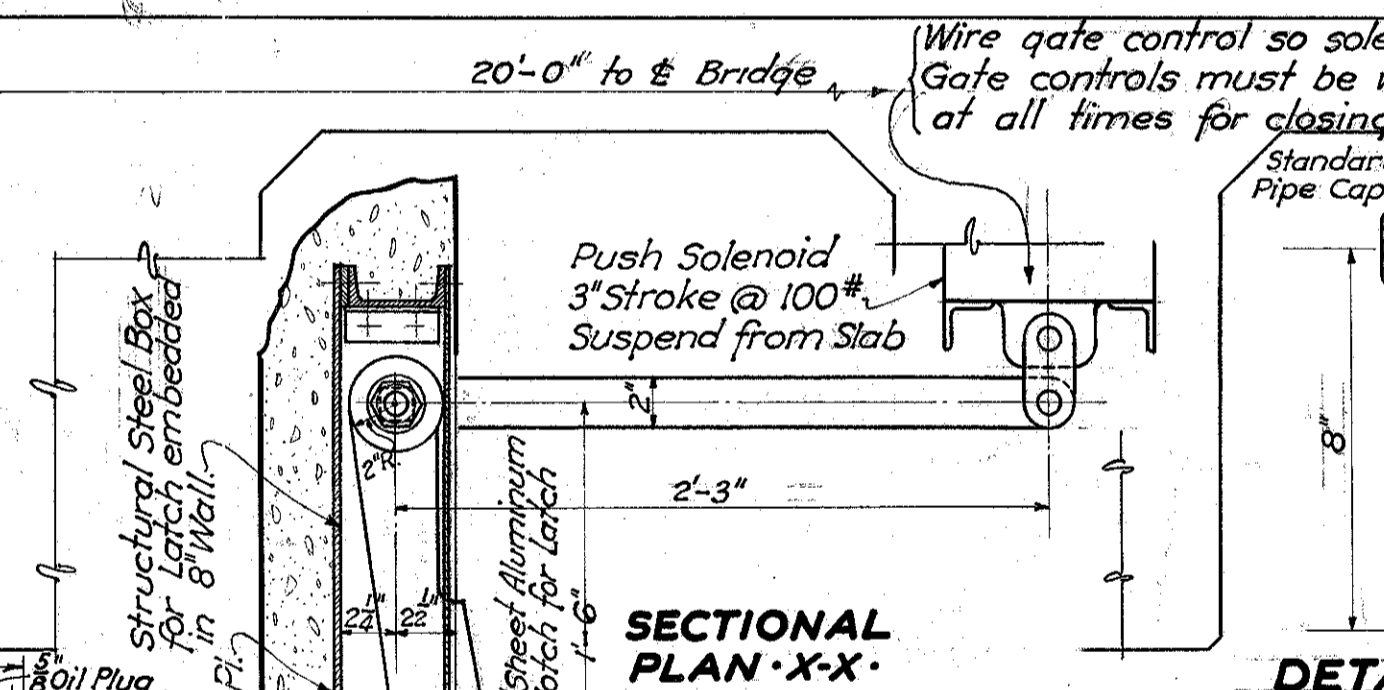
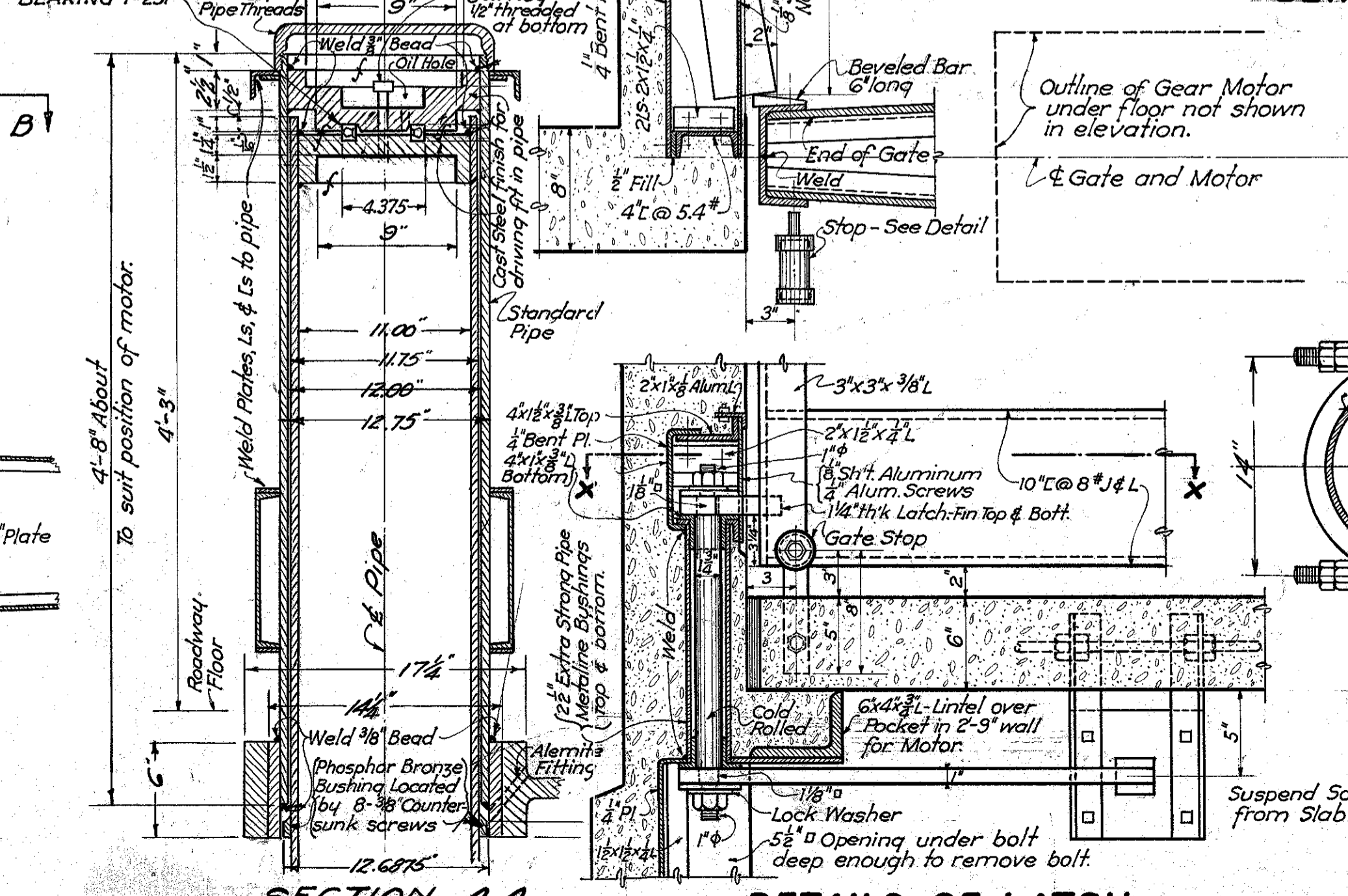
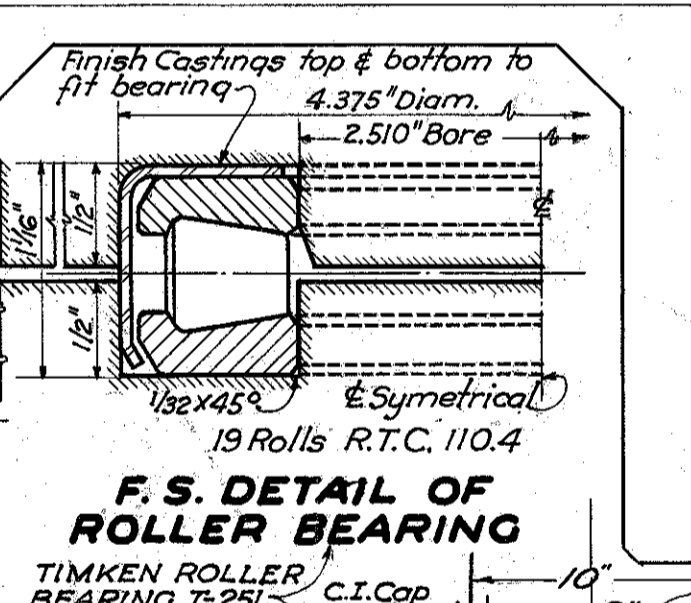
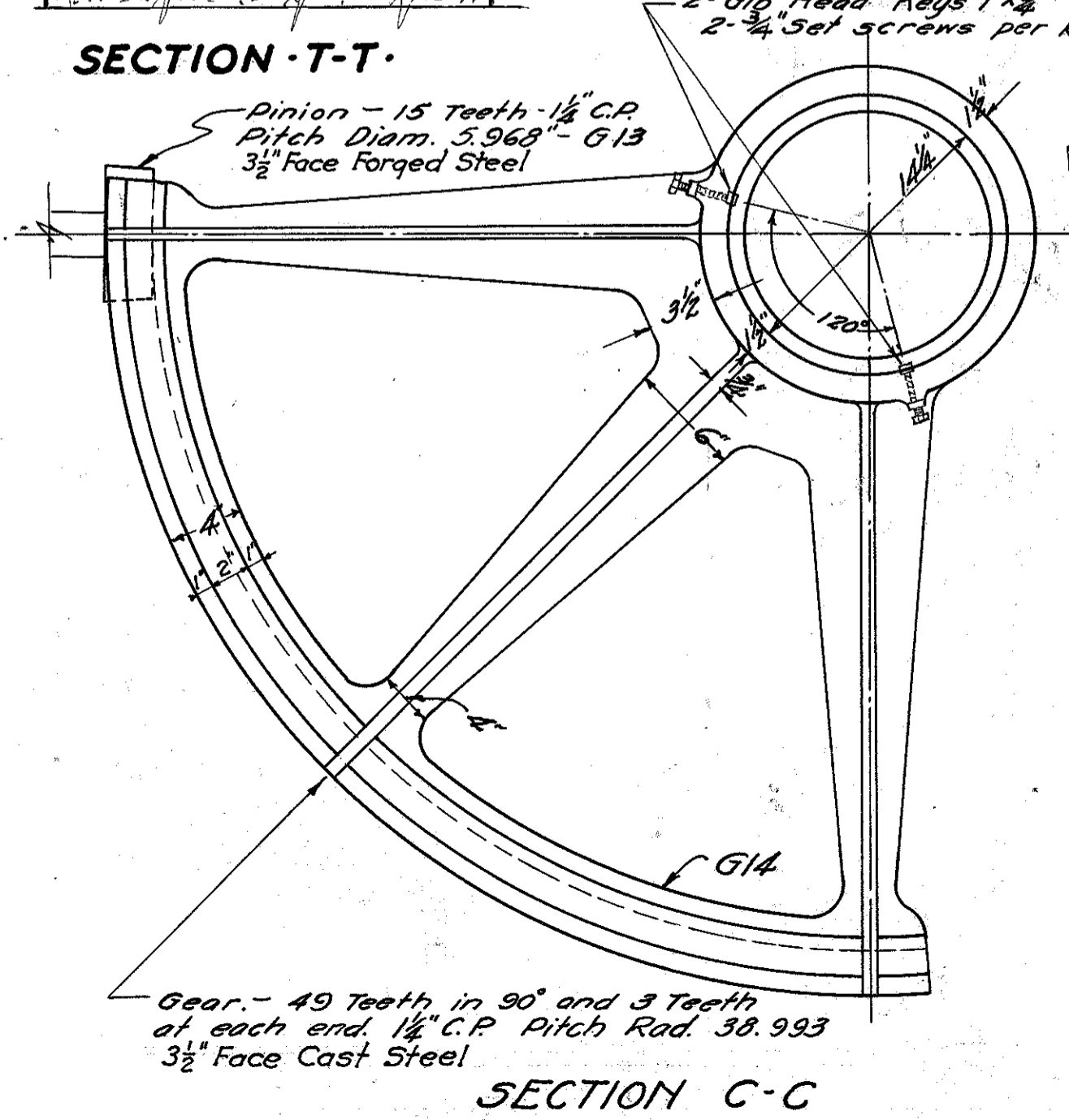
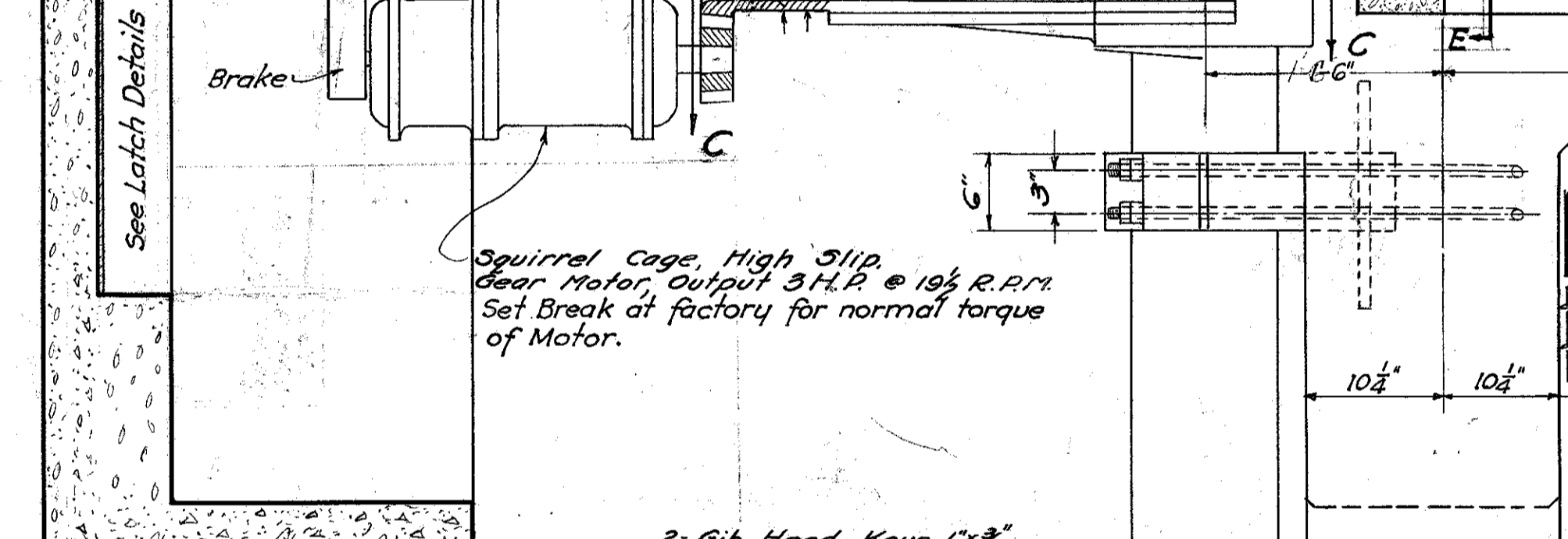
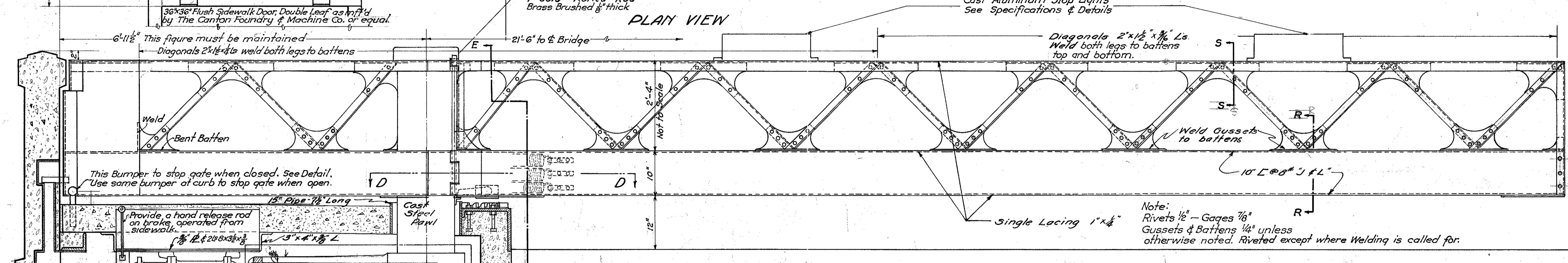
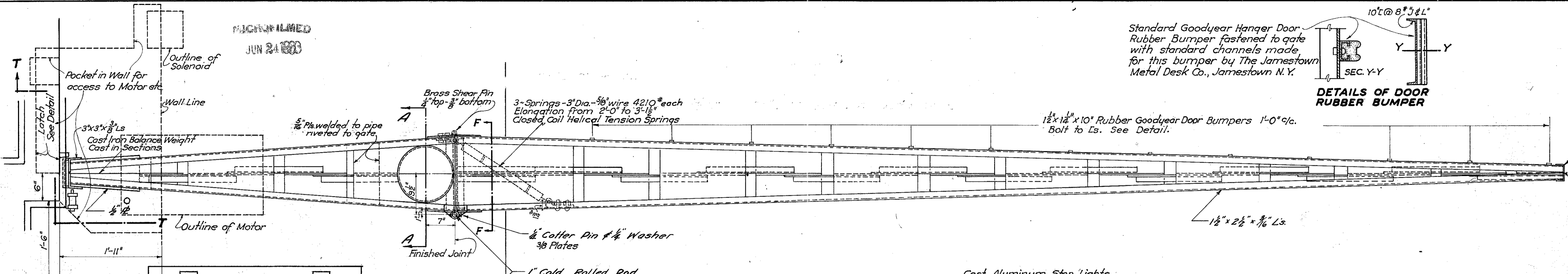
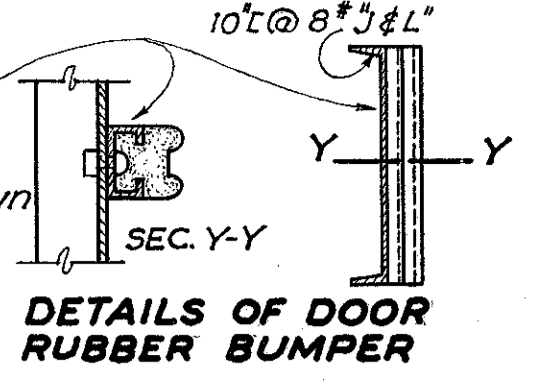
BRIDGE NO. OT-2-208
OVER PORTAGE RIVER
S.H. 279 OTTAWA COUNTY
SEC. PORT CLINTON BR. STA. 228+66.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.M.B.	C.G.S.	A.E.D.		C.G.S.	12-14-32	

W.H.C. 10/21/32

**OTTAWA COUNTY
S.H. 279 SEC. PORT CLINTON
BRIDGE**

Standard Goodyear Hanger Door Rubber Bumper fastened to gate with standard channels made for this bumper by The Jamestown Metal Desk Co., Jamestown N.Y.



Note: Rivets 1/2" - Gages 7/8" Gussets & Battens 1/4" unless otherwise noted. Riveted except where Welding is called for.

Wire gate control so solenoid will be energized ahead of opening of gate. Gate controls must be wired so gates will be under control of operator at all times for closing, opening or reversal of motions.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

**GATE DETAILS
BR. NO. OT-2-208
OVER PORTAGE RIVER**

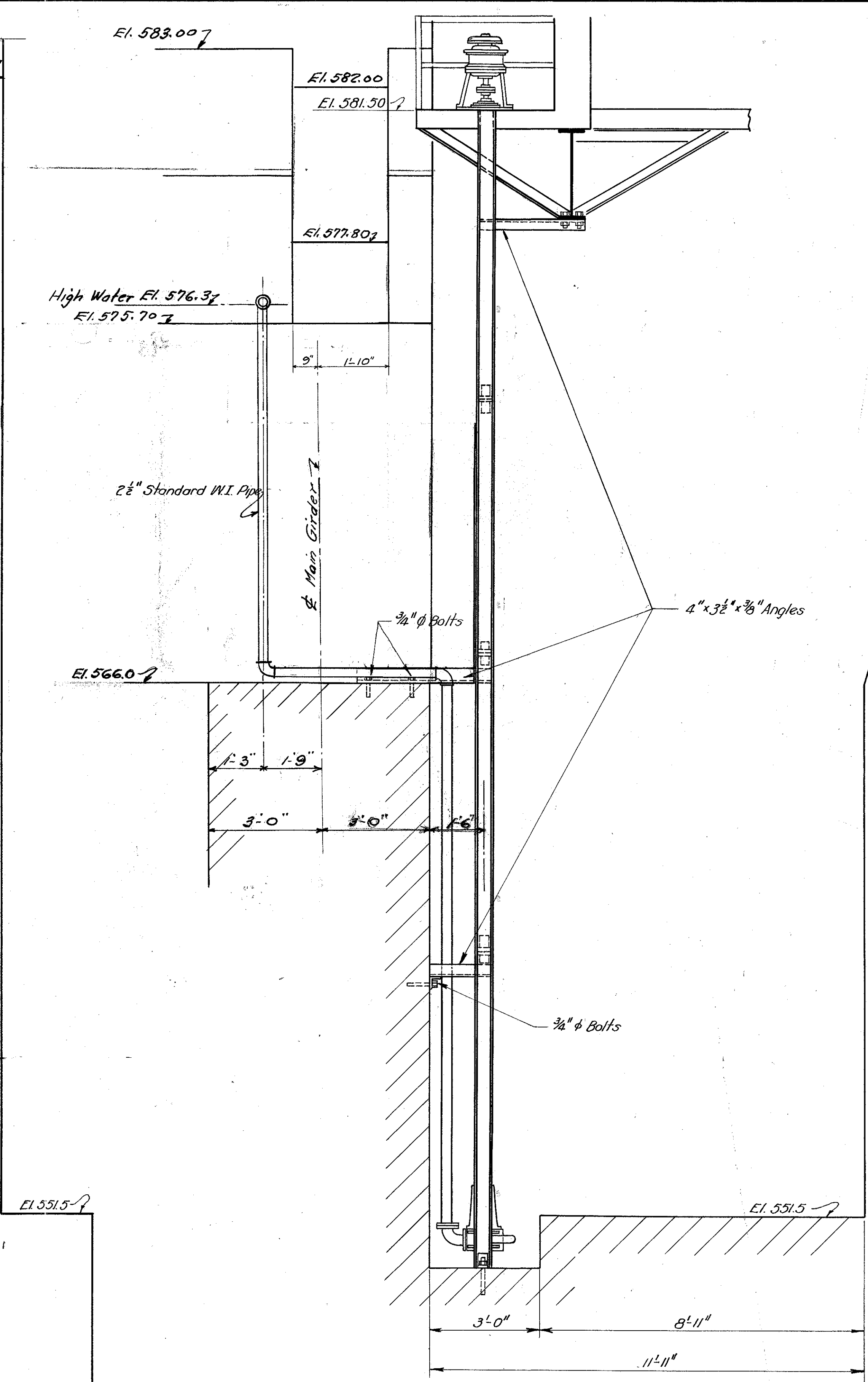
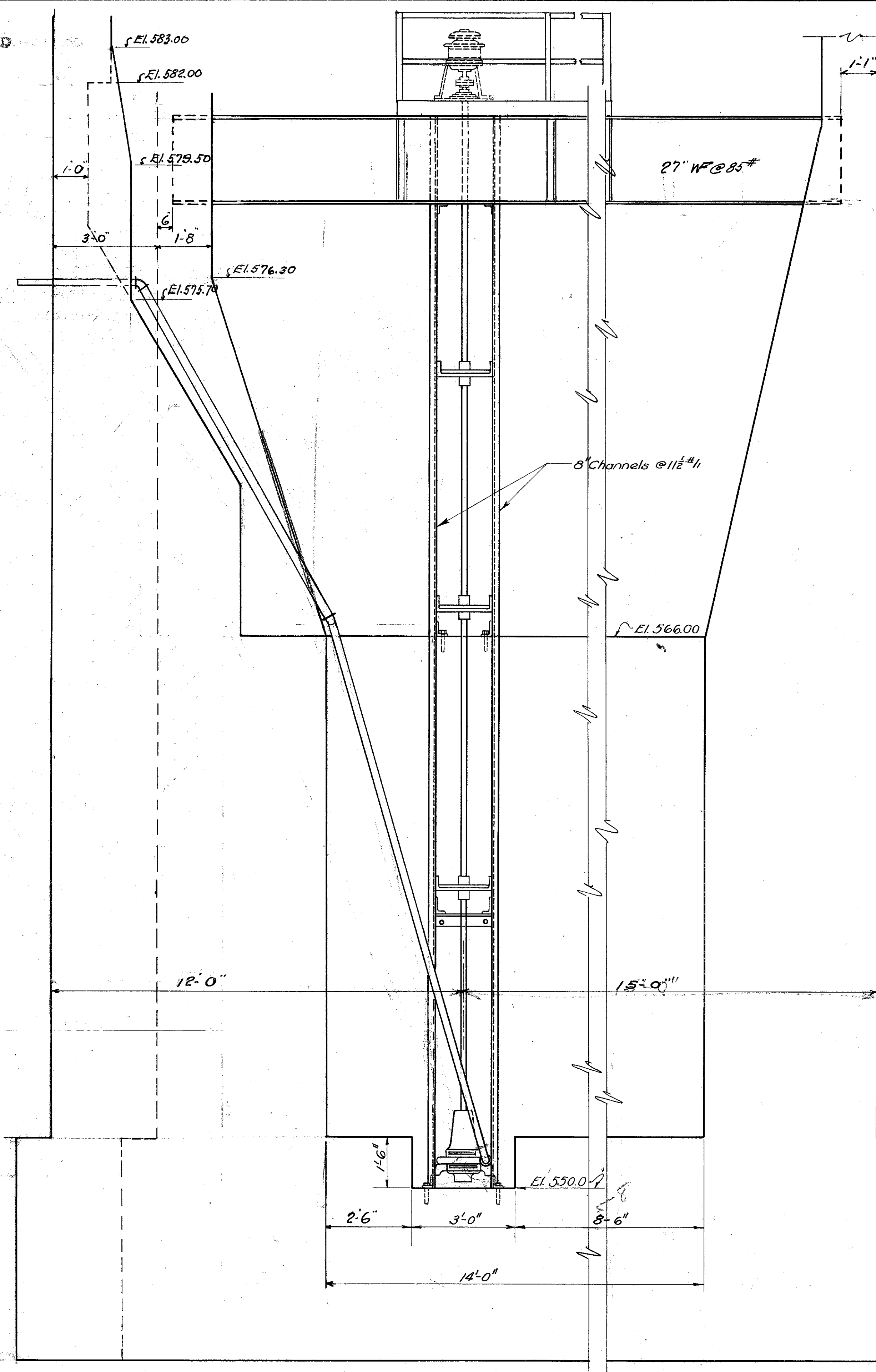
S.H. 279 OTTAWA COUNTY
SEC. PORT CLINTON BR. STA. 228+66.0

DESIGNED	DRAWN	TRACED	CHECKED	DATE	REVISED
H.W.B.	W.J.G.	C.H.A.	J.V.G.	10/29/32	12/14/32
					Latch & General Details

MICROFILMED
JUN 24 1983

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	30 33
10	OHIO	E-410-H	1932	

OTTAWA COUNTY
S. H. 279 SEC. PORT CLINTON BR.



SPECIFICATIONS OF SUMP PUMP

ONE REQUIRED FOR EACH PIER
PUMP TO BE AMERICAN MARSH TYPE: A.V.M. VERTICAL, CENTRIFUGAL OR EQUIVALENT. PUMP TO HAVE A CAPACITY OF 250 G.P.M. AGAINST A HEAD OF 29 FT. AND TO BE A SOLID CASE, SINGLE SUCTION, SINGLE STAGE TYPE
IT IS TO BE PROVIDED WITH A SHAFT 1 1/4" DIAMETER EQUIPPED WITH FLEXIBLE COUPLINGS AT MOTOR AND PUMP
WEIGHT OF SHAFT TO BE CARRIED BY A THRUST BEARING PROVIDED IN THE MOTOR

MOTOR

MOTOR TO BE A 3 H.P. 1750 R.P.M. TOTALLY ENCLOSED SQUIRREL CAGE TYPE, 3 PHASE, 60 CYCLES, 440 VOLTS. MOTOR IS TO HAVE A DRIP COVER AND TO BE MOUNTED ON A SUITABLE PLATE ON TOP OF CHANNEL FRAME. PUMP IS TO BE EQUIPPED WITH A SUITABLE FLOAT SWITCH ON ONE SIDE OF FRAME WITH AN EXTENDED FLOAT ROD OF SUITABLE LENGTH TO PERMIT LOW LEVER CUT OFF AT ANY POINT OF FLOAT AT ANY LEVEL. MOTOR IS TO BE EQUIPPED WITH AUTOMATIC STARTER OPERATED BOTH BY FLOAT SWITCH AND BY A REMOTE CONTROL PUSH BUTTON STATION

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					
CLEARANCE DIAGRAM OF THE SUMP PUMP					
BRIDGE NO. OT-2-208 OVER PORTAGE RIVER OTTAWA COUNTY S.H. 279 SEC. PORT CLINTON BR. STA. 228+66.0					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
A.M.B.	W.J.G.	R.R.C.	X.H.C.	U.A.H.	12-14-32
				H.H.C.	10/29/32