

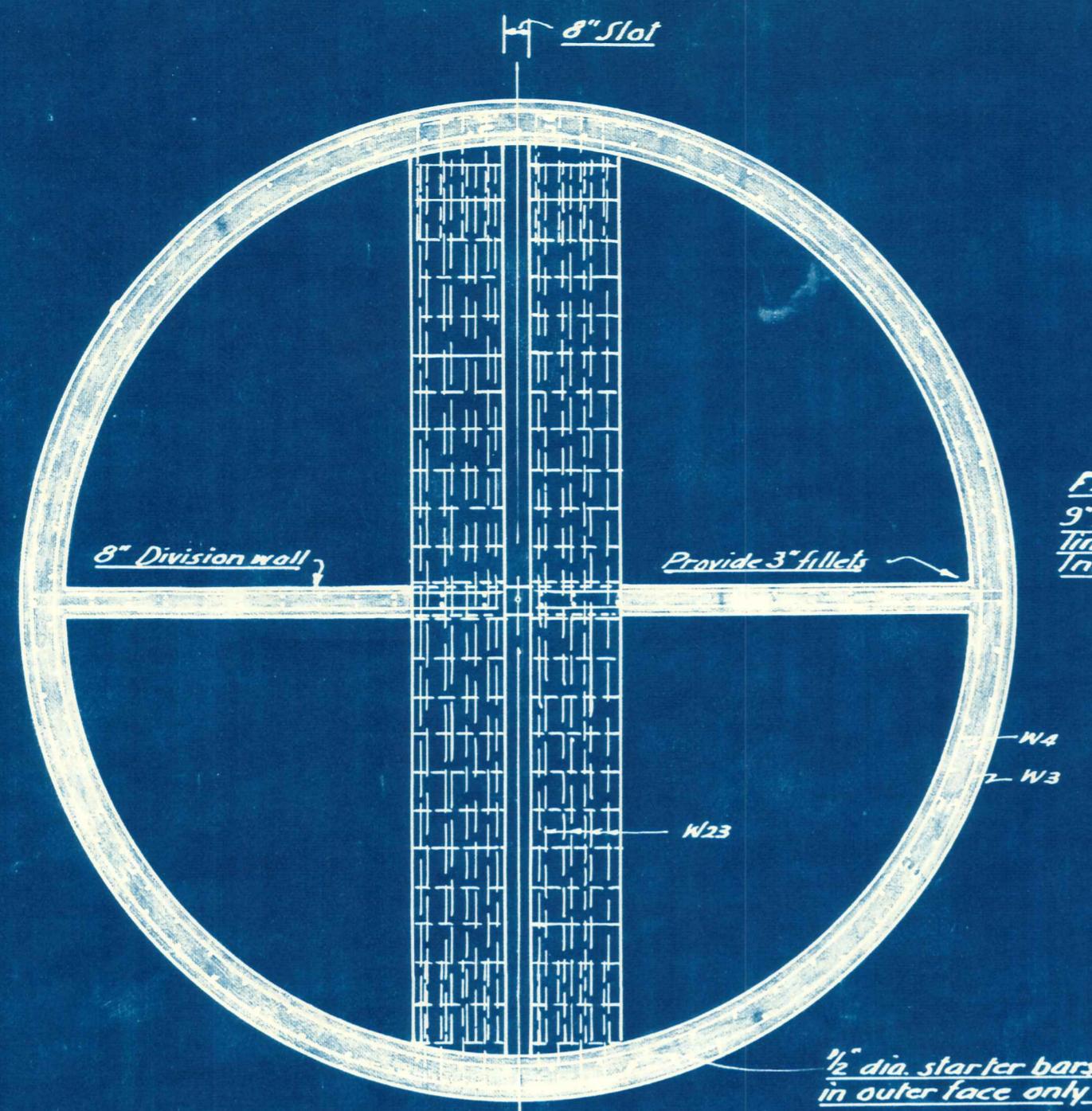
# MANIOTOTO COUNTY COUNCIL

# RANFURLY SEWERAGE SCHEME LAYOUT OF TREATMENT PLANT

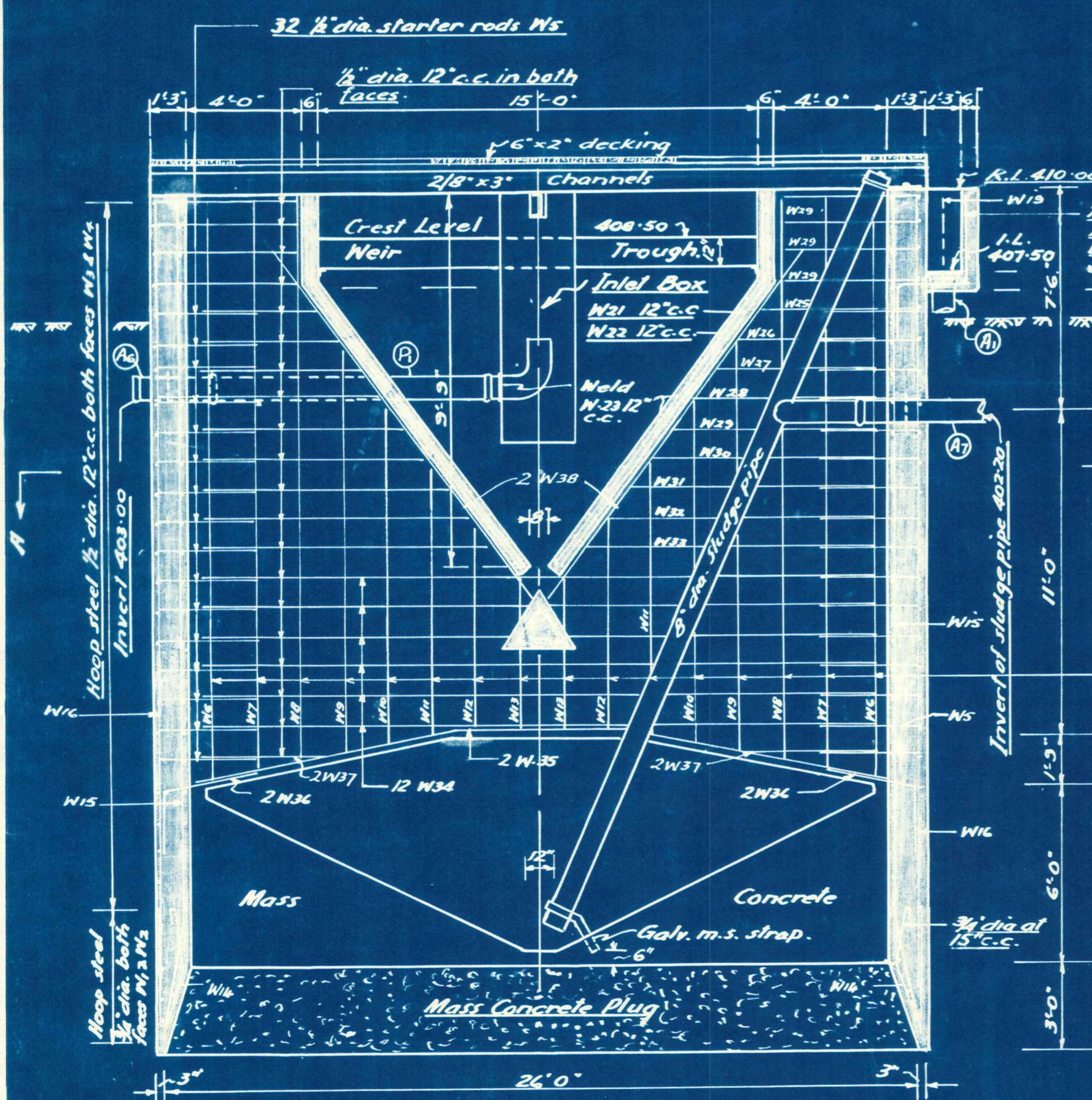
DUFFIELD, WATTS & KING  
CIVIL ENGINEERS AND SURVEYORS  
DUNEDIN AND DUNEDIN CARGILL

AB Cochran. Aug 1959  
recapitulated Mar 1960

2895/2



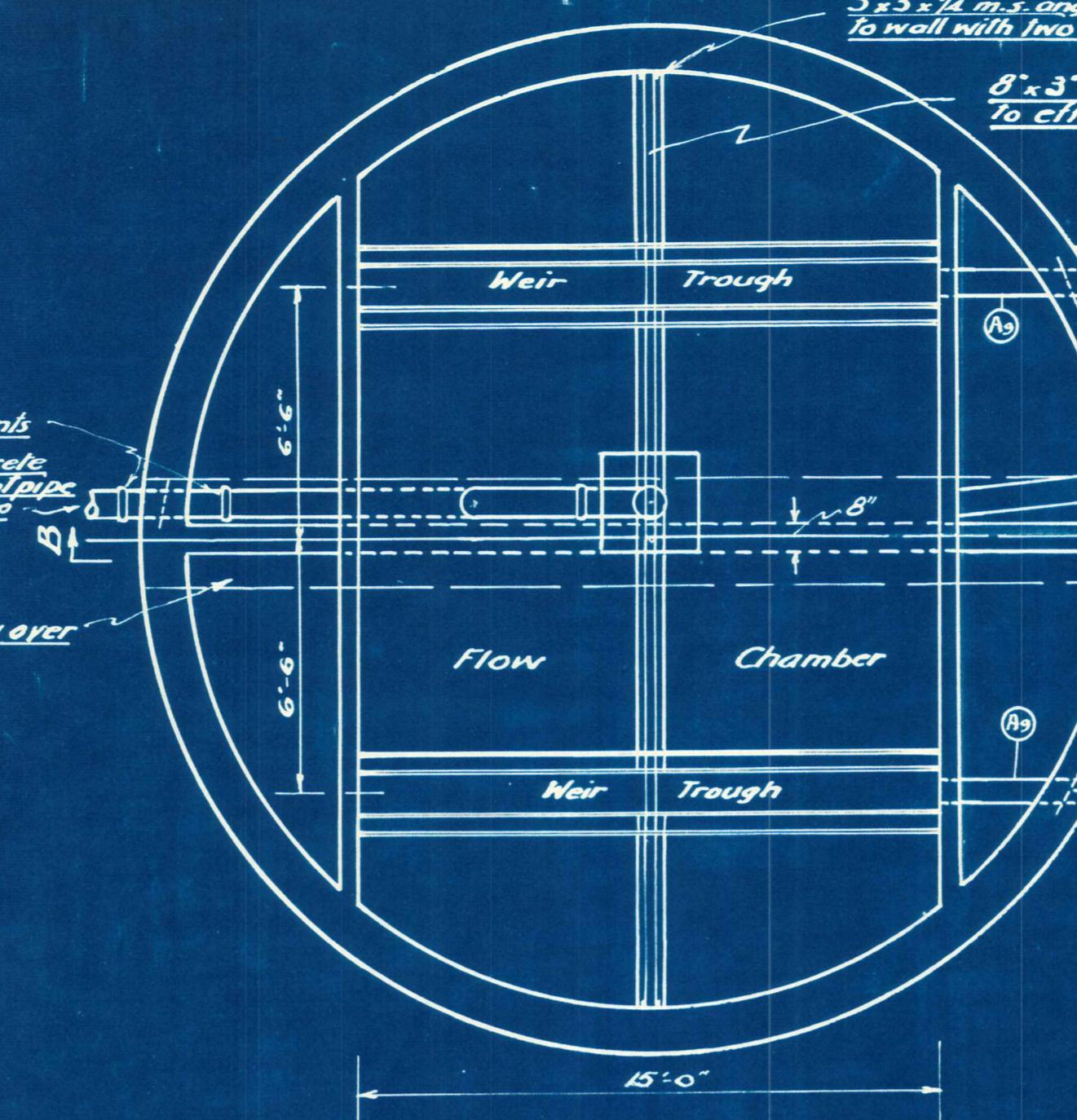
## SECTION ON AA.



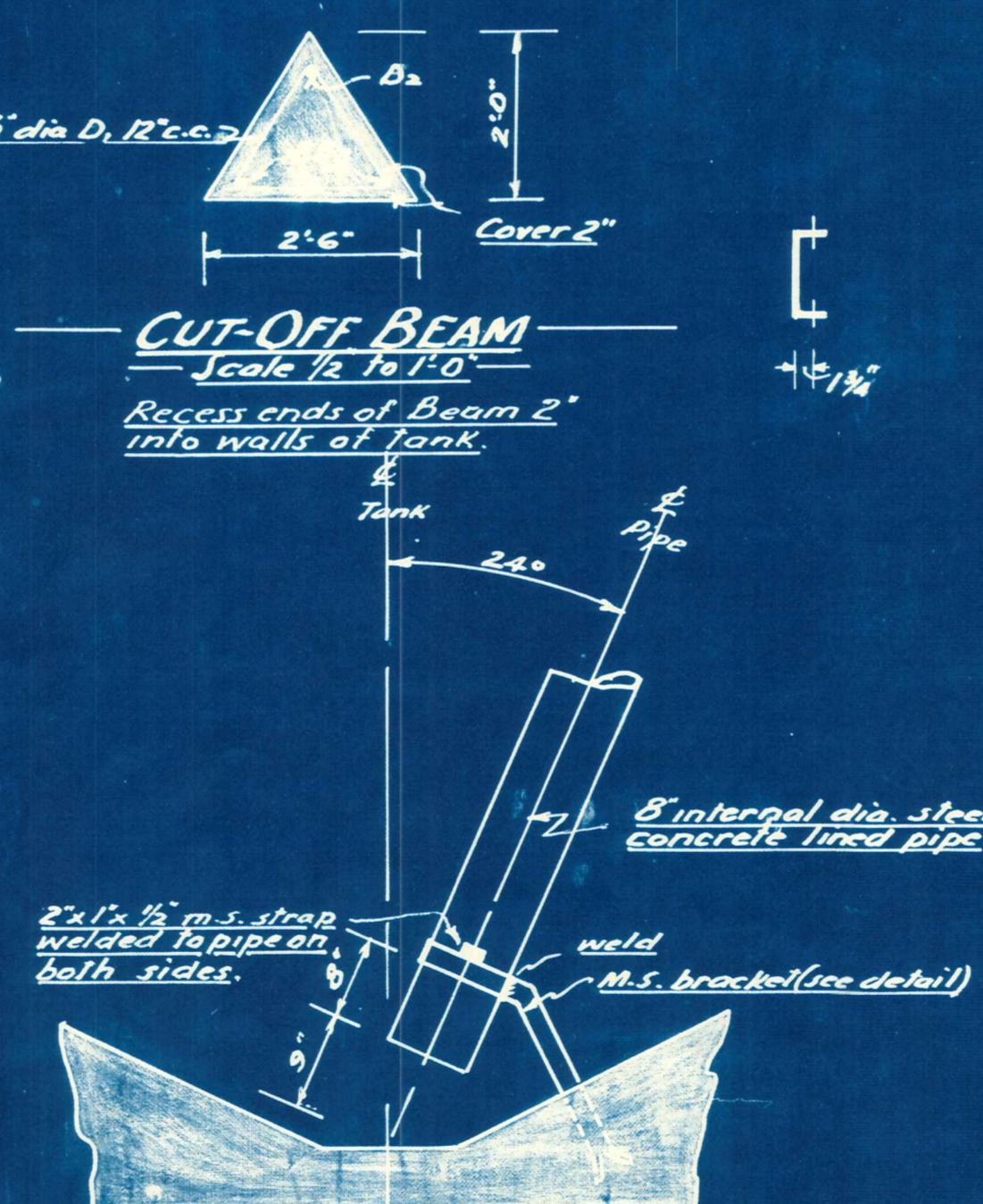
## SECTION ON B.B.

—Scale 1/4 in to 1 ft.—

Note. Unless otherwise shown  
minimum cover on steel to be 1½"

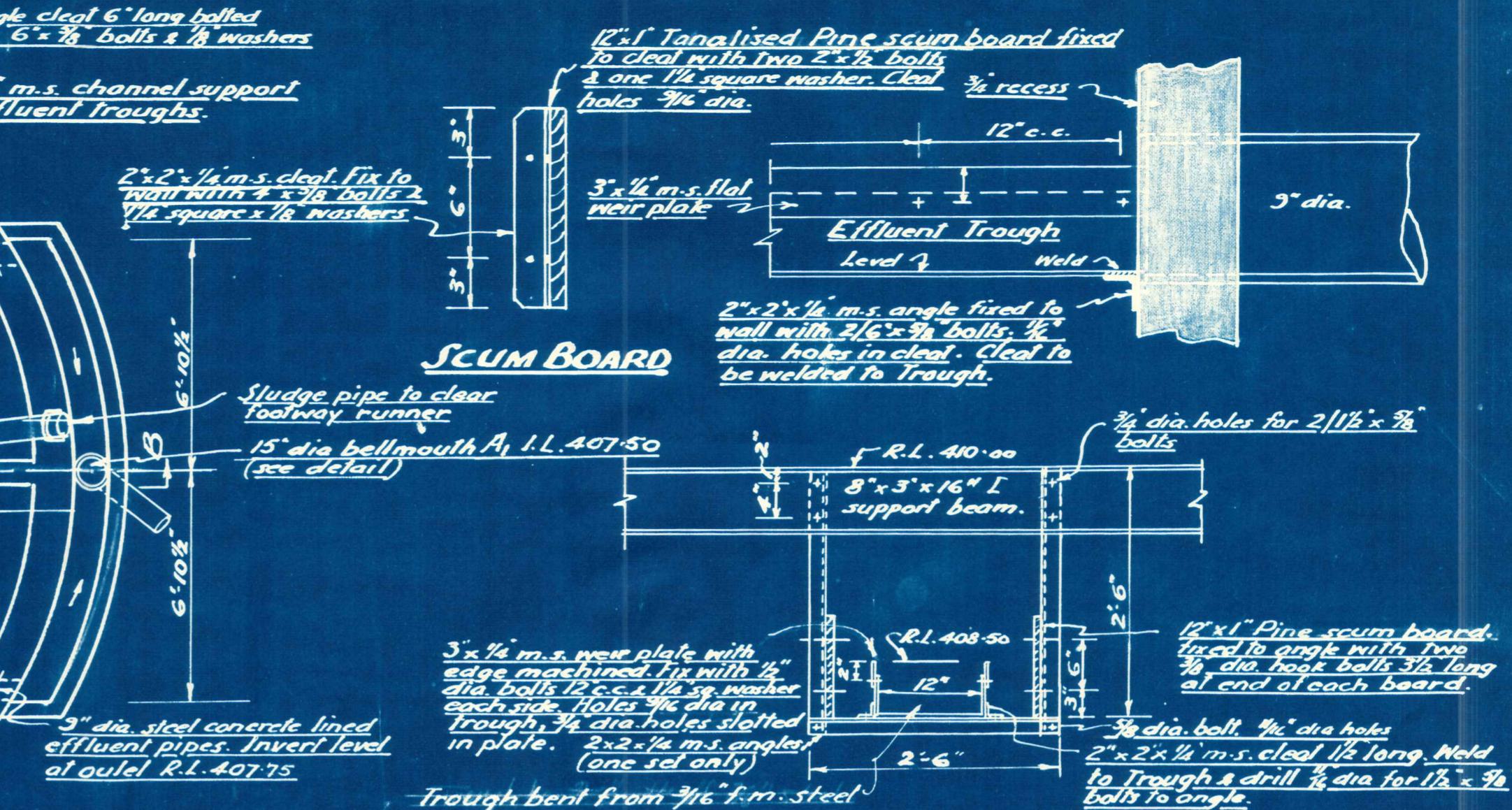


## PLAN OF TANK *(Footway not shown)*

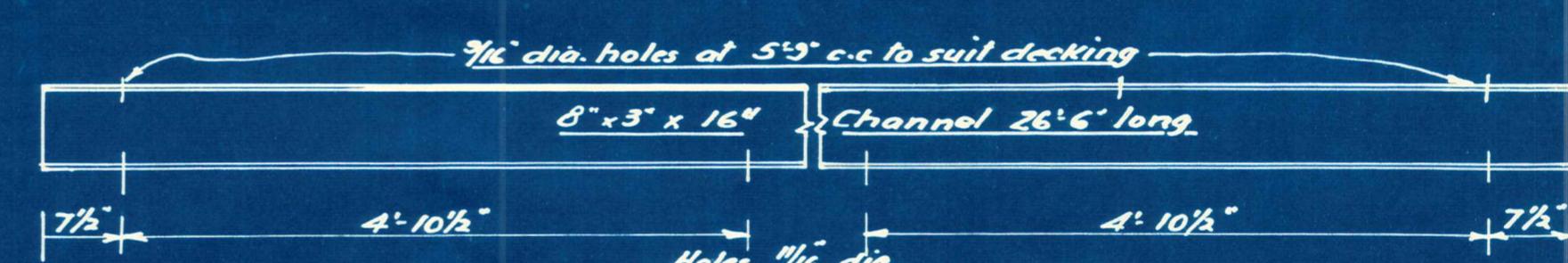
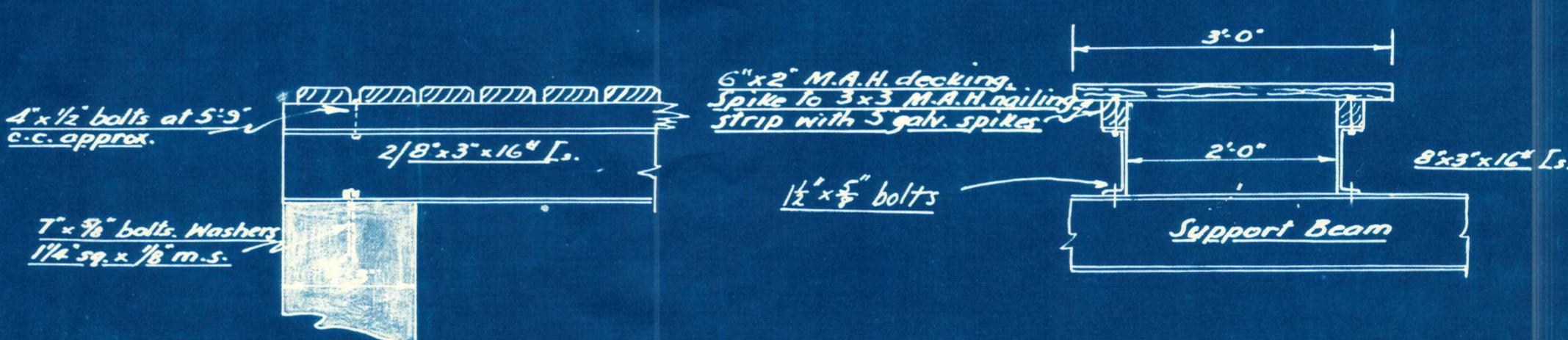


# DETAILS OF SLUDGE PIPE FIXING

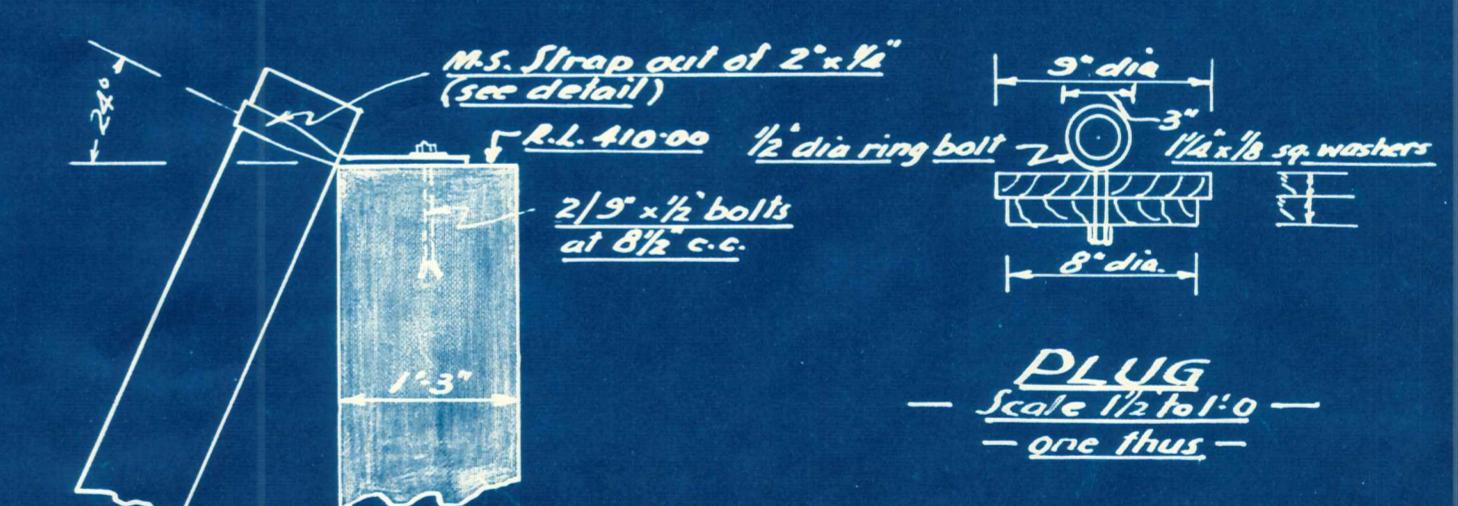
— Scale  $\frac{1}{4}$ " to 1' 0" —



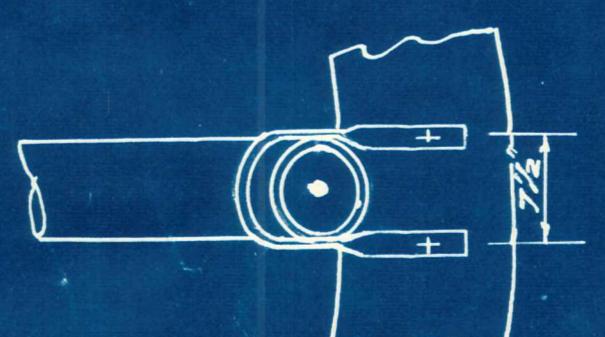
DETAIL OF EFFLUENT WEIR TROUGH  
— Scales  $\frac{3}{4}'' \times 1\frac{1}{2}''$  to  $1' - 0''$  —



FOOTWAY DETAILS  
— Scale  $\frac{3}{4}$ " to 1'-0" —



**ELEVATION**

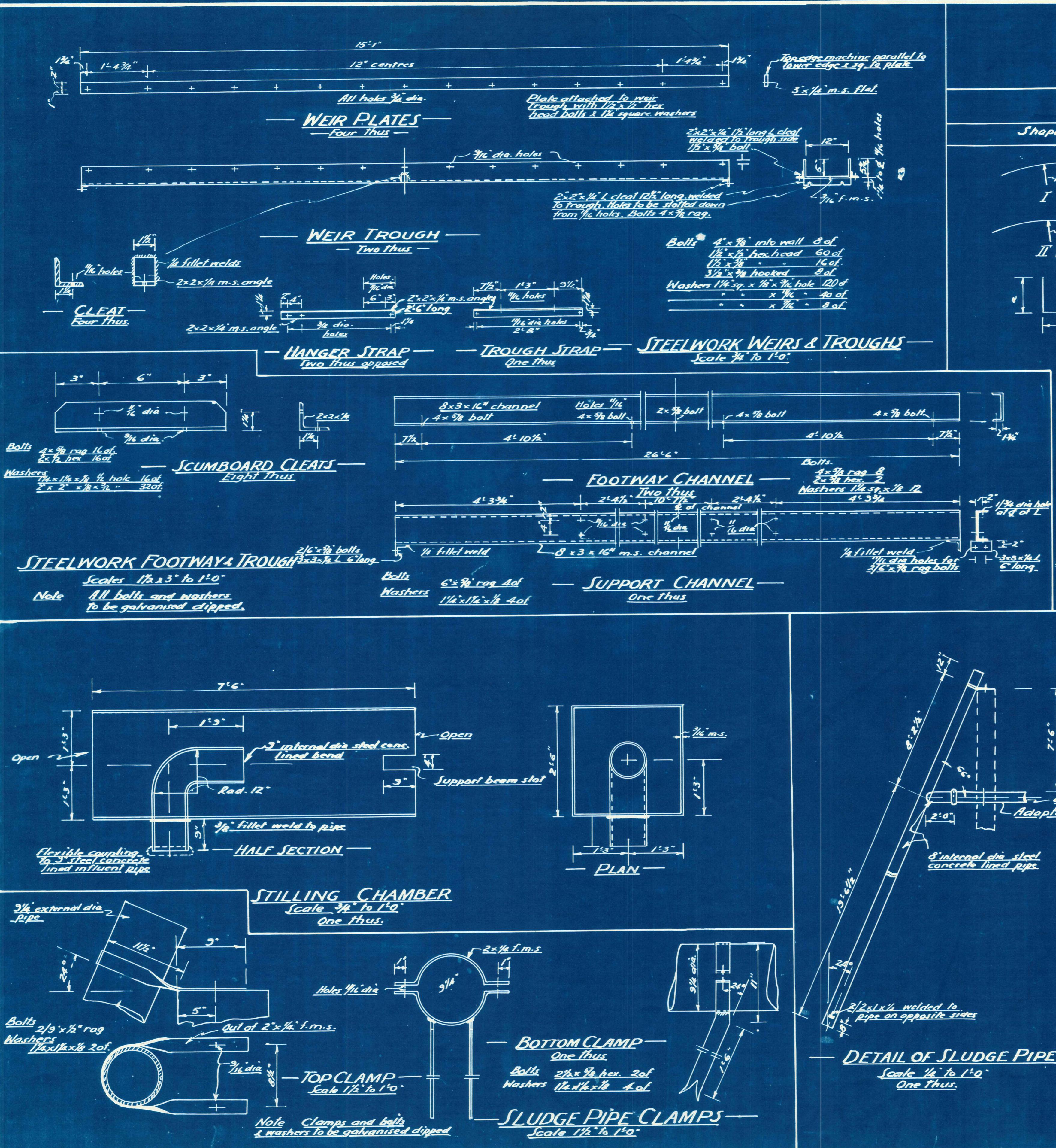


PLAN

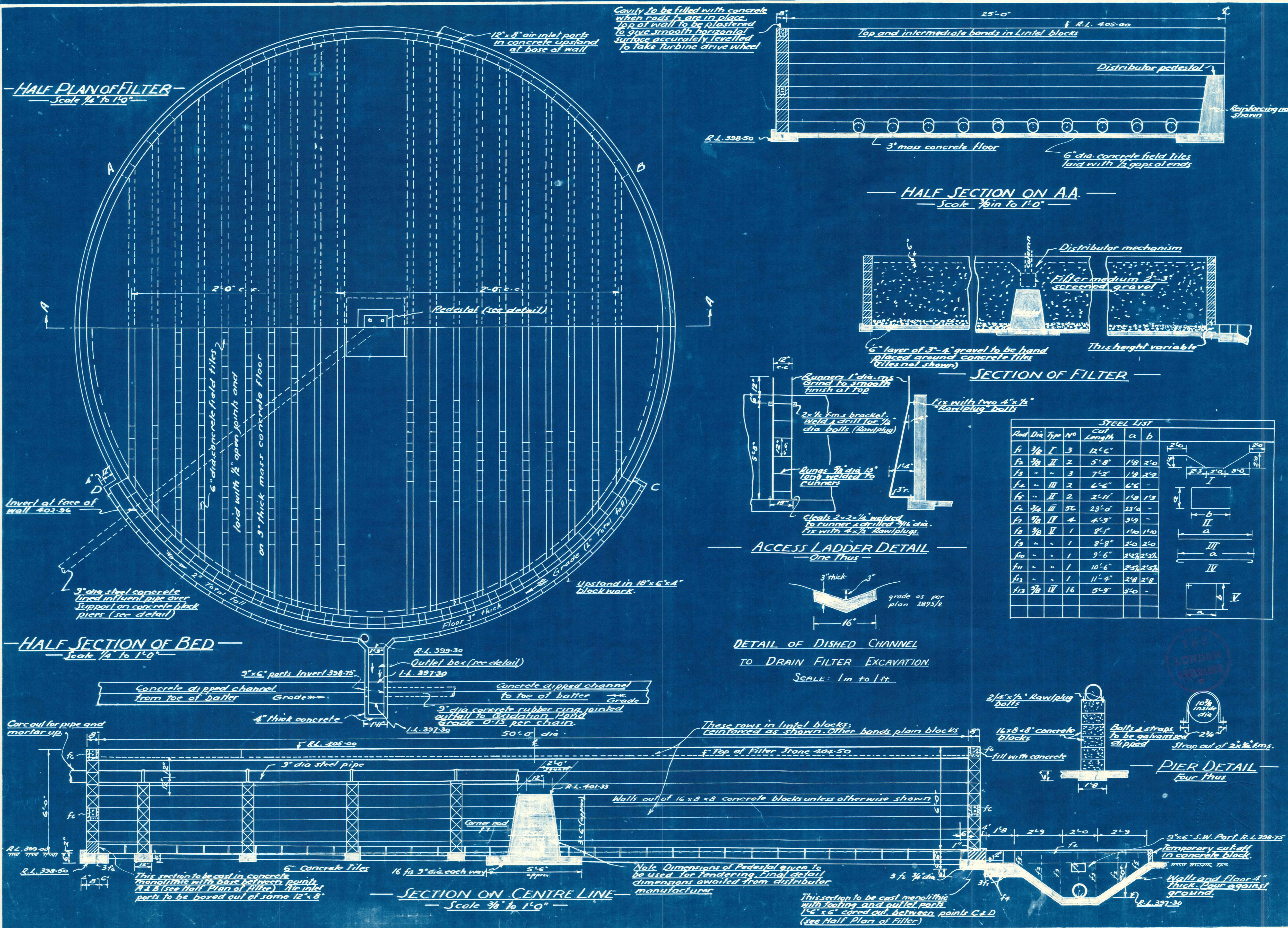


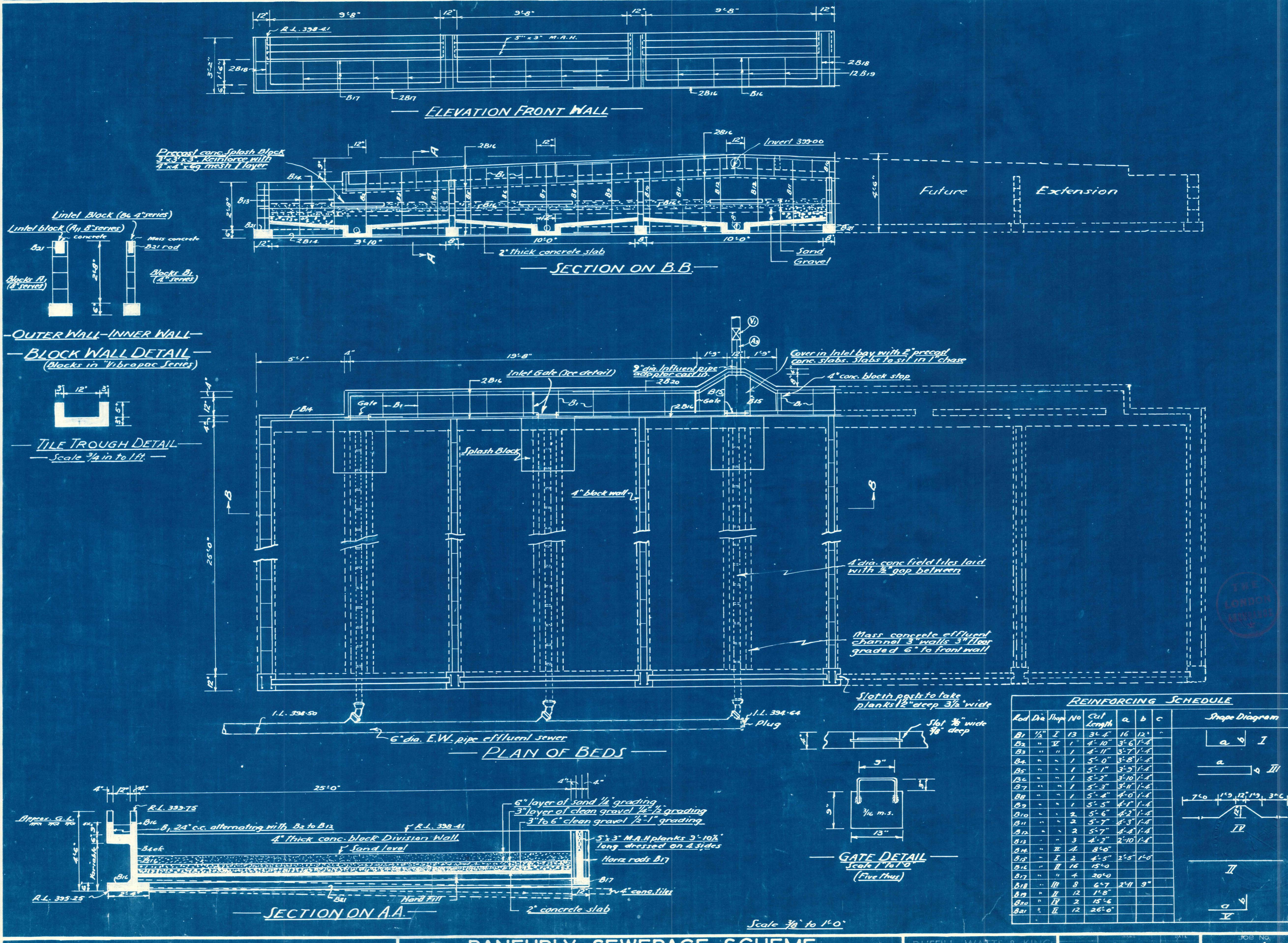
# TYPICAL HOOK & LAP

— Not to scale —



Mark	Location	Di.	Shape	No off	Cut Length	Dimensions a b c
W <sub>1</sub>	Walls(outer)	3/4	I	15	30'-9"	- - -
W <sub>2</sub>	" (inner) "	"	II	12	28'-6"	- - -
W <sub>3</sub>	" (outer) "	9/8	I	72	30'-9"	
W <sub>4</sub>	" (inner) "	"	II	72	28'-6"	
W <sub>5</sub>	Walls	1/2	III	64	5'-0"	1'-9" 3'-3" -
W <sub>6</sub>	Crosswall	"	IV	4	19'-6"	19'-6" - -
W <sub>7</sub>	"	"	"	4	19'-3"	19'-3" - -
W <sub>8</sub>	"	"	"	4	19'-0"	19'-0" - -
W <sub>9</sub>	"	1/2	"	4	13'-9"	13'-9" - -
W <sub>10</sub>	"	"	"	4	11'-6"	11'-6" - -
W <sub>11</sub>	"	"	"	4	9'-0"	9'-0"
W <sub>12</sub>	"	"	"	4	6'-9"	6'-9"
W <sub>13</sub>	"	"	"	4	5'-3"	5'-3"
W <sub>14</sub>	Cutting edge	3/4	V	62	9'-3"	
W <sub>15</sub>	Walls(inner)	9/8	IV	62	28'-6"	28'-6"
W <sub>16</sub>	" (outer) "	"	VI	62	27'-0"	27'-0"
W <sub>17</sub>	Outlet	1/2	III	4	17'-9"	2'-9" 15'-0
W <sub>18</sub>	"	"	VII	16	6'-11"	3'-0" 2'-3" 1'-8"
W <sub>19</sub>	"	"	III	2	4'-8"	3'-0" 1'-8"
W <sub>20</sub>	flow. Cham.	"	III	60	5'-0"	1'-9" 3'-3"
W <sub>21</sub>	"	"	IV	48	15'-0"	15'-0"
W <sub>22</sub>	"	"	"	48	15'-0"	15'-0"
W <sub>23</sub>	"	"	IV	62	22'-6"	22'-6"
W <sub>24</sub>	Crosswall	"	II	16	4'-9"	4'-9"
W <sub>25</sub>	"	"	"	4	4'-0"	4'-0"
W <sub>26</sub>	"	"	"	4	4'-6"	4'-6"
W <sub>27</sub>	"	"	"	4	5'-3"	5'-3"
W <sub>28</sub>	"	"	"	4	6'-0"	6'-0"
W <sub>29</sub>	"	"	"	4	6'-9"	6'-9"
W <sub>30</sub>	"	"	"	4	7'-6"	7'-6"
W <sub>31</sub>	"	"	"	4	8'-3"	8'-3"
W <sub>32</sub>	"	"	"	4	9'-0"	9'-0"
W <sub>33</sub>	"	"	"	4	9'-9"	9'-9"
W <sub>34</sub>	"	"	"	12	23'-0"	23'-0"
W <sub>35</sub>	"	1"	"	2	24'-0"	24'-0" bend on side
W <sub>36</sub>	"	5/8"	III	4	5'-6"	3'-3" 2'-3"
D <sub>1</sub>	A Beam	3/8	VII	25	5'-10"	1'-9" 1'-9" 1'-9"
D <sub>2</sub>	"	1/2"	IV	1	24'-2"	24'-2"
D <sub>3</sub>	"	1"	IV	3	24'-2"	24'-2"
W <sub>37</sub>	Crosswall	1/2"	IV	4	4'-3"	4'-3"
W <sub>38</sub>	"	"	"	4	14'-9"	14'-9"



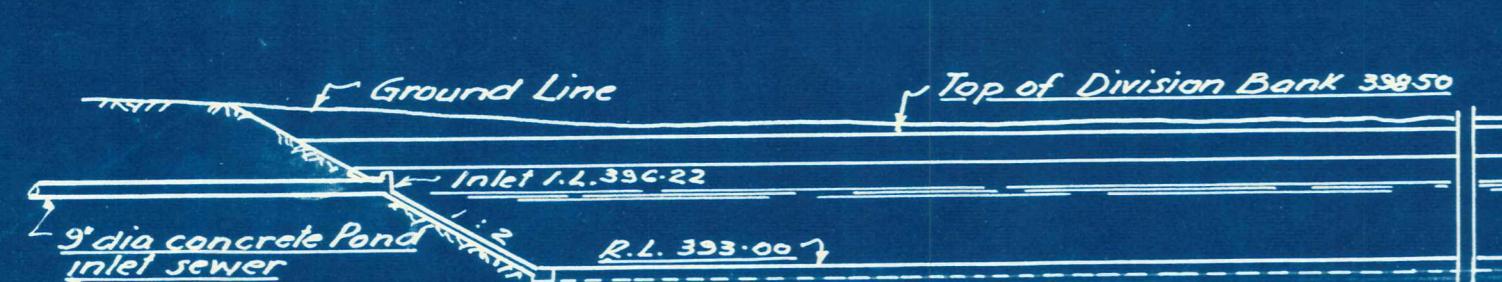


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# RANFURLY SEWERAGE SCHEME SLUDGE DRYING BEDS

DUFFILL, WATTS & KING  
CIVIL ENGINEERS AND SURVEYORS  
DUNEDIN and INVERCARGILL

2895/6



Division Embankment  
Ground Line

R.L. 398.50

Ground Line  
Top of Lining Slab R.L. 397.25  
R.L. 393.00

Width dependent on available  
cut to fill minimum to be  
10'-0" on all banks (see spec)

LONGITUDINAL SECTION OF POND ON AA.

Scale 8 ft to 1 in.

2.25 chs.

1.25 chs.

1.00 chs.

3.50 chs

1.00 chs.

2.6'

R.L. 397.30

Width of Pond chamber 22' 2"

(See Sheet 2895/1 & 10)

2" Concrete Lining Slab "Flexell" Joints

OUTLET BAY

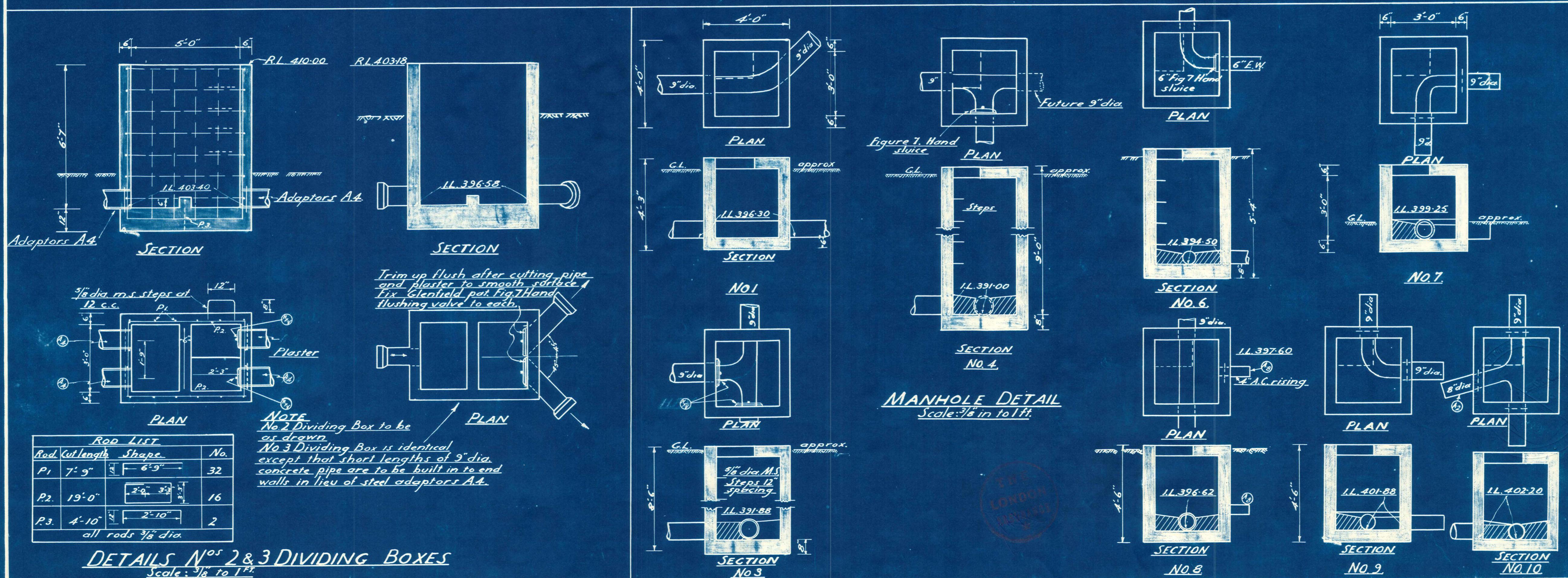
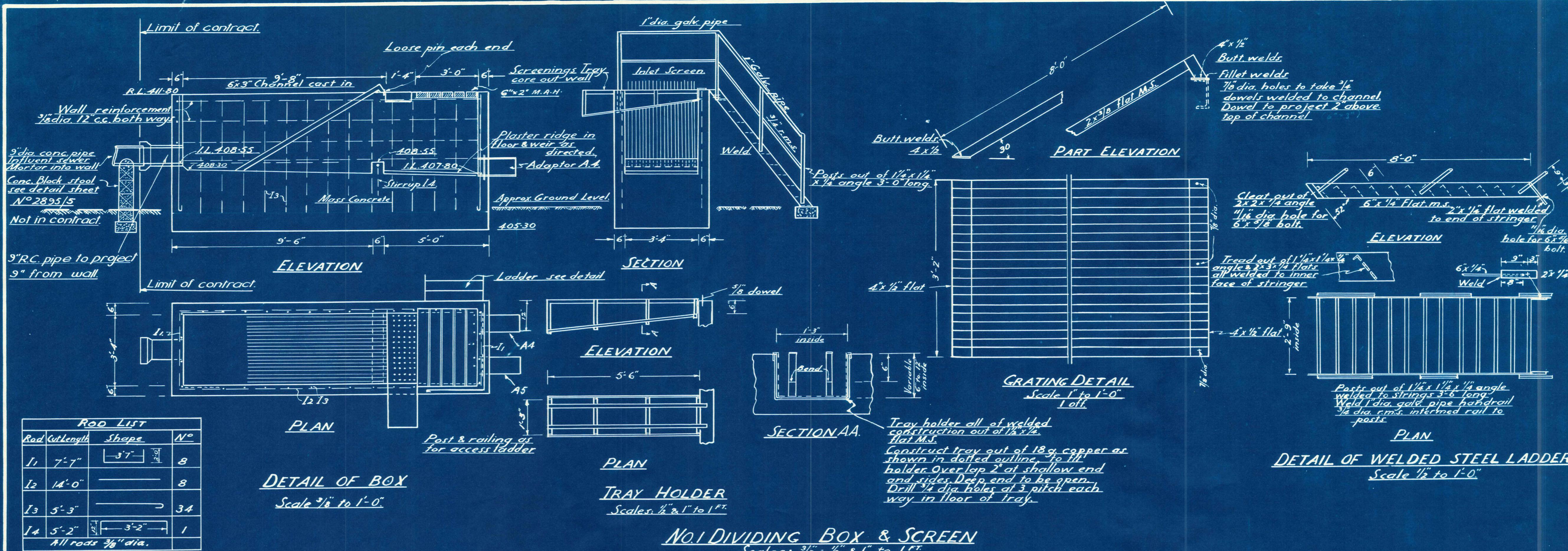
"Flexell" Joints  
Concrete Lining Slab.

INLET BAY

PLAN OF POND  
Scale 25 ft to 1 in.

1.00 chs.

</div



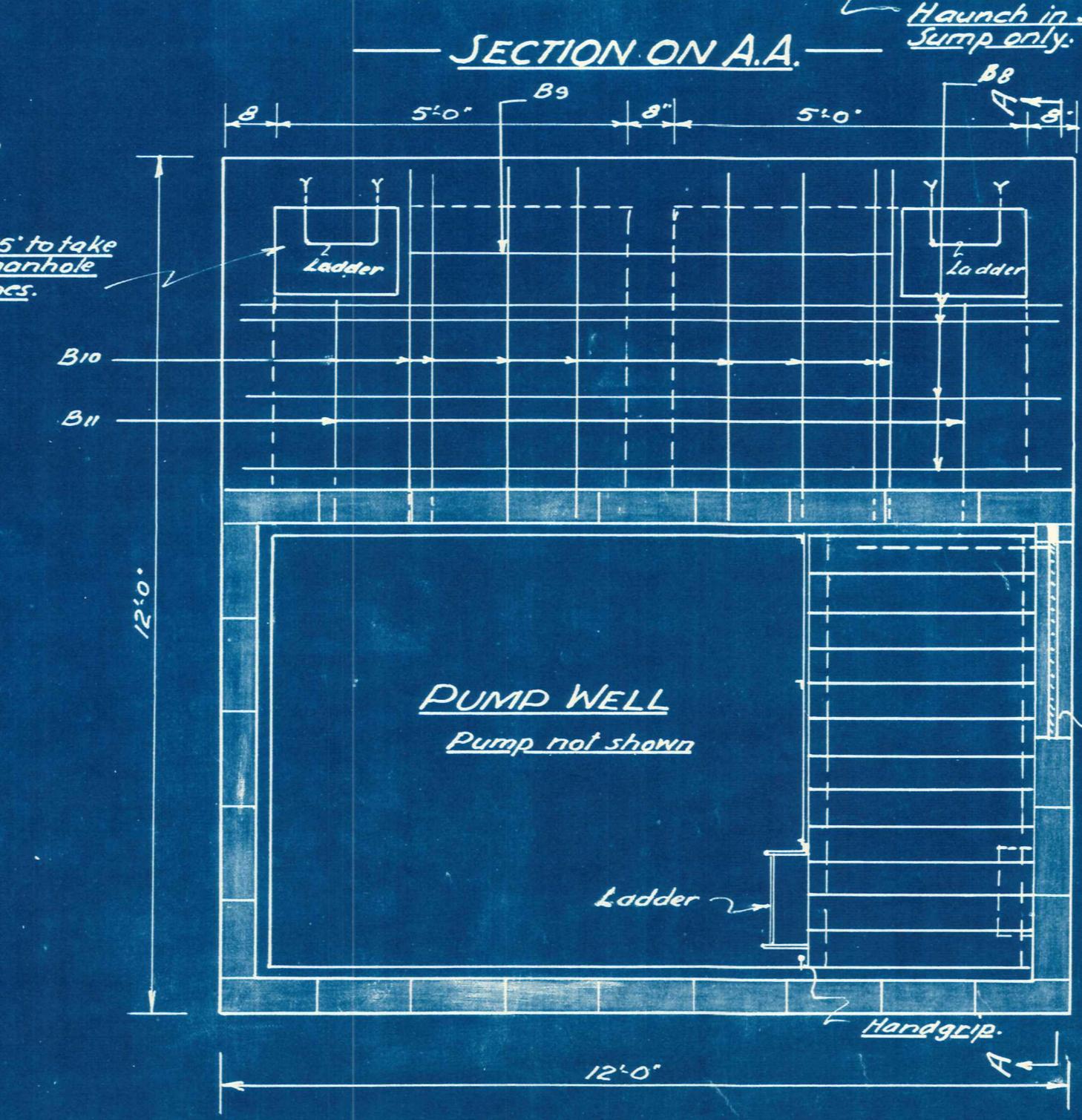
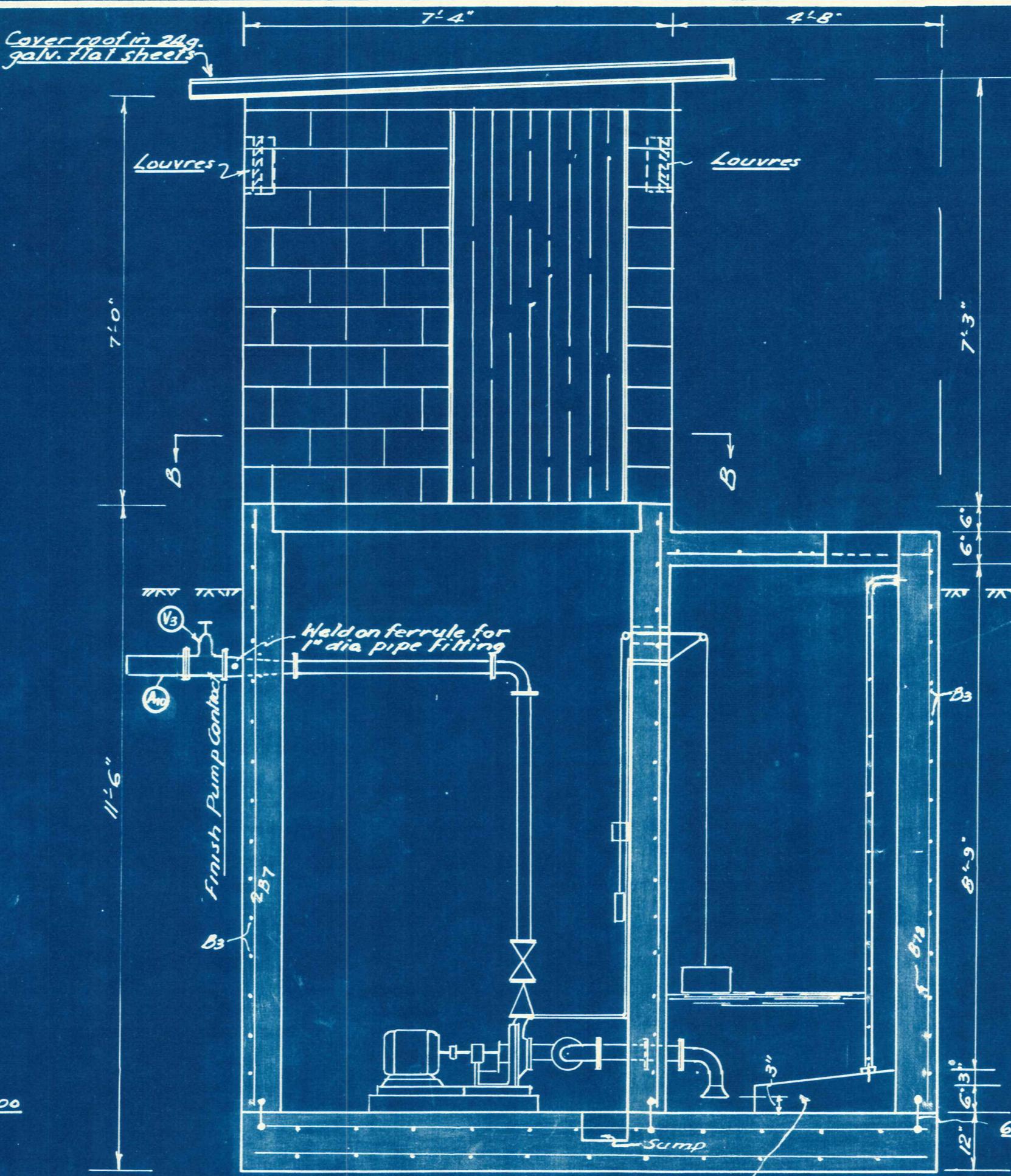
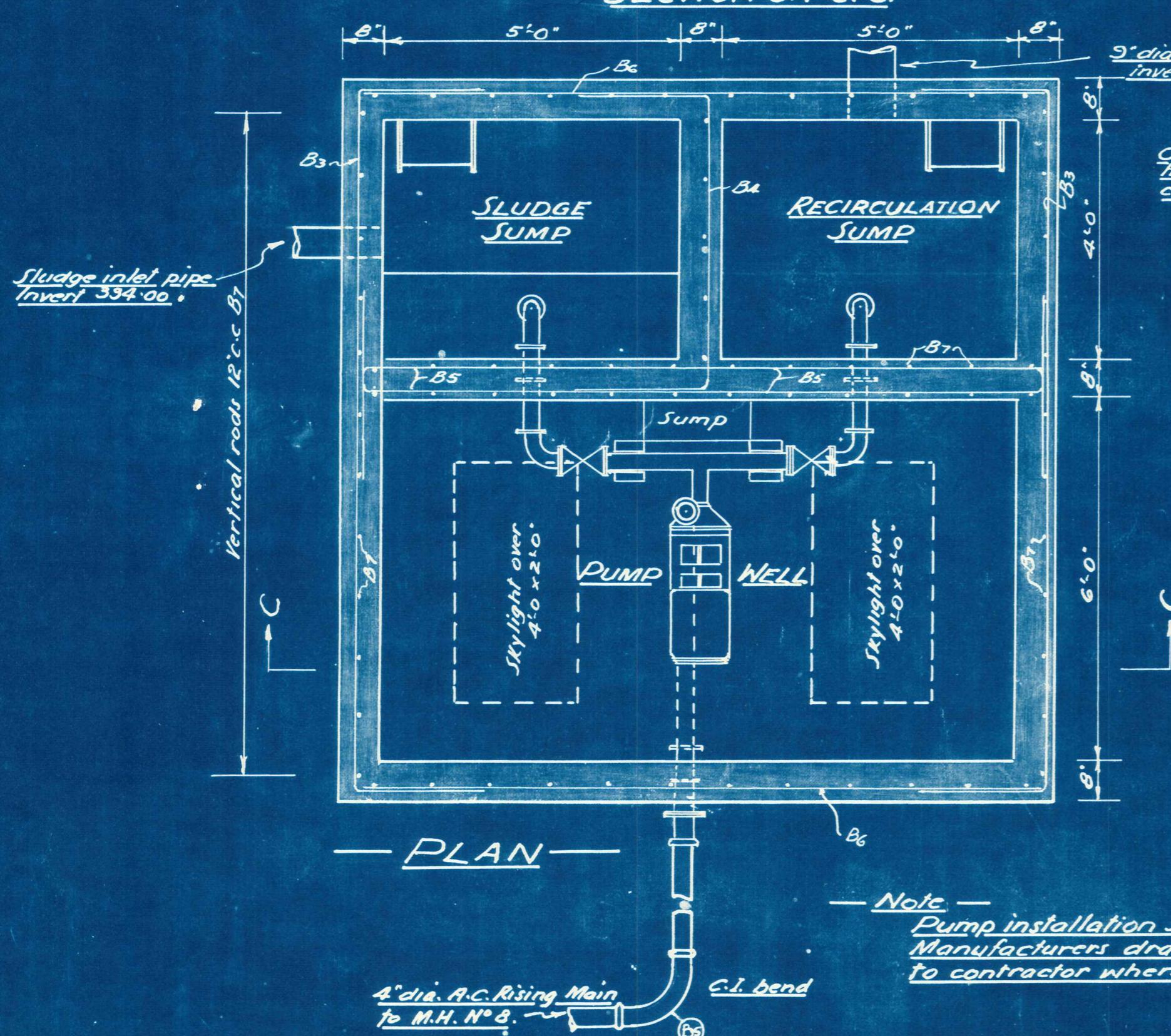
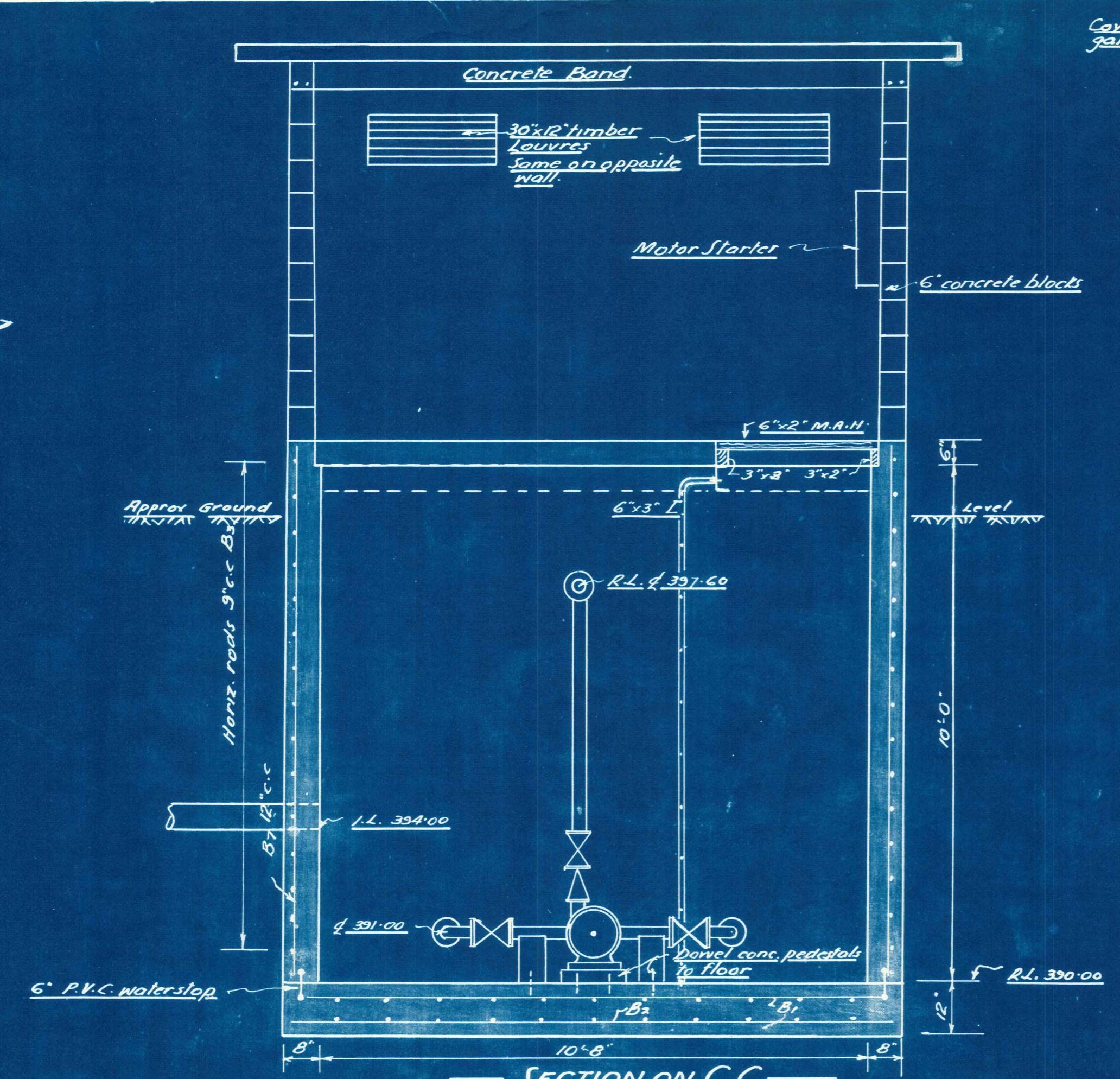
# MANIOTOTO COUNTY COUNCIL

# RANFURLY SEWERAGE SCHEME MISCELLANEOUS STRUCTURES.

DUFFILL, WATTS & KING  
CIVIL ENGINEERS AND SURVEYORS  
DUNEDIN and INVERCARGILL

ED BY A. B. Cochran Aug 19  
RECEIVED  
T. F. Page  
B. R. Allwardt

JOB NO.  
**2895/8**  
F BK FILE NO.



Note — Pump installation shown is approx only.  
Manufacturers drawings will be supplied  
to contractor when available.

# MANIOTOTO COUNTY COUNCIL

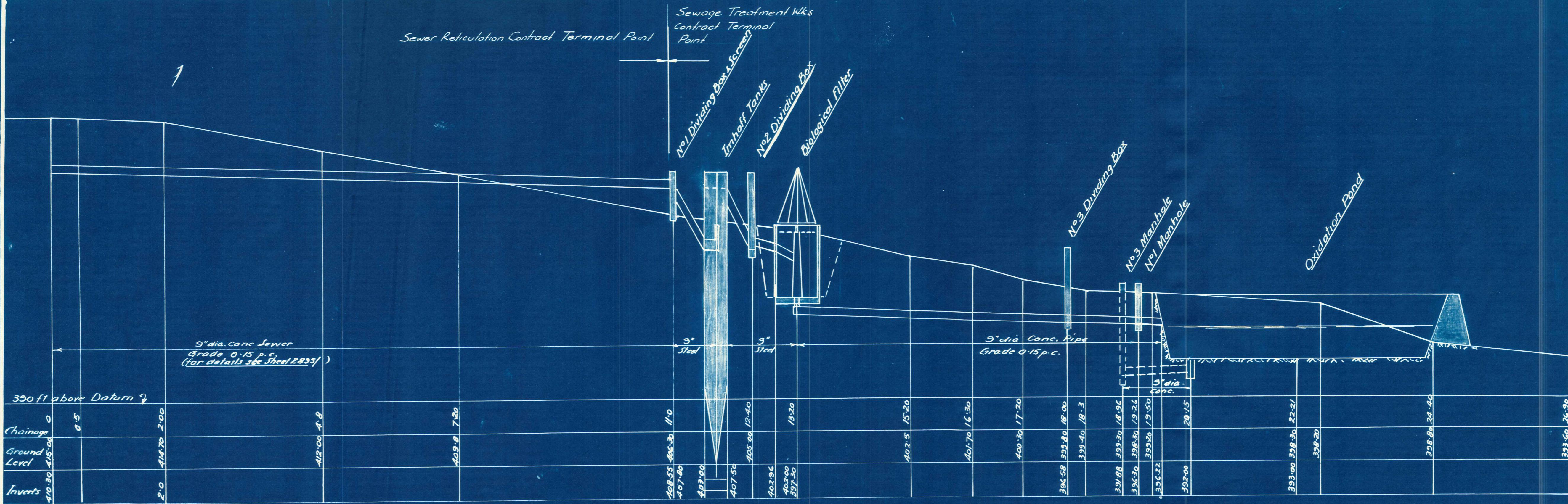
# RANFURLY SEWERAGE SCHEME PUMPING STATION LAYOUT

DUFFILL, WATTS & KING  
CIVIL ENGINEERS AND SURVEYORS  
DUNEDIN and INVERCARGILL

STUDYED BY A. B. Cochran  
RECORDED BY T. F. Page  
CALCULATED BY -  
CHECKED BY -  
TELECO

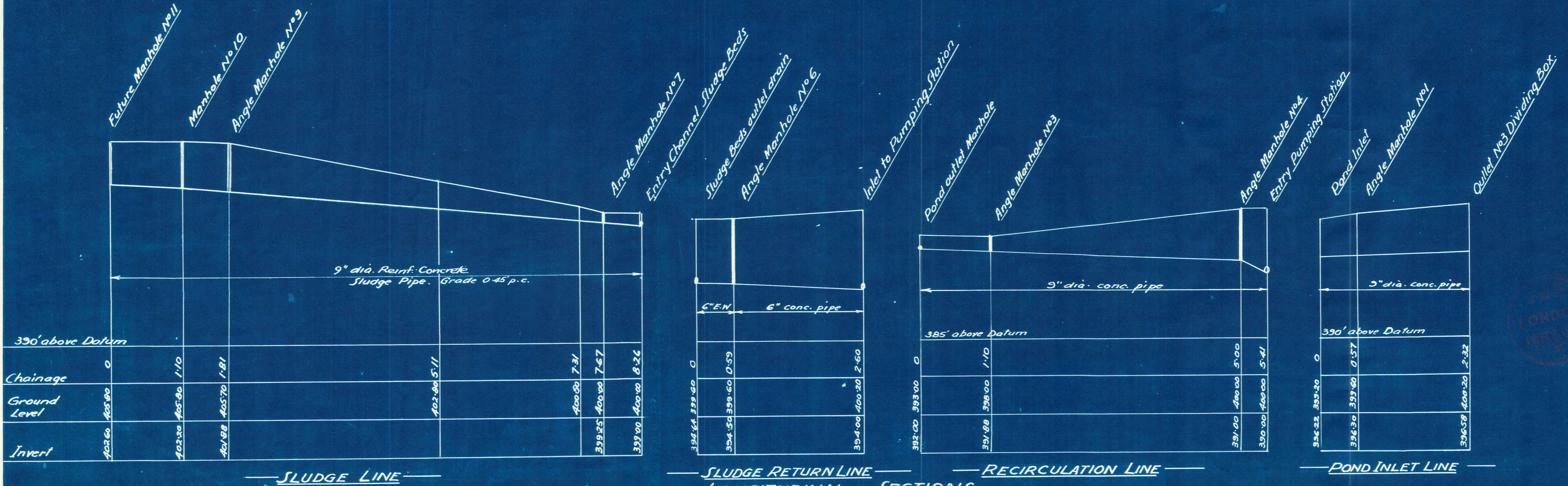
All rods  $\frac{1}{2}$ " dia.

2895/9



—SECTION THROUGH PLANT ON LINE X.X.—

Scales— Horiz. 1 ch. to 1 in.  
Vert. 5 feet to 1 in.  
(Chainages are along XX)



— SLUDGE RETURN LINE —      — RECIRCULATION LINE —

LONGITUDINAL SECTIONS —  
—Scales — Horiz. 1ch. to 1 in.  
Vert. 5ft to 1 in.

# MANIOTOTO COUNTY COUNCIL

# RANFURLY SEWERAGE SCHEME LONGITUDINAL SECTIONS THROUGH PLANT

DUFFILL, WATTS & KING  
CIVIL ENGINEERS AND SURVEYORS  
DUNEDIN and INVERCARGILL

DEVIATED BY RAWN CALCULATIONS CHECKED RACED	DATE <i>A.B. Cochran, Aug 1919</i> <i>rechecked</i>	JOB NO. <b>2895/10</b>
	" <i>T.F. Page Mar 1960</i> <i>recd</i> "	F.B.I. FILE NO. <i>5/6/32</i>

### SCHEDULE OF PIPE SPECIALS

Type of Special	Sheet No.	Size	Mark	No. of	Location	Diagram
<u>Main Influent Line</u>						
Adaptor	288	9" int dia steel	A4	1	N°1 Dividing Box	
Adaptor	288	ditto	A5	1	ditto	
Bend	2	ditto	B4	1	ditto	
Valve	2	9" for gib joint	V2	1	Inlet N°1 Imhoff	
Bend	2	9" int dia steel	B4	1	ditto	
Adaptor	2	9" int dia steel	A6	1	ditto	
Pipe	3	9" int dia steel	P1	1	ditto	
Adaptor	283	ditto	A1	1	Outlet N°1 Imhoff	
Bend	2	ditto	B1	1	ditto	
Valve	2&7	9" for gib joint	V2	2	Pond Outlet Manhole	
Bend	2	9" int dia steel	B2	1	ditto	
Adaptor	288	ditto	A4	4	Inlet Outlet N°2 D.B.	
Bends	2	9" int dia steel	B3	1	Outlet N°2 Dividing Box	
<u>Sludge Line</u>						
Adaptor	382	8" int dia steel	A7	1	Sludge outlet Imhoff	
Adaptor	288	ditto	A2	1	Manhole N°10	
Valve	288	8" for gib joint	V1	1	ditto	
Adaptors*	288	9" int dia steel	A3	2	ditto	
Adaptors*	8	ditto	A3	2	Manhole N°7	
Adaptors*	6	ditto	A3	1	Inlet Sludge Beds	
Valve *	9	4" flanged	V3	1	Outlet Pumping Stn.	
Valve *	6	9" for gib joints	V2	1	Inlet to sludge Beds	
Adaptor *	8	4" for gib joint	A8	1	Manhole N°8	
Adaptor *	9	4" steel	A10	1	Pumping station delivery	
Bend *	18.9	4" cast iron	B5	1	Standard CI Bend for Fibrolite gib joint. Outlet Pumping Stn.	
Adaptor	3	9" steel	A9	2	Imhoff Tank	

Construction 9" concrete foundation, galv. wire ventilators.  
Framing 4"x2" locally grown Radiata.  
Galv. iron roof (26g). Copper D.P. & spouting.  
all in accordance with N.Z.S.S. 95 pt. II.

Linings Porch and Eaves Masonite, battened moulding at wall and fascia.  
Office, Flame-proof Pinex ceiling (See grooved) Walls Glibalter Board.  
Shower Cabinet and elsewhere N.Z. Hardboard.  
Store Pinex ceiling, Hardboard on walls.  
Lime Bin. Frame up 3'-6" high in 6'x1' Radiata and  
line both sides in hardboard.  
Floors Porch and shower concrete. Other floors  
Radiata.

Lights Ceiling fittings opal plastic shades thru. #  
Globes 100 watt. office and store, 75 watt. Shower  
Power Heating points (two oil) thru. #  
Painting Paint to be to N.Z. S.S. 521.  
Ceilings two coats of approved paint  
Walls. Store walls not to be painted  
Other walls 1 coat undercoat. Two coats of enamel.  
Office fittings. Seal and two coats clear.

### Windows

All panes 20oz glass. casement stays bronze.  
Fixed sashes shown thru.

Joinery Windows 4x2 casement in Totara or Oregon

Louvres 2x1'-6" obscure glass slats

Doors Exterior 16' G. Totara or Oregon 6'8" x 2'6"

Interior R.P. flush 6'x6" x 2'6"

Moulding. Heart Red Pine.

Office Fittings in Red Pine

Bench on West wall plain front with toe recess.  
Bench on North wall with cupboards under full length copper cistern and connect  
and 18' wide shelf.

Sink 21" x 18" x 10" in Stainless steel. 1/2" Hot & Cold Chrome Taps.

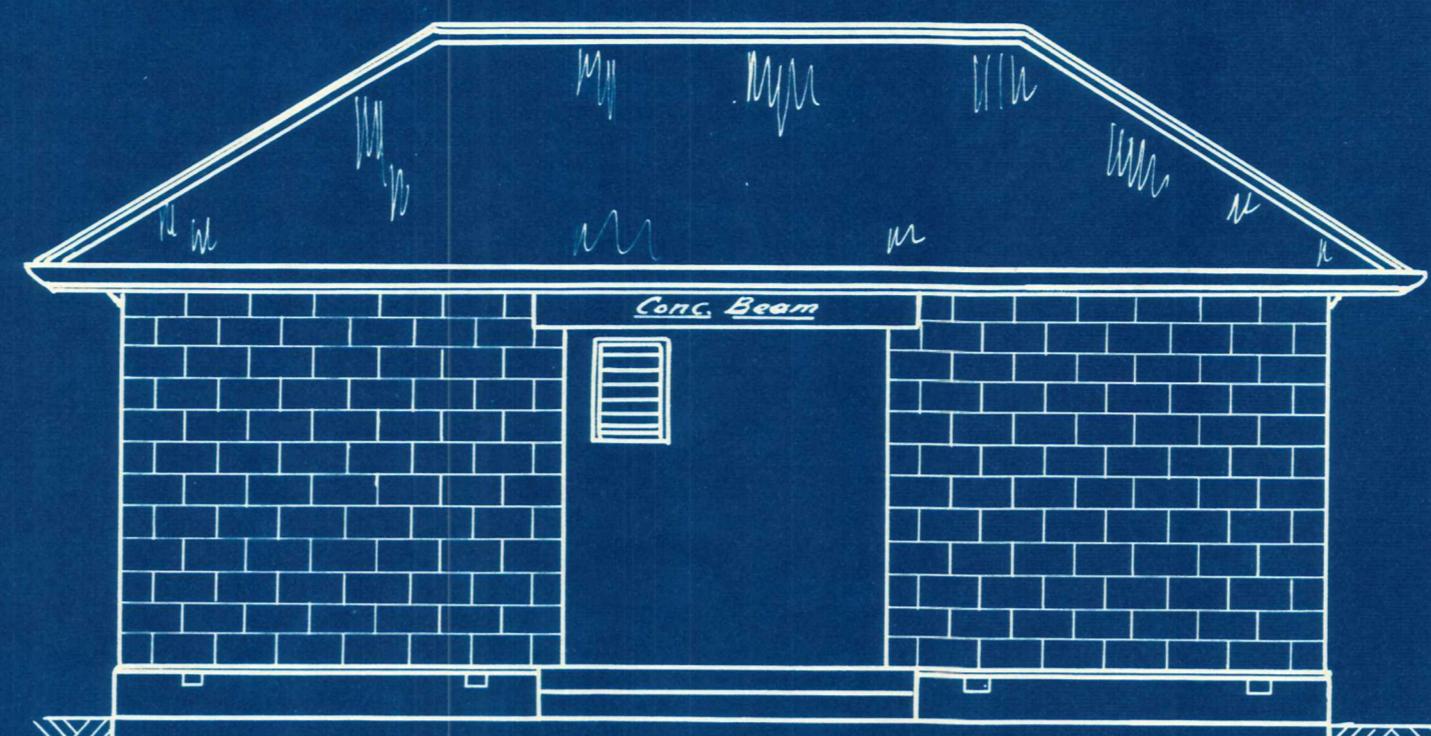
Water Heater 5 gall. under West wall bench.  
Connect to a supply tank in roof and to sink  
and shower in copper piping 1/2".

Store Shelving to roof open in 8x1' & 3x2" Radiata.

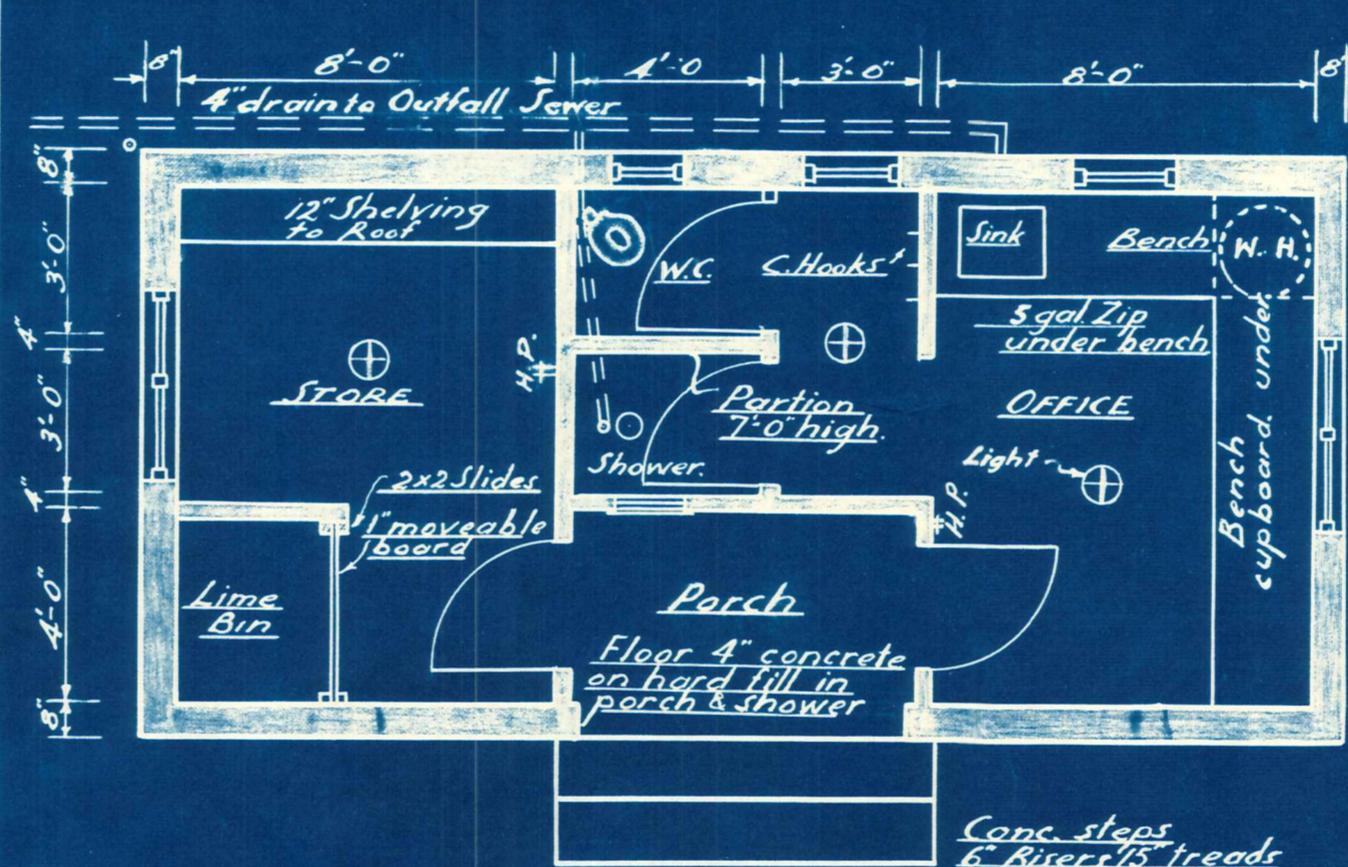
Painting (continued)

Exterior woodwork one coat of red lead, two coats approved  
paint

Eaves One undercoat. Two coats of approved paint



EAST ELEVATION



PLAN

### GENERAL SPECIFICATION

Draillayer Provide standard by traditional  
Contractor's own method.

Windows 4x2 glass. casement stays bronze.

Fixed sashes shown thru.

Doors Windows 4x2 casement in Totara or Oregon

Louvres 2x1'-6" obscure glass slats

Doors Exterior 16' G. Totara or Oregon 6'8" x 2'6"

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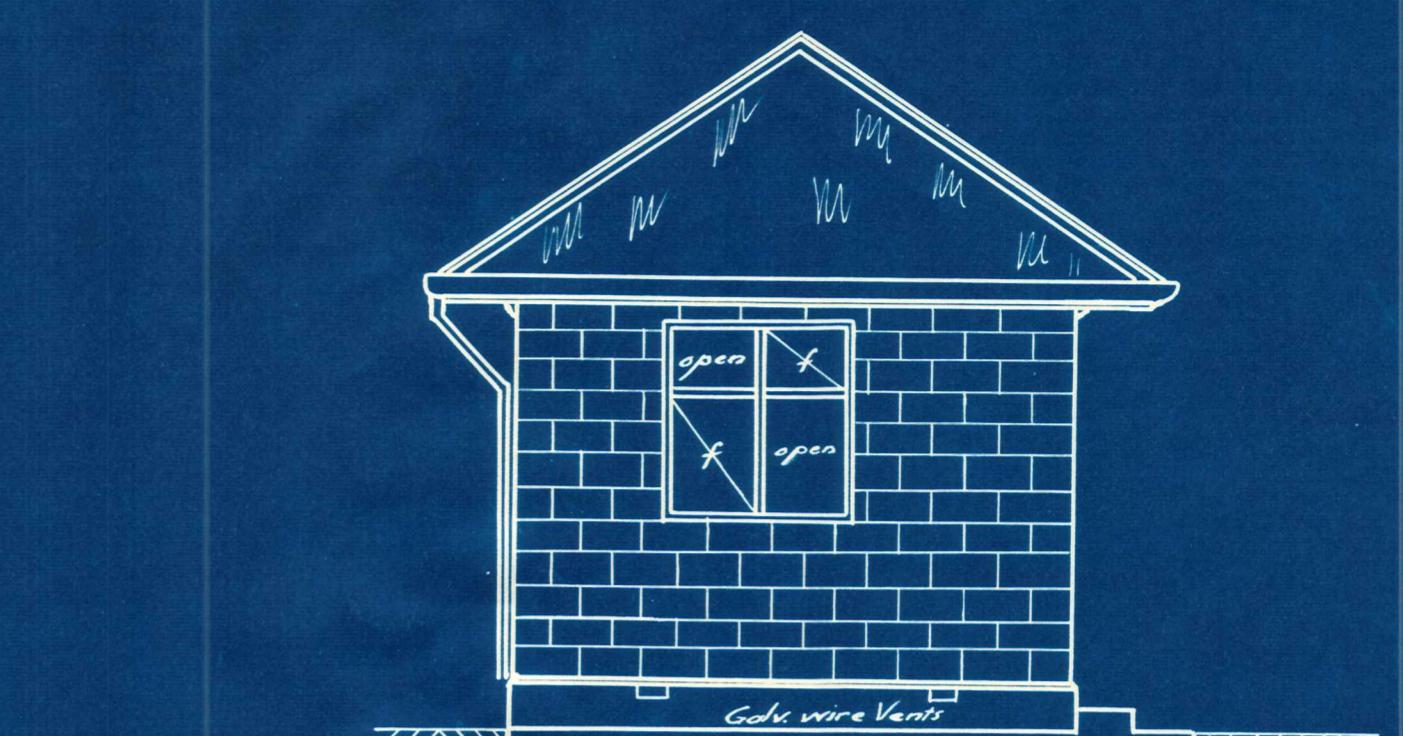
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Water Heater 5 gall. under West wall bench.  
Connect to a supply tank in roof and to sink  
and shower in copper piping 1/2".

Store Shelving to roof open in 8x1' & 3x2" Radiata.

Plumber Provide supply tank and H.W.  
cylinder and connect in 1/2" copper  
to shower and sink

Provide and fix 2" & 3" W.C. and  
copper cistern and connect



SOUTH ELEVATION



WEST ELEVATION



NORTH ELEVATION

Scale: 1/4" to 1 ft.