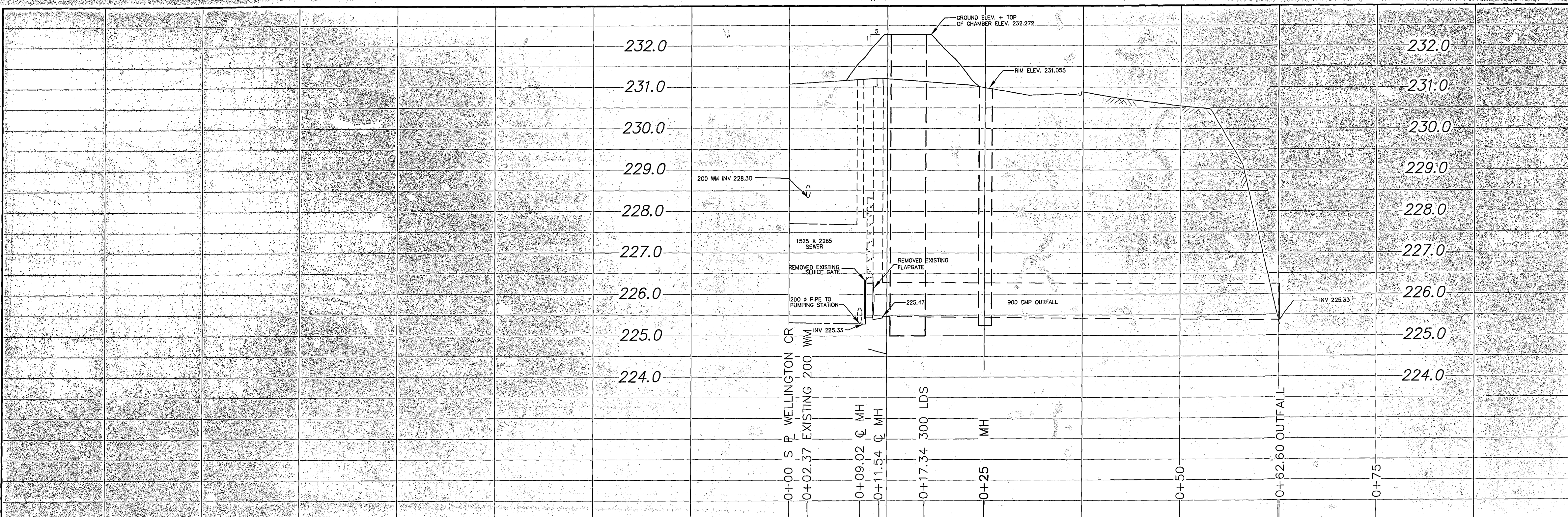


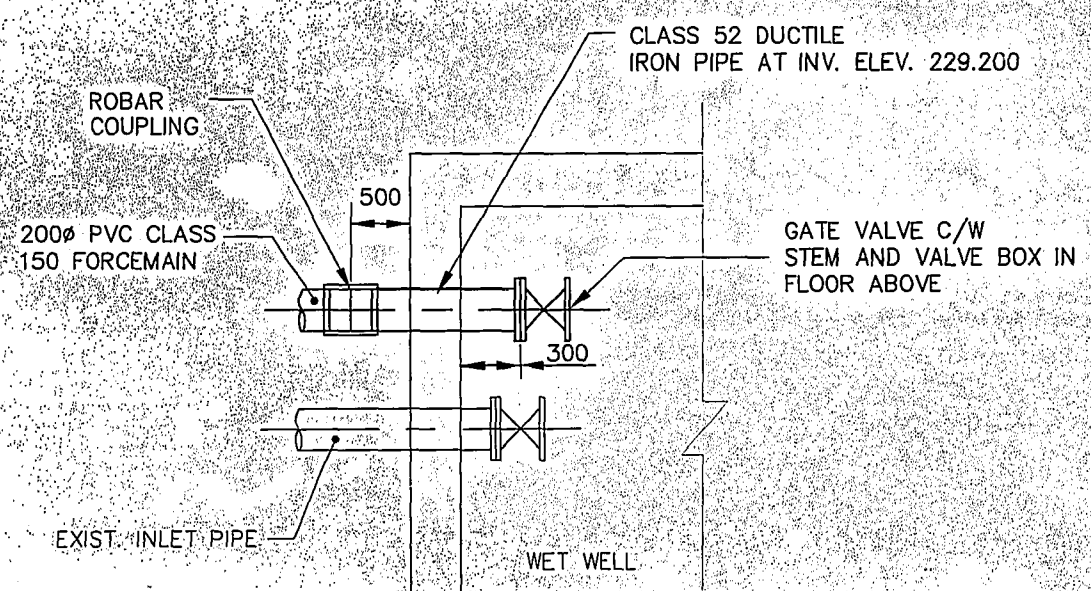
# Chataway Lift Station Drawings





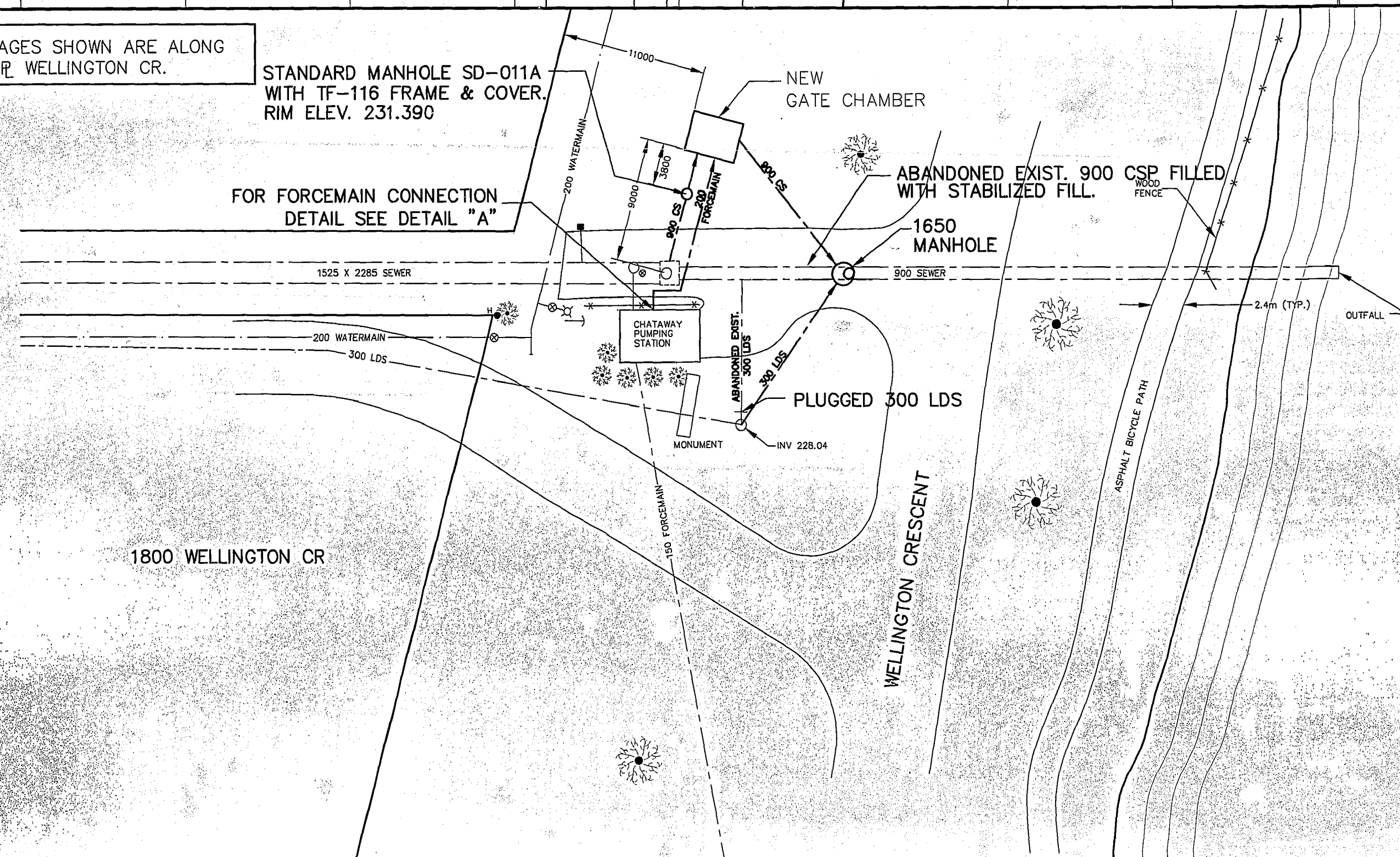
NOTE: CHAINAGES SHOWN ARE ALONG WEST R WELLINGTON CR.

STANDARD MANHOLE SD-011A WITH TF-116 FRAME & COVER. RIM ELEV. 231.390



DETAIL "A"  
SCALE 1:30

NOTE: - GATE VALVE IS FLANGED, CAST IRON BODY, SOLID WEDGE, NON-RISING STEM AS MANUFACTURED BY MUELLER.  
- VALVE STEM IS STAINLESS STEEL WITH A 50mm OPERATING NUT.



ITEM	MANUFACTURER	MATERIAL SPECIFICATIONS
<b>FORCEMAIN</b>		
200 PIPE	IPEX INC.	AWWA C900 CSA B137.3
200 PVC FITTINGS, TEES, BENDS	IPEX INC.	AWWA C907 CSA B137.2
GATE VALVES	MUELLER CANADA LTD	AWWA C509 CSA B137.2
VALVE BOXES (UPPER)	W.D. VALVE BOXES LTD.	CI UPPER (WD46) INCLUDING HINGE COVER (WD39)
ROBAR STYLE 1507	ROBAR INDUSTRIES	
<b>MANHOLES</b>		
RISERS AND BASES	LAFARGE	
FRAME AND COVER	TITAN FOUNDRY LTD.	MODEL TF-116
<b>LDS SEWER PIPE</b>		
300 COMBINED SEWER PIPE	IPEX INC.	ASTM D3034 CSA B182.2 RINGTITE PVC SDR 35
<b>CSP SEWER PIPE</b>		
900 REINFORCED CONCRETE PIPE	LAFARGE	C76 CLASS IV
CONTRACTOR: NELSON RIVER CONSTRUCTION LTD.		
COMPLETION DATE: JUNE 30, 2000		

METRIC  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

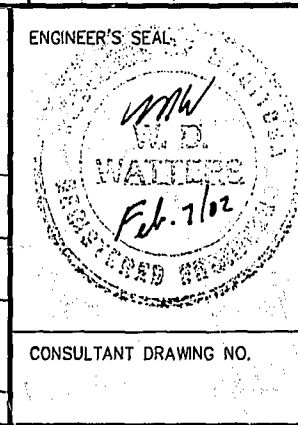
**AS-CONSTRUCTED**  
*Robert H. Walter* 02.01.23  
CONTRACT ADMINISTRATION DRAFTING & GRAPHIC SERVICES DATE  
WATER AND WASTE DEPARTMENT

200 WM	WATERMAIN	200 WM	SL, HYDRO	150 WM	WATERMAIN	150 WM
+	HYDRANT	+	MTS	+	HYDRANT	+
o	VALVE	o	CONCRETE	x	VALVE	x
525 LDS	LAND DRAINAGE SEWER	525 LDS	PROPERTY LINE	300 LDS	LAND DRAINAGE SEWER	300 LDS
375 WWS	WASTEWATER SEWER	375 WWS	SURVEY BAR	250 WWS	WASTEWATER SEWER	250 WWS
o	MANHOLE	o	FENCE	x	C PROFILE	
□	CATCH BASIN	□	POLE - HYDRO, MTS	---	GROUND ABOVE PIPE	
▽	CURB INLET	▽	CURB STOP			
+	JUNCTIONS	+	GUY ANCHOR			
—	CULVERT	—	LIGHT STANDARD			
50 GAS	GAS	50 GAS	TREE			
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING
			PROPOSED			PROPOSED

LOCATION APPROVED UNDERGROUND STRUCTURES  
SUPV. U/G STRUCTURES COMMITTEE DATE  
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

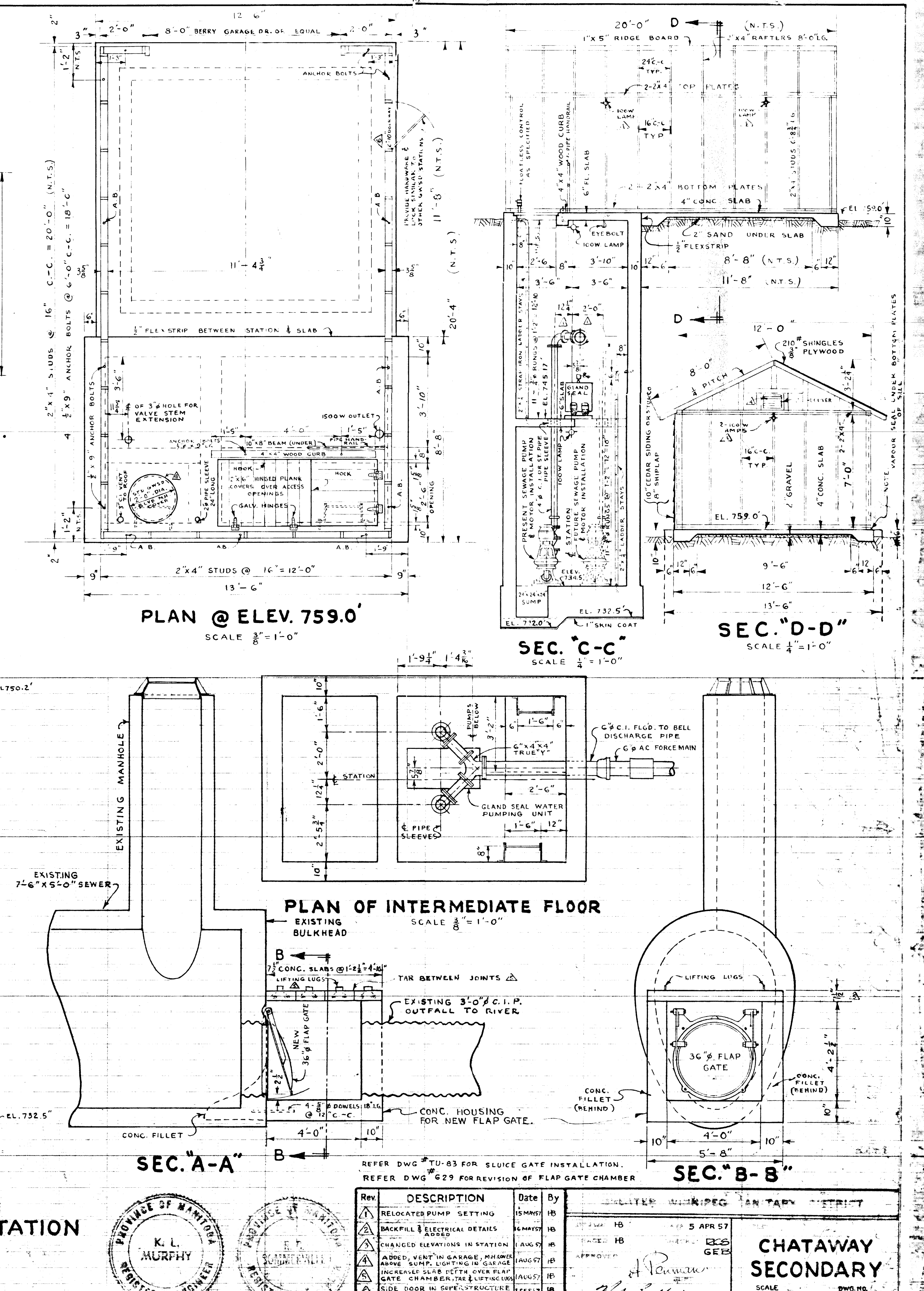
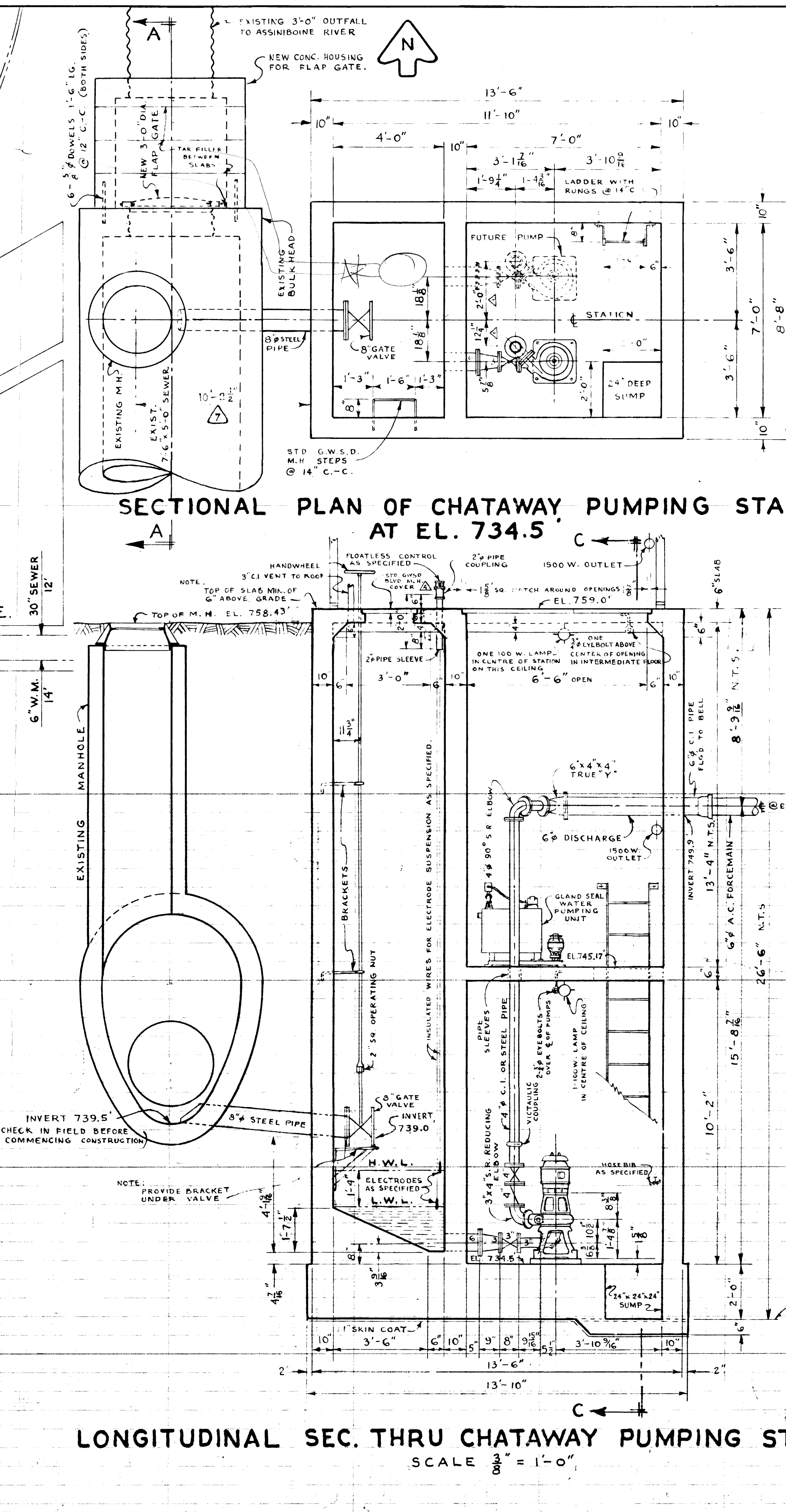
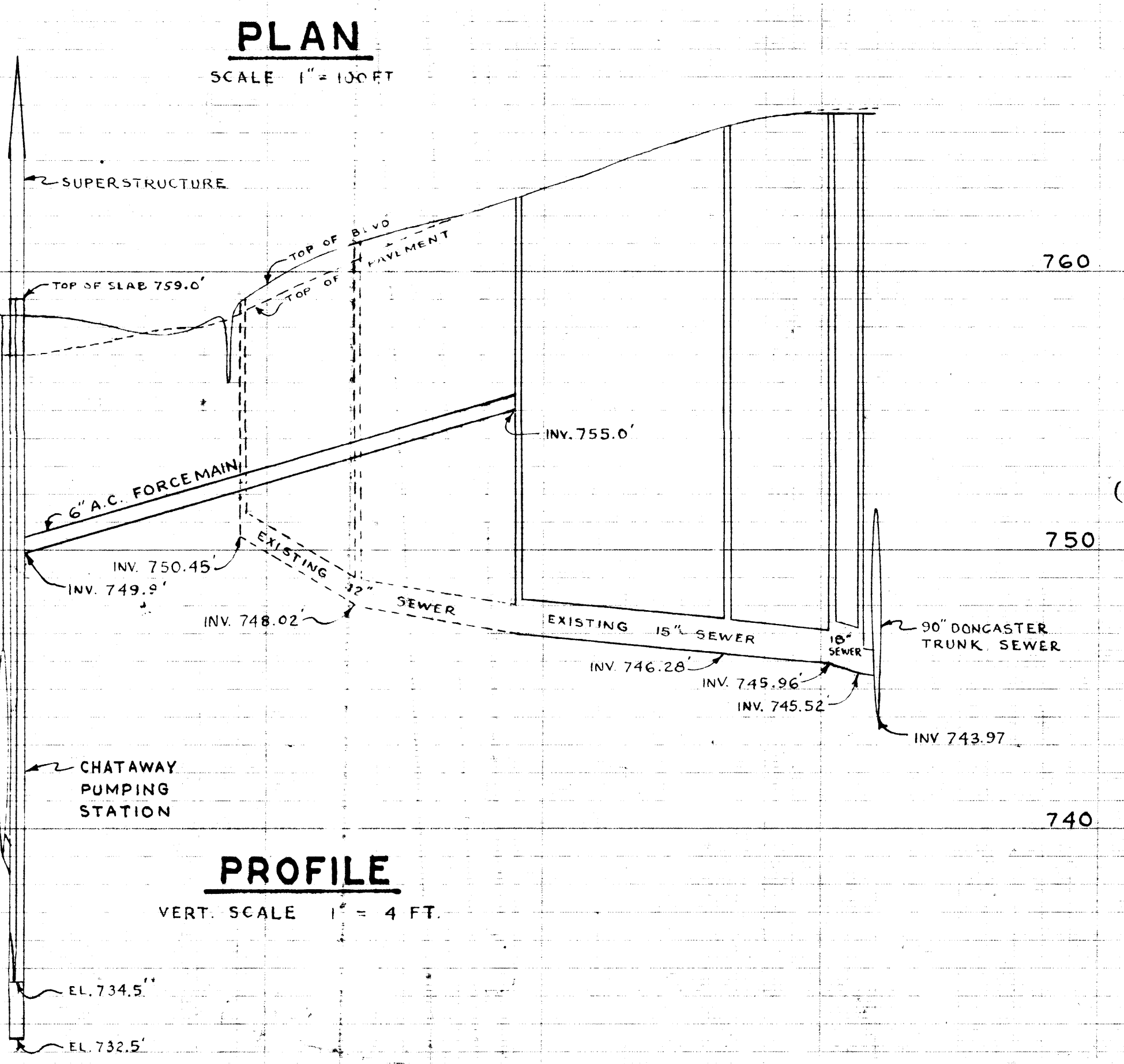
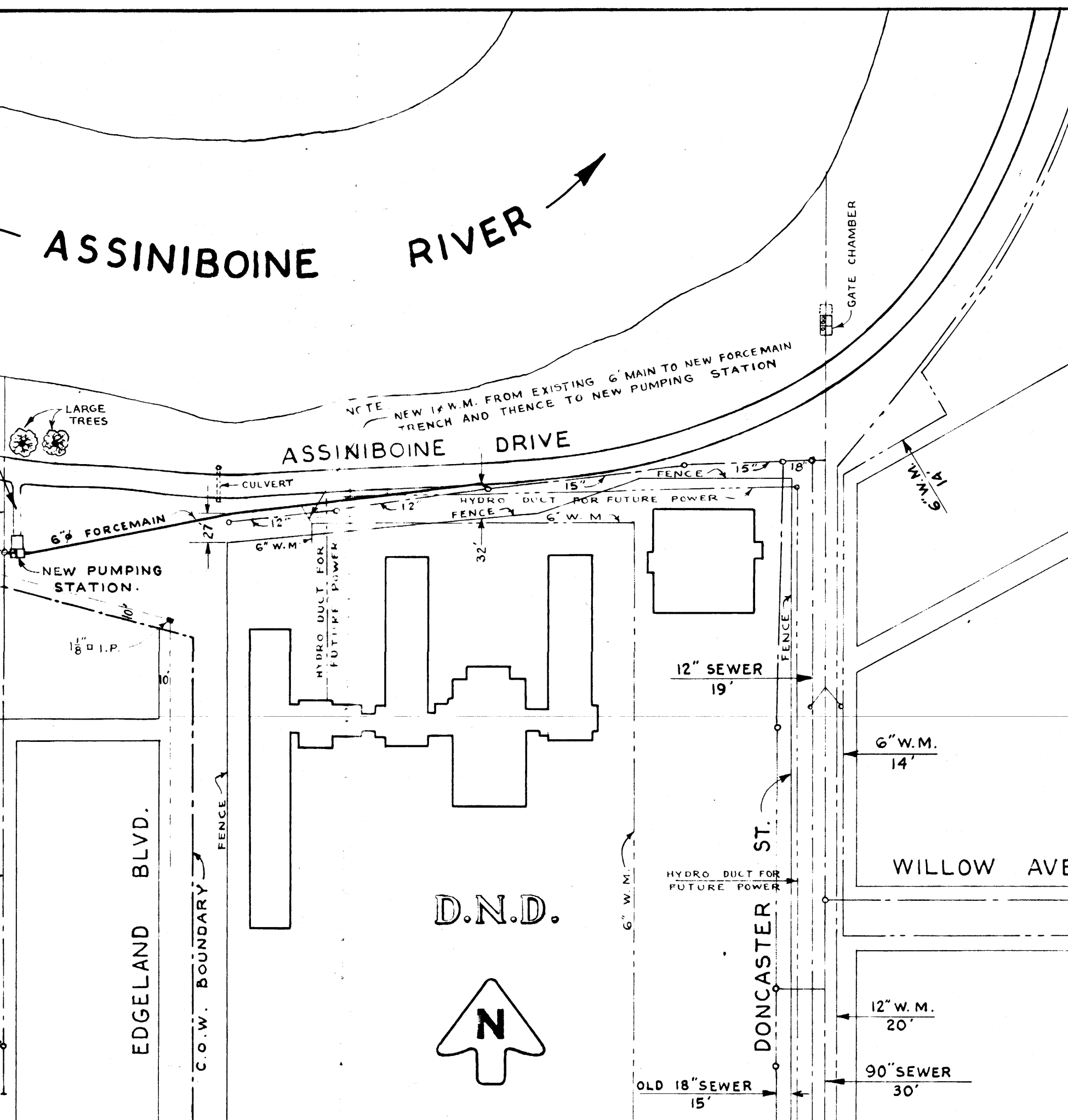
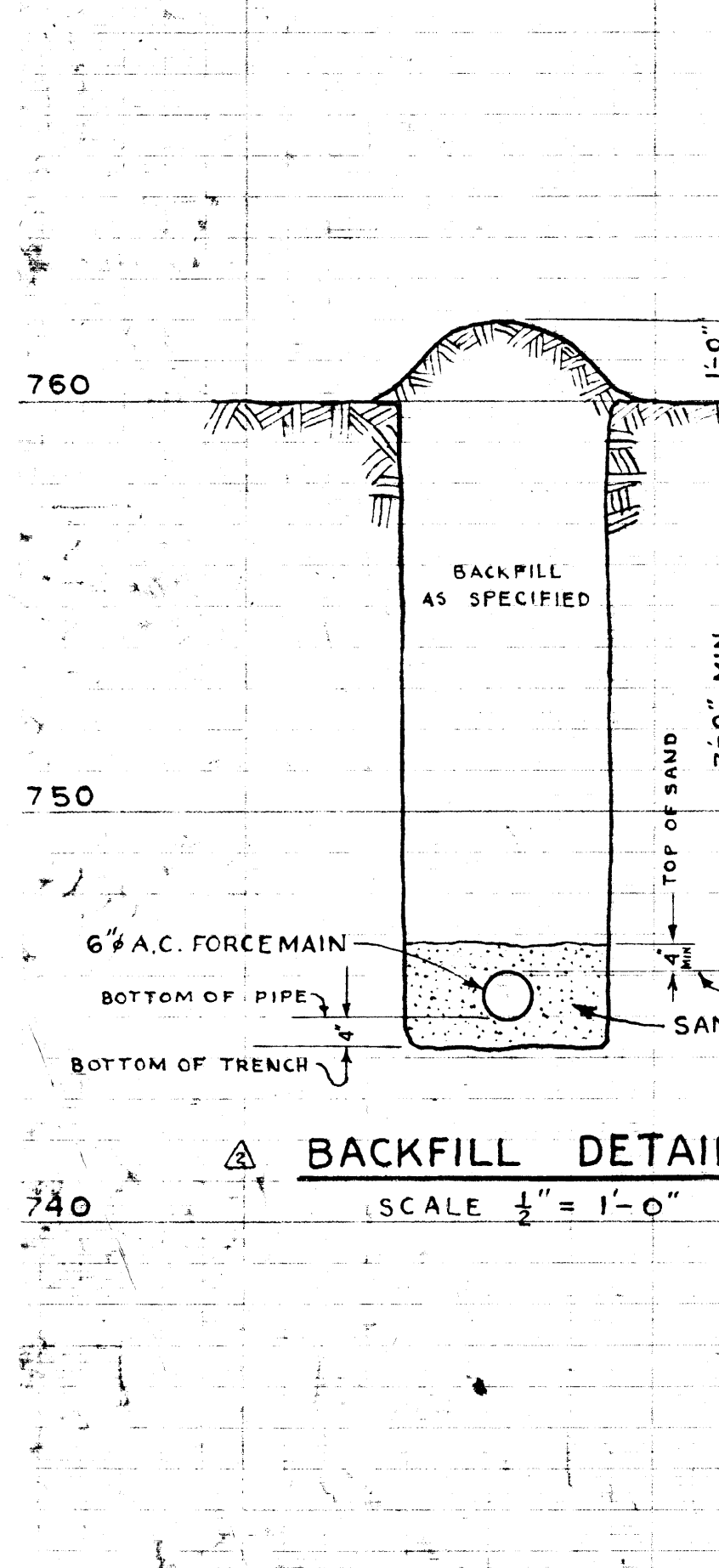
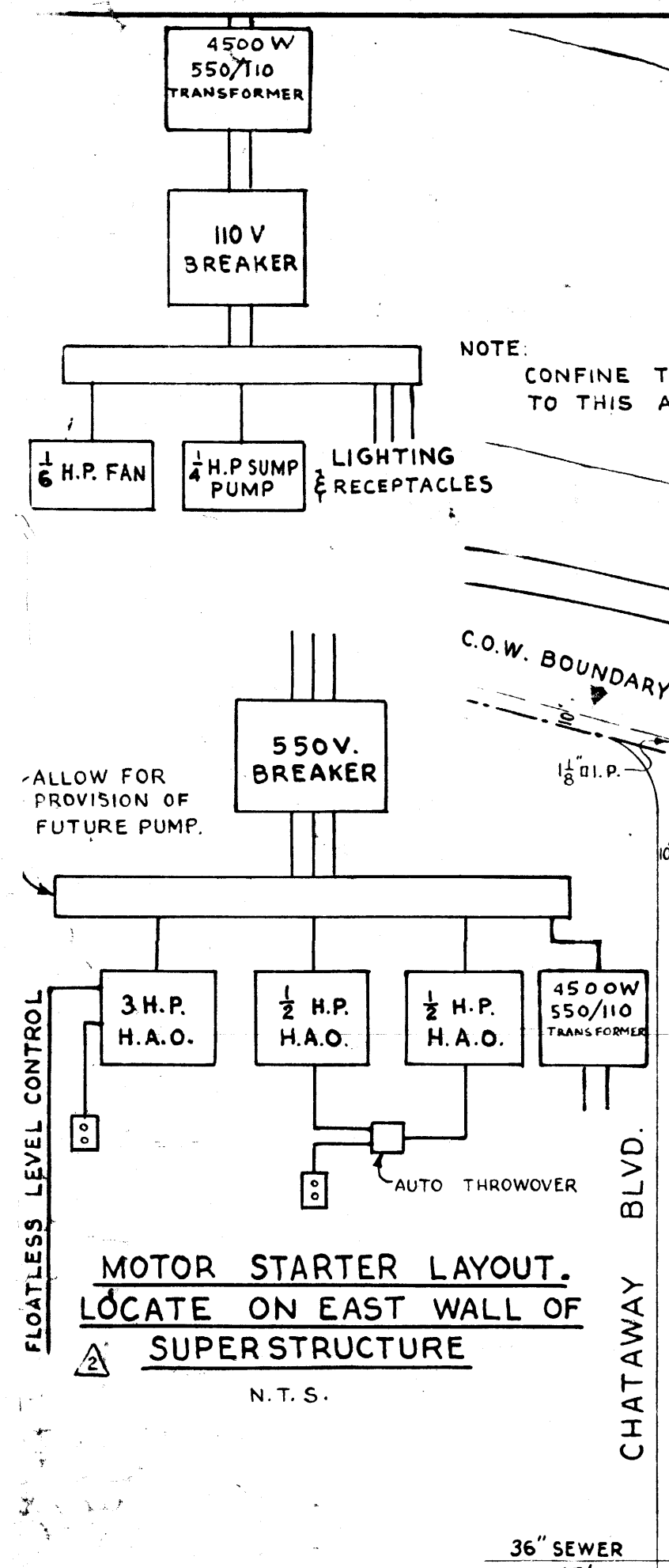
NO.	REVISIONS	DATE	BY
2	AS CONSTRUCTED	01.11.07	MZ
1	REVISED TO AS-BUILT	01.07.04	MZ

**CITY OF WINNIPEG WATER AND WASTE ENGINEERING DIVISION**  
DESIGNED BY JE CHECKED BY JE  
DRAWN BY GMZ APPROVED BY  
HOR. SCALE 1:250  
VERTICAL 1:50  
DATE OCTOBER 27, 1999



**THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT**  
Winnipeg  
CHATAWAY PUMPING STATION OUTFALL  
SITE PLAN  
SHEET 1 OF 5  
CITY DRAWING NUMBER LD-2038





**LONGITUDINAL SEC. THRU CHATAWAY PUMPING STATION**  
SCALE 3/8" = 1'-0"

REGISTERED ENGINEER  
**K. L. MURPHY**  
REGISTERED ENGINEER

REV.	DESCRIPTION	DATE	BY
1	RELOCATED PUMP SETTING	15 MAR 57	HB
2	BACKFILL & ELECTRICAL DETAILS	6 MAR 57	HB
3	CHANGED ELEVATIONS IN STATION	1 AUG 57	HB
4	ADDED VENT IN GARAGE, PHONO ABOVE SUMP, LIGHTING IN GARAGE	AUG 57	HB
5	INCREASED SLAB DEPTH OVER FLAP GATE CHAMBER, TAR & LIFTING LUGS	AUG 57	HB
6	SIDE DOOR IN GATE STRUCTURE CHANGED FROM 2'-0" TO 2'-10"	1 SEP 57	HB
7	AS PER FIELD BOOK E-157	5 MAR 58	HB

**CHATAWAY SECONDARY**  
SCALE 1/8" = 1'-0"  
VERT. 1" = 4'  
**259**

CHATAWAY BLVD SW-051q

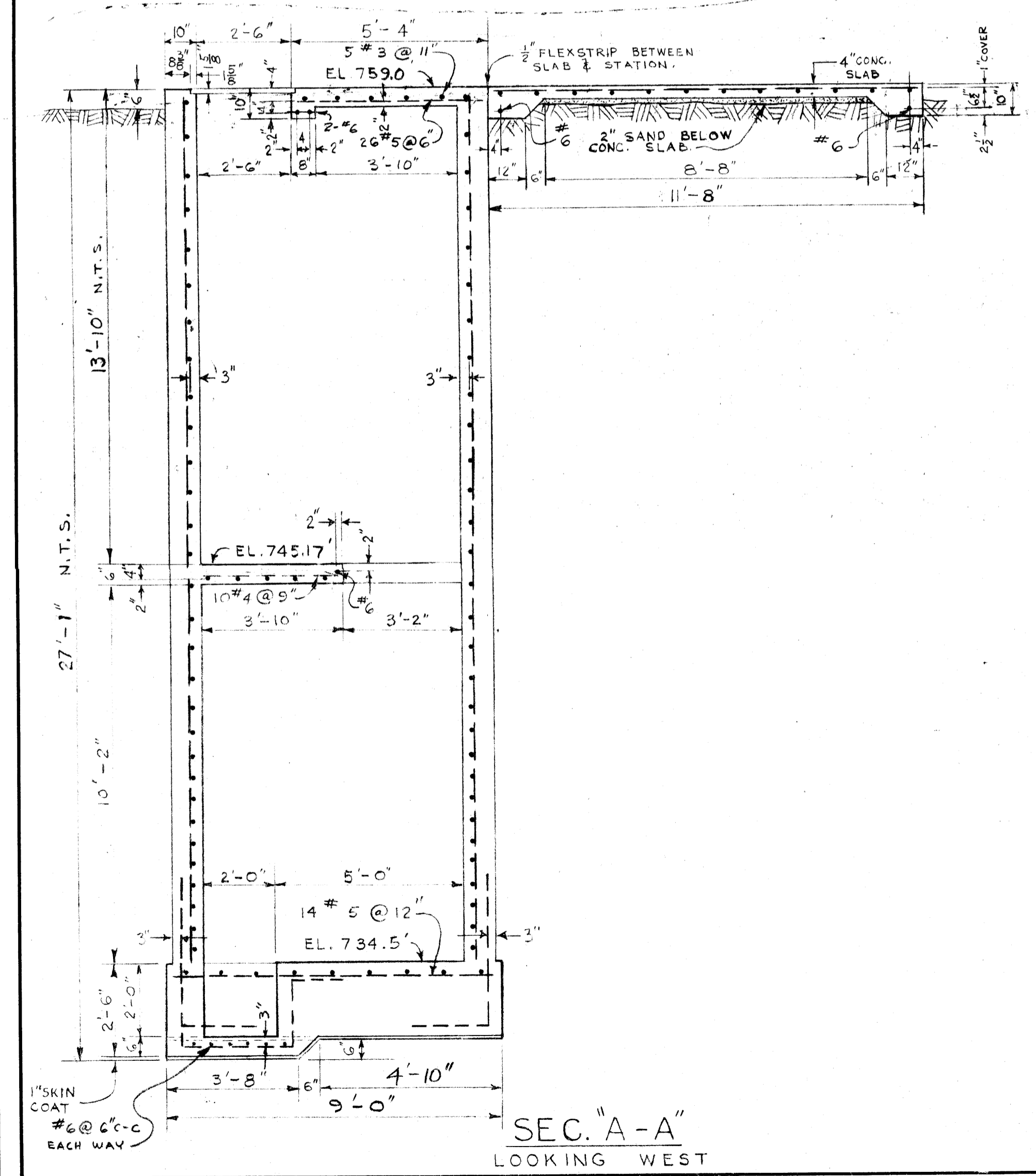
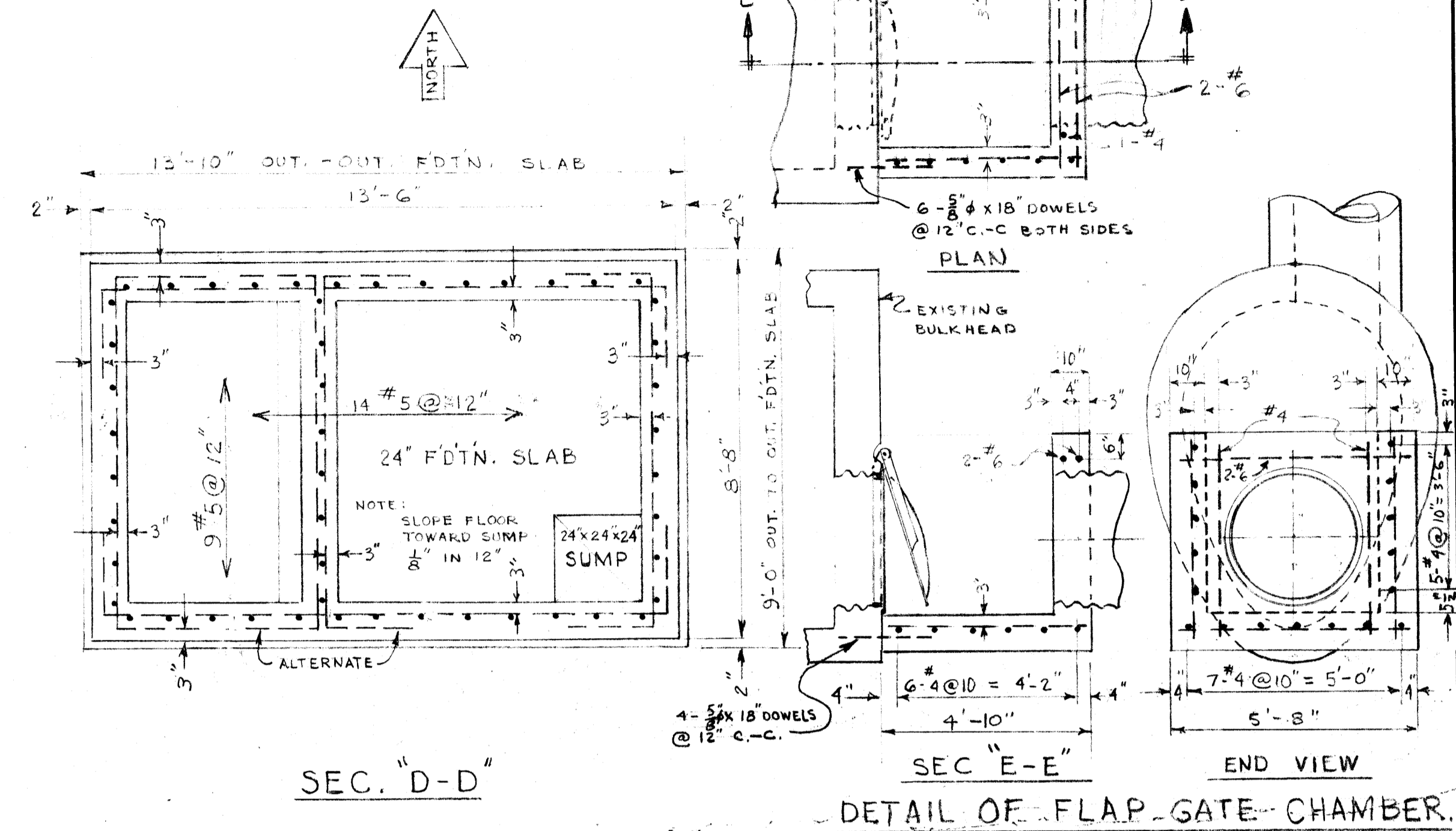
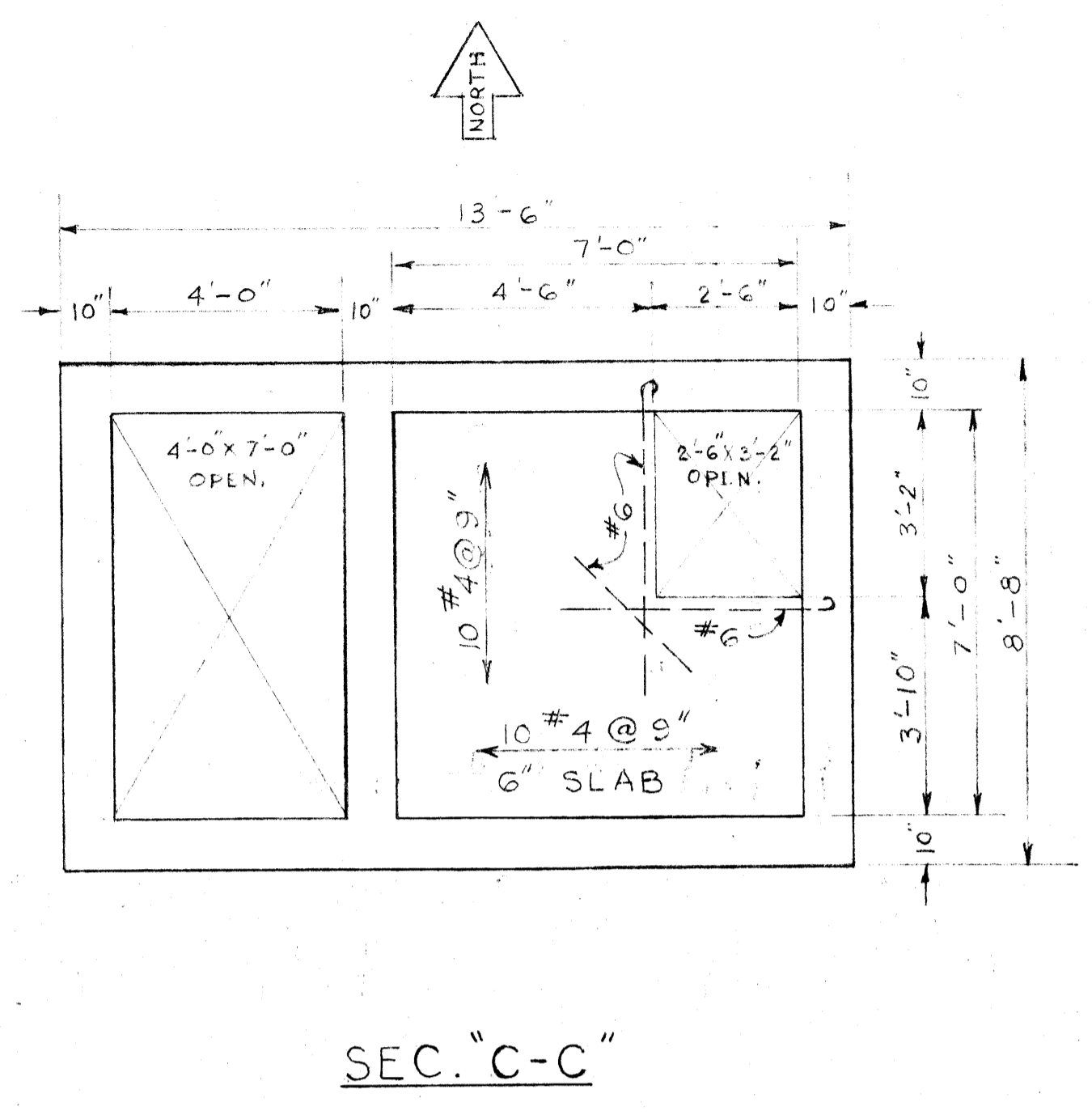
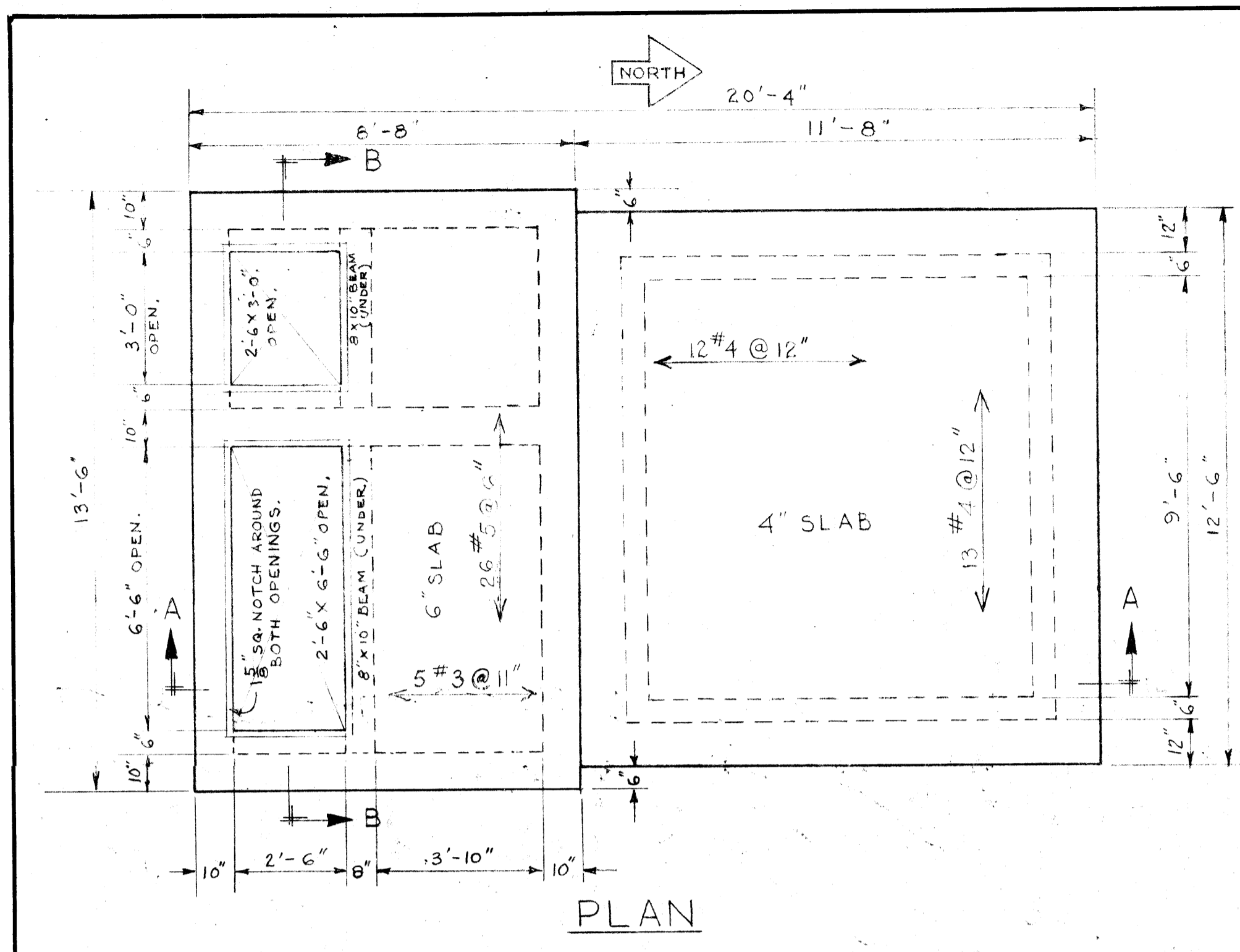


260

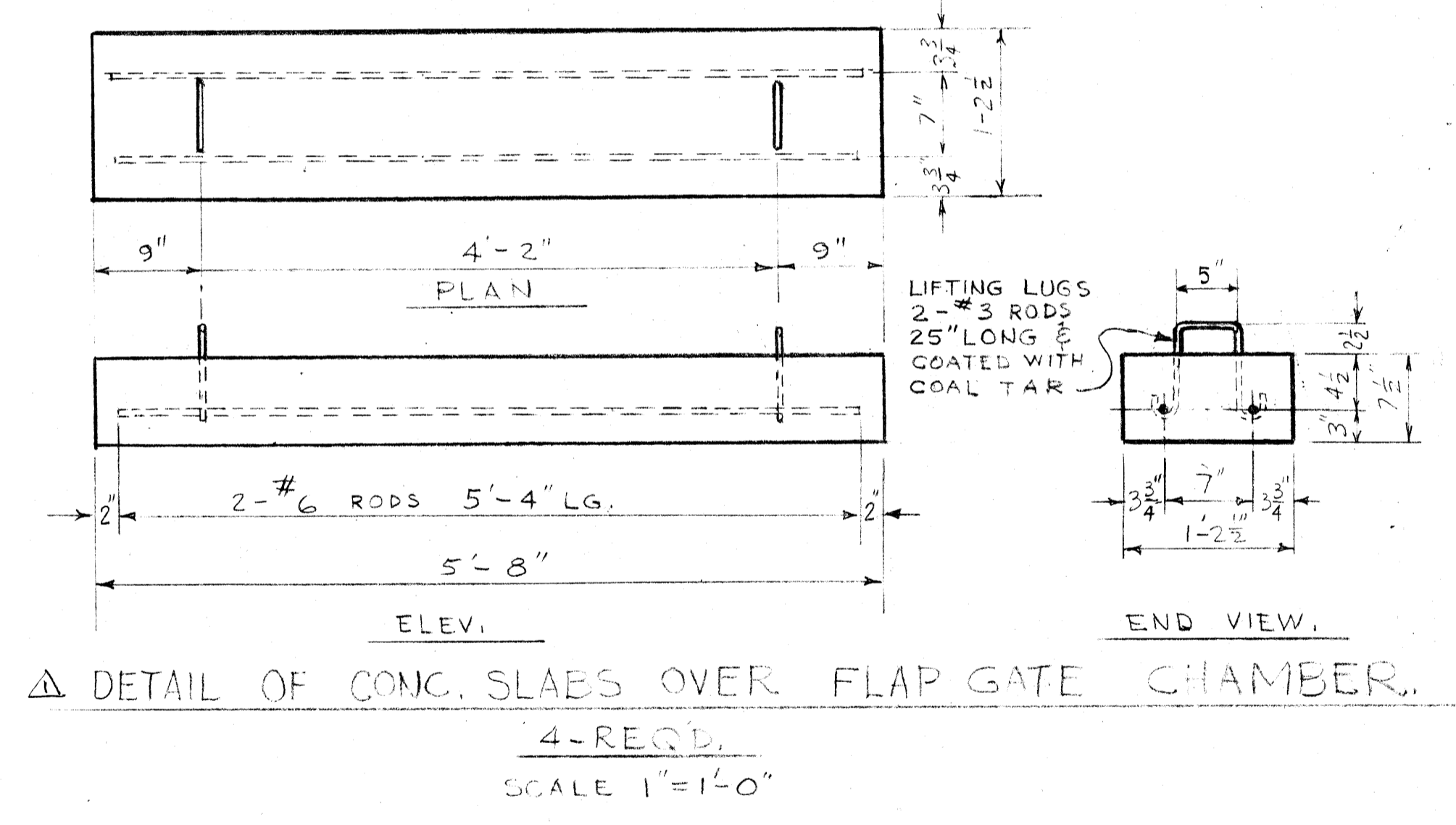
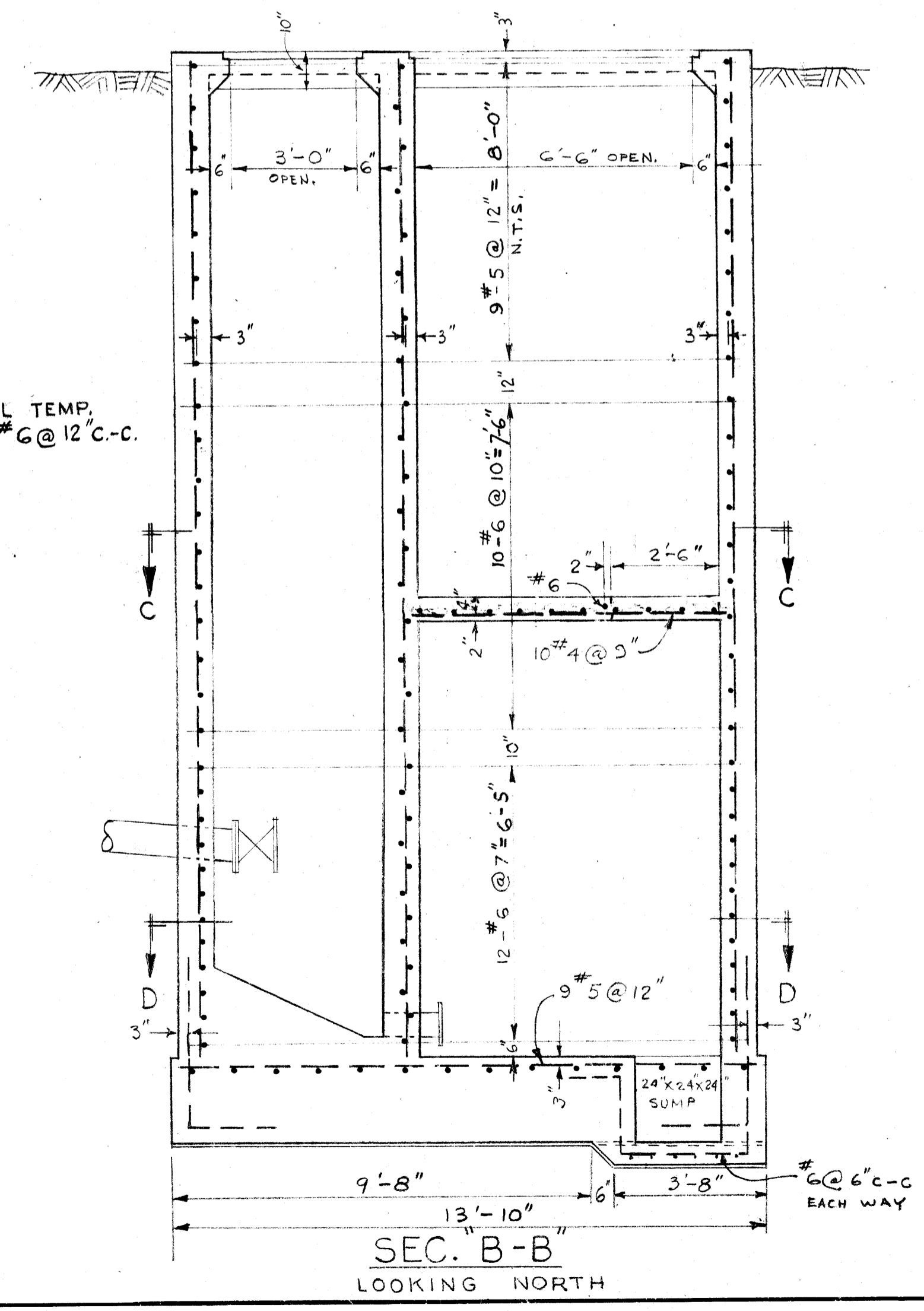
REF. or DRAWING NO.

DETAILS

file# SP10049



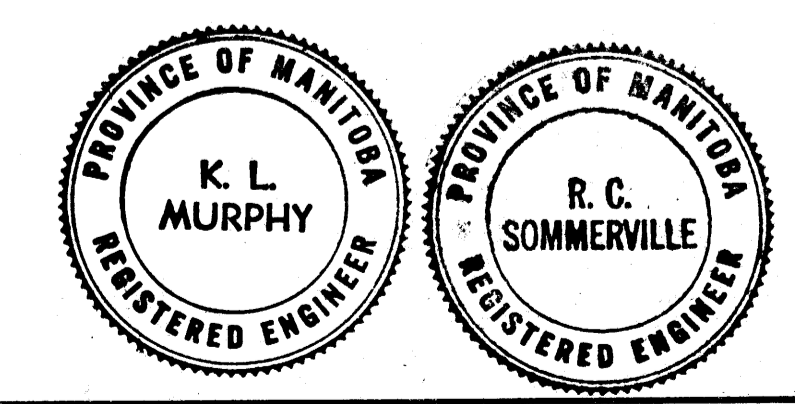
NOTE:  
VERTICAL TEMP.  
STEEL #6 @ 12" C-C.



$f_c = 3,000$  psi  
 $f_s = 20,000$  psi

NOTE:  
THIS DWG. NOT TO BE  
USED FOR FABRICATION.

Micro-filmed 1965

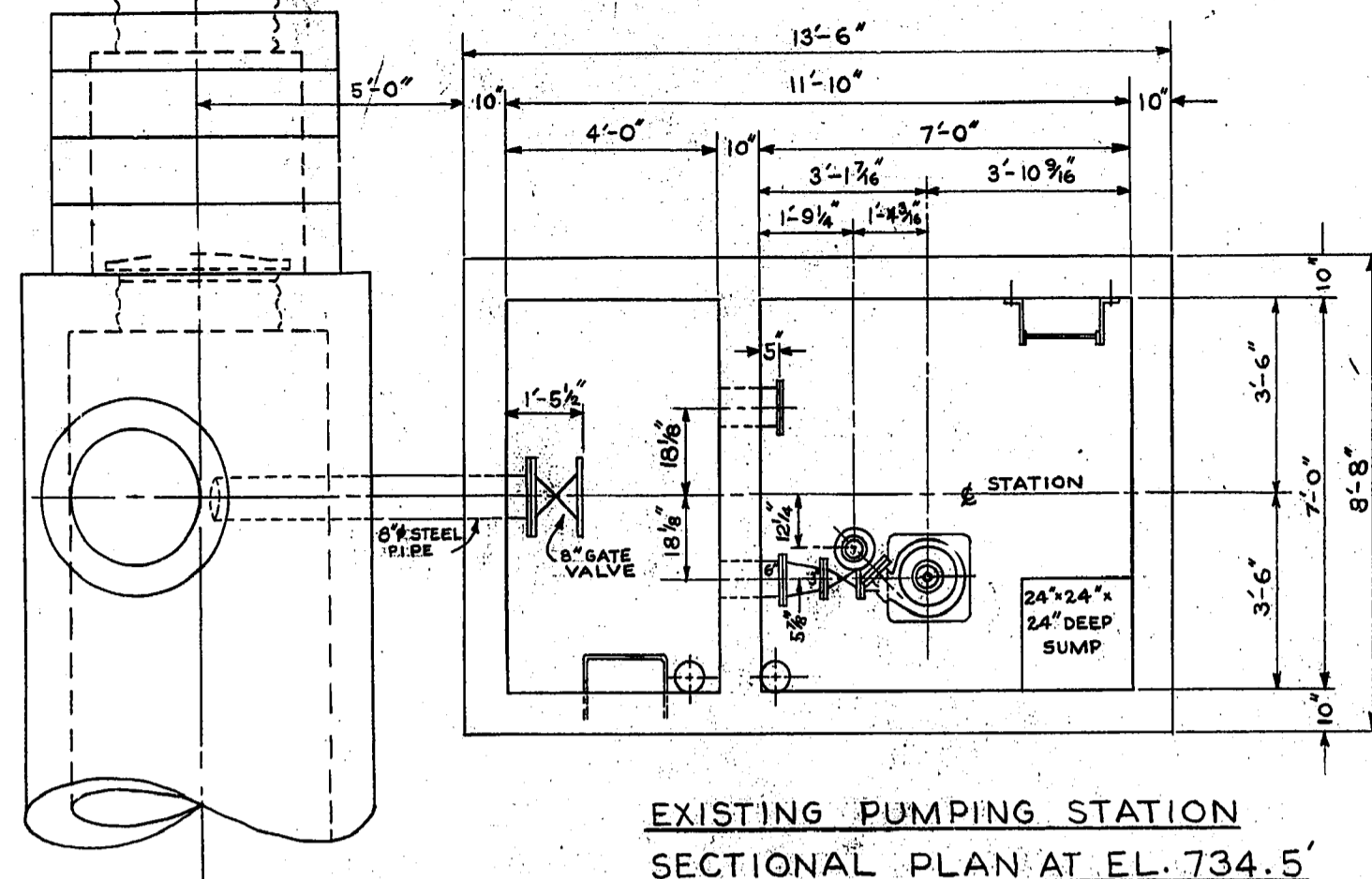


Rev.	DESCRIPTION	Date	By
1	DLTAL CONC. SLABS		
2			

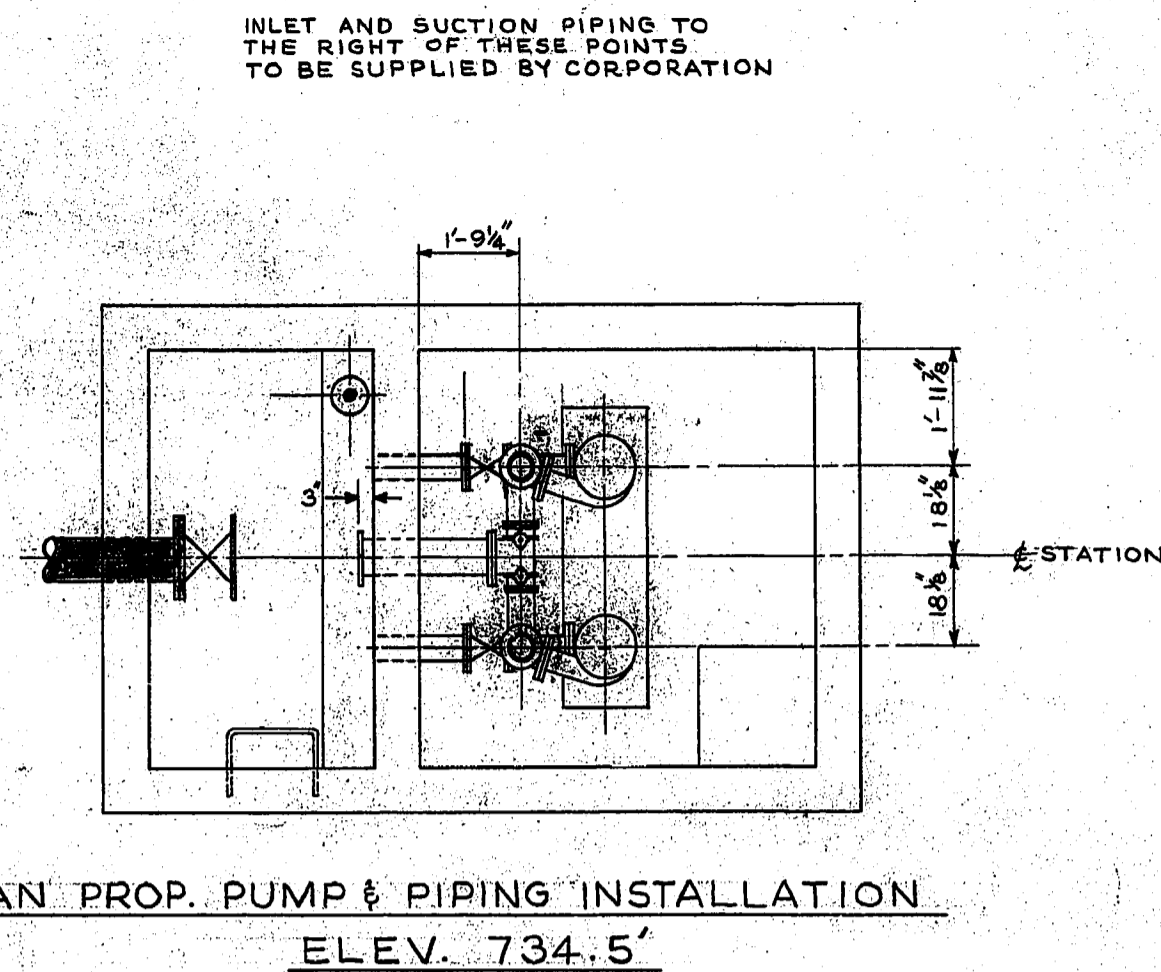
DRAWN BY: [Signature]  
 TRACKED: [Signature]  
 APPROVED: [Signature]  
 DATE: 14 MAY 57  
 CHECKED: [Signature]  
 SUPP. [Signature]  
 GEN. MGR. [Signature]

TITLE: REINFORCING FOR CHATAWAY PUMPING STATION  
 SCALE: 3/8" = 1'-0"  
 DWG. NO. 260

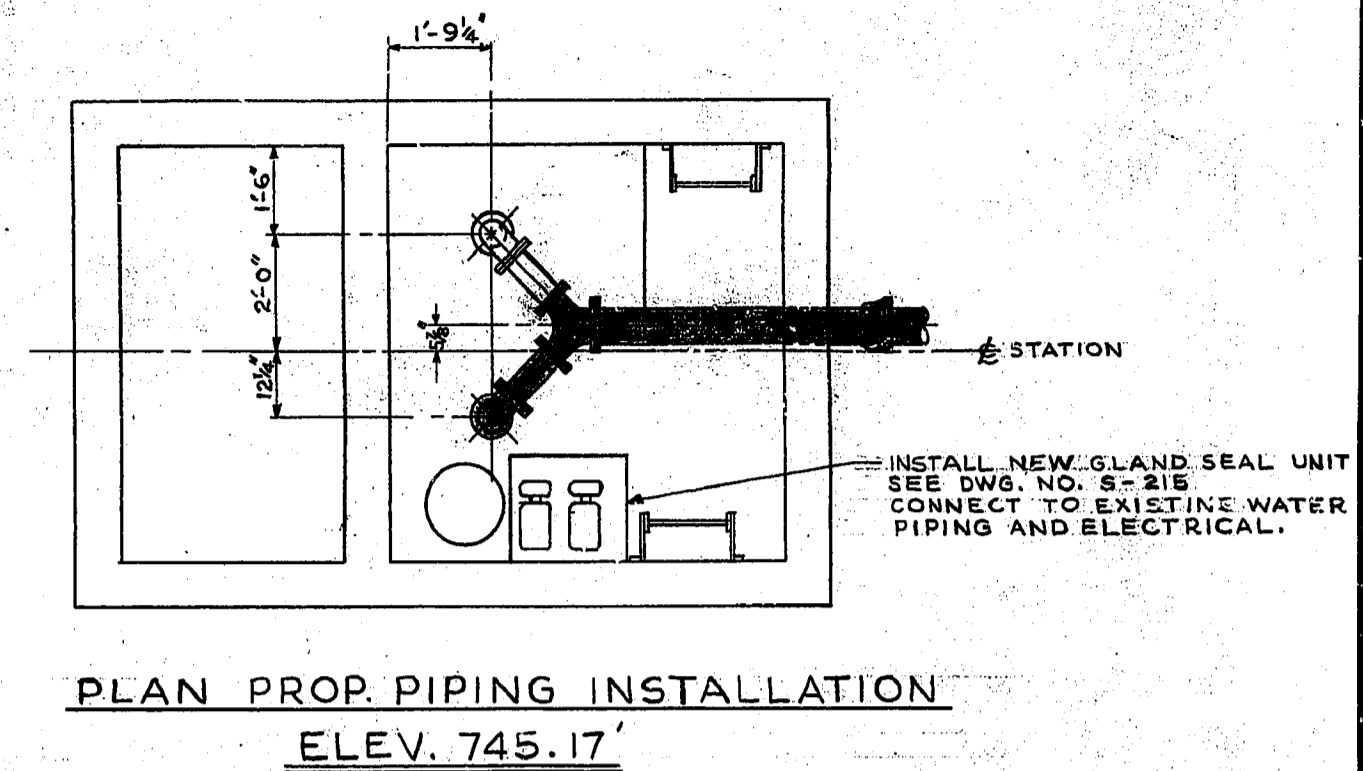




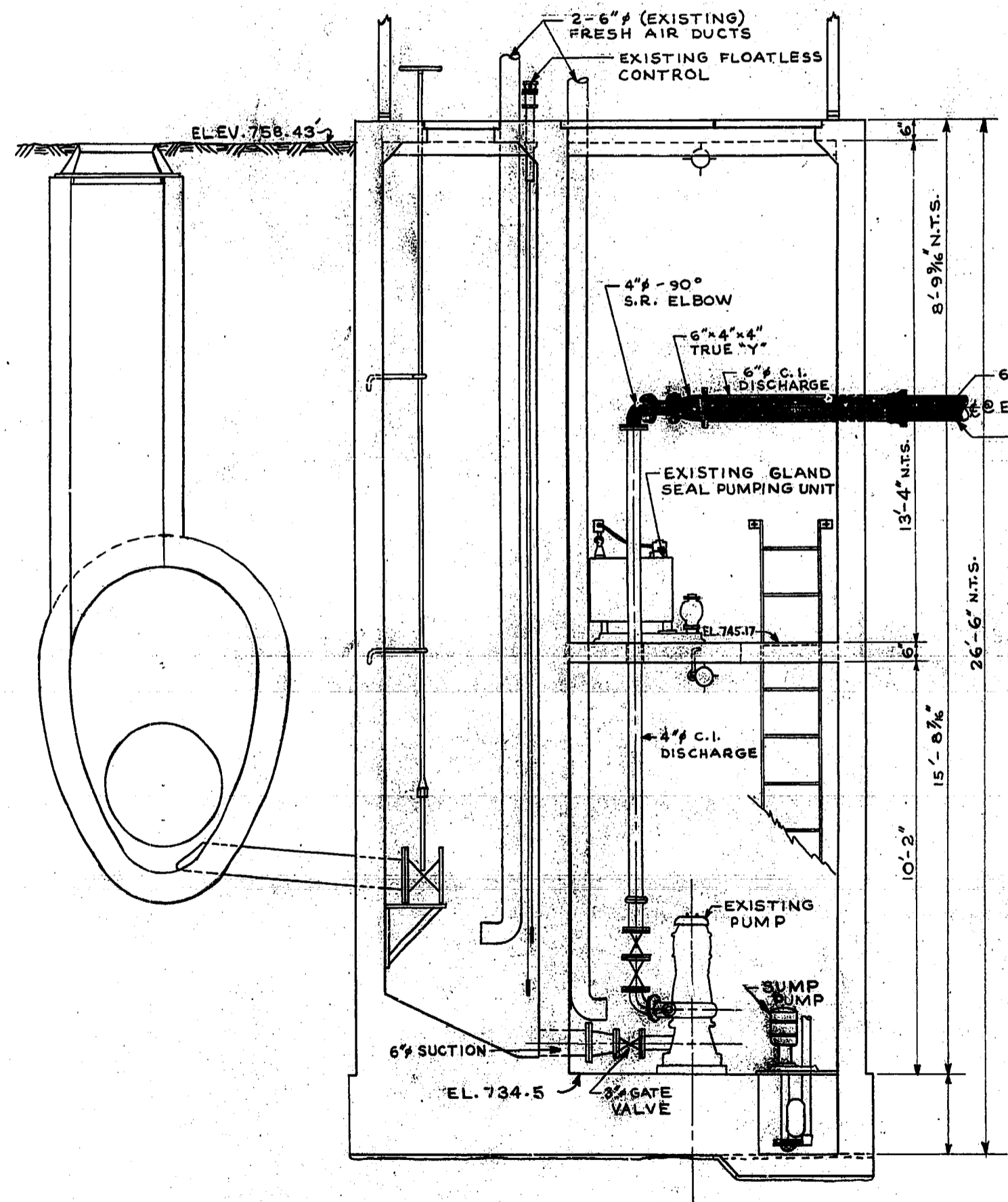
**EXISTING PUMPING STATION  
SECTIONAL PLAN AT EL. 734.5'**



**PLAN PROP. PUMP & PIPING INSTALLATION  
ELEV. 734.5'**

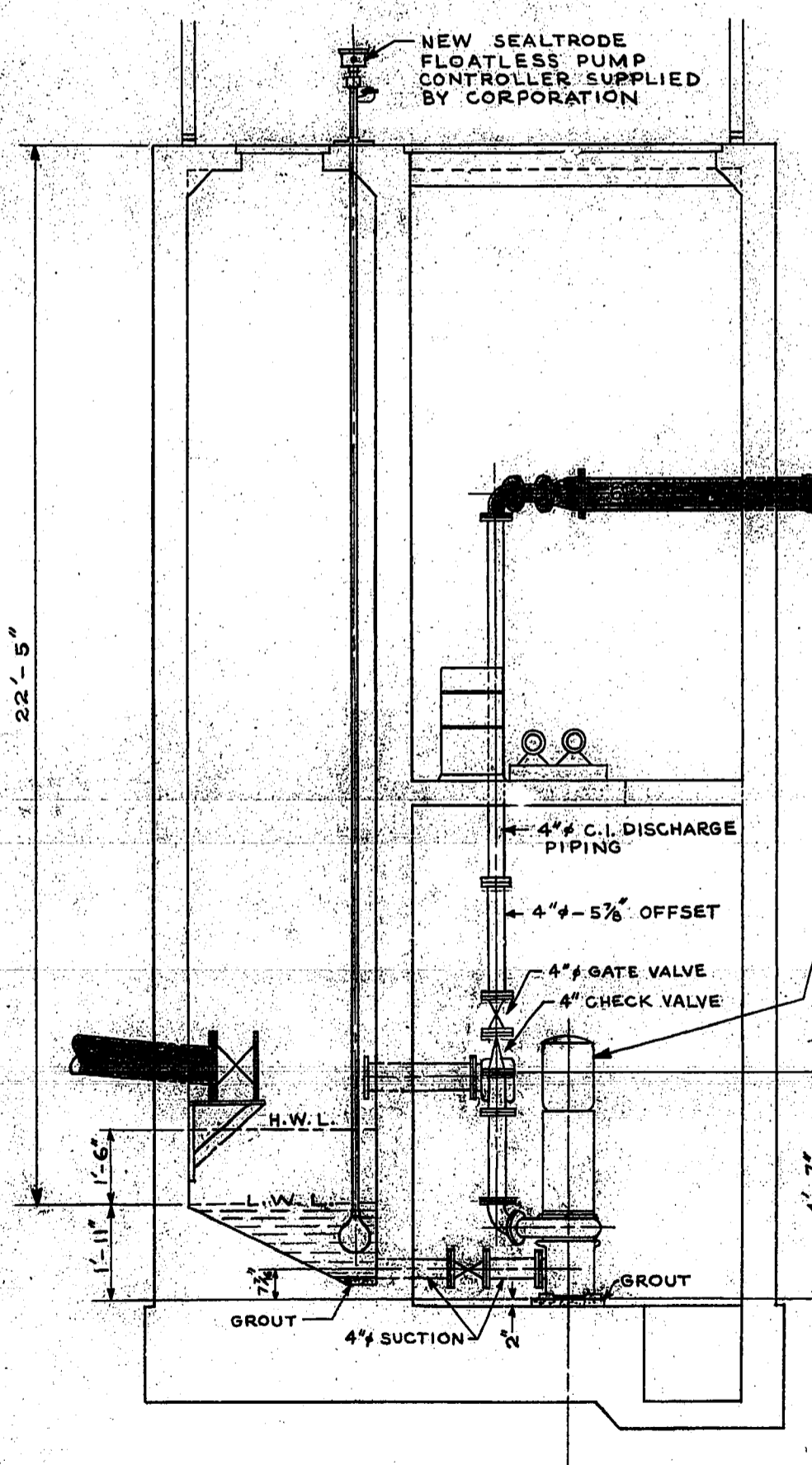


**PLAN PROP. PIPING INSTALLATION  
ELEV. 745.17'**



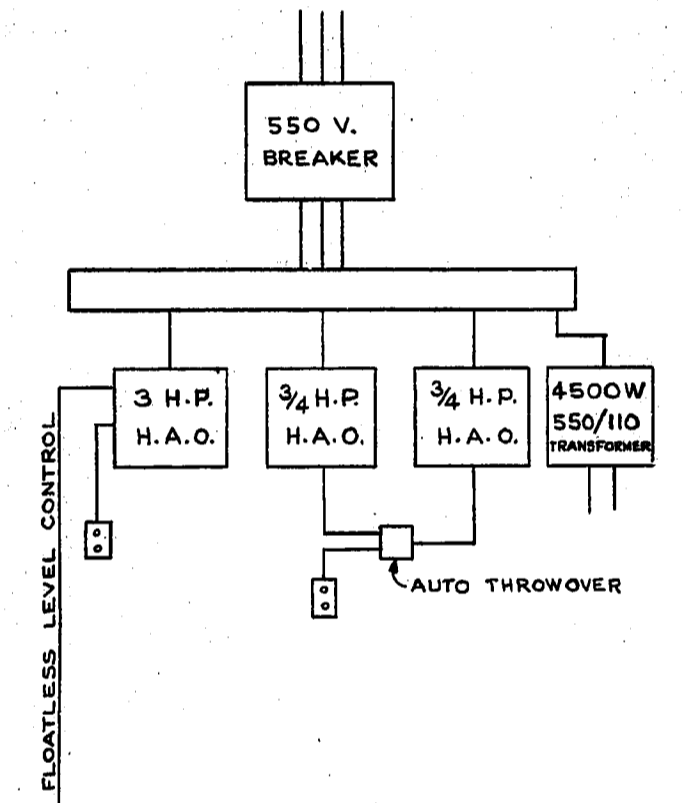
**EXISTING PUMPING STATION  
LONGITUDINAL SECTION  
SCALE: 3/8" = 1'-0"**

**NOTE:**  
CONTRACTOR TO REMOVE THE FOLLOWING:  
- EXISTING PUMP AND NECESSARY PIPING.  
- EXISTING GLAND SEAL UNIT  
- EXISTING FLOATLESS PUMP CONTROLLER.

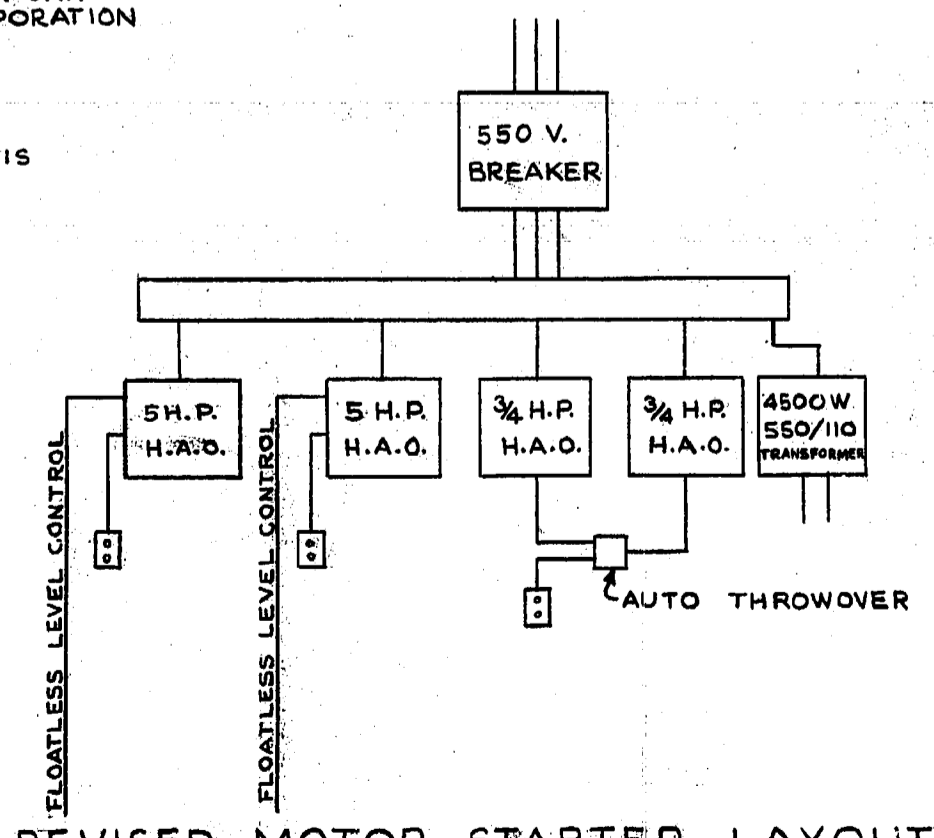


**PROPOSED PUMP & PIPING INSTALLATION  
LONGITUDINAL SECTION  
SCALE: 3/8" = 1'-0"**

**NOTE:**  
CONTRACTOR TO FIELD CHECK EXISTING PIPING DIMENSIONS PRIOR TO NEW PIPE INSTALLATION.



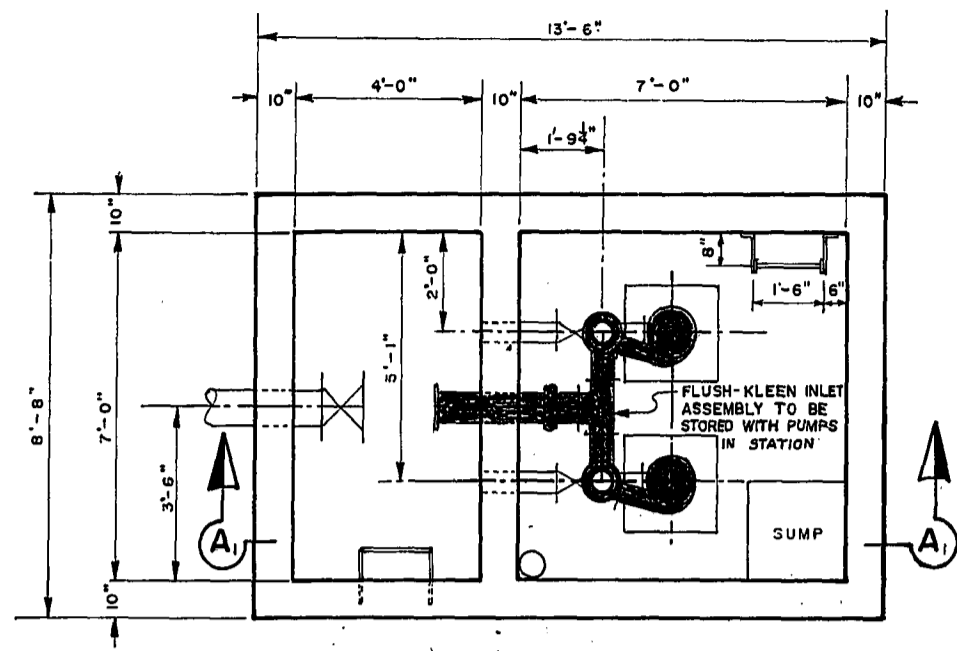
**EXISTING MOTOR STARTER LAYOUT  
(ON EAST WALL OF EXISTING SUPERSTRUCTURE)**



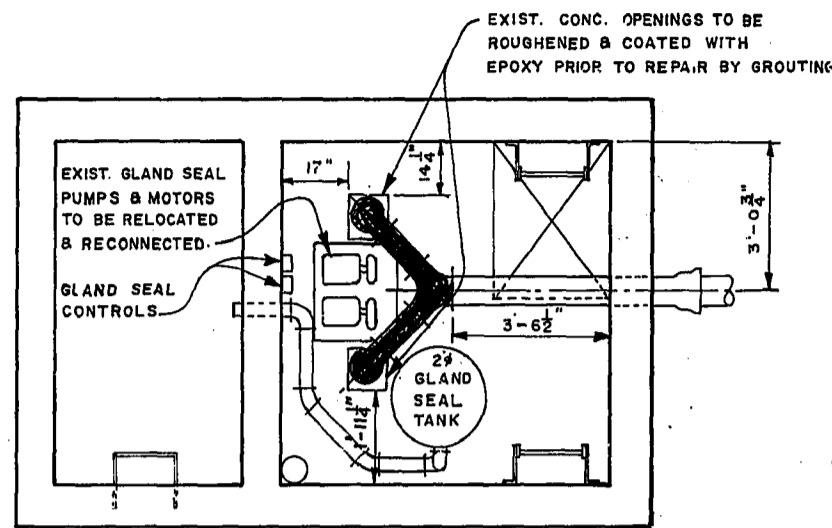
**REVISED MOTOR STARTER LAYOUT**

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG <b>WATERWORKS &amp; WASTE DISPOSAL DIVISION</b> A. PENMAN - DIRECTOR	SEWAGE DISPOSAL DEPT.		DES. _____	CHK'D. _____	SCALES HORIZ. 1" = _____ VERT. 1" = _____ DRAWING NO. <b>528</b>
	<b>CHATAWAY PUMP- ING STATION</b>		DRN. A.C. _____	DATE _____	
	<b>PUMP REVISIONS</b>		ENG. DES. _____	_____	
			ENG. _____	_____	

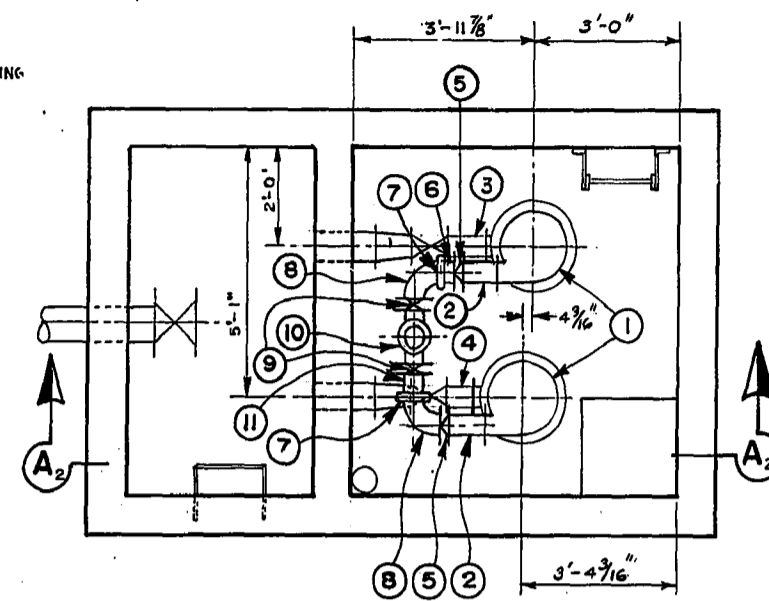




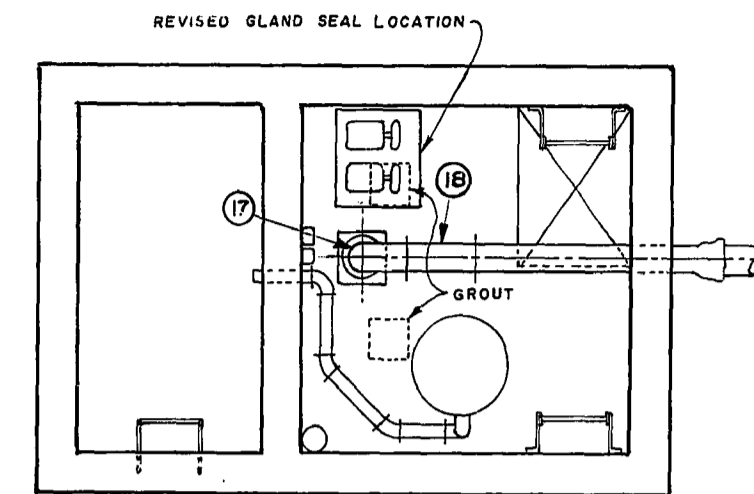
EXISTING PLAN EL. 734.5'



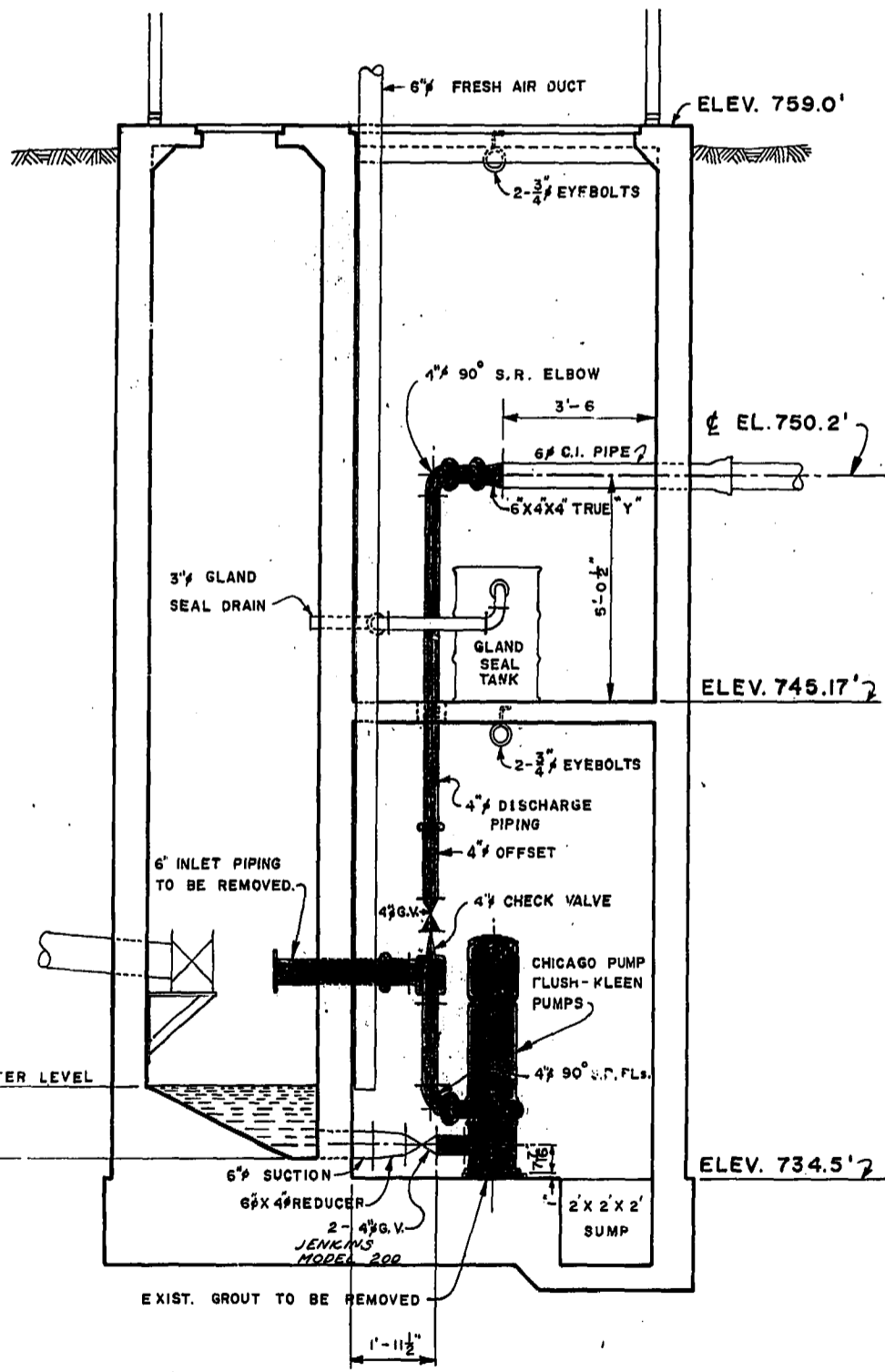
EXIST. PLAN EL. 745.17'



PROP. PLAN EL. 734.5'



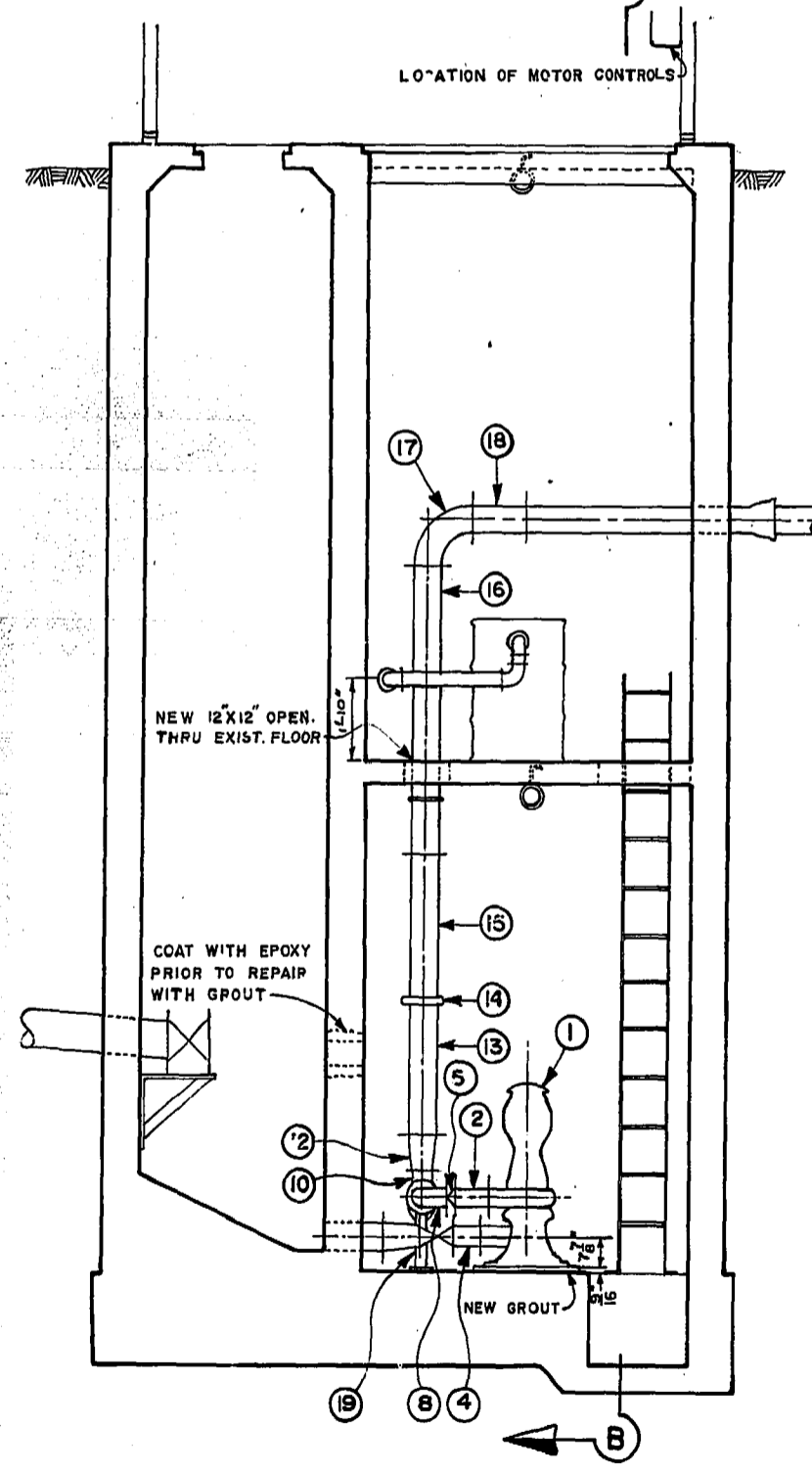
PROP. PLAN EL. 745.17'



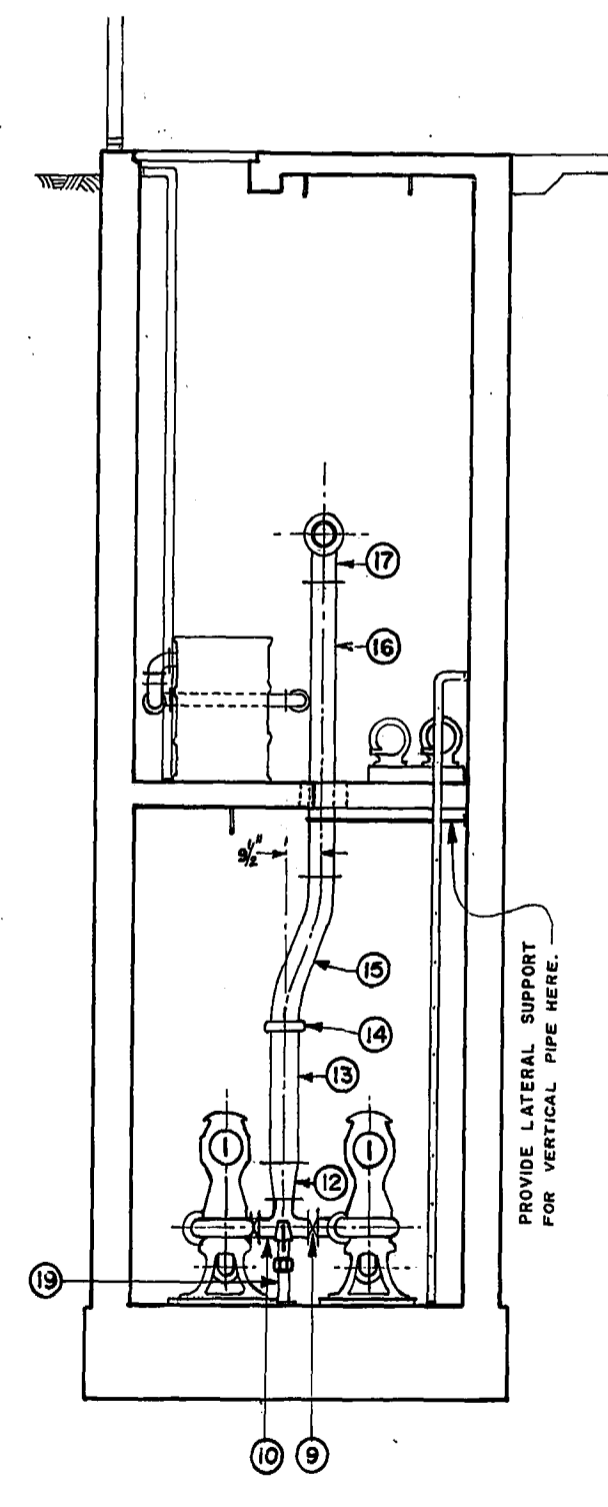
EXISTING SEC. "A-A"

NOTES

- 1 THE CONTRACTOR SHALL REMOVE ALL PIPING & EQUIPMENT SHOWN SHADED.
- 2 CONTRACTOR TO FIELD CHECK RELEVANT DIMENSIONS PRIOR TO PIPE INSTALLATION.
- 3 1/8" RUBBER GASKET BETWEEN FITTINGS EXCEPT VICT. COUPLINGS.
- 4 5/8" GAP BETWEEN PIPE AT VICTAULIC COUPLINGS.



PROPOSED SEC. "A2-A2"



PROP. SEC. "B-B"

NEW MATERIAL LIST				
NO.	DESCRIPTION	SIZE	AMT.	DETAIL NO.
1	WEMCO SEWAGE PUMPS	4" X 4" X 11S	2	
2	C.I. PIPE FLGE. - FLGE.	4" X 9 1/2" LG.	2	
3	" " " "	4" X 1'-0" LG.	1	
4	" " " "	4" X 7 1/2" LG.	1	
5	WAFER CHECK VALVE	4" X 2 1/2" LG.	2	
6	C.I. PIPE FLANGE TO VICT.	4" X 3 1/2" LG.	1	
7	VICTAULIC COUPLING STYLE #44	4"	2	
8	C.I. ELBOWS FLGE. - VICT.	4"	2	
9	WAFER GATE VALVES	4" X 2 1/2" LG.	2	
10	C.I. TEE FLGE. - FLGE. 13' LONG	4" X 4 1/2" X 4"	1	
11	C.I. PIPE FLGE. - VICT.	4" X 6 1/2" LG.	1	
12	C.I. REDUCER FLGE. - FLGE.	6" X 4" X 9"	1	
13	C.I. PIPE FLGE. - VICT.	6" X 2 1/2" LG.	1	
14	VICT. COUPLING STYLE #44	6"	1	
15	C.I. PIPE FLGE. - VICT. OFFSET	6" X 3 1/2" LG.	1	
16	" " " " - FLGE.	6" X 6" X 2 1/2" LG.	1	
17	C.I. ELBOW FLGE. - FLGE.	6" LG. RAD.	1	
18	C.I. PIPE	6" X 1'-2"	1	
19	ADJUSTABLE PIPE SADDLE GRINNEL FIG. 264	FOR 4" PIPE	1	

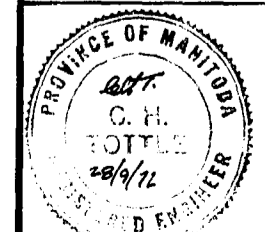
NO.	DESCRIPTION	DATE	BY
As Built			
REVISIONS			

The City of Winnipeg

DEPARTMENT  
SEWAGE DISPOSAL

ALTERATIONS TO  
CHATAWAY  
PUMPING STA.

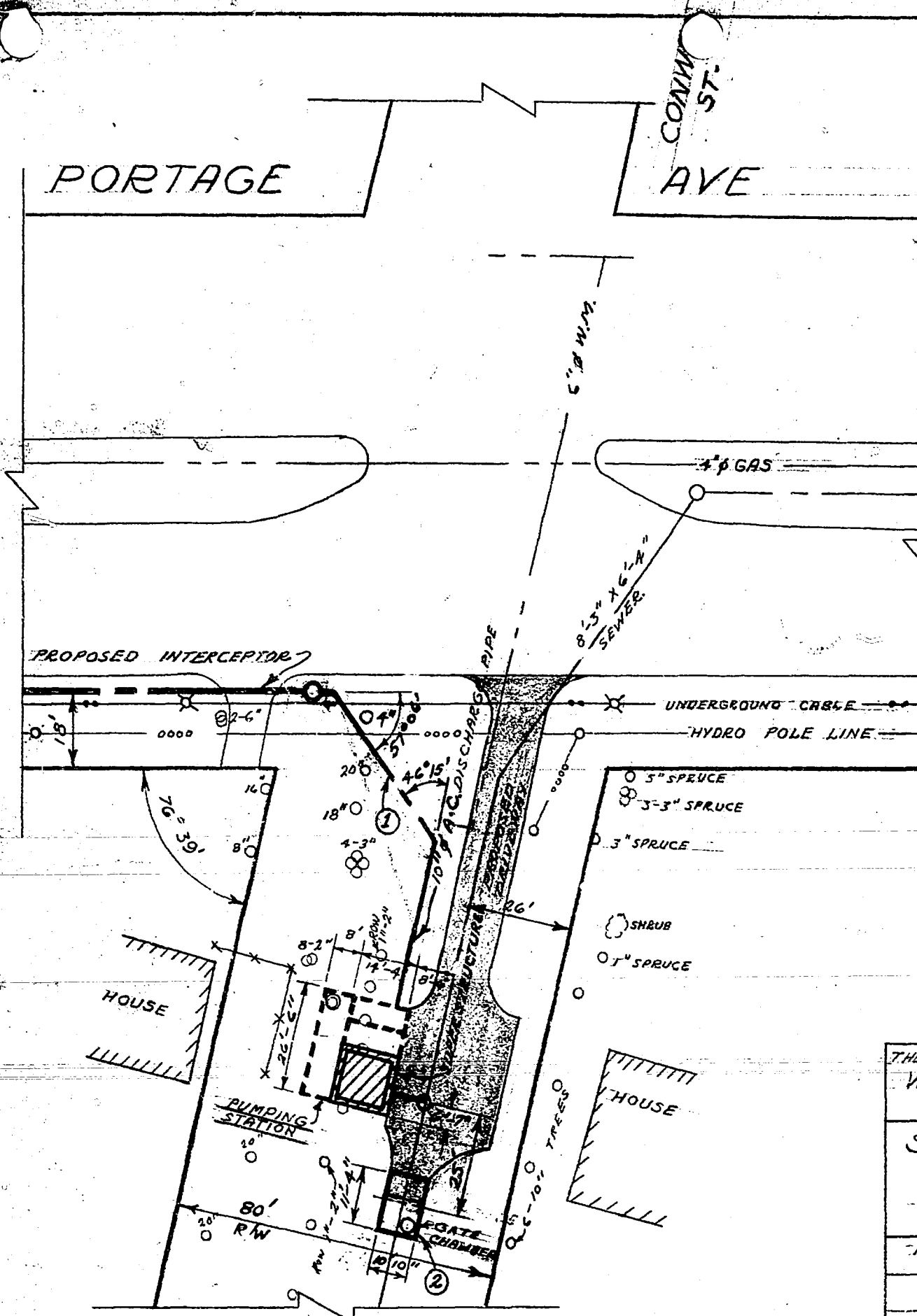
DESIGNED BY <i>G. F. Burns</i>	DRAWN BY IB
CHECKED BY G. F. BURNS	DATE 25 SEP 72
APPROVED BY <i>G. F. Burns</i>	DRAWING NO. 756
SCALE 1" = 0'	





# Conway Lift Station Drawings





**LEGEND**  
 0 12" = 12" Ø TREE

- REVISIONS**
- ① 10" Ø DISCHARGE PIPE RELOCATED JUNE 17/63 V.D.
  - ② GATE CHAMBER DIMENSIONS CHANGED " 26/63 V.D.

THE METROPOLITAN CORPORATION OF GREATER WPG			
WATERWORKS & WASTE DISPOSAL DIVISION			
SEWAGE DISPOSAL BRANCH			
<b>ST. JAMES INTERCEPTOR SITE PLAN CONWAY PUMPING STATION</b>			
APPROVED BY	DESIGNED BY	CHECKED BY	DWG. No. <b>S-267</b>
	DRAWN BY V.D	DATE 11/3/63	
SCALE'S 1" = 40'			

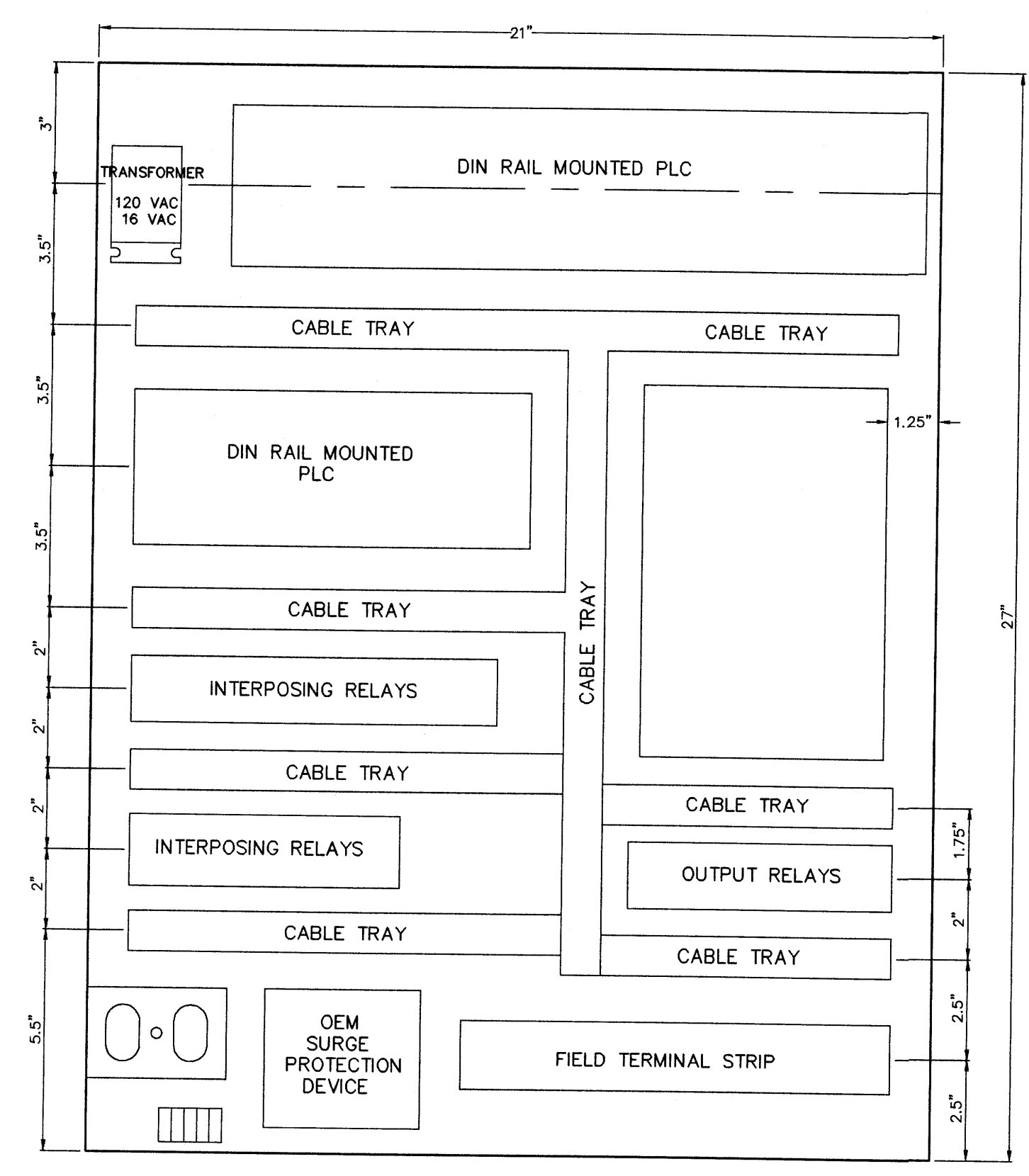
ALARM WIRING TEMPLATE

ALARM INPUT #	DESCRIPTION	PLC ADDRESS	COLOR
ALARM INPUT 1	LOCKOUT	10001	BLUE
ALARM INPUT 2	OVERFLOW	10002	BLUE/WHITE
ALARM INPUT 3	STATION FLOOD	10003	BLUE/RED
ALARM INPUT 4	LOW INSTR. AIR	10004	BLUE/BLACK
ALARM INPUT 5	LOW TEMP.	10005	RED
ALARM INPUT 6	LOSS OF SEAL WATER	10006	RED/BLACK
ALARM INPUT 7	GENERATOR RUN	10007	RED/WHITE
ALARM INPUT 8	POWER FAILURE	10008	ORANGE
ALARM INPUT 9	FLOOD STATION HIGH WET WELL	10009	ORANGE/RED
ALARM INPUT 10	FLOOD STATION FLOOD	10010	ORANGE/BLACK
ALARM INPUT 11	GENERATOR FAIL	10011	BLACK
ALARM INPUT 12	WET WELL UPPER	10012	BLACK/WHITE
ALARM INPUT 13	COM/PUMP FAILURE	10013	BLACK/RED
ALARM INPUT 14			GREEN
ALARM INPUT 15			GREEN/BLACK
ALARM INPUT 16			GREEN/WHITE

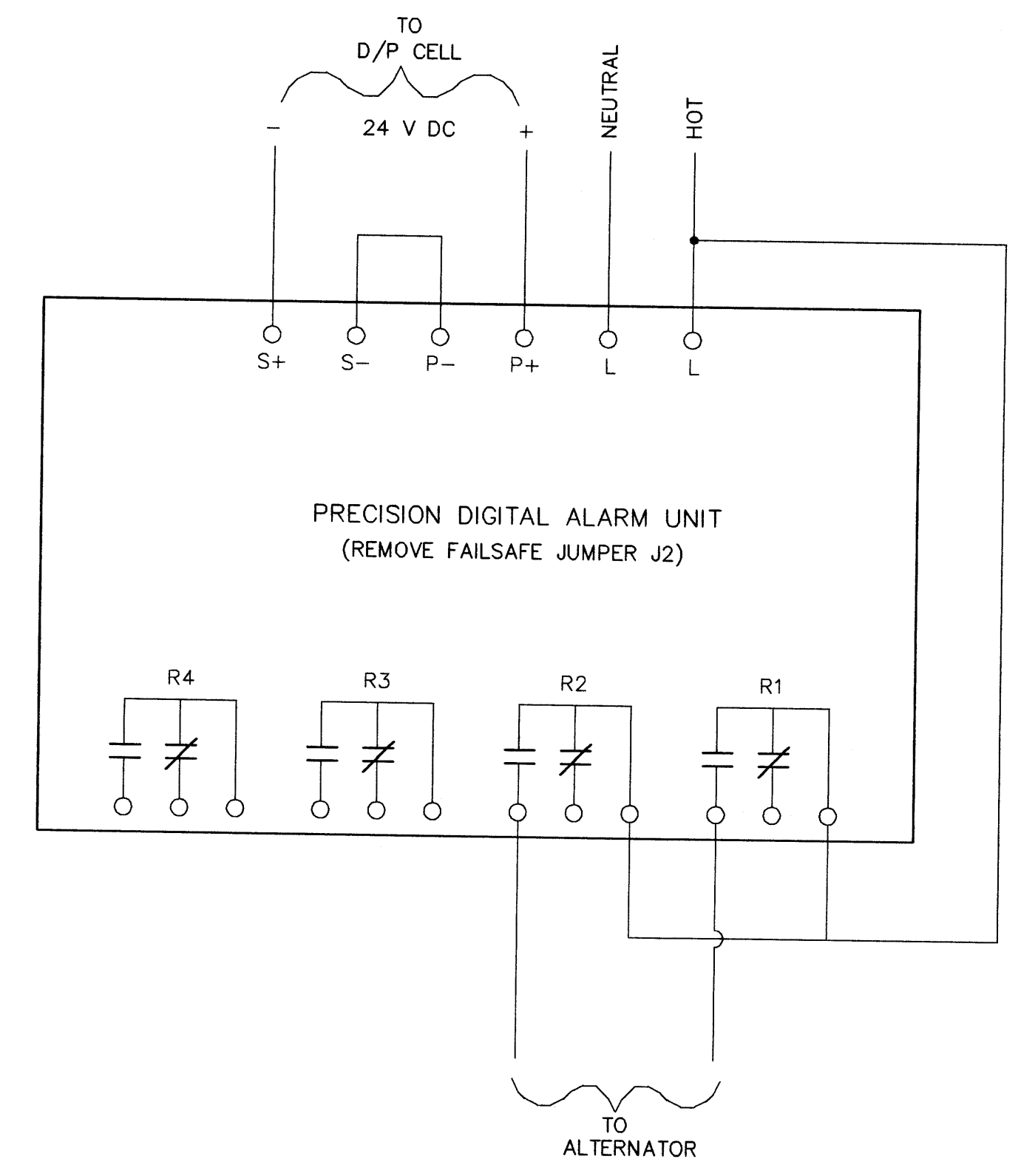
Any other types of alarms are to be wired to alarm inputs 14 through 16. Otherwise call the Metershop for further instructions.

ANALOG WIRING	PLC ADDRESS
INPUT 1	LIFT LEVEL 30001
INPUT 2	FLOOD LEVEL 30002
INPUT 3	FLOW 30003

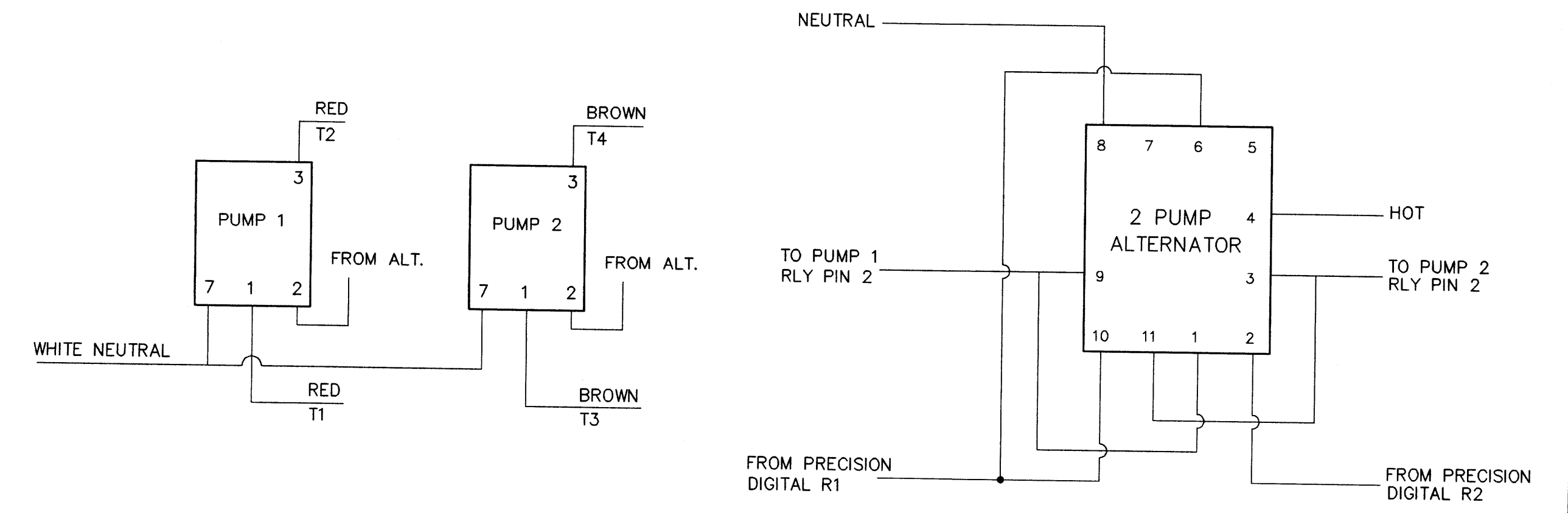
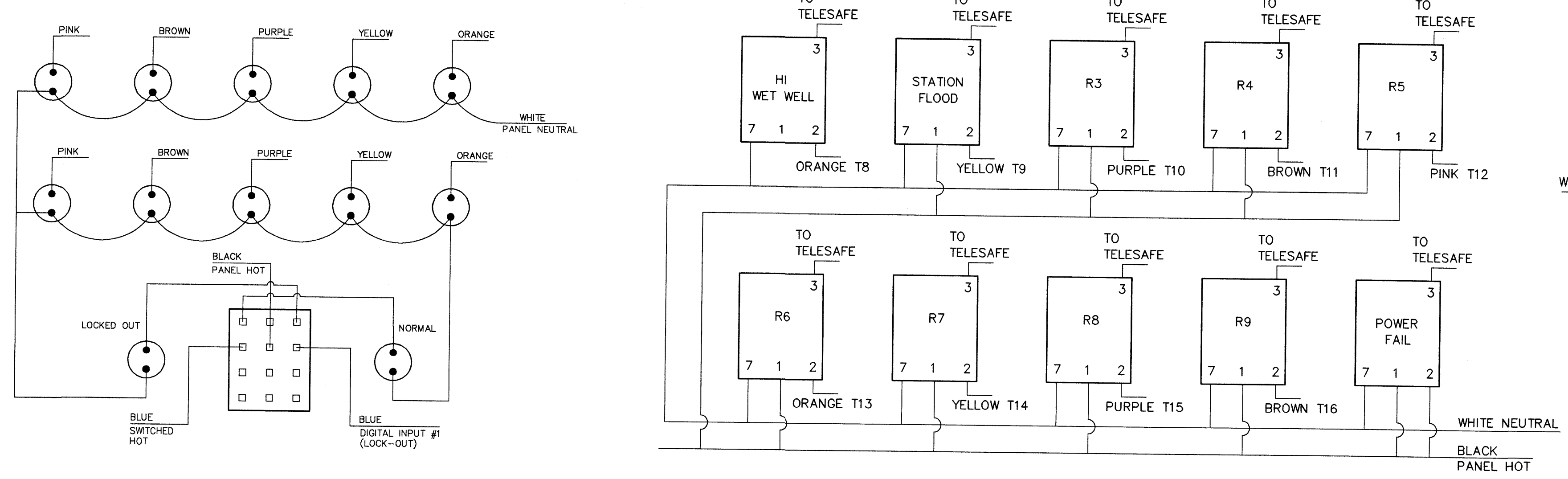
BACK PANEL LAYOUT



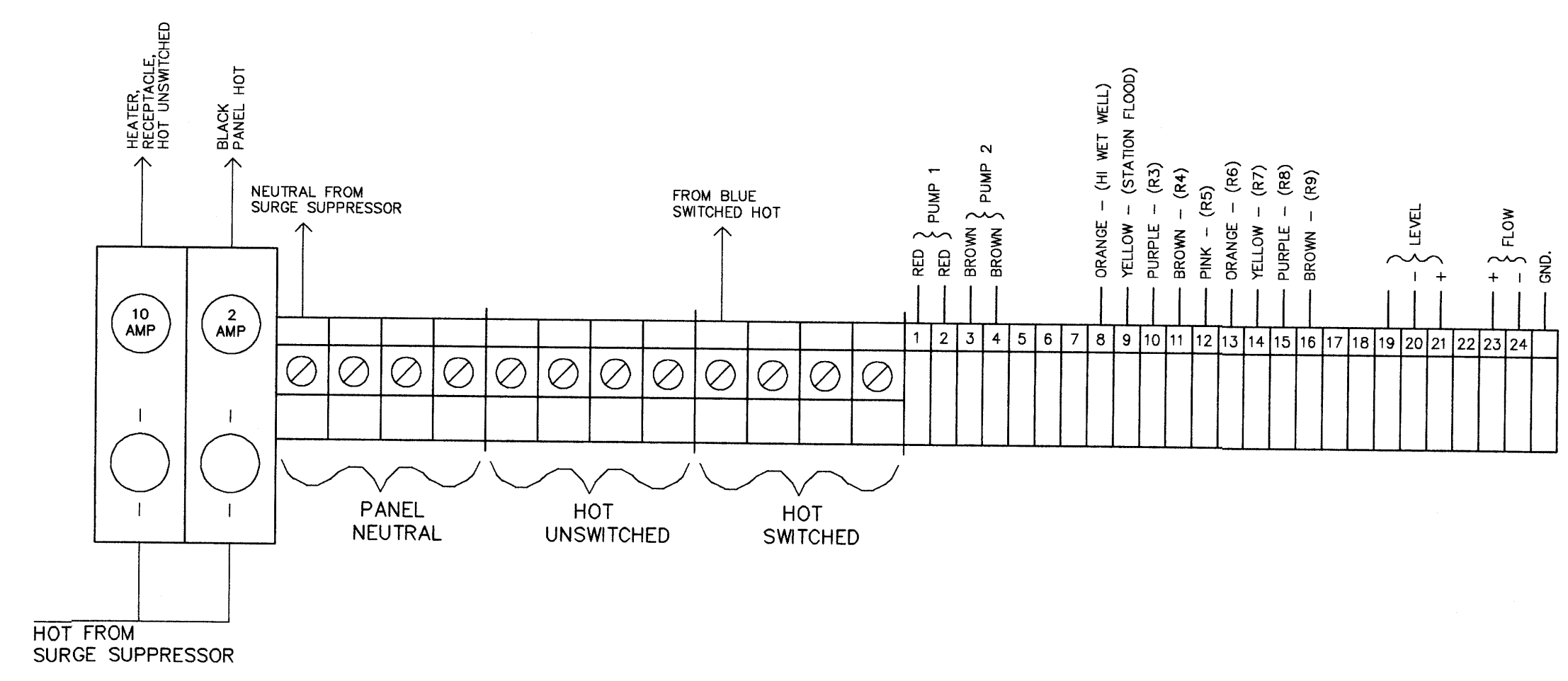
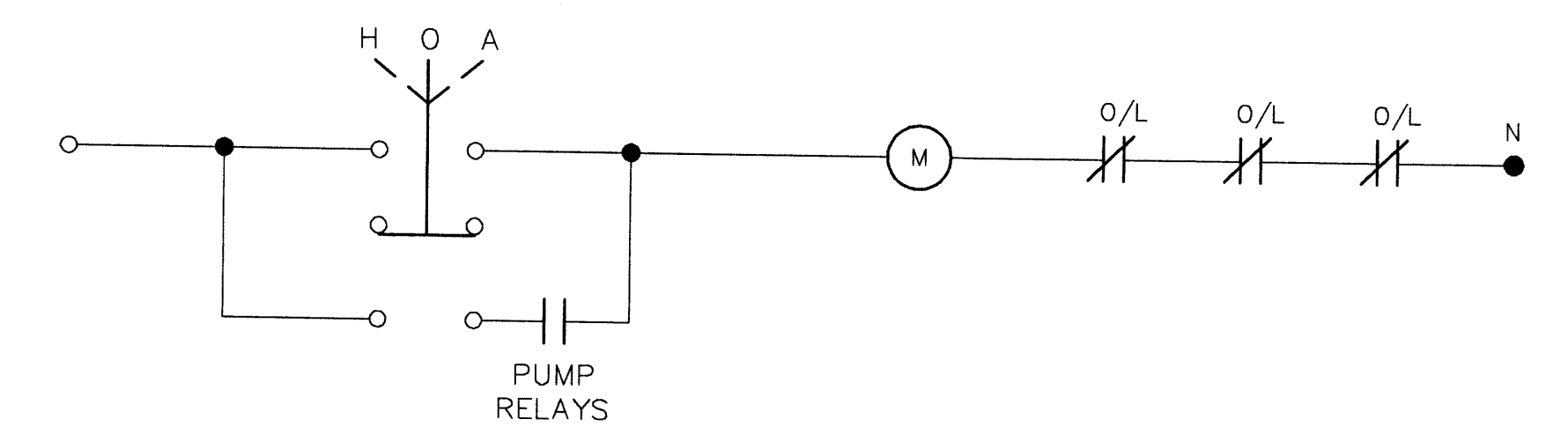
ELECTRICAL DISTRIBUTION LAYOUT



WIRING DIAGRAM



TYPICAL MOTOR STARTER



B.M. ELEV.	FIELD BOOK #	<b>CITY OF WINNIPEG WATER AND WASTE ENGINEERING DIVISION</b>	ENGINEER'S SEAL	<b>THE CITY OF WINNIPEG</b> WATER AND WASTE DEPARTMENT
POSTED TO LBIS			DESIGNED BY	
		DRAWN BY DS	APPROVED BY	CONWAY LIFT STATION ELECTRICAL AND CONTROL
		HOR. SCALE N.T.S.	RELEASED FOR CONSTRUCTION	
NO. REVISIONS	DATE	DATE 1999 04 16	DATE	SHEET OF CITY DRAWING NUMBER 4492

PLOT DATE: 1999 04 16

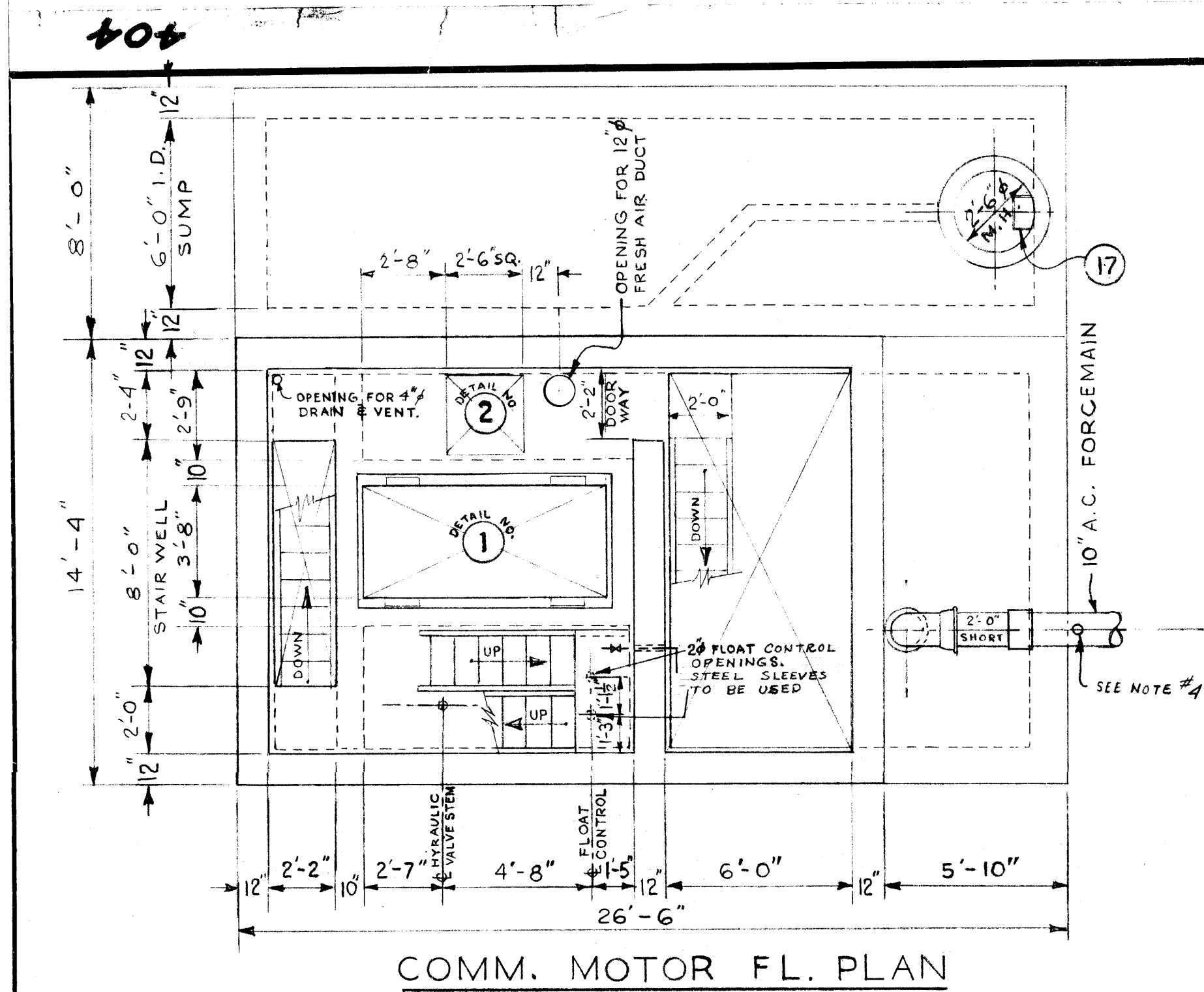


file # SP 10095

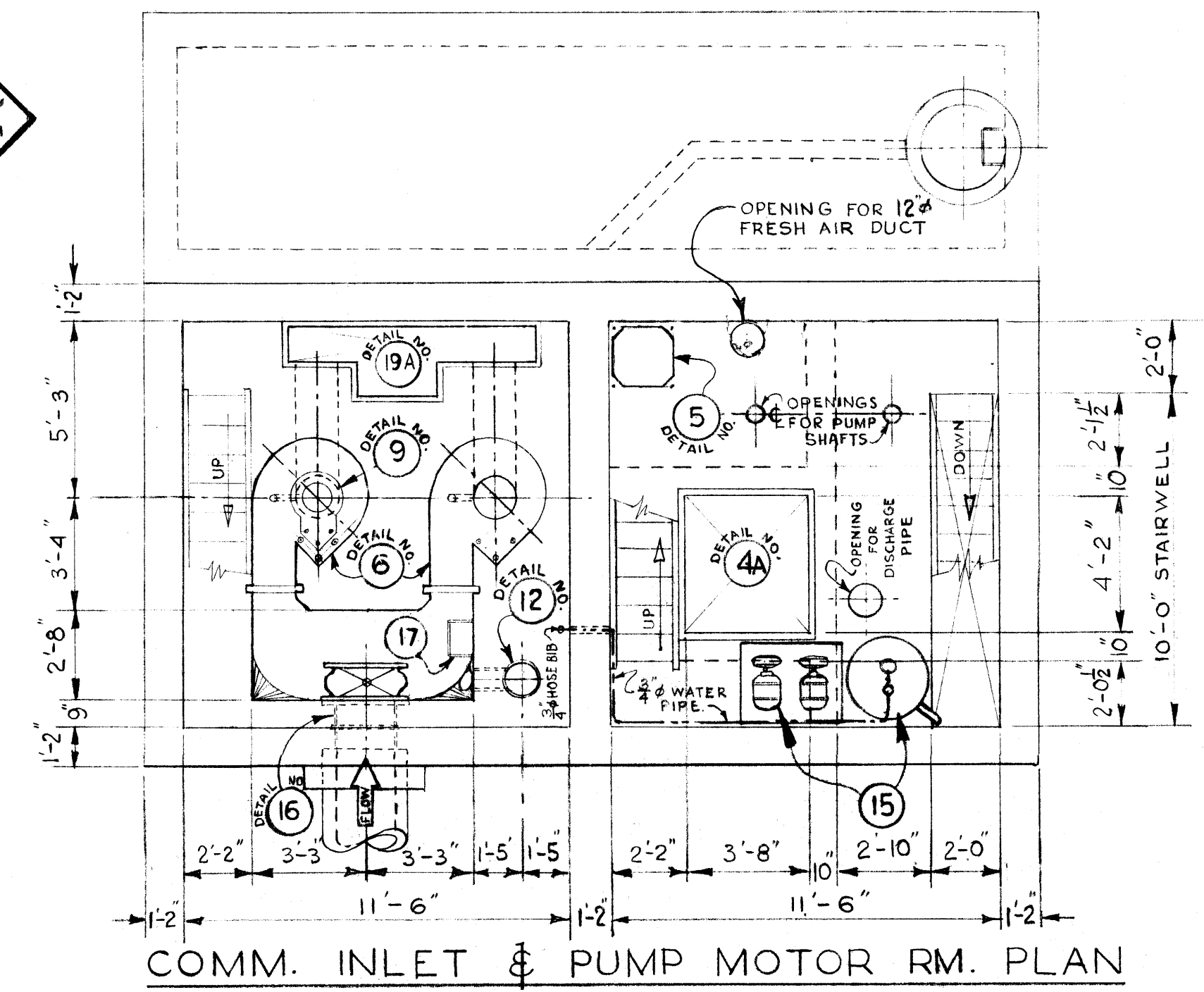
404

REF. or DRAWING No.

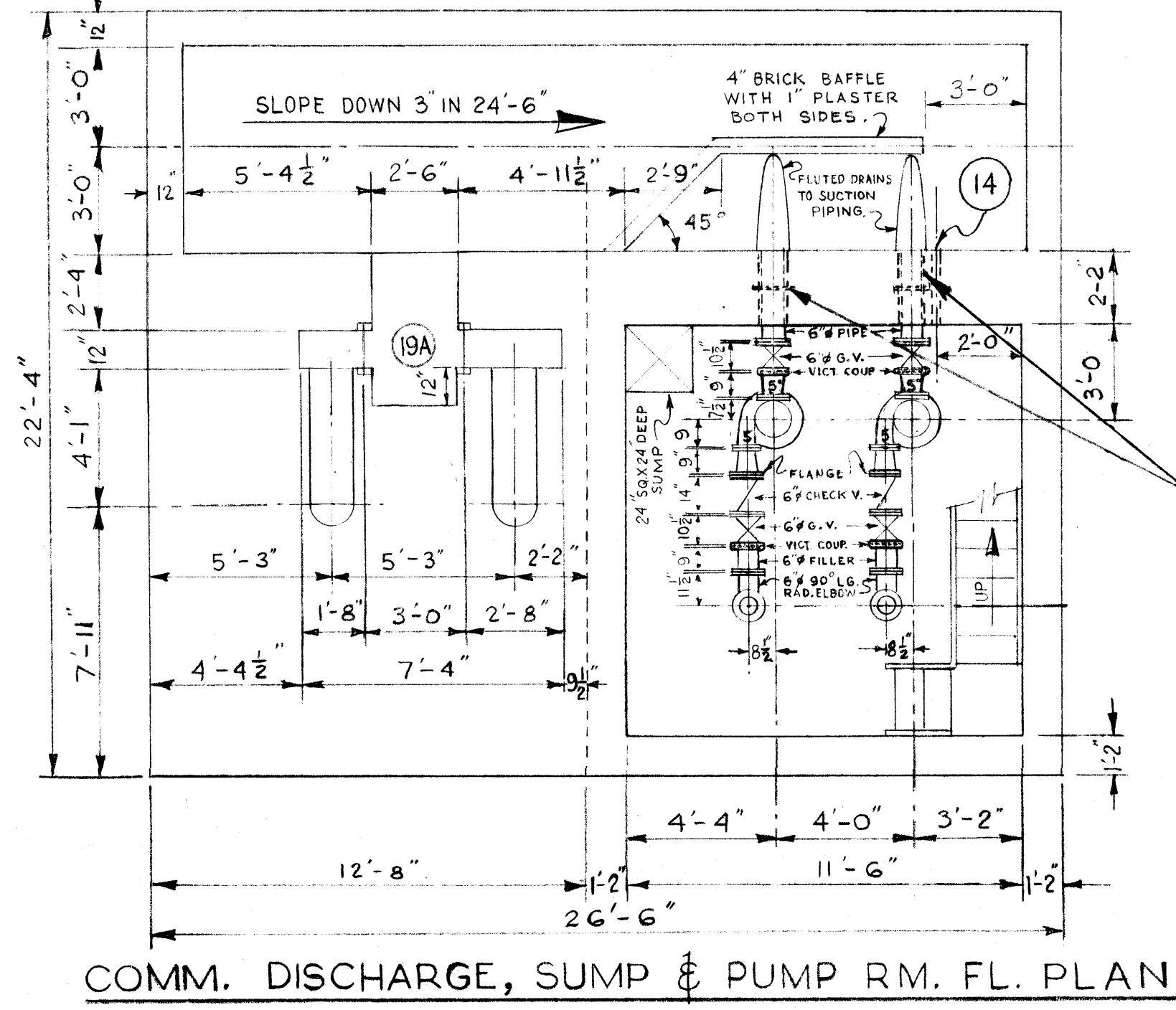
DETAILS



COMM. MOTOR FL. PLAN

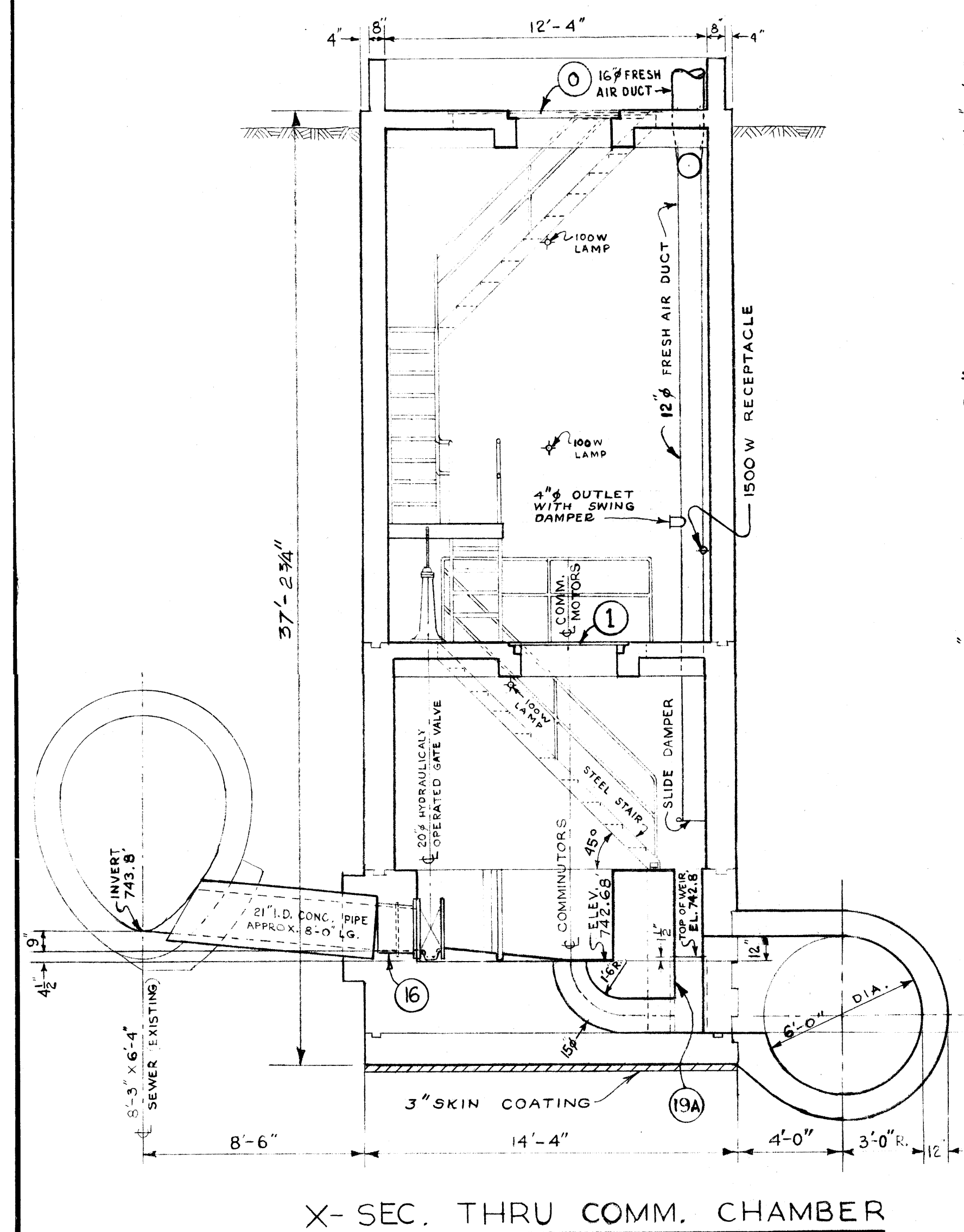


COMM. INLET & PUMP MOTOR RM. PLAN

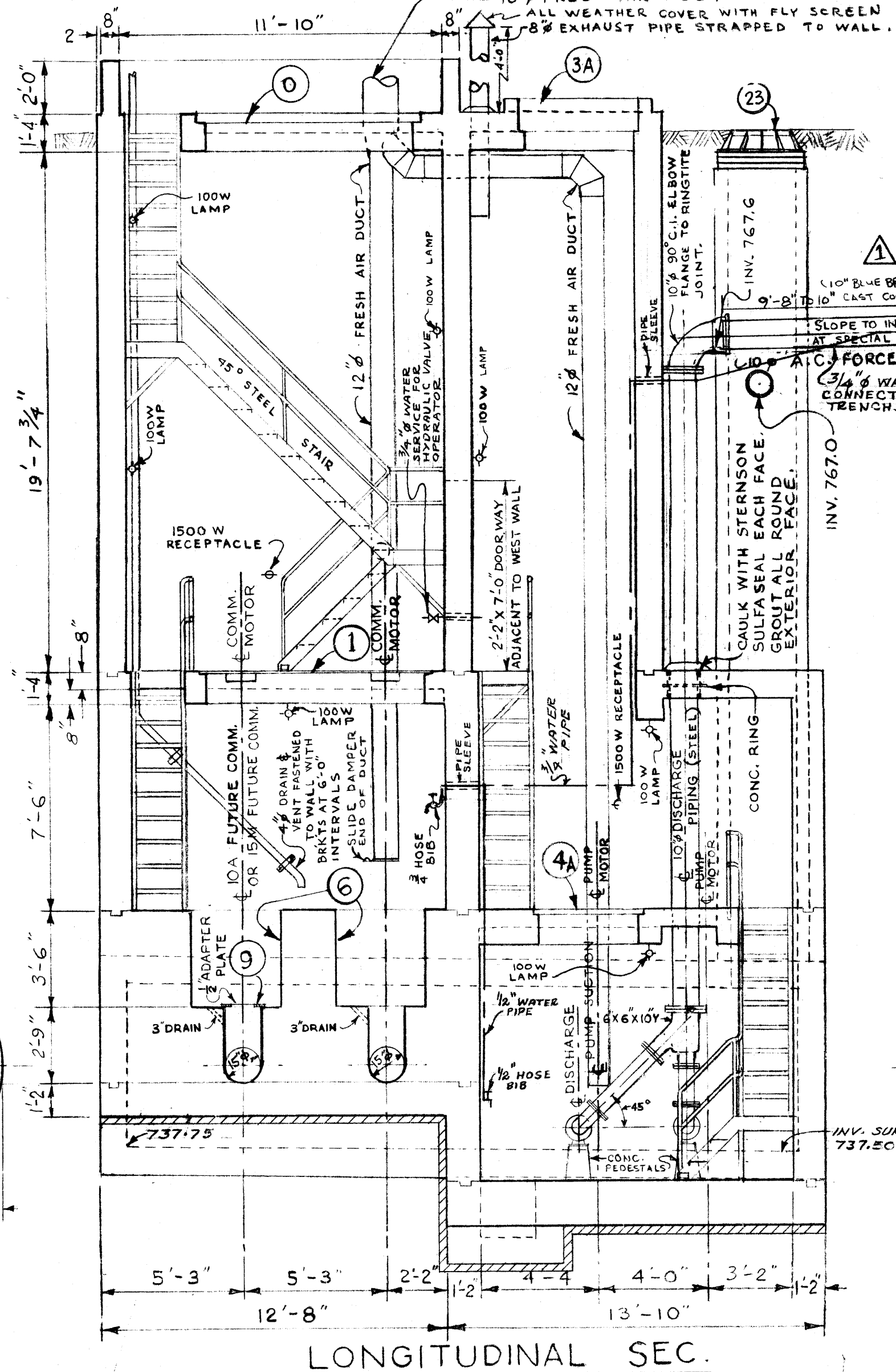


COMM. DISCHARGE, SUMP & PUMP RM. FL. PLAN

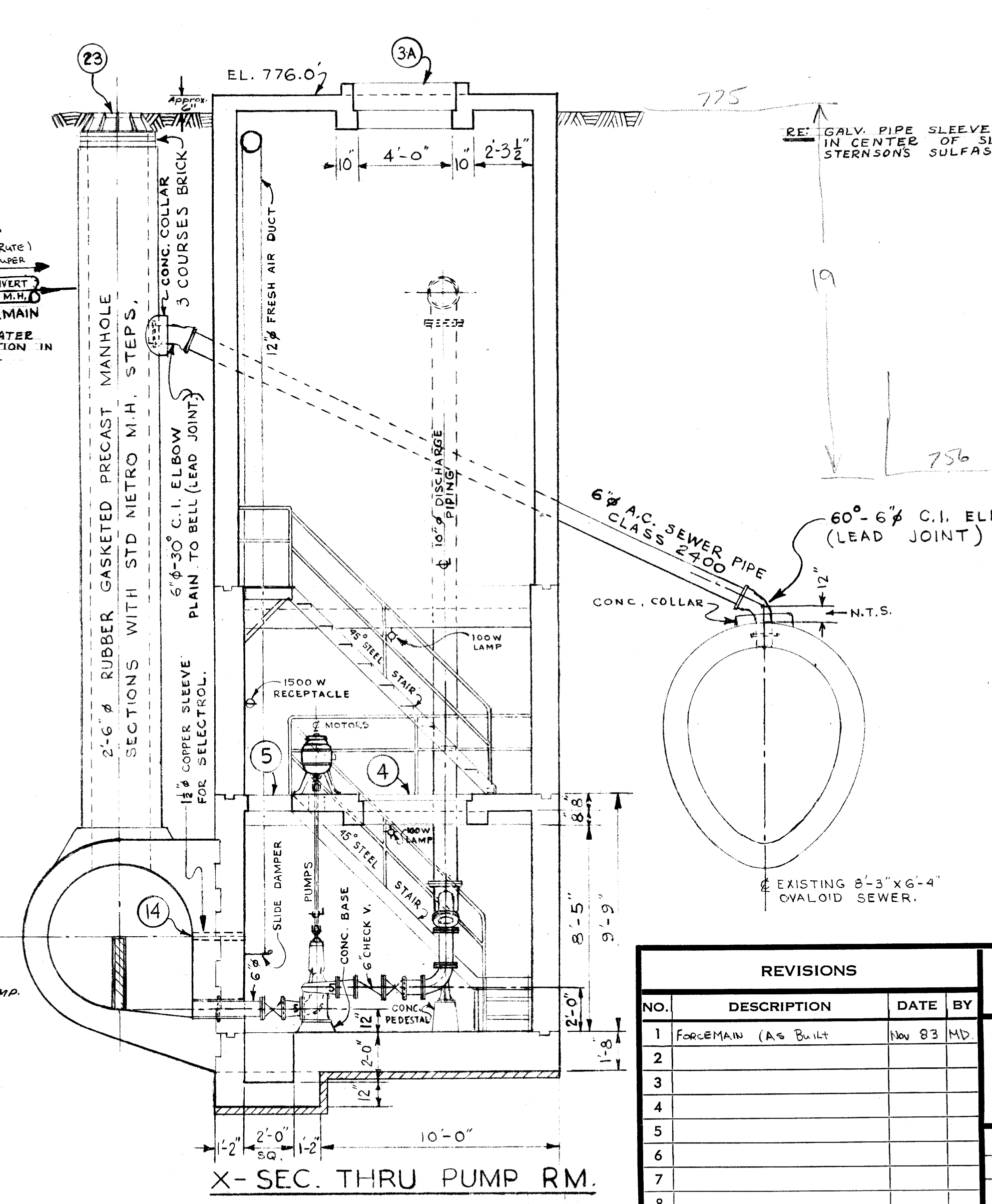
- 2- HOT GALV. ALL MISC METAL WORK.
- 3- A SHORT LENGTH OF PIPE (4' OR LESS), SHALL BE INSTALLED ADJACENT TO ALL C.I. PIPE OR RIGID FITTINGS.
- 4- CONTRACTOR TO SUPPLY SERVICE CLAMP WITH 1" OUTLET, 1/2" GALV. STEEL NIPPLE, 1/2" LONG, ONE RIGHT ANGLE, BRASS GLOBE & ANGLE VALVE, (SCREWED FITTINGS). VALVE TO TURN LEFT TO OPEN. SUPPLY SUITABLE EXTENSION STEM FOR OPERATING VALVE.
- 5- ALL VICTAULIC COUPLINGS TO BE STYLE #44.
- 6- PIPE SLEEVES WITH CONC. RING, CAULKED WITH OAKUM IN CENTRE OF SLEEVE & FINISHED WITH STERNSON'S SULFASAL OR EQUAL AT EA. FACE.
- 6- SUMP PUMP TO DISCHARGE INTO COMM. CHAMBER. (DISCHARGE TO PASS TROUGH WALL AT COMM. MOTOR FL. LEVEL.)



X- SEC. THRU COMM. CHAMBER



LONGITUDINAL SEC.



X- SEC. THRU PUMP RM.

AS BUILT MAR. 1971 V.D.



REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	FORCEMAIN (AS BUILT)	NOV 83	MD
2			
3			
4			
5			
6			
7			
8			

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG  
**WATERWORKS & WASTE DISPOSAL DIVISION**  
 SEWAGE DISPOSAL BRANCH

**ST. JAMES INTERCEPTOR  
 CONWAY COMMINUTOR AND  
 PUMPING STATION**

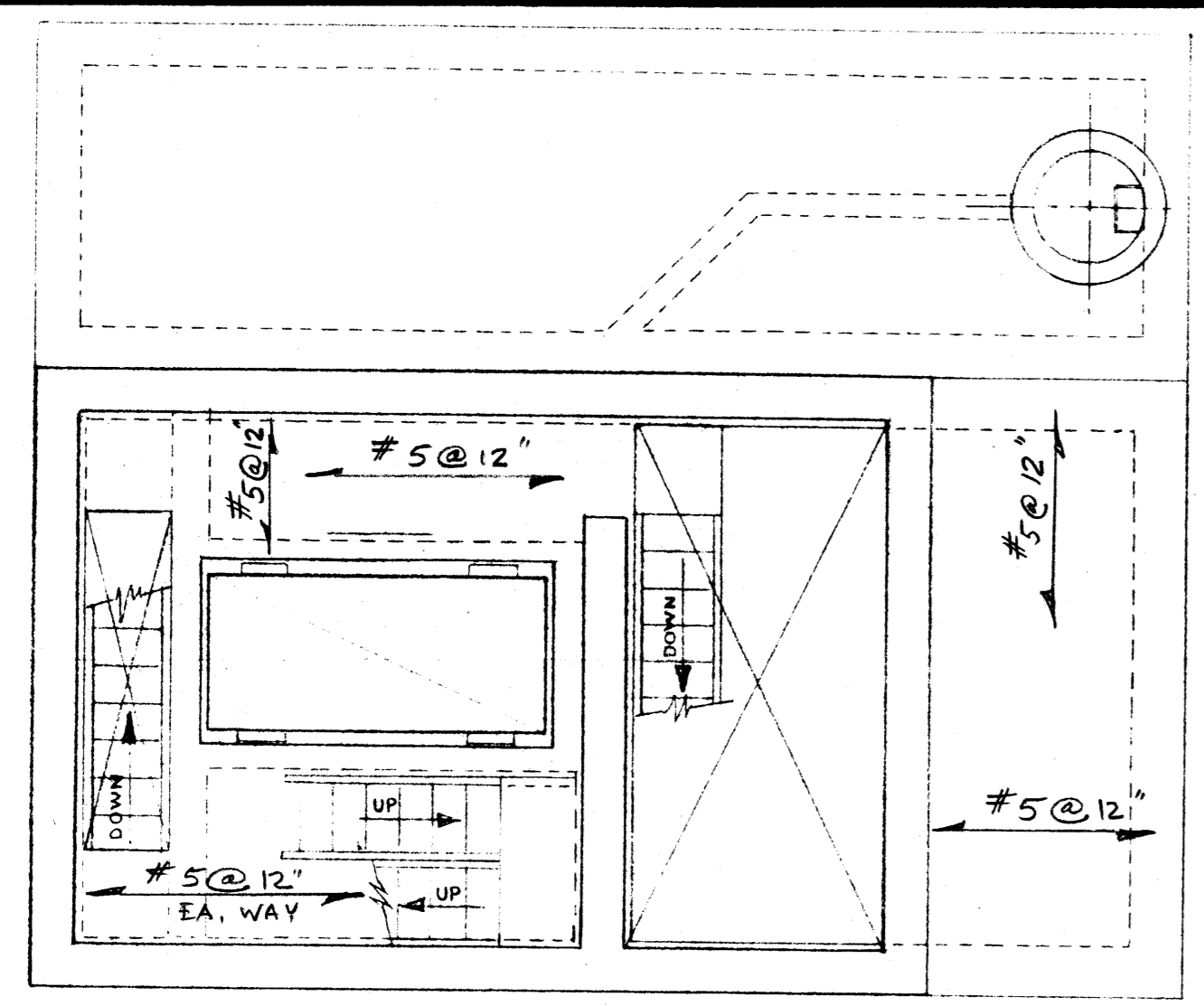
APPROVED BY: *[Signature]* DATE: *[Date]*  
 DESIGNED BY: *[Signature]* DRAWN BY: *[Signature]*  
 CHECKED BY: *[Signature]* DATE: *[Date]*  
 CHIEF ENGINEER

DRAWING NO. **404**

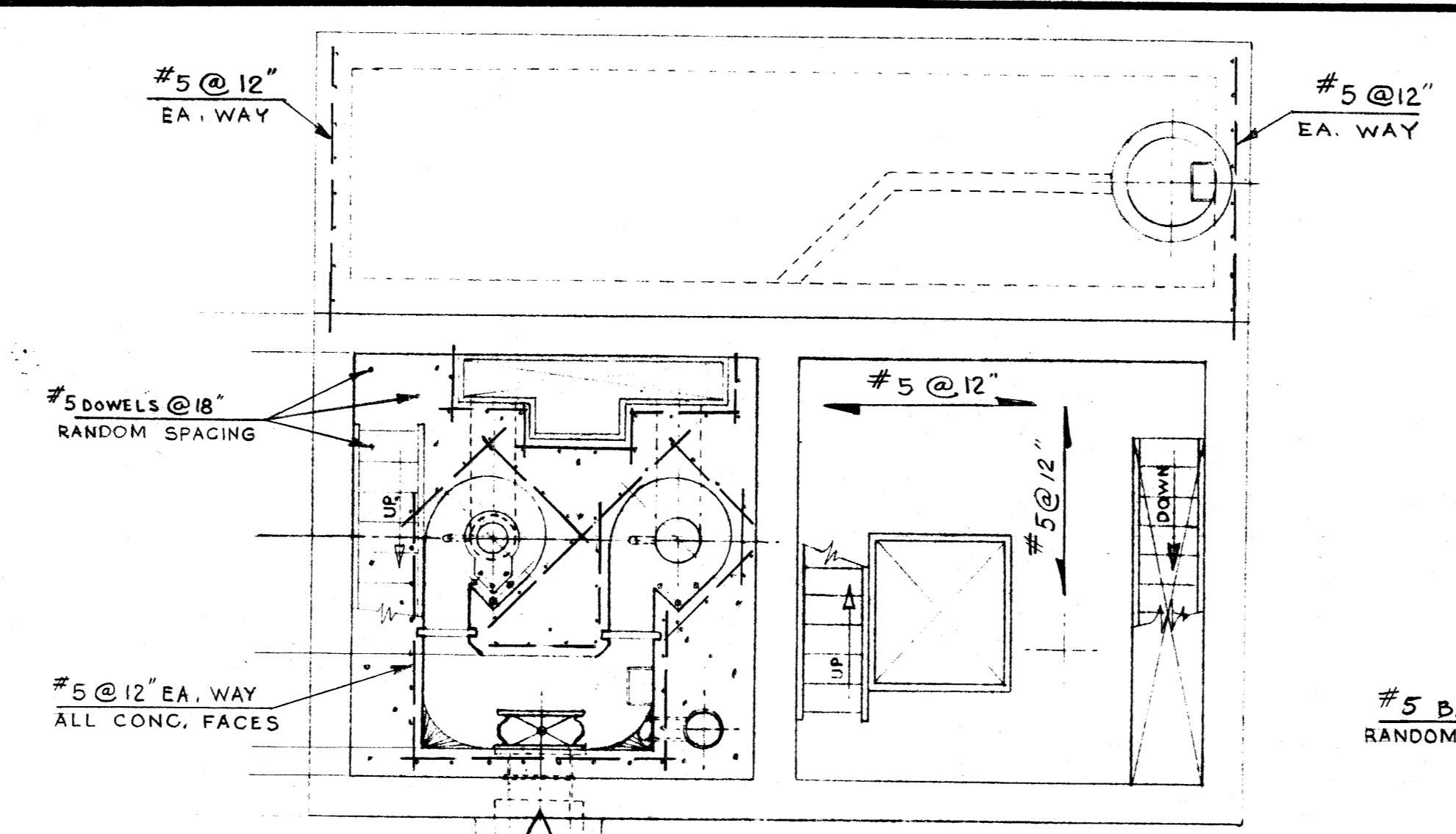


404A file # SP10096

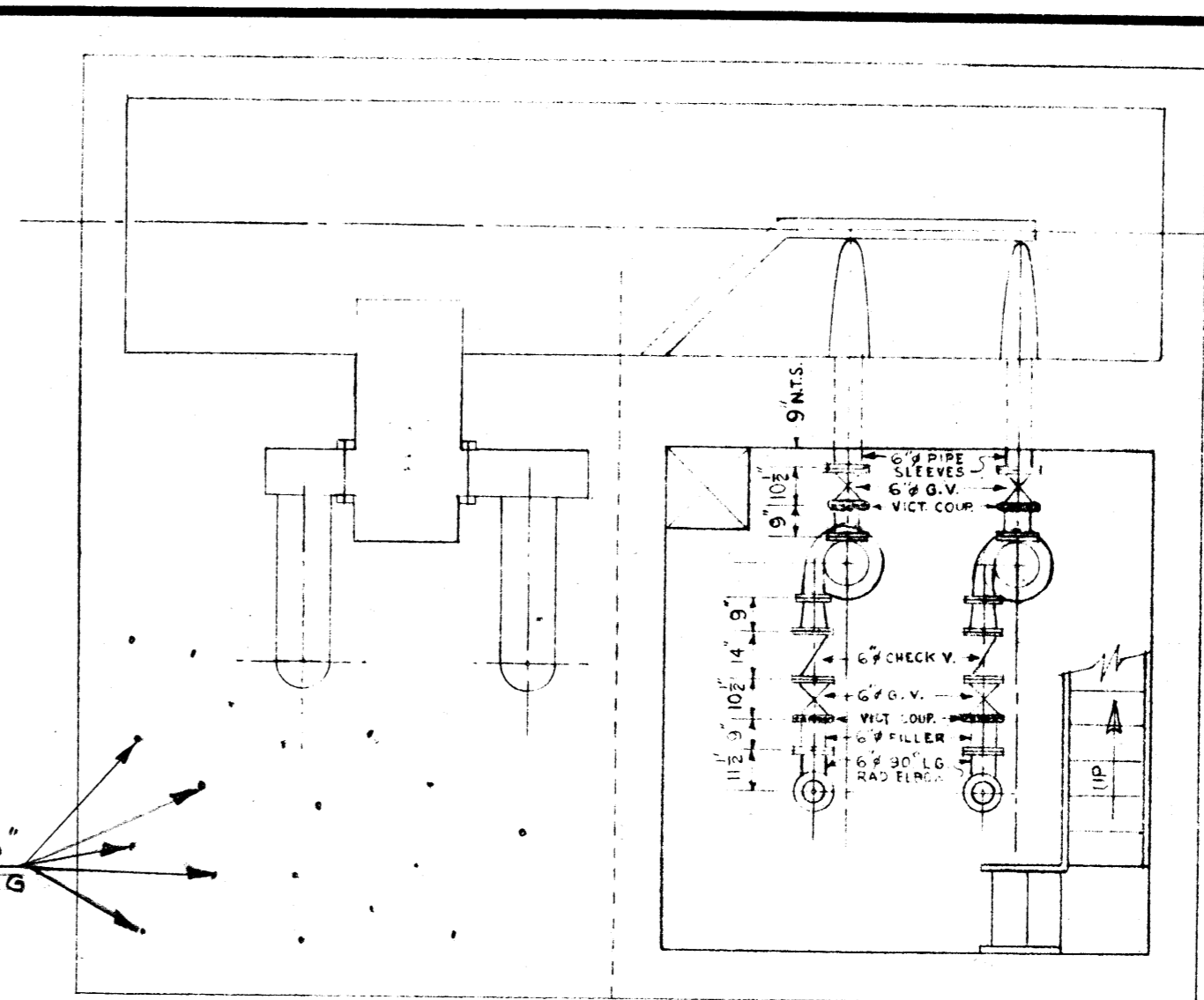
REF. or DRAWING NO. 404A  
DETAILS



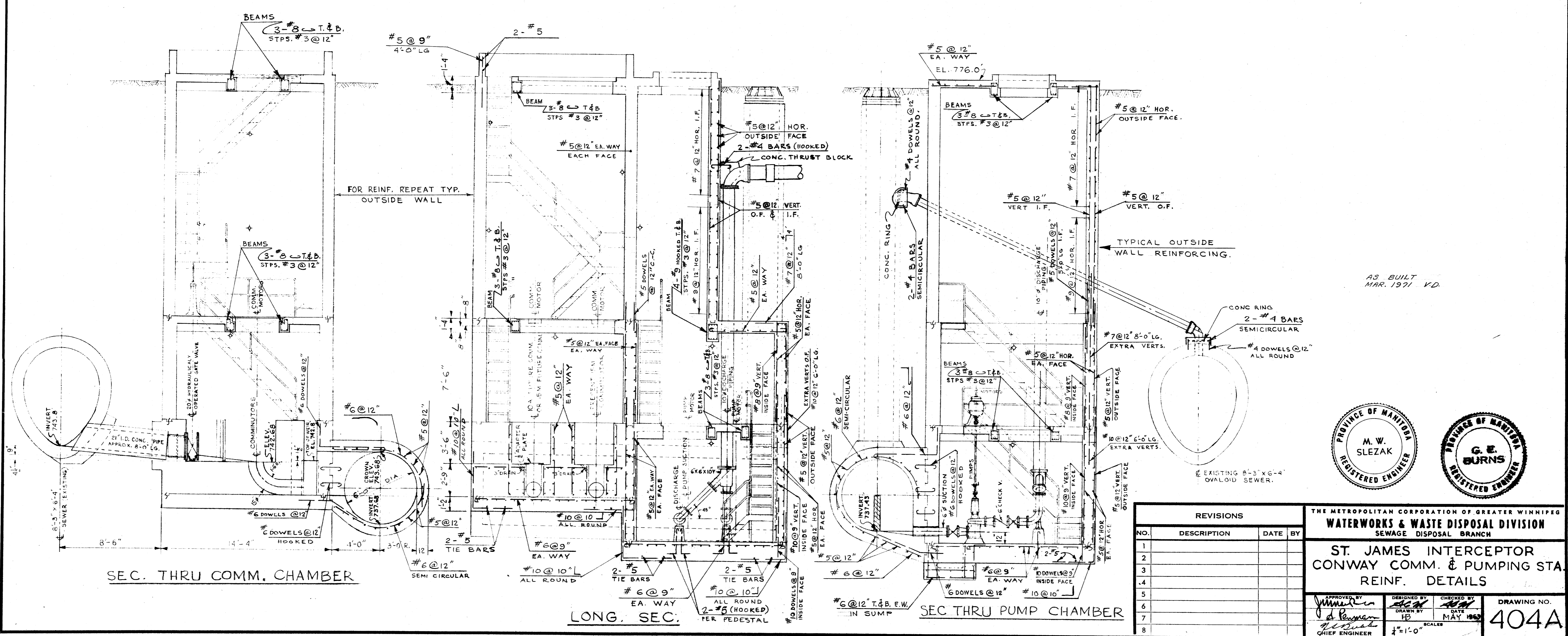
MOTOR RM. FL. PLAN



COMM. BASIN & PUMP MOTOR RM. FL.



SUMP INLET & PUMP CHAMBER FL.



SEC. THRU COMM. CHAMBER

LONG SEC.

SEC THRU PUMP CHAMBER

AS BUILT MAR. 1971 V.D.



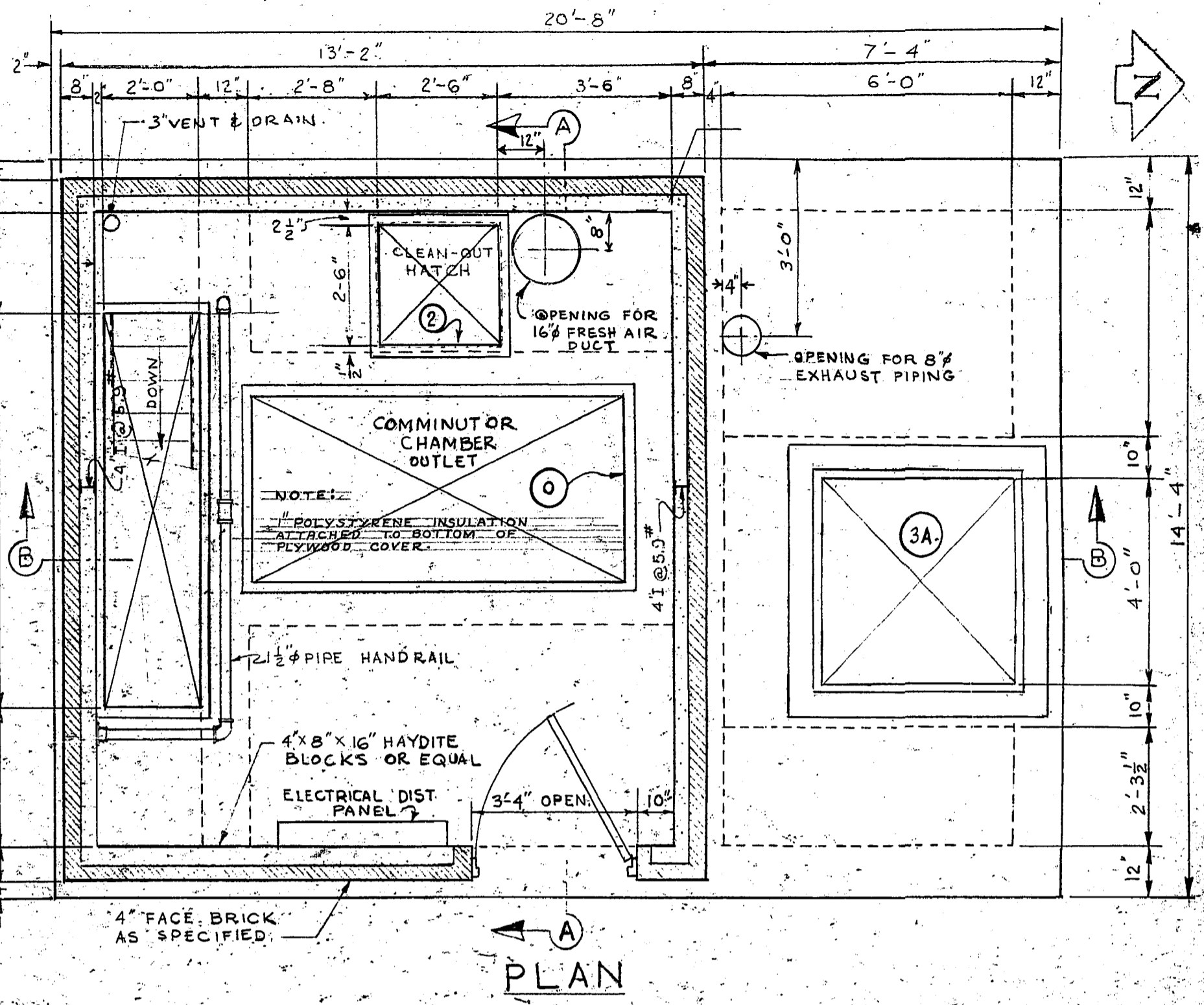
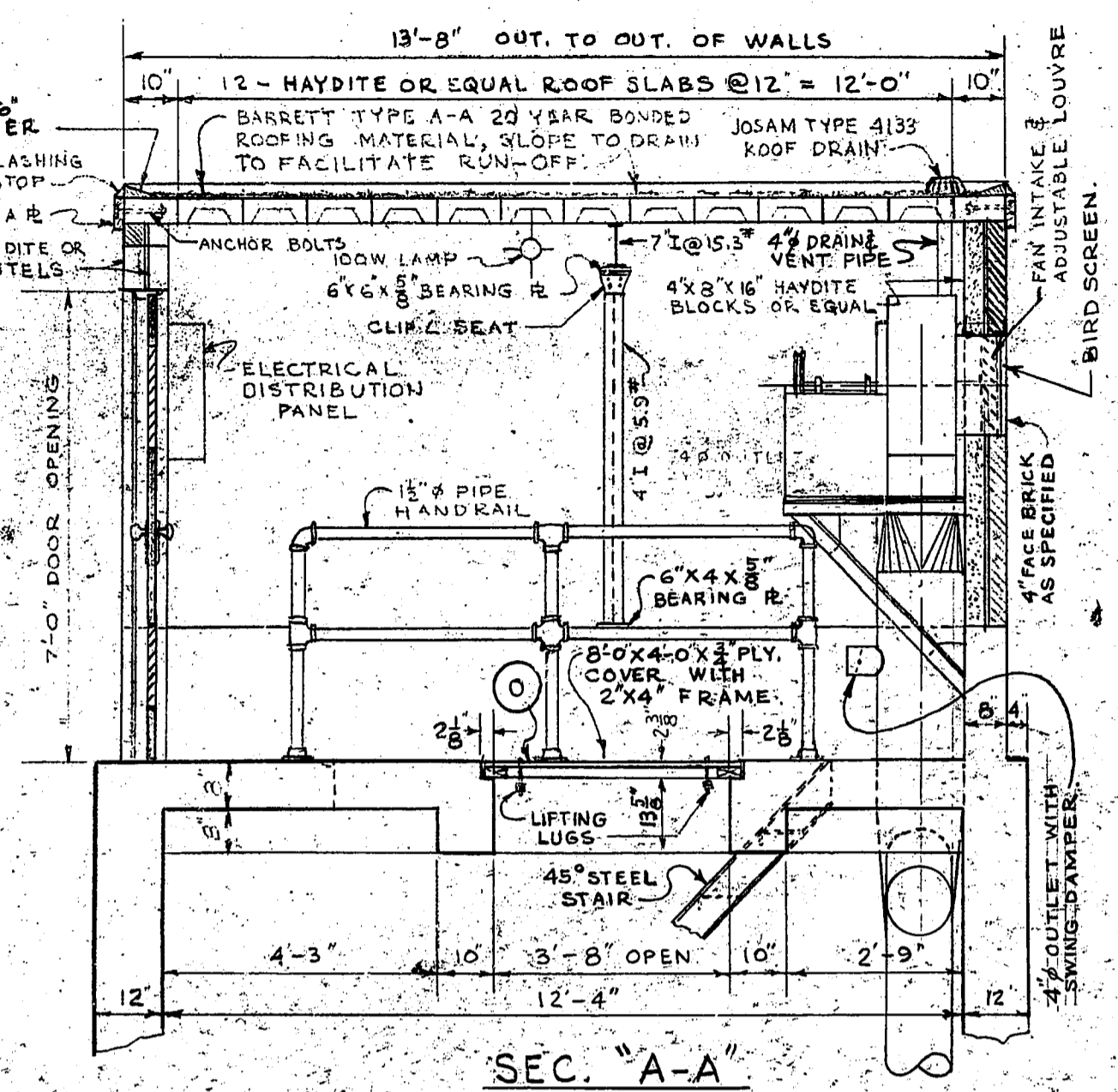
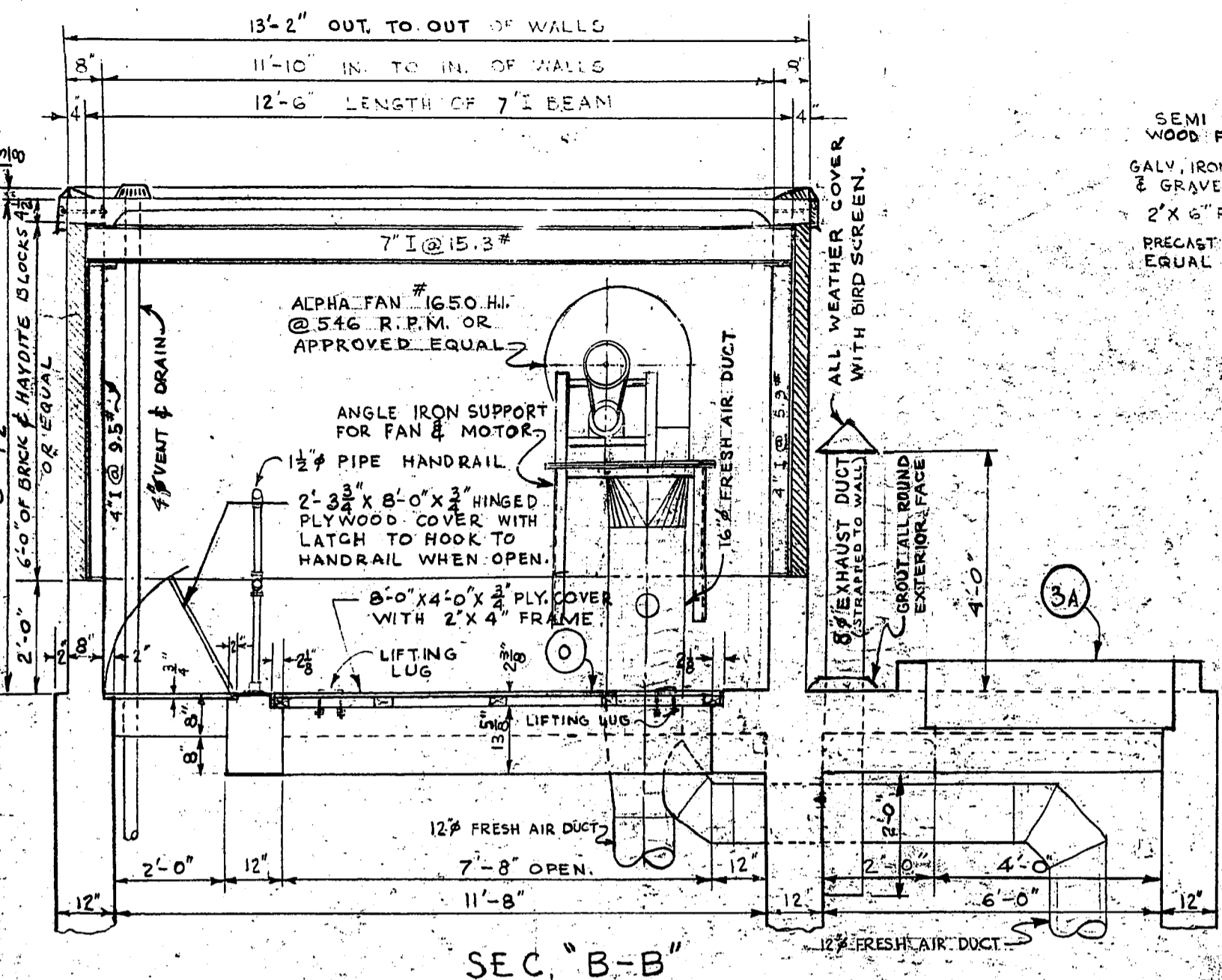
REVISIONS			
NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			
5			
6			
7			
8			

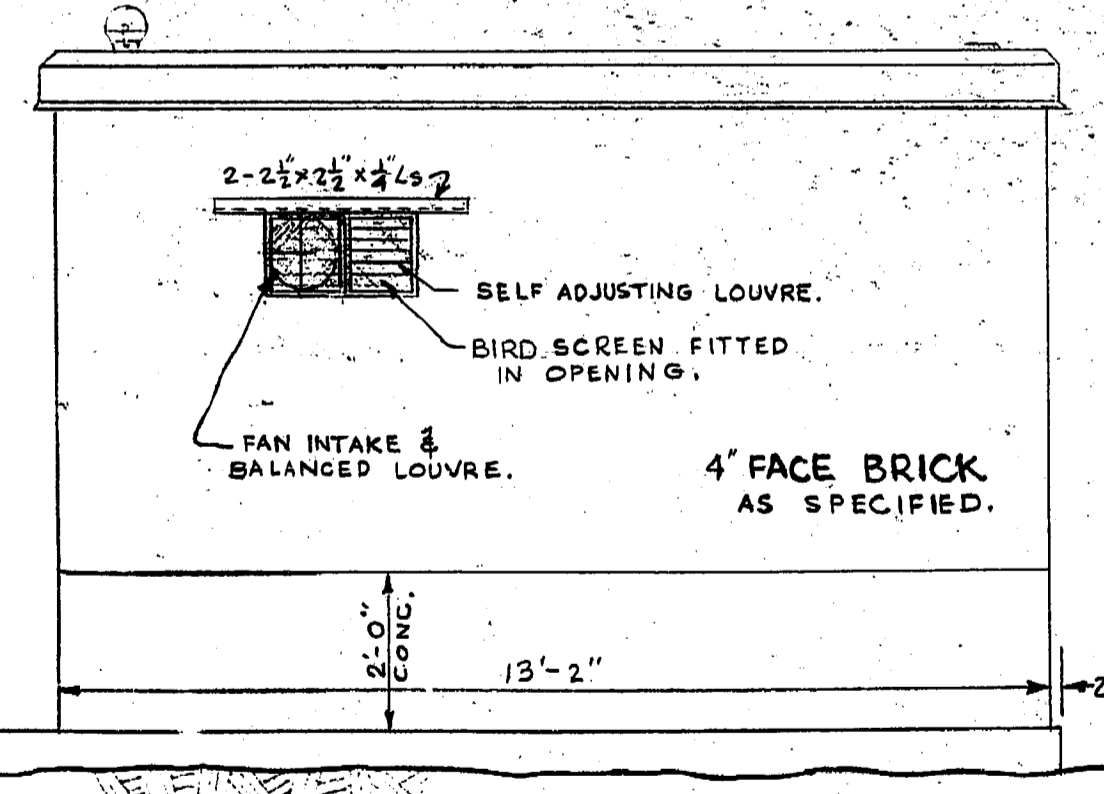
THE METROPOLITAN CORPORATION OF GREATER WINNIPEG			
WATERWORKS & WASTE DISPOSAL DIVISION			
SEWAGE DISPOSAL BRANCH			
ST. JAMES INTERCEPTOR			
CONWAY COMM. & PUMPING STA.			
REINF. DETAILS			
APPROVED BY <i>[Signature]</i> CHIEF ENGINEER	DESIGNED BY <i>[Signature]</i> H.B.	CHECKED BY <i>[Signature]</i> DATE MAY 1969	DRAWING NO. <b>404A</b>

Micro-Filmed 1965  
FILMED JANUARY 1972

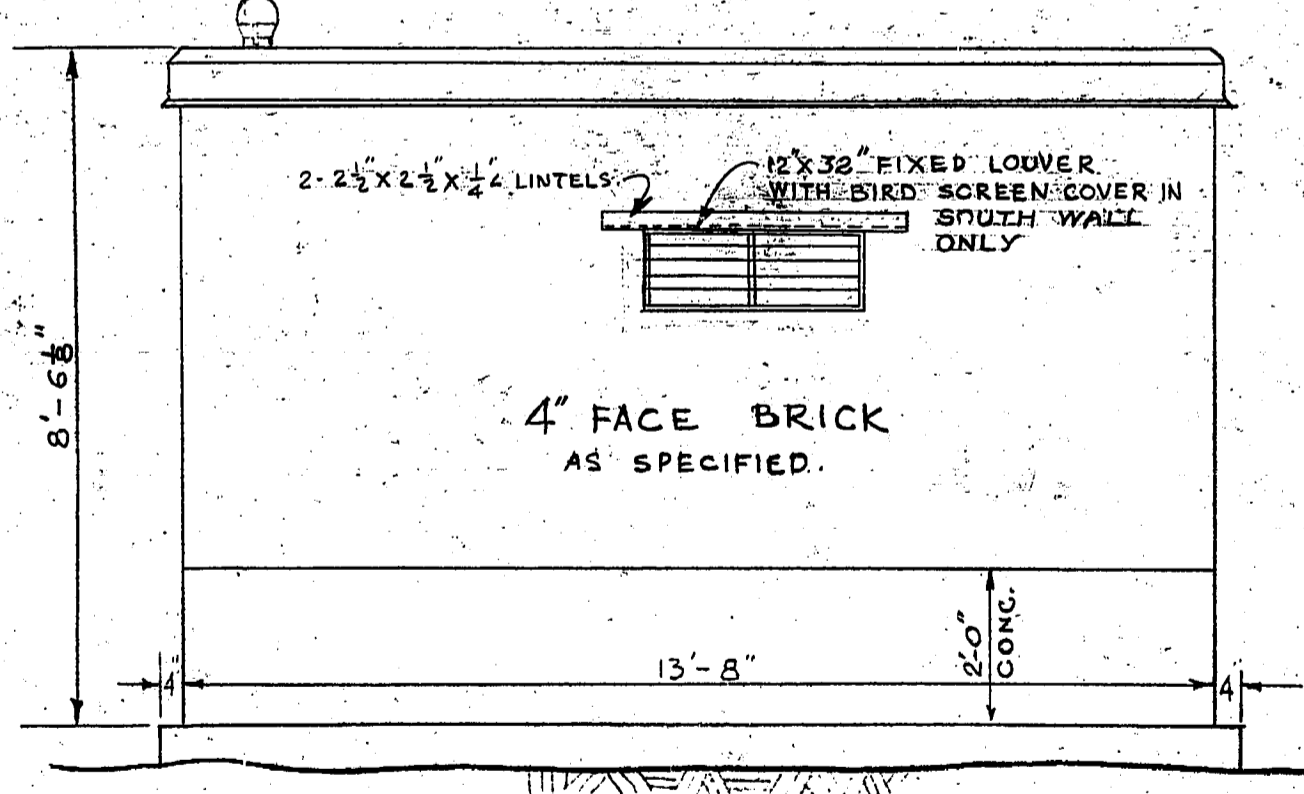




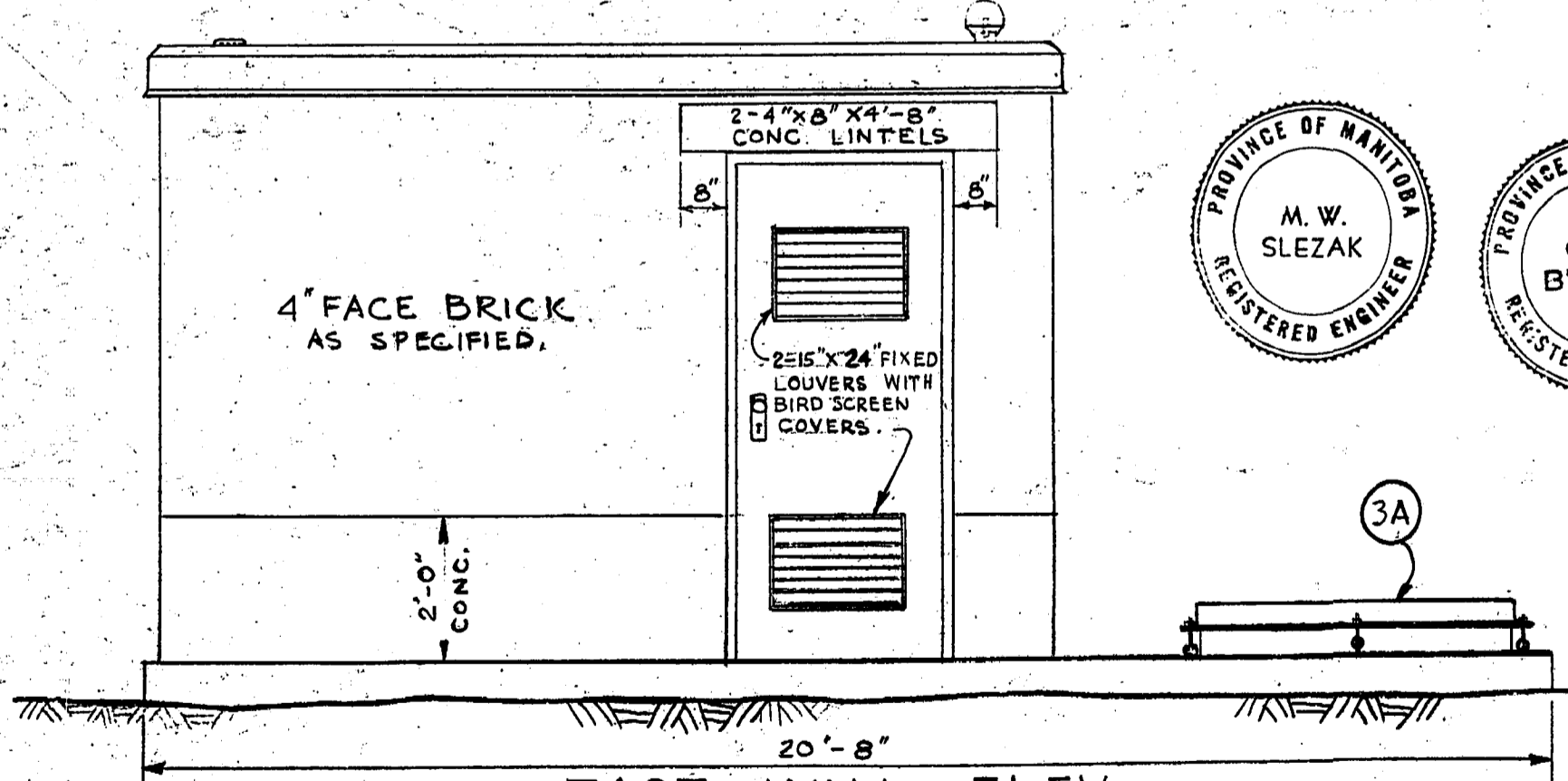
AS BUILT  
MAR. 1971 V.O.



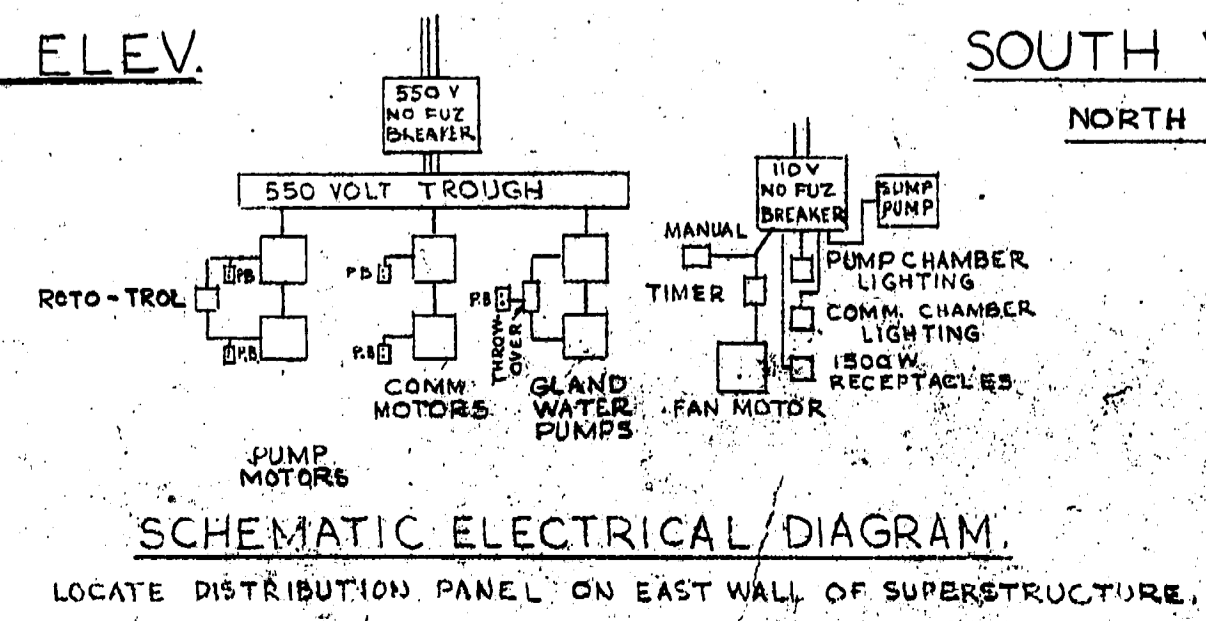
WEST WALL ELEV.



SOUTH WALL ELEV.  
NORTH WALL SIMILAR.



EAST WALL ELEV.



SCHEMATIC ELECTRICAL DIAGRAM.

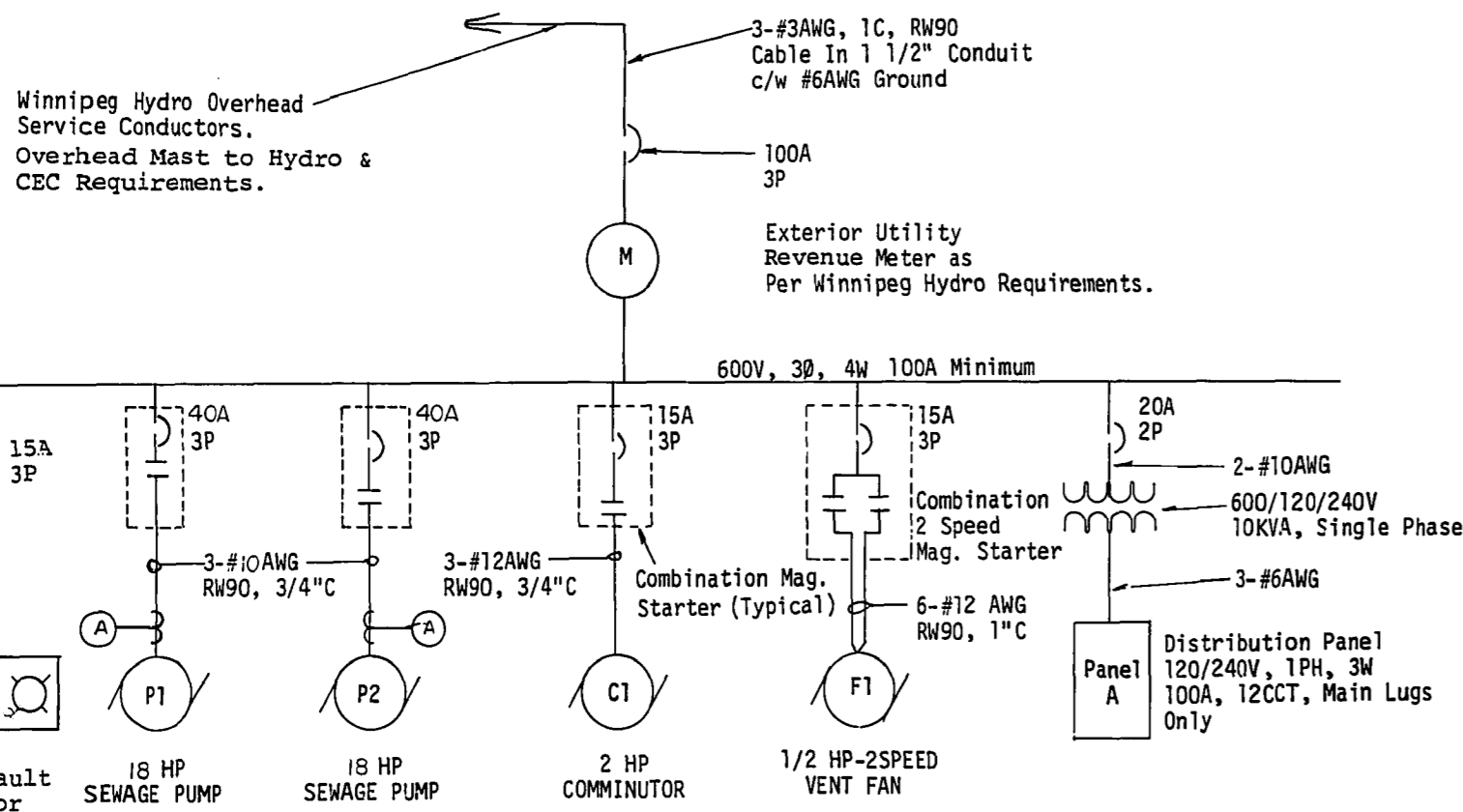
LOCATE DISTRIBUTION PANEL ON EAST WALL OF SUPERSTRUCTURE.

REVISIONS			THE METROPOLITAN CORPORATION OF GREATER WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION SEWAGE DISPOSAL BRANCH	
NO.	DESCRIPTION	DATE BY	TITLE	SCALE
			ST. JAMES INTERCEPTOR CONWAY COMM. & PUMPING STA SUPERSTRUCTURE DETAILS	1/2" = 1'-0"
			APPROVED BY: <i>[Signature]</i> DESIGNED BY: <i>[Signature]</i> DRAWN BY: H. BUXMAN CHECKED BY: <i>[Signature]</i> DATE: MAY 63	404B

Micro-Filmed 1965

# Cornish Lift Station Drawings



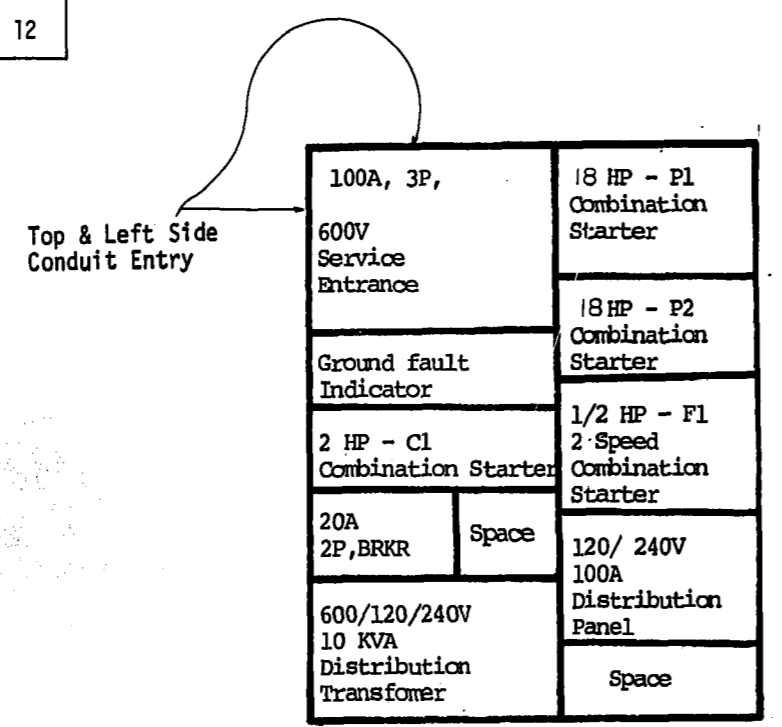


**SINGLE LINE DIAGRAM**  
N.T.S.

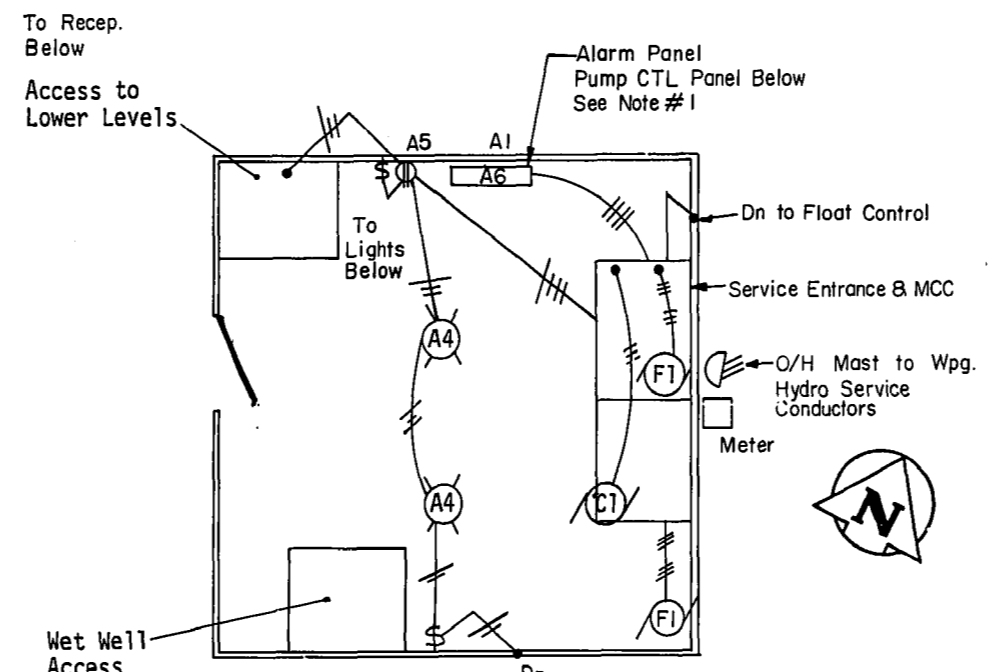
MTR. NO.	DESCRIPTION	LOCATION	H.P.	VOLTS	STARTER & ACCESSORIES					CCT	STARTER	REMARKS
					MAN	MAG	P.L.	CTL	ETM			
P1	Sewage Pump	Pump Well	18	600V, 3φ	-	*	*	HOA	*	Dist'n	MCC	Lock-Off-Stop Pushbutton at Motor. Final Motor connection via Type SOW Flexible Cable. Ammeter on front door of starter. Ammeter CT mounted on B Phase Conductor (Center) only.
P2	Sewage Pump	Pump Well	18	600V, 3φ	-	*	*	HOA	*	Dist'n	MCC	
C1	Comminutor	Main Level	2	600V, 3φ	-	*	*	On Off	-	Dist'n	MCC	New Wiring to Motor. Final Connection via Flex Armored Conduit
F1	Ventilation	Main Level	1/2	600V, 3φ	-	*	*	High Off Low	-	Dist'n	MCC	Replaced Fan Motor. Final Motor Connection via Flex Armored Conduit.
-	Sump Pump	Pump Well	1/2	120V, 1φ	-	-	-	-	-	A2	At Pump	Pump & Float Controls. Single Receptacle.

CCT No.	DESCRIPTION	TRIP AMPS	TRIP AMPS	DESCRIPTION	CCT No.
1	Remote Alarm Signal Panel	15A	15A	Sump Pump	2
3	Lighting Wet Well	15A	15A	Lighting-Main & Lower Levels	4
5	Receptacles	15A	15A	Pump CTL Panel	6
7	Spare	15A	15A	Spare	8
9	Spare	15A	15A	Spare	10
11	Spare	15A	15A	Spare	12

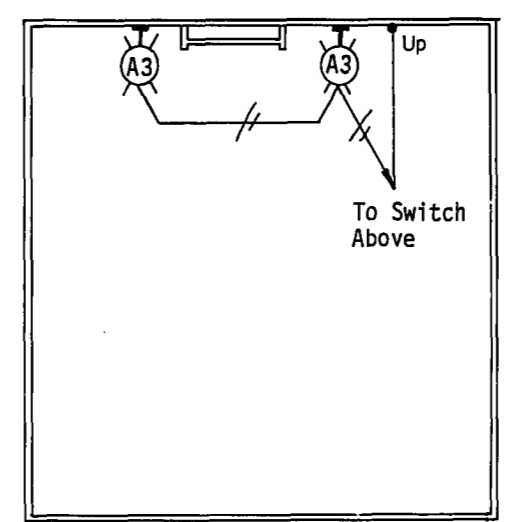
**PANEL SCHEDULE**



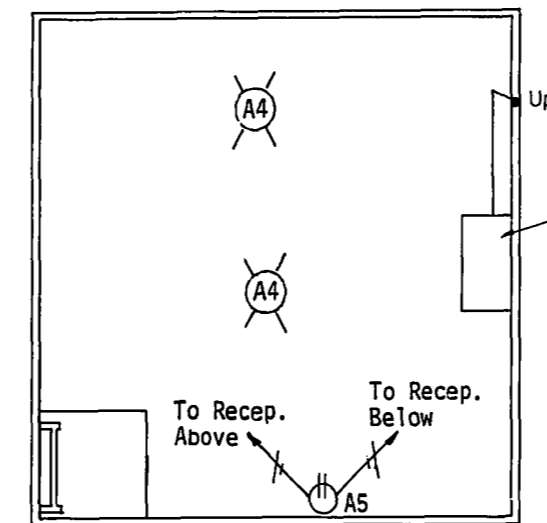
**SERVICE ENTRANCE / MCC LAYOUT**



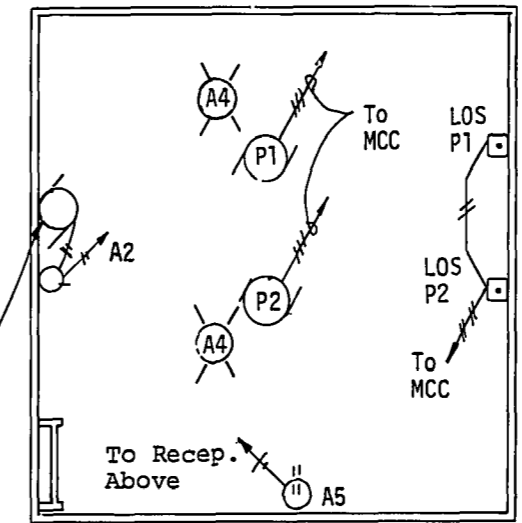
**MAIN LEVEL PLAN**  
N.T.S.



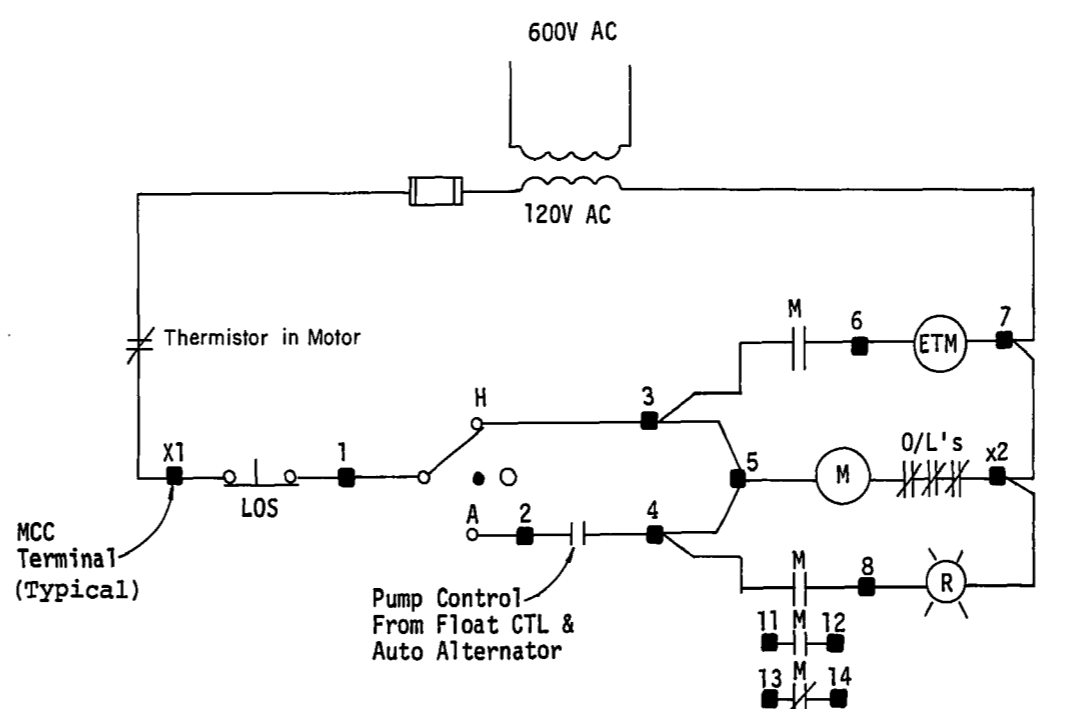
**WET WELL PLAN**  
N.T.S.



**2nd LEVEL PLAN**  
N.T.S.



**3rd LEVEL PLAN (PUMP WELL)**  
N.T.S.



**SEWAGE PUMP CONTROL CIRCUIT**  
N.T.S.

**NOTES**

- Owner Provided Solid State Alternator (Healy Ruff Model No. 961000-0018-9126A) to Contractor for Installation
- Incandescent Light Fixtures are Vapor Tight c/w Globe & Guard 200W Extended Service Bubs used for all new fixtures.

**LEGEND**

- Wall Mounted Incandescent Light Fixture
- Ceiling Mounted Incandescent Light Fixture
- Duplex Receptacle
- Single Receptacle
- Single Pole Switch
- Los Pushbutton
- Motor Outlet
- Wiring Run - 2 Wires in Conduit, Surface Mounted

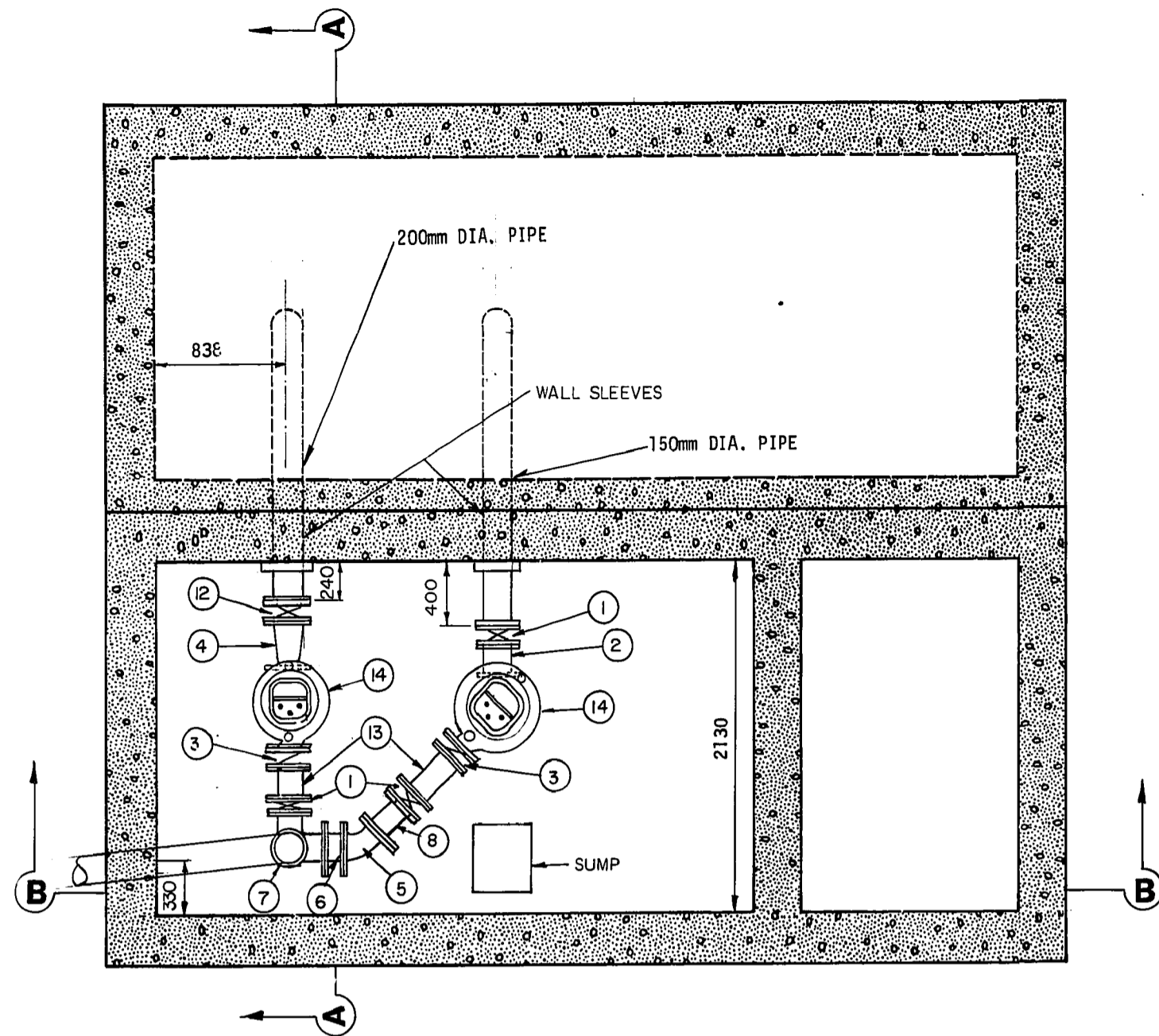
**AS-CONSTRUCTED**  
22/04/87  
SURVEY ENGINEERING DATE  
WATERWORKS, WASTE & DISPOSAL DEPARTMENT

B M ELEV		DESIGNED BY EMR	CHECKED BY EMR		<b>THE CITY OF WINNIPEG</b> WORKS AND OPERATIONS DIVISION
		DRAWN BY MBD	APPROVED BY RMG		
I REV'D TO AS BUILT	JUL 88	EN	DATE SEPT. 24, 1986	RELEASER FOR CONSTRUCTION	CITY DRAWING NUMBER
NO REVISIONS	DATE	BY	DATE	CONSULTANT DRAWING NO.	SHEET OF

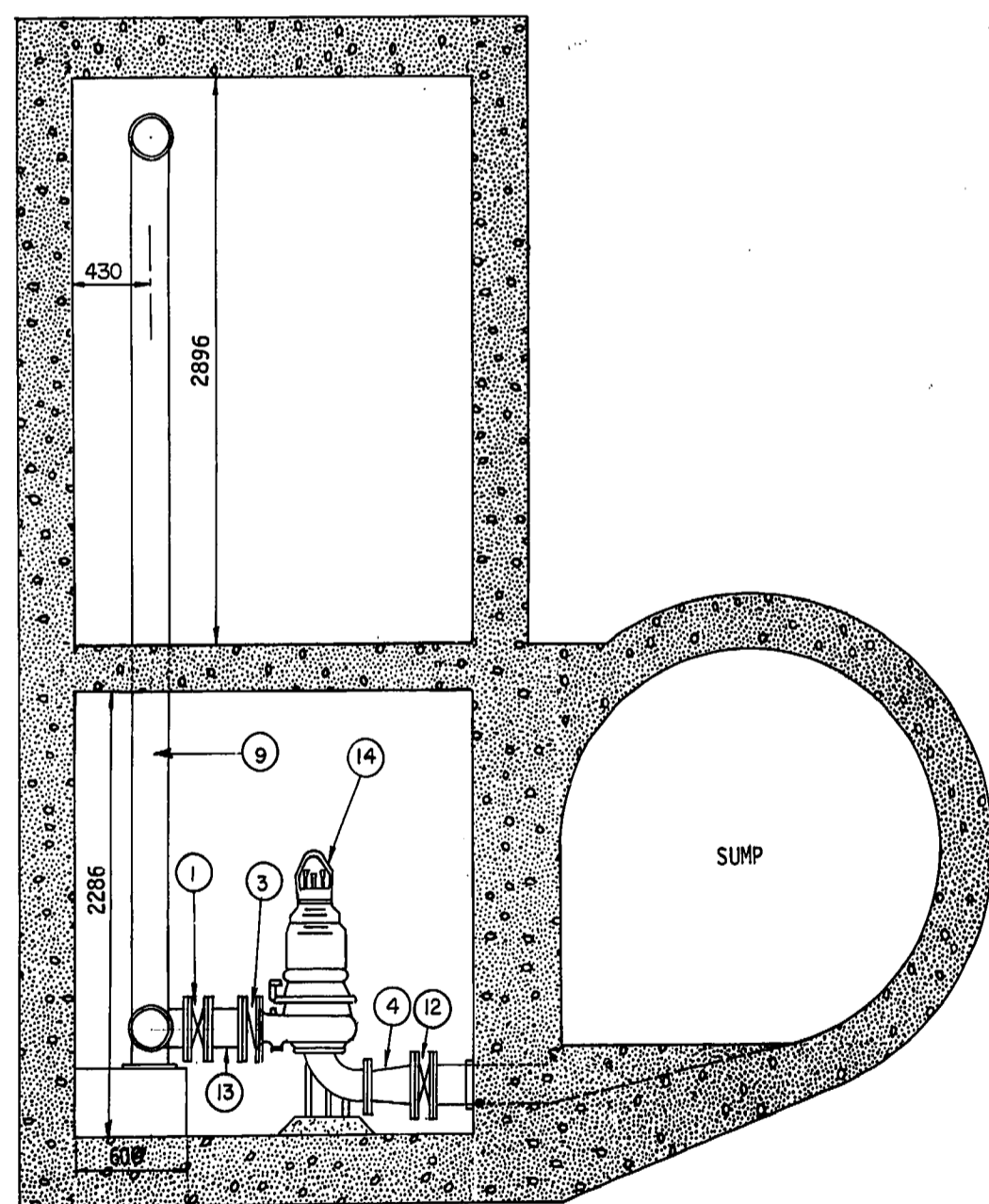
**1204**

REF. or DRAWING No. **1204** file #  
 DETAILS SP10331

REF. or DRAWING No. **1215**   
 FILE # **SP 10343**   
 DETAILS   
 Hughes-Owens (Manitoba) 1985 Ltd.



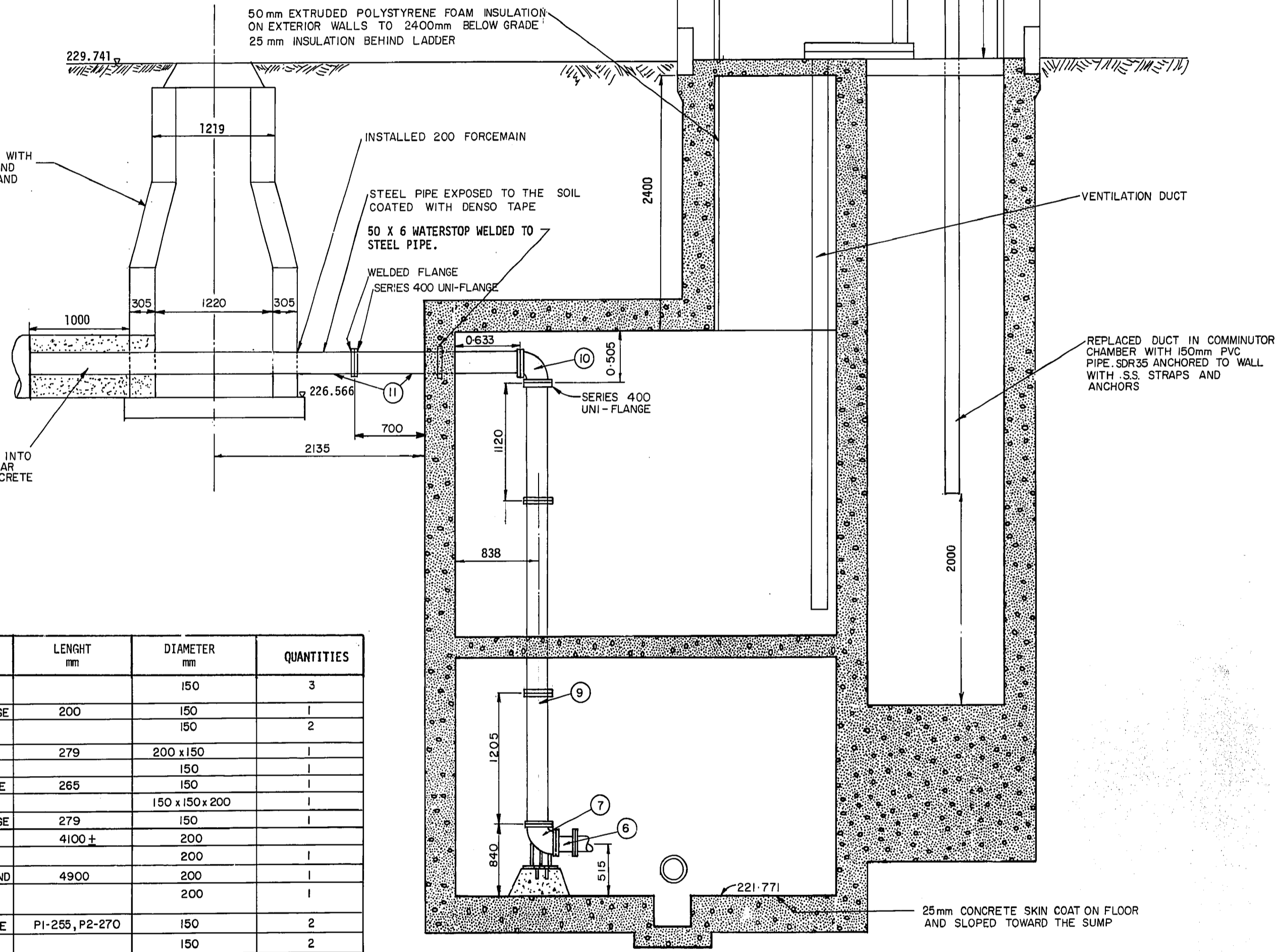
PLAN VIEW OF PUMP ROOM



SECTION A-A

FORCEMAIN EXTENDED IN INTO 450 SEWER AND ANULAR SPACE FILLED WITH CONCRETE

ITEM	DISCRITION	LENGHT mm	DIAMETER mm	QUANTITIES
1	CRANE McAVITY S.S. WAFER KNIFE GATE VALVE - FLANGED, 9800 BN		150	3
2	FILLER PIPE WITH SERIES 400 UNI-FLANGE	200	150	1
3	WAFER CHECK VALVE 15 DBZ CHECK-RITE		150	2
4	REDUCER - FLANGED	279	200 x 150	1
5	45° BEND - FLANGED		150	1
6	FILLER PIPE WITH SERIES 400 UNI-FLANGE	265	150	1
7	SIDE OUTLET BASE TEE		150 x 150 x 200	1
8	FILLER PIPE WITH SERIES 400 UNI-FLANGE	279	150	1
9	PIPE - FLANGED	4100 ±	200	
10	90° ELBOW - FLANGED		200	1
11	STEEL PIPE FLANGED AND PLAIN END	4900	200	1
12	CRANE McAVITY S.S. WAFER KNIFE GATE VALVE - FLANGED 9800 BN		200	1
13	FILLER PIPE WITH SERIES 400 UNI-FLANGE	P1-255, P2-270	150	2
14	PUMPEX PUMPS		150	2



SECTION B-B

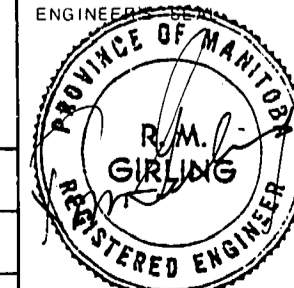
AS-CONSTRUCTED   
*12.9.88*   
 SURVEY DATE   
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT

FOR MEASUREMENTS NOT SHOWN SEE DRAWING 156 AND 162.

B.M. ELEV.				
DESIGNED BY	JE	CHECKED BY	RMG	
DRAWN BY	MBD	APPROVED BY	RMG	
HOR. SCALE:	1:30	RELEASED FOR CONSTRUCTION:	<i>[Signature]</i>	
VERTICAL SCALE:	1:30	DATE:	April 30, 1987	
REV'D TO AS BUILT	JUL 88	EN		
NO. REVISIONS	DATE	BY		



WORKS & OPERATIONS DIVISION   
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT



CONSULTANT DRAWING NO.



THE CITY OF WINNIPEG   
 WORKS AND OPERATIONS DIVISION

CORNISH PUMPING   
 STATION UPGRADING   
 (MECHANICAL)

CITY DRAWING NUMBER

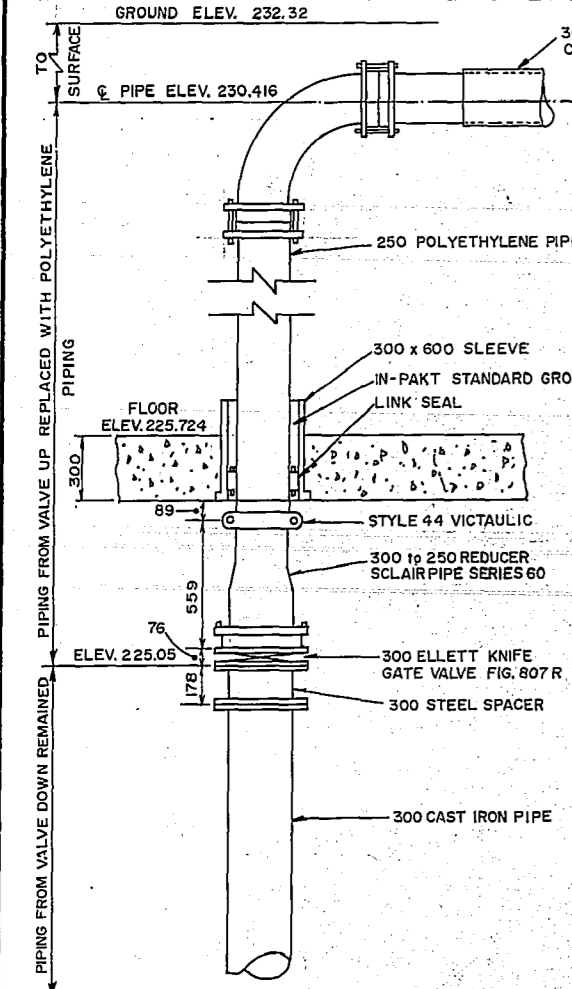
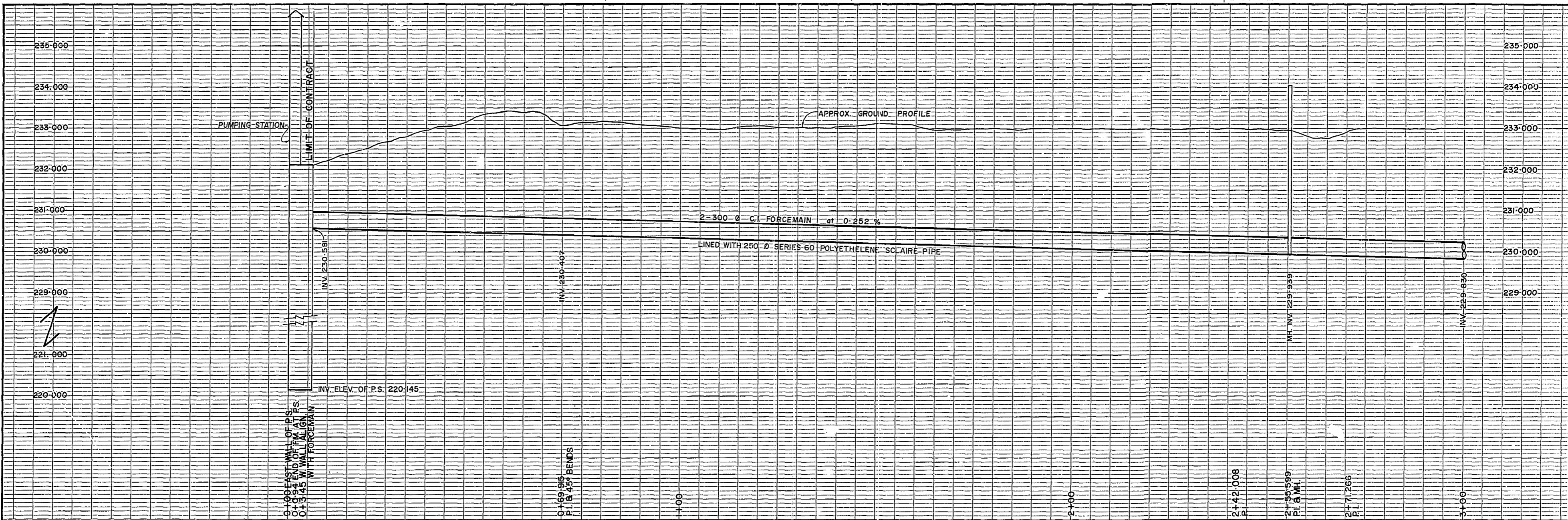
SHEET OF

1215

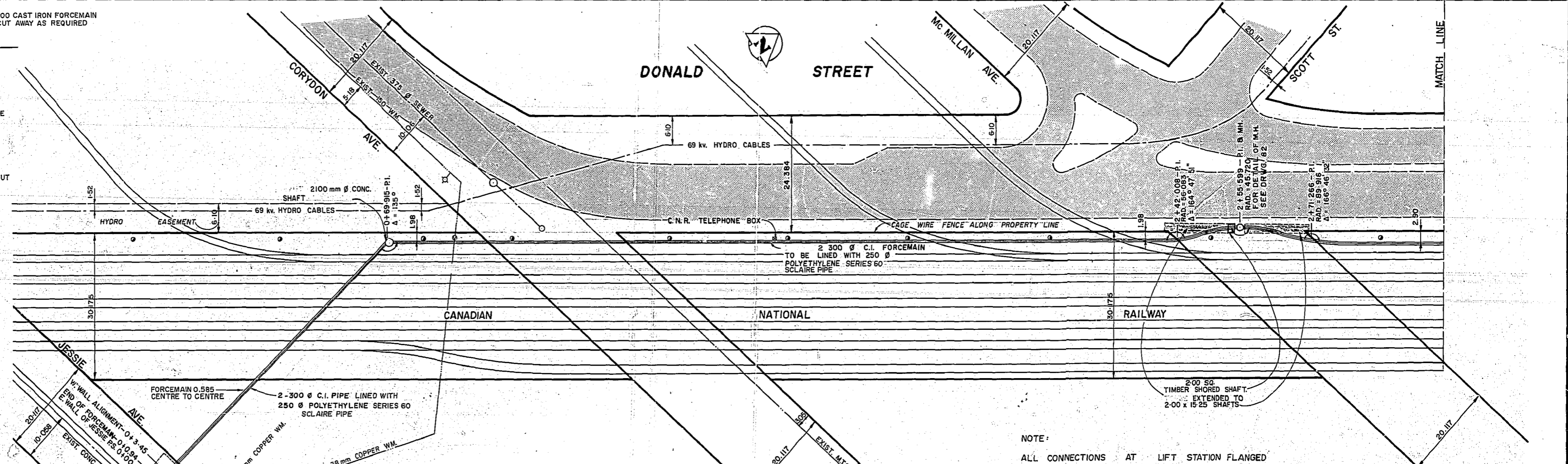
file # SP10343



# Jessie Lift Station Drawings



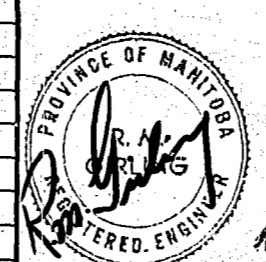
DETAILS OF PIPING AT LIFT STATION  
(TYPICAL FOR BOTH FORCEMAINS)  
SCALE: N.T.S.



NOTE:  
 ALL CONNECTIONS AT LIFT STATION FLANGED  
 ALL CONNECTIONS OF THE POLYETHYLENE LINER AT MANHOLES AND SHAFTS MADE WITH ROBAR FULL CIRCLE STAINLESS STEEL REPAIR CLAMPS  
 SPACE BETWEEN C.I. PIPE & LINER GROUTED WITH IN-PAKT STANDARD GROUT  
 FORCEMAINS COVERED WITH 150mm OF CONCRETE AT SHAFTS  
 DRAWINGS 1018 & 1019 SUPERCEDE DRAWINGS 75 & 76

**AS BUILT**  
*D. S. S. R. A. Sordorowski Jan. 5/85*  
 SURVEY ENGINEERING DATE

**METRIC**  
 WHOLE NUMBERS INDICATE MILLIMETRES  
 DECIMALIZED NUMBERS INDICATE METRES



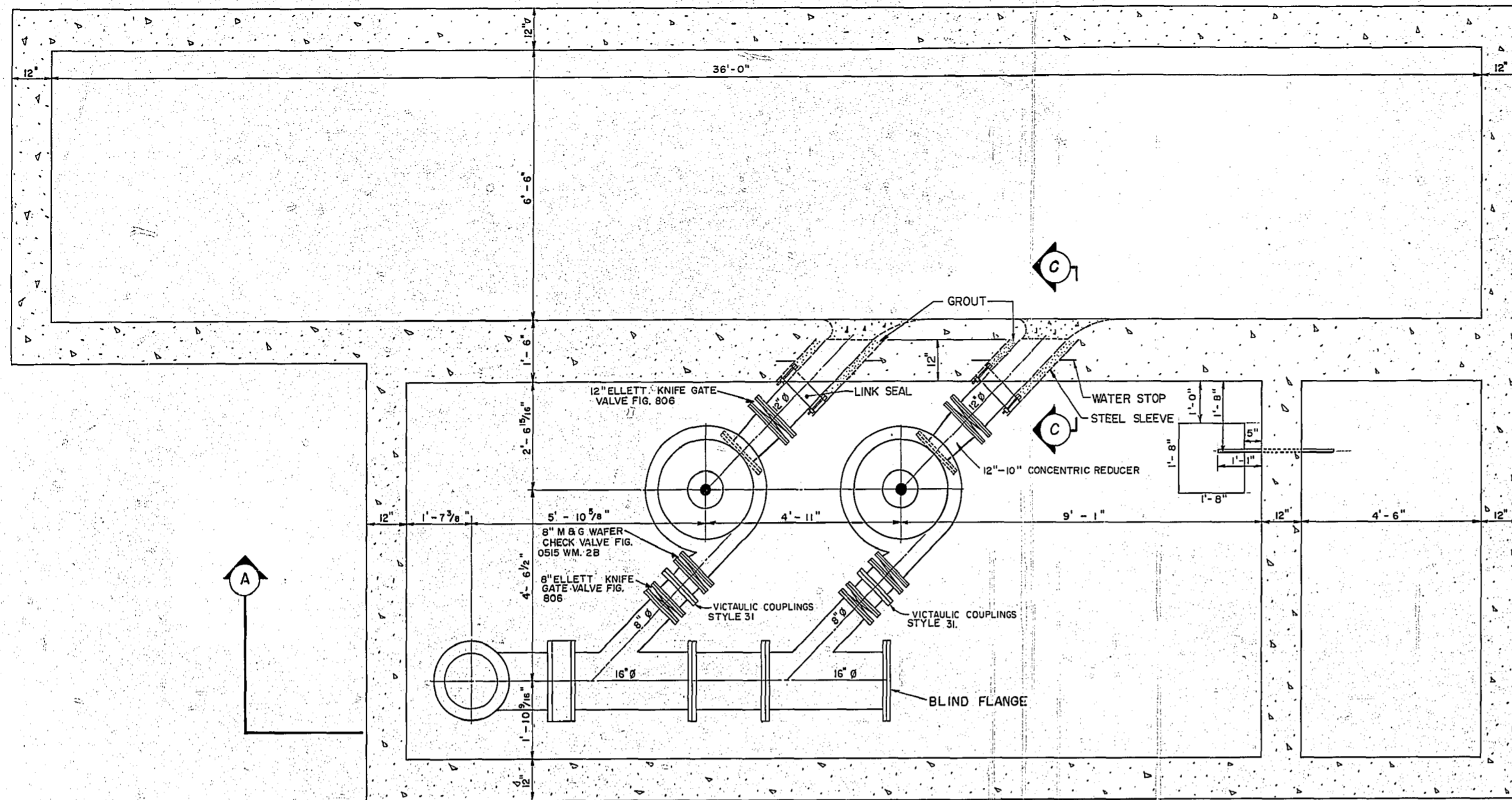
NO.	REVISIONS	DATE	APP.
1	REVISED TO AS BUILT	05/84	MD

DESIGNED BY: JE	DRAWN BY: T.M.
CHECKED BY: <i>R.A. Sordorowski</i>	DATE: <i>Aug. 25/82</i>
APPROVED: <i>R.M. Gully</i>	DATE: <i>Aug. 25/82</i>

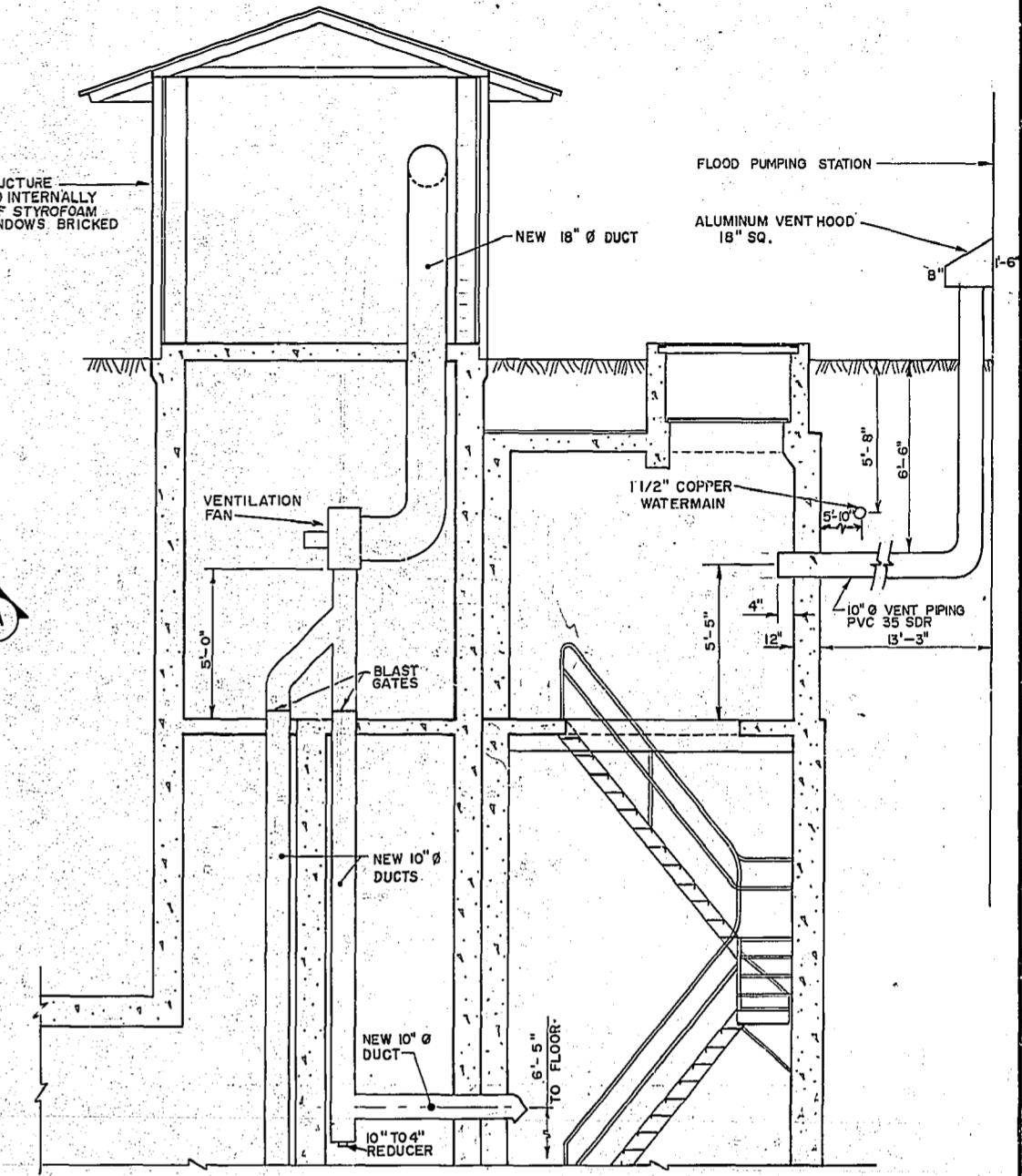
**THE CITY OF WINNIPEG**  
 WORKS & OPERATIONS DIVISION  
 WATERWORKS WASTE & DISPOSAL DEPARTMENT

JESSIE SECONDARY FORCEMAIN  
 STA. 0+00 - STA. 3+00  
 RELEASED FOR CONSTRUCTION: *[Signature]* DATE: *Aug. 25/82*  
 SCALE: HORIZ. 1" = 500'  
 VERT. 1" = 50'  
 DRAWING NO.: 1018

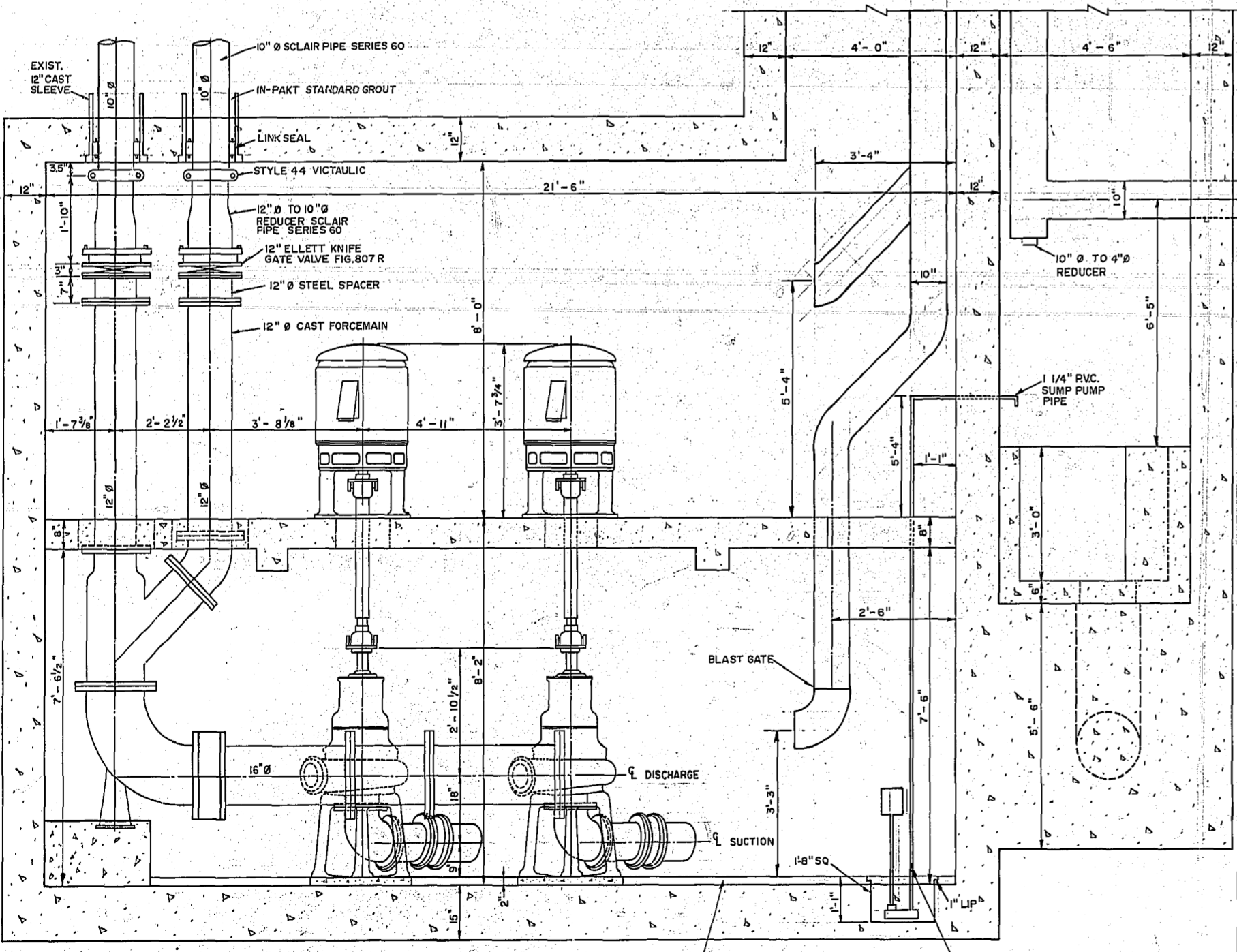




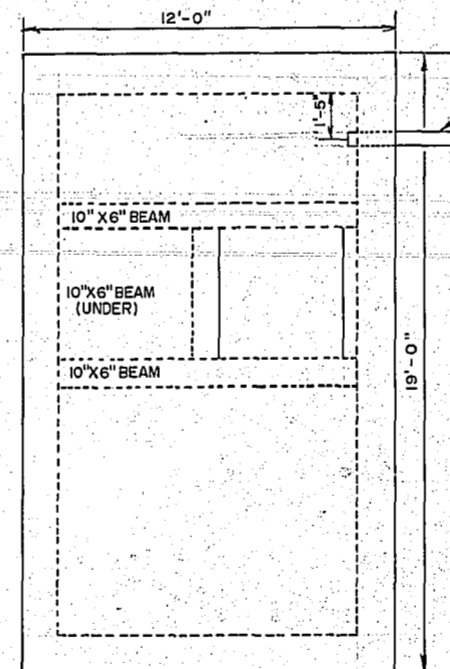
**PUMP CHAMBER FLOOR**  
SCALE: 1/2" = 1'-0"



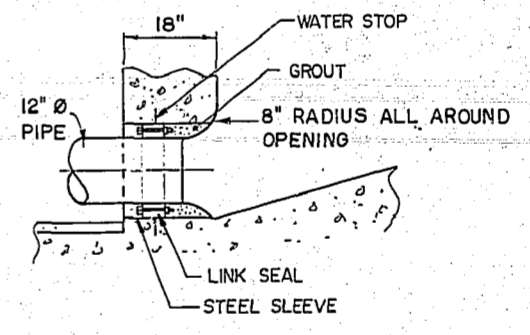
**SUPERSTRUCTURE**  
SCALE: 1/4" = 1'-0"



**SECTION A-A**  
SCALE: 1/2" = 1'-0"



**TOP VIEW COMMINUTOR CHAMBER**  
SCALE: 1/4" = 1'-0"



**SECTION C-C**  
SCALE: 1/2" = 1'-0"

**AS BUILT**  
D. S. S. *e.A. Sordowski* *M.A. 3/86*  
SURVEY ENGINEERING DATE

- NOTES**
- ALL VALVES WITH FLANGES ARE ASA. 125 LB. STD.
  - ALL CI. PIPES WITH FLANGES ARE ASA. 125 LB. STD.
  - FOR INFORMATION ON PUMPS, MOTORS & FANS SEE LIBRARY FILE P-41
  - ALL DUCT WORK GALVANIZED STEEL 26 GA.

For Electrical see drawing no. 41-FS-1-1

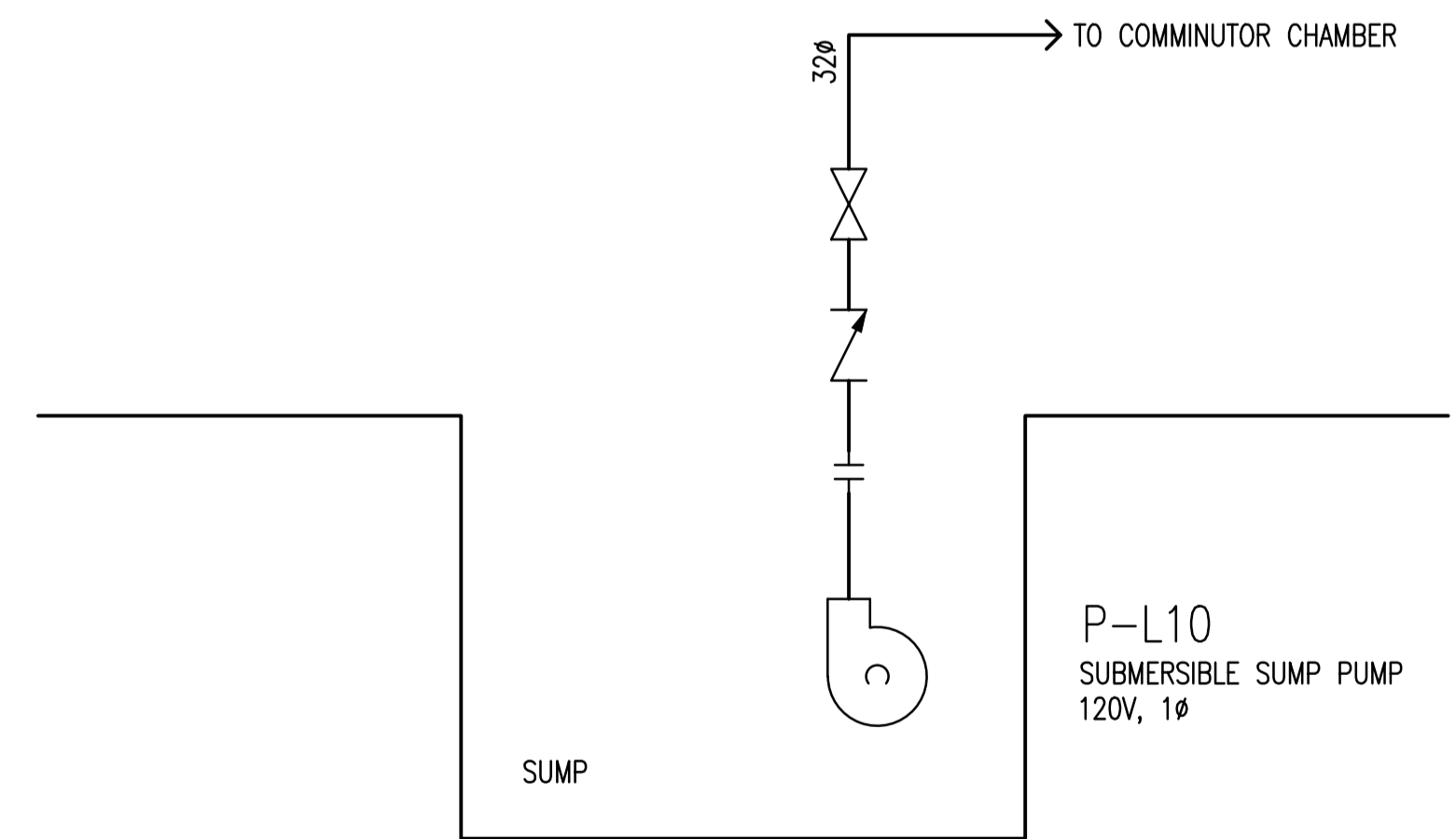
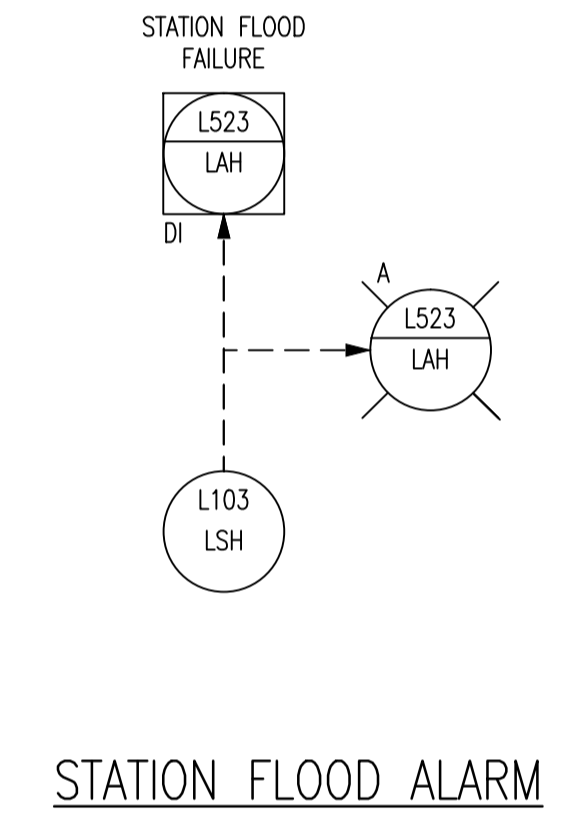
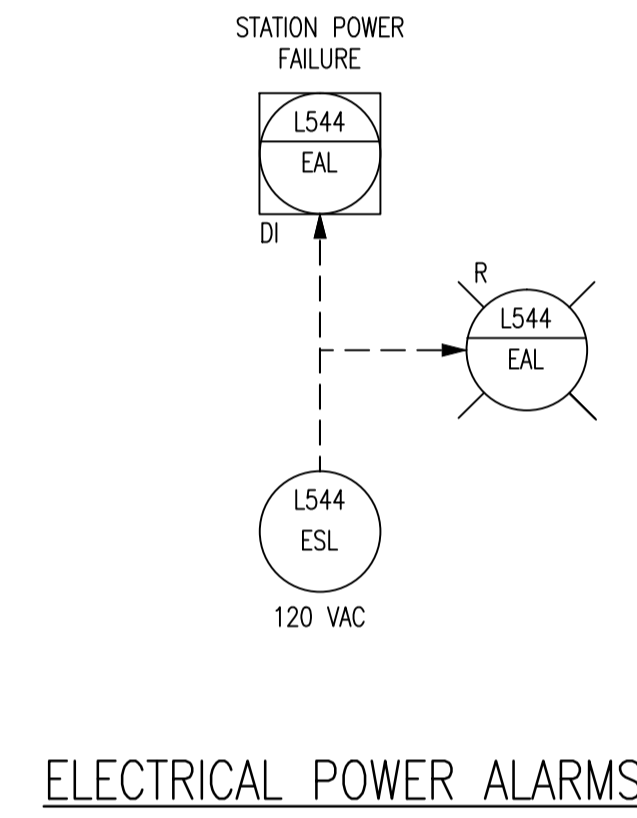
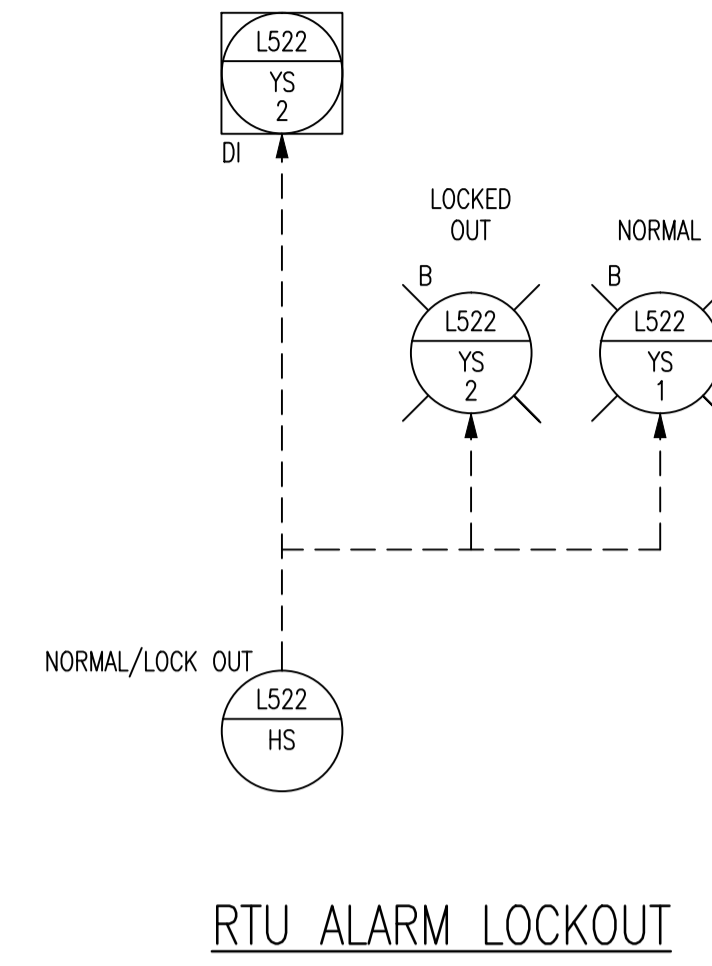
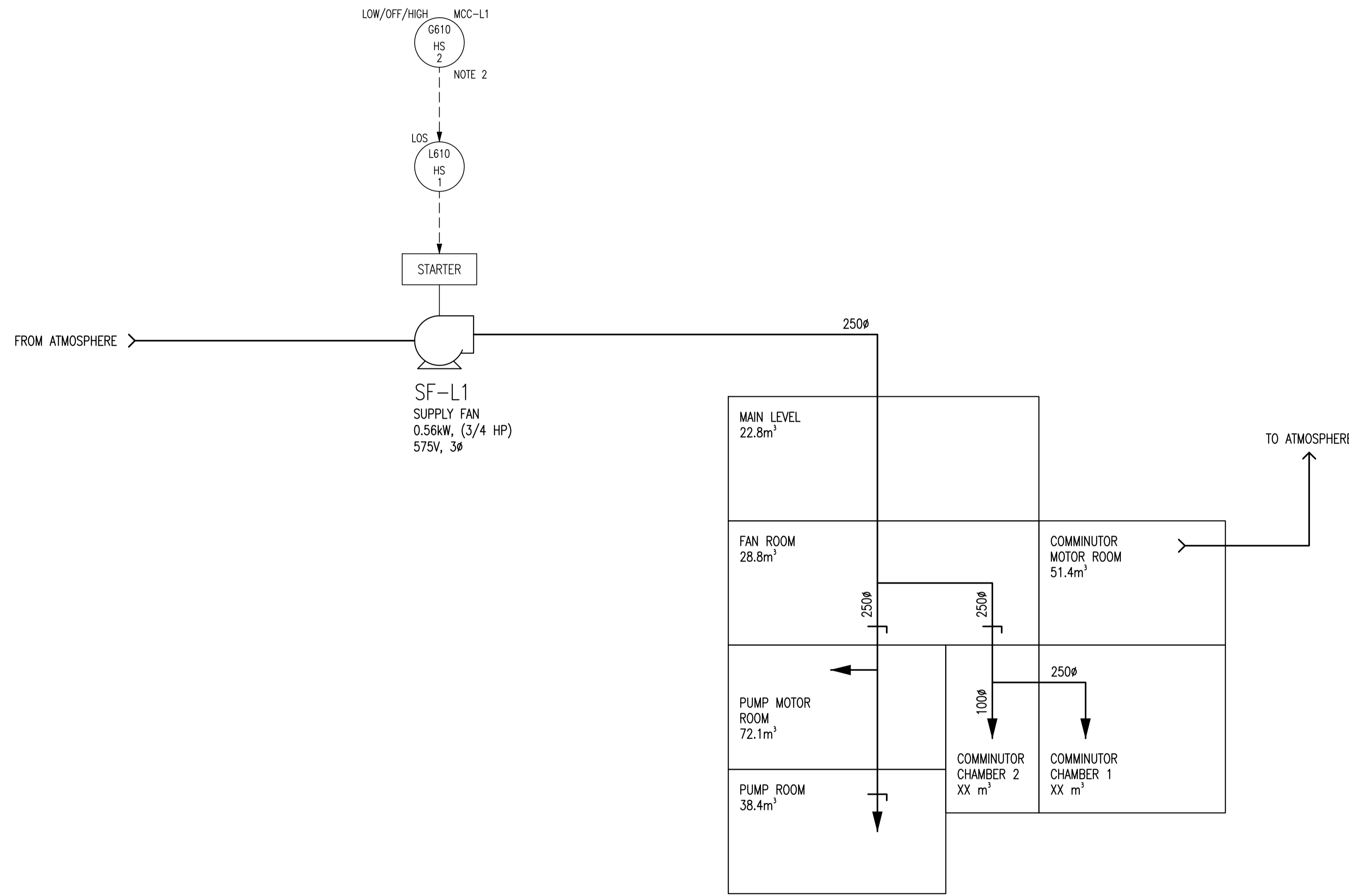
NO.	REVISIONS	DATE	APP.
1	REVISED TO AS BUILT	FEB 84	MD



<b>WORKS &amp; OPERATIONS DIVISION</b>	
WATERWORKS, WASTE & DISPOSAL DEPARTMENT	
DESIGNED BY: J.E.	DRAWN BY: T.M.
CHECKED BY: R.A.S.	DATE:
APPROVED BY: <i>R. M. Kelly</i>	DATE: Aug 25/82



<b>JESSIE AVENUE PUMPING STATION</b>	
<b>INSTALLATION OF NEW PUMPS &amp; PIPING</b>	
RELEASED FOR CONSTRUCTION:	DATE: Aug 27/82
SCALE: AS SHOWN	DRAWING NO: 1060



**LEGEND:**

**DEVICE DESCRIPTORS:**

A	AMBER
B	BLUE
DI	DISCHARGE INPUT
R	RED
LOS	LOCK/OFF/STOP

**FUNCTIONAL IDENTIFIERS:**

EI	VOLTAGE INDICATOR
ESL	LOW VOLTAGE SWITCH
FI	FLOW INDICATOR
HS	HAND SWITCH
II	CURRENT INDICATOR
KQI	TOTAL RUN TIME
LC	LEVEL CONTROLLER
LIT	LEVEL INDICATING TRANSMITTER
LIY	LEVEL INDICATING RELAY
LSH	LEVEL SWITCH HIGH
LT	LEVEL TRANSMITTER
LY	LEVEL RELAY
MM	MOTOR RUNNING
MN	MOTOR START
PG	PRESSURE GAUGE
PSL	PRESSURE SWITCH LOW
TSH	TEMPERATURE SWITCH HIGH

**NOTES:**

1. ALL INSTRUMENT IDENTIFIERS HAVE AN OPTIONAL FACILITY PREFIX OF "JES-".  
 EXAMPLE: JES-L501-HS-1
2. LOW/HIGH SWITCH HIGH POSITION CAUSES CIRCUIT BREAKER TO TRIP.



NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR CITY USE	2012/01/31	-	TMC

SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	
DESIGNED BY: EXISTING	CHECKED BY: T. CHURCH
DRAWN BY: S. FUNK	APPROVED BY: C. REIMER
SCALE: NTS	RELEASED FOR CONSTRUCTION BY: DATE:
DATE: 2011/02/17	DATE:
CONSULTANT NO.:	

ENGINEER'S SEAL

**THE CITY OF WINNIPEG**  
 WATER AND WASTE DEPARTMENT

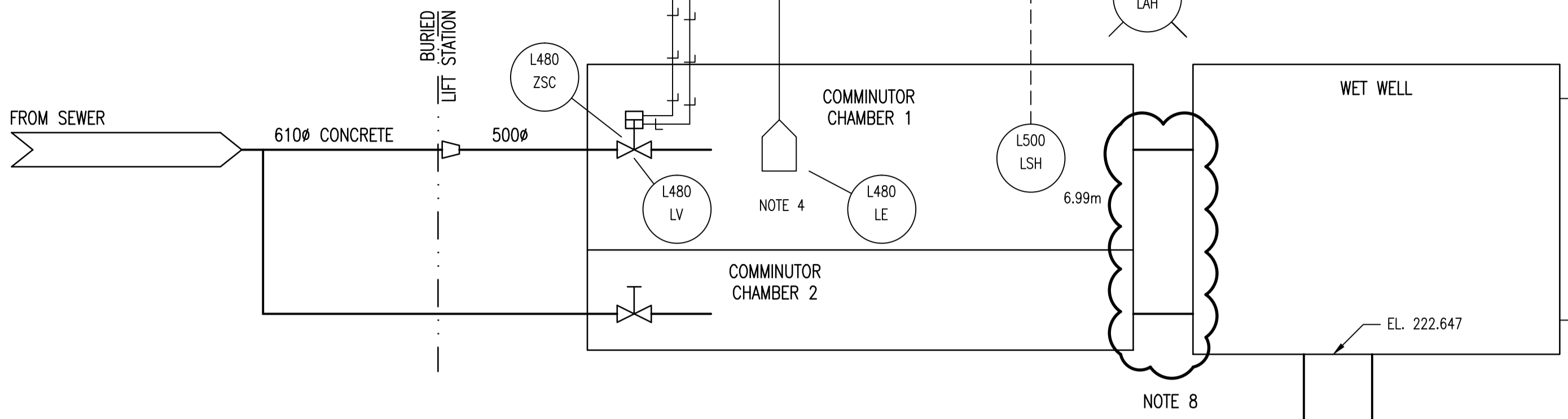
JESSIE WASTEWATER PUMPING STATION  
 PUMPING STATION CONDITION ASSESSMENT PHASE 1  
 PROCESS & INSTRUMENTATION DIAGRAM  
 HVAC & MISC

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0149L-P0002	001	00	A1

DRAWING NUMBER	REFERENCE DRAWINGS
----------------	--------------------



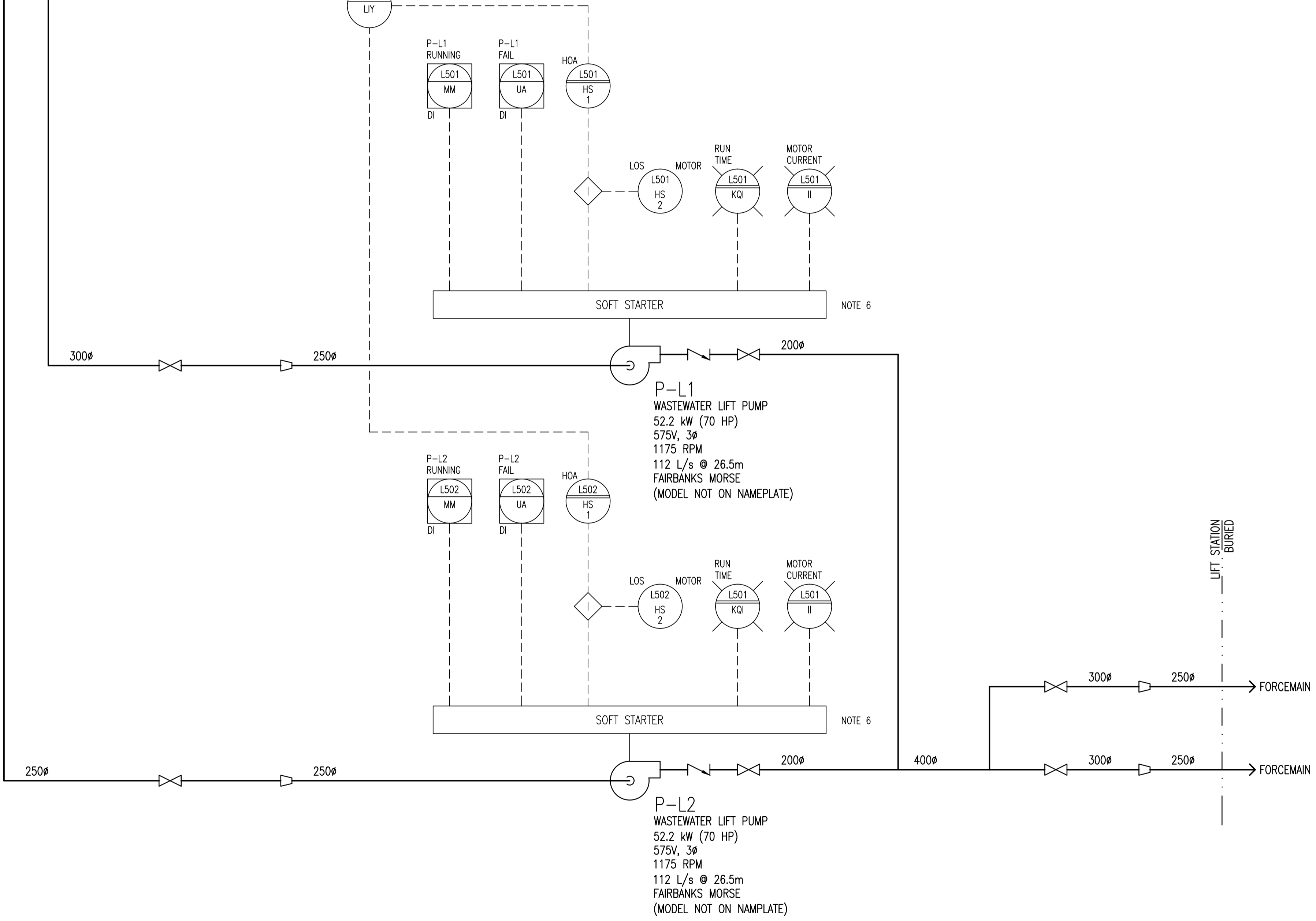
KEY ELEVATIONS:		NOTES
WET WELL BOTTOM	222.647m	SEE NOTE 4
DRY WELL FLOOR	220.692m	
WEIR OVERFLOW	223.334m	



PUMP CONTROL SETPOINTS					
	START		STOP		
	ABSOLUTE	RELATIVE	ABSOLUTE	RELATIVE	
ONE PUMP	SEE NOTE 2	1.0m (3.3ft)	SEE NOTE 2	0.27m (0.9ft)	
TWO PUMPS		1.1m (3.6ft)		0.3m (1.0ft)	

- NOTES:
- RELATIVE SETPOINTS ARE BASED UPON CONTROL PANEL LABELS AND MAY NOT BE ACCURATE. CITY TO CONFIRM SETPOINTS.
  - ABSOLUTE SETPOINTS ARE NOT KNOWN AS THE ELEVATION OF THE BUBBLER PIPE DISCHARGE AND THE EXACT CALIBRATION OF THE LEVEL SWITCHES ARE NOT KNOWN. CITY TO CONFIRM SETPOINTS.

- LEGEND:
- DEVICE DESCRIPTORS:
- A AMBER
  - AI ANALOG INPUT
  - DI DISCRETE INPUT
  - HOA HAND/OFF/AUTO
  - LOS LOCK/OFF/STOP
- FUNCTIONAL IDENTIFIERS:
- EI VOLTAGE INDICATOR
  - ESL LOW VOLTAGE SWITCH
  - FI FLOW INDICATOR
  - HS HAND SWITCH
  - II CURRENT INDICATOR
  - KQI TOTAL RUN TIME
  - LC LEVEL CONTROLLER
  - LIT LEVEL INDICATING TRANSMITTER
  - LIY LEVEL INDICATING RELAY
  - LSH LEVEL SWITCH HIGH
  - LT LEVEL TRANSMITTER
  - LY LEVEL RELAY
  - MM MOTOR RUNNING
  - MN MOTOR START
  - PG PRESSURE GAUGE
  - PSL PRESSURE SWITCH LOW
  - TSH TEMPERATURE SWITCH HIGH



- NOTES:
- ALL INSTRUMENT IDENTIFIERS HAVE AN OPTIONAL FACILITY PREFIX OF "JES-".  
EXAMPLE: JES-L501-HS-1
  - INSTRUMENTS SHOWN IN AN AUXILIARY LOCATION ARE ON THE MCC SOFT STARTERS, UNLESS OTHERWISE INDICATED.
  - INLET GATE VALVE CONTROLLER IS DISCONNECTED DURING LOW FLOW CONDITIONS.
  - ELEVATION NOT CONFIRMED BY SURVEYOR.
  - PIPING MATERIALS AND GRADES ARE TO BE CONFIRMED.
  - PUMP MOTORS ARE LOCATED ON FLOOR ABOVE PUMPS.
  - THIS DRAWING IS BASED ON LIMITED AVAILABLE DOCUMENTATION AND VISUAL SITE INVESTIGATIONS. ELECTRICAL CONTROL SCHEMATICS WERE NOT AVAILABLE AND THUS SOME OF THE CONTROLS ARE ASSUMED.
  - THE CONNECTION BETWEEN THE COMMUNUTOR CHAMBERS AND THE WET WELL COULD NOT BE CONFIRMED BASED ON EXISTING DOCUMENTATION AND SITE VISITS.



NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR CITY USE	2012/01/31	TMC	

		SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	
DESIGNED BY:	EXISTING	CHECKED BY:	T. CHURCH
DRAWN BY:	S. FUNK	APPROVED BY:	C. REIMER
SCALE:	NTS	RELEASED FOR CONSTRUCTION BY:	
DATE:	2011/02/14	DATE:	
CONSULTANT NO.:			

ENGINEER'S SEAL

**THE CITY OF WINNIPEG**  
 WATER AND WASTE DEPARTMENT

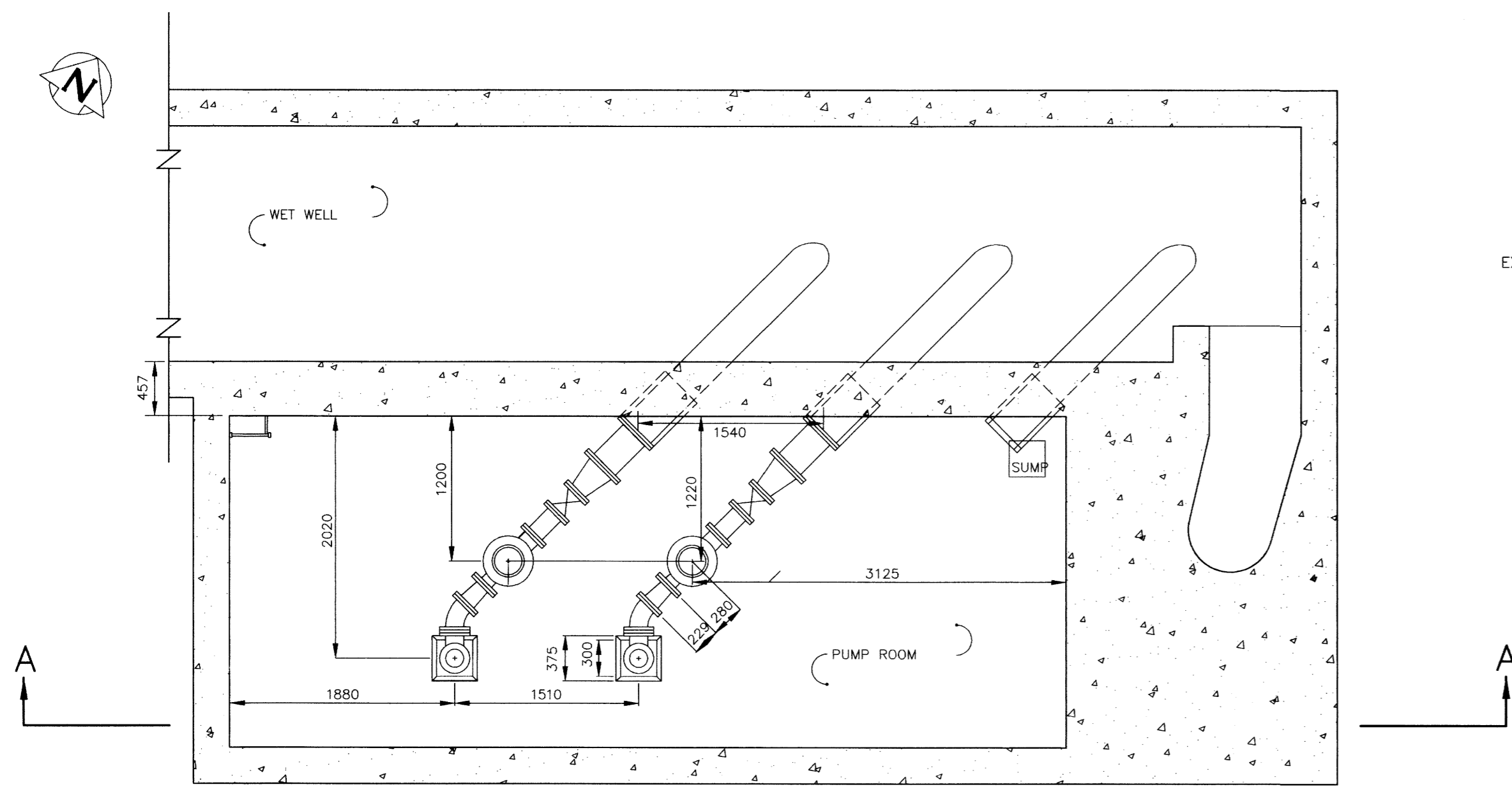
JESSIE WASTEWATER PUMPING STATION  
 PUMPING STATION CONDITION ASSESSMENT PHASE 1  
 PROCESS & INSTRUMENTATION DIAGRAM  
 WASTEWATER PUMPING

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0149L-P0001	001	00	A1

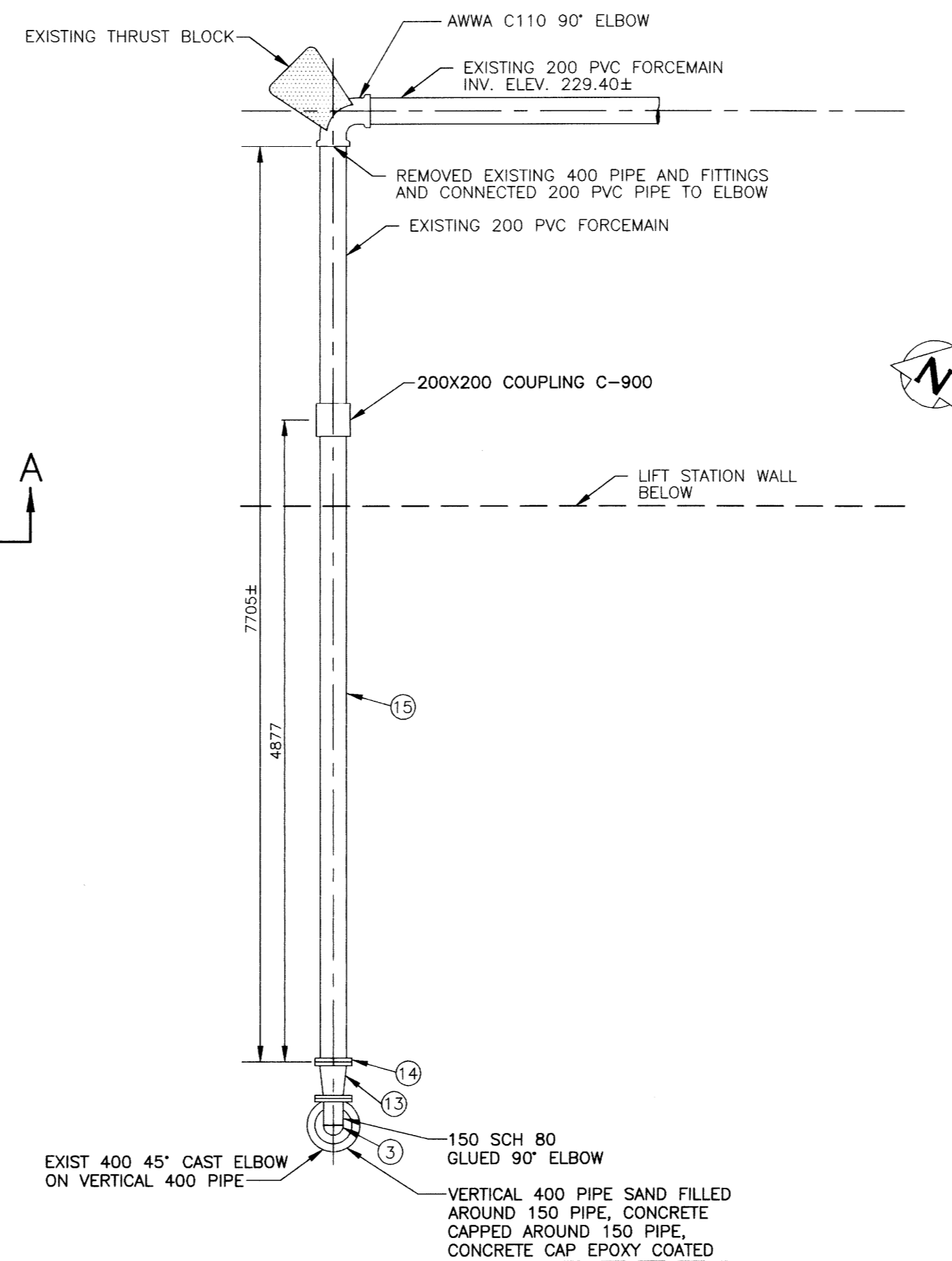
DRAWING NUMBER	REFERENCE DRAWINGS
----------------	--------------------

# Metcalfe Lift Station Drawings

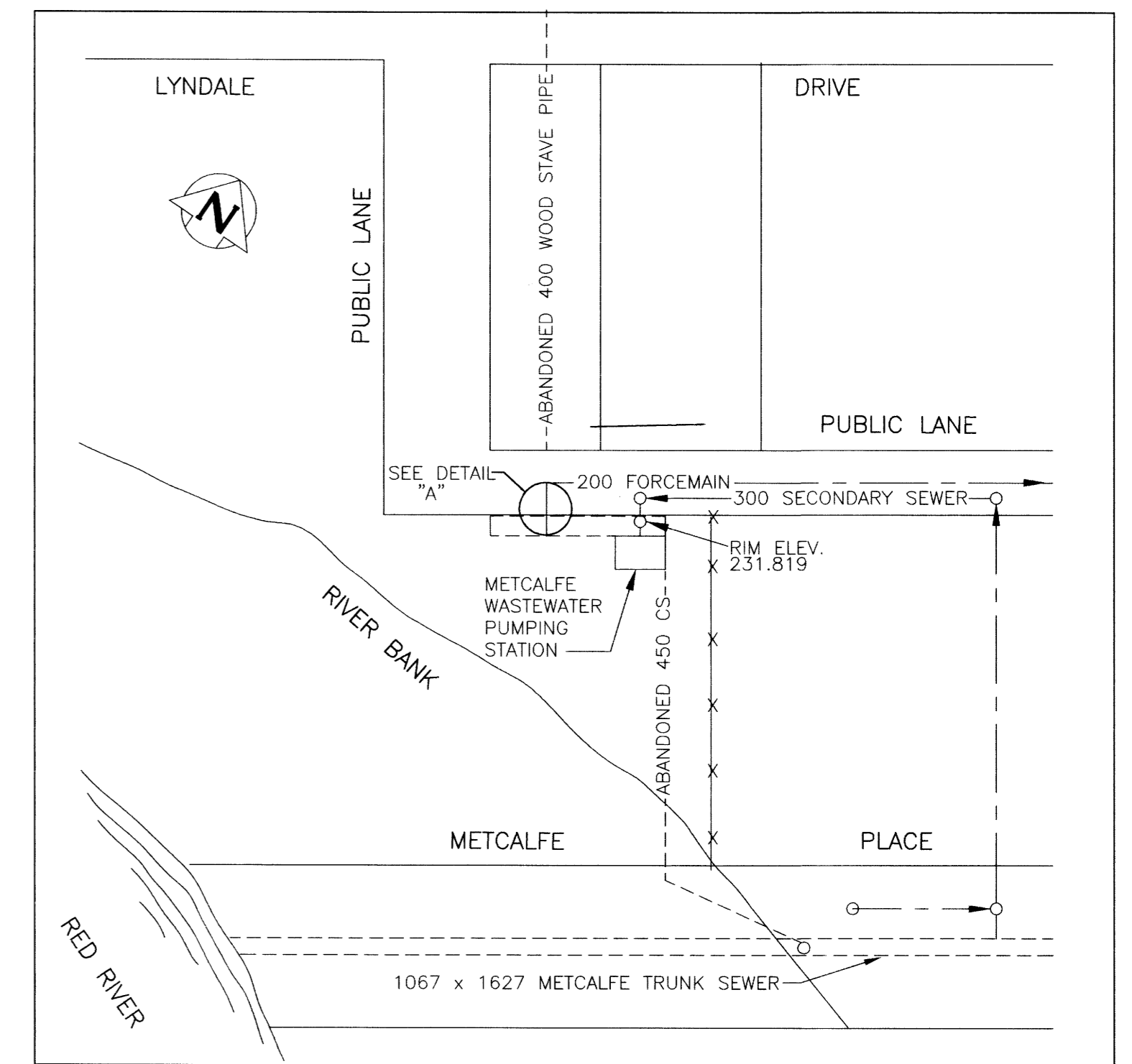




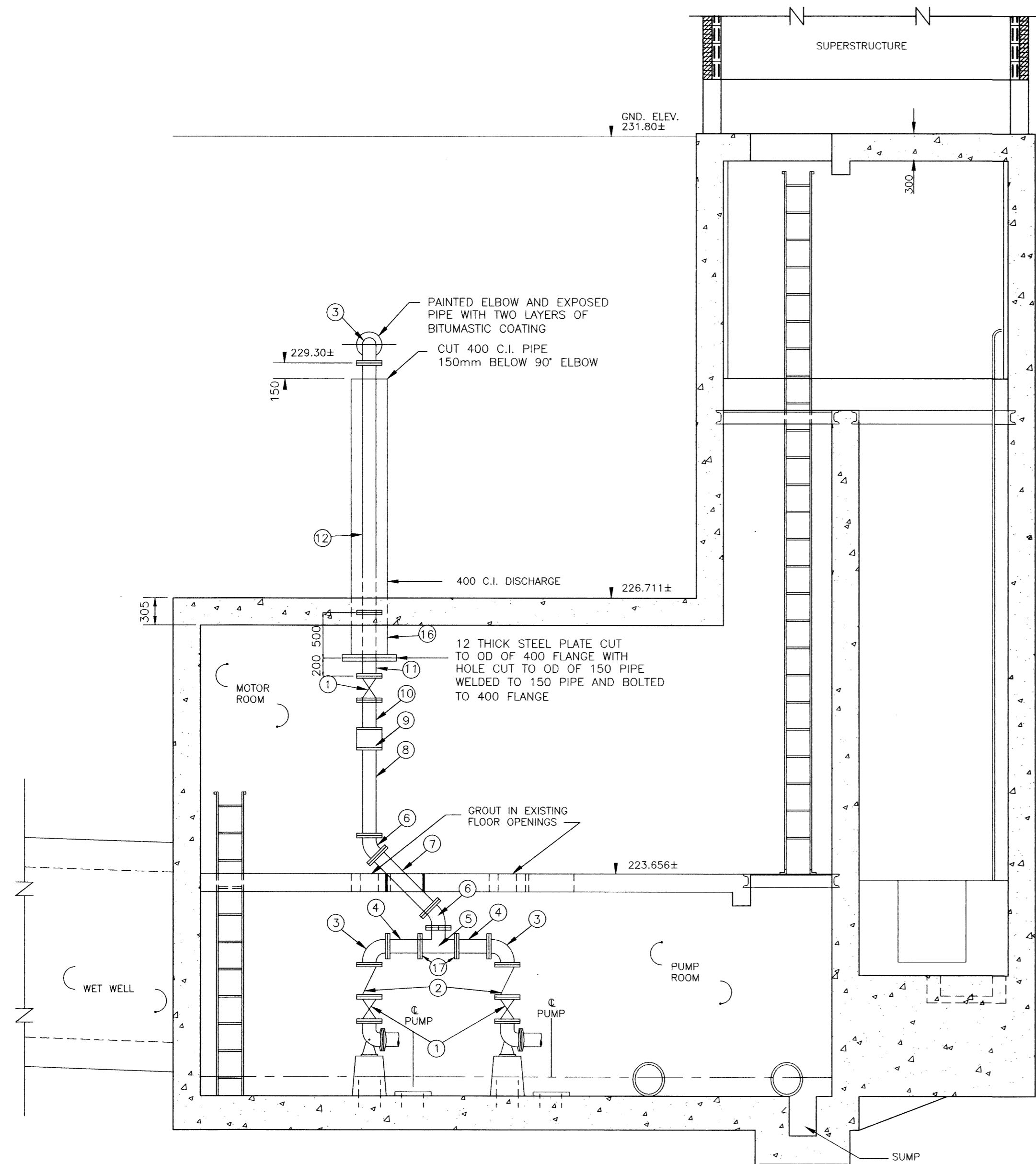
PLAN VIEW - PUMP ROOM  
SCALE 1:40



PLAN VIEW DETAIL "A" - ELEV 229.600  
SCALE 1:40



SITE PLAN  
SCALE 1:500



SECTION A - A  
SCALE 1:40

LIST OF MATERIALS				
ITEM	DESCRIPTION	ENDS	LENGTH	QUANTITY
1	150 GATE VALVE	FLANGED	-	3
2	150 CHECK VALVE	FLANGED	-	2
3	150 90° ELBOW	FLANGED	-	3
4	150 FILLER PIPE	FLANGED	±356.5	2
5	150X150X150 TEE	FLANGED	-	1
6	150 45° BEND	FLANGED	-	2
7	150 FILLER PIPE	FLANGED	±824	1
8	150 FILLER PIPE	FLANGED	±970.5	1
9	150 POLYSONIC FLOW METER	FLANGED	-	1
10	150 FILLER PIPE FLANGED X PLAIN	FLANGED	±325	1
11	150 FILLER PIPE	FLANGED	±700	1
12	150 FILLER PIPE	FLANGED	±2752	1
13	150-200 INCREASER	FLANGED	-	1
14	200 UNI-FLANGE OR APPROVED EQUAL	FLANGED	-	1
15	200 CLASS 150 AWWA C900 PVC PIPE	FLANGED	±7705	1
16	400 C.I. PIPE EXISTING	FLANGED	-	1
17	150 UNI FLANGE OR APPROVED EQUAL	FLANGED	-	2

- NOTES
- LENGTHS SHOWN FOR PIPING ARE FACE TO FACE AND DO NOT INCLUDE GASKET THICKNESS.
  - GASKETS SHALL BE 3 mm THICK, FULL FACED, CLOTH INSERTED RUBBER.
  - LENGTHS SHOWN AS ± SHALL BE FIELD MEASURED BEFORE BEING CUT AND INSTALLED.
  - ALL FASTENERS TO BE TYPE 316 STAINLESS STEEL.
  - CONTRACTOR TO REMOVE EXISTING PIPING AND SUPPLY ALL NEW MATERIALS EXCEPT WHERE SHOWN AS EXISTING.
  - ALL PIPE TO BE CLASS 52 DUCTILE IRON OR SCHEDULE 40 STEEL.
  - ALL FLANGED FITTINGS SHALL CONFORM TO AWWA C110.
  - ALL FLANGES SHALL BE WELDED INSIDE AND OUT IN ACCORDANCE WITH AWWA C 207.
  - ALL ANCHOR BOLTS TO BE KWIK BOLT STUD ANCHOR OR APPROVED EQUAL.

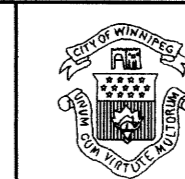
**AS-CONSTRUCTED**

*Robina* *K. Valter* 99.07.22  
CONTRACT ADMINISTRATION DRAFTING & GRAPHIC SERVICES DATE  
WATER AND WASTE DEPARTMENT

**METRIC**

WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

B.M. ELEV.					
<b>CITY OF WINNIPEG WATER AND WASTE ENGINEERING DIVISION</b>					
DESIGNED BY	TW	CHECKED BY	TW/JE		
DRAWN BY	EN/MTS/WKT	APPROVED BY			
2) FORCEMAIN ALTERATIONS AS-BUILT & TITLE CHANGED	09-98 WKT	HOR. SCALE	AS SHOWN	ORIGINALLY SIGNED BY: R.A.SOROKOWSKI P.ENG	
1) AS-CONSTRUCTED	08-93 MBD	VERTICAL		AUTOCAD R13 FILENAME: 1339.DWG PLOT DATE: SEPT. 4, 1998	
NO. REVISIONS	DATE	BY	DATE	1992 09 15	



**THE CITY OF WINNIPEG  
WATER AND WASTE DEPARTMENT**

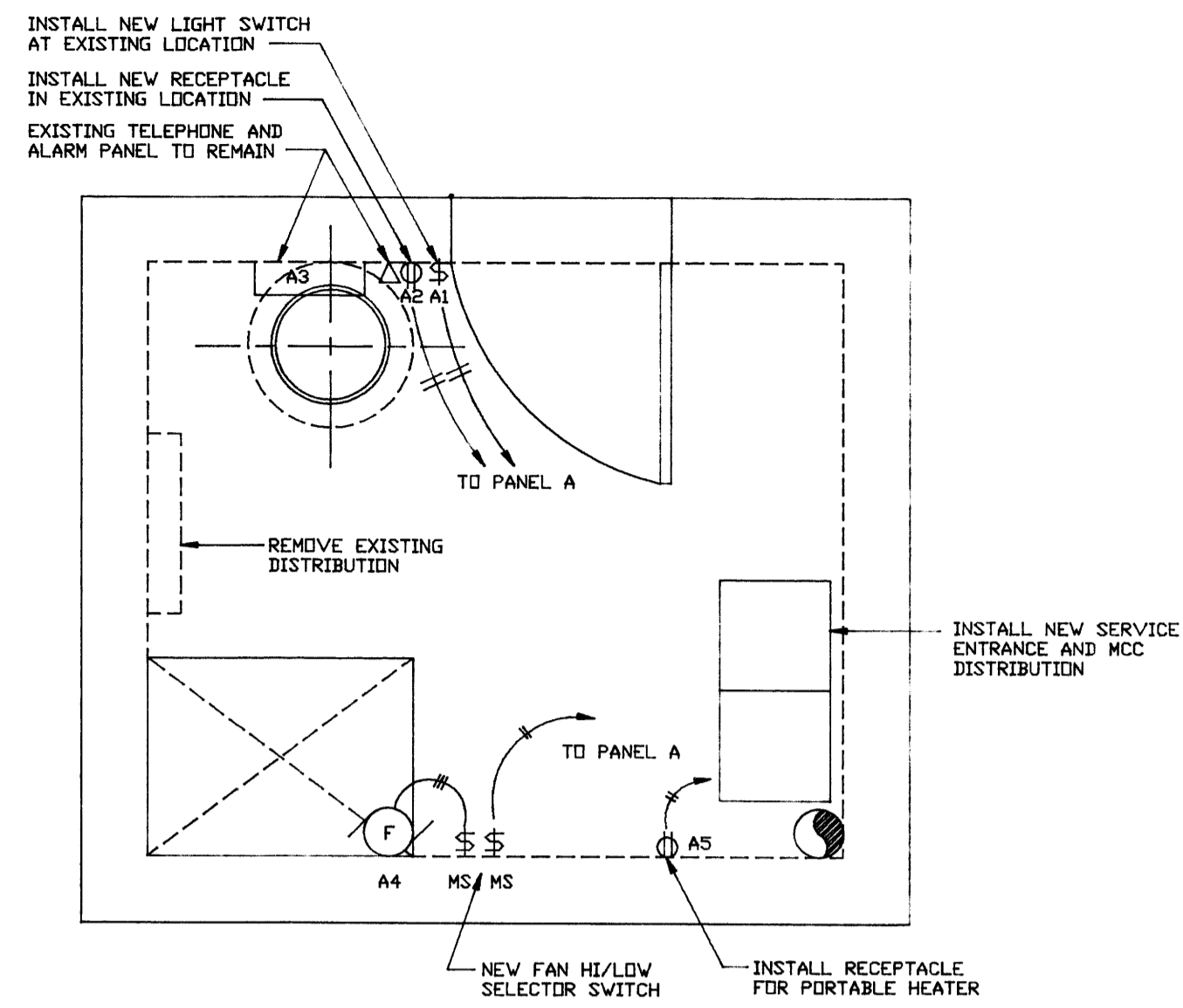
**METCALFE WASTEWATER PUMPING  
STATION UPGRADING**

SHEET 1 OF 1  
CITY DRAWING NUMBER

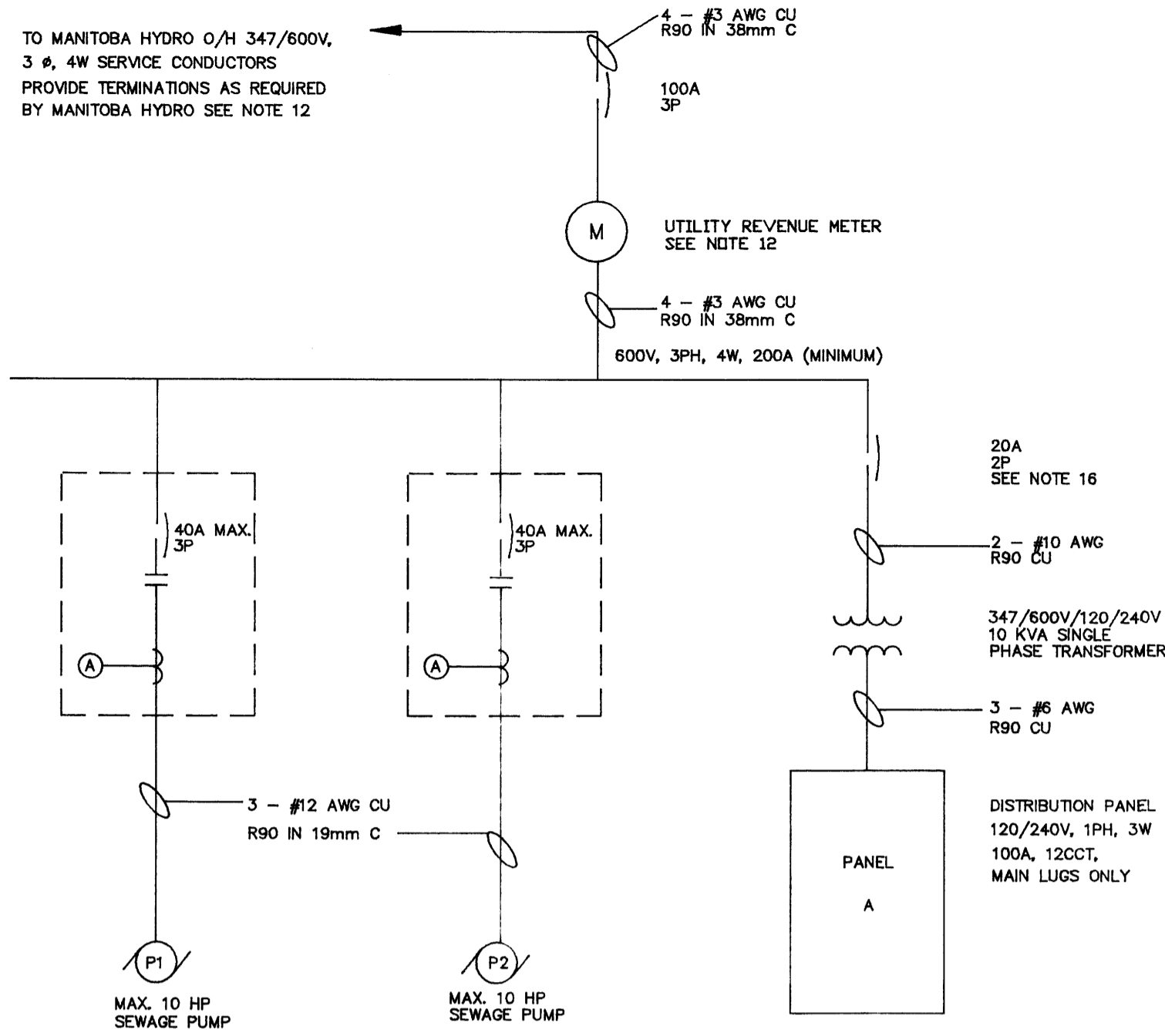
PLAN, SECTIONS, AND  
FORCEMAIN ALTERATIONS

1339

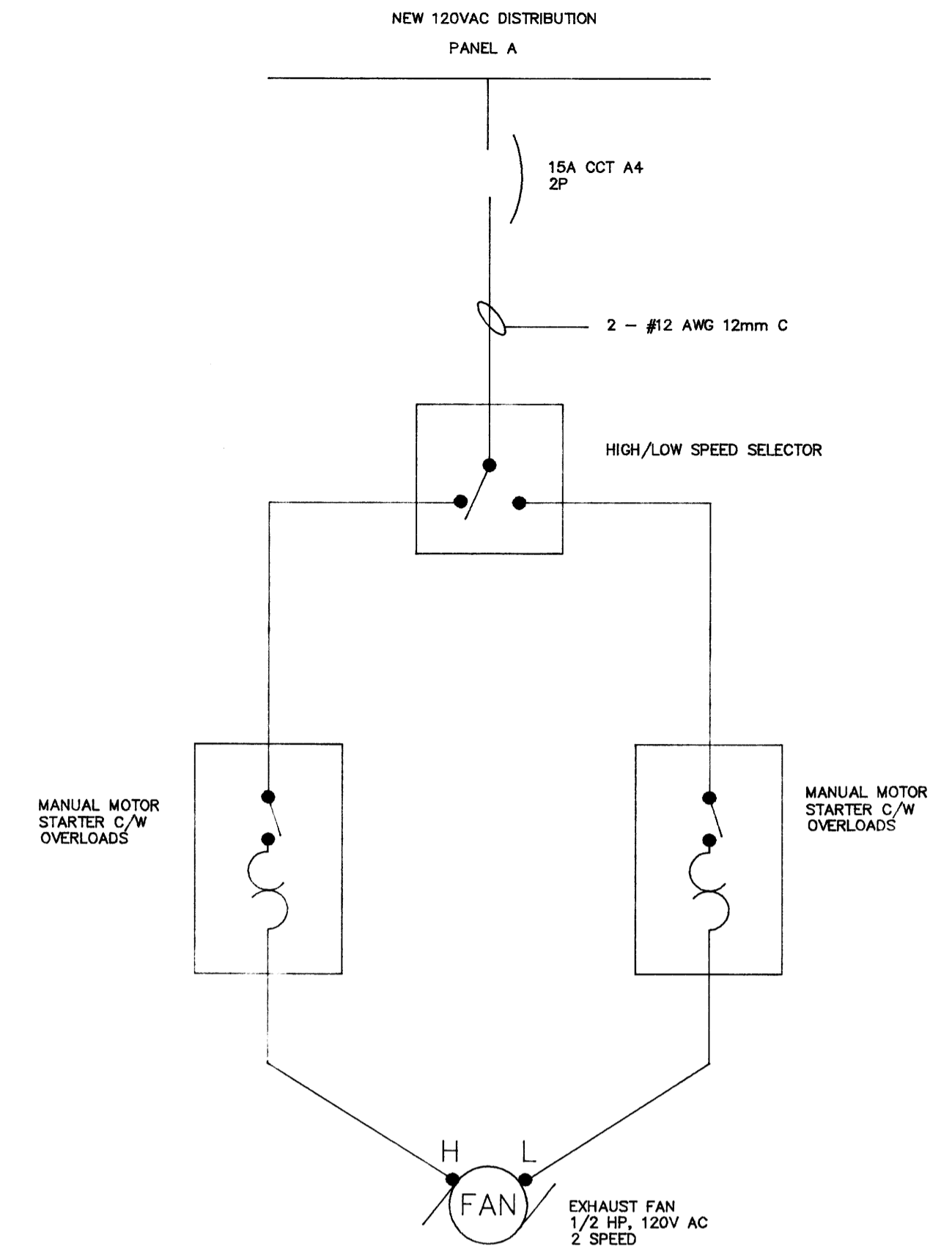
1339



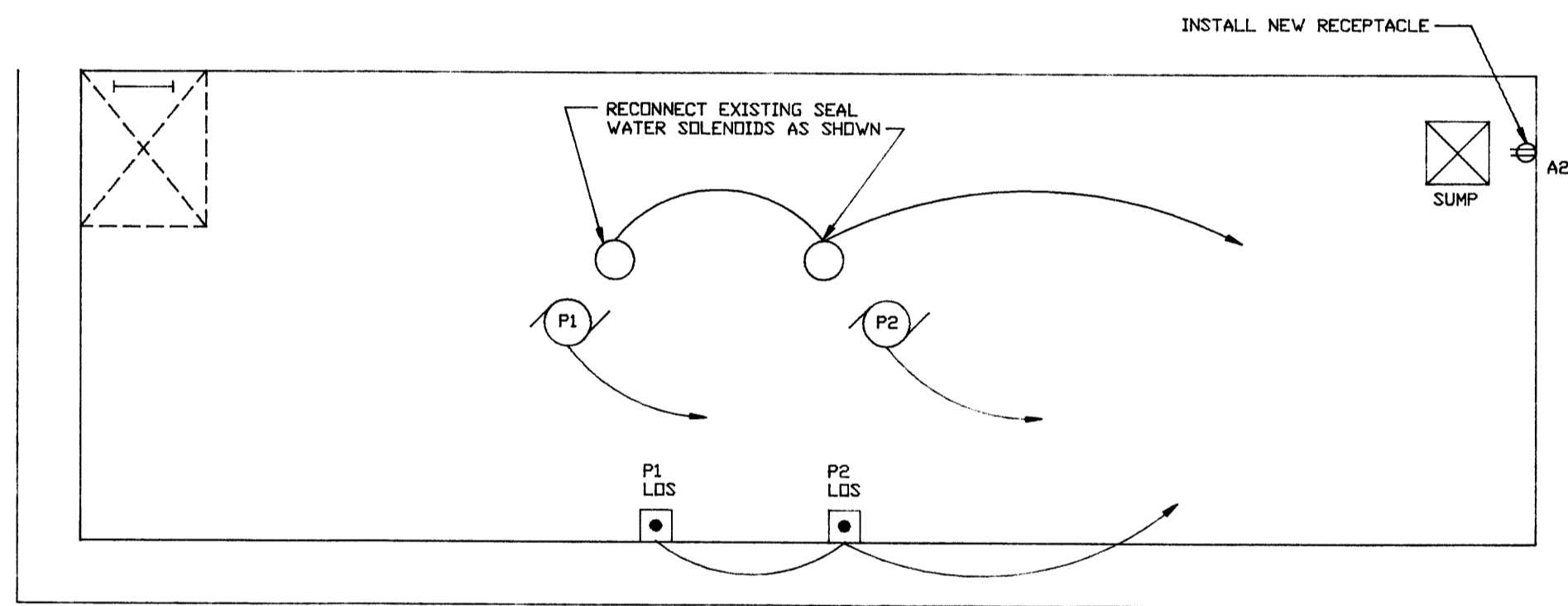
**MAIN FLOOR PLAN** (SEE NOTE 13)  
SCALE 1/30



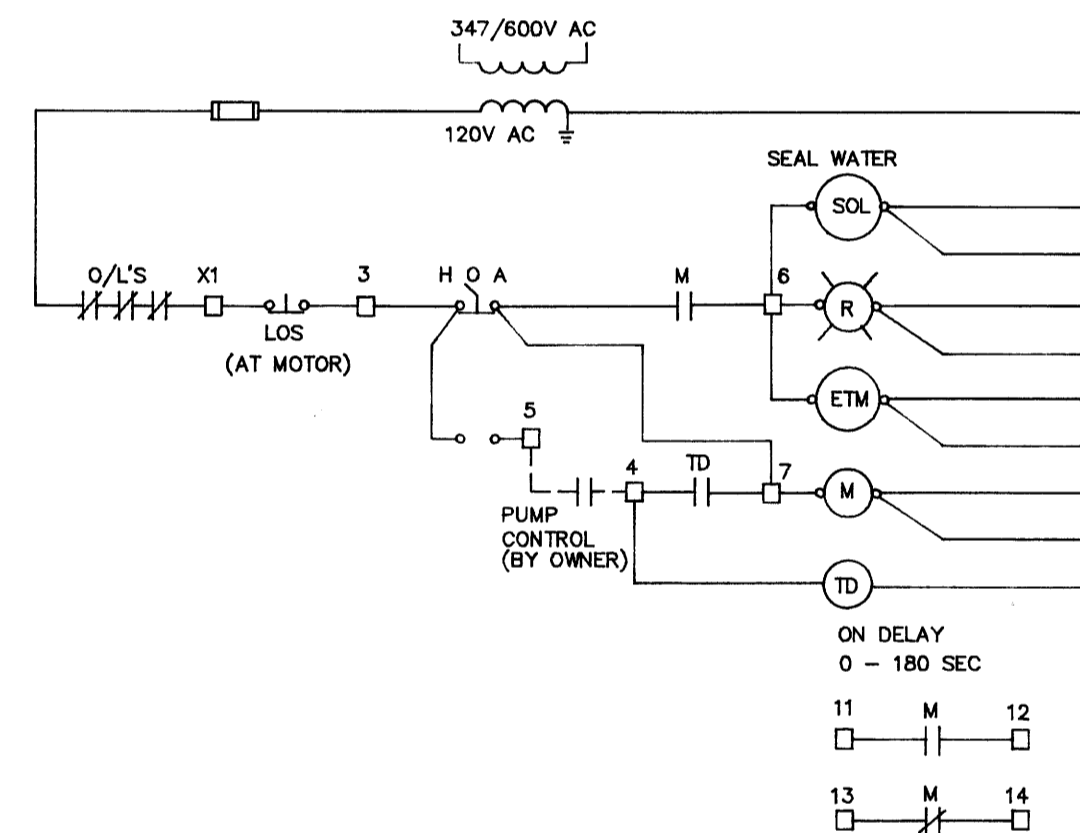
**SINGLE LINE DIAGRAM**  
N.T.S.



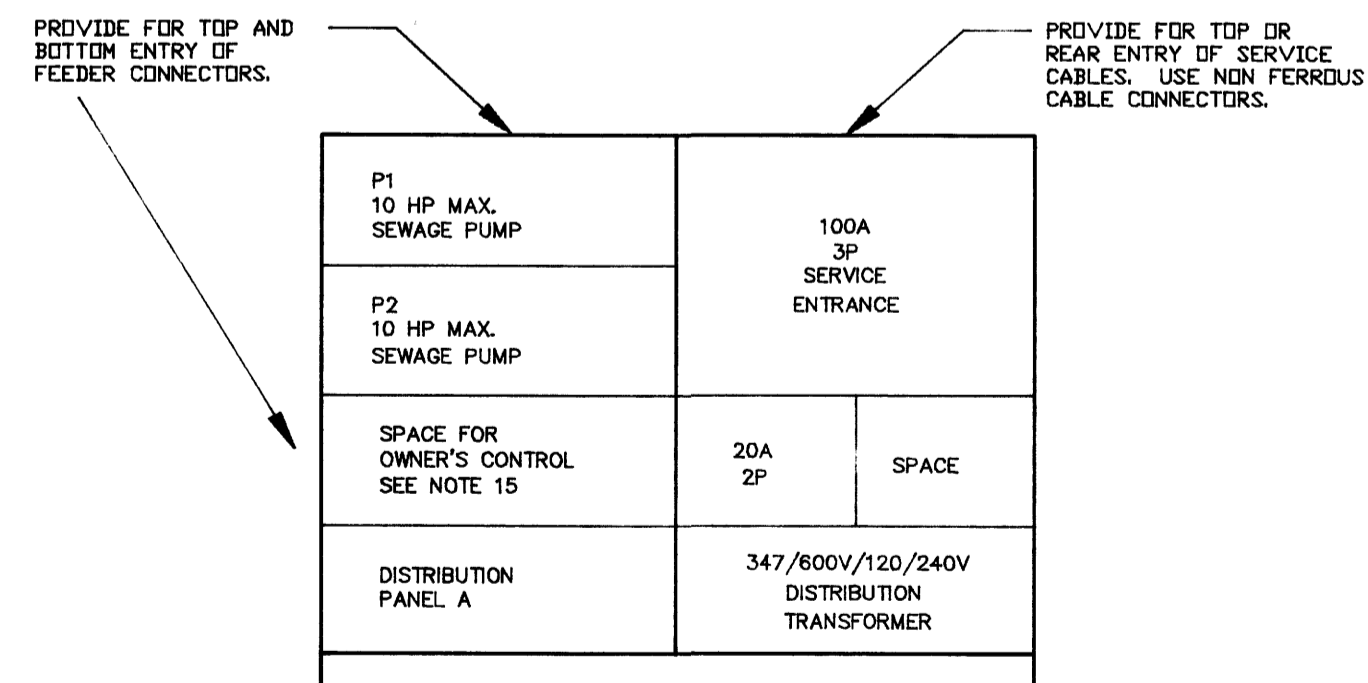
**EXHAUST FAN WIRING**  
N.T.S.



**PUMP ROOM FLOOR PLAN** (SEE NOTE 13)  
SCALE 1/30



**SEWAGE PUMP CONTROL CIRCUIT**



**SERVICE ENTRANCE/MCC LAYOUT**

**Notes:**

K.JDSK.JFDS.KJH

- ALL NEW EQUIPMENT TO BE IDENTIFIED WITH LAMICOID NAME PLATES.
- ARRANGE AND PAY FOR ALL PERMITS AND FEES REQUIRED FOR THIS PORTION OF THE WORK INCLUDING ALL INSPECTIONS BY LOCAL AUTHORITY.
- PROVIDE GROUND SYSTEM TO MEET OEC REQUIREMENTS. GROUND TO SUPPLY SIDE OF WATER SERVICE OR PROVIDE GROUND GRID UTILIZING 3/4" X 10' COPPER CLAD STEEL GROUND ROD. USE NEW INSULATED GROUND CONDUCTOR.
- ALL EQUIPMENT USED SHALL HAVE CSA APPROVAL OR HAVE APPROVAL FROM LOCAL AUTHORITY.
- ALL WIRING SHALL BE COPPER. REFER TO SPECIFICATION.
- ALL EQUIPMENT REMOVED IS TO BE TURNED OVER TO OWNER.
- COORDINATE ALL WORK WITH OTHER TRADES. CONFIRM ALL EQUIPMENT SIZES AND LOCATIONS PRIOR TO START OF WORK.
- SEAL ALL CONDUITS LEAVING MCC TO AVOID MOISTURE MIGRATION INTO MCC.
- REFER TO ARCHITECTURAL DRAWING AND/OR VISIT SITE TO CONFIRM ALL DIMENSIONS & SITE CONDITION. DO NOT SCALE THESE DRAWINGS.
- CABLE CONNECTIONS TO MOTORS TO USE WATER TIGHT FITTINGS.
- PROVIDE NEW WIRE AND CONDUIT CONNECTION TO NEW MOTORS. FINAL MOTOR CONNECTION TO BE VIA "GAB TREE" MOUNT LOCK OFF STOP (LOS) PUSHBUTTONS ON WALL ADJACENT TO MOTORS AS SHOWN.
- COORDINATE INSTALLATION OF SERVICE WITH MANITOBA HYDRO. CONFIRM REQUIREMENTS AND LOCATION FOR SERVICE CONDUCTOR TERMINATIONS AND REVENUE METER. EXISTING DISTRIBUTION IS TO BE REMOVED.
- EXISTING EQUIPMENT NOT SHOWN IS TO REMAIN AS IS. PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED TO NEW DISTRIBUTION TO PROPERLY POWER THIS EQUIPMENT.
- EXISTING TELEPHONE SERVICE IS TO BE RECONNECTED TO EXISTING TELEPHONE AND ALARM PANEL. PROVIDE NEW ENTRY INTO STATION AND NECESSARY TERMINATION EQUIPMENT. SEAL ALL CONDUIT ENTRIES INTO BUILDING. ARRANGE AND COORDINATE SERVICE MODIFICATIONS WITH MTS.
- PUMP CONTROL SYSTEM FOR PUMPS P1 AND P2 IS TO BE SUPPLIED AND INSTALLED BY OWNER. CONTRACTOR TO PROVIDE SPACE AS SHOWN IN MCC FOR MOUNTING OF AUTO ALTERNATOR AND CONTROL CONNECTIONS BY OWNER.
- SINGLE PHASE DISTRIBUTION CONNECTION BY CONTRACTOR TO ENSURE THAT PROPER PHASE WIRES ARE UTILIZED. MANITOBA HYDRO SERVICE UTILIZES A WYE ARRANGEMENT. MEASURE PHASE CONDUCTOR VOLTAGES TO CONFIRM PROPER CONNECTION AND DEMONSTRATE TO OWNER PRIOR TO BEING ENERGIZED.
- MAINTAIN PUMP STATION OPERATION DURING CONSTRUCTION. COORDINATE WITH OWNER.

DISTRIBUTION PANEL A 120/240V, 1PH, 3W, 100A MAIN LUGS					
CCT. NO.	DESCRIPTION	TRIP AMPS	TRIP AMPS	DESCRIPTION	CCT. NO.
1	LIGHTS	15A	15A	RECEPTACLES	2
3	ALARM PANEL	15A	15A	EXHAUST FAN	4
5	PORTABLE HEATER RECEPTACLE	15A	15A	LOWER LEVEL LIGHTS	6
7	SPARE	15A	15A	SEAL WATER SOLENOID	8
9	SPARE	15A	15A	SPARE	10
11	SPARE	15A	15A	SPARE	12

**PANEL SCHEDULE**

LEGEND	
SYMBOL	DESCRIPTION
	INCANDESCENT FIXTURE
	SINGLE POLE SWITCH
	MOTOR
	DUPLEX RECEPTACLE
	PUSHBUTTON (LOS)
	WIRING RUN - 2 WIRES IN CONDUIT SURFACE MOUNTED

B.M. ELEV.					
DESIGNED BY	T.W.	CHECKED BY	T. WHITESIDE		
DRAWN BY	EN	APPROVED BY			
HOR. SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION			
VERTICAL					
NO. REVISIONS		DATE	DECEMBER 1990	DATE	

ENGINEER'S SEAL



**THE CITY OF WINNIPEG**  
WORKS AND OPERATIONS DIVISION  
WATERWORKS WASTE AND DISPOSAL DEPARTMENT

**METCALFE LIFT STATION  
UPGRADING  
ELECTRICAL**

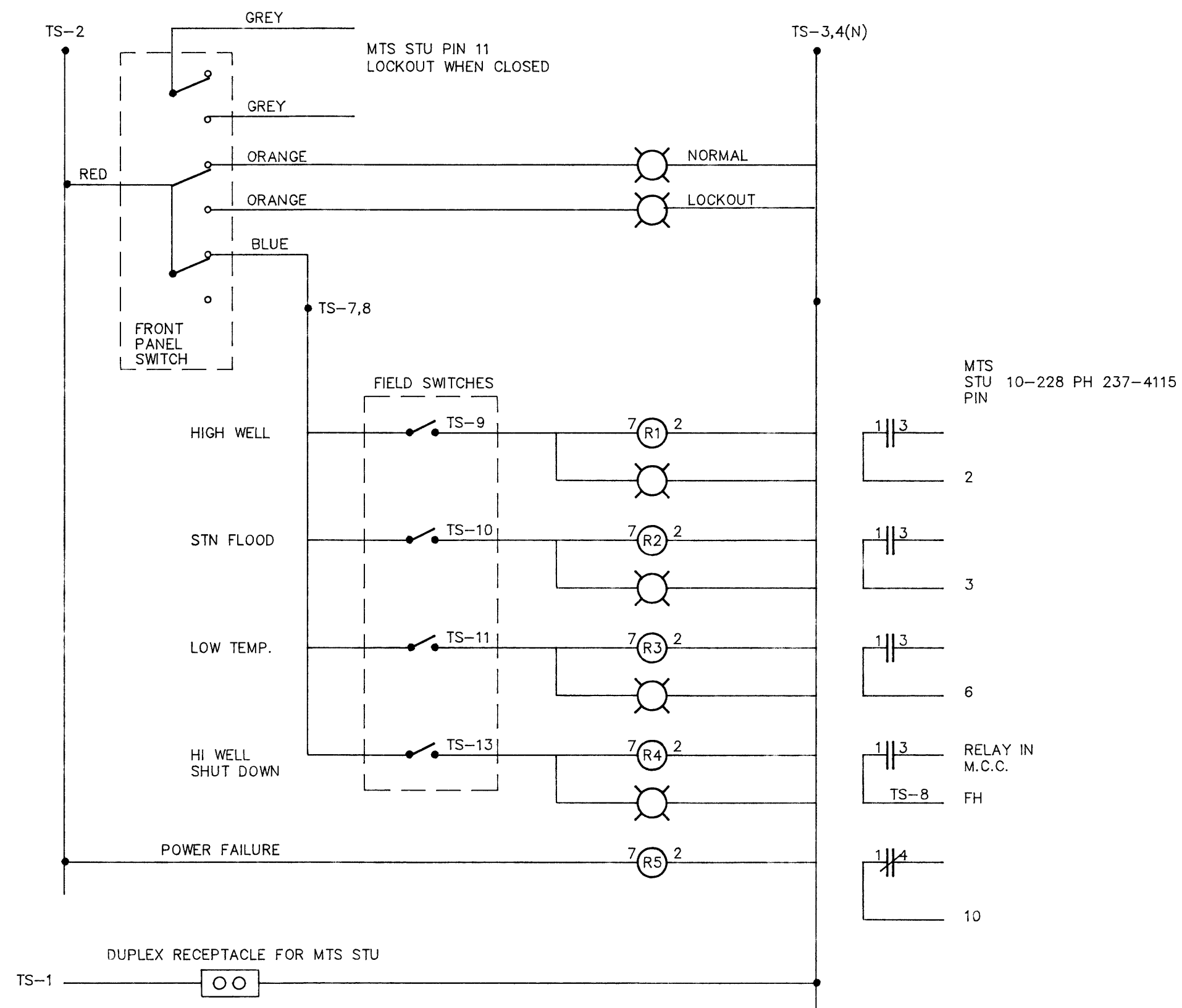
CITY DRAWING NUMBER

SHEET 2 OF 2

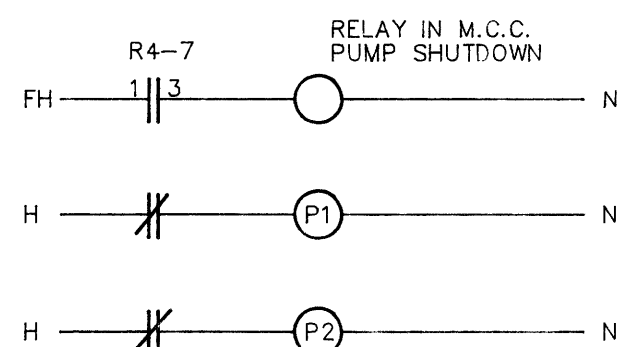
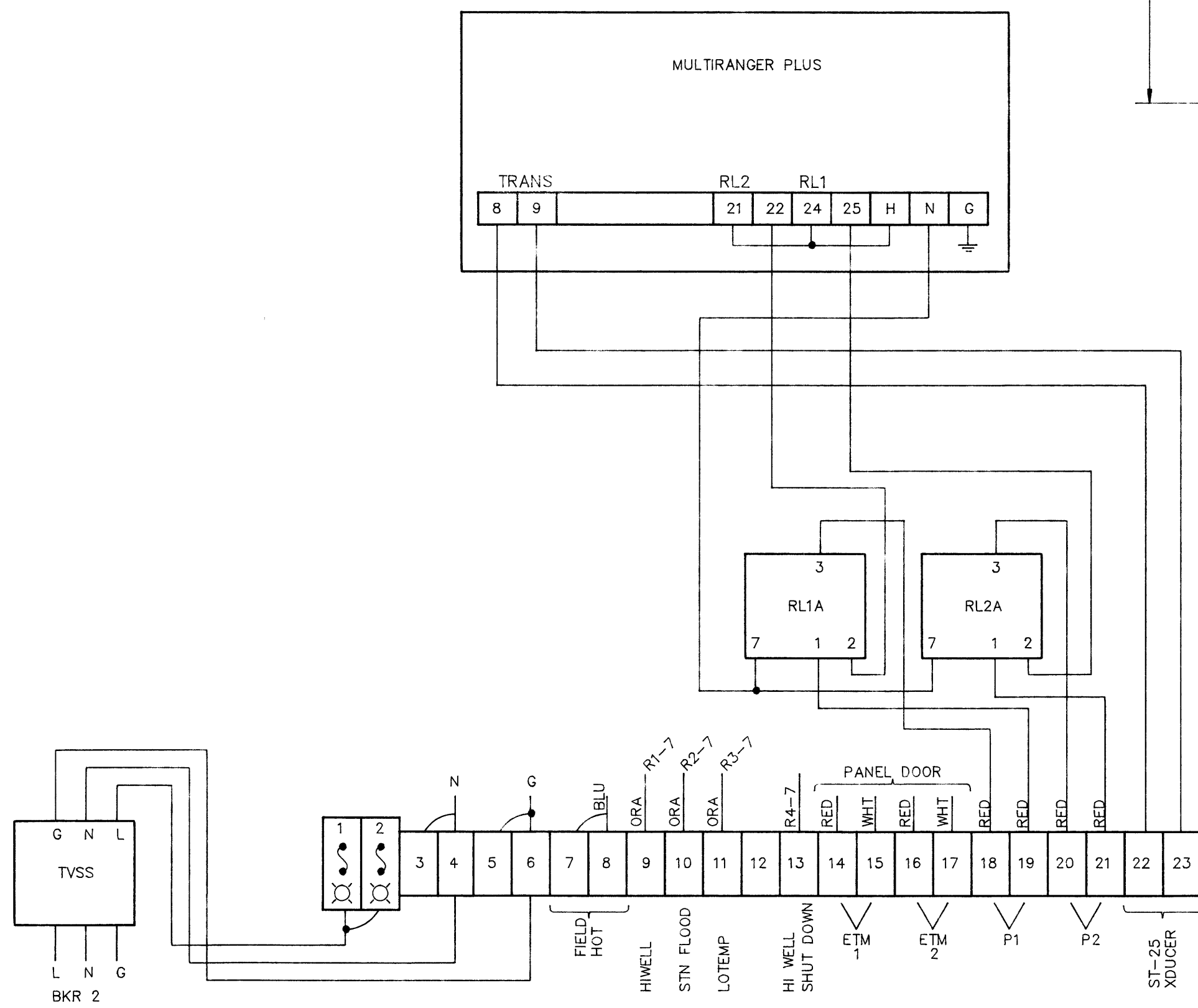
1340



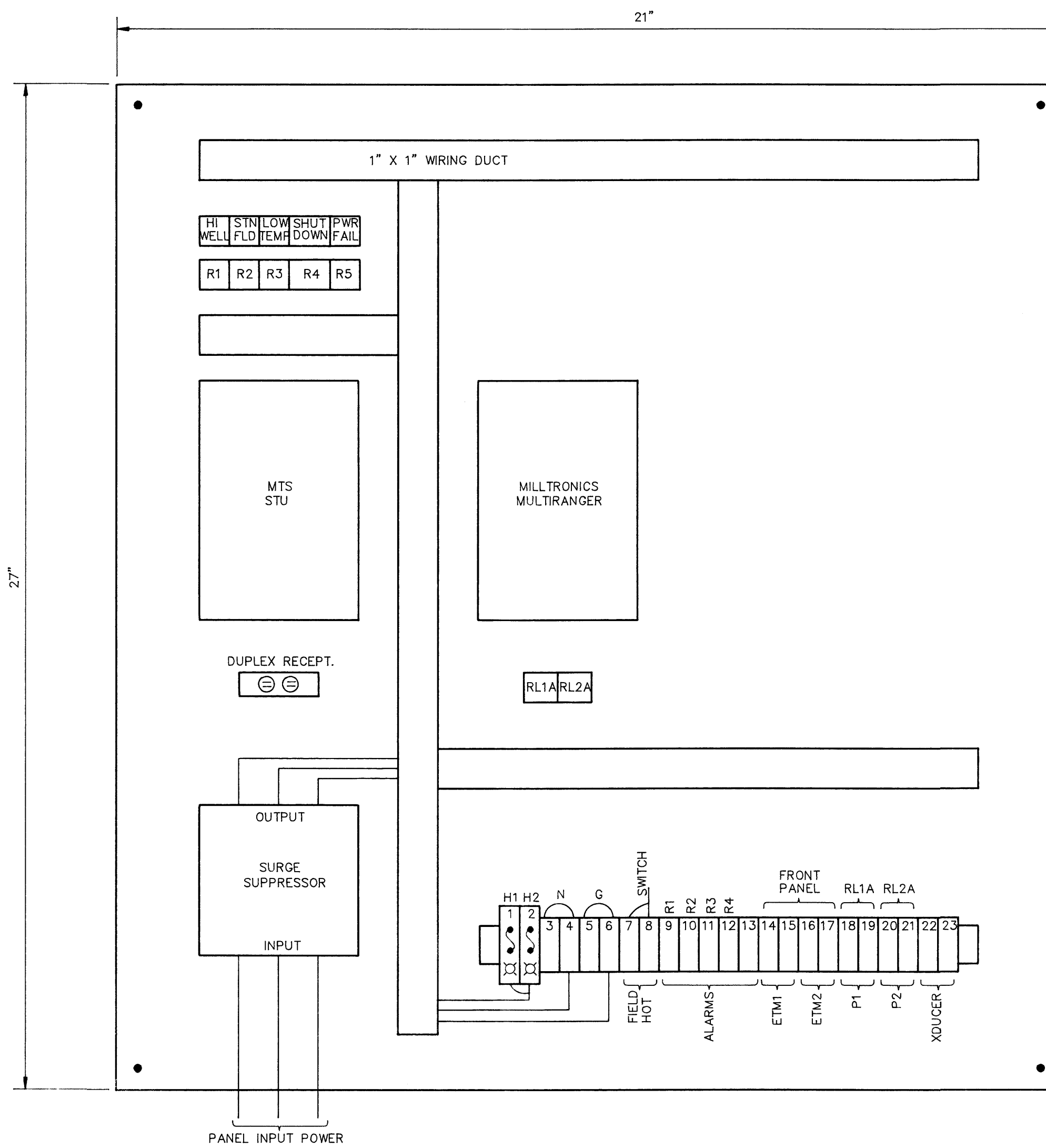
ALARM SCHEMATIC



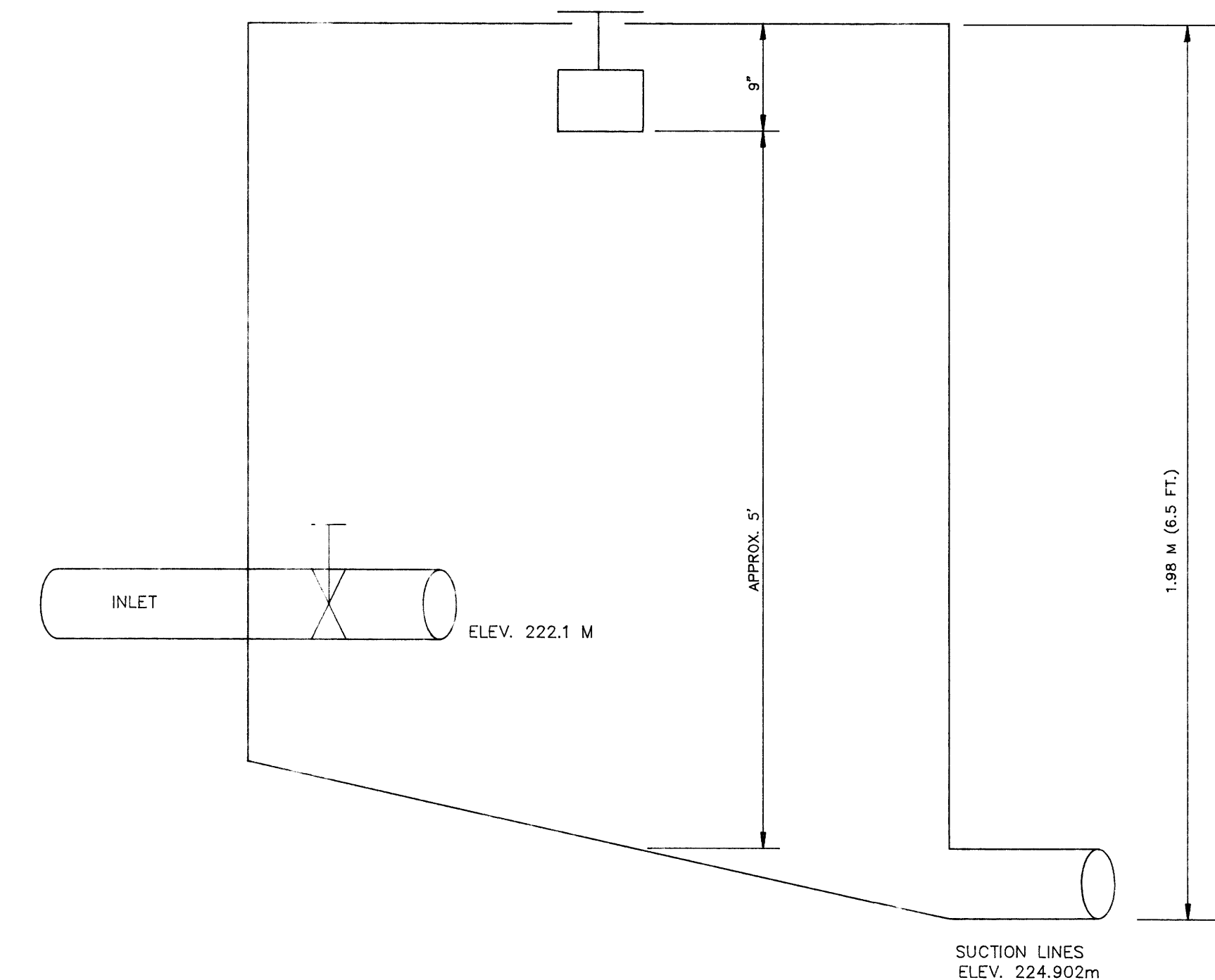
WIRING DIAGRAM



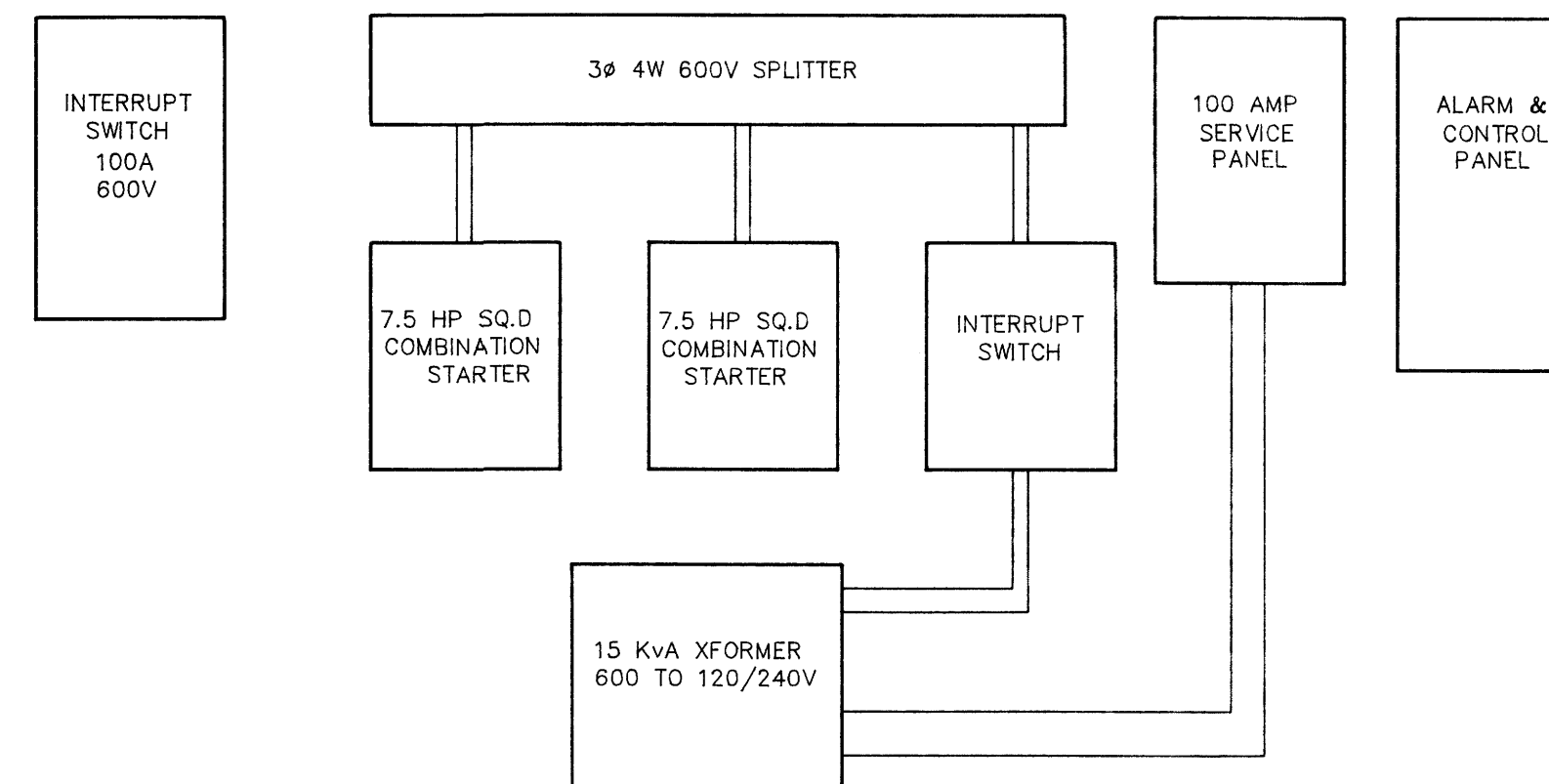
BACK PANEL LAYOUT



SUMP DIAGRAM



ELECTRICAL DISTRIBUTION LAYOUT



1409

B.M. ELEV.	ENGINEER'S SEAL		<p>THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION WATERWORKS WASTE AND DISPOSAL DEPARTMENT</p>
	DESIGNED BY M. JEGUES	CHECKED BY M. JEGUES	
	DRAWN BY M.B. DAHL	APPROVED BY	CITY DRAWING NUMBER
	HOR. SCALE VERTICAL N.T.S.	RELEASED FOR CONSTRUCTION	METCALFE LIFT STATION ELECTRICAL AND CONTROL UPGRADING
NO. REVISIONS	DATE	BY	CONSULTANT DRAWING NO.
	DATE SEPTEMBER 1992	DATE	1409

file # SP10409 PLOT DATE SEPTEMBER 03, 1992

# Riverbend Lift Station Drawings

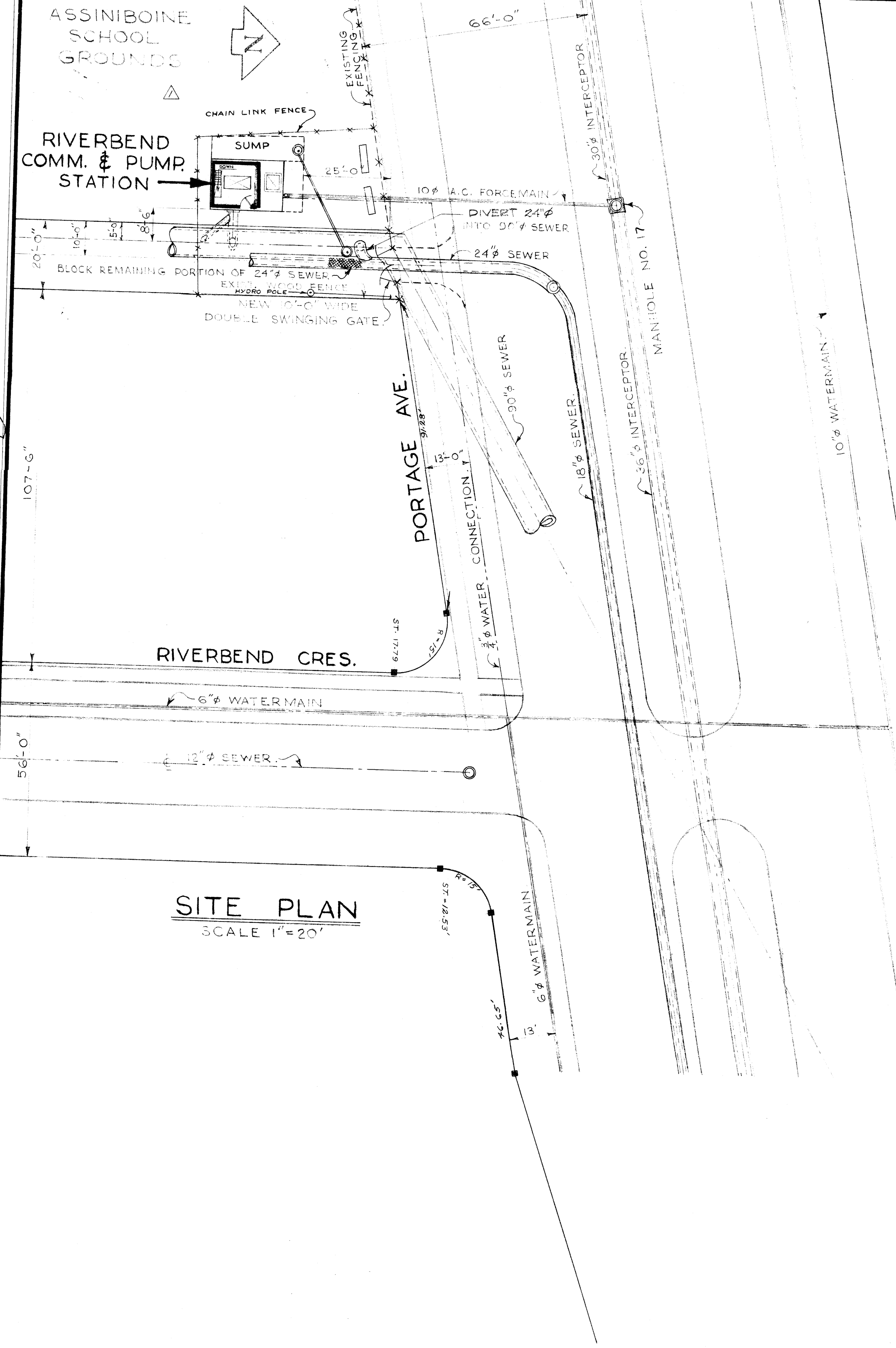


File # SP10068

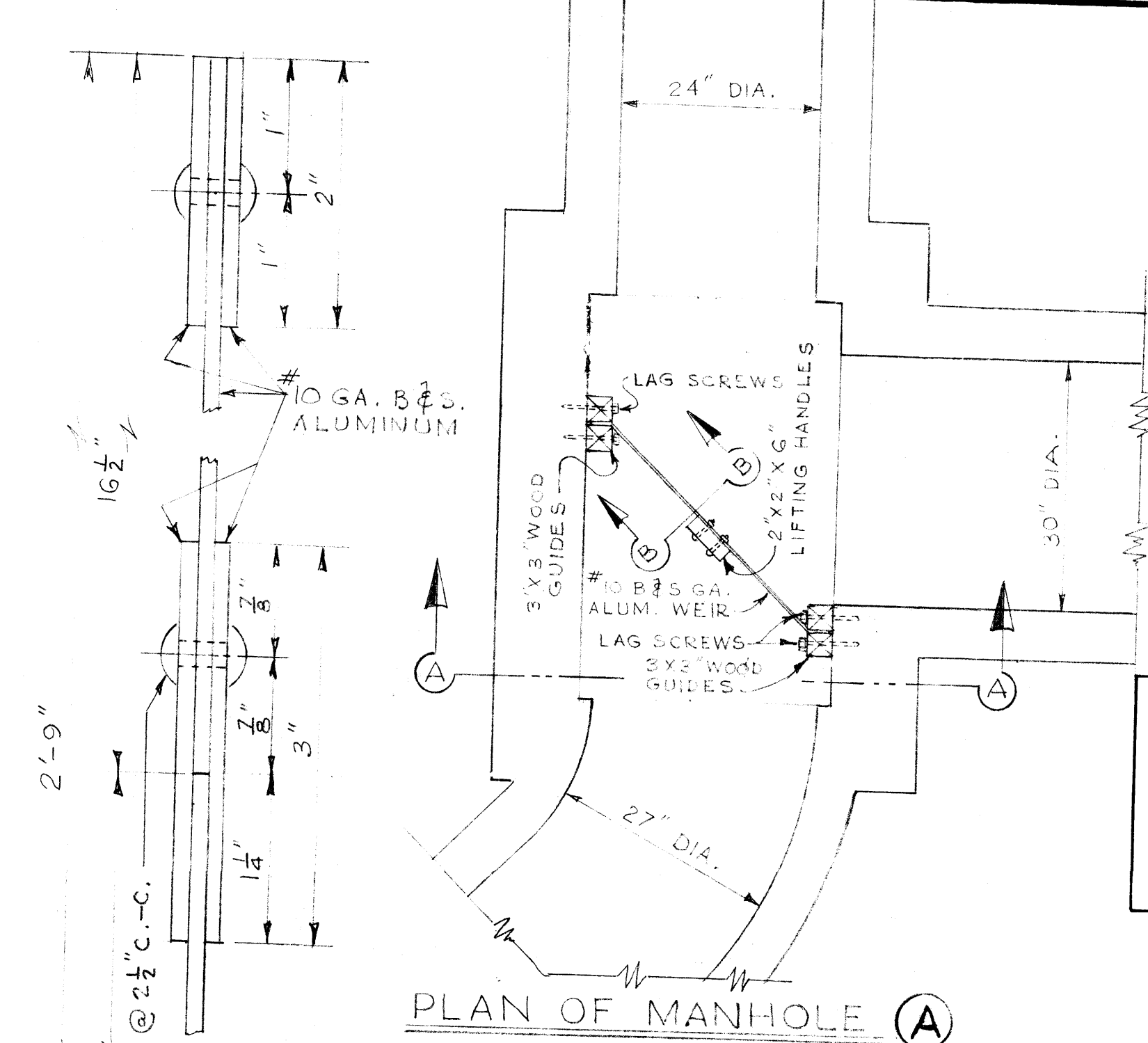
312

REF. or DRAWING NO.

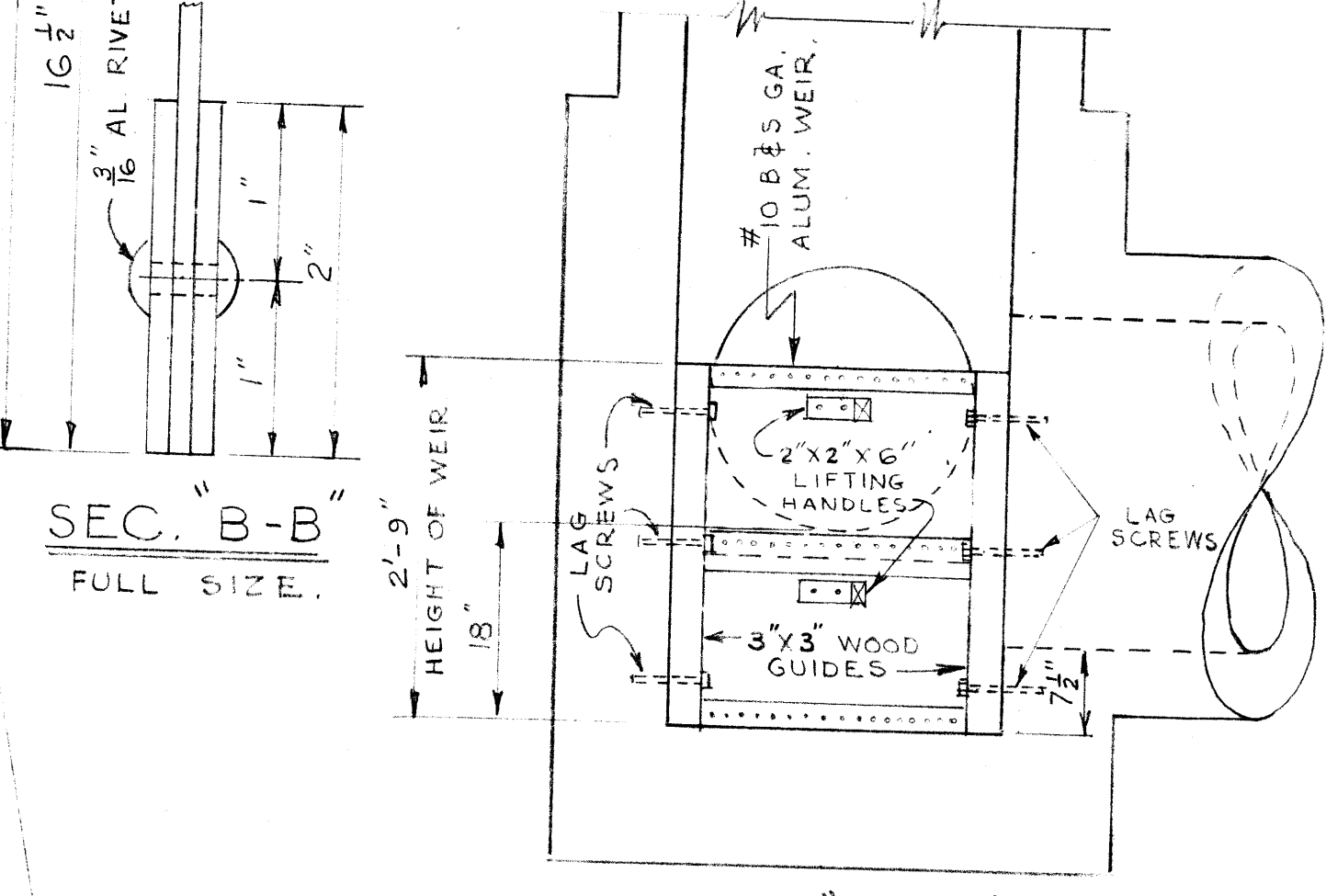
DETAILS



SITE PLAN  
SCALE 1"=20'

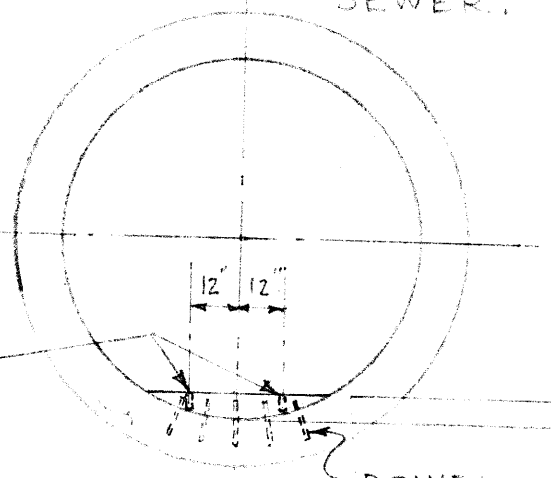


PLAN OF MANHOLE (A)



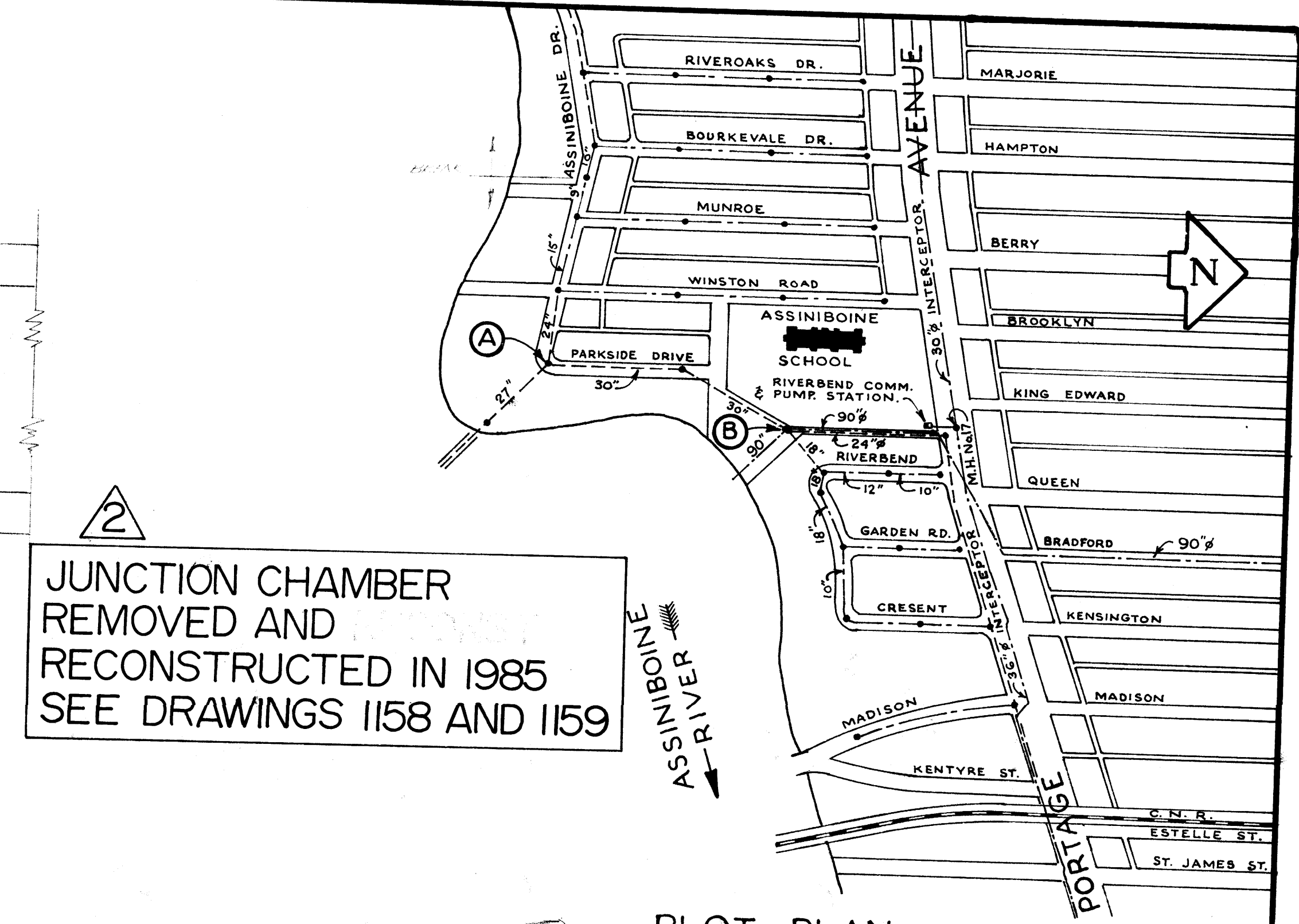
SEC. "A-A"  
DETAIL OF WEIR AT MANHOLE (A)  
SCALE 3/4"=1'-0"

2 - 1 1/2" DIA x 4" GALV. INCLD. THREADED PIPES SET FLUSH TO TOP OF WEIR & PLUGGED WITH BRASS STUDS.



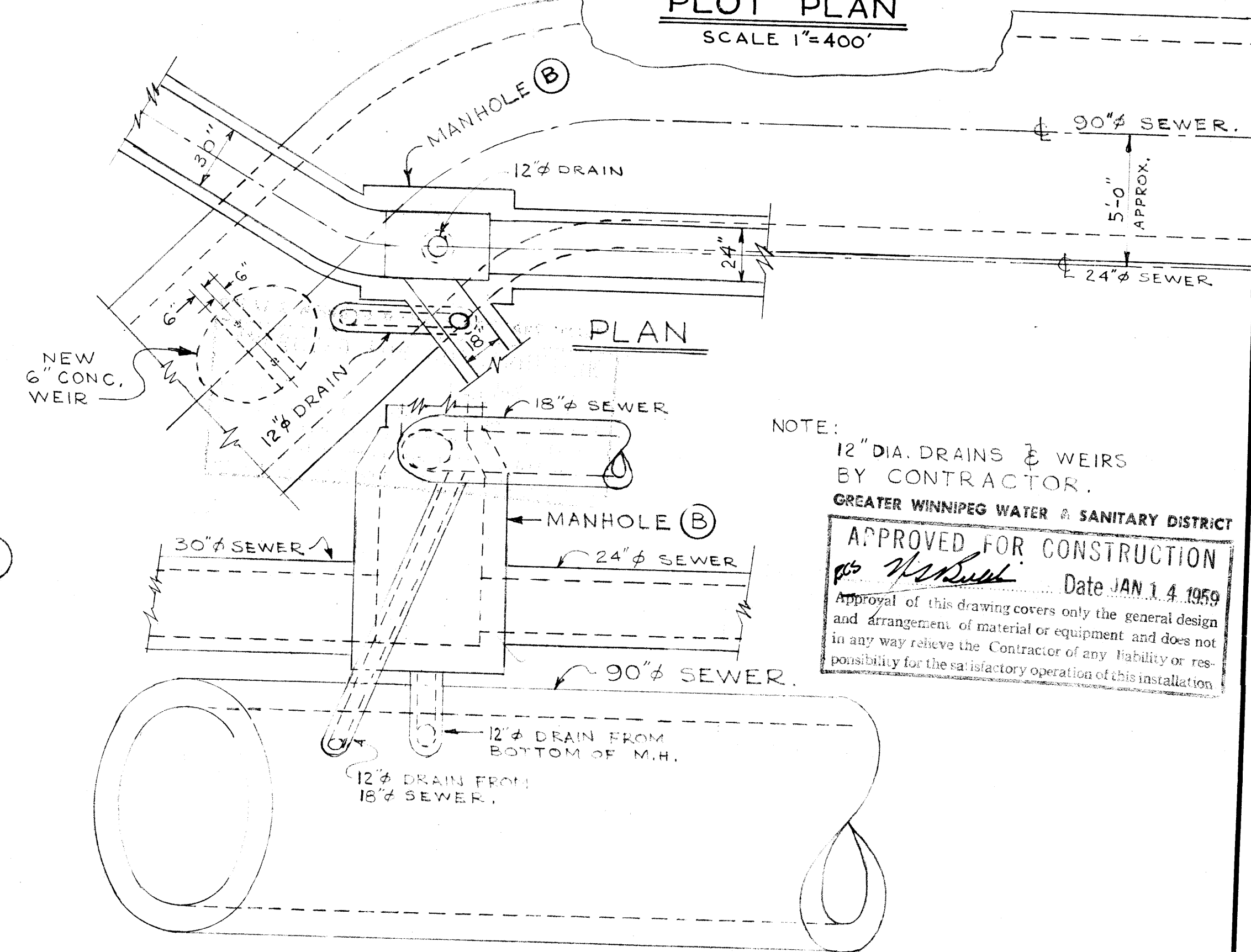
DETAIL OF NEW CONC. WEIR IN 90" SEWER.

Weir raised 6" / July 77



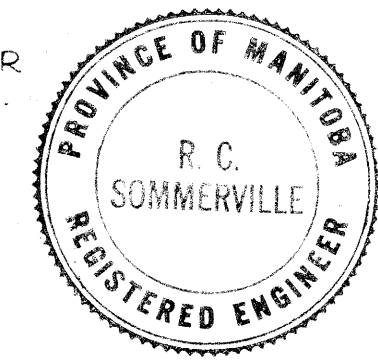
PLOT PLAN  
SCALE 1"=400'

JUNCTION CHAMBER REMOVED AND RECONSTRUCTED IN 1985 SEE DRAWINGS 1158 AND 1159

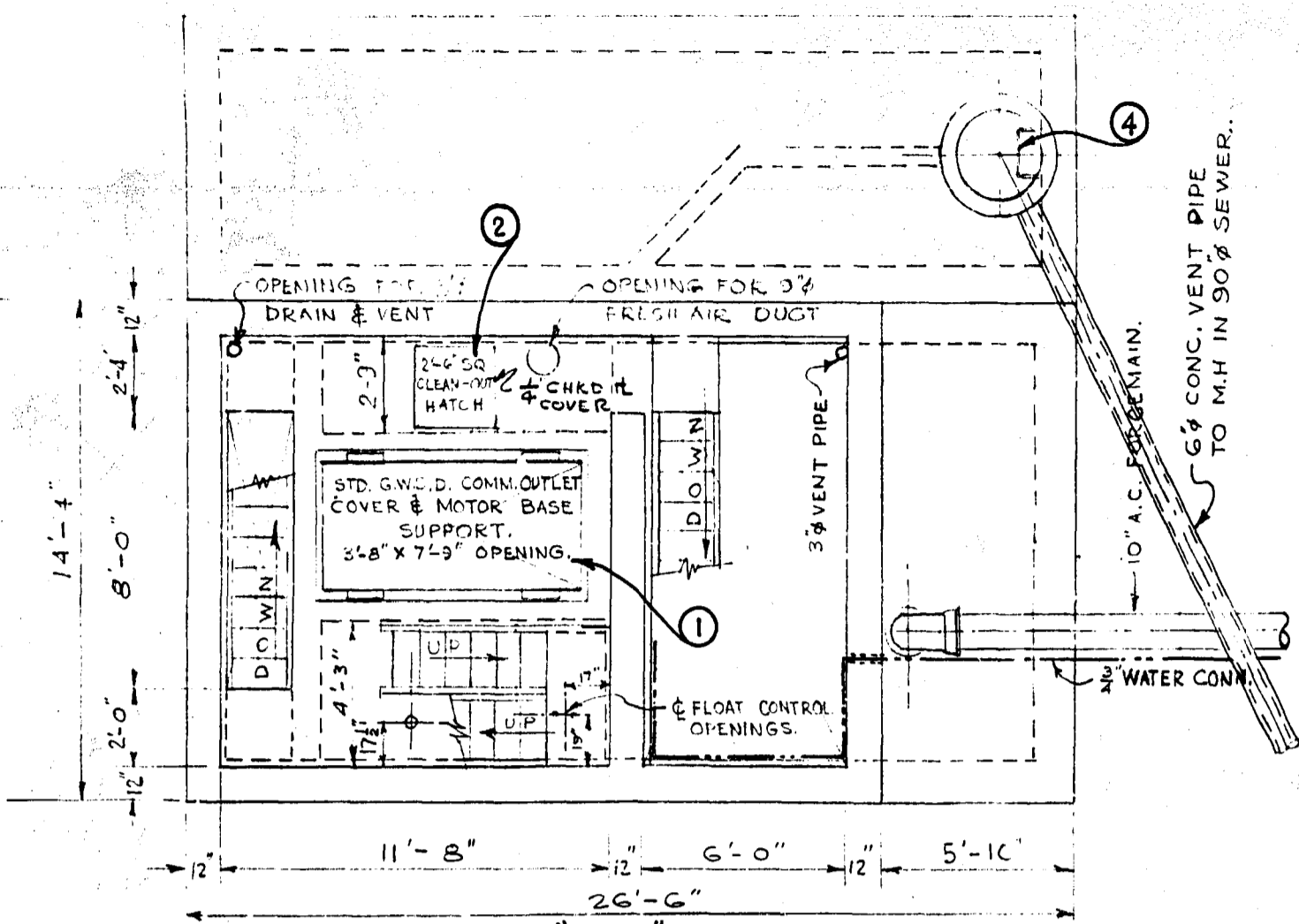
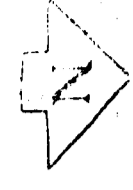


DETAIL OF 12" DRAINS @ MANHOLE (B)  
SCALE 1/4"=1'-0"

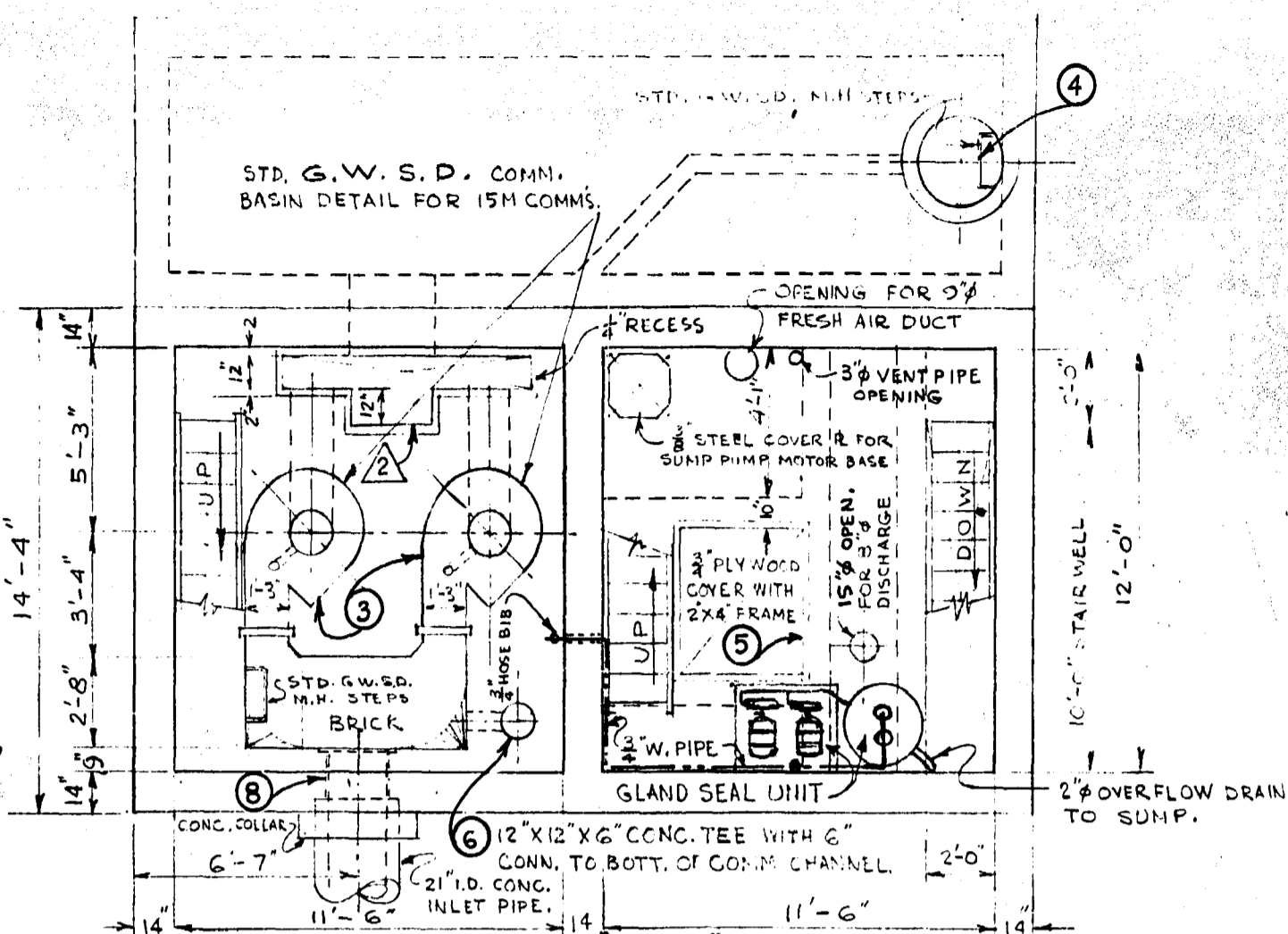
NOTE:  
12" DIA. DRAINS & WEIRS BY CONTRACTOR.  
GREATER WINNIPEG WATER & SANITARY DISTRICT  
APPROVED FOR CONSTRUCTION  
Date JAN 14 1959  
Approval of this drawing covers only the general design and arrangement of material and equipment and does not in any way relieve the Contractor of any liability or responsibility for the satisfactory operation of this installation.



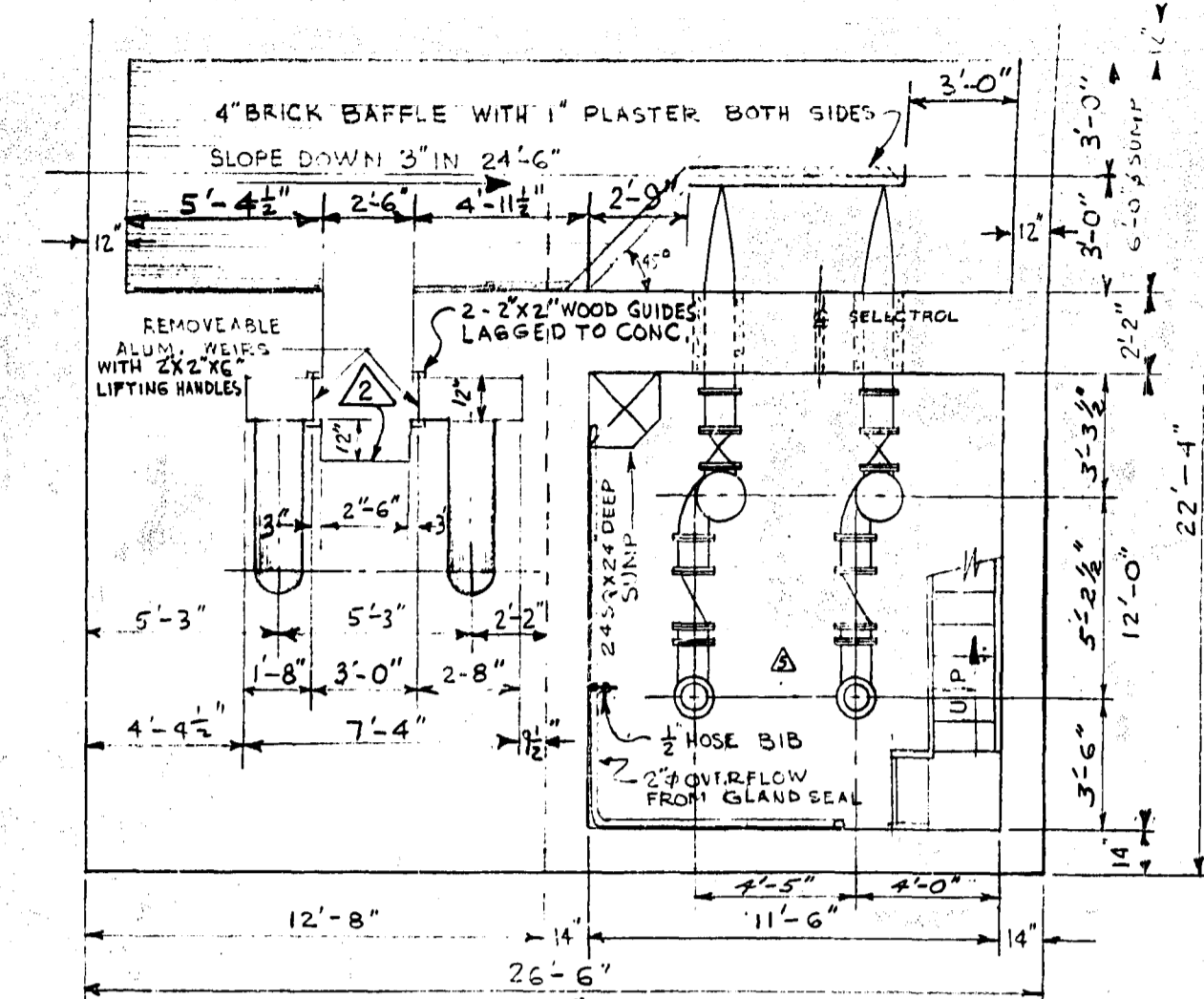
REVISIONS				DATE BY		GREATER WINNIPEG SANITARY DISTRICT SECONDARY SEWERS.	
NO.	DESCRIPTION	DATE	BY	DATE	BY	TITLE:	
1	FENCE, BUILDING, M.H. ETC. ADDITIONS REPLOTTED AS PER SURVEY FIELD BOOK P-252	AUG 23/58	V.O.			RIVERBEND COMM. & PUMP STA. SITE PLAN & MISC. DETAILS	
2	JUNCTION CHAMBER CHANGED	FEB 22, 59	K.T.			APPROVED BY: Supt. of Sanitation DESIGNED BY: G.E. BURNS DRAWN BY: H. BUXMAN CHECKED BY: [Signature] DATE: 12 DEC 58 SCALES: AS NOTED	
						DRAWING NO.	312



SEC. "A-A"



SEC. "B-B"



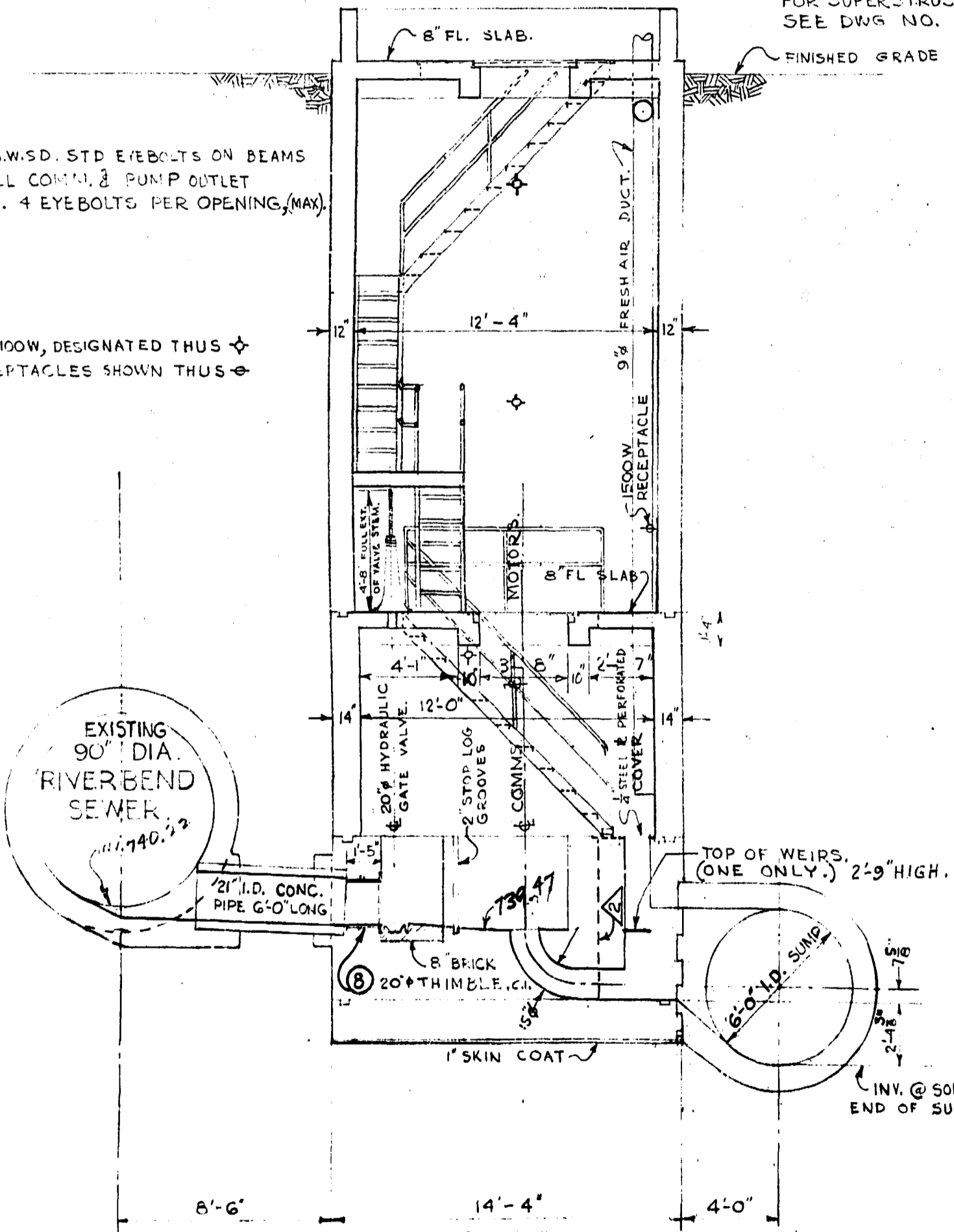
SEC. "C-C"

NOTE: PROVIDE G.W.S.D. STD. E/BOLTS ON BEAMS AROUND ALL COMM. & PUMP OUTLET OPENINGS. 4 EYEBOLTS PER OPENING, (MAX).

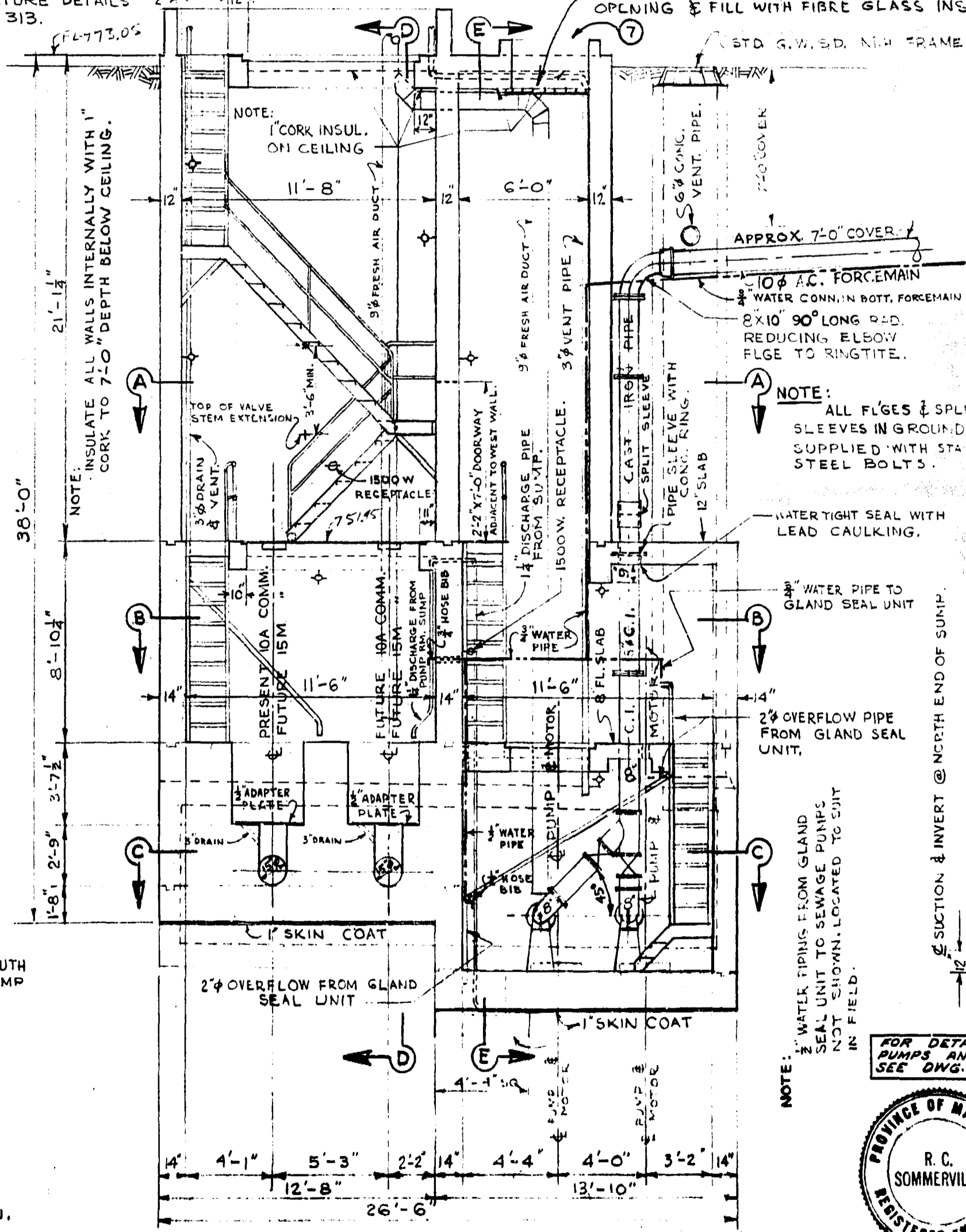
NOTE: ALL LAMPS 100W, DESIGNATED THUS  $\diamond$  1500W RECEPTACLES SHOWN THUS  $\square$

NOTE: FOR SUPERSTRUCTURE DETAILS SEE DWS NO. 313.

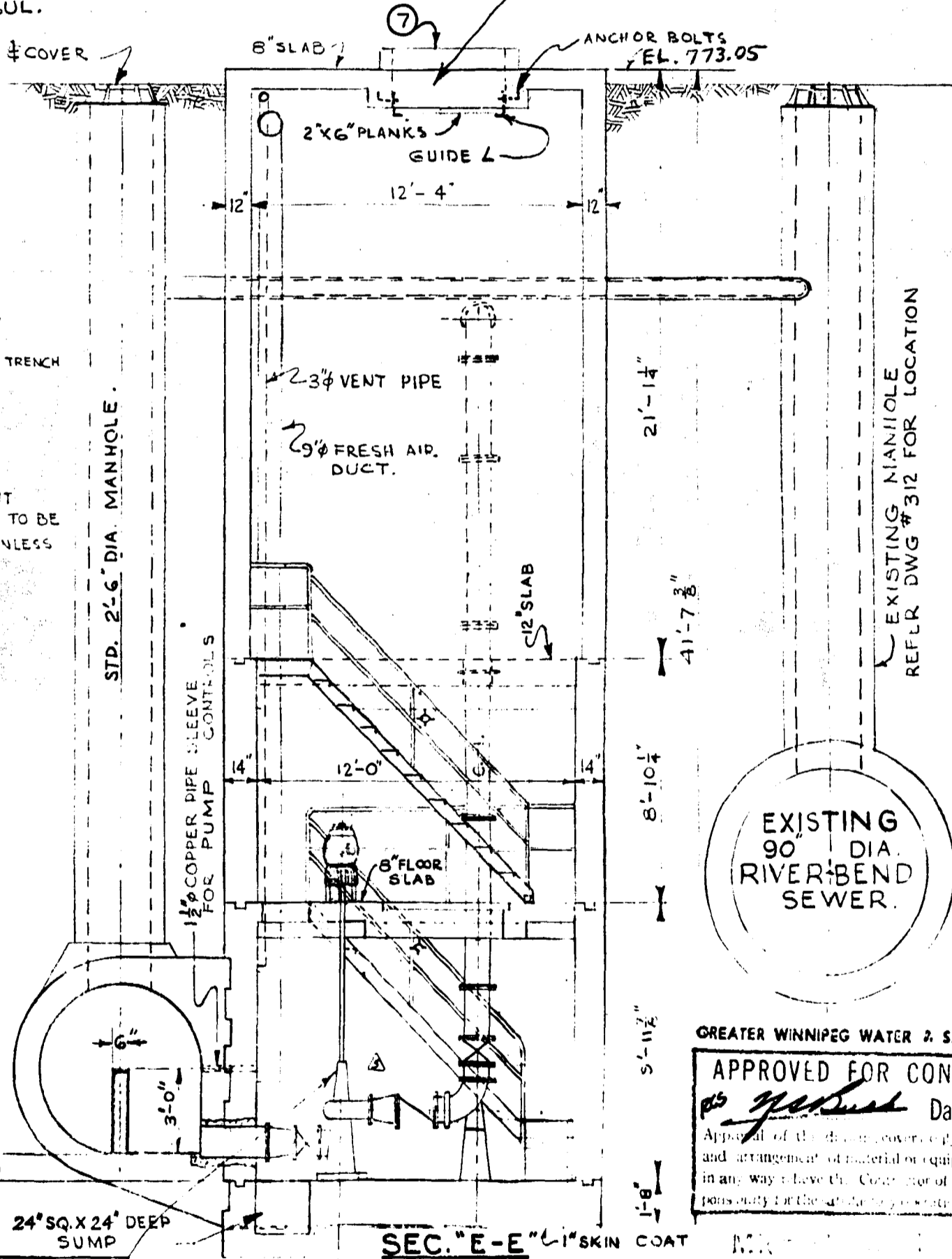
NOTE: PROVIDE GUIDE Ls & PLANKS AT BOTTOM OF OPENING & FILL WITH FIBER GLASS INSUL.



SEC. "D-D"



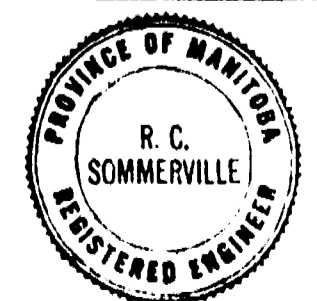
LONGITUDINAL SEC.



SEC. "E-E"

NOTE: WATER TYPING FROM GLAND SEAL UNIT TO SEWAGE PUMPS NOT SHOWN, LOCATED TO SUIT IN FIELD.

FOR DETAILS OF PUMPS AND PIPING SEE DWS NO. S-35c



GREATER WINNIPEG WATER & SANITARY DISTRICT  
 APPROVED FOR CONSTRUCTION  
 Date JAN 14 1972  
 Approval of this drawing is given by the general manager and arrangement of material or equipment and location in any way have the Contractor of any liability or responsibility for the same.

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	DETAIL NO'S ADDED	9 JAN 69	HB
2	DOWNSTREAM WEIR CHANNEL ENLARGED	19 FEB 59	HB
3	PUMP DIMENSIONS ADDED	3 MAR 59	HB
4	DIMENSIONS CHANGED	23 MAR 59	SK
5	NEW PUMPS AND PIPING ADDED	JAN 72	VD

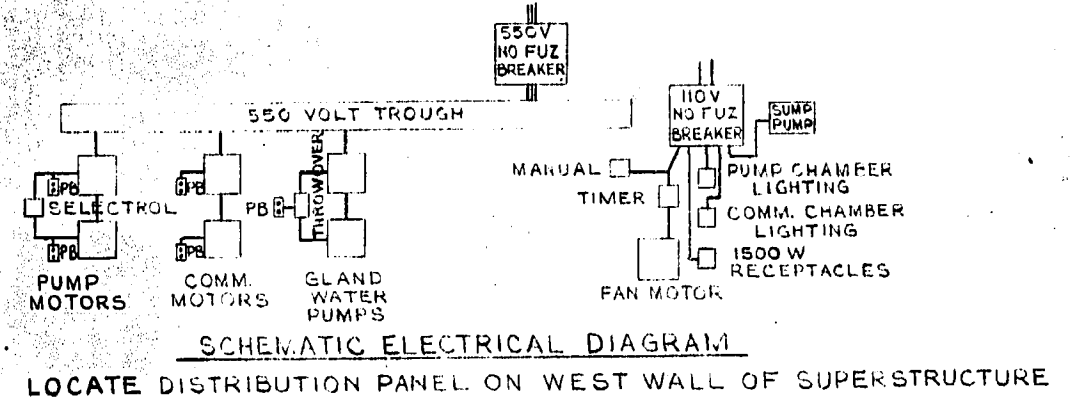
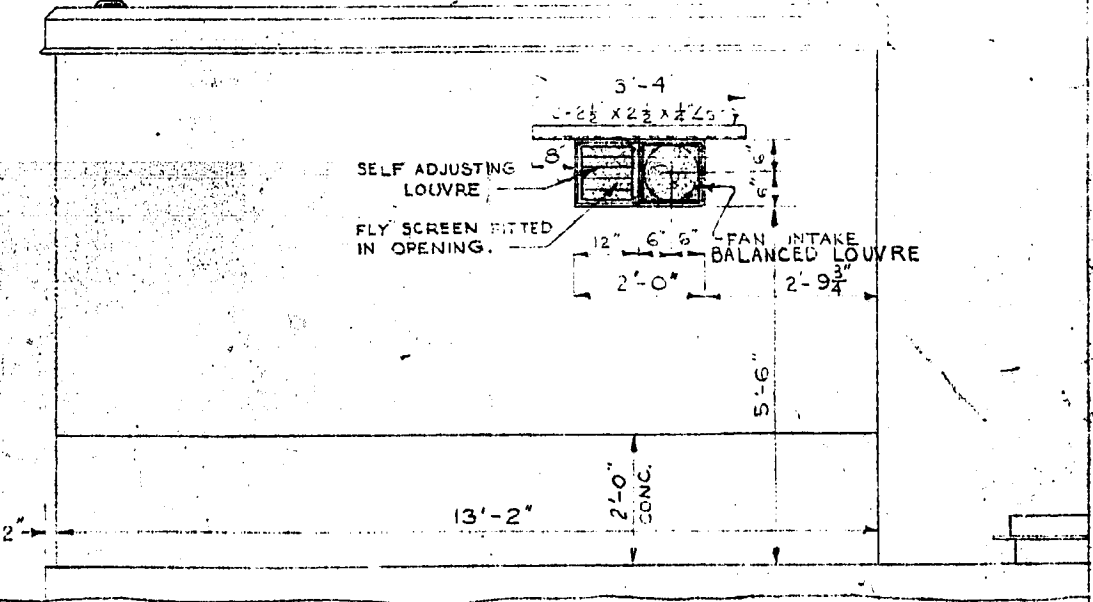
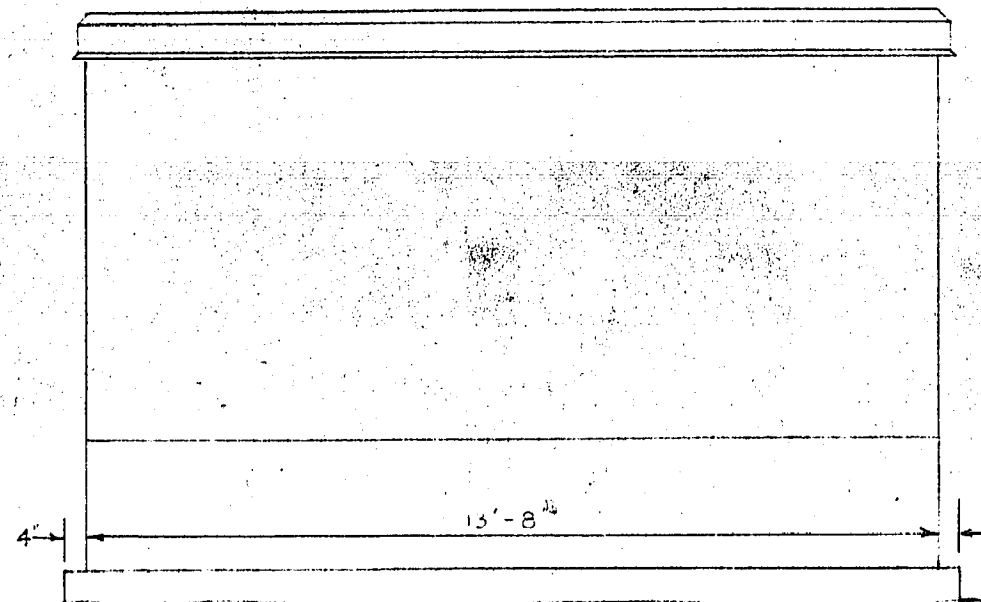
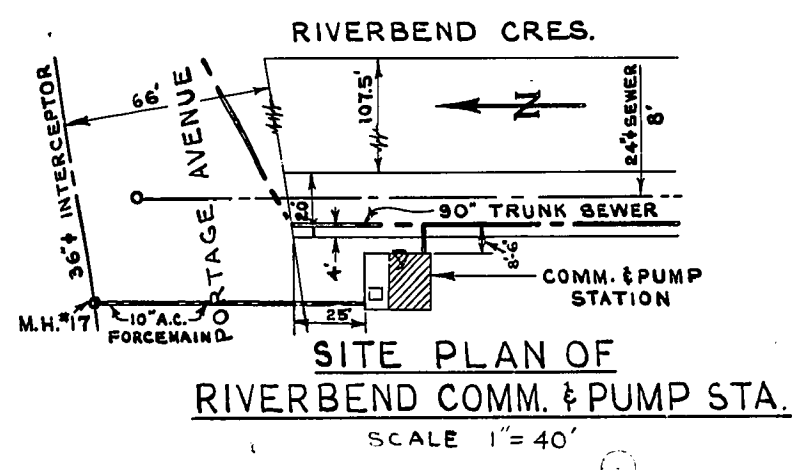
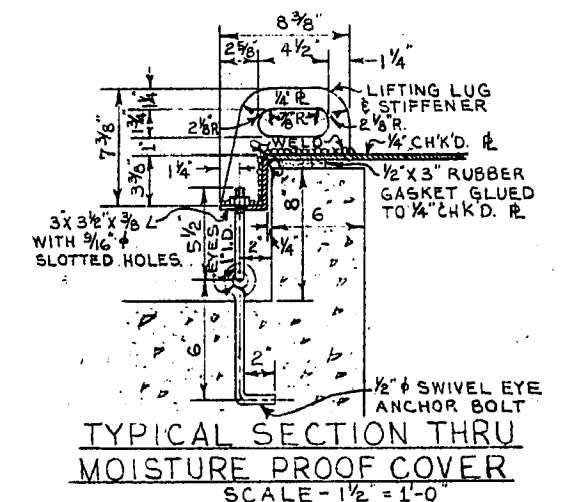
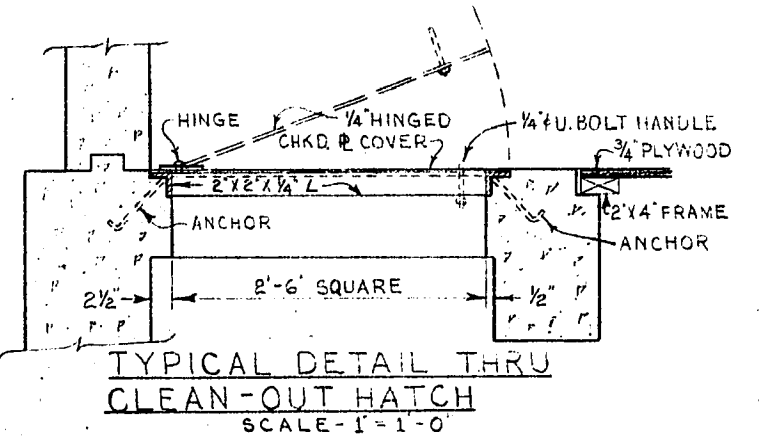
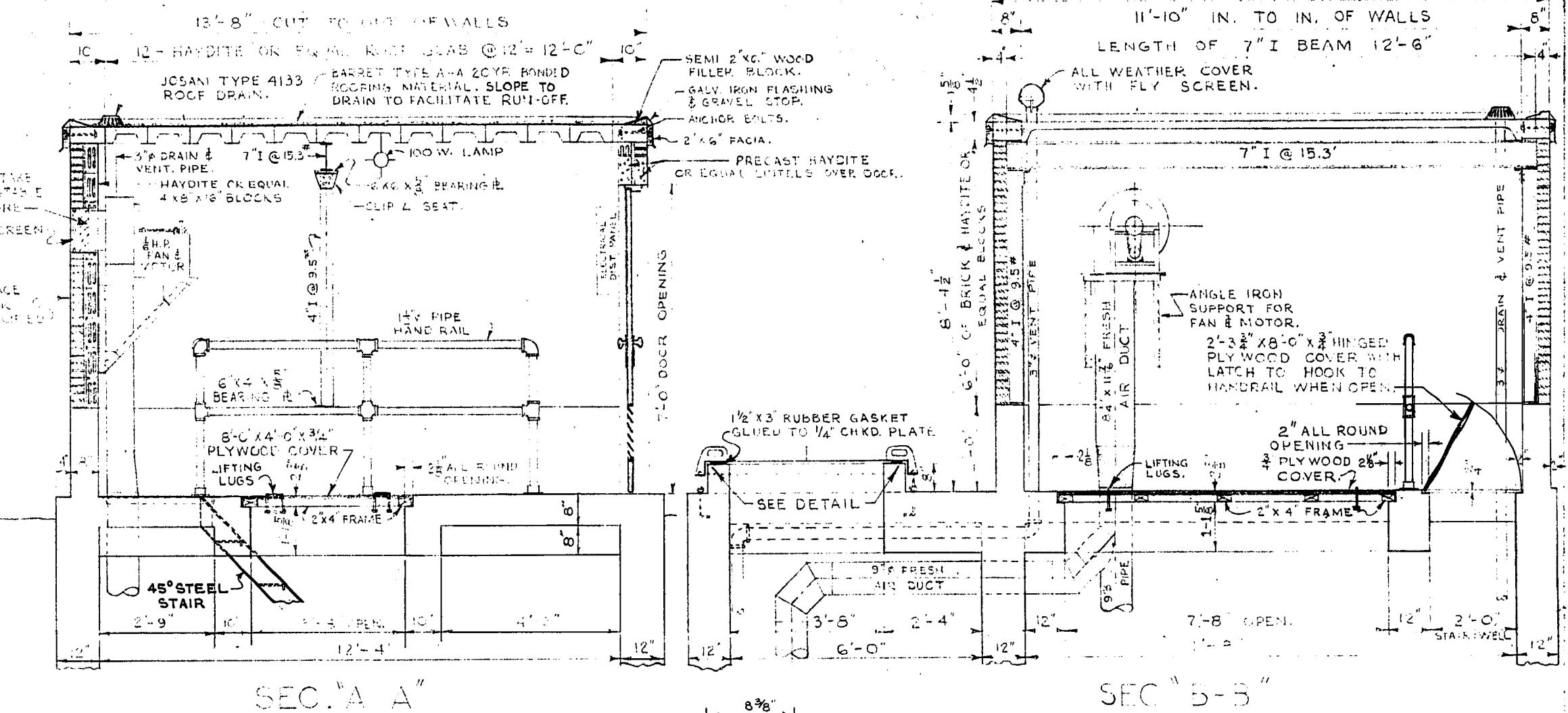
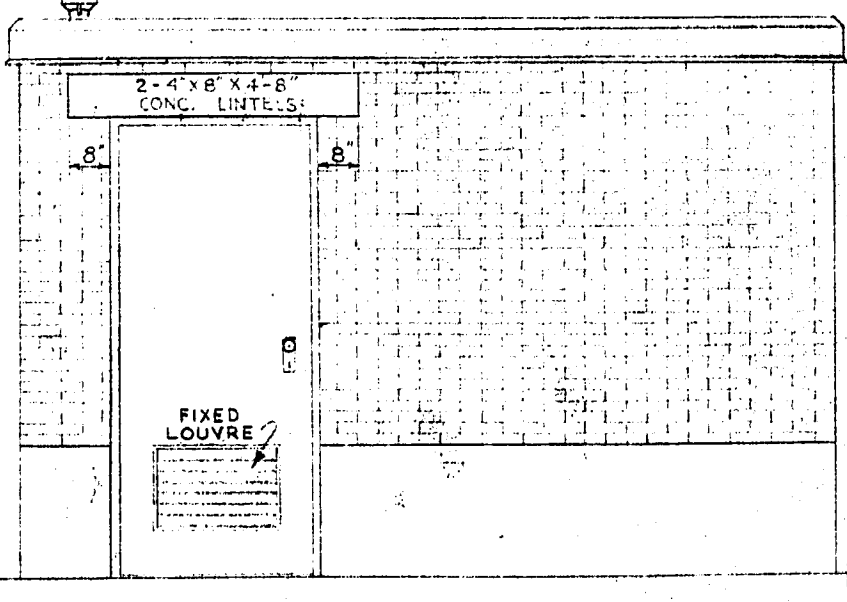
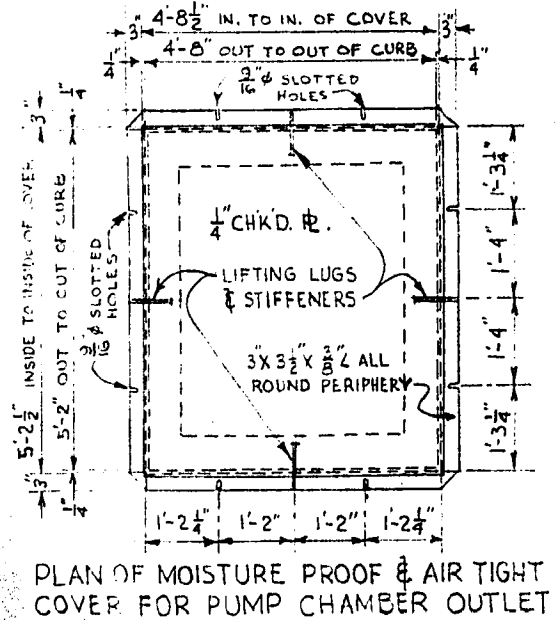
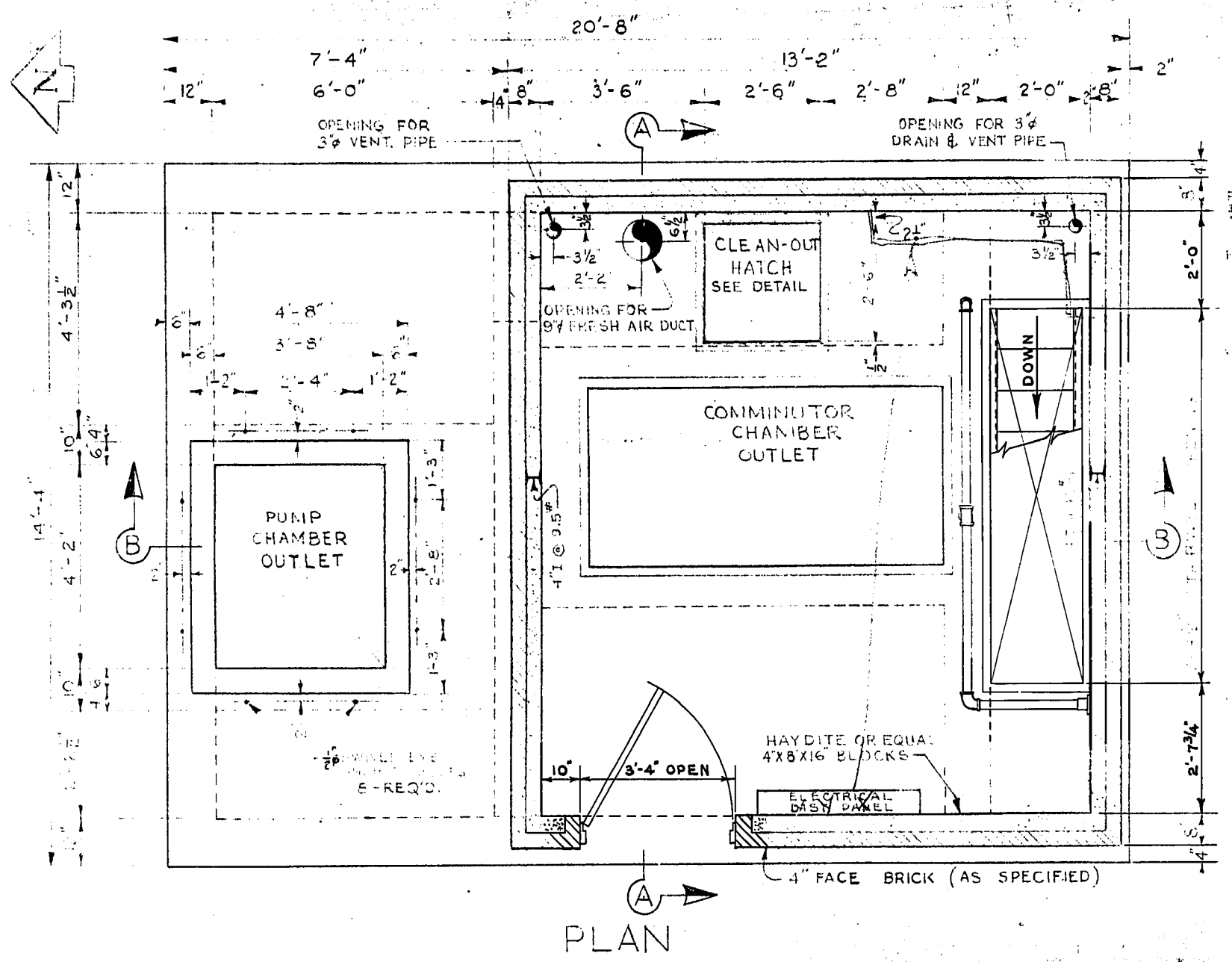
GREATER WINNIPEG SANITARY DISTRICT SECONDARY SEWERS		
RIVERBEND COMM. & PUMPING STA. SUBSTRUCTURE - GENERAL LAYOUT.		
APPROVED BY <i>[Signature]</i> CHIEF ENGINEER	DESIGNED BY <i>[Signature]</i> REGISTERED ENGINEER	DRAWING NO. <b>314</b>



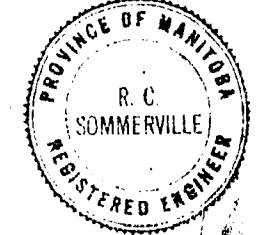
file # Sp 10069

313

REF. or DRAWING No. DETAILS



**NOTE:** THIS SUPERSTRUCTURE IS TO BE USED FOR RIVERBEND COMMINUTOR & PUMPING STATION BUT REVERSE TO THAT WHICH IS SHOWN ABOVE, I.E. THE WEST WALL WILL FACE EAST AND THE NORTH WILL FACE NORTH.



REVISIONS		DATE BY	
1.	STAIR WELL CHANGED TO CONFORM WITH RIVERBEND STA. PUMP MOTORS CHANGED TO CONFORM WITH RIVERBEND STA.	DEC 58	SK
2.		DEC 58	SK

GREATER WINNIPEG SANITARY DISTRICT  
SEWERAGE & WATERWORKS DEPARTMENT  
RIVERBEND - COMMINUTOR & PUMPING STATION  
313  
MUNICIPALITY OF WINNIPEG

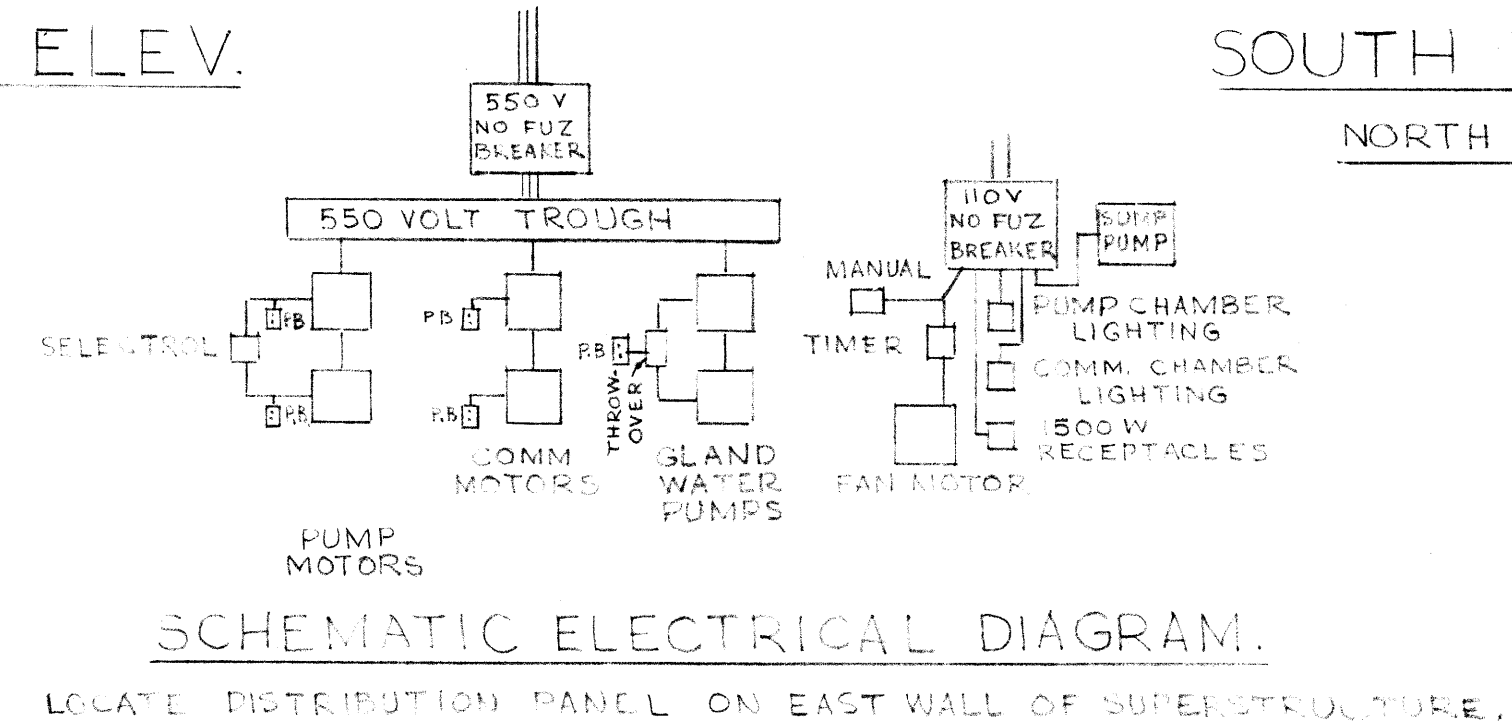
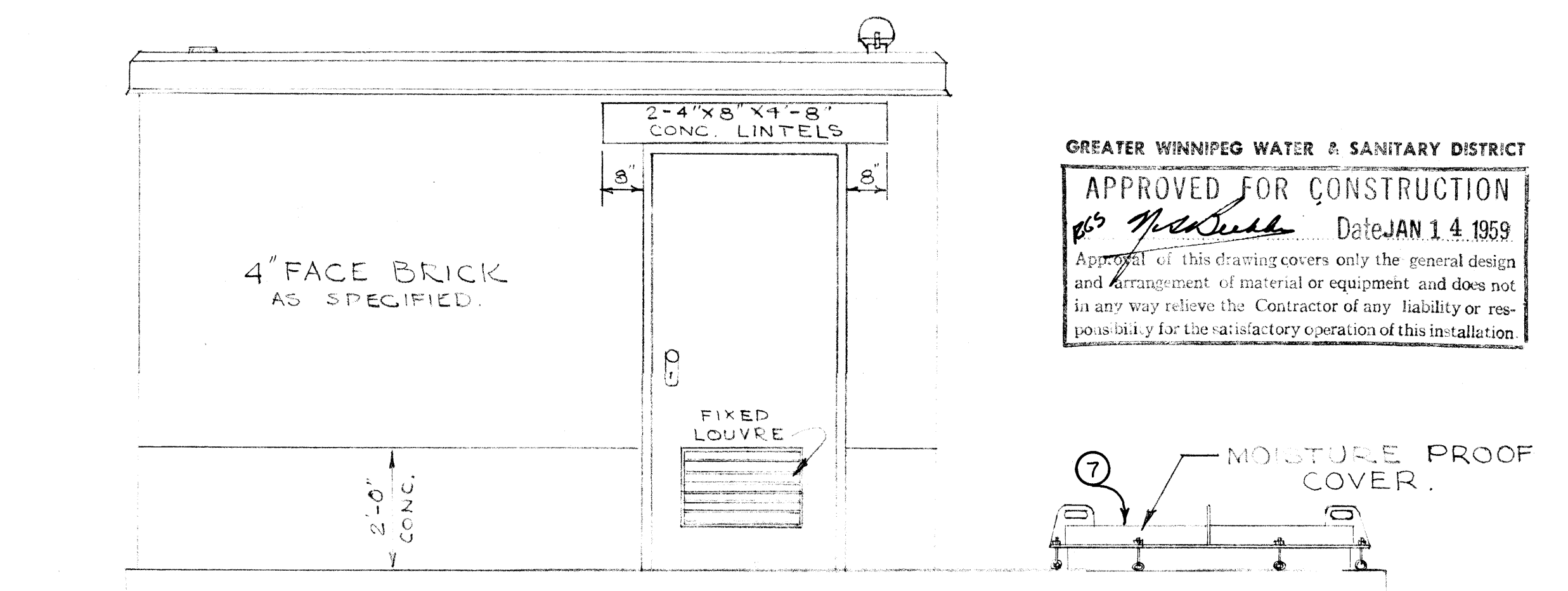
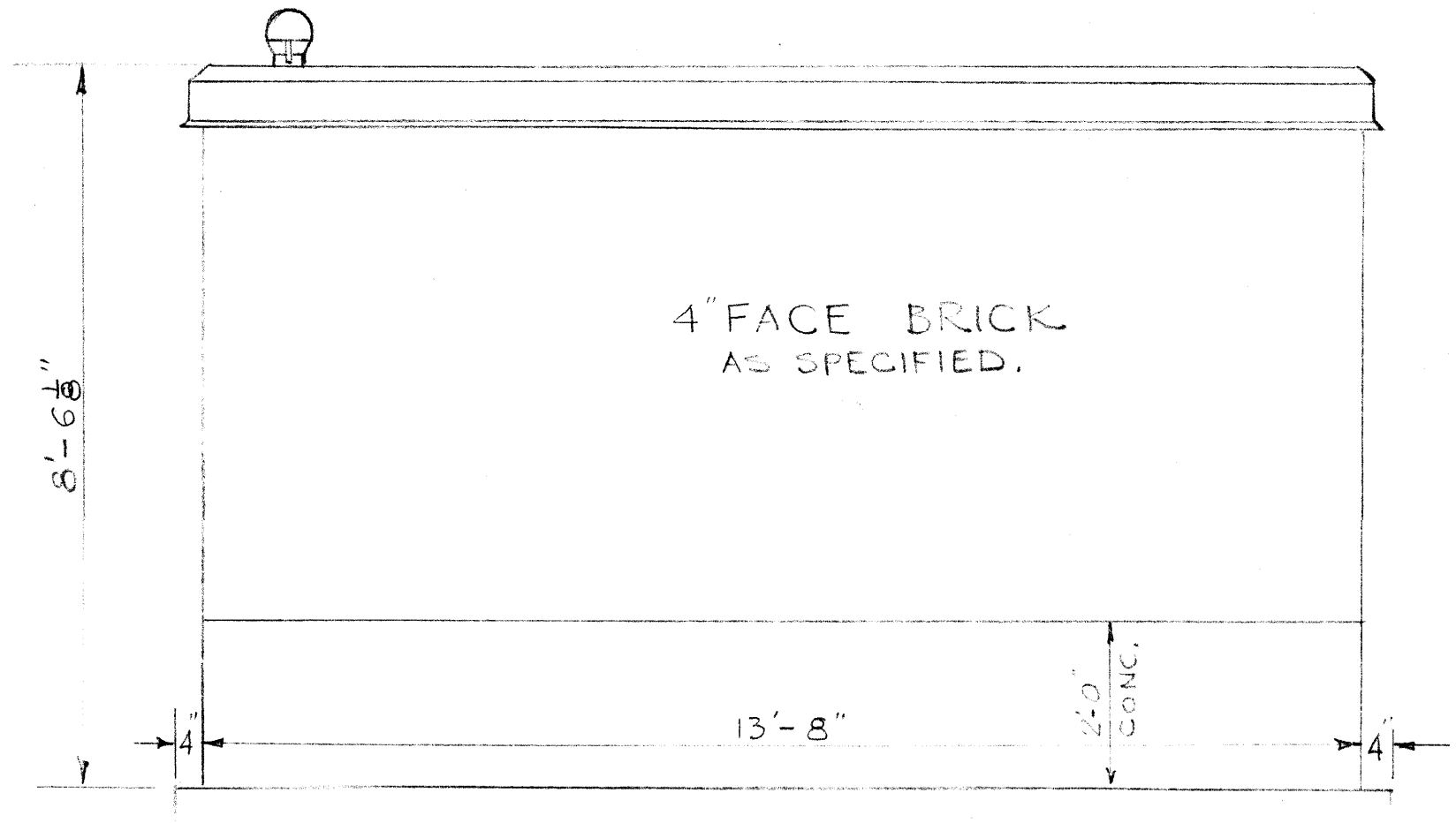
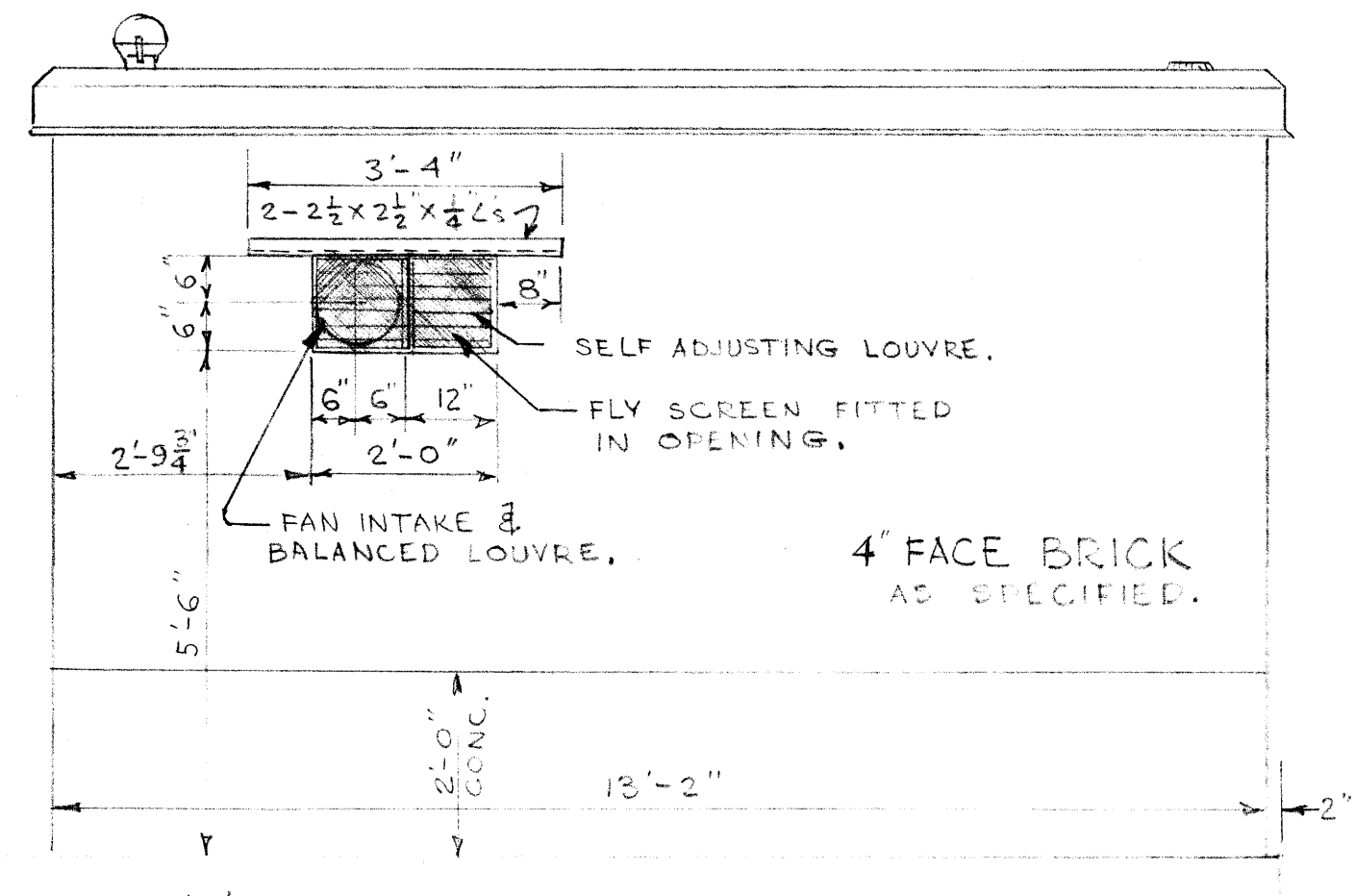
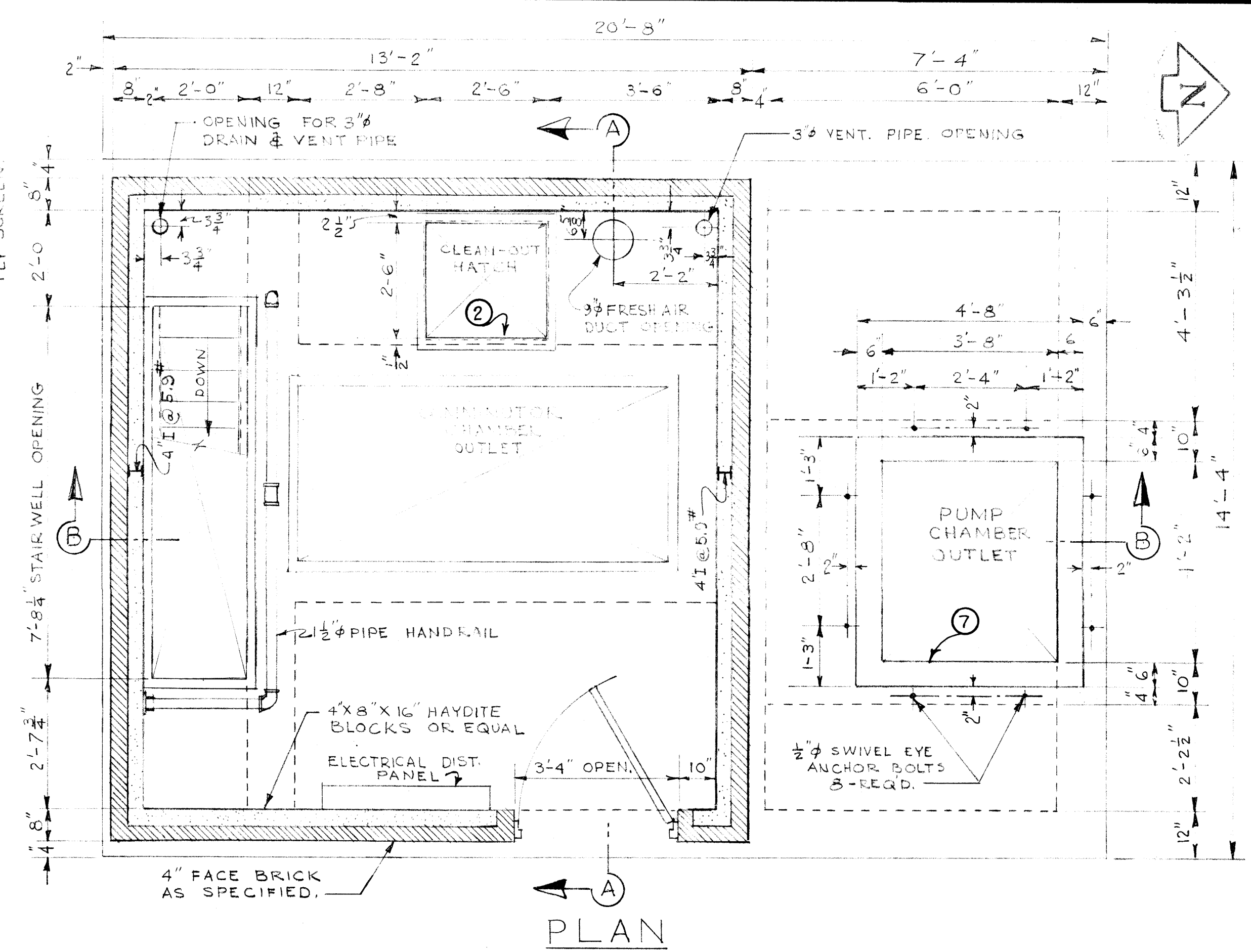
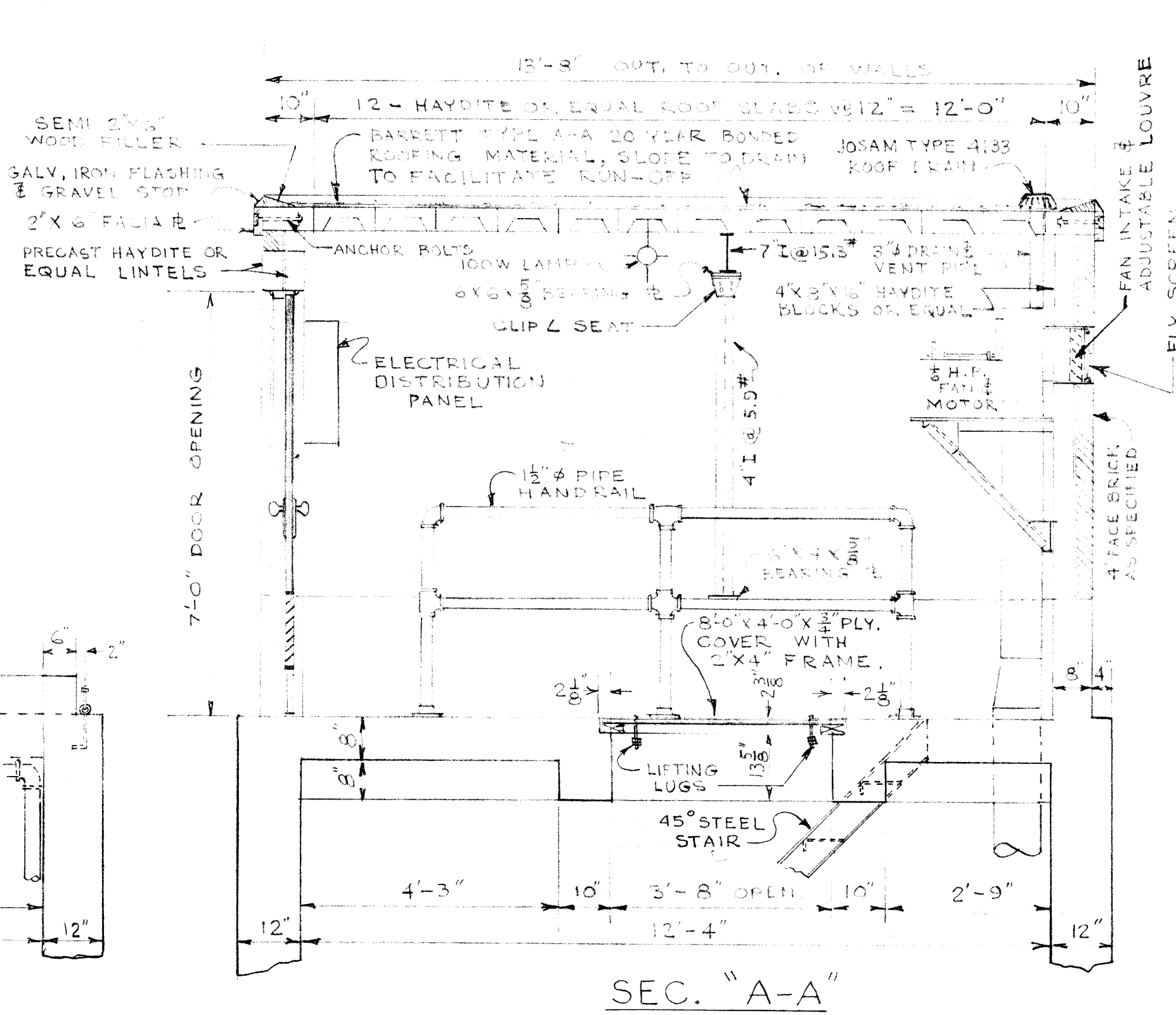
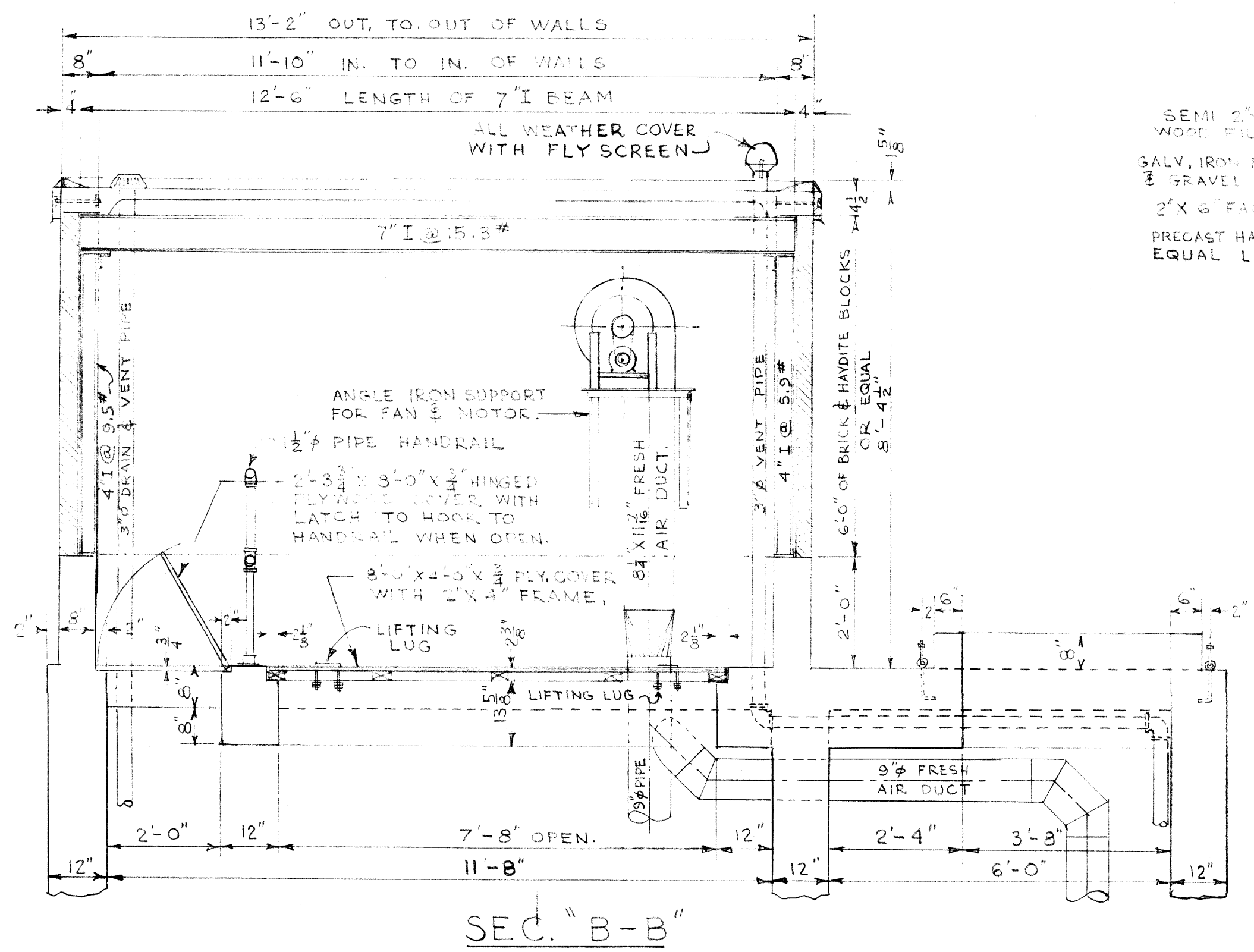


313-A

313A file # 10070

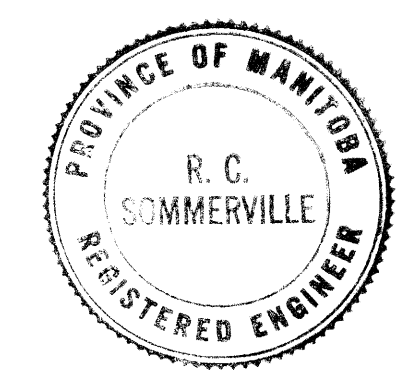
REF. or DRAWING No.

DETAILS



LOCATE DISTRIBUTION PANEL ON EAST WALL OF SUPERSTRUCTURE.

GREATER WINNIPEG WATER & SANITARY DISTRICT  
 APPROVED FOR CONSTRUCTION  
 Date JAN 14 1969  
 Approval of this drawing covers only the general design and arrangement of material or equipment and does not in any way relieve the Contractor of any liability or responsibility for the satisfactory operation of this installation.



REVISIONS			DATE BY	
NO.	DESCRIPTION			
1	DETAIL NO'S. ADDED	9 JAN 58		

APPROVED BY				DESIGNED BY		CHECKED BY		DRAWING NO.	
Supt.				Date		Date		313-A	
R. C. SOMMERVILLE				H. E. HAYMAN		G. E. GILES		3 JAN 58	
CHIEF ENGINEER				SCALE		SCALE		1" = 1'-0"	

NOTE: THIS DWG SUPERCEDES DWG NO. 313.

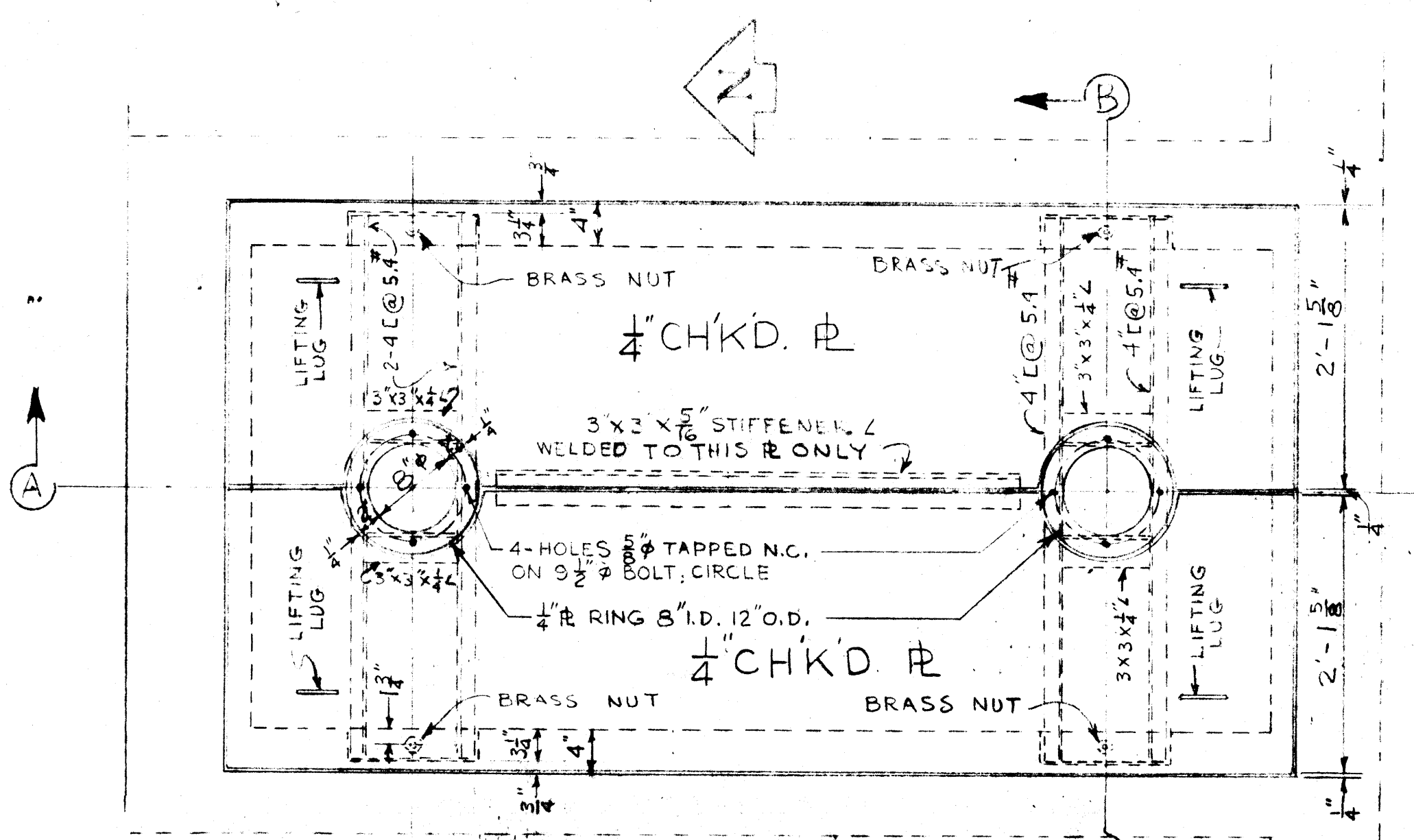


file # SP 10072

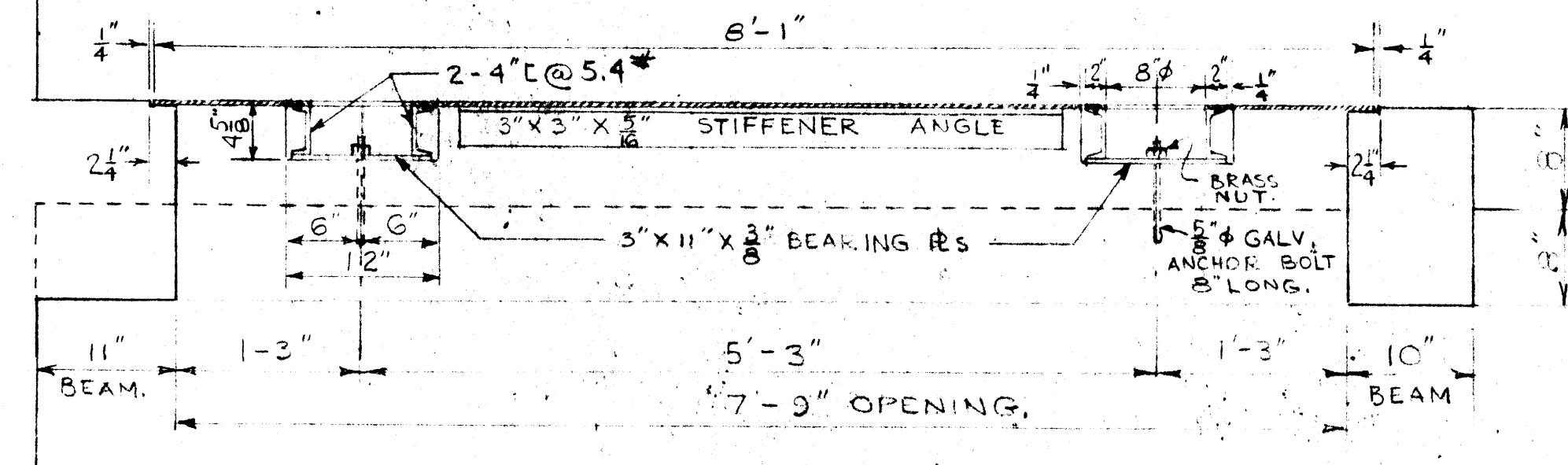
315

REF. or DRAWING NO.

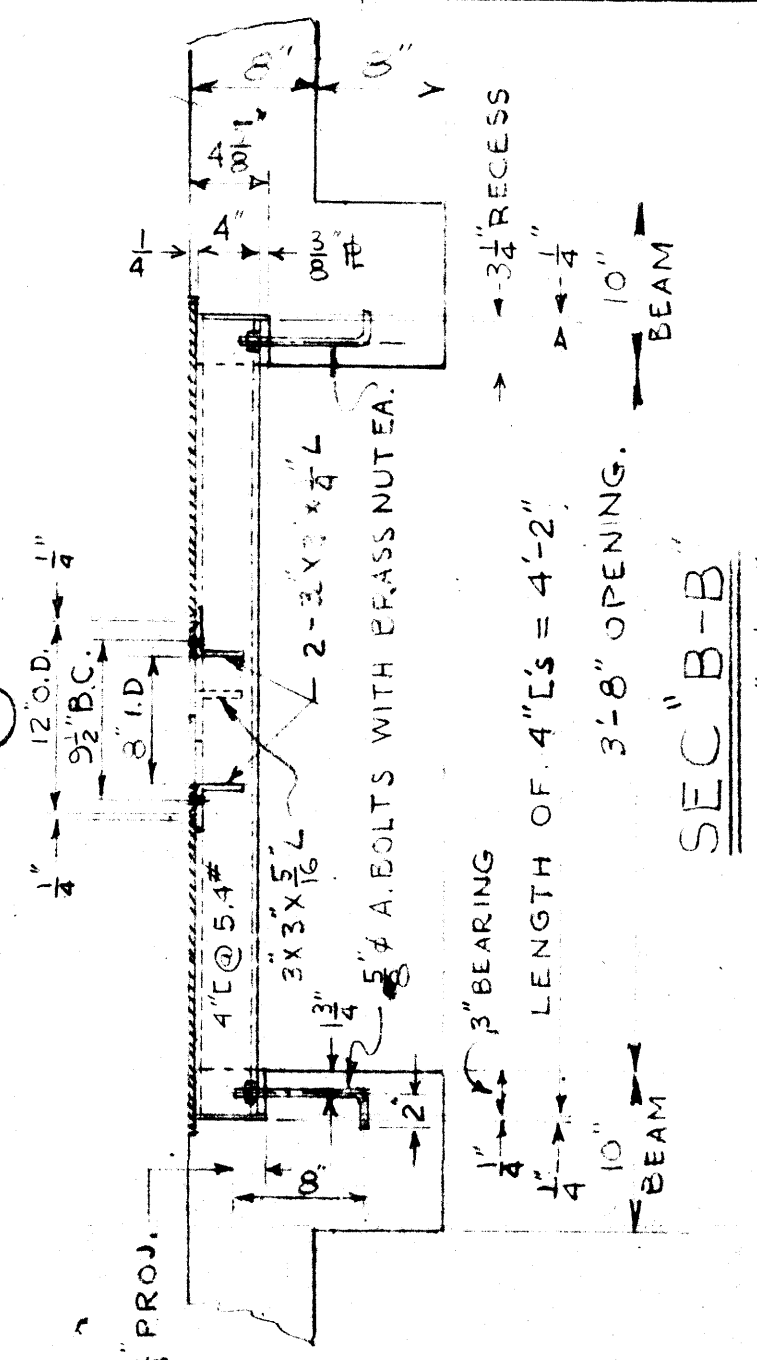
DETAILS



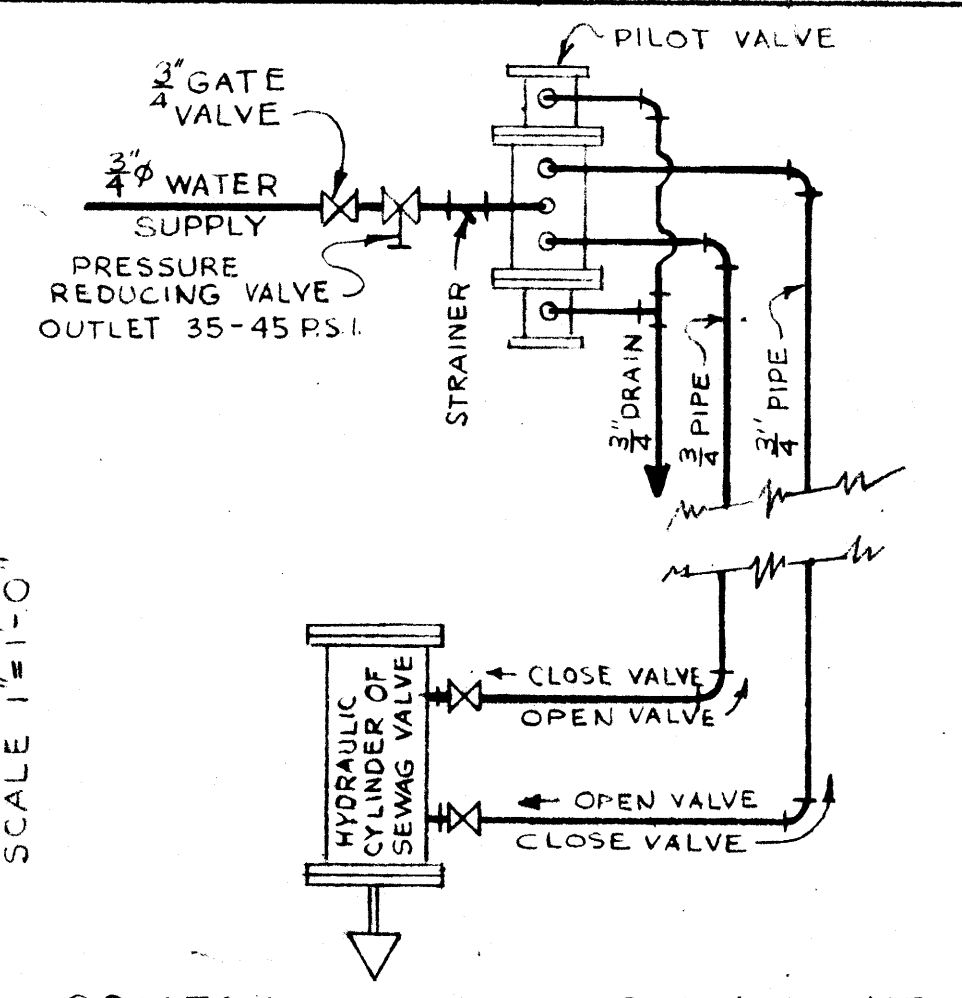
PLAN OF COMM. MOTOR BASE



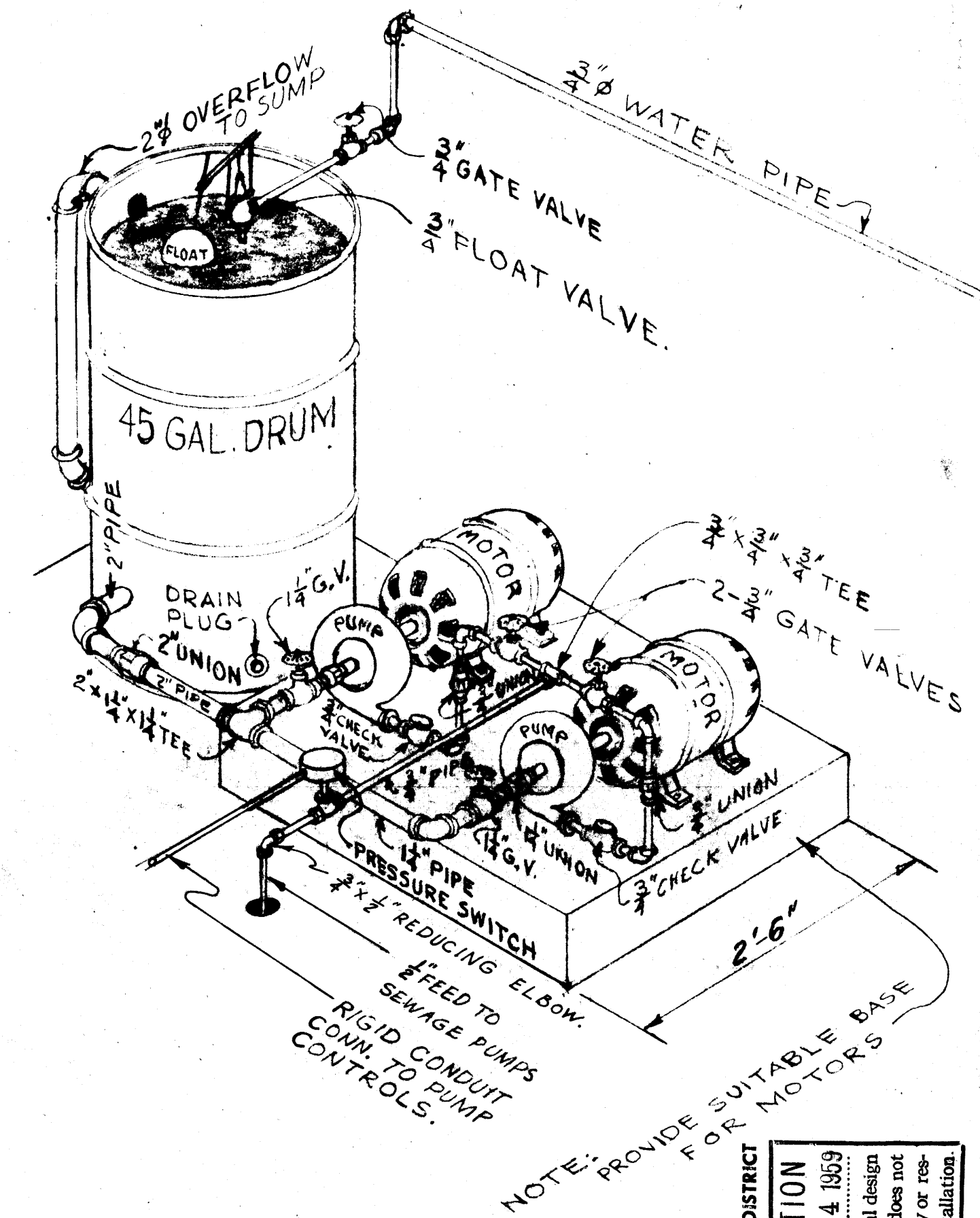
SEC. A-A SCALE: 1\"/>



SEC. B-B SCALE 1\"/>

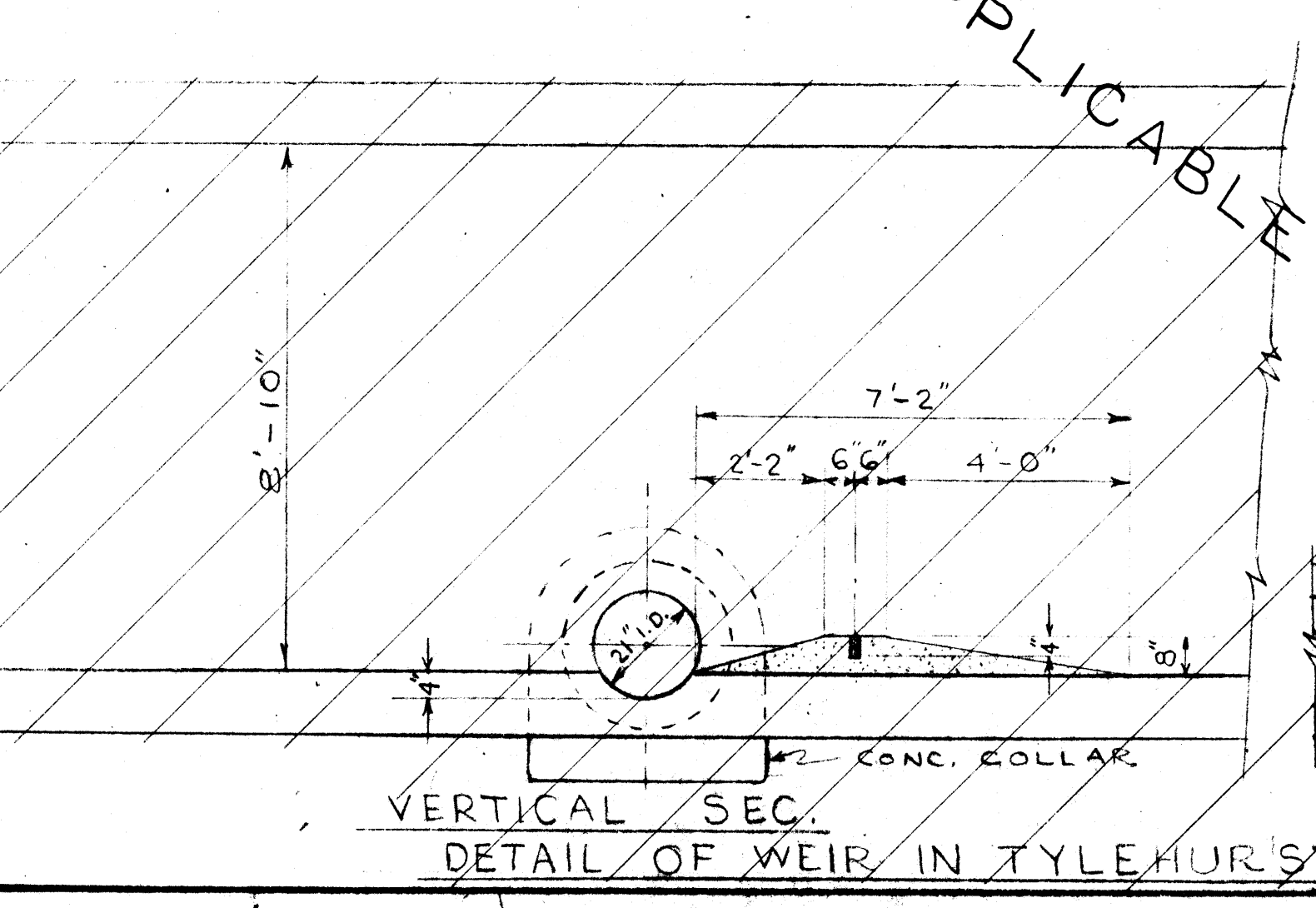
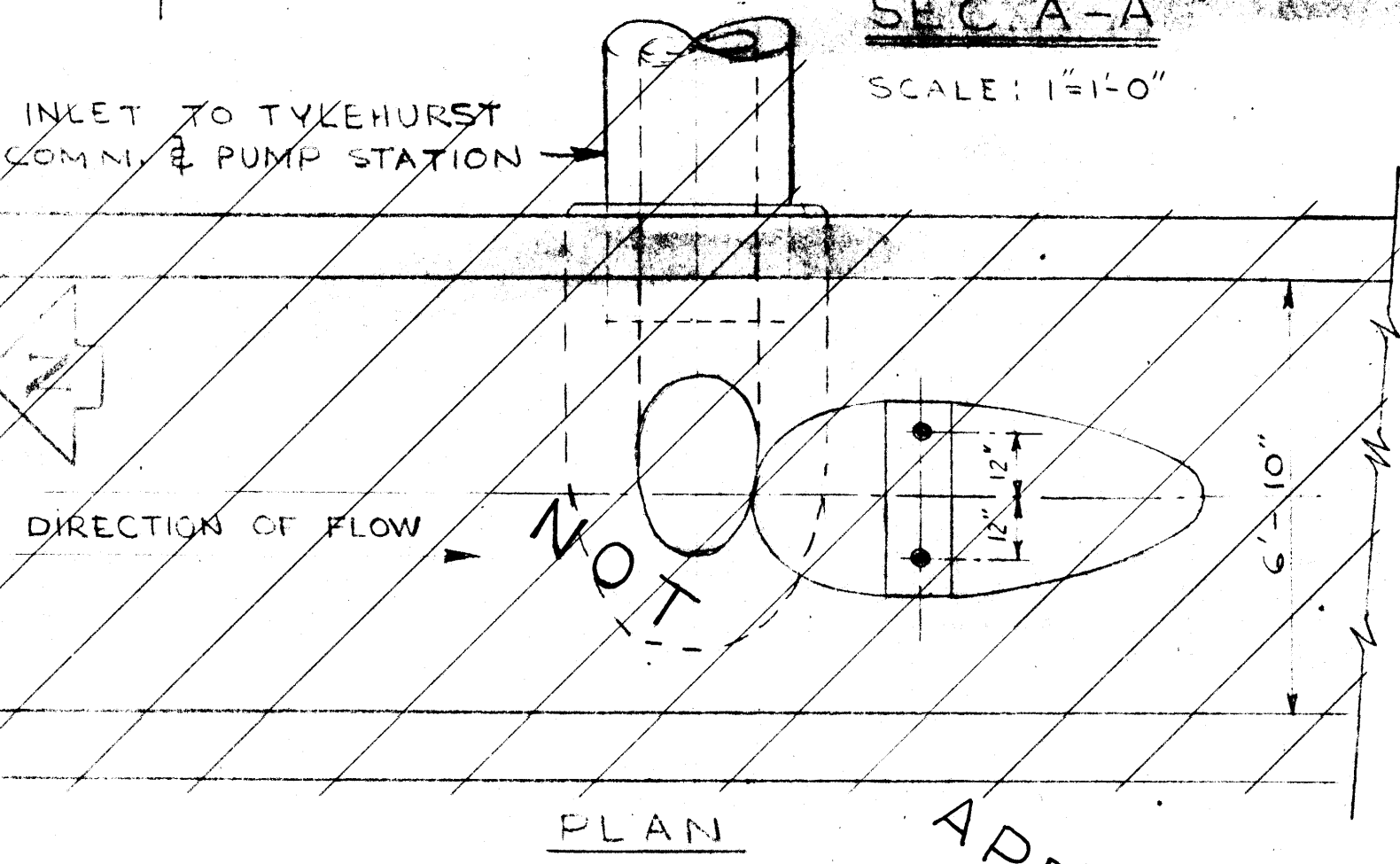


SCHEMATIC PIPING LAYOUT FOR HYDRAULIC VALVE CONTROL

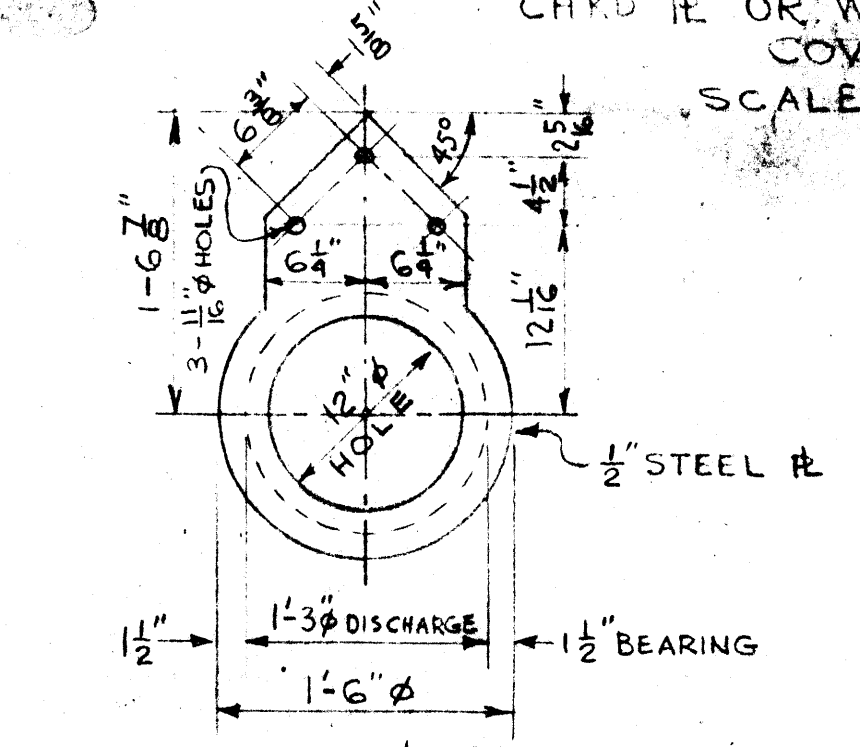


ISOMETRIC OF GLAND SEAL PUMPING UNIT N.T.S.

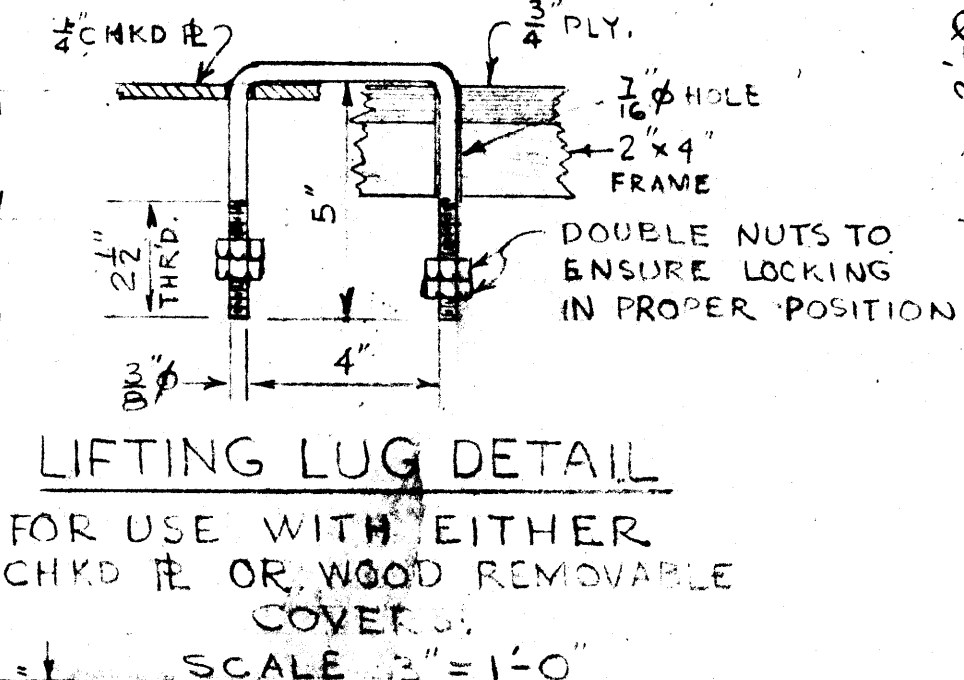
NOTE: THIS VIEW IS NOT PROPERLY SHOWN IN RESPECT TO ACTUAL LOCATION BUT IT DOES PROVIDE PERTINENT DETAIL & GENERAL LOCATION. SEE DWG. NO. 314 FOR SPECIFIC LOCALITY.



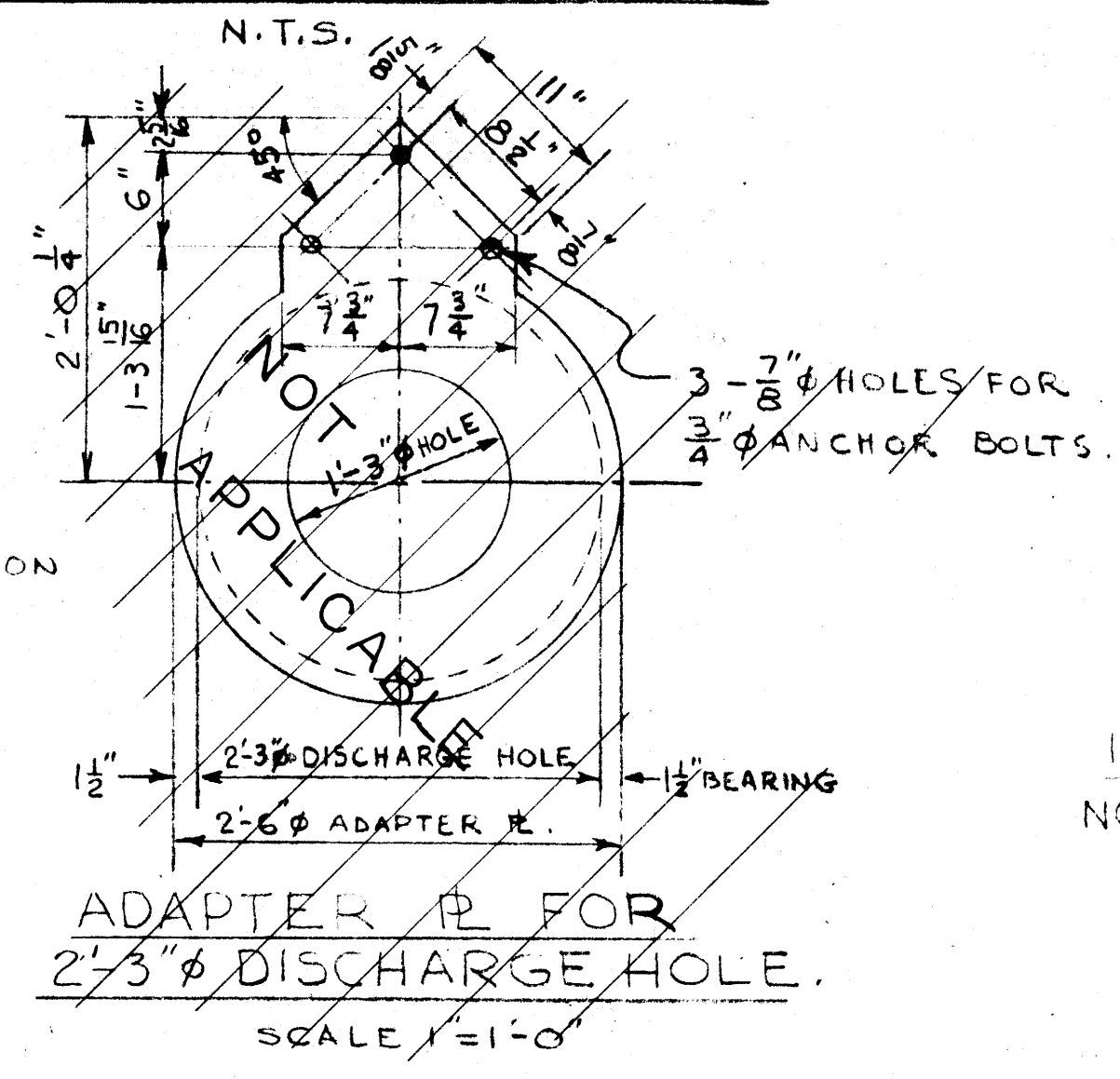
VERTICAL SEC. DETAIL OF WEIR IN TYKEHURST SEWER SCALE 1\"/>



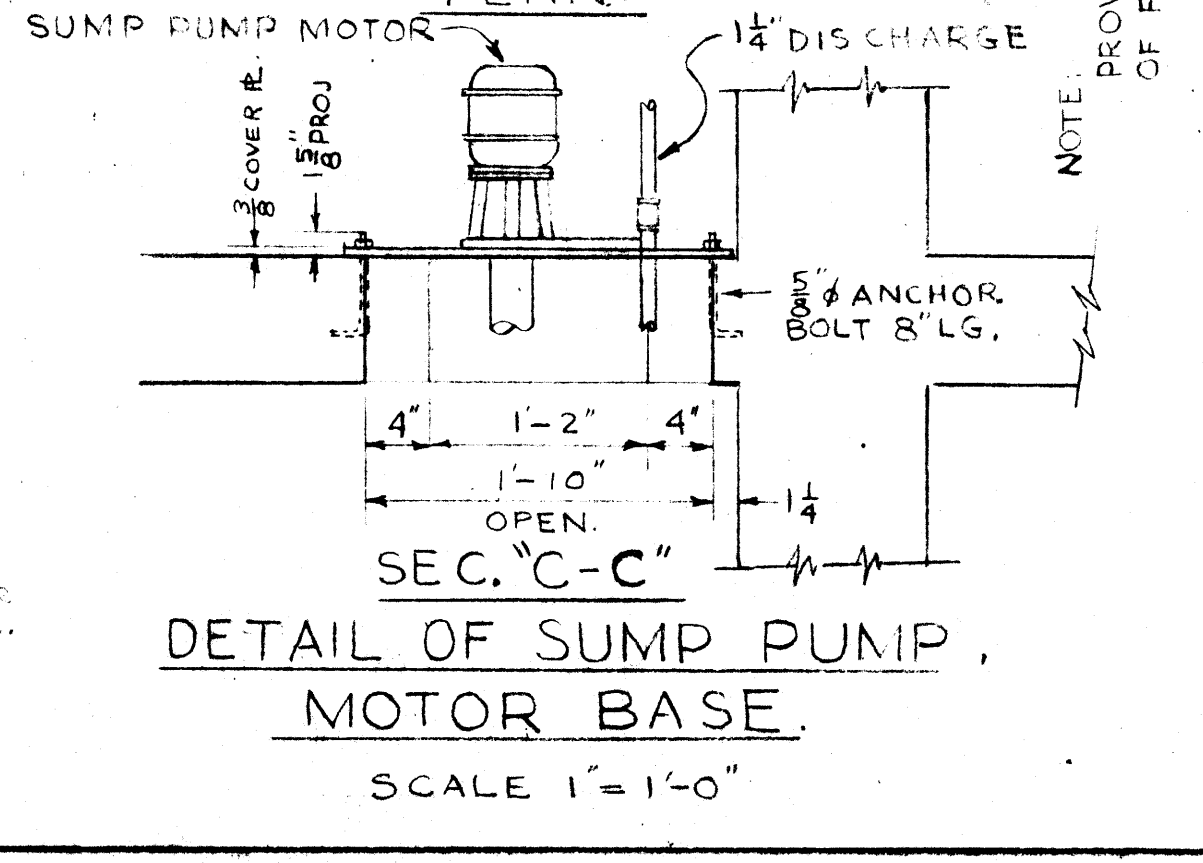
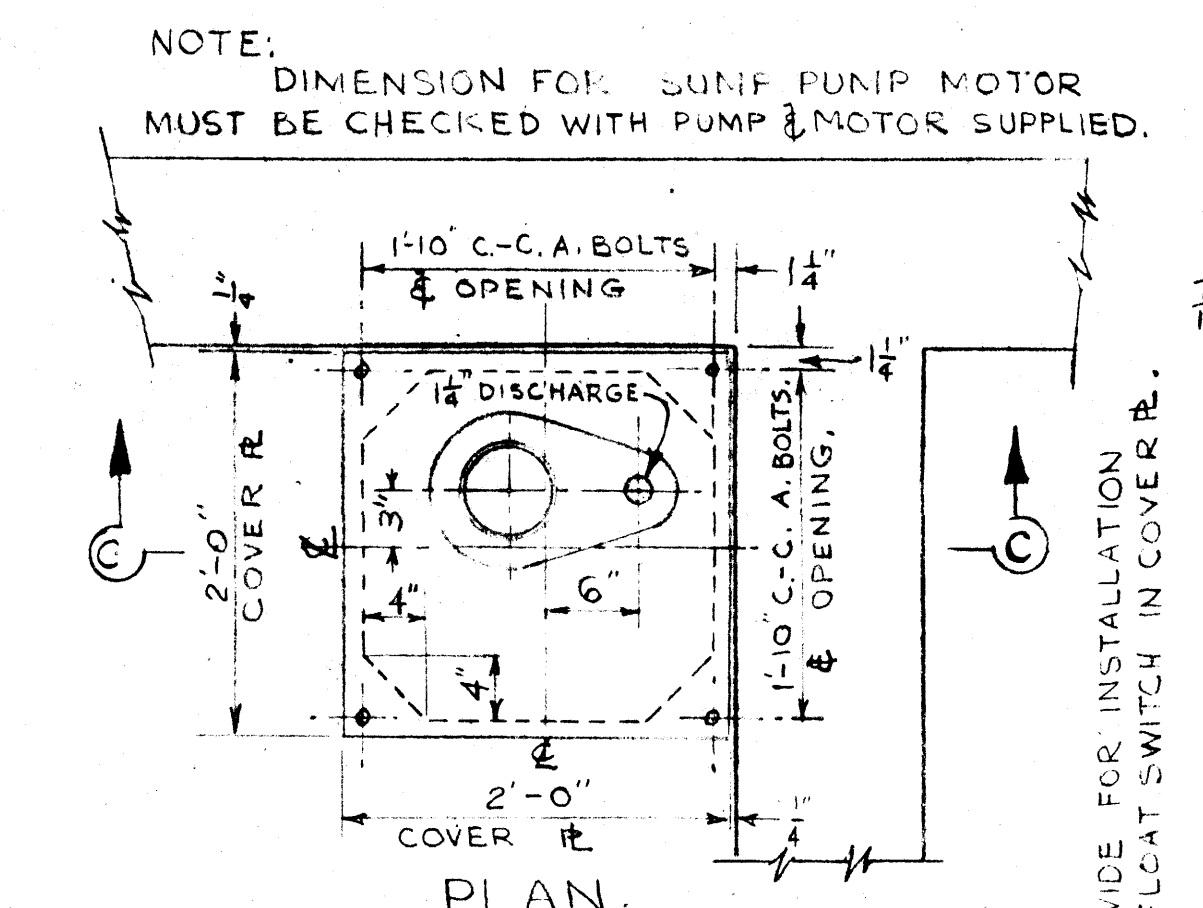
ADAPTER # FOR 1-3\"/>



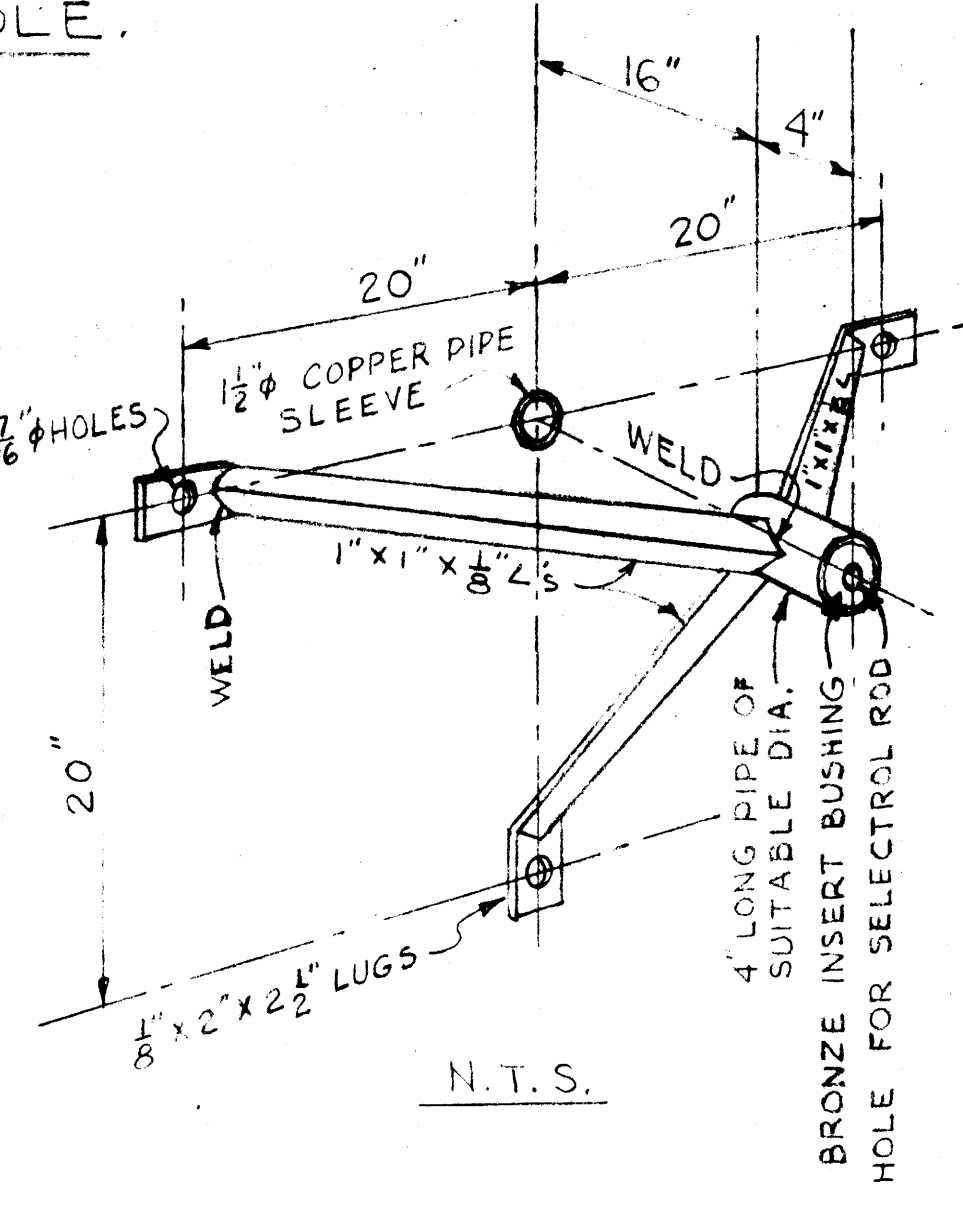
LIFTING LUG DETAIL FOR USE WITH EITHER CHKD # OR WOOD REMOVABLE COVER. SCALE 1\"/>



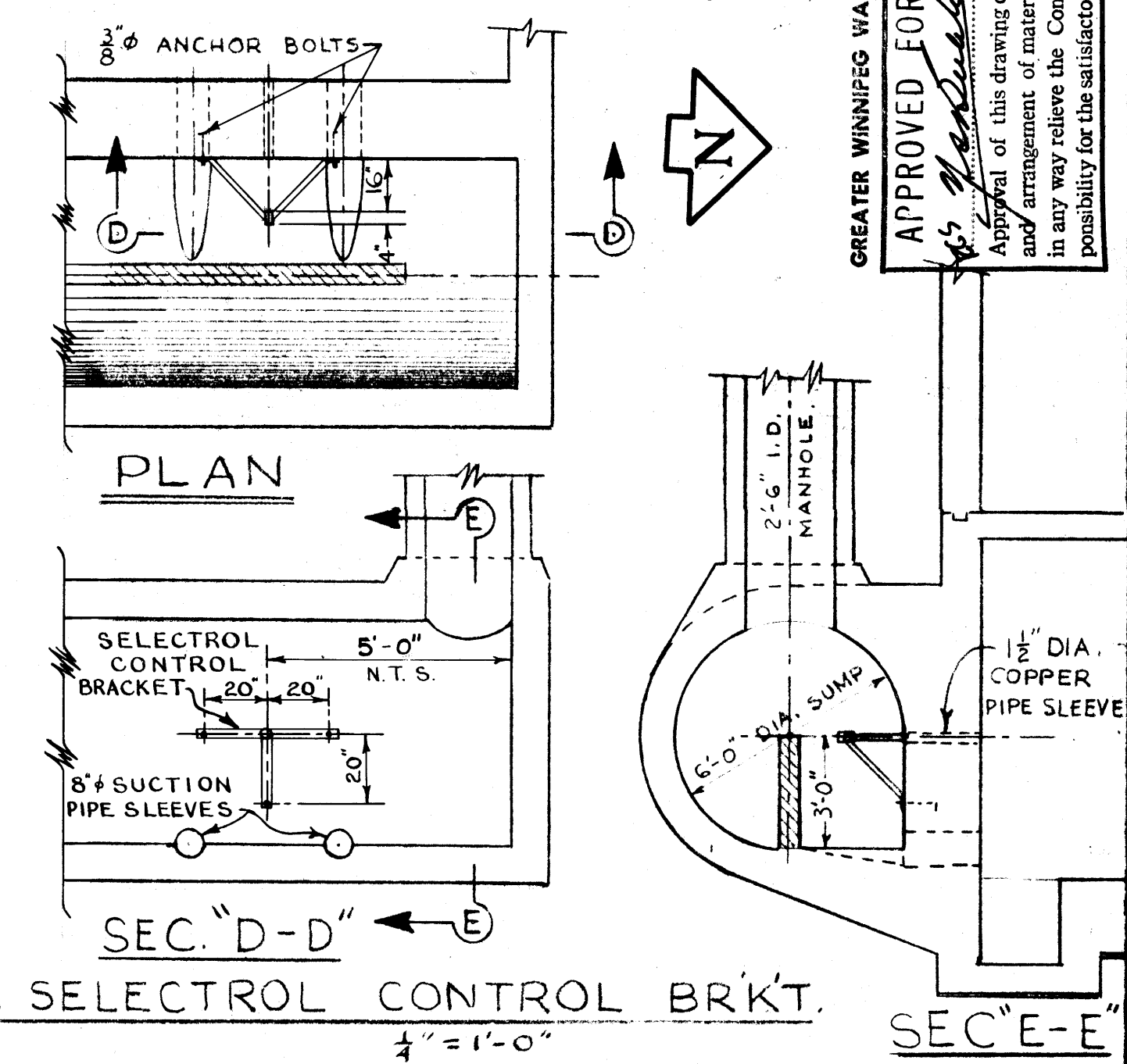
ADAPTER # FOR 2-3\"/>



DETAIL OF SUMP PUMP MOTOR BASE SCALE 1\"/>



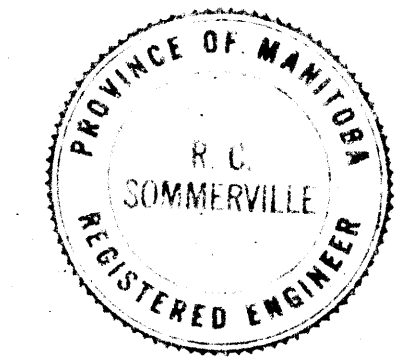
DETAIL & LOCATION OF STD. SELECTROL CONTROL BRKT. SCALE 1\"/>



PLAN

SEC. D-D

SEC. E-E

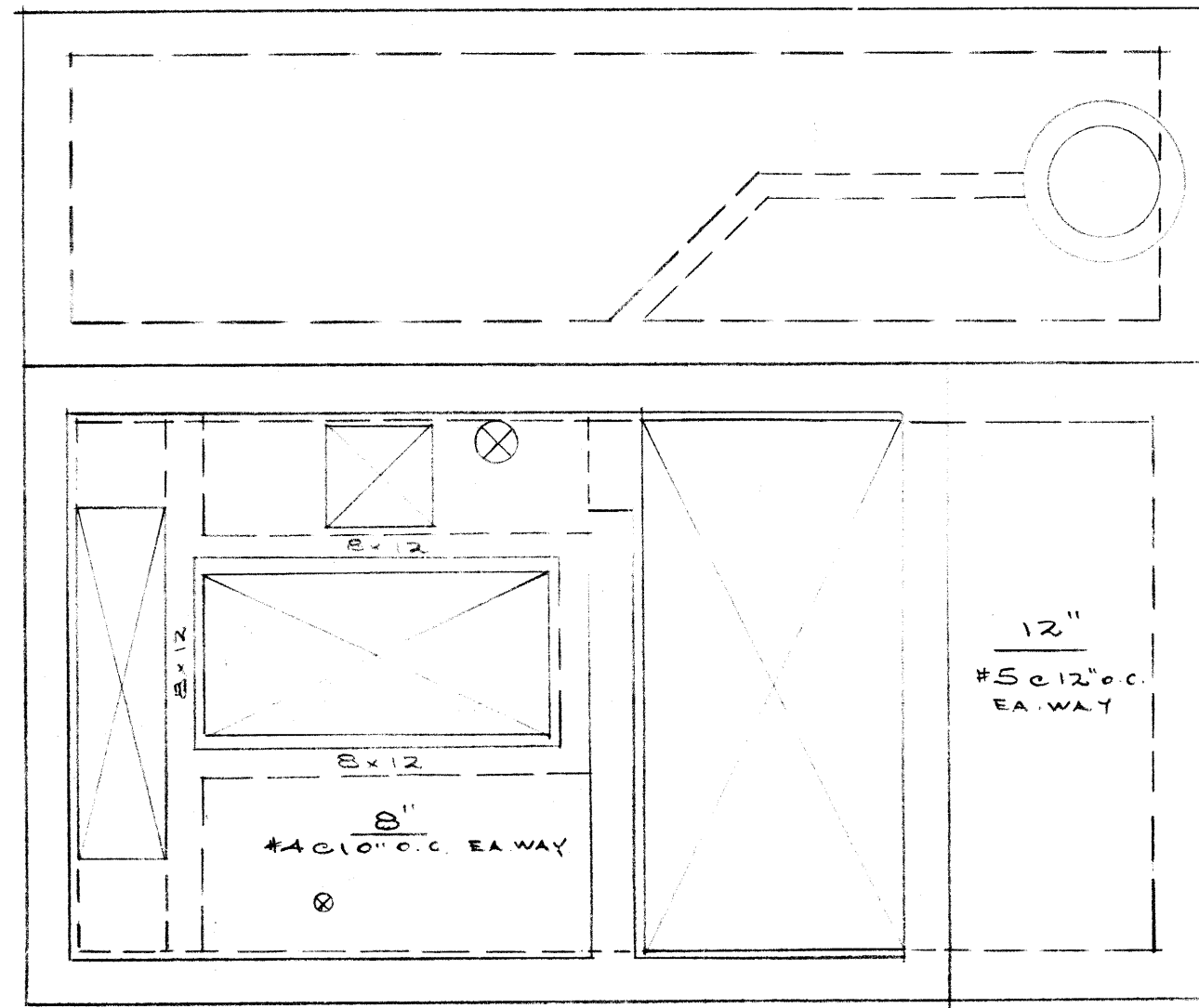


REVISIONS			GREATER WINNIPEG SANITARY DISTRICT SECONDARY SEWERS	
NO.	DESCRIPTION	DATE	TITLE:	DRAWING NO.
			MISC. DETAILS RIVERBEND-COMMINATOR & PUMPING STATION.	315

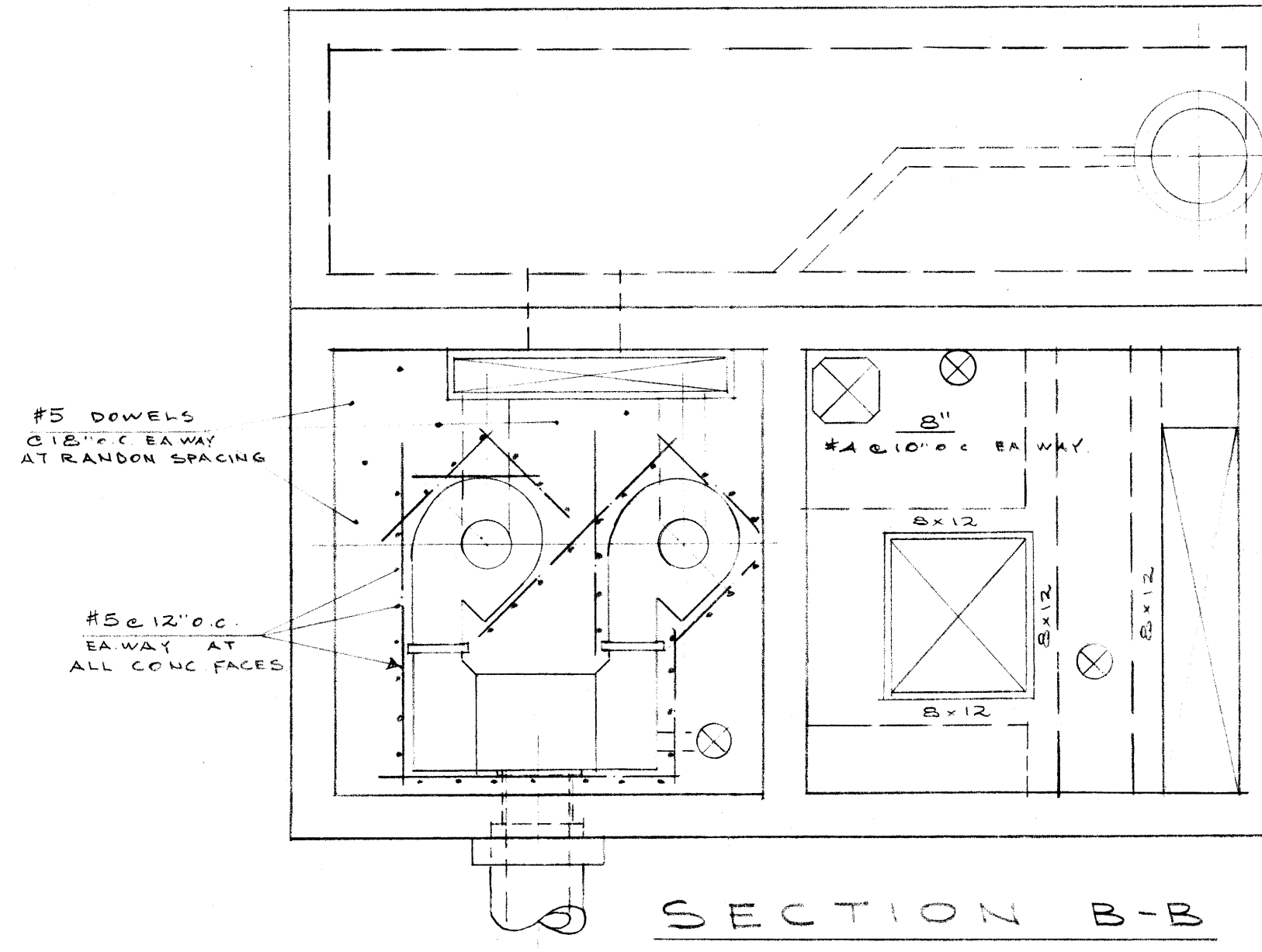
APPROVED BY: *A. Penman* Supt. Chief Engineer  
 DESIGNED BY: *H. Burkman*  
 CHECKED BY: *G.E.B.* DATE: 2 DEC 58  
 SCALE: AS NOTED.

GREATER WINNIPEG WATER & SANITARY DISTRICT  
 APPROVED FOR CONSTRUCTION  
 Date: JAN 14 1959  
 Approval of this drawing covers only the general design and arrangement of material or equipment and does not in any way relieve the Contractor of any liability or responsibility for the satisfactory operation of this installation.

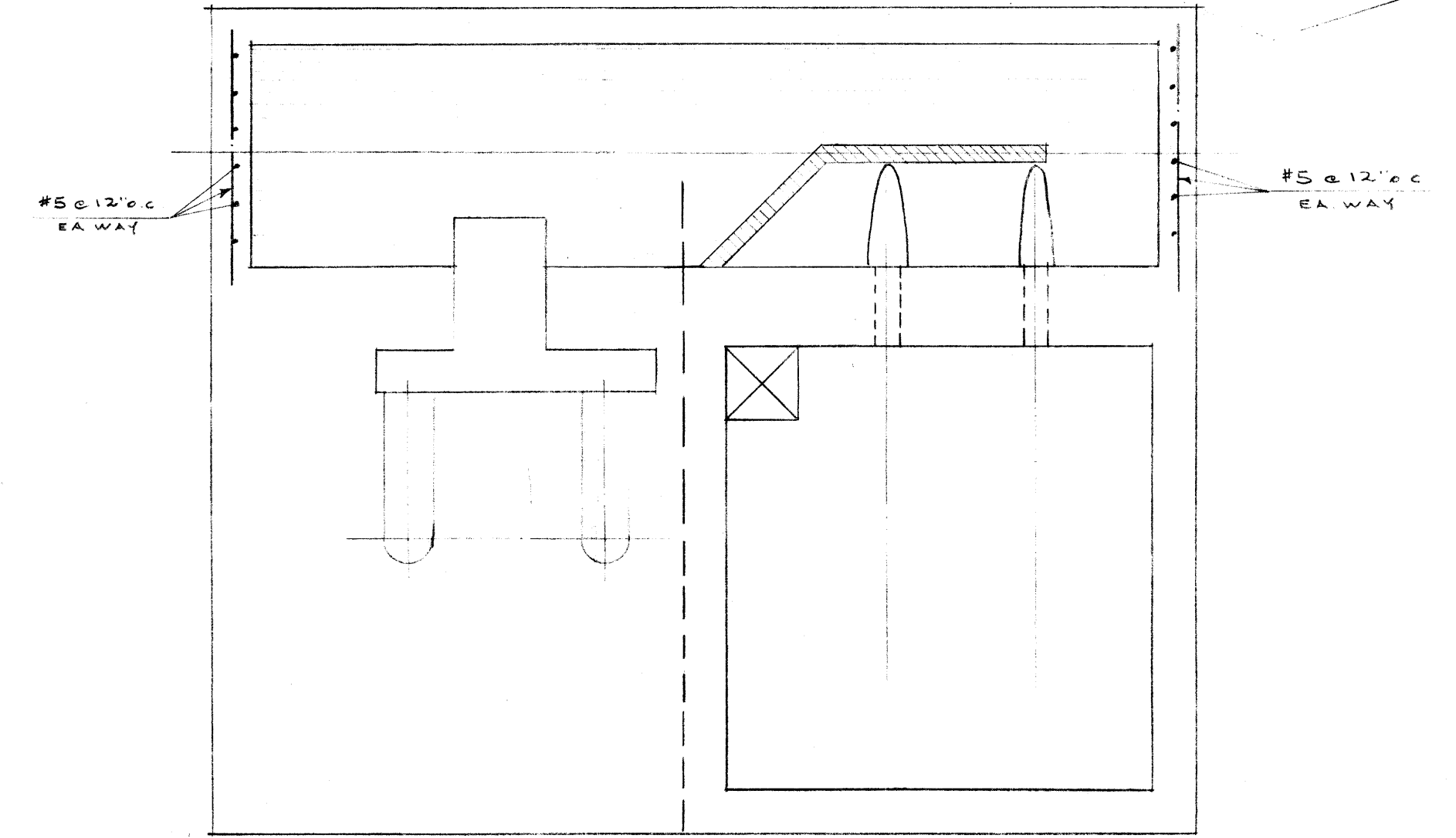




SECTION A-A



SECTION B-B

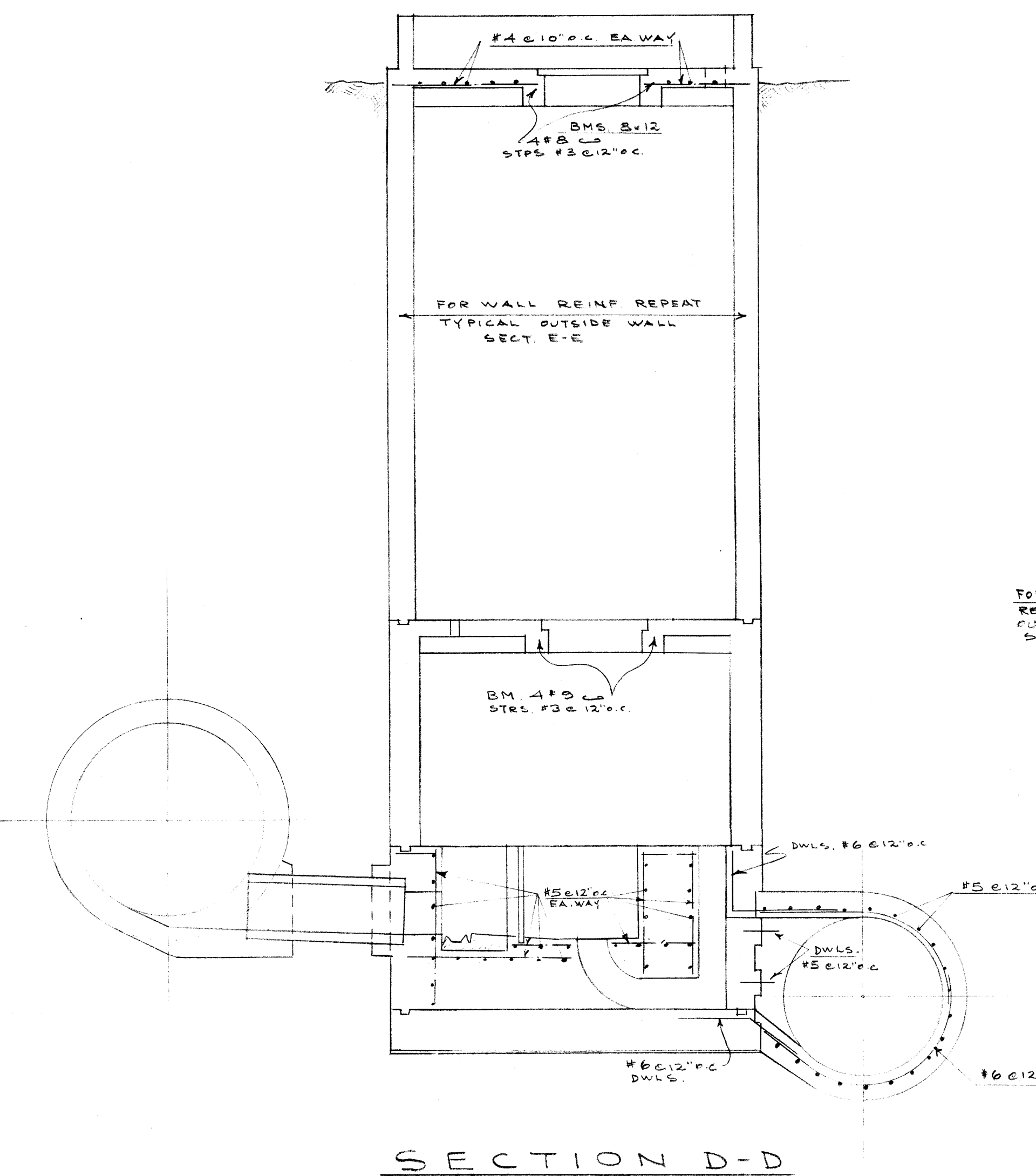


SECTION C-C

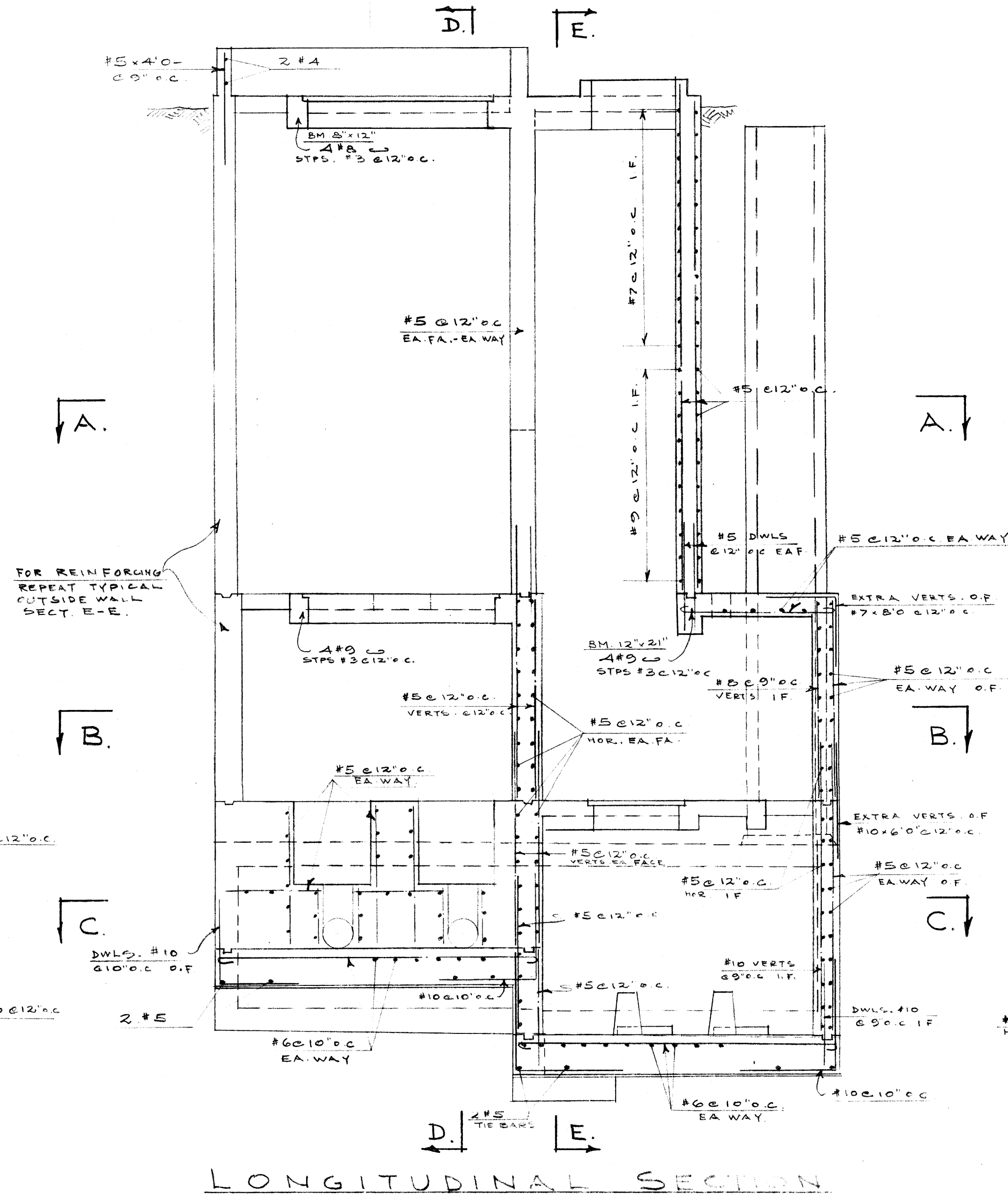
file # SP10073

316

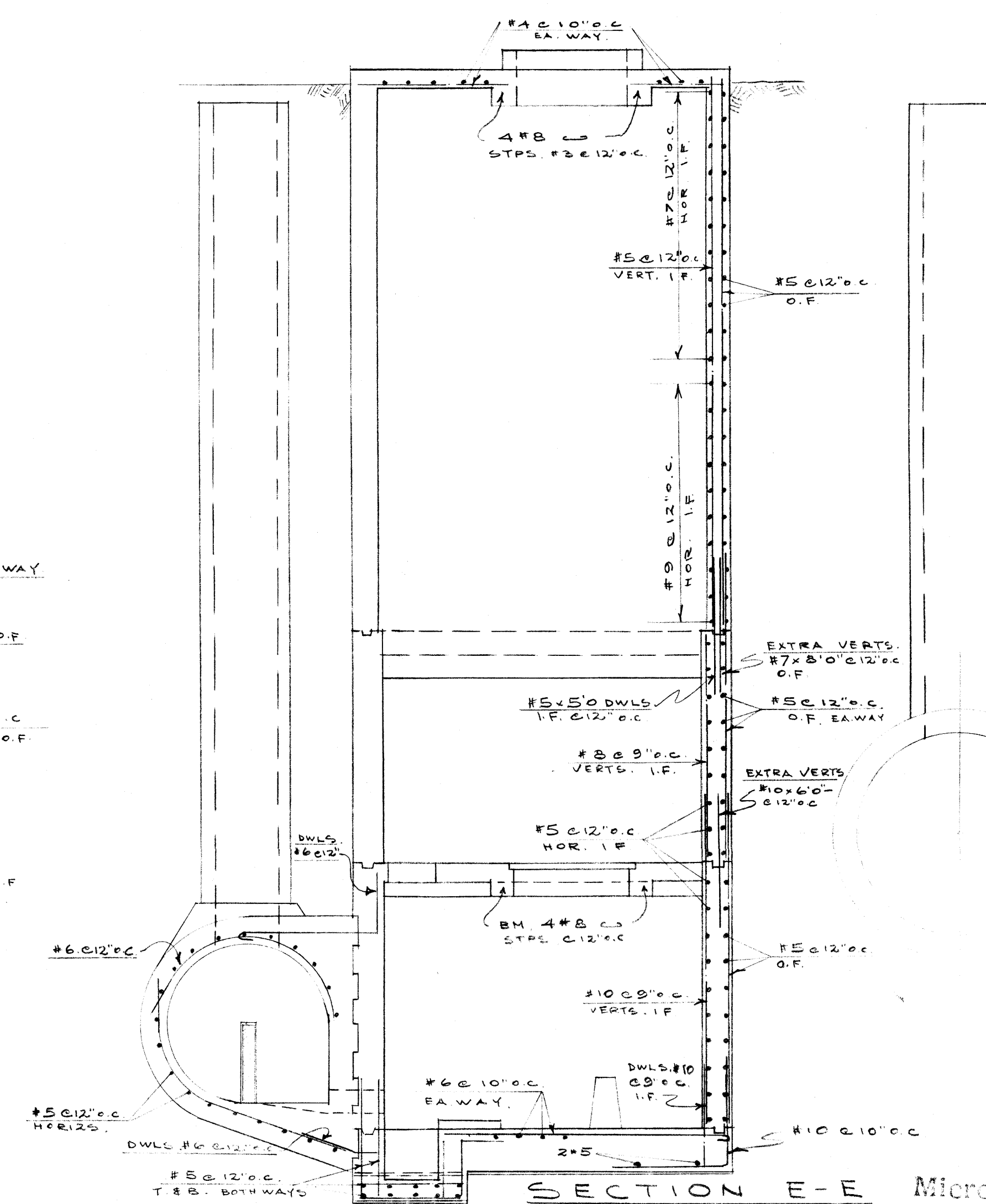
REF. or DRAWING No. DETAILS



SECTION D-D

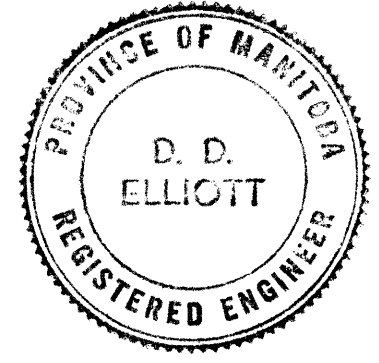


LONGITUDINAL SECTION



SECTION E-E

APPROVED FOR CONSTRUCTION  
 Date JAN 4 1969  
 Approval of this drawing covers only the general design and arrangement of material or equipment, and does not in any way relieve the Contractor of any liability or responsibility for the satisfactory operation of this installation.



COWIN & CO. LTD.  
 REINFORCED CONCRETE ENGINEERS  
 WINNIPEG, MAN.

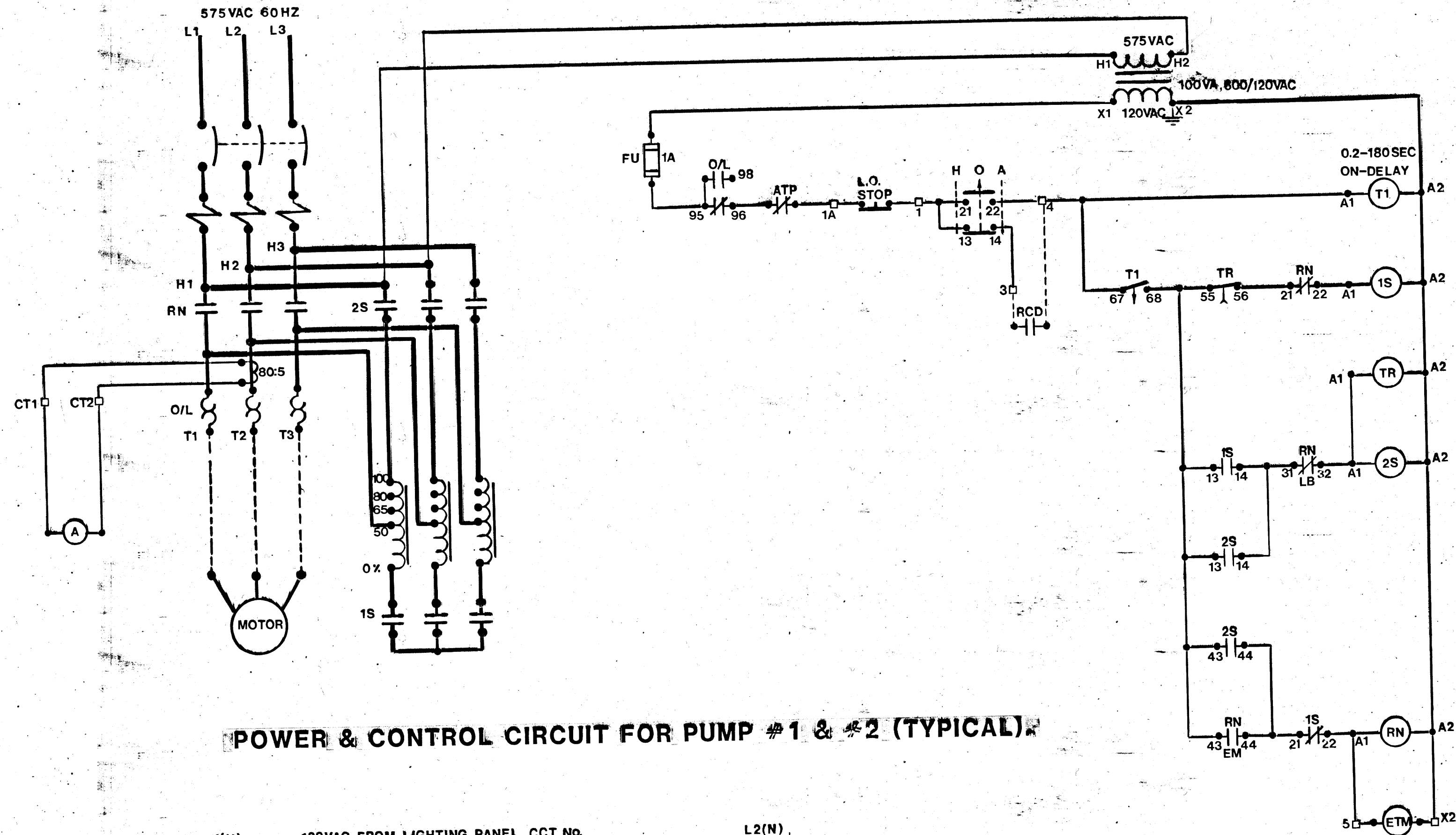
REVISIONS		
NO.	DESCRIPTION	DATE BY

GREATER WINNIPEG SANITARY DISTRICT  
 TITLE:  
**REINF. STEEL - RIVERBEND COMM. & PUMPING STATION.**  
 APPROVED BY: *[Signature]*  
 Supt. *[Signature]*  
 Chief Engineer  
 DESIGNED BY: COWIN & CO.  
 DRAWN BY: COWIN & CO.  
 CHECKED BY: *[Signature]*  
 DATE: DEC. 58.  
 SCALES: 1/4" = 1'-0"

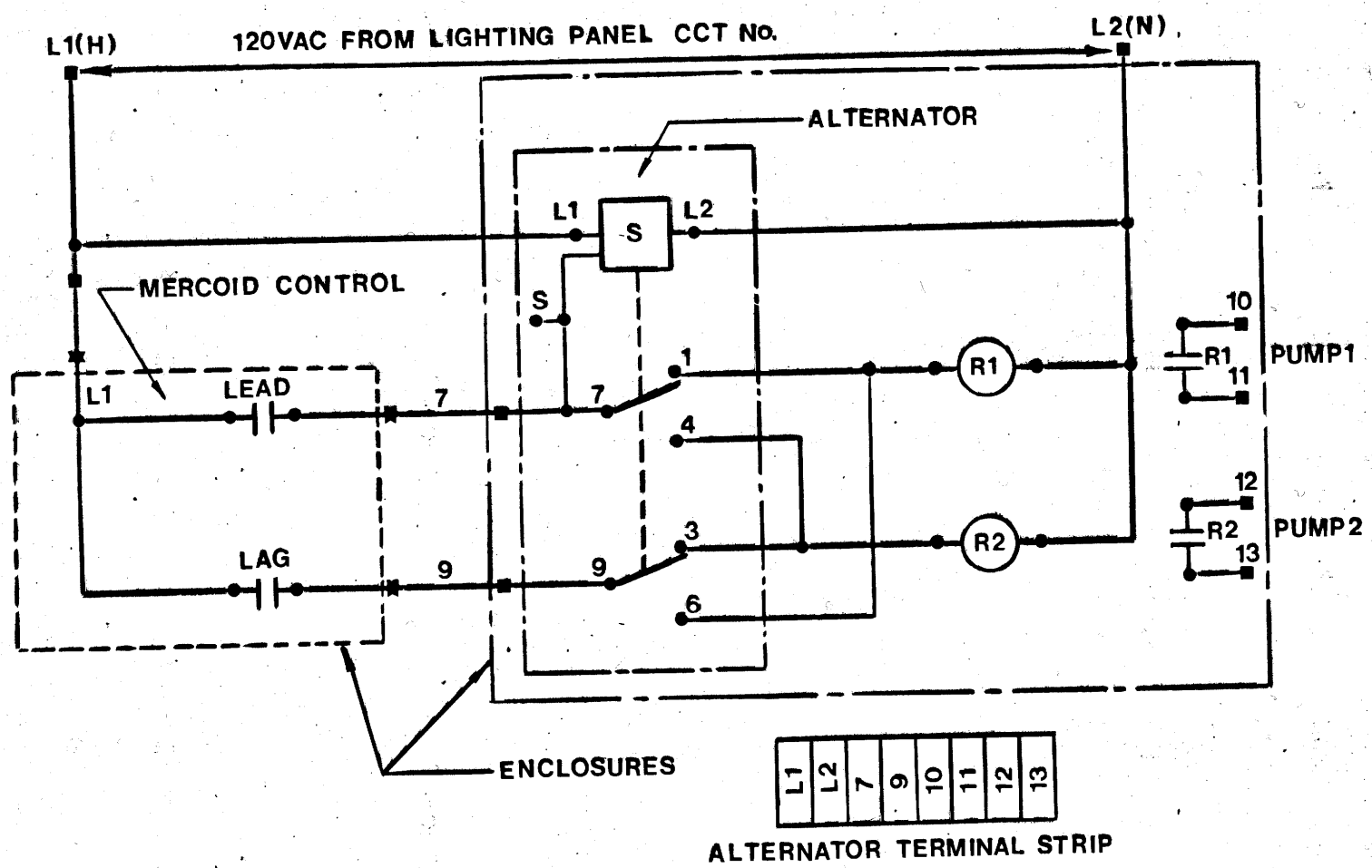
DRAWING No. 316



*74-FS-Q-1*  
*File #*  
*FP10134*



POWER & CONTROL CIRCUIT FOR PUMP #1 & #2 (TYPICAL)



ALTERNATOR CONTROL WIRING

**AS BUILT**

*N/A* SURVEY      *T. White* ENGINEERING      *Jan. 18/85* DATE

NO.	REVISIONS	DATE	APP.

ENGINEER'S SEAL

DESIGNED BY:	DRAWN BY: AT
CHECKED BY:	DATE: 23 DEC. 83
APPROVED BY:	DATE:

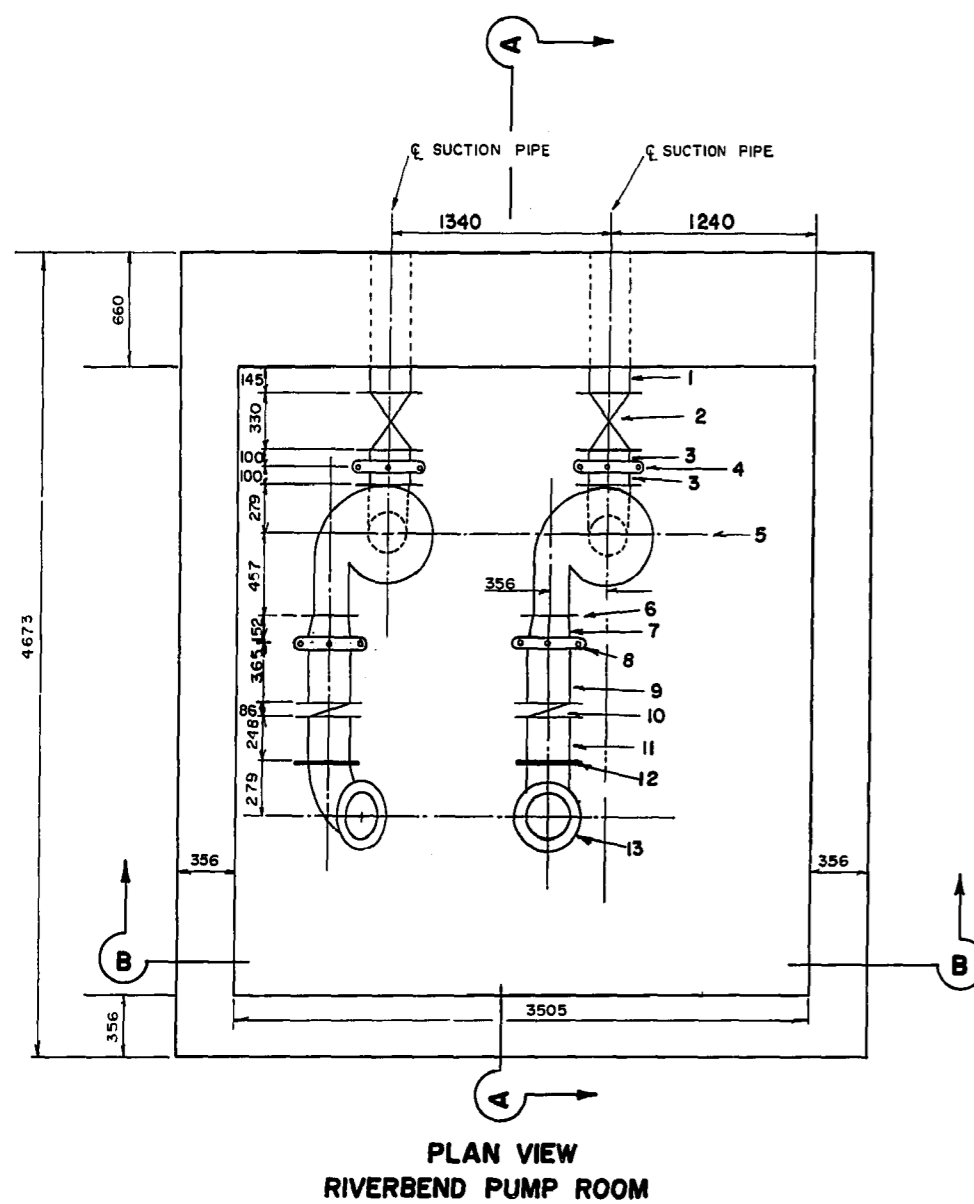
**THE CITY OF WINNIPEG**  
WORKS & OPERATIONS DIVISION

**RIVERBEND LIFT STATION, PUMP #1 & #2. POWER & CONTROL CIRCUIT.**

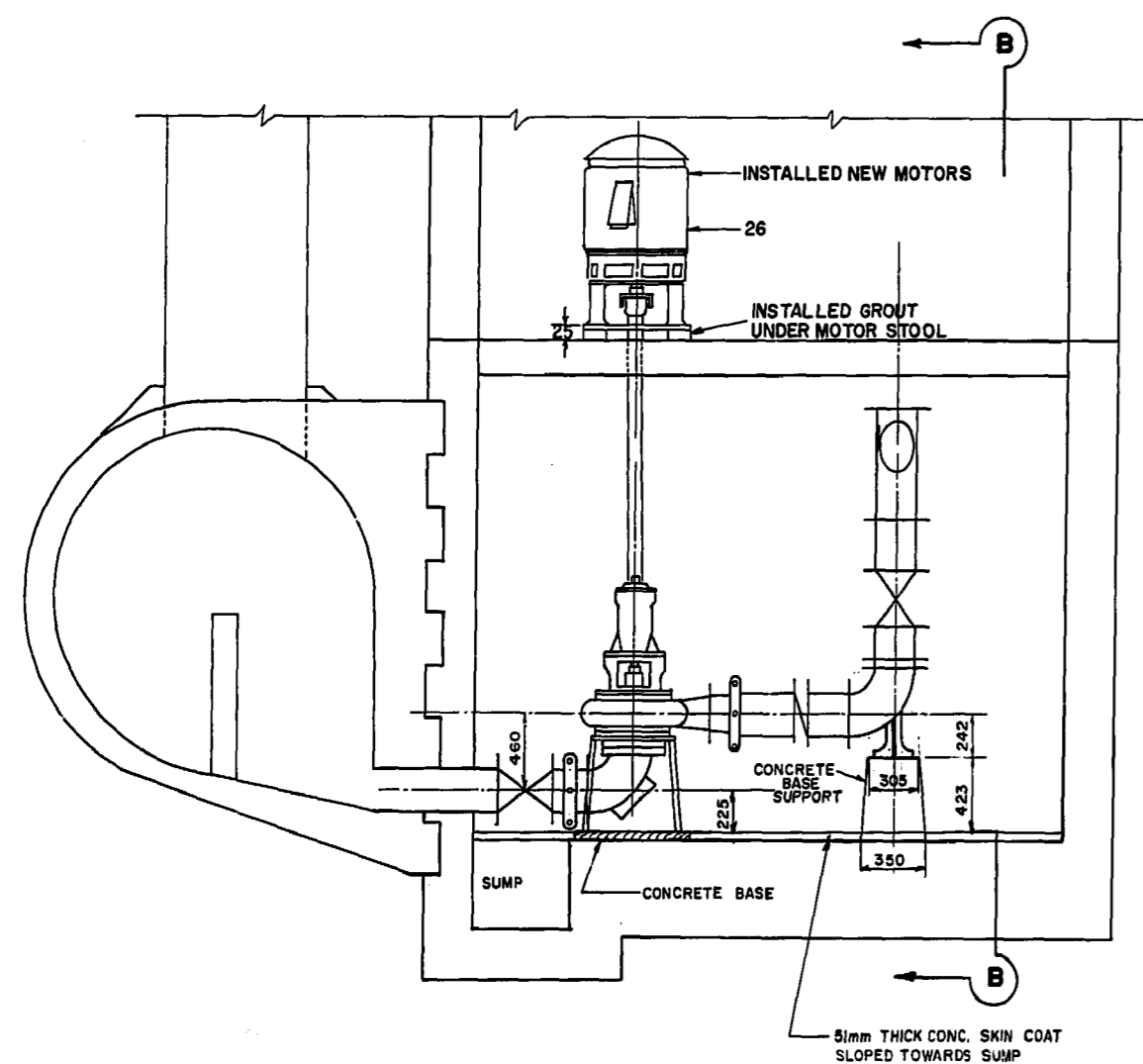
RELEASED FOR CONSTRUCTION:      DATE:

SCALE: NTS      DRAWING NO: 74-FS-Q-1

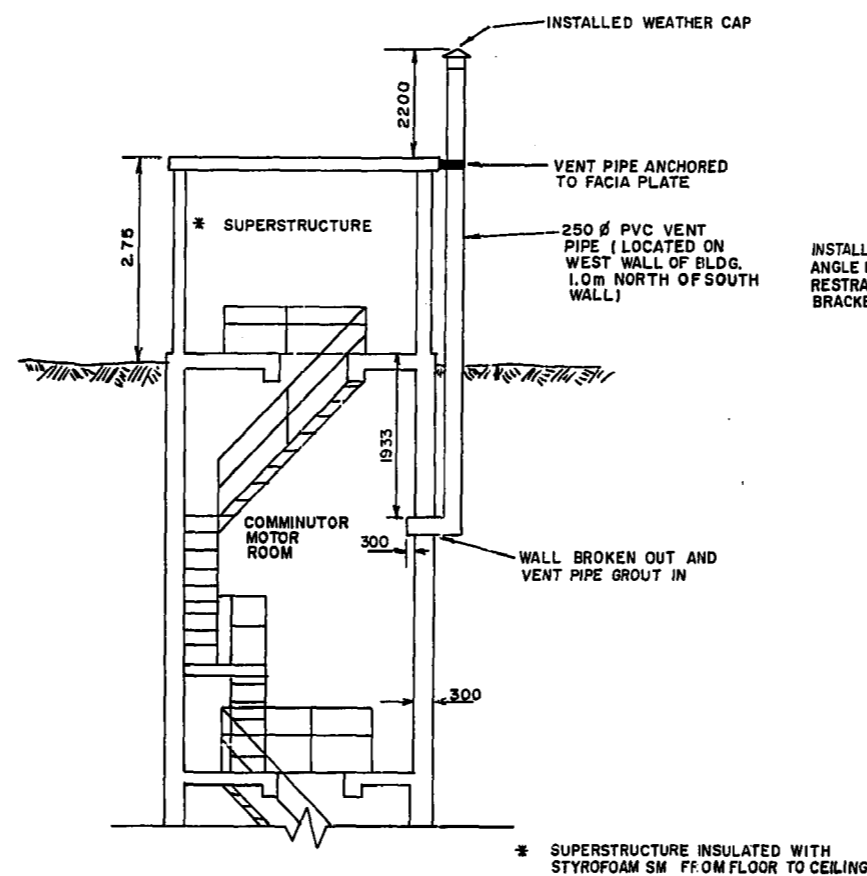
*File # FP10134*



PLAN VIEW  
RIVERBEND PUMP ROOM



SECTION A-A  
RIVERBEND PUMP ROOM

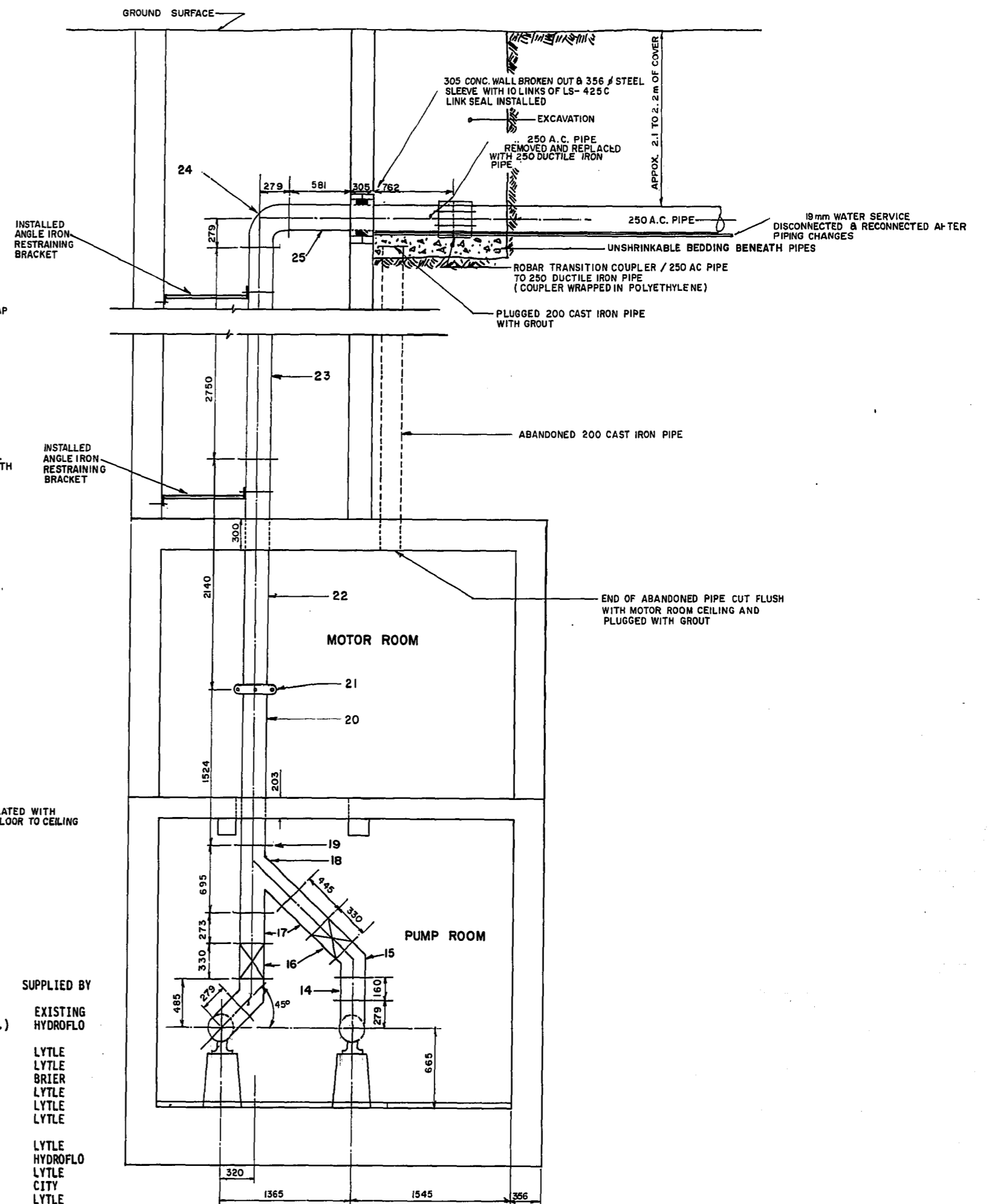


PROPOSED VENT PIPE  
N.T.S.

MATERIALS LIST

NO.	QUANTITY	DESCRIPTION	SUPPLIED BY
(1)	2	250 # CAST IRON SUCTION PIPE TO SUMP (F.E.)	EXISTING
(2)	2	250 # JENKINS MODEL 454 WEDGE GATE VALVE (F.E. x F.E.)	HYDROFLO
(3)	4	250 # FILLER PIPE (FLANGE SLEEVE) (F.E. x VICTAULIC STYLE 71)	LYTLE
(4)	2	250 # STYLE 71 VICTAULIC COUPLING	LYTLE
(5)	2	FAIRBANKS MORSE MODEL 5410 PUMP	BRIER
(6)	2	200 # STYLE 741 VICTAULIC FLANGE	LYTLE
(7)	2	250 x 200 NO. 50 VICTAULIC REDUCER	LYTLE
(8)	2	250 # STYLE 71 VICTAULIC COUPLING	LYTLE
(9)	2	250 # SCHEDULE 40 STEEL PIPE (F.E. x VICTAULIC STYLE 71)	LYTLE
(10)	2	250 # CHECK RITE MODEL DBY WAFER CHECK VALVE	HYDROFLO
(11)	2	250 # SCHEDULE 40 STEEL PIPE (F.E. x F.E.)	LYTLE
(12)	1	250 # FLANGE FILLER PIECE	CITY
(13)	2	250 # 90° BEND WITH BASE SUPPORT (F.E. x F.E.)	LYTLE
(14)	1	250 # SCHEDULE 40 STEEL PIPE (F.E. x F.E.)	LYTLE
(15)	2	250 # 45° BEND (F.E. x F.E.)	CITY
(16)	2	250 # JENKINS MODEL 454 WEDGE GATE VALVE (F.E. x F.E.)	HYDROFLO
(17)	2	250 # SCHEDULE 40 STEEL PIPE (F.E. x F.E.)	LYTLE
(18)	1	250 x 250 x 250 FABRICATED SCHEDULE 40 STEEL 45° LATERAL (F.E. x F.E. x F.E.)	LYTLE
(19)	1	250 # STYLE 741 VICTAULIC FLANGE	LYTLE
(20)	1	250 # SCHEDULE 40 STEEL PIPE (V.E. x V.E.)	LYTLE
(21)	1	250 # STYLE 71 VICTAULIC COUPLING	LYTLE
(22)	1	250 # SCHEDULE 40 STEEL PIPE (F.E. x V.E.)	LYTLE
(23)	1	250 # SCHEDULE 40 STEEL PIPE (F.E. x F.E.)	LYTLE
(24)	1	250 # 90° BEND (F.E. x F.E.)	CITY
(25)	1	250 # DUCTILE IRON PIPE (F.E. x P.E.)	LYTLE
(26)	2	60 H.P. BROOKS CROMPTON ELECTRIC MOTOR	BRIER

F.E. - FLANGE END  
 V.E. - VICTAULIC END (GROOVE)  
 P.E. - PLAIN END  
 HYDROFLO - HYDROFLO EQUIPMENT LIMITED  
 LYTLE - LYTLE SPECIALTIES  
 BRIER - BRIER HYDRAULICS LIMITED



SECTION B-B  
RIVERBEND PUMP STATION

NOTE - NEW MATERIALS SHOWN AS SHADED  
 ALL FLANGES 125# STANDARD  
 ALL GASKETS RUBBERIZED CLOTH 3mm THICK

INSTALLATION BY WATERWORKS, WASTE & DISPOSAL PERSONNEL - (JUNE 84)

SEE DRAWINGS 314 & S-356 FOR ORIGINAL CONSTRUCTION DETAILS

**AS BUILT**

U/A T.W. White January 1/85  
 SURVEY ENGINEERING DATE

**METRIC**

WHOLE NUMBERS INDICATE MILLIMETRES  
 DECIMALIZED NUMBERS INDICATE METRES

NO.	REVISIONS	DATE	APP.
3	REVISED TO AS BUILT	01/85	MD
2	VENT PIPE DETAIL	21/03/84	MD
1	DETAILS AT FORCE MAIN CONN.	03/84	MD

ENGINEER'S SEAL



WORKS & OPERATIONS  
 DIVISION  
 WATERWORKS, WASTE &  
 DISPOSAL DEPARTMENT



THE CITY  
 OF  
 WINNIPEG

WORKS & OPERATIONS  
 DIVISION  
 WATERWORKS WASTE &  
 DISPOSAL DEPARTMENT

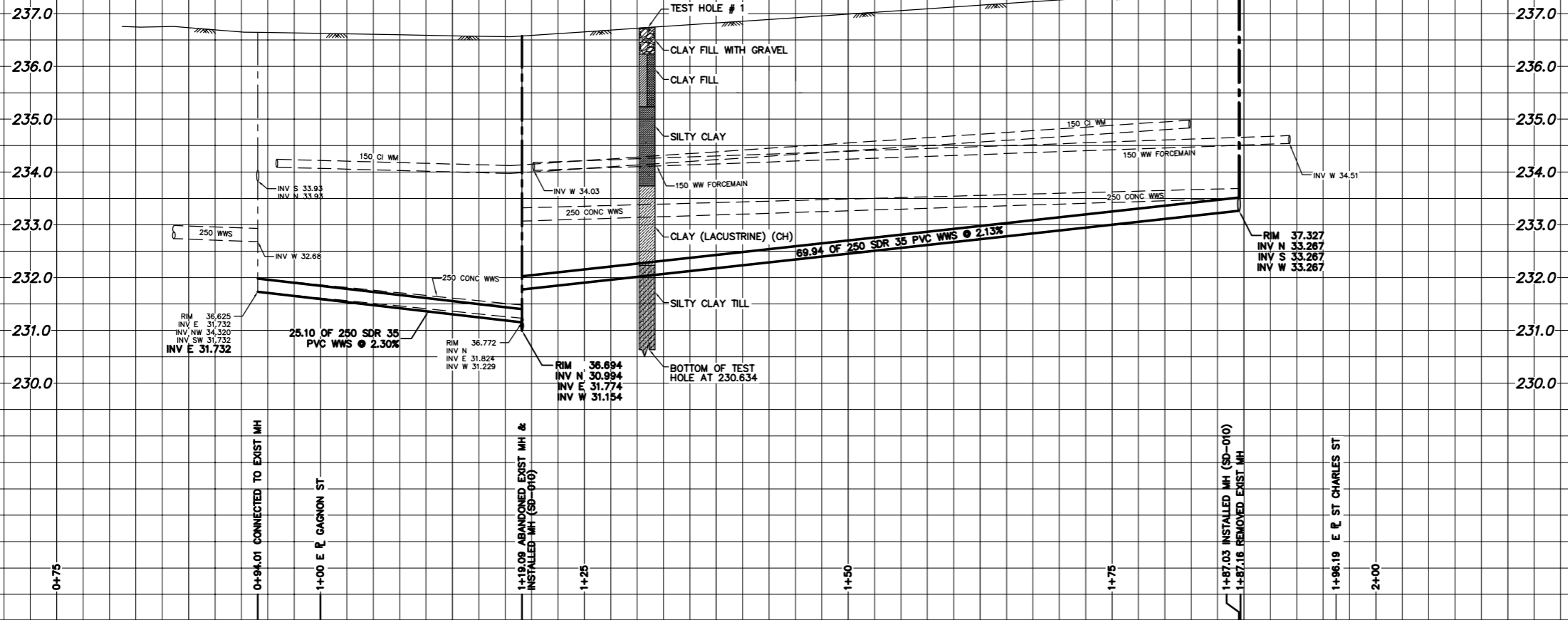
RIVERBEND PUMP STATION  
 INSTALLATION OF NEW  
 PUMPS AND PIPING

RELEASED FOR CONSTRUCTION: DATE:

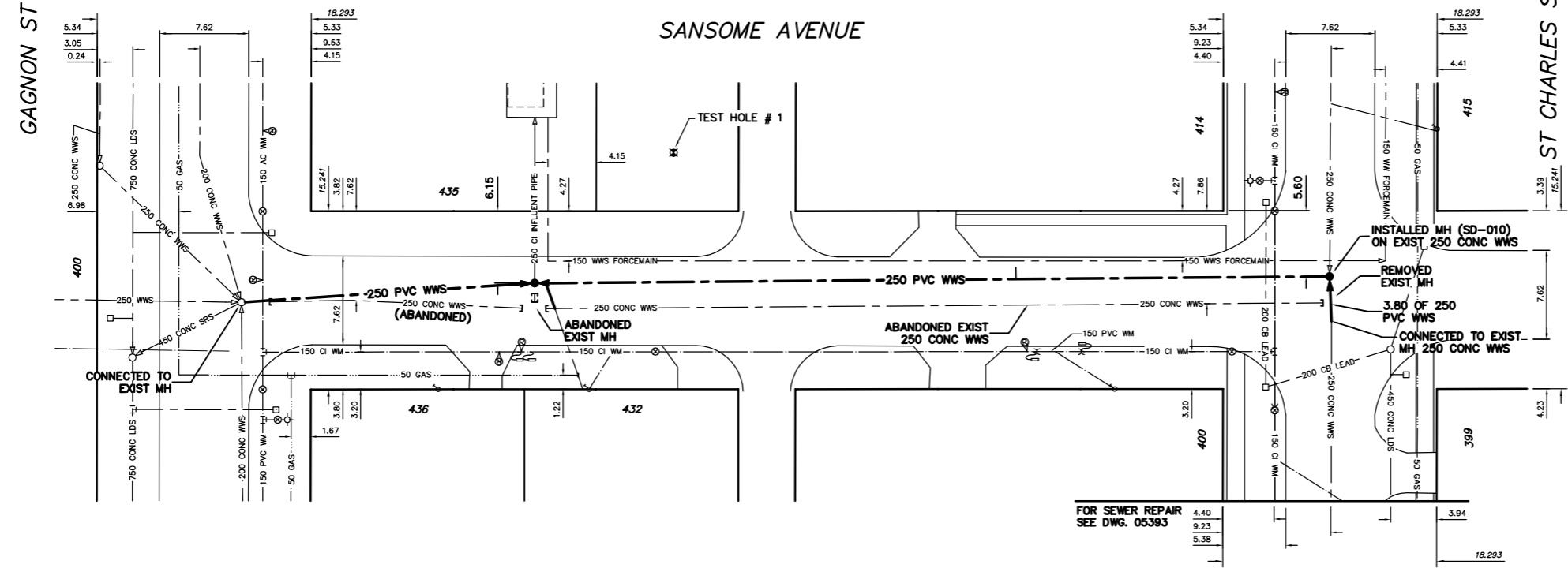
SCALE: 1:30 DRAWING NO: 1115

# St. Charles Lift Station Drawings

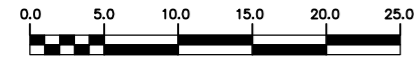




NOTE: CHAINAGES SHOWN ARE ALONG N. P. OF SANSOME AVE



ADDRESS	SIZE	JUNCTION TIE	REMARKS
436 SANSOME RESIDENTIAL	-	UNKNOWN	OUTSIDE RENEWAL LIMITS
432 SANSOME AVE RESIDENTIAL	150	4.98 E OF WL	SERVICE RECONNECTED
399 ST CHARLES RESIDENTIAL	-	UNKNOWN	OUTSIDE RENEWAL LIMITS
400 ST CHARLES RESIDENTIAL	-	UNKNOWN	OUTSIDE RENEWAL LIMITS
414 ST CHARLES RESIDENTIAL	150	26.80 W OF MH AT ST CHARLES	SERVICE RECONNECTED
415 ST CHARLES RESIDENTIAL	-	67.0 S OF 1ST MH N OF SANSOME	OUTSIDE RENEWAL LIMITS



CONTRACTOR : C.O.W. CENTRALIZED SERVICES  
PROJECT COMPLETION DATE: 2004 08 16±

**RECORD DRAWING**  
WATER AND WASTE DEPARTMENT

METRIC  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

200 WM	WATERMAIN	200 WM	SL, HYDRO	150 WM	WATERMAIN	150 WM
⊕	HYDRANT	⊕	MTS	+	HYDRANT	+
⊙	VALVE	⊙	TRAFFIC SIGNALS	X	VALVE	X
— 525 LDS	LAND DRAINAGE SEWER	— 525 LDS	GAS	— 50 GAS	— 300 LDS	LAND DRAINAGE SEWER
— 375 WWS	WASTEWATER SEWER	— 375 WWS	SURVEY BAR	— 250 WWS	— 250 WWS	WASTEWATER SEWER
○	MANHOLE	●	FENCE	X	⊕	PROFILE
□	CATCH BASIN	■	POLE - HYDRO, MTS	—	—	GROUND ABOVE PIPE
▽	CURB INLET	▽	CURB STOP	⊕	⊕	? DITCH (SOUTH & EAST)
—	JUNCTIONS	—	GUY ANCHOR	—	—	GUTTER (NORTH & WEST)
—	CULVERT	—	LIGHT STANDARD	—	—	
—	ANODE	—	TREE	—	—	
—	EXISTING	—	LEGEND-PLAN	—	—	LEGEND-PROFILE
—	LEGEND-PLAN	—	PROPOSED	—	—	PROPOSED

LOCATION APPROVED	B.M. ELEV.	FIELD BOOK #
UNDERGROUND STRUCTURES	POSTED TO LIS	
SUPV. U/G STRUCTURES COMMITTEE	DATE	
NOTE:		
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		
DESIGNED BY DS	CHECKED BY	
DRAWN BY WKT/PL	APPROVED BY KZ	
HOR. SCALE 1:250	RELEASED FOR CONSTRUCTION	
VERTICAL 1:50	DATE	
1 REVISED TO RECORD DRAWING 08.08.20 C.H./WKT	DATE	
NO. REVISIONS	DATE	

**CITY OF WINNIPEG**  
WATER AND WASTE  
ENGINEERING DIVISION

DESIGNED BY DS  
CHECKED BY  
DRAWN BY WKT/PL  
APPROVED BY KZ  
HOR. SCALE 1:250  
VERTICAL 1:50  
DATE 2004 06 16

ENGINEER'S SEAL  
ORIGINAL MYLAR  
SIGNED BY  
K.R. ZUREK  
08/09/02

TENDER No.  
FILENAME : 05394.dwg  
PLOT DATE: 2008.08.25

**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT

2004 SEWERMAIN RENEWALS  
AND ASSOCIATED WORKS  
**SANSOME AVENUE**  
60 m WEST OF ST CHARLES STREET  
TO ST CHARLES STREET

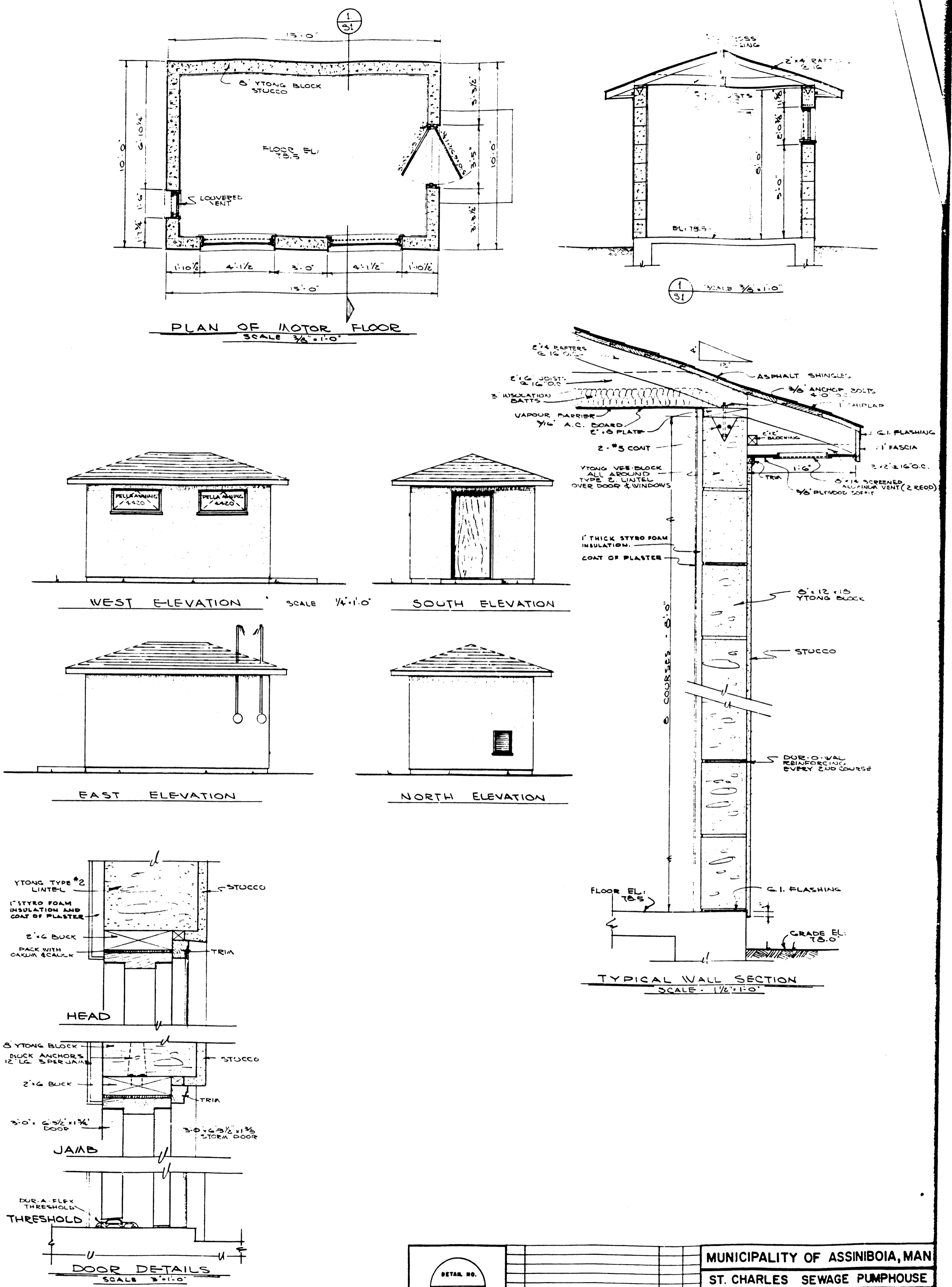
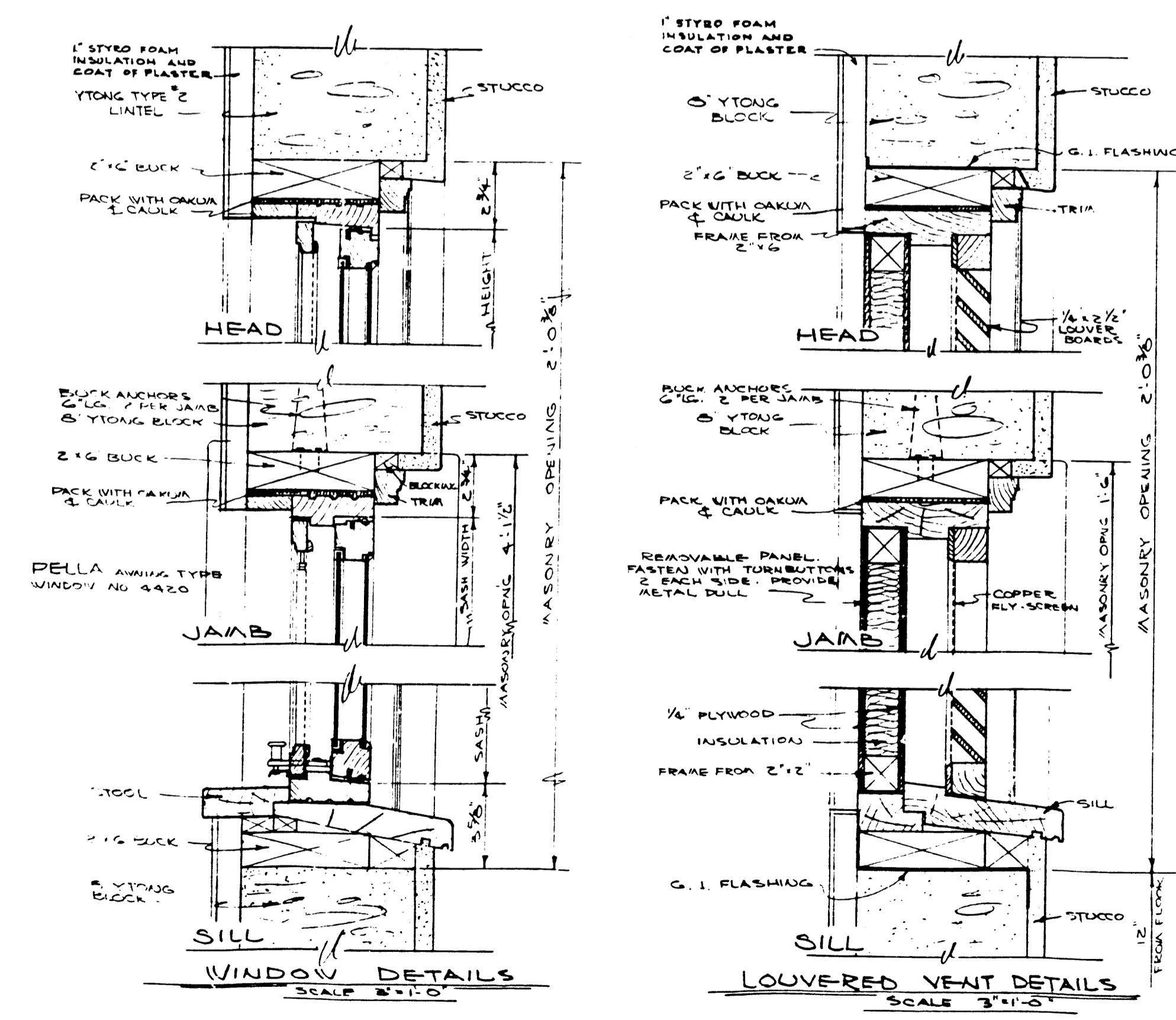
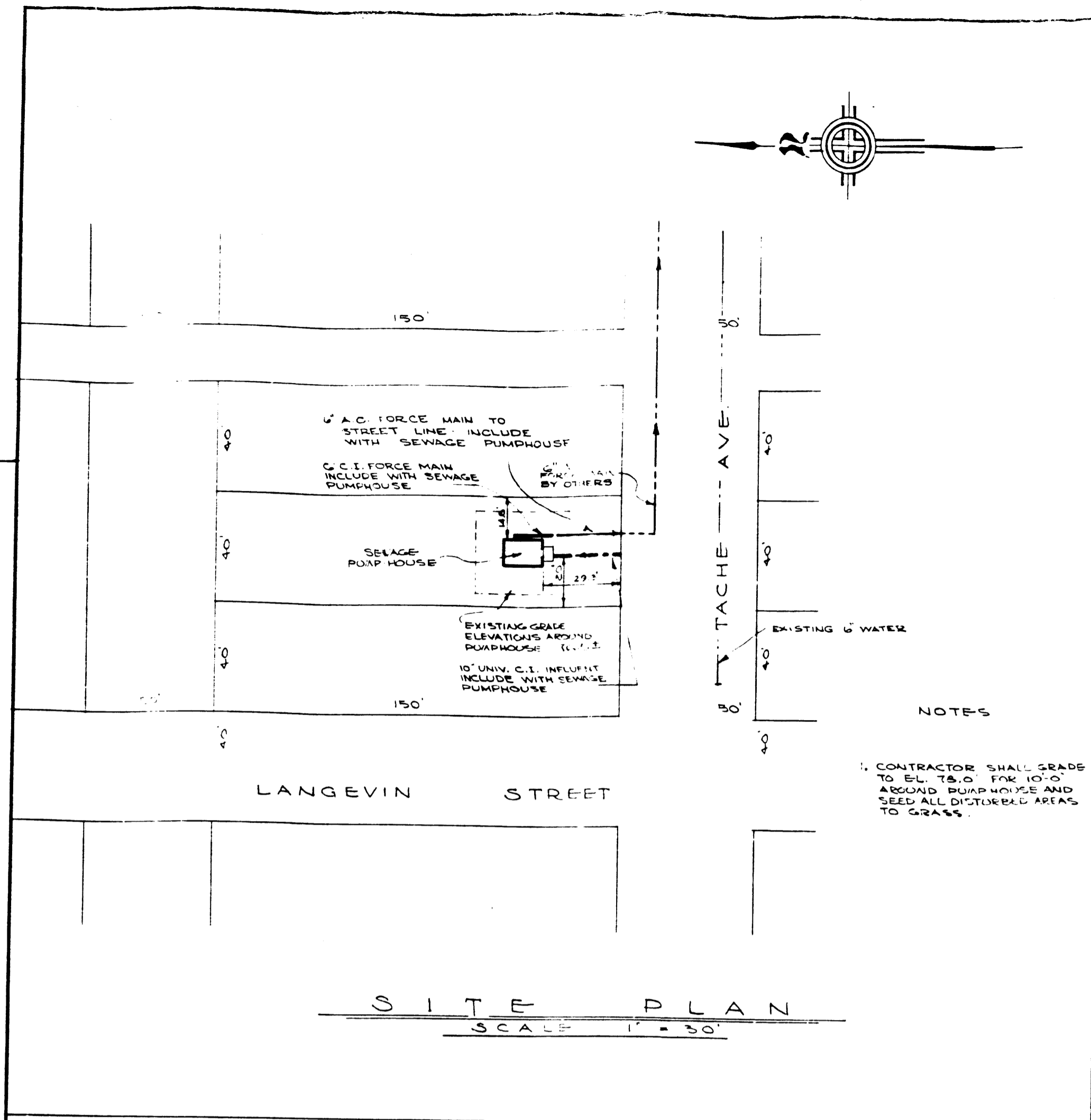
SHEET 2 OF 2  
CITY DRAWING NUMBER  
05394

REF. or DRAWING No. **1420**  
FILE No. **S.P. 10533**  
DETAILS

THIS SET CONTAINS  
**ARCHITECTURAL**  
MECHANICAL  
ELECTRICAL

REF. or DRAWING No. **SI**  
DETAILS *See plan to Mechanical*

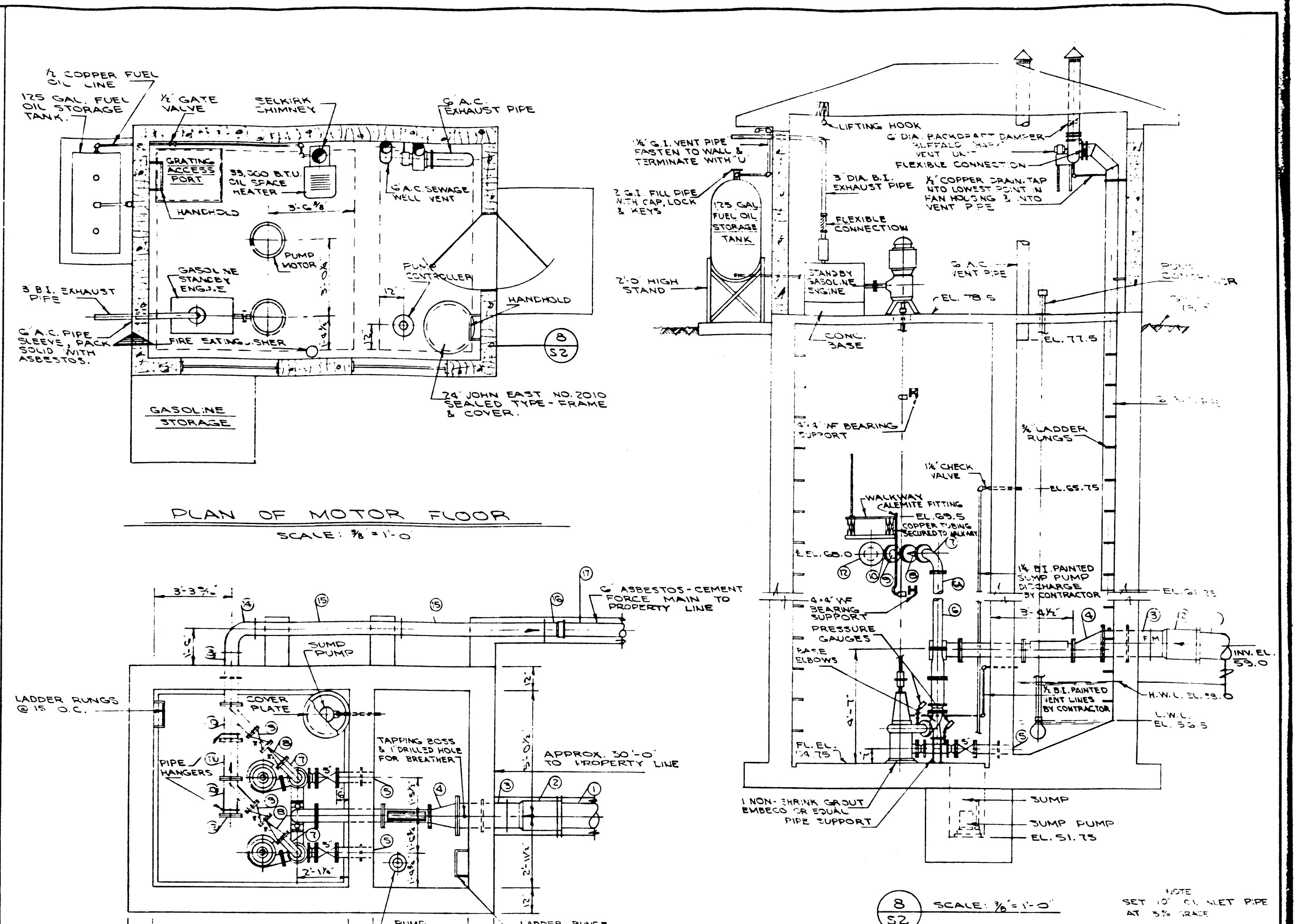
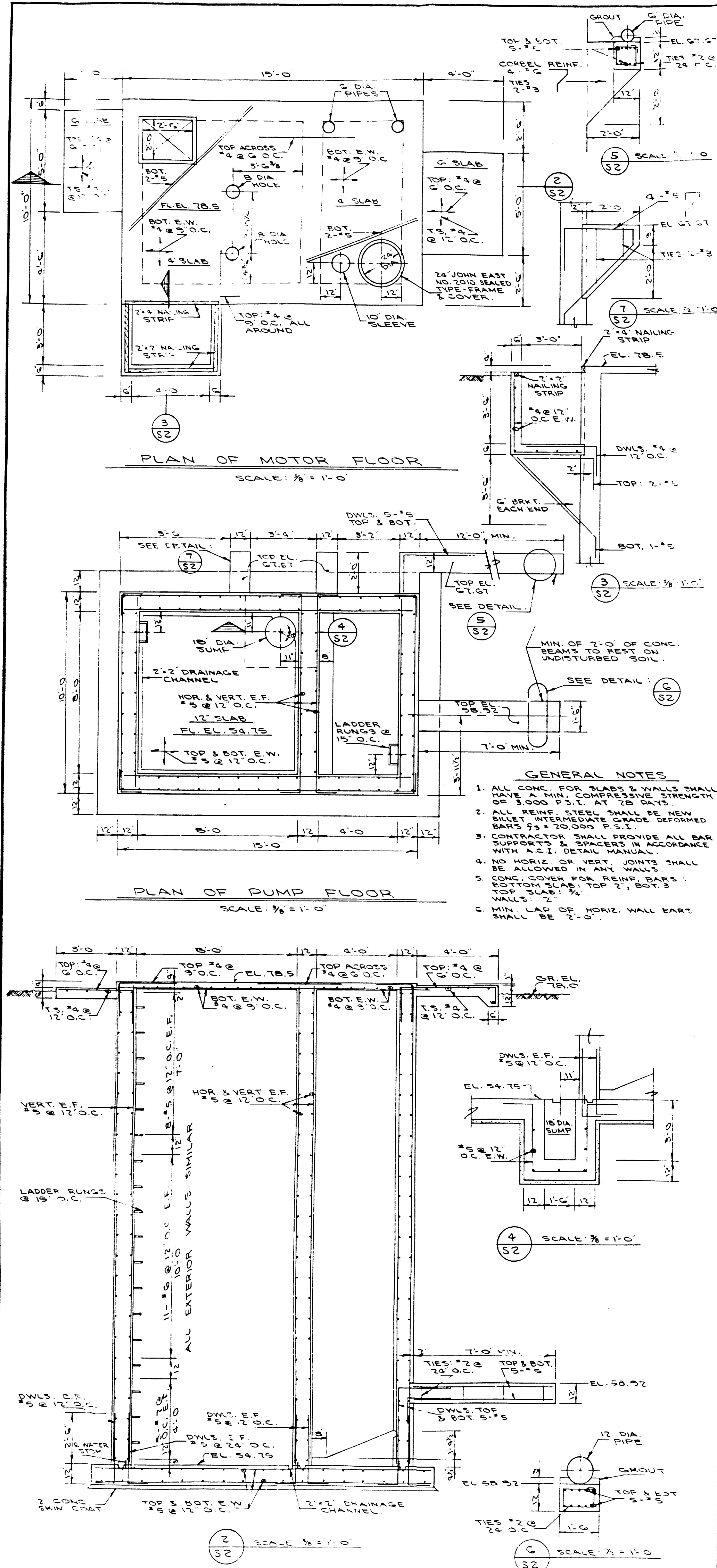
Manufactured by  
**MADE IN CANADA**  
**HUGHES-OVERS CO., LTD.**  
MONTREAL, QUEBEC, CANADA  
TORONTO, MONTREAL, OTTAWA,  
VANCOUVER, CALGARY, WINNIPEG



DETAIL NO. REFER TO DETAIL SYMBOL									
<b>MUNICIPALITY OF ASSINIBOIA, MAN</b> <b>ST. CHARLES SEWAGE PUMPHOUSE</b> <b>SITE PLAN &amp; ARCHITECTURAL</b> CITY DRAWING NO. <b>1420</b> DRAWN BY: J.F.H. CHECKED BY: F.W.C. DESIGNED BY: UNDERWOOD McLELLAN & ASSOCIATES CONSULTING PROFESSIONAL ENGINEERS CALGARY - SASKATOON - WINNIPEG LAYOUT BY: No. _____ DATE BY: _____ APPROVED BY: _____ DATE: _____ REVISIONS: _____ SCALE: AS SHOWN DRAWING No. 22003 DE-SI									

FILE # **SP10533**





**PIPING SCHEDULE**

MARK	QTY	SIZE	DESCRIPTION
1	10		APPROX. 29'-0" OF UNIV. C.I. PIPE.
2	1		UNIV. C.I. MEDIUM RADIUS ADJUSTABLE COUPLING
3	1		UNIV. & FLGD. END C.I. PIPE 2'-0" LONG, CONC. RING 1'-1" FROM FLGD. END, 1 TAPPING AT FLGD. END
4	1	0 1/2"	FLGD. C.I. ECCENTRIC REDUCER 1'-0" LONG.
5	2		FLGD. & PLAIN END C.I. PIPE 1'-0" LONG, CONC. RING 1'-0" FROM FLGD. END.
6	2	4"	FLGD. C.I. PIPE 6'-3" LONG
6A	2	4"	FLGD. C.I. PIPE 1'-10 1/2" LONG
7	2	4"	FLGD. C.I. LONG RADIUS 90° ELBOW
8	2	4"	FLGD. SWING CHECK VALVE CRANE NO. 875 OR EQUAL
9	2	4"	FLGD. GATE VALVE CRANE NO. 885 OR EQUAL 90° HANDWHEEL
10	2	4"	FLGD. C.I. 45° LATERAL
11	1	6"	FLGD. C.I. PIPE 1'-3/8" LONG
12	1	6"	C.I. BLIND FLANGE
13	1	6"	FLGD. & UNIV. END C.I. PIPE 2'-2" LONG, CONC. RING 1'-2" FROM FLGD. END.
14	1	6"	UNIV. C.I. 90° ELBOW
15	2	6"	UNIV. C.I. PIPE 6'-0" LONG
16	1	6"	UNIV. C.I. BELL SPLICING (M) BELL TO SUIT A C.I. PIPE
17	6		APPROX. 28'-0" OF ASPBESTOS CEMENT PIPE

**MANHOLE DETAIL**  
NOT TO SCALE

**NOTES**

1. PIPING & EQUIPMENT ITEMS SHOWN SHADED ARE SUPPLIED BY THE OWNER.
2. LEAVE OPENINGS IN WALLS FOR ITEMS 3, 5 & 13 AND GROUT IN PLACE AFTER EQUIPMENT INSTALLATION. WALLS TO BE LEFT SMOOTH & JOINTS TIGHT.
3. THE CONTRACTOR SHALL SUPPLY & INSTALL ALL PIPING IN THE PIPING SCHEDULE, TOGETHER WITH ALL NUTS, BOLTS, WASHERS AND GASKETS FOR THESE. A FLUSH, KLEEN FITTINGS SHOWN ON THE DRAWINGS.
4. FOR THE ELEVATION OF THE BEARING SUPPORTS SEE THE MANUFACTURER'S DRAWINGS.
5. THE CONTRACTOR SHALL PROVIDE A REDUCER ON THE EXHAUST PIPE TO SUIT THE STANDBY ENGINE.

**FOR INFORMATION ONLY**

MUNICIPALITY OF ASSINIBOIA, MAN.	
ST. CHARLES SEWAGE PUMPHOUSE	
STRUCTURAL & EQUIPMENT	
CITY DRAWING NO. 1421	
DRAWN BY: W.P. TRACED BY: F.M.C. CHECKED BY: F.M.C. DESIGNED BY: LAYOUT BY: UNDERWOOD McLELLAN & ASSOCIATES LIMITED CONSULTING PROFESSIONAL ENGINEERS CALGARY - SASKATOON - WINNIPEG	
JAN. 1980	
APPROVED BY: DATE:	
REVISIONS	
SCALE: AS SHOWN DRAWING No. 22 063 08-S2	

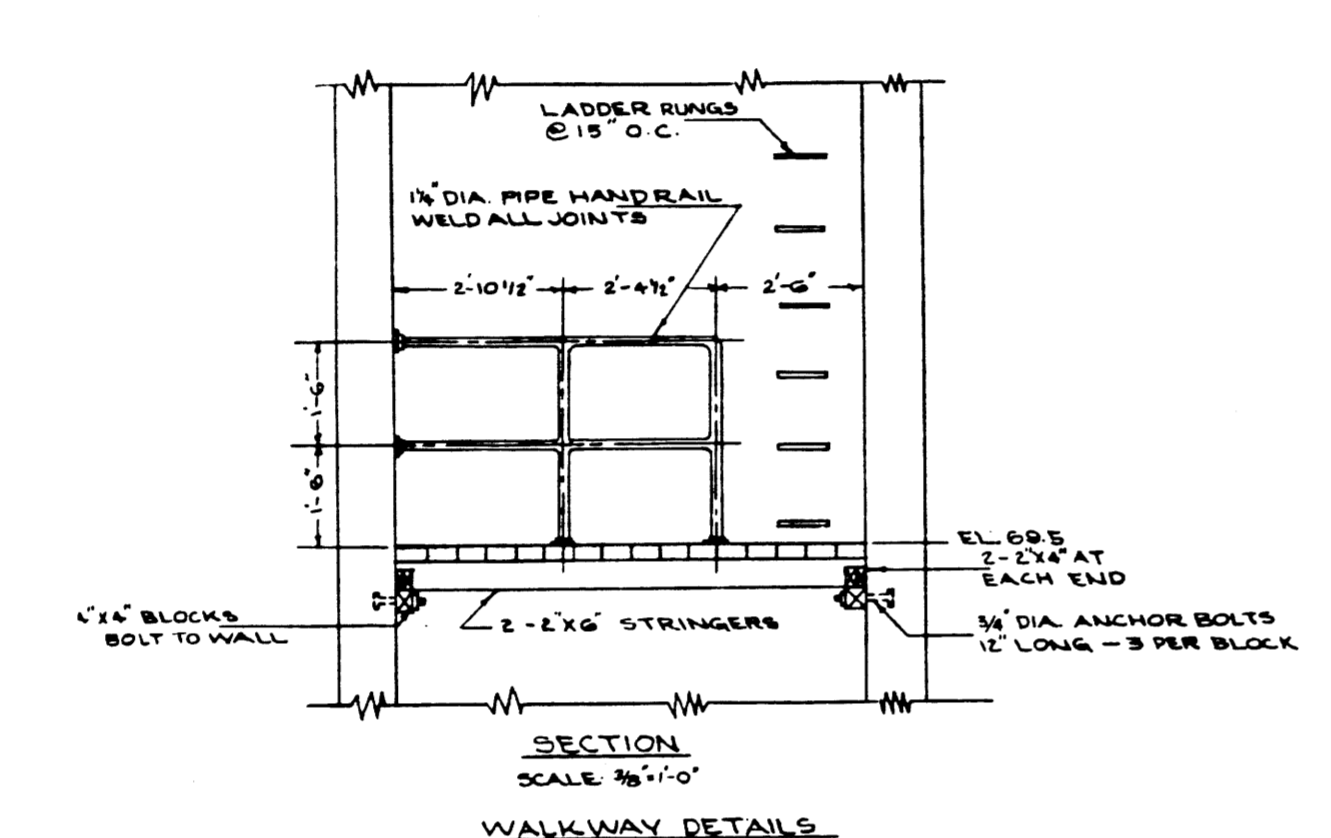
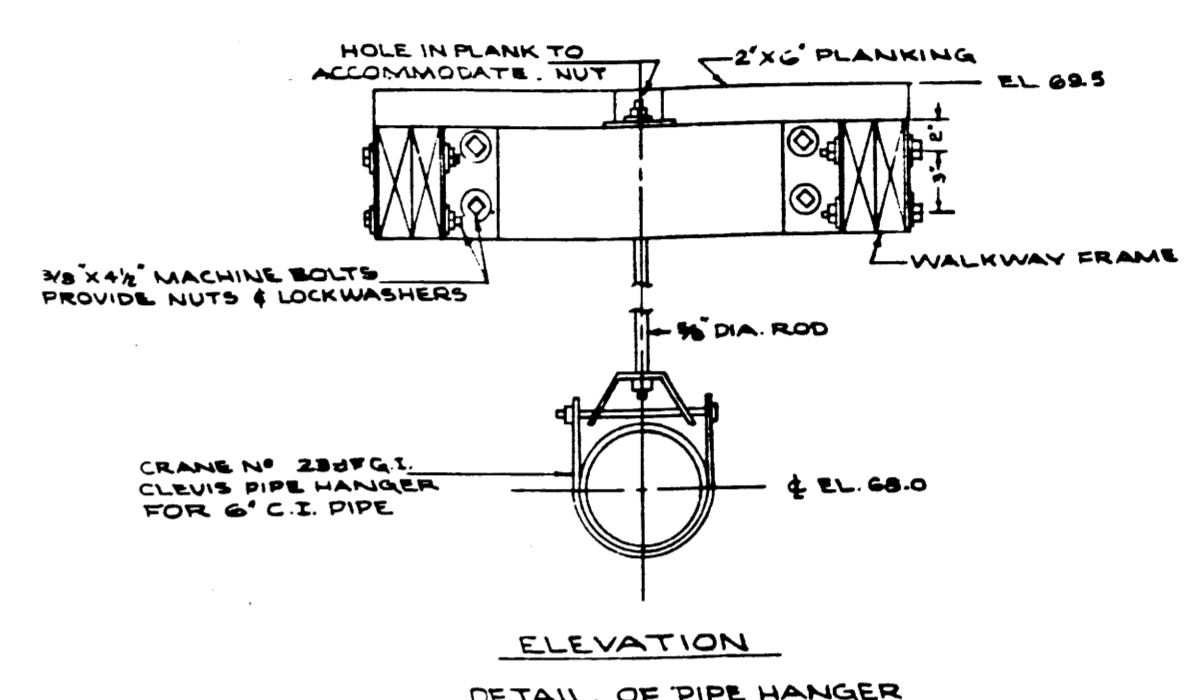
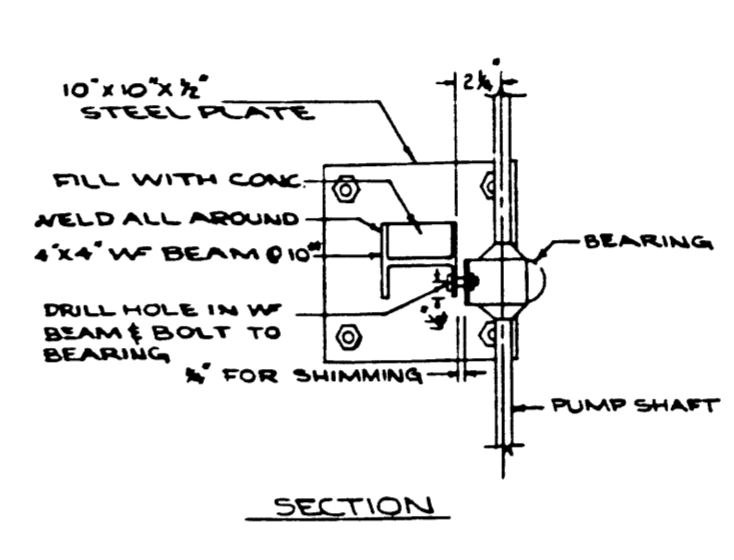
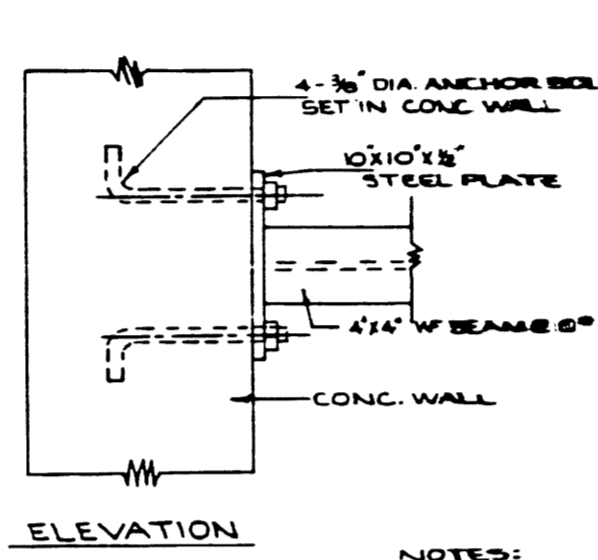
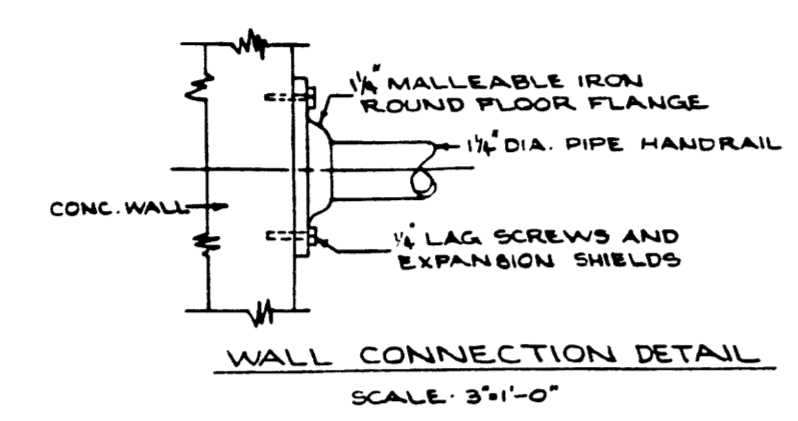
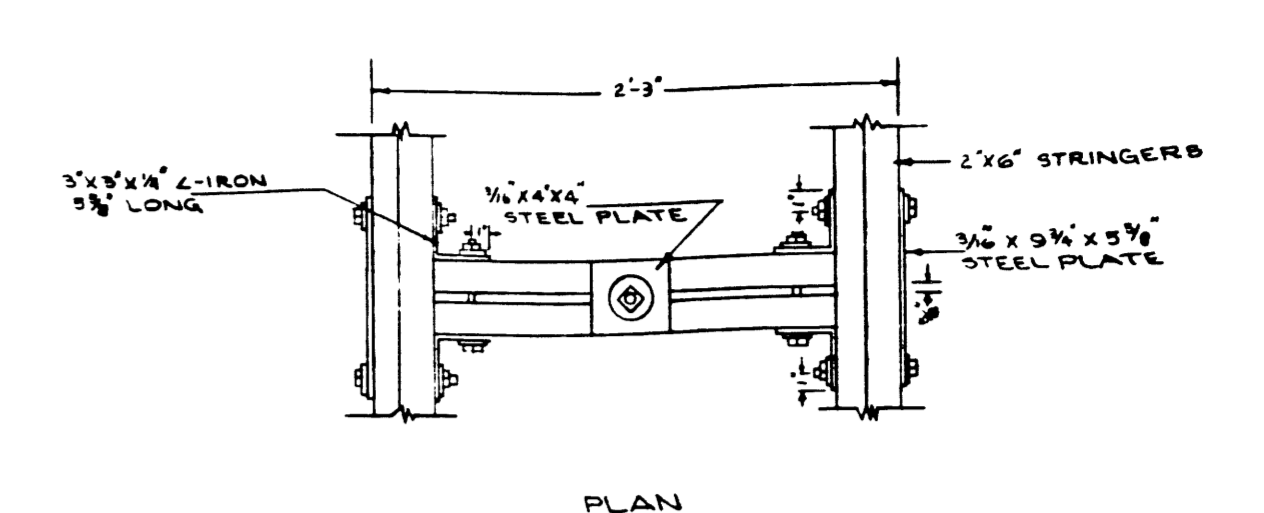
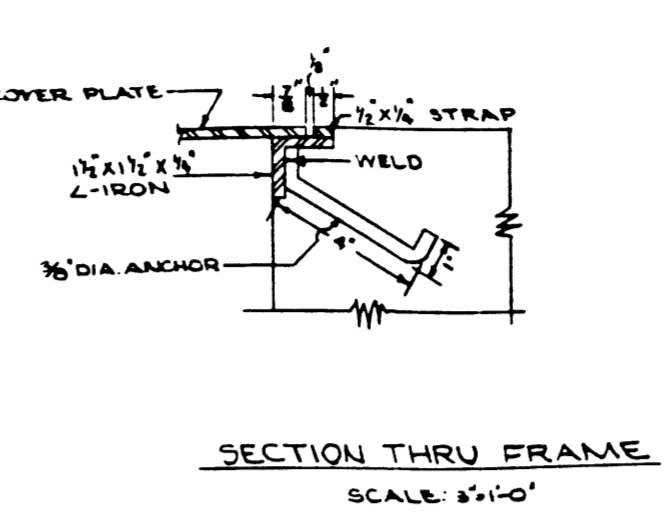
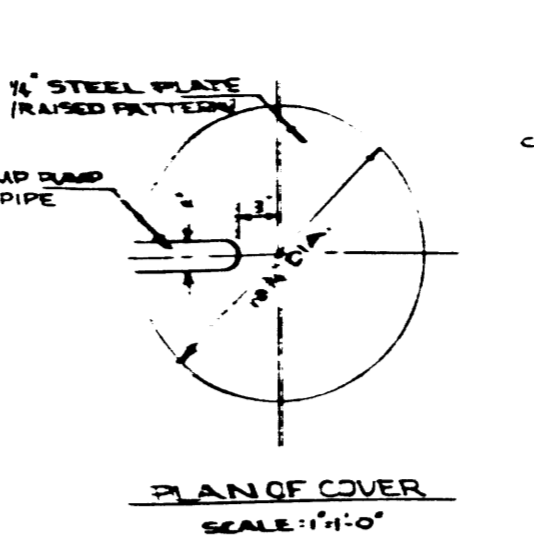
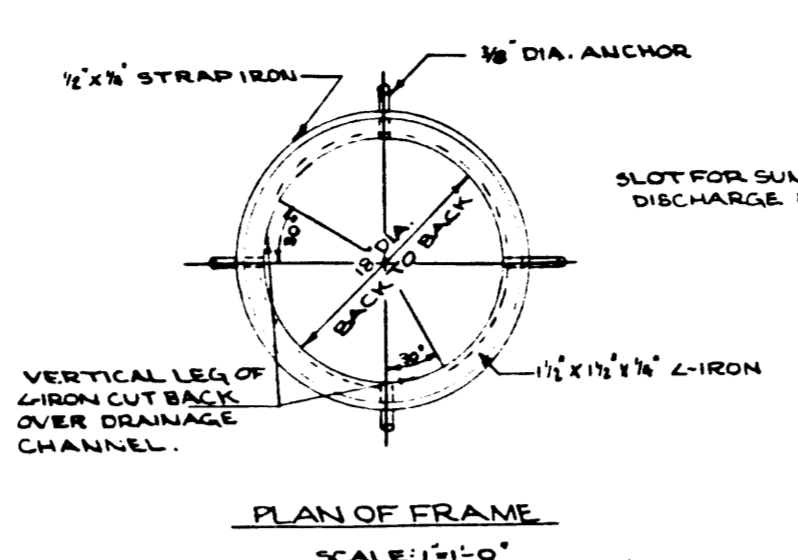
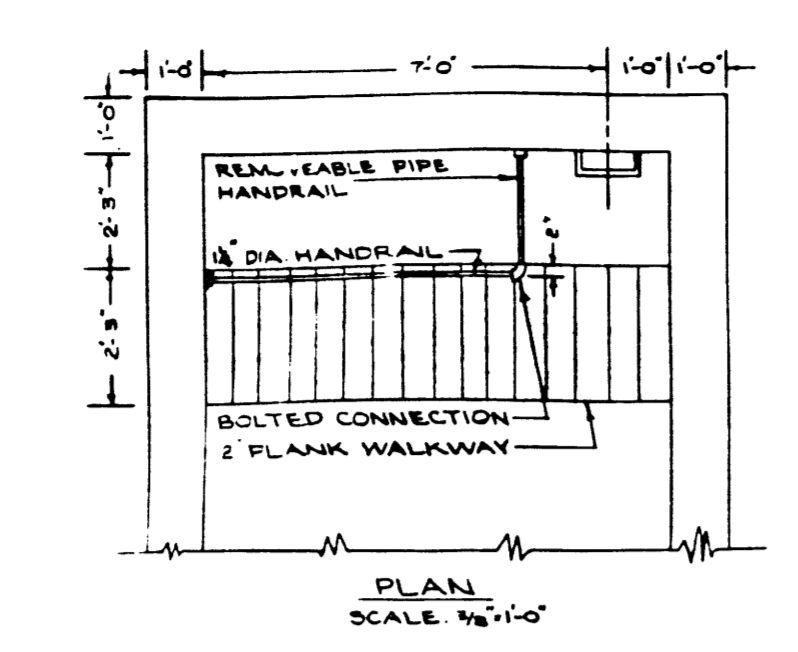


DETAILS : FILE NO. SP10535

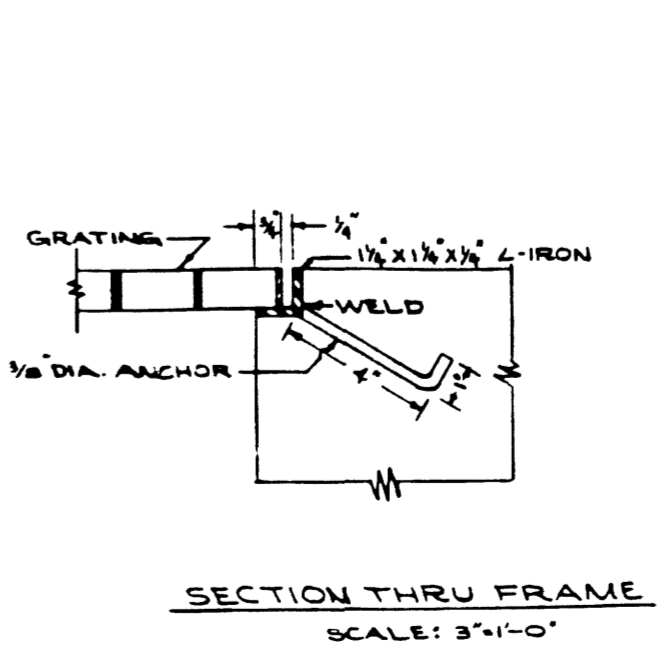
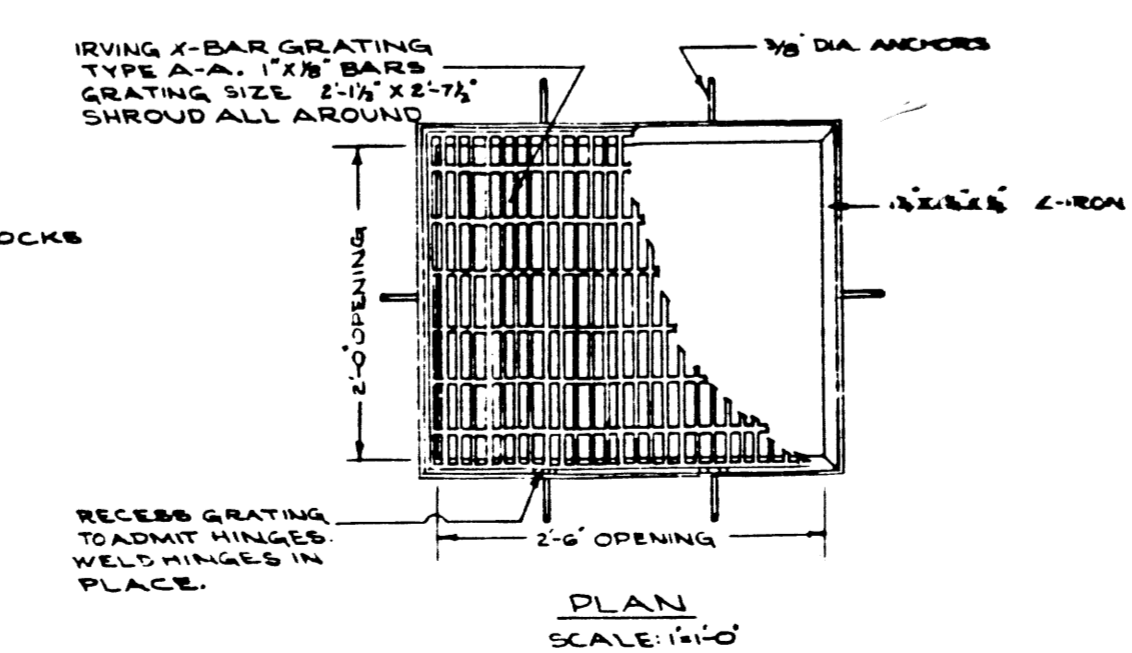
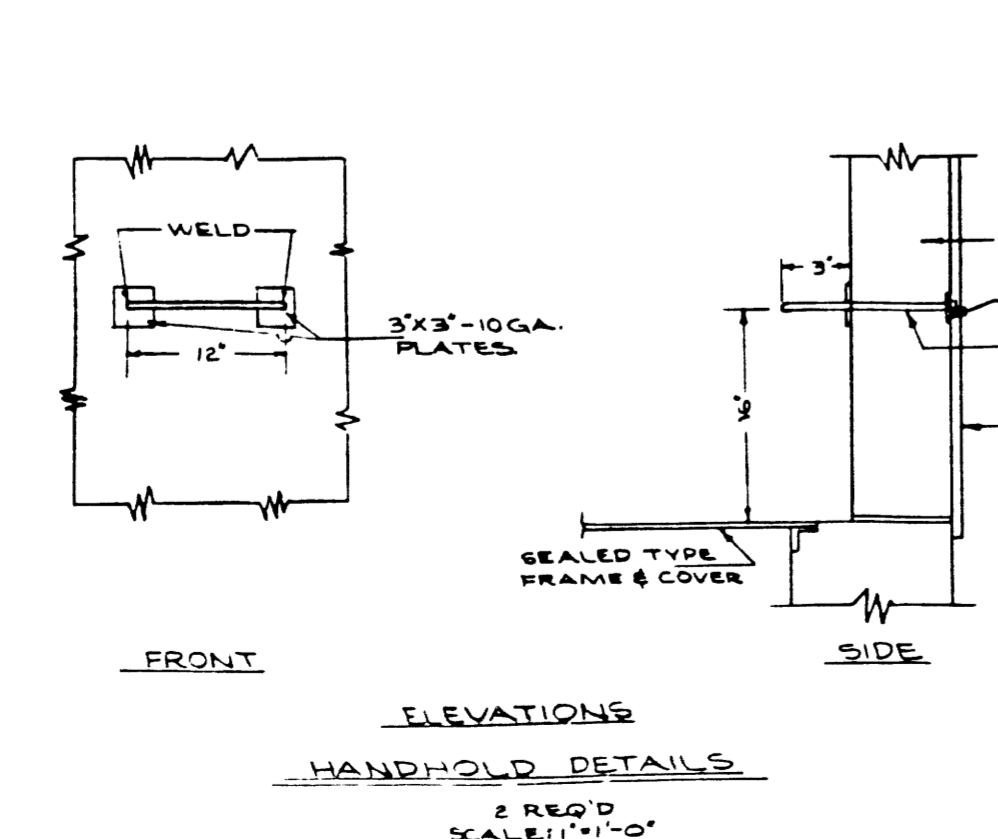
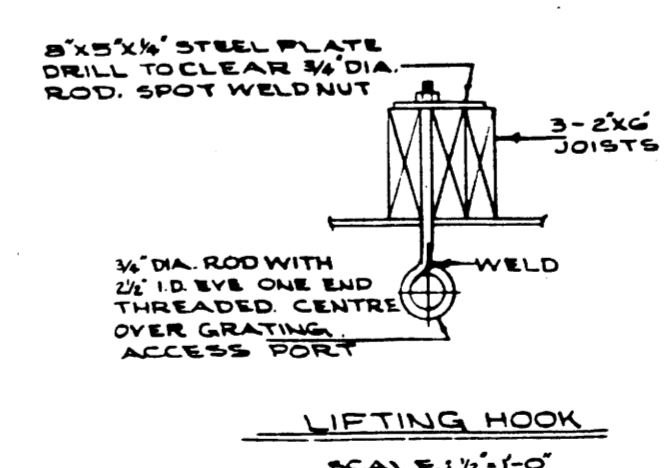
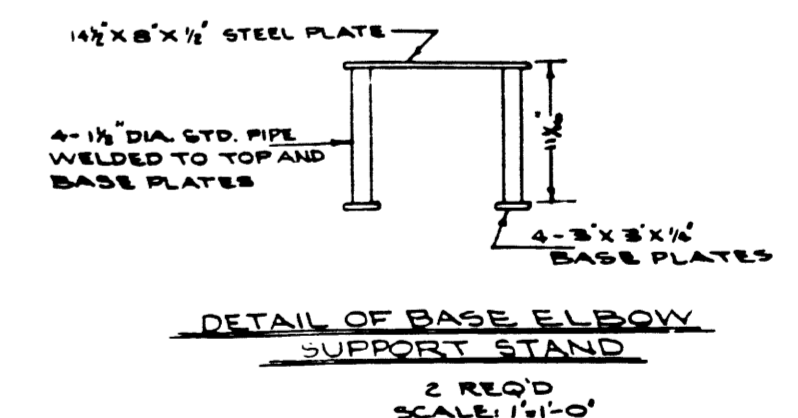
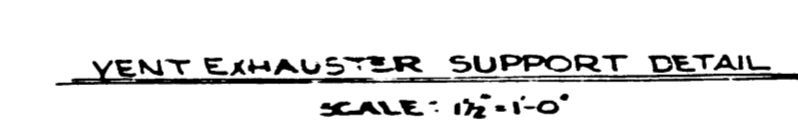
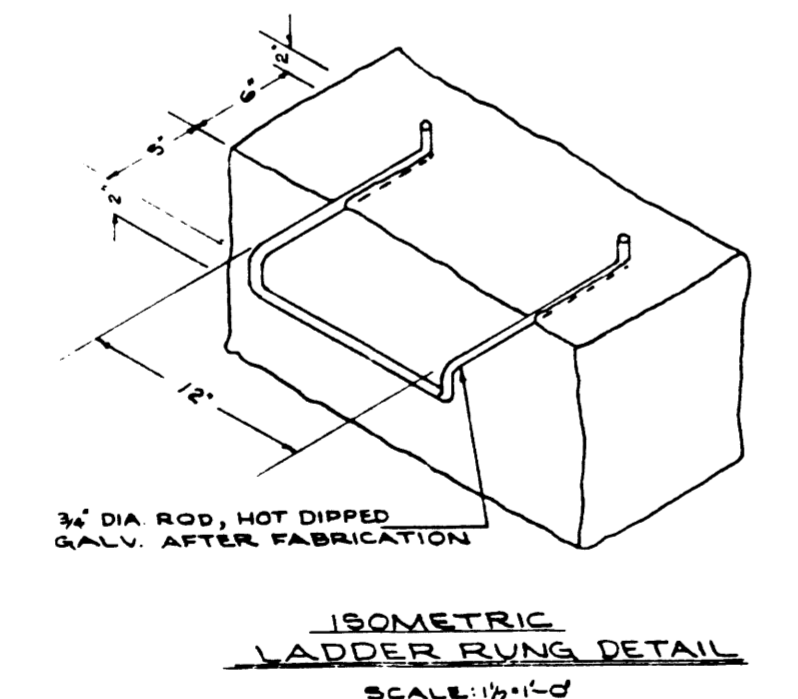
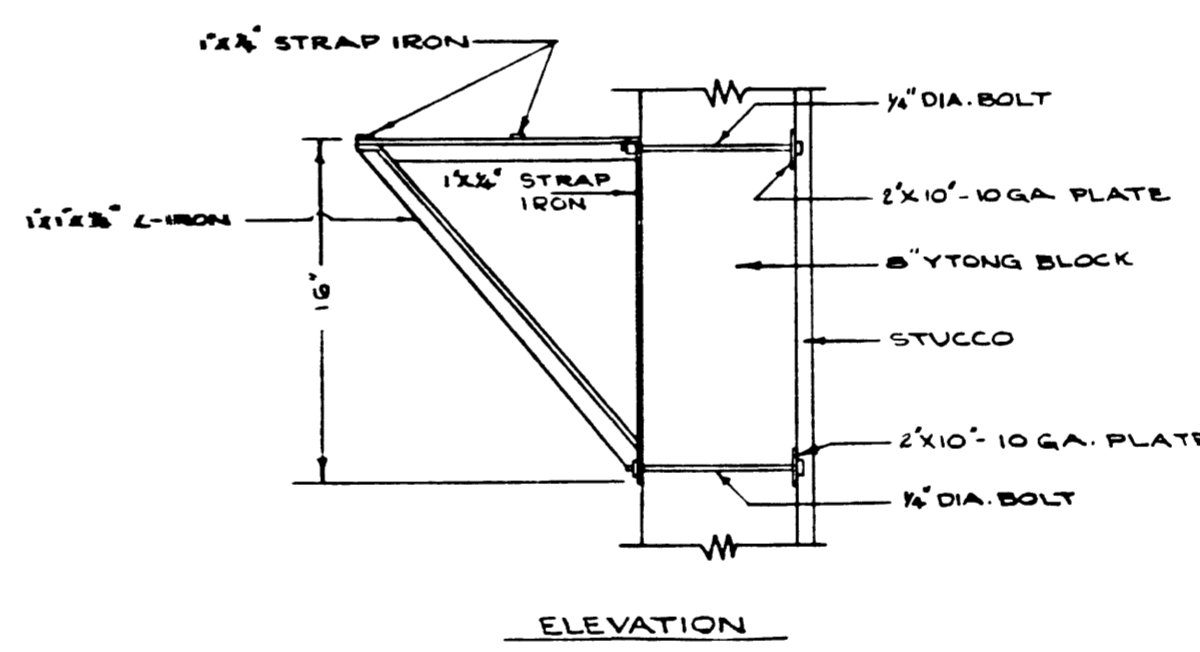
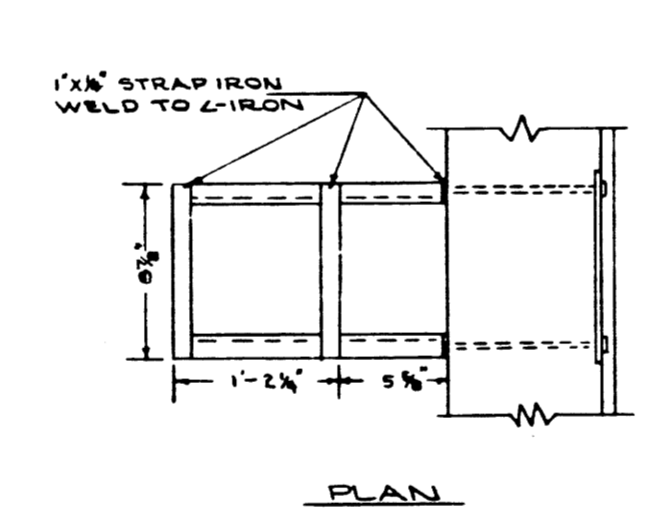
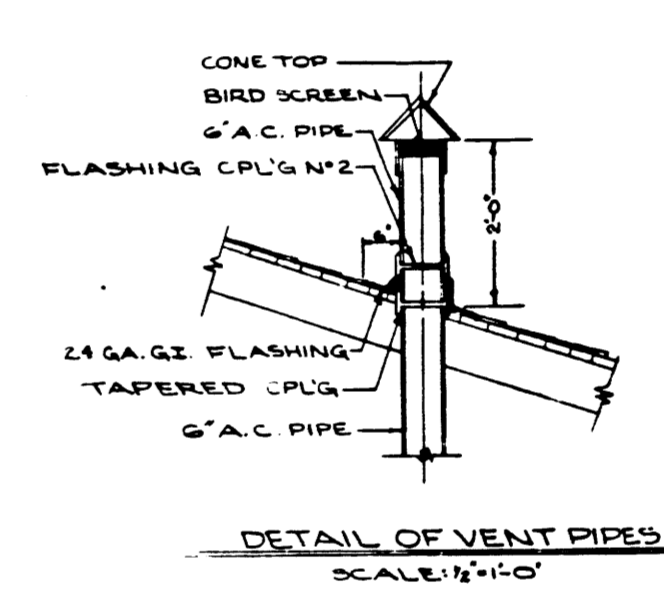
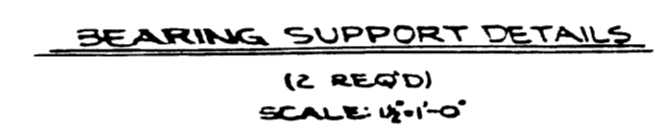
HALIFAX, MONTREAL, OTTAWA,  
TORONTO, WINDSOR, WINNIPEG,  
MONTREAL, QUEBEC, VANCOUVER

DETAILS

VERTICAL RILING SYSTEM  
Municipality of Assiniboia  
City of Winnipeg  
Drawing No. 5703/027



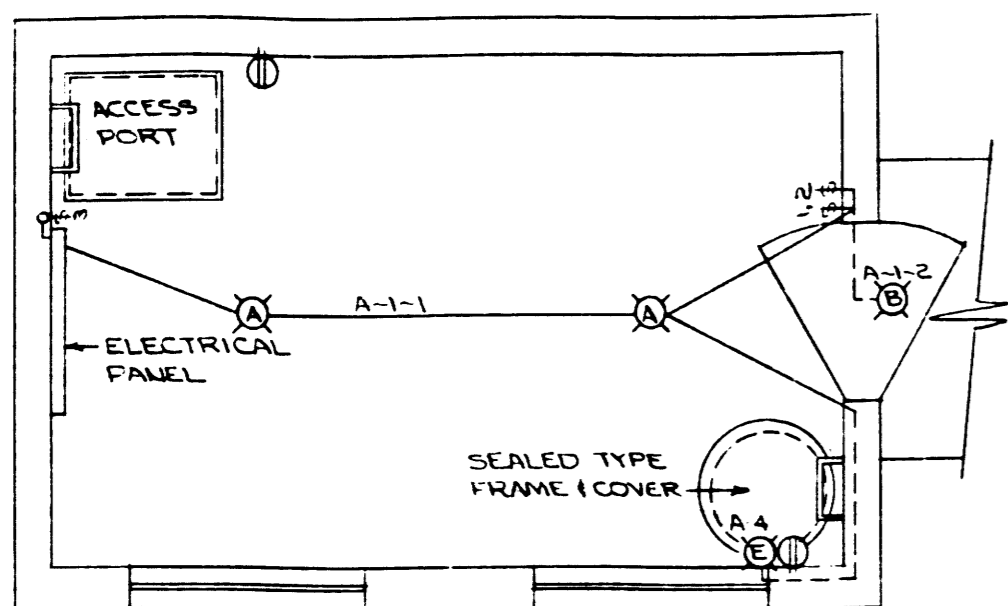
NOTES:  
1. FOR ELEV. OF BEARING SEE MAIN DRAWG.  
2. BOLT BASE PLATES TO WALL AND FIELD WELD W/ BEAMS TO PLATE AFTER PUMPS ARE SET



FOR INFORMATION ONLY

MUNICIPALITY OF ASSINIBOIA, MAN.	
ST. CHARLES SEWAGE PUMPHOUSE	
MISCELLANEOUS IRON WORK	
CITY DRAWING NO. 1422	
DRAWN BY: B.Y.	UNDERWOOD McLELLAN & ASSOCIATES
TRACED BY: L.M.T.B.	LIMITED
CHECKED BY: F.W.C.	CONSULTING PROFESSIONAL ENGINEERS
DESIGNED BY:	CALGARY - SASKATOON - WINNIPEG
LAYOUT BY:	
JAN. 1960	DATE
NO.	DESCRIPTION
DATE BY	APPROVED BY
REVISIONS	SCALE: AS SHOWN
DRAWING No. 22 063 08-53	

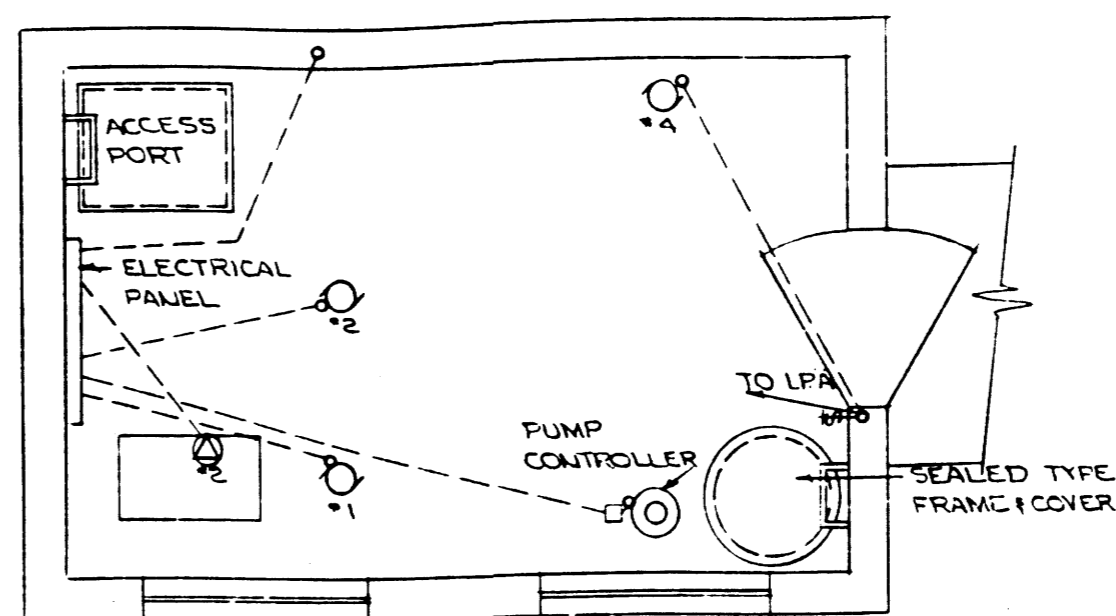
LIGHTING LAYOUT



MOTOR FLOOR PLAN  
SCALE: 3/8" = 1'-0"

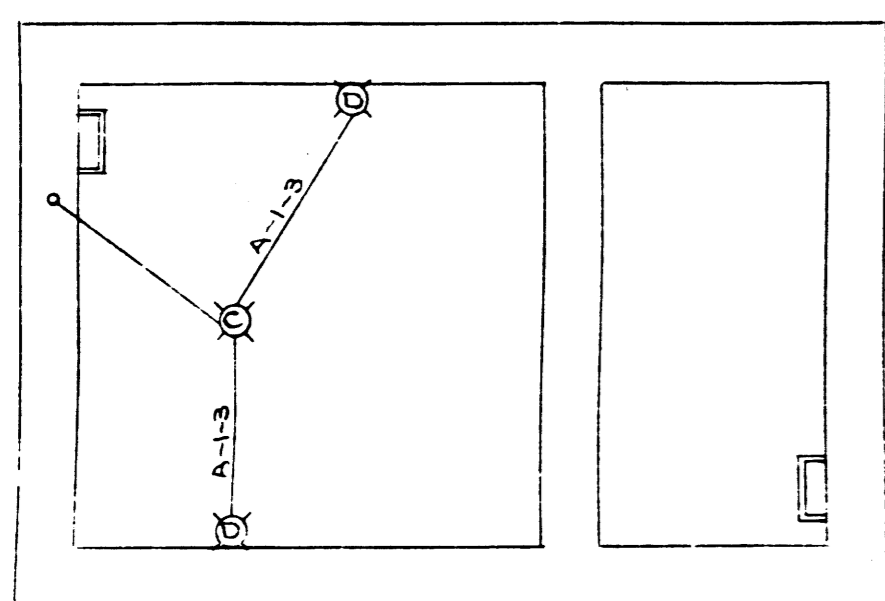
LEGEND	
A-1-3	LTS. PANEL 'A' BR. 1 SWITCH '3'
⊙	LTS. FIXTURE TYPE 'A'
⊕	DUPLEX CONVENIENCE OUTLET
⊖	SINGLE POLE SWITCH '2'
—	CONDUIT IN CEILING
- - -	CONDUIT IN FLOOR OR WALL

POWER LAYOUT

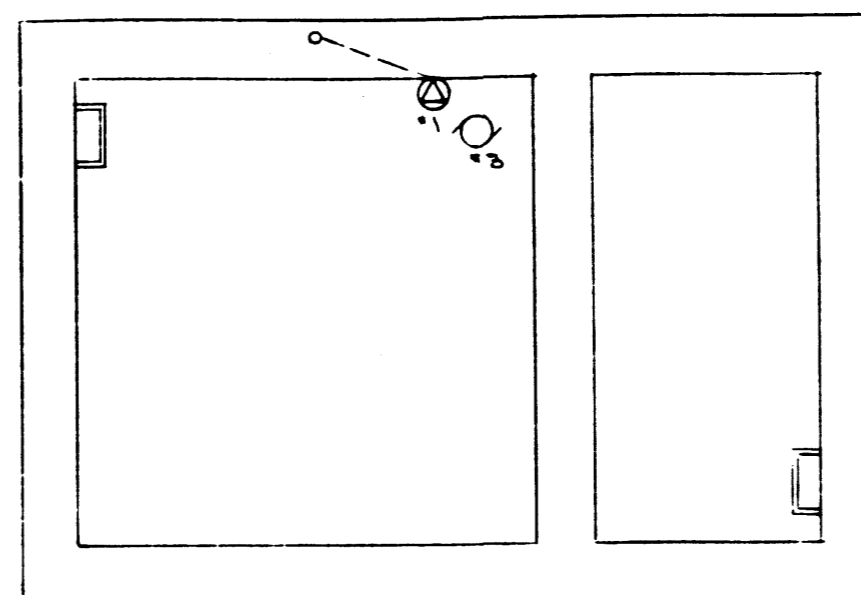


MOTOR FLOOR PLAN  
SCALE: 3/8" = 1'-0"

LEGEND	
⊙	METER #1
⊕	SPECIAL PURPOSE OUTLET #1
⊖	MOTOR SWITCH
□	MINI BOX
- - -	CONDUIT IN FLOOR OR WALL

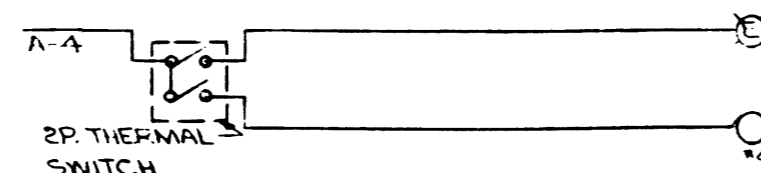
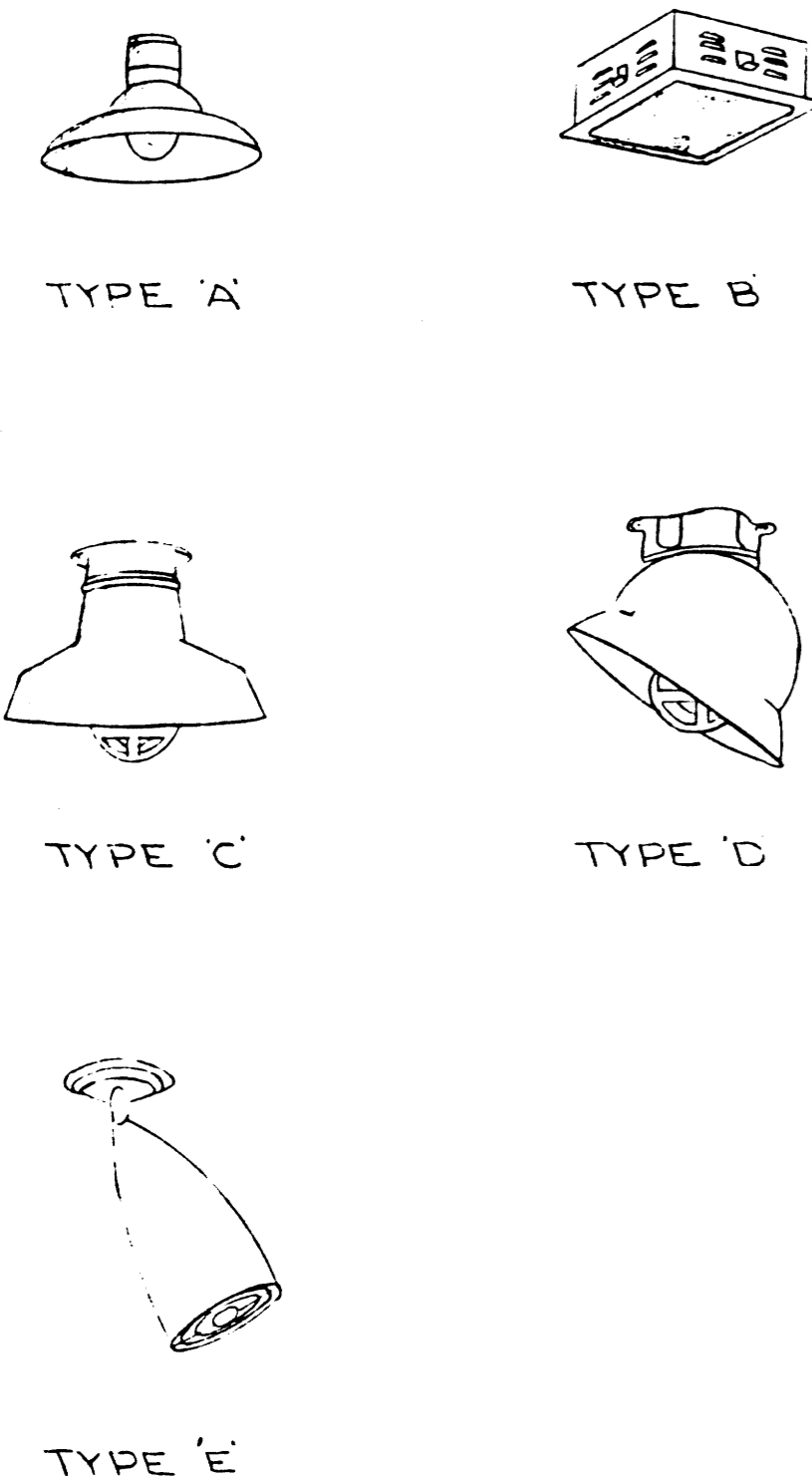


LIGHTING PANEL 'A'				
BR. N°	L' POLES	BR SIZE	EQUIPMENT	WATTS
1	1	15A	2-TYPE A, 1-B, 1-C, 2-D	300
2	"	"	2-OUTLETS (SP. OUT. #2)	
3	"	"	SP. OUT. #1	
4	"	"	MOTOR #4 #1-E	
5	"	"	SPARE	
6	"	"	"	

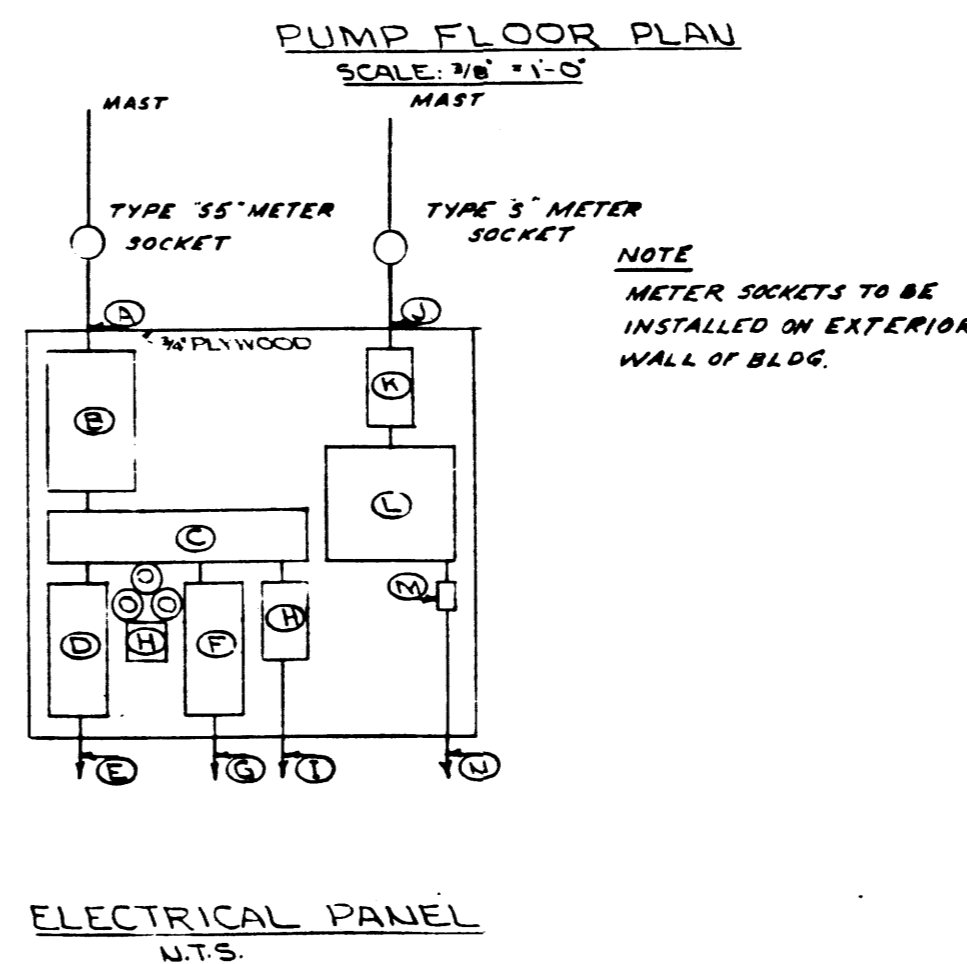


MOTOR SCHEDULE						
MOTOR NO.	HP	PHASE	VOLT	POWER SOURCE	APPLICATION	CONTROL LOCATION
1	7 1/2	3	220	SPLITTER	SEWAGE PUMP	COMB. STARTER
2	7 1/2	3	220	SPLITTER	SEWAGE PUMP	"
3	1/4	1	110	LPA	SUMP PUMP	THERMAL SWITCH
4	1/2	1	110	LPA	EXHAUST FAN	"
1					SUMP PUMP	
2					TRICKLE CHARGER	

PUMP FLOOR PLAN  
SCALE: 3/8" = 1'-0"

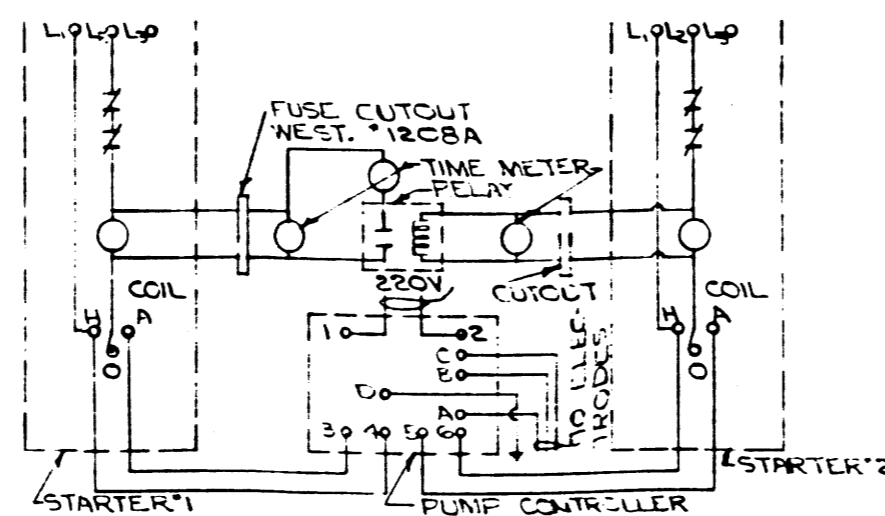


EXHAUST FAN CIRCUIT  
M.T.S.



ELECTRICAL PANEL LEGEND	
A	3" x 2 1/2" TW IN 1 1/2" C. 3P 220V
B	100A. 3P SERVICE SW. FUSED AT 90A.
C	100A SPLITTER TROUGH
D	COMB. STARTER FUSED AT 70A
E	TO MOTOR #1
F	COMB. STARTER FUSED AT 70A
G	TO MOTOR #2
H	30A. 2P FUSED DISC. FUSED AT 15A
I	TO PUMP CONTROLLER
J	3" x 10" TW IN 1 1/2" C. 1P 110/220V
K	30A. 2P SERVICE SW. FUSED AT 30A
L	LIGHTING PANEL 'A'
M	THERMAL SWITCH
N	TO MOTOR #3
O	TIME METER

NOTE: SERVICE MAST LOCATION DETERMINED BY DIRECTION OF POWER LINES.

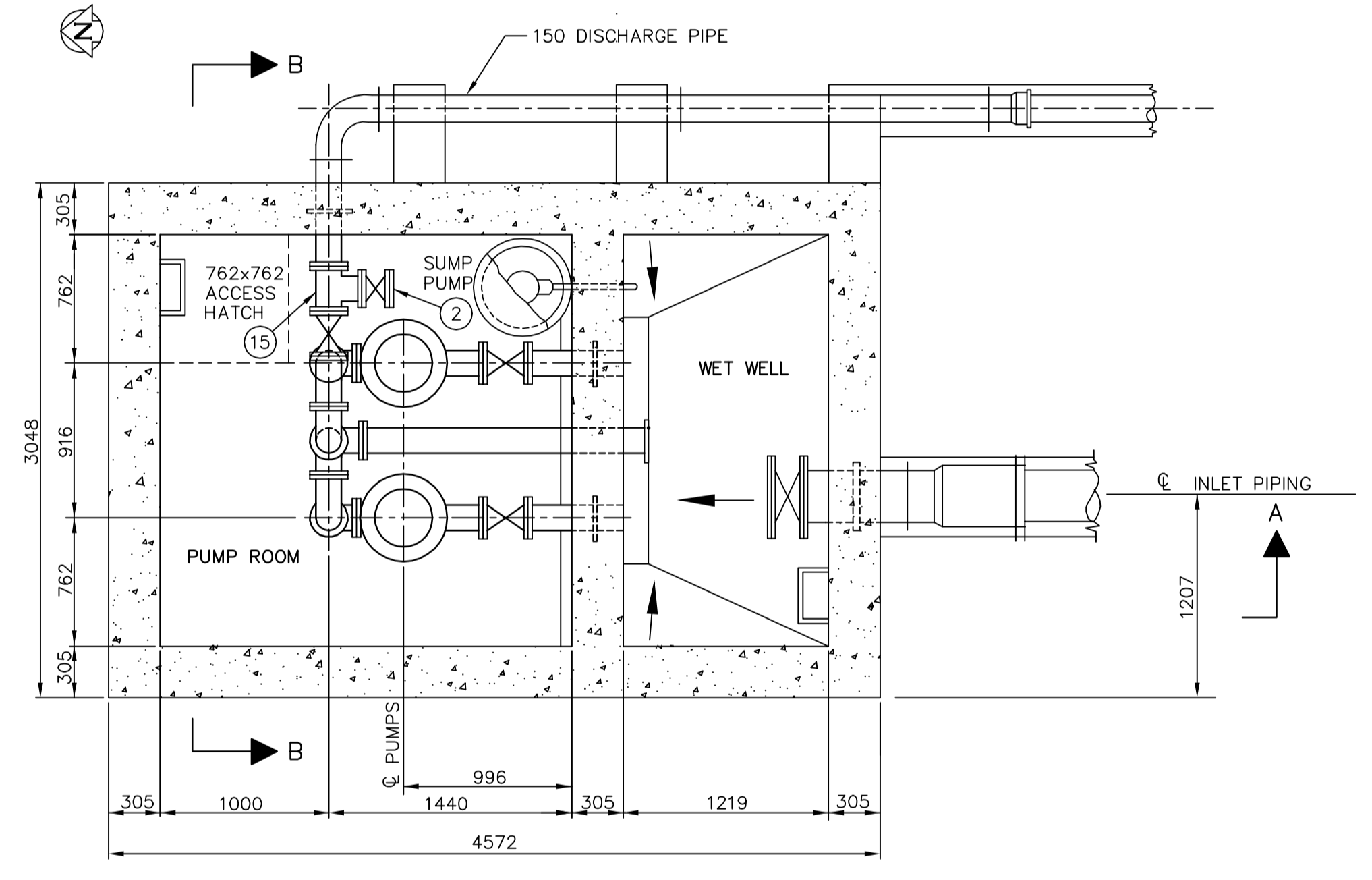
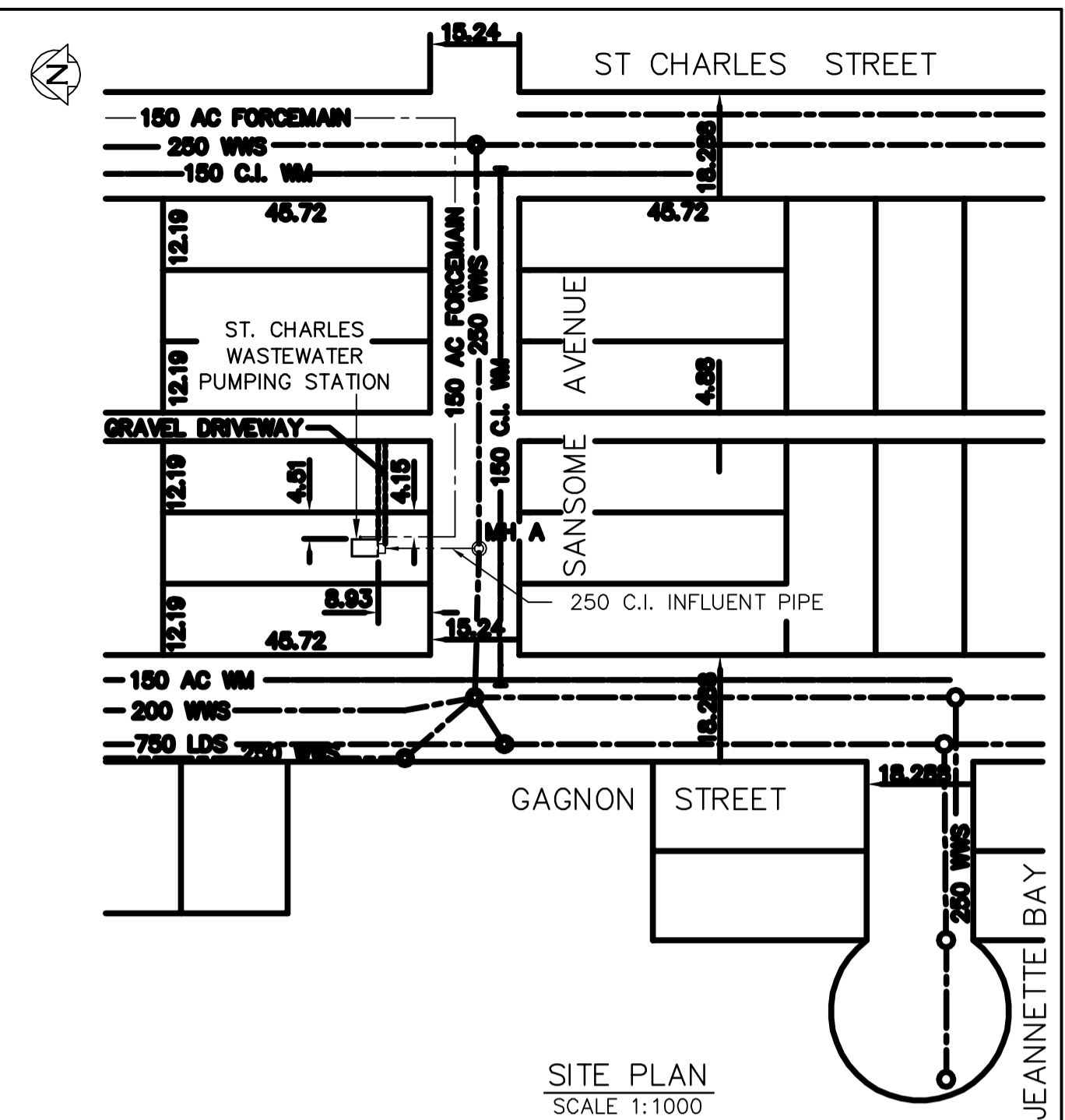
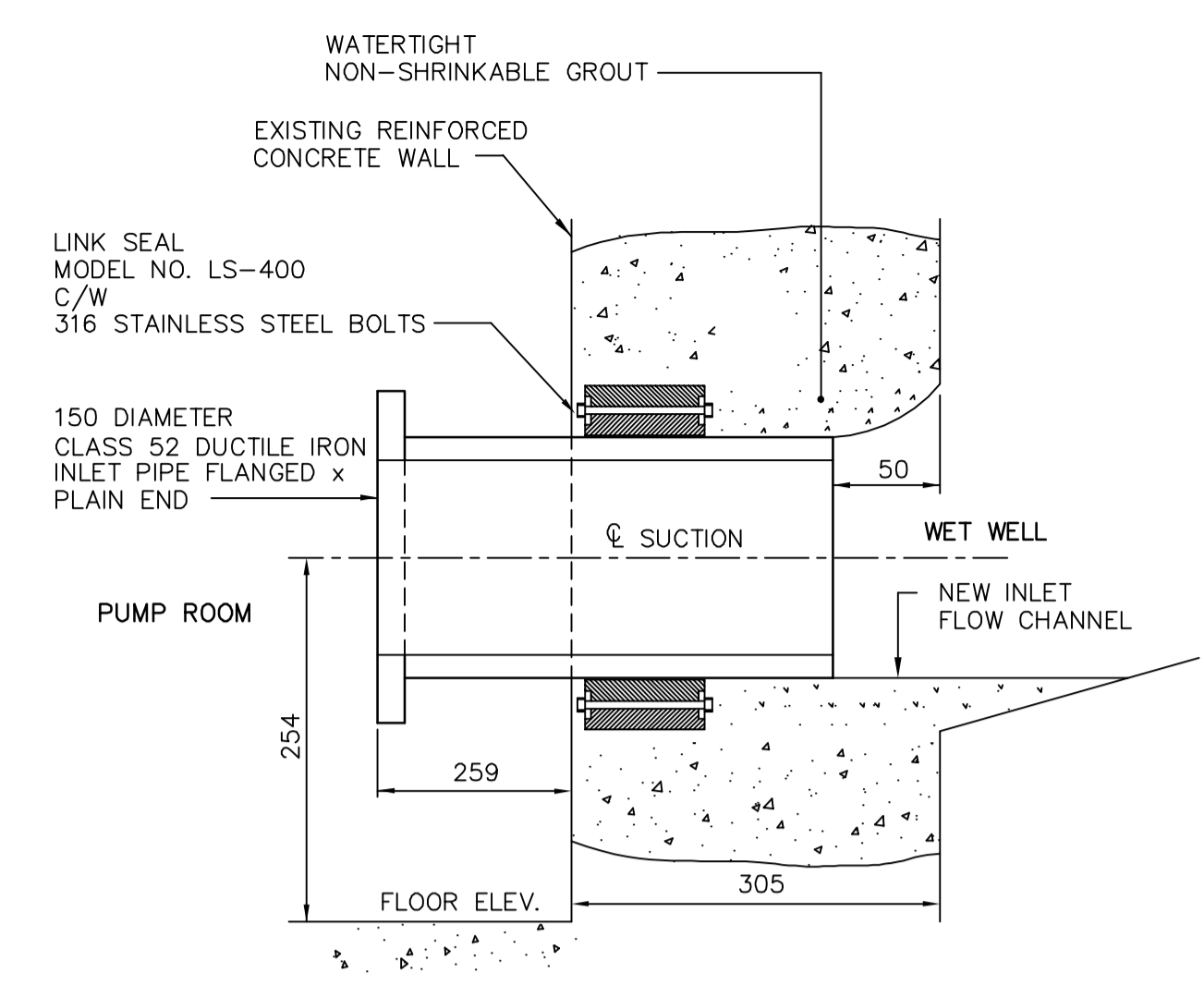
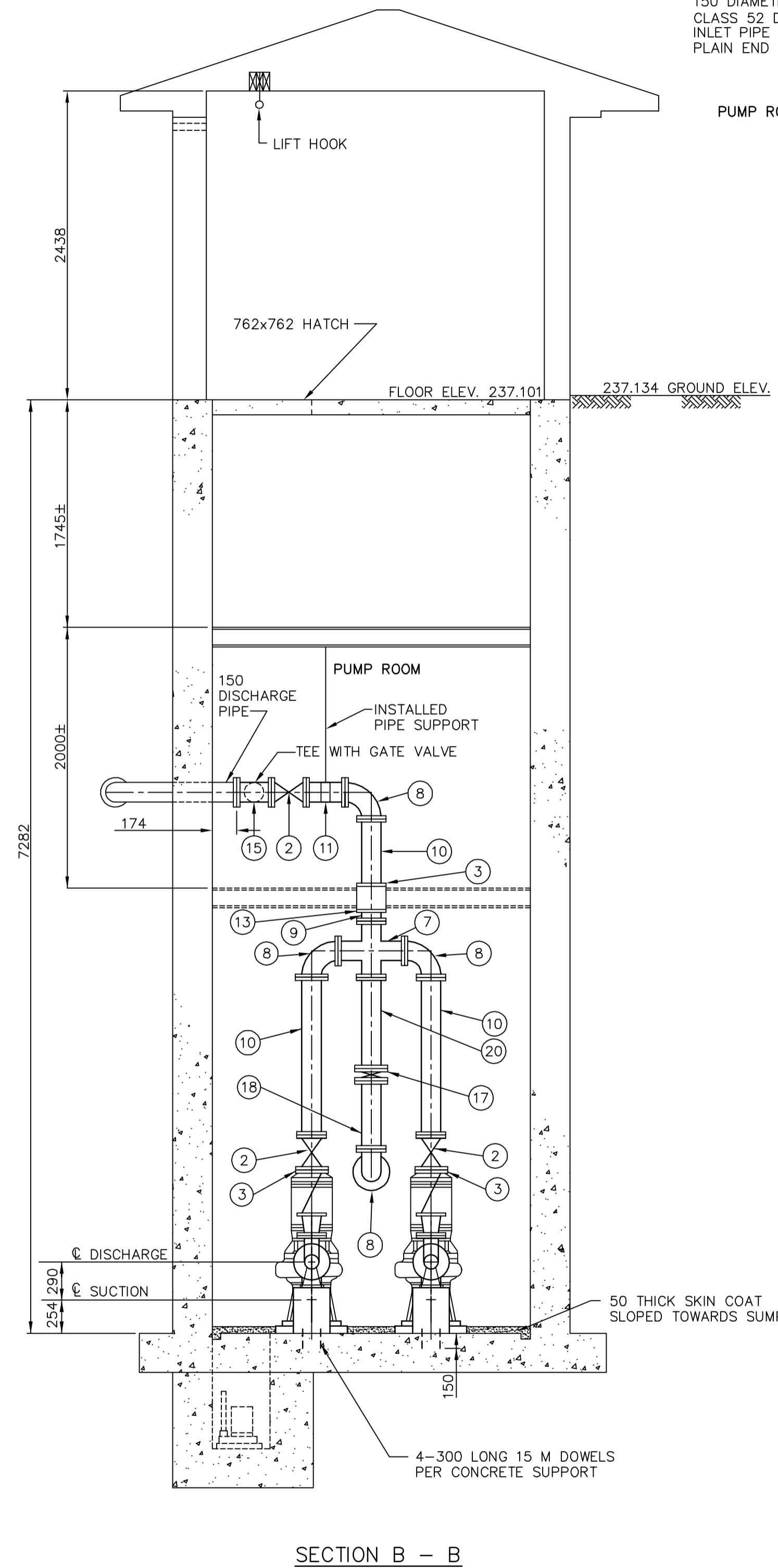
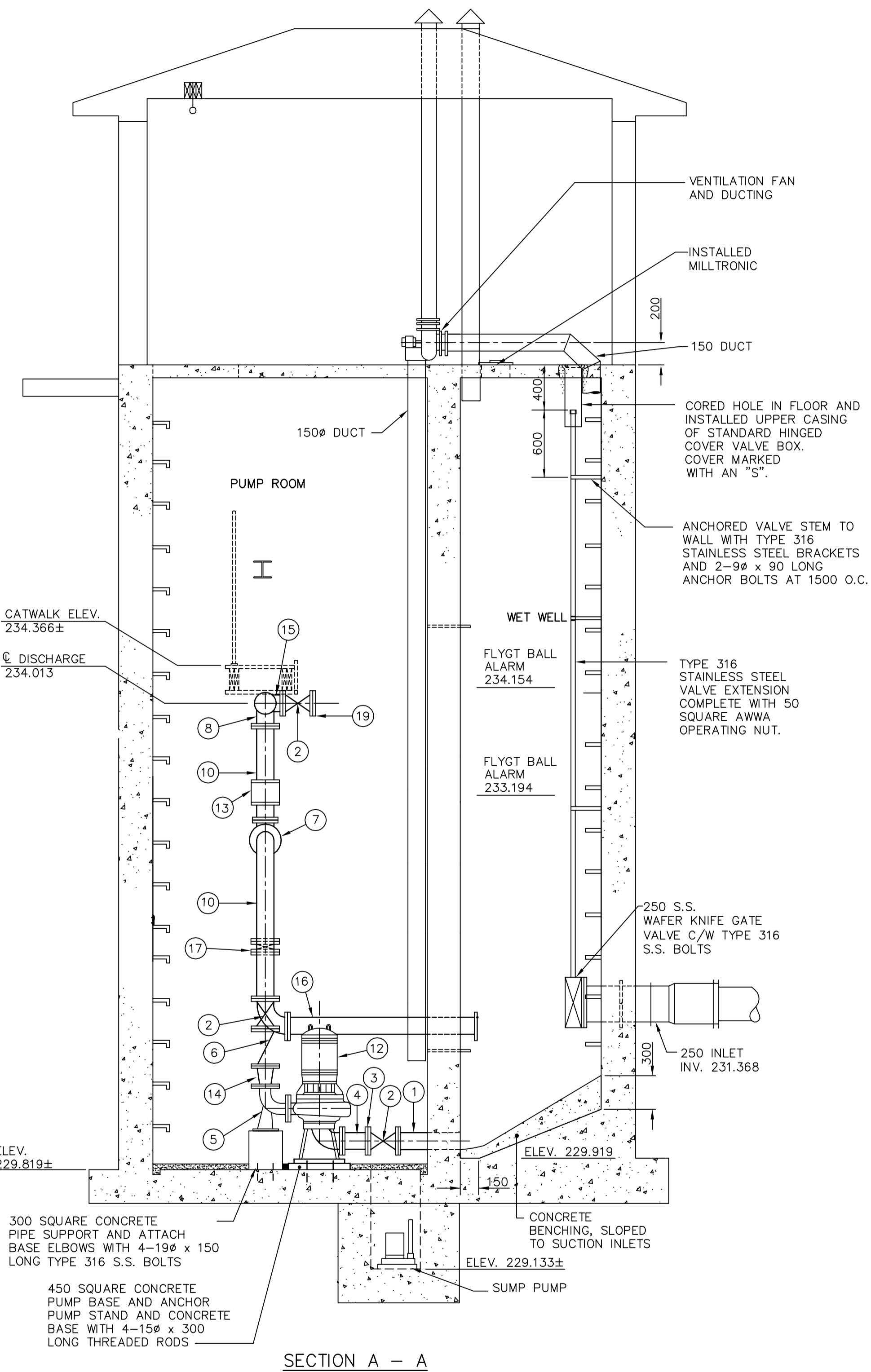


PUMP MOTOR CONTROL DIAGRAM

	DETAIL NO. REFER TO SHEET DETAIL SYMBOL	MUNICIPALITY OF ASSINIBOIA, MAN. ST. CHARLES SEWAGE PUMPHOUSE ELECTRICAL
	CITY DRAWING NO. 1423 DRAWN BY: J.A.M. TRACED BY: CHECKED BY: DESIGNED BY: LAYOUT BY:	UNDERWOOD McLELLAN & ASSOCIATES LIMITED CONSULTING PROFESSIONAL ENGINEERS CALDARY - SASKATOON - WINNIPEG
No. DESCRIPTION DATE BY	SHEET 4 OF 4 APPROVED BY DATE	JAN. 1980 DATE
REVISIONS	SCALE: AS SHOWN	DRAWING No. 22 06308-S4

1423

FILE # 5710535



- NOTES**
1. LENGTHS SHOWN FOR PIPING ARE FACE TO FACE AND DO NOT INCLUDE GASKET THICKNESS.
  2. GASKETS ARE 3 mm THICK, FULL FACED, CLOTH INSERTED RUBBER.
  3. ALL FASTNERS ARE TYPE 316 STAINLESS STEEL.
  4. ALL PIPES ARE CLASS 52 DUCTILE IRON OR SCHEDULE 40 STEEL.
  5. ALL FLANGED FITTINGS CONFORM TO AWWA C110
  6. ALL FLANGES ARE WELDED INSIDE AND OUT IN ACCORDANCE WITH AWWA C-207 CLASS D.
  7. ALL BOLTS ARE KWIK BOLT STUD ANCHOR
  8. BONDING AGENT IS ACRYL-STIX

**AS-CONSTRUCTED**

CONTRACT ADMINISTRATION      DRAFTING & GRAPHIC SERVICES      DATE

WATER AND WASTE DEPARTMENT

LIST OF MATERIALS				LIST OF MATERIALS			
ITEM	ENDS	LENGTH	QUANTITY	ITEM	ENDS	LENGTH	QUANTITY
1.	150 INLET PIPE, PLAIN ENDS	461	2	11.	150 FILLER PIPE	FLANGED	280
2.	150 GATE VALVE	FLANGED	267	6	AURORA 664A - 4 X 4 X 9 VERTICAL NON-CLOG VORTEX PUMP		2
3.	150 SERIES 400 UNI-FLANGE		6	13.	FLOW METER		1
4.	150 FILLER PIPE FLANGE TO PLAIN END	267	2	14.	150 - 100 REDUCER SUPPLIED BY OWNER	FLANGED	230
5.	100 BASE ELBOW	FLANGED	2	15.	150 x 150 x 150 x CAST IRON TEE	FLANGED	1
6.	150 BALL CHECK VALVE	FLANGED	352	16.	150 FILLER PIPE	FLANGED	1715
7.	150 x 150 x 150 x CAST IRON CROSS	FLANGED	412V x 408H	1	17.	150 WAFER KNIFE GATE VALVE	FLANGED
8.	150 STANDARD 90° ELBOW	FLANGED	4	18.	150 FILLER PIPE	FLANGED	±300
9.	150 FILLER PIPE	FLANGED	300	1	19.	150 FILLER PIPE	FLANGED 12Y PLAIN END
10.	150 FILLER PIPE	FLANGED	430	1		#7 890	2
						#2 910	1
				20.	150 FILLER PIPE	FLANGED	650

**CITY OF WINNIPEG  
WATER AND WASTE  
ENGINEERING DIVISION**

DESIGNED BY: DS      CHECKED BY: JE  
 DRAWN BY: TM      APPROVED BY: [Signature]  
 HOR. SCALE: 1 : 30 OR AS SHOWN  
 VERTICAL: AS SHOWN  
 RELEASED FOR CONSTRUCTION: [Date]  
 DATE: [Date]

ENGINEER'S SEAL

PD94-150  
 AUTOCAD 13  
 FILENAME: 1419.DWG  
 PLOT DATE: 1998.09.04

**THE CITY OF WINNIPEG**  
 WORKS AND OPERATIONS DIVISION  
 WATERWORKS WASTE AND DISPOSAL DEPARTMENT

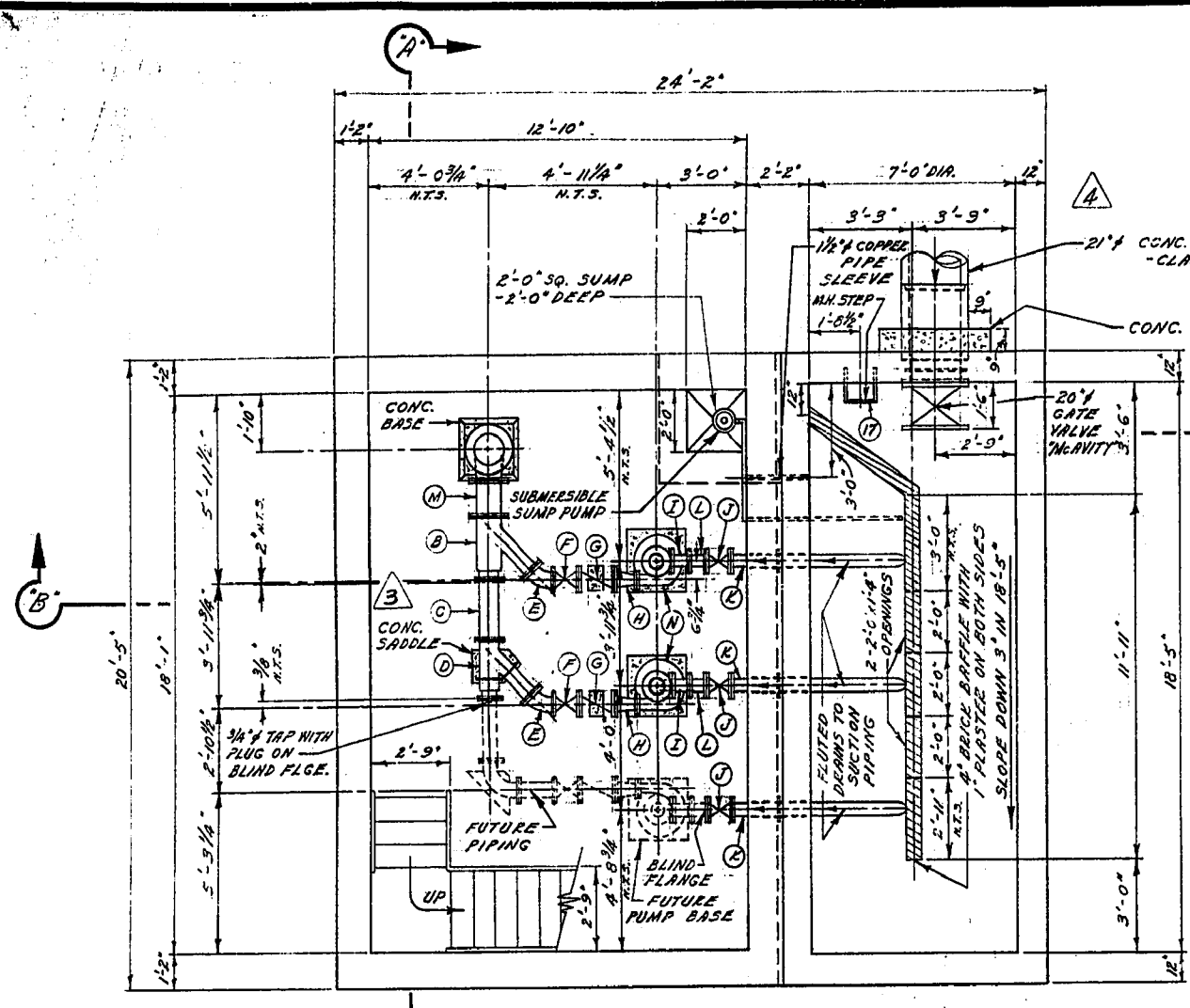
ST. CHARLES WASTEWATER  
 PUMPING STATION UPGRADING

PLAN AND SECTIONS

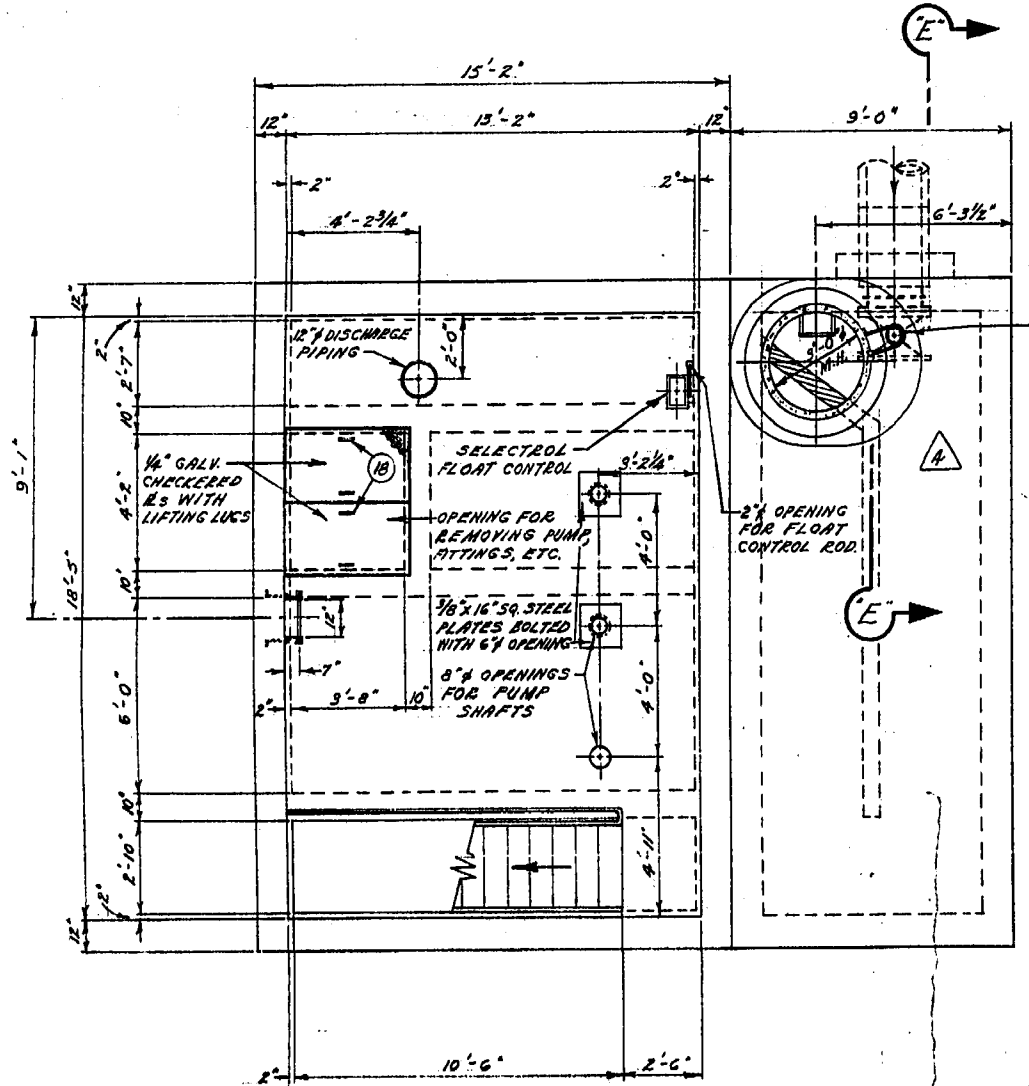
SHEET 1 OF 1  
 CITY DRAWING NUMBER  
**1419**



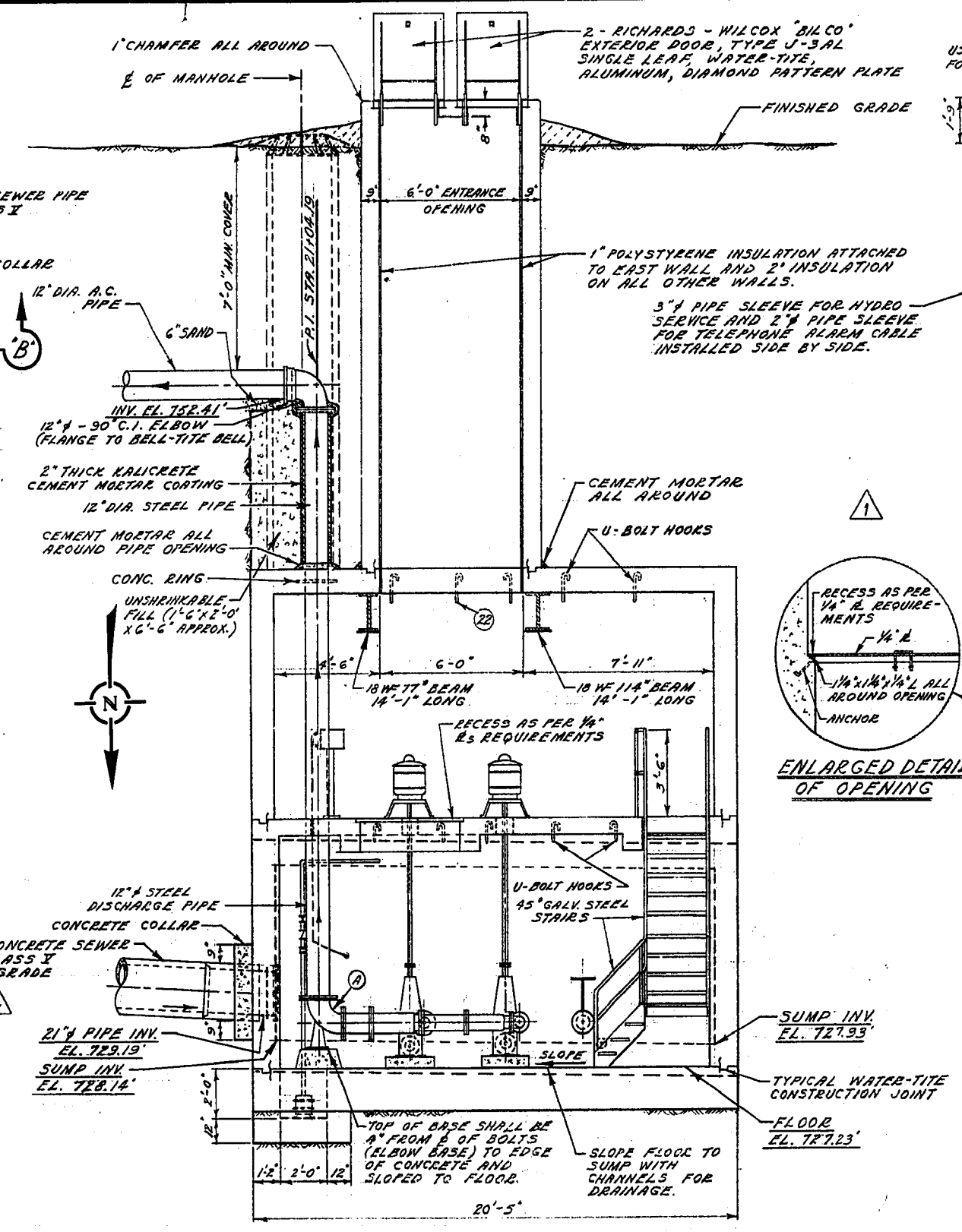
# University of Manitoba Lift Station Drawings



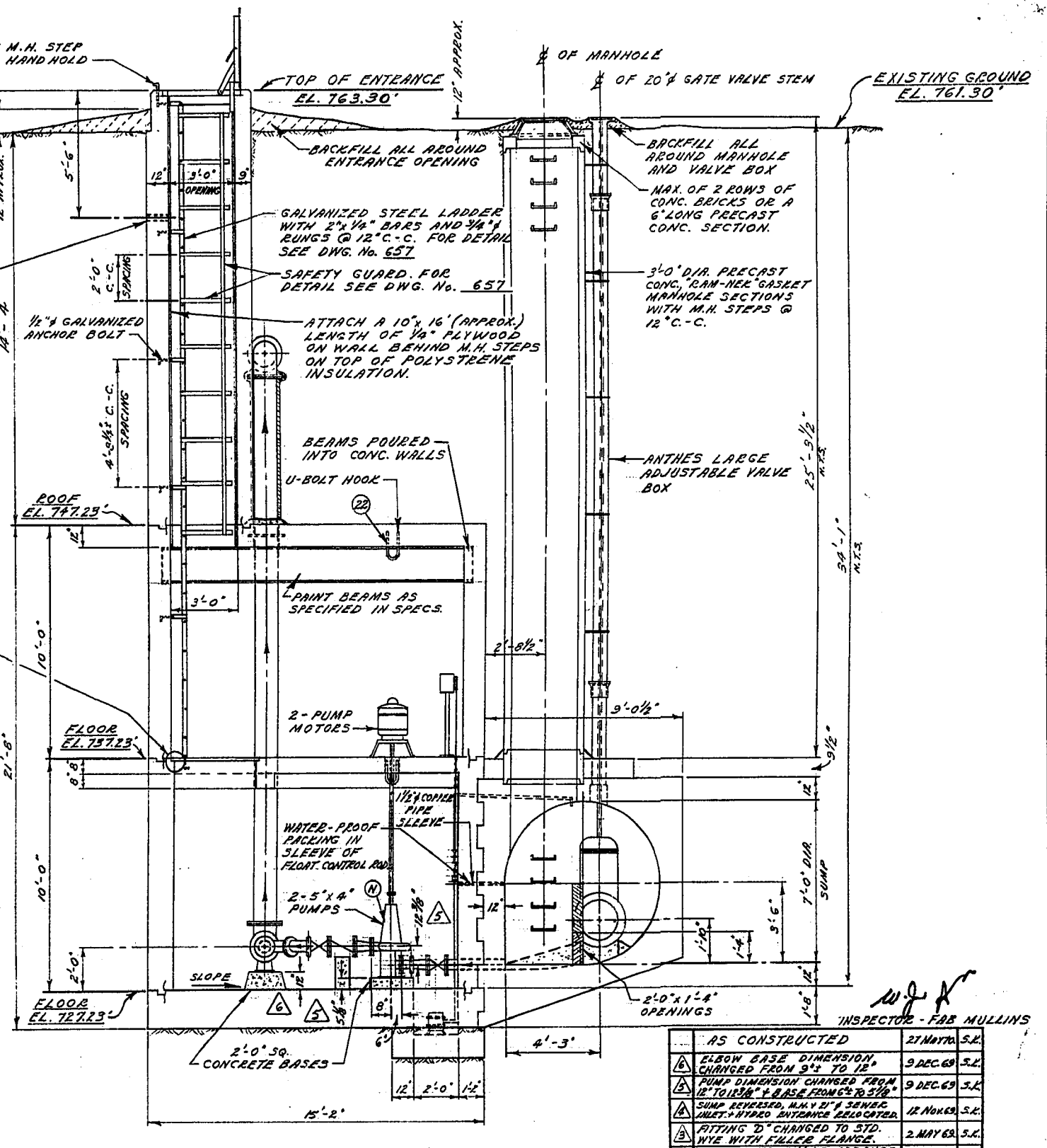
PUMP ROOM AND SUMP FLOOR PLAN



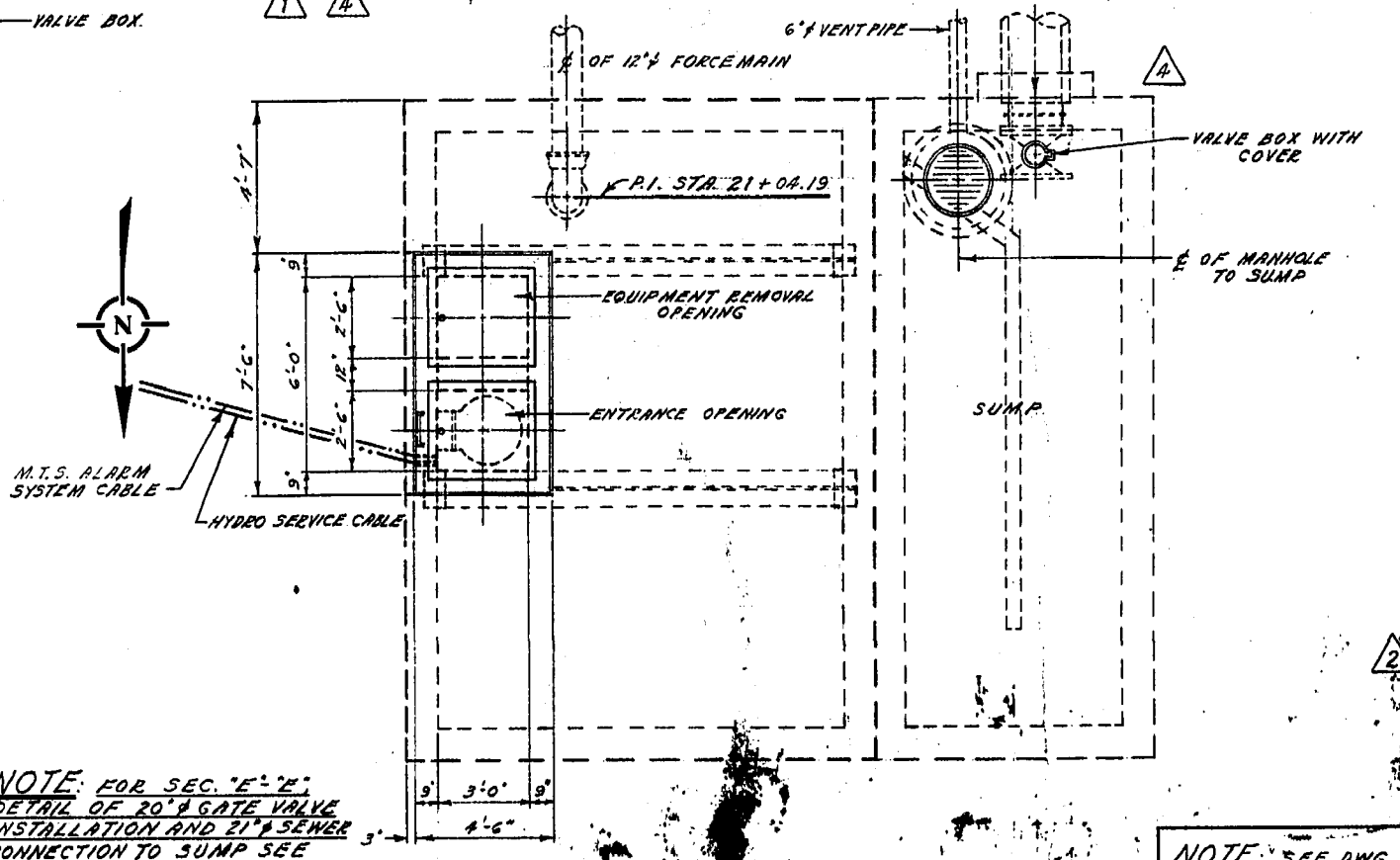
PUMP MOTOR ROOM FLOOR PLAN



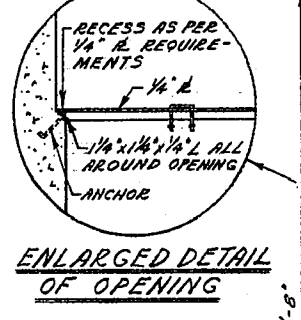
SEC. "A"- "A" (LONGITUDINAL SECTION - LOOKING WEST)



SEC. "B"- "B" (CROSS-SECTION - LOOKING SOUTH)



GROUND SURFACE ROOF PLAN



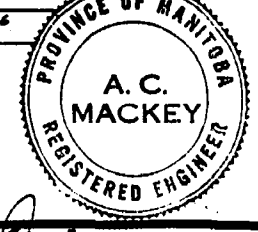
**NOTES**

- FIELD CHECK ALL ELEVATIONS AND INVERTS PRIOR TO CONSTRUCTION.
- ALL MISC. IRON WORKS TO BE HOT GALVANIZED AFTER FABRICATION.
- ALL STAIRS SHALL BE PREFABRICATED STEEL CONSTRUCTION TO SUIT FIELD DIMENSIONS WHERE NECESSARY. STANDARD PIPE HANDRAILS AS SHOWN.
- ALL WCTAULIC COUPLINGS TO BE STYLE "44", EXCEPT 5" COUPLINGS TO BE STYLE "11".
- A SHORT LENGTH OF PIPE (4'-0" OR LESS) SHALL BE INSTALLED ADJACENT TO ALL CAST IRON OR RIGID FITTINGS.
- REFER TO APPROVED MANUFACTURERS' DRAWINGS FOR DETAIL OF MONARCH MACHINERY CO. LTD. PUMPING UNITS.
- (M) - NUMBERS REFER TO DETAIL NO. OF STD. METRO SEWAGE AND STD. COMMUNICATOR AND PUMPING STATION DETAIL DRAWINGS.
- (L) - LETTERS REFER TO FITTINGS IN "LIST OF FITTINGS" TABLE.
- 1/2" CLEARANCE PROVIDED FOR GASKETS BETWEEN FITTINGS.
- SUBMERSIBLE SUMP PUMP - MONARCH MODEL NO. 44, CAPACITY - 3300 U.S.G.P.M., H.P. - 15, VOLTS - 115, SINGLE PHASE AND 1750 R.P.M.

INSPECTOR - F.B. MULLINS

NO.	DESCRIPTION	DATE	BY
1	AS CONSTRUCTED	21 MAY 62	S.E.
2	ELBOW BASE DIMENSION CHANGED FROM 9" TO 15"	3 DEC 62	S.E.
3	PUMP DIMENSION CHANGED FROM 12" TO 18" & BASE FROM 6" TO 2 1/2"	9 DEC 62	S.E.
4	SUMP REVISION, MANY OF 4 SENSORS INSTALLED INSTEAD OF 6 SENSORS	12 MAR 63	S.E.
5	FITTING "D" CHANGED TO STD. WYE WITH FULLER FLANGE	2 MAY 63	S.E.
6	NOTE STARTING FOR CLEARANCE FOR SUBJECTS ADDED	2 MAY 63	S.E.
7	5" PIPE SLEEVE FOR HYDRO CABLE TO STATION ADDED	2 MAY 63	S.E.

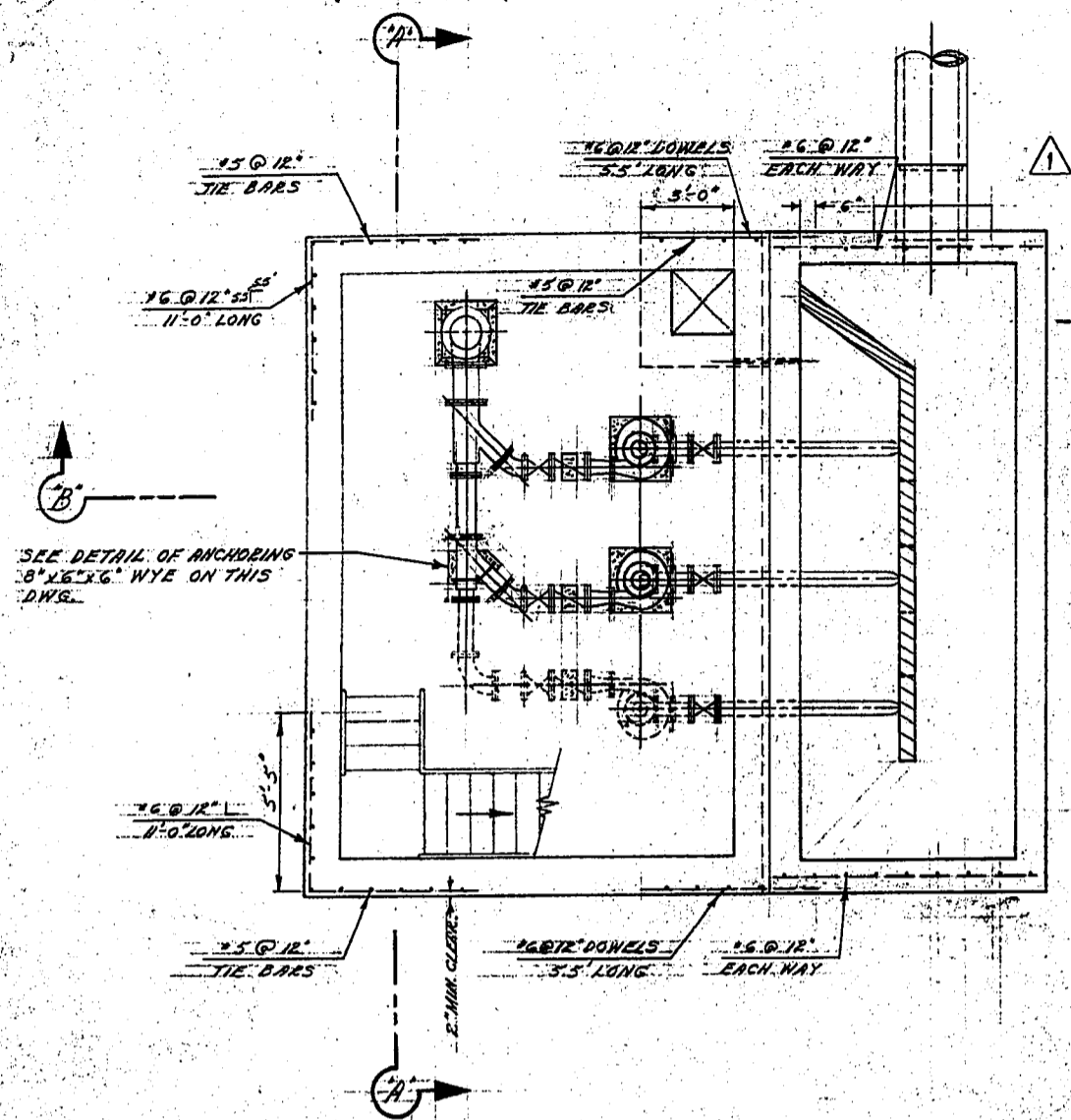
ITEM	DESCRIPTION	LENGTH	QUANTITY
A	12" x 10" - 90° C.I. REDUCING BASE ELBOW FLANGED.	1'-0"	1
B	10" x 8" x 6" - 45° C.I. REDUCING WYE FLANGED.	2'-1 1/2"	1
C	6" C.I. SHORT FLANGED.	1'-10 3/4"	1
D	8" x 6" x 4" - 45° C.I. REDUCING WYE FLANGED. 6" BRANCH - 1'-5 3/4" LONG. (SPECIAL)	1'-10"	1
E	6" x 4" - 45° C.I. ELBOW. (FLANGE TO WCTAULIC)	0'-5"	2
F	6" x 4" GATE VALVE (WCTAULIC TO FLANGE)	0'-10 1/2"	2
G	6" x 4" CHECK VALVE FLANGED.	1'-2"	2
H	6" x 4" C.I. REDUCER FLANGED.	0'-9"	2
I	5" C.I. SHORT (FLANGE TO WCTAULIC)	0'-6 3/4"	2
J	5" x 4" GATE VALVE FLANGED.	0'-10"	3
K	5" x 4" C.I. SHORT (FLANGE TO FLANG)	2'-8"	3
L	5" x 4" C.I. SHORT (WCTAULIC TO FLANGE)	0'-6 3/4"	2
M	10" x 8" x 6" SHORT FLANGED. LENGTH - 1'-11 1/2"	QUANTITY - 1	
N	MONARCH PUMPS, MODEL 47 DYE - 8 1/2" 3" SUCTION, 4" DISCHARGE - QUANTITY - 2		



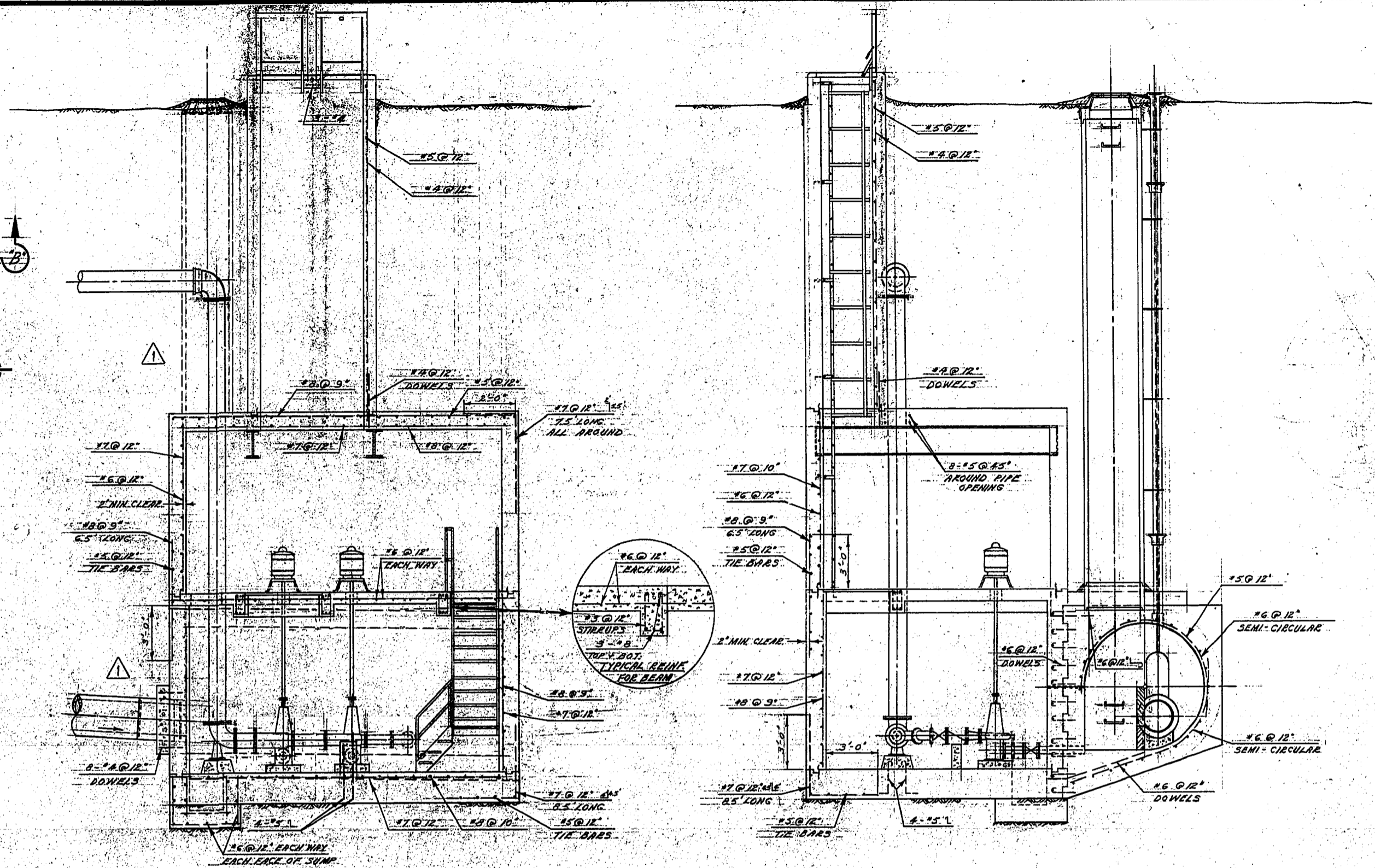
THE METROPOLITAN CORPORATION OF GREATER WINNIPEG  
**WATERWORKS & WASTE DISPOSAL DIVISION**  
 A. PENMAN - DIRECTOR

SEWAGE DISPOSAL DEPT.  
**UNIVERSITY OF MANITOBA PUMPING STATION SUBSTRUCTURE**

DESIGNED BY: [Signature]  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: [Date]  
 SCALE: 1/4" = 1'-0"  
**DRAWING NO. 583**

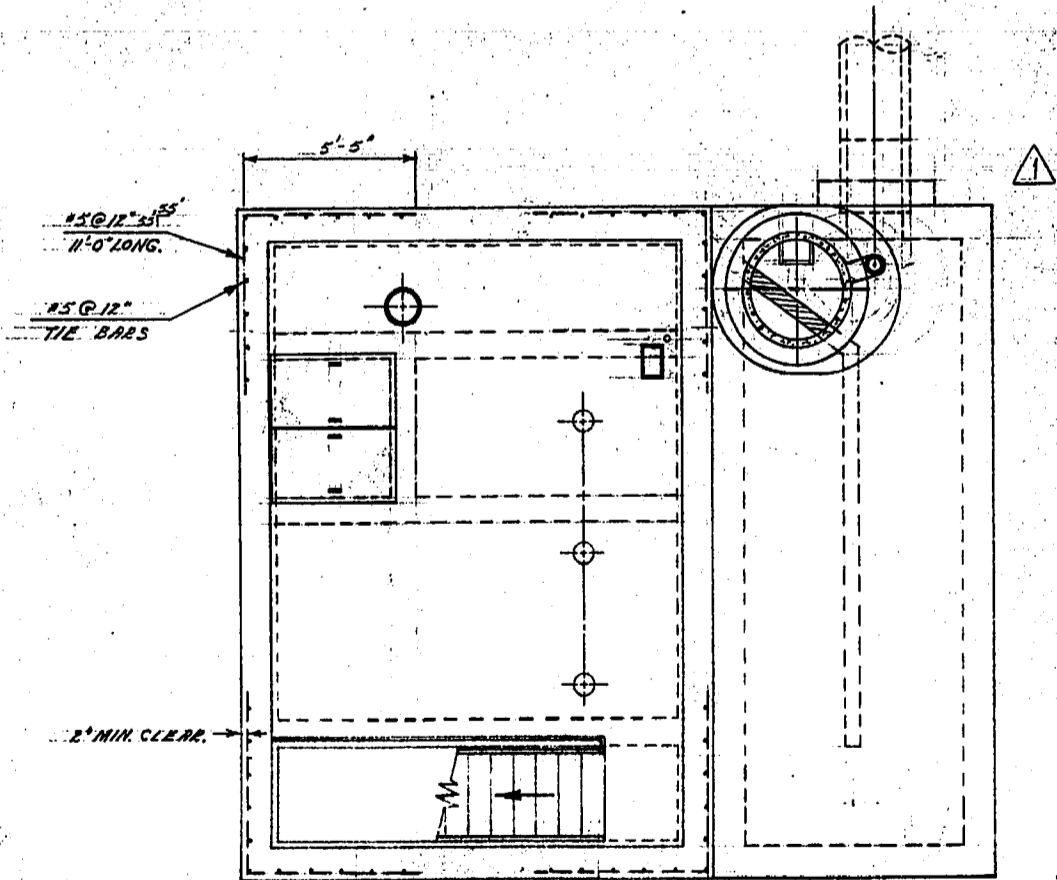


PUMP ROOM AND SUMP FLOOR PLAN

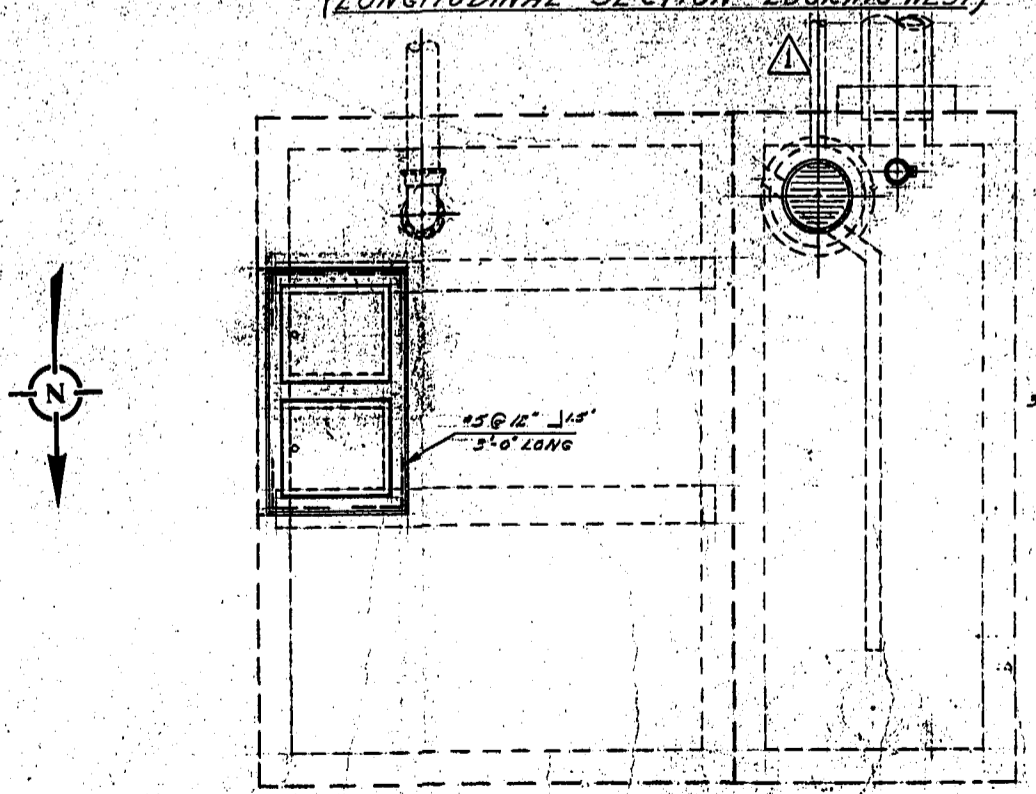


SEC. 'A'-'A'  
(LONGITUDINAL SECTION - LOOKING WEST)

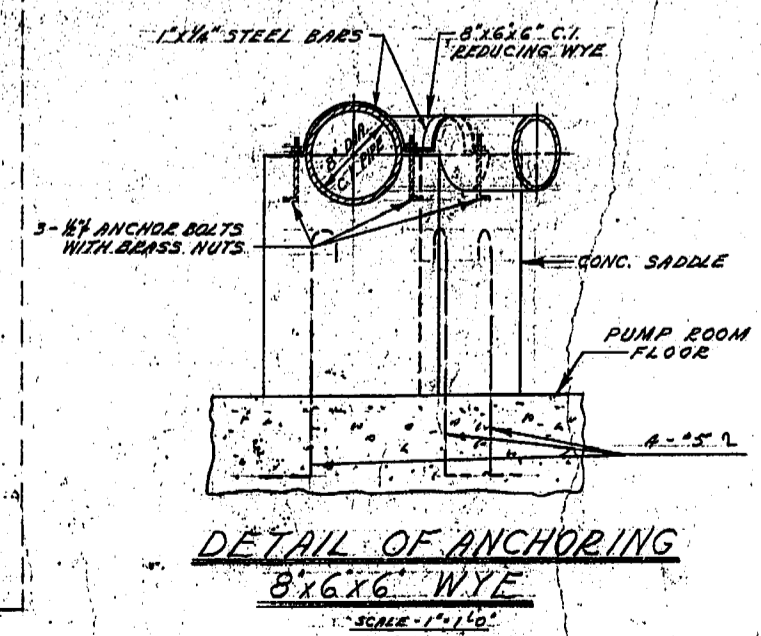
SEC. 'B'-'B'  
(CROSS-SECTION - LOOKING SOUTH)



PUMP MOTOR ROOM FLOOR PLAN



GROUND SURFACE ROCK PLAN

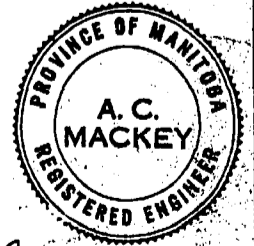


DETAIL OF ANCHORING  
8" X 6" WYE  
SCALE: 1" = 1'-0"

Inspector - *F.R. Mullins*

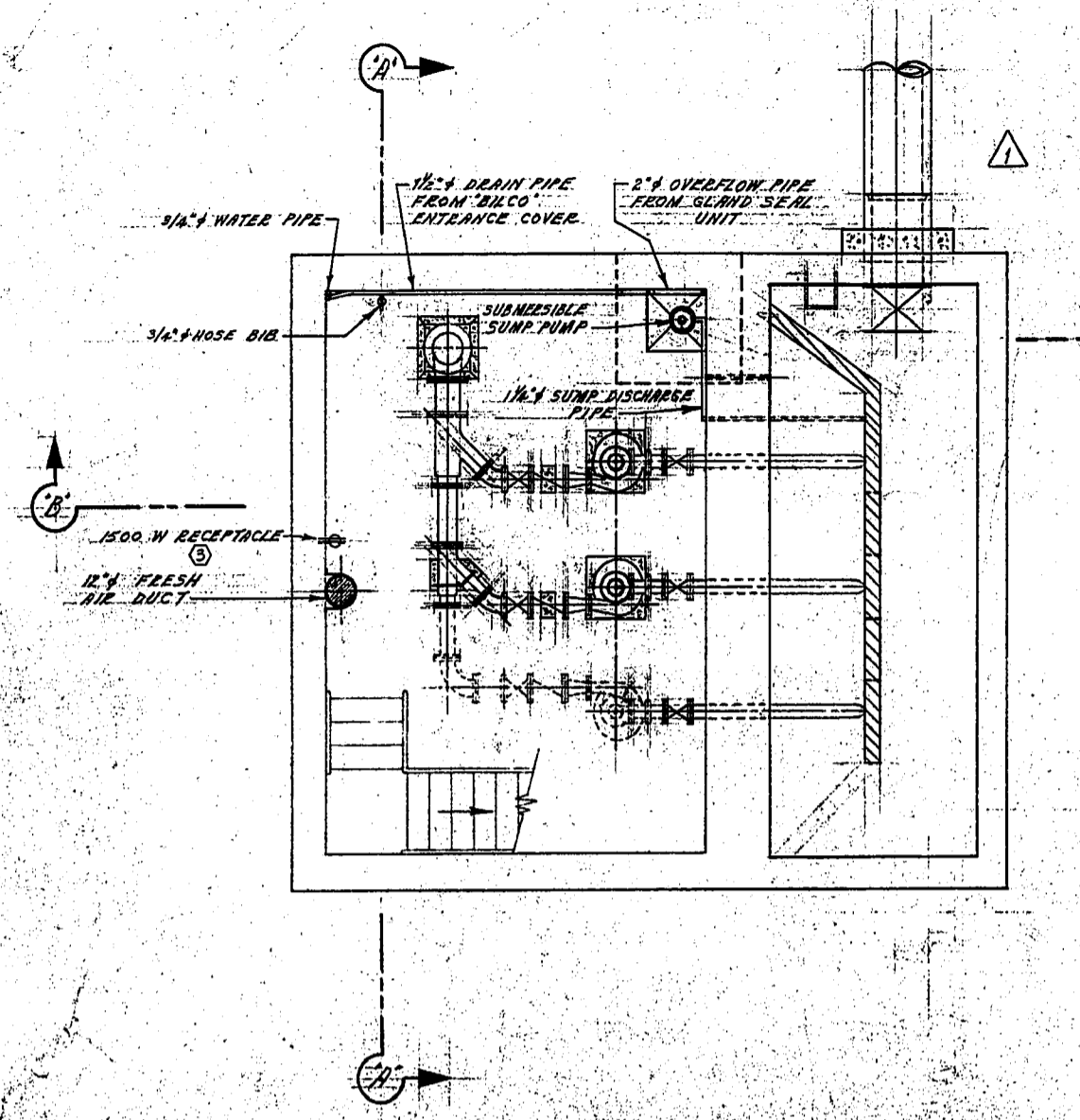
No.	DESCRIPTION	DATE	BY
AS CONSTRUCTED		27 MAY 68	S.K.
Δ	PUMP REVERSALS 2 1/2" S.W.P. ENTRANCE AND A.H. BELLOTTA	10 MAY 68	S.K.

REVISIONS

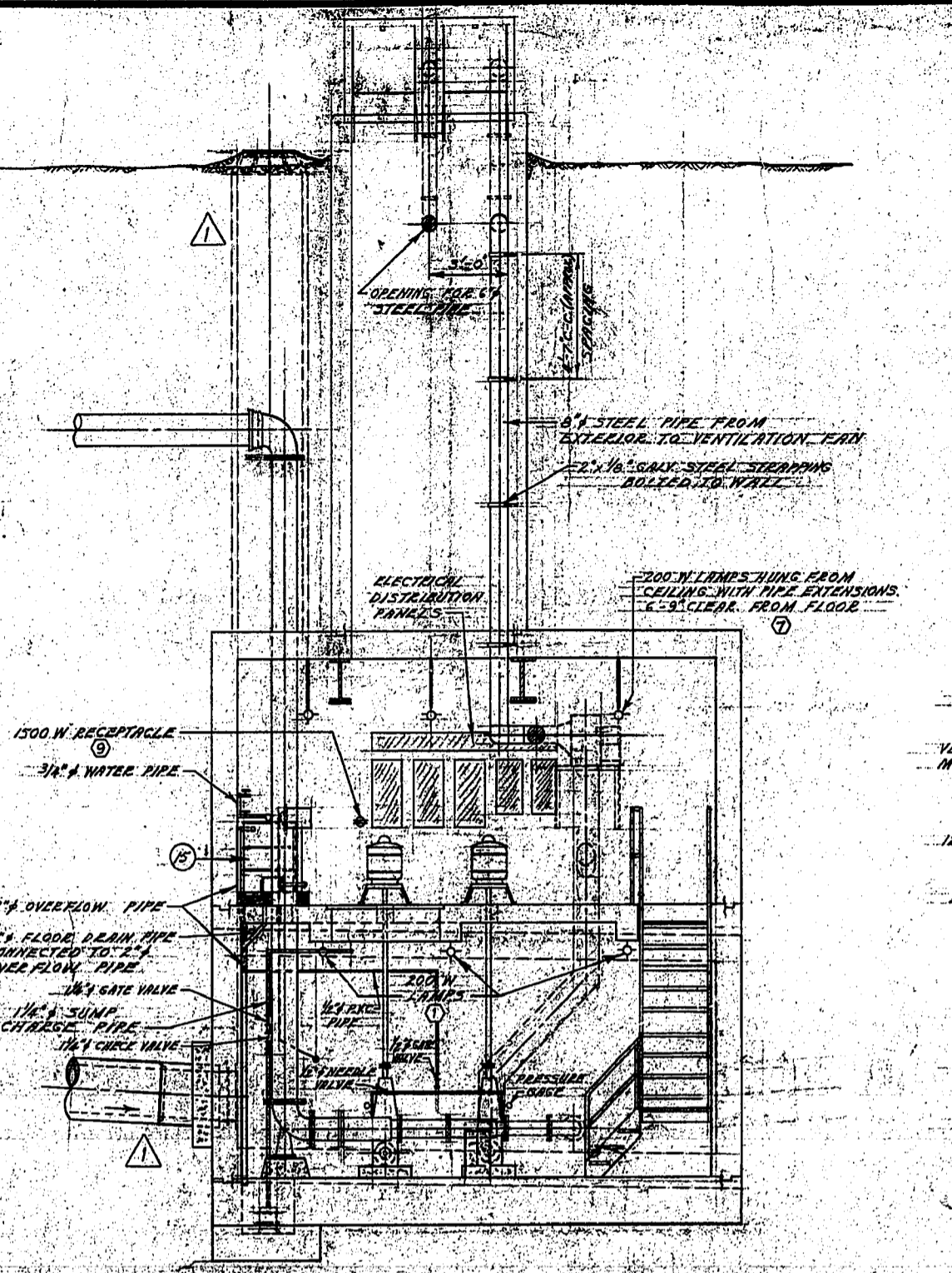


THE METROPOLITAN CORPORATION OF GREATER WINNIPEG <b>WATERWORKS &amp; WASTE          DISPOSAL DIVISION</b> PERMAN - DIRECTOR	SEWAGE DISPOSAL DEPT. <b>UNIVERSITY OF MANITOBA          PUMPING STATION          DETAIL OF          REINFORCING</b>	DESIGNED BY: <i>[Signature]</i> DRAWN BY: <i>[Signature]</i> ENGR. IN CHARGE: <i>[Signature]</i> APPROVED BY: <i>[Signature]</i>	CHECKED BY: <i>[Signature]</i> DATE: 10 MAY 68 SCALE: 1/4" = 1'-0" DRAWING NO.: <b>584</b>
	PROJECT NO. 1970 PROJECT FILED 1970		

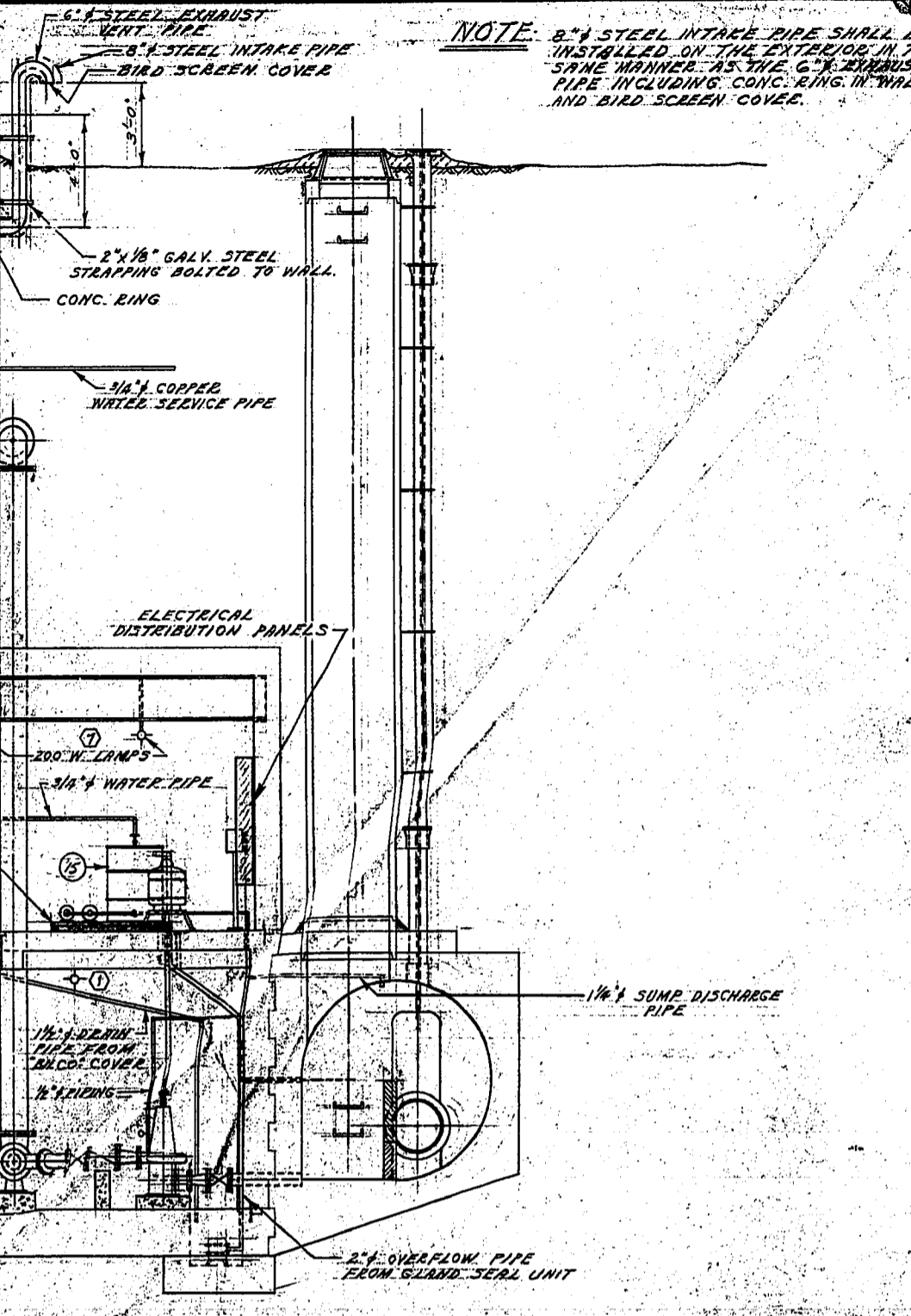




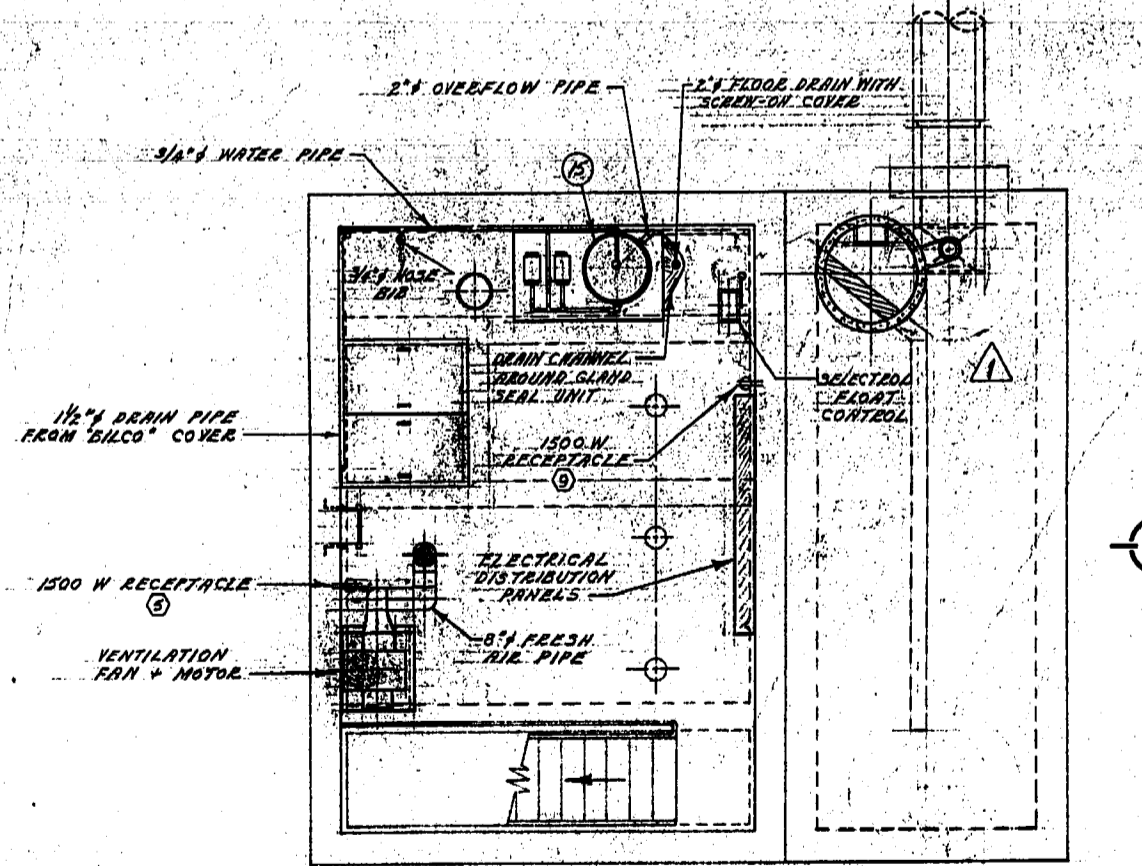
PUMP ROOM AND SUMP FLOOR PLAN



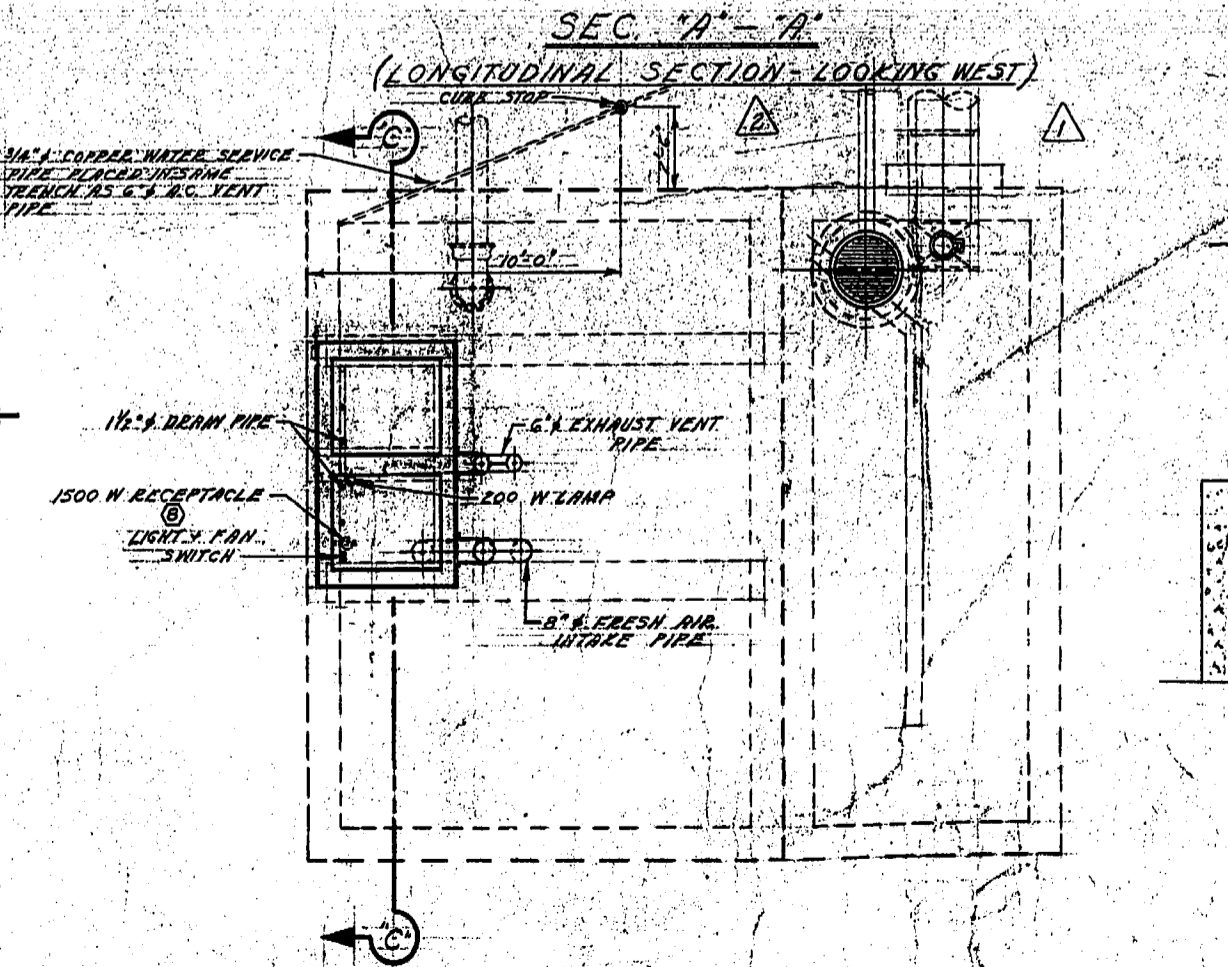
SEC. "A" - "A" (LONGITUDINAL SECTION - LOOKING WEST)



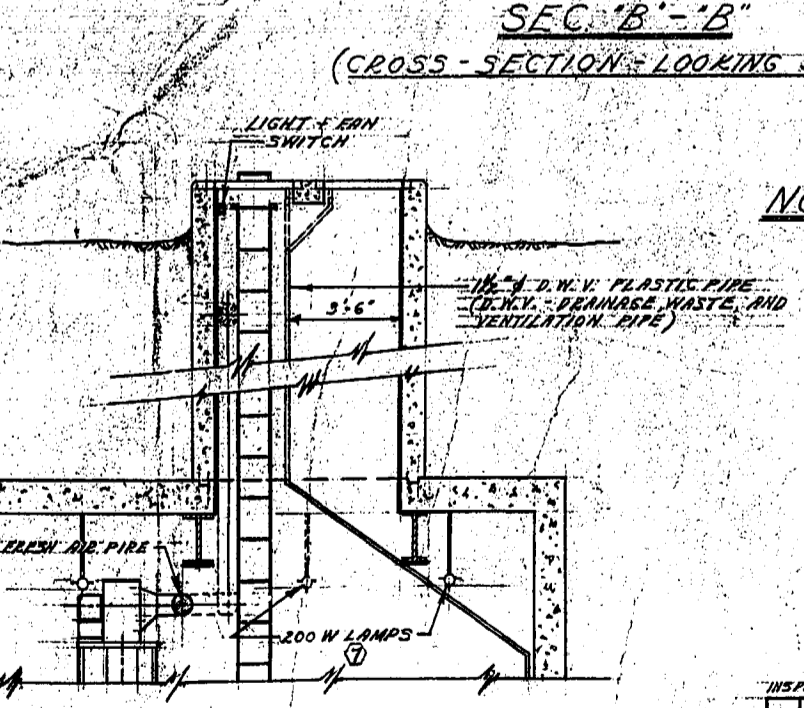
SEC. "B" - "B" (CROSS-SECTION - LOOKING SOUTH)



PUMP MOTOR ROOM FLOOR PLAN



GROUND SURFACE ROOF PLAN



SEC. "C" - "C"

**NOTE:**

1. (C) NUMBERS REFER TO DETAILING OF STD. COMMERCIAL AND PUMPING STATION DESIGN DRAWINGS.
2. ALL MISC. METAL WORK TO BE HOT GALVANIZED AFTER FABRICATION.
3. PIPE SLEEVE FOR 3/4" WATER SERVICE PIPE SHALL BE CRUISED WITH DUCT SEAL OR APPROVED EQUAL TO EACH FACE.
4. AIR DUCTS AND PIPES AND SMALL PIPING TO BE STRAPPED TO WALL AT 6'-0" INTERVALS AND WHEREVER NECESSARY.
5. (E) NUMBERS ARE ELECTRICAL LIGHTING PANEL NUMBERS. SEE DWG. NO. 585 - ELECTRICAL DIAGRAMS.

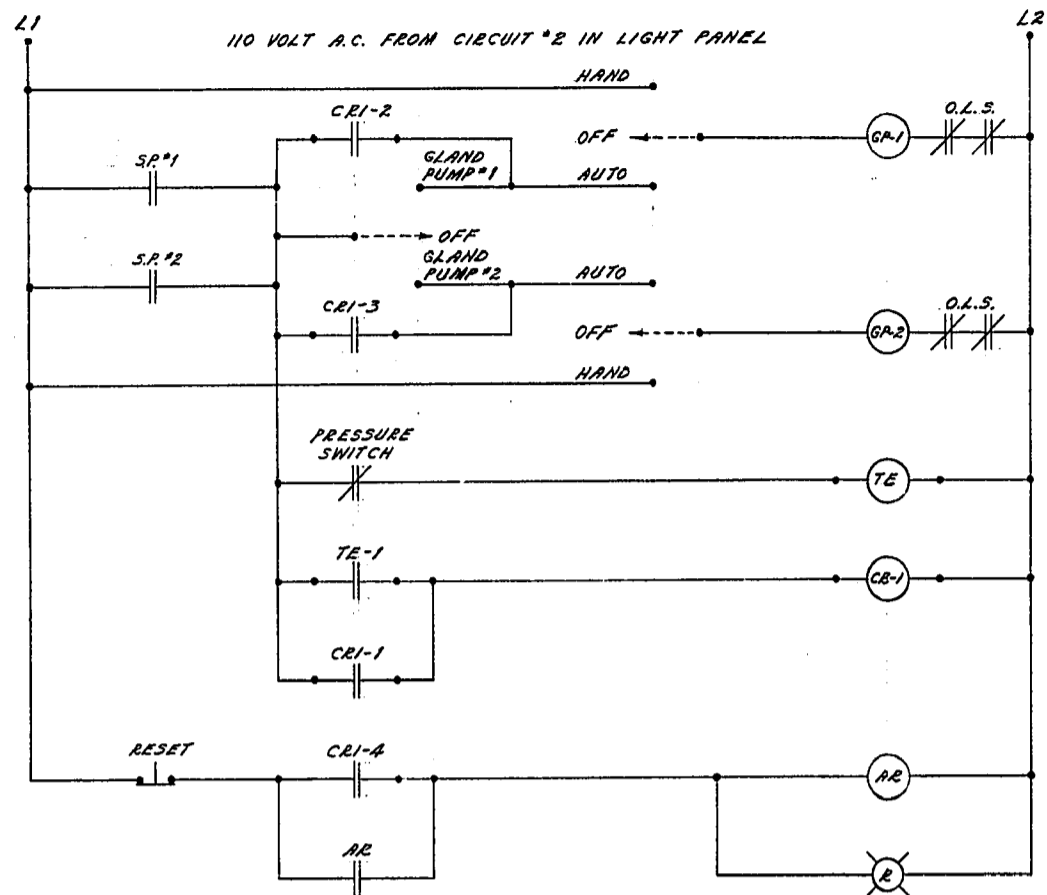
INSPECTOR - F.B. WOLLENS

NO.	DESCRIPTION	DATE	BY
AS CONSTRUCTED			
1/4" WATER SERVICE PIPING TO PUMPING STATION REJECTED	WANNAB, J.C.		
SUMP REJECTED BY SENSE WELT AND RE-ACCEPTED, ETC.	WANNAB, J.C.		

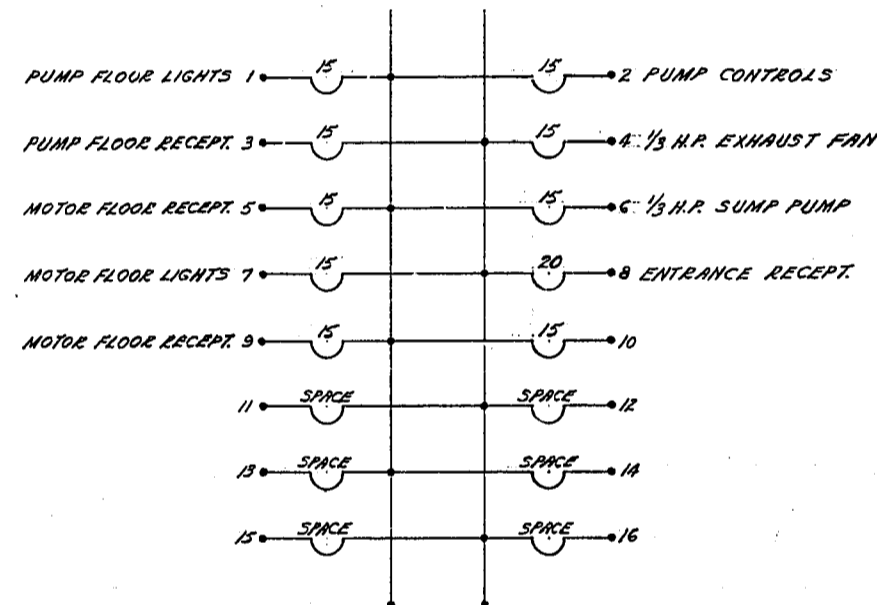
REVISIONS



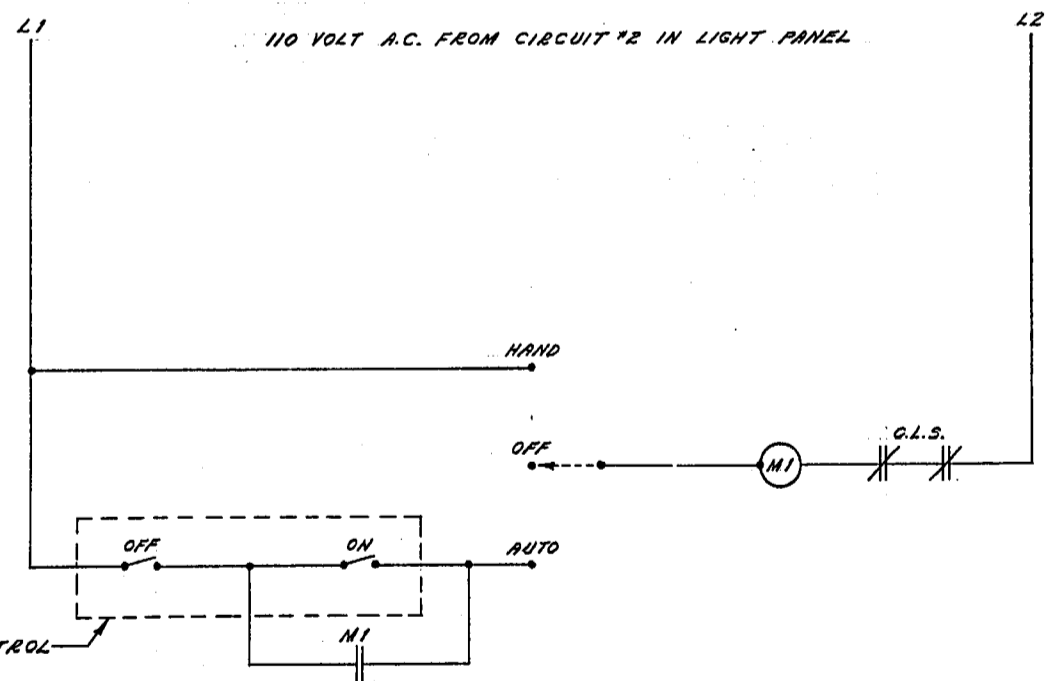
THE METROPOLITAN CORPORATION OF GREATER WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION WINNIPEG - MANITOBA	SEWAGE DISPOSAL DEPT. UNIVERSITY OF MANITOBA PUMPING STATION DETAIL OF VENTILATION AND MISC. PIPING	SCALE: 1/4" = 1'-0" DRAWING NO.: 589
---	--	---



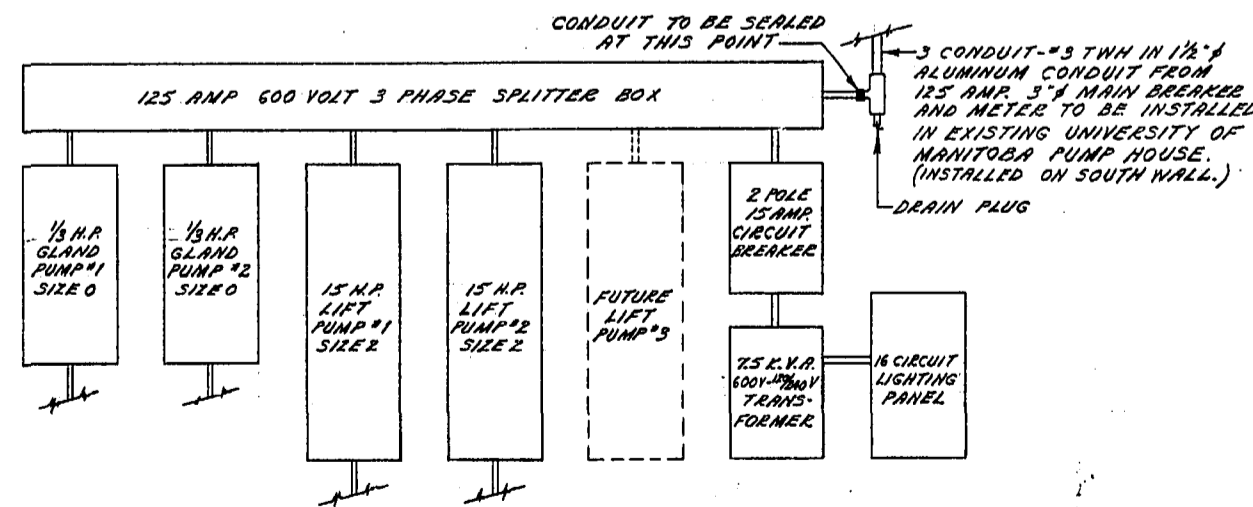
GLAND SEAL WATER PUMPS CONTROL SCHEMATIC



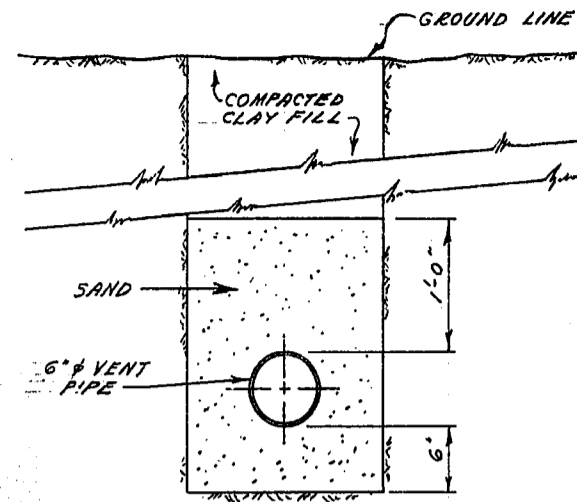
LIGHTING PANEL INDEX



LIFT PUMPS CONTROL SCHEMATIC



LAYOUT OF ELECTRICAL DISTRIBUTION PANELS

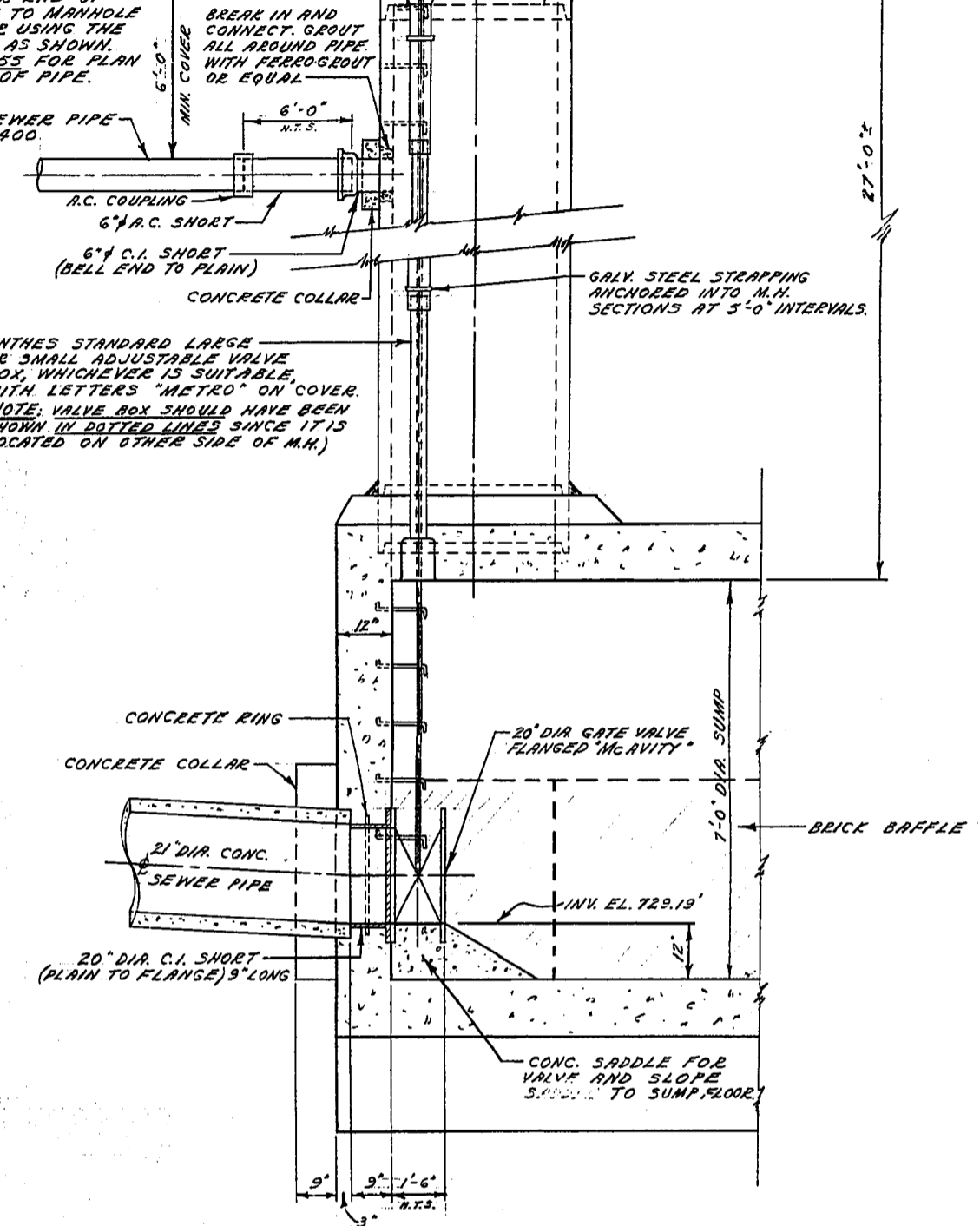


TRENCH BEDDING DETAIL FOR 6" VENT PIPE

NOTE:

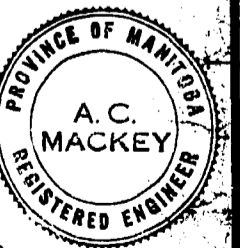
CONNECT OTHER END OF 6" VENT PIPE TO MANHOLE OF 21" SEWER USING THE SAME METHOD AS SHOWN. SEE DWG. NO. 555 FOR PLAN AND PROFILE OF PIPE.

6" DIA. A.C. SEWER PIPE CLASS 2400



SEC. 'E'- 'E' DETAIL OF 20" DIA GATE VALVE INSTALLATION AND 21" DIA SEWER CONNECTION TO SUMP

NOTE: SEE DWG. NO. 583 FOR LOCATION OF SEC. 'E'- 'E'



AS CONSTRUCTED. - S.K. - 23 MAY 70. - INSPECTOR F.W. MULLINS

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION A. PENMAN - DIRECTOR	SEWAGE DISPOSAL DEPT.		UNIVERSITY OF MANITOBA
	PUMPING STATION		ELECTRICAL DIAGRAMS
DRAWING NO. 586		DATE 15 APR. 68	

REPRODUCED 1970

# Westwood Lift Station Drawings



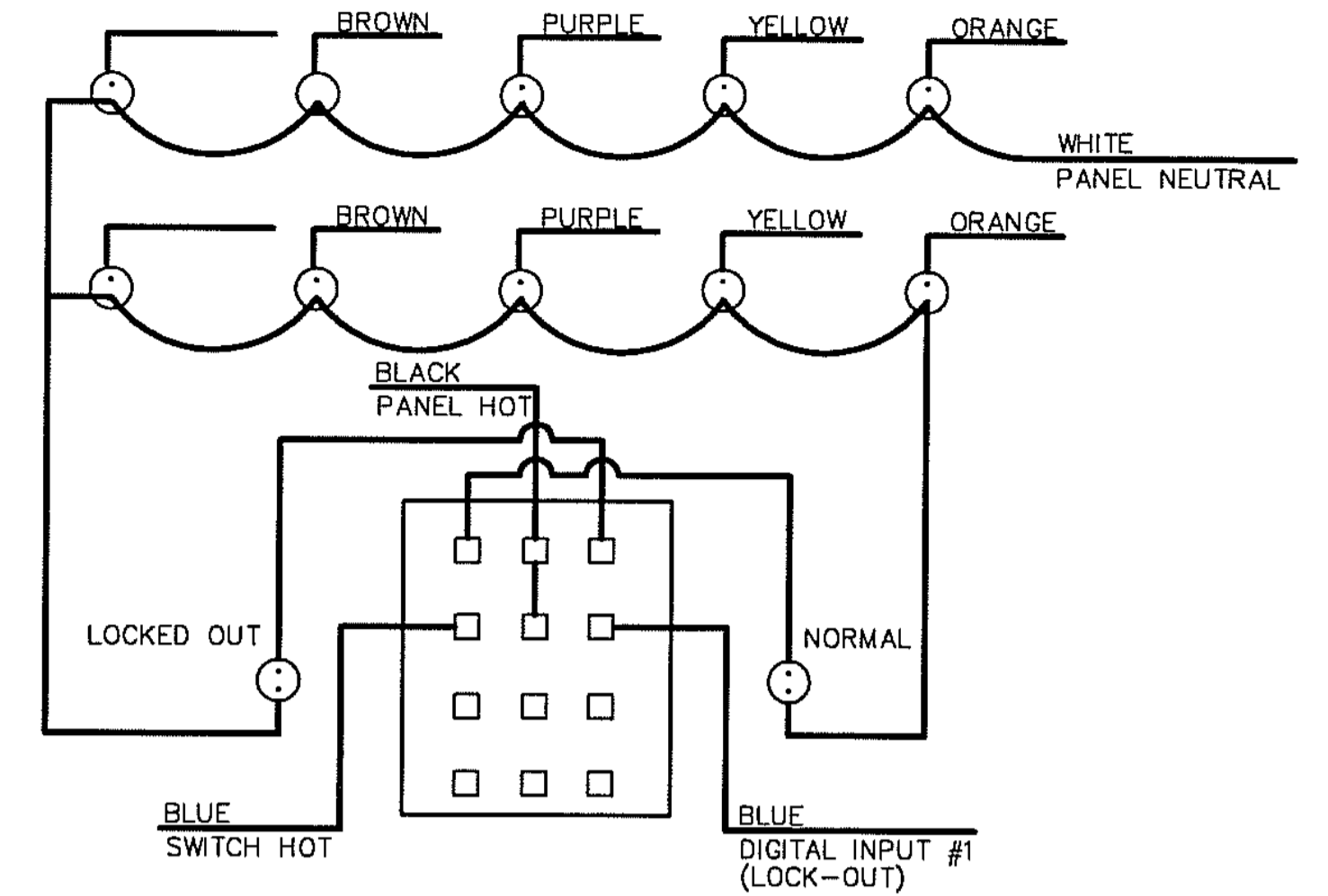
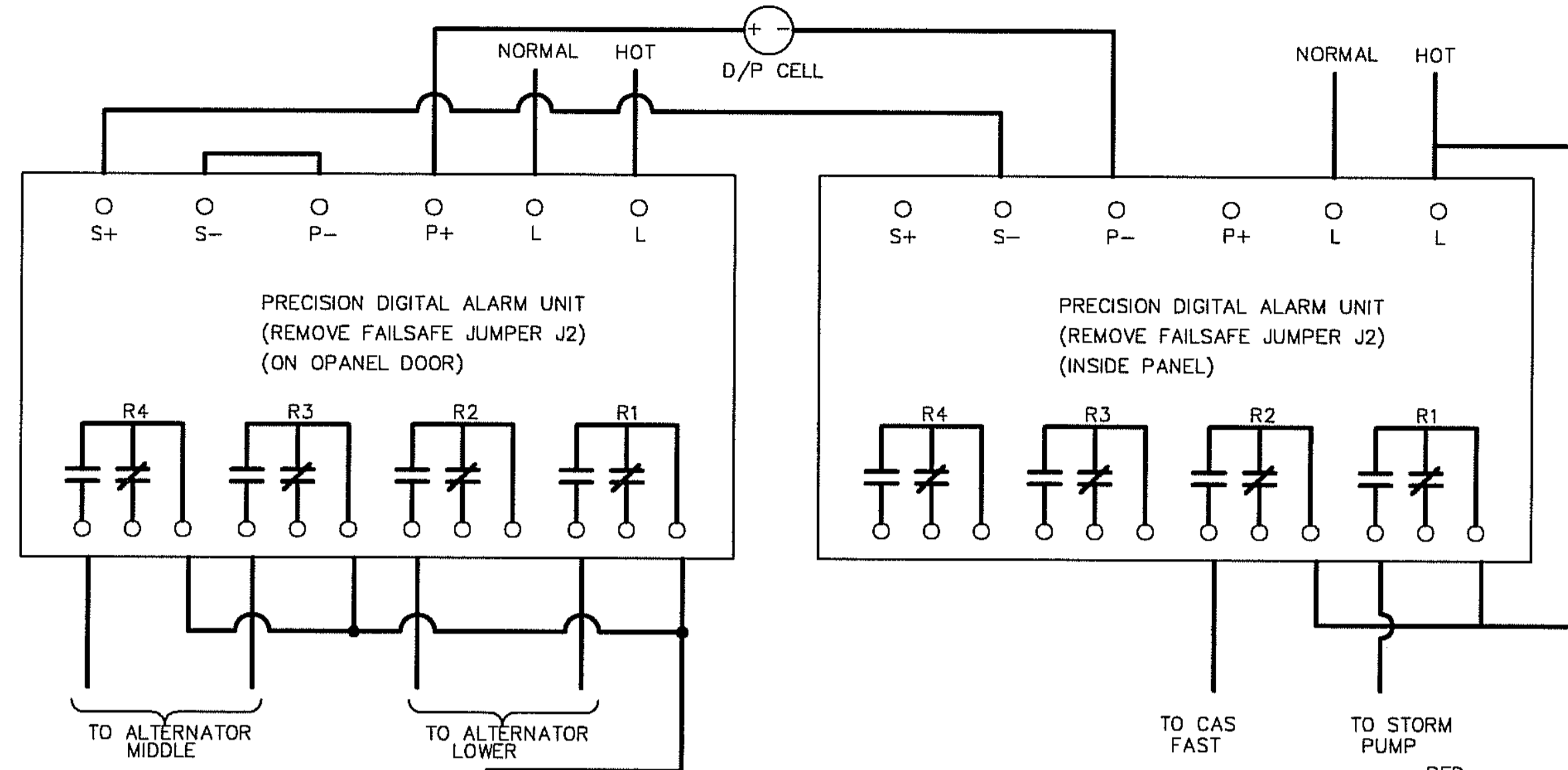


**ALARM WIRING TEMPLATE**

ALARM INPUT	DESCRIPTION	PLC ADDRESS	COLOR
ALARM INPUT 1	LOCKOUT	10001	BLUE
ALARM INPUT 2	OVERFLOW	10002	BLUE/WHITE
ALARM INPUT 3	STATION FLOOD	10003	BLUE/RED
ALARM INPUT 4	LOW INSTR. AIR	10004	BLUE/BLACK
ALARM INPUT 5	LOW TEMP	10005	RED
ALARM INPUT 6	LOSS OF SEAL WATER	10006	RED/BLACK
ALARM INPUT 7	GENERATOR RUN	10007	RED/WHITE
ALARM INPUT 8	POWER FAILURE	10008	ORANGE
ALARM INPUT 9	FLOOD STN HIGH WET WELL	10009	ORANGE/RED
ALARM INPUT 10	FLOOD STN FLOOD	10010	ORANGE/BLACK
ALARM INPUT 11	GENERATOR FAIL	10011	BLACK
ALARM INPUT 12	WET WELL UPPER	10012	BLACK/WHITE
ALARM INPUT 13	COM/PUMP FAILURE	10013	BLACK/RED
ALARM INPUT 14	ENGINE RUN		GREEN
ALARM INPUT 15	ENGINE FAIL		GREEN/BLACK
ALARM INPUT 16	UPS FAIL		GREEN/WHITE

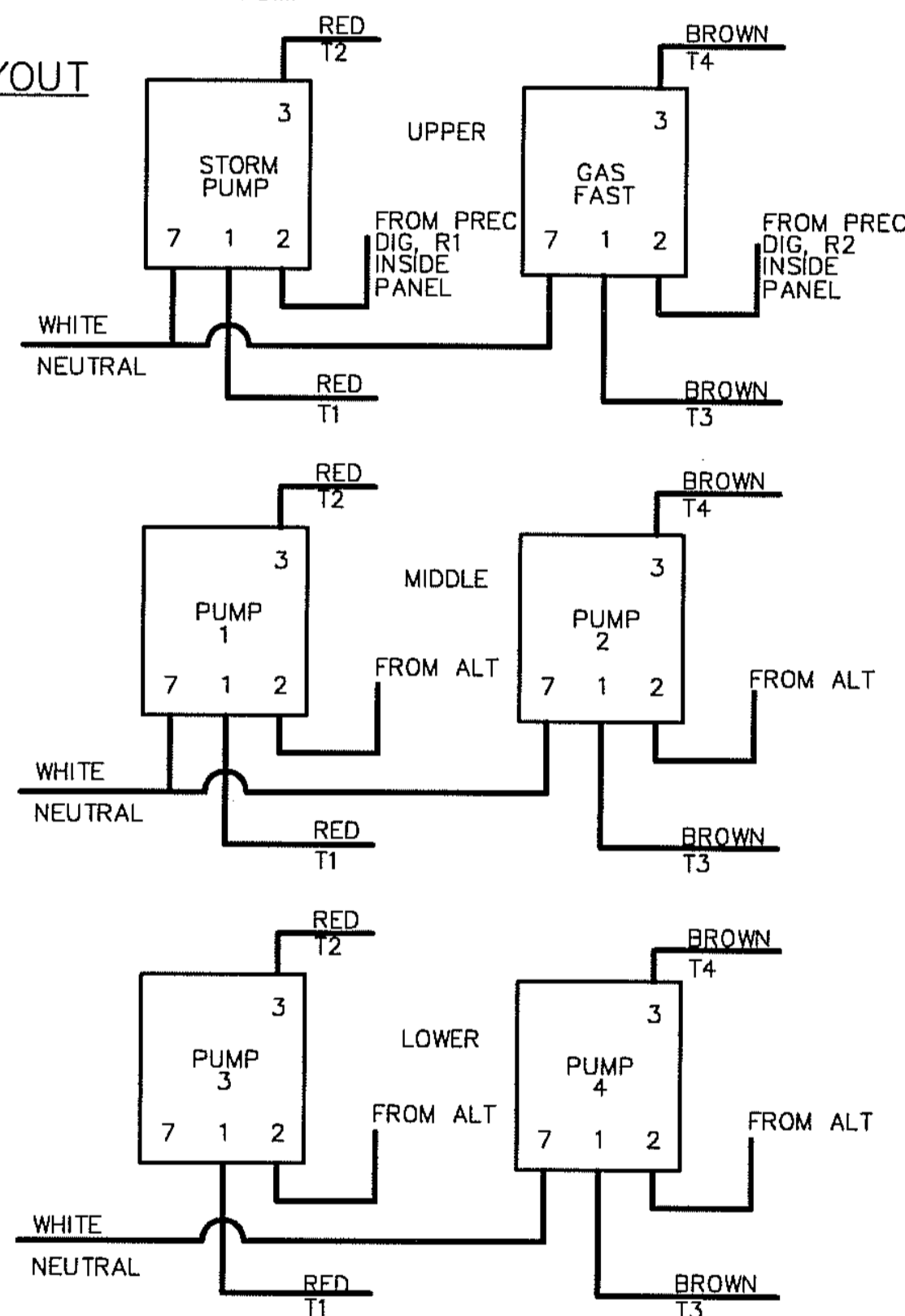
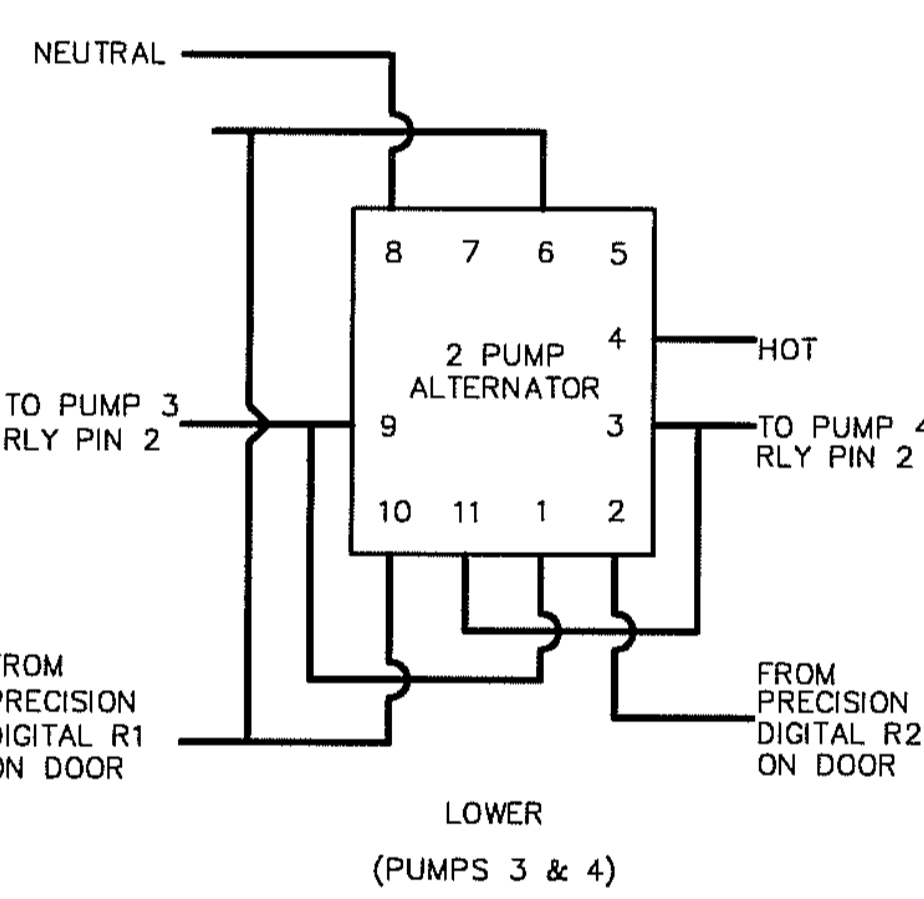
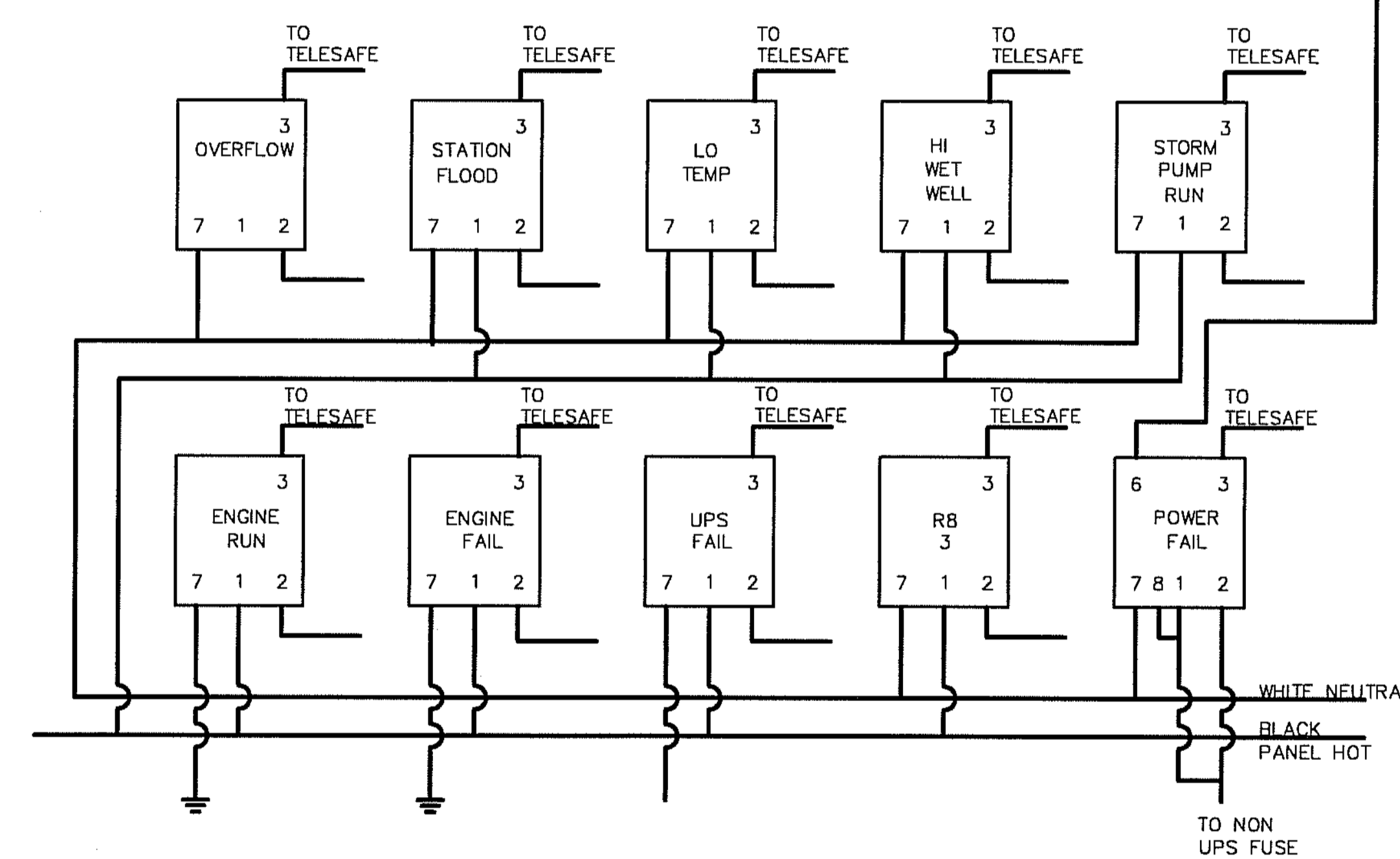
ANY OTHER TYPES OF ALARMS ARE TO BE WIRED TO ALARM INPUTS 14 TO 16 OTHERWISE CALL THE METER SHOP FOR FURTHER INSTRUCTIONS

ANALOG WIRING	PLC ADDRESS
INPUT 1	LIFT LEVEL 30001
INPUT 2	FLOOD LEVEL 30002
INPUT 3	FLOW 30003

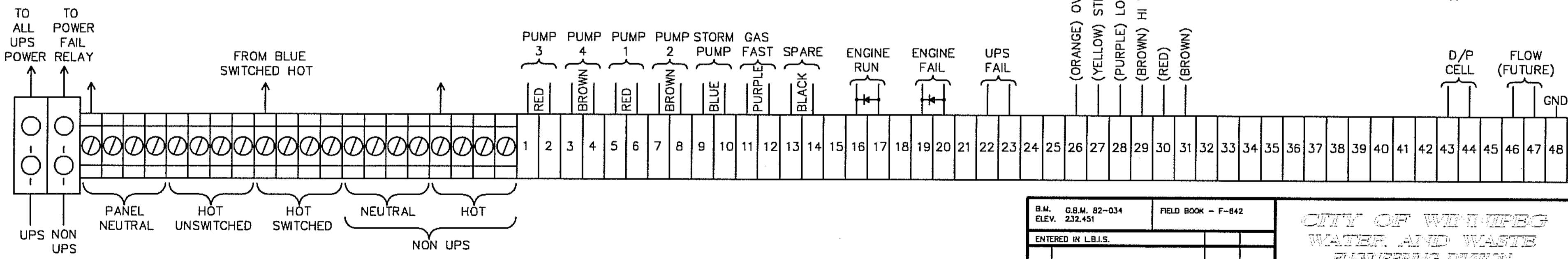
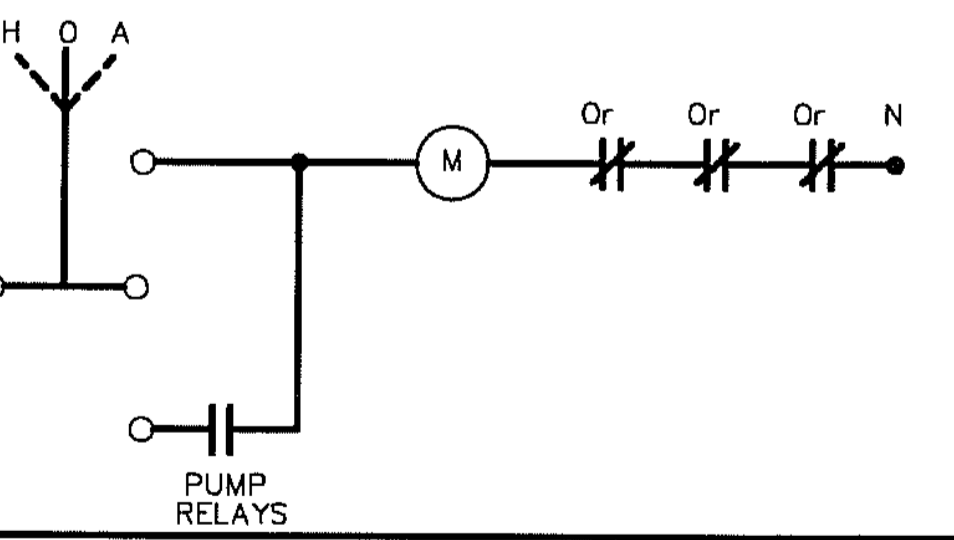


**WIRING DIAGRAM**

**ELECTRICAL DISTRIBUTION LAYOUT**



**TYPICAL MOTOR STARTER**

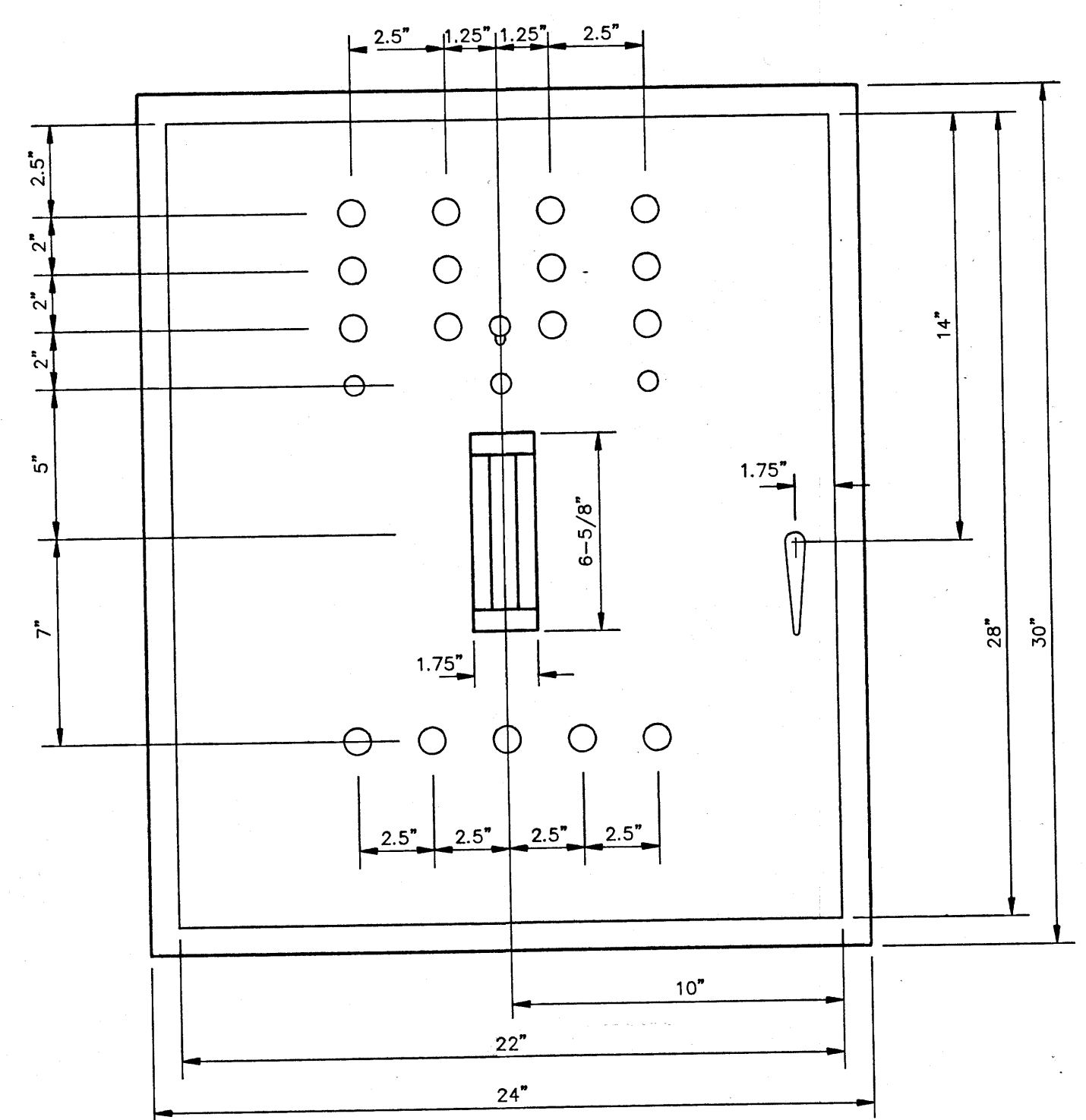
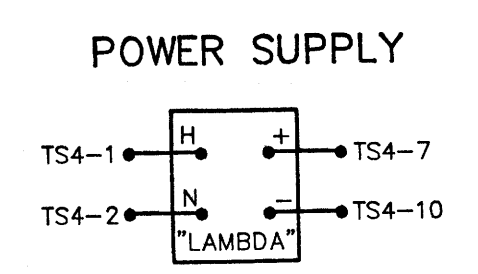
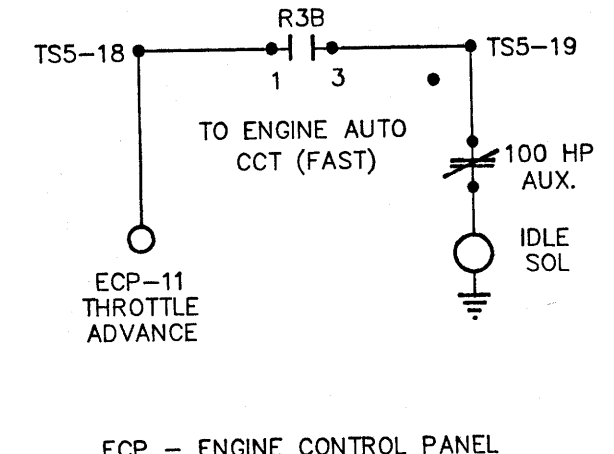
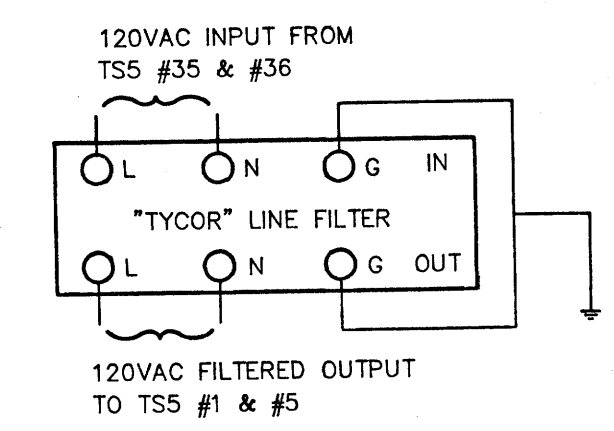
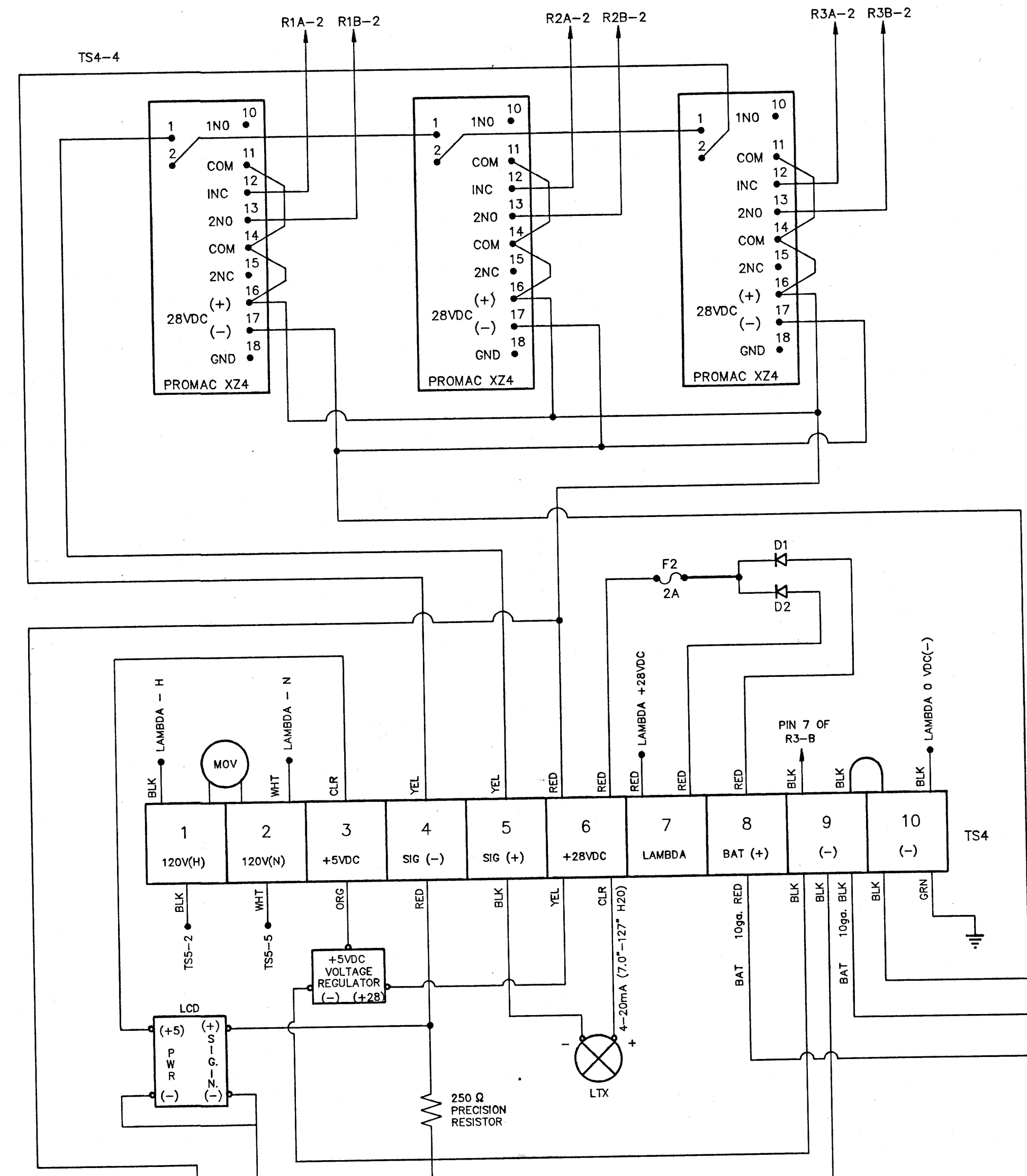
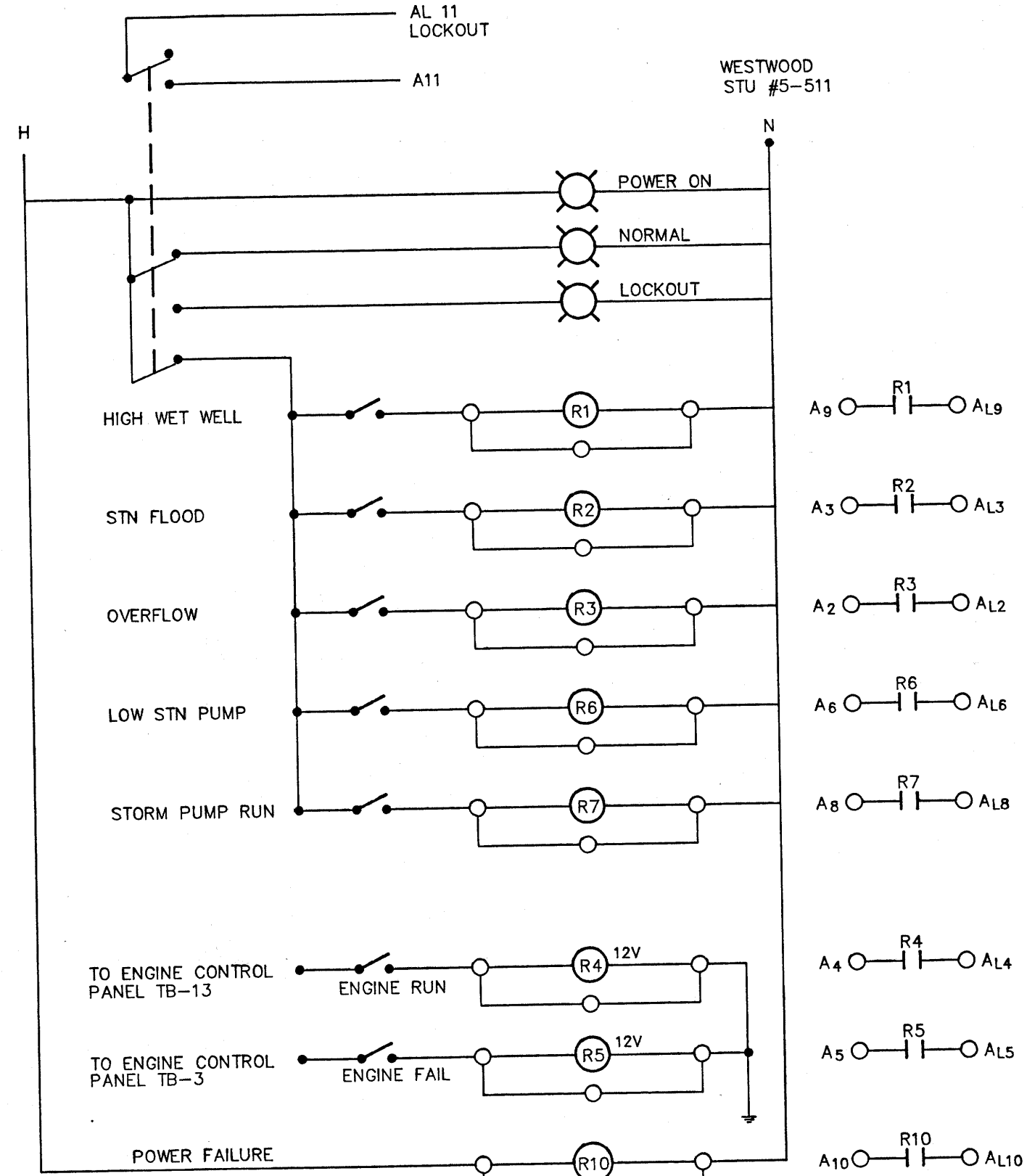


B.M. G.S.M. 82-034 ELEV. 232-451	FIELD BOOK - F-842	<b>CITY OF WINNIPEG WATER AND WASTE ENGINEERING DIVISION</b>	
DESIGNED BY	CHECKED BY	DRAWN BY	APPROVED BY
HOR. SCALE	VERTICAL	DATE	DATE
NO. REVISIONS	DATE	DATE	DATE

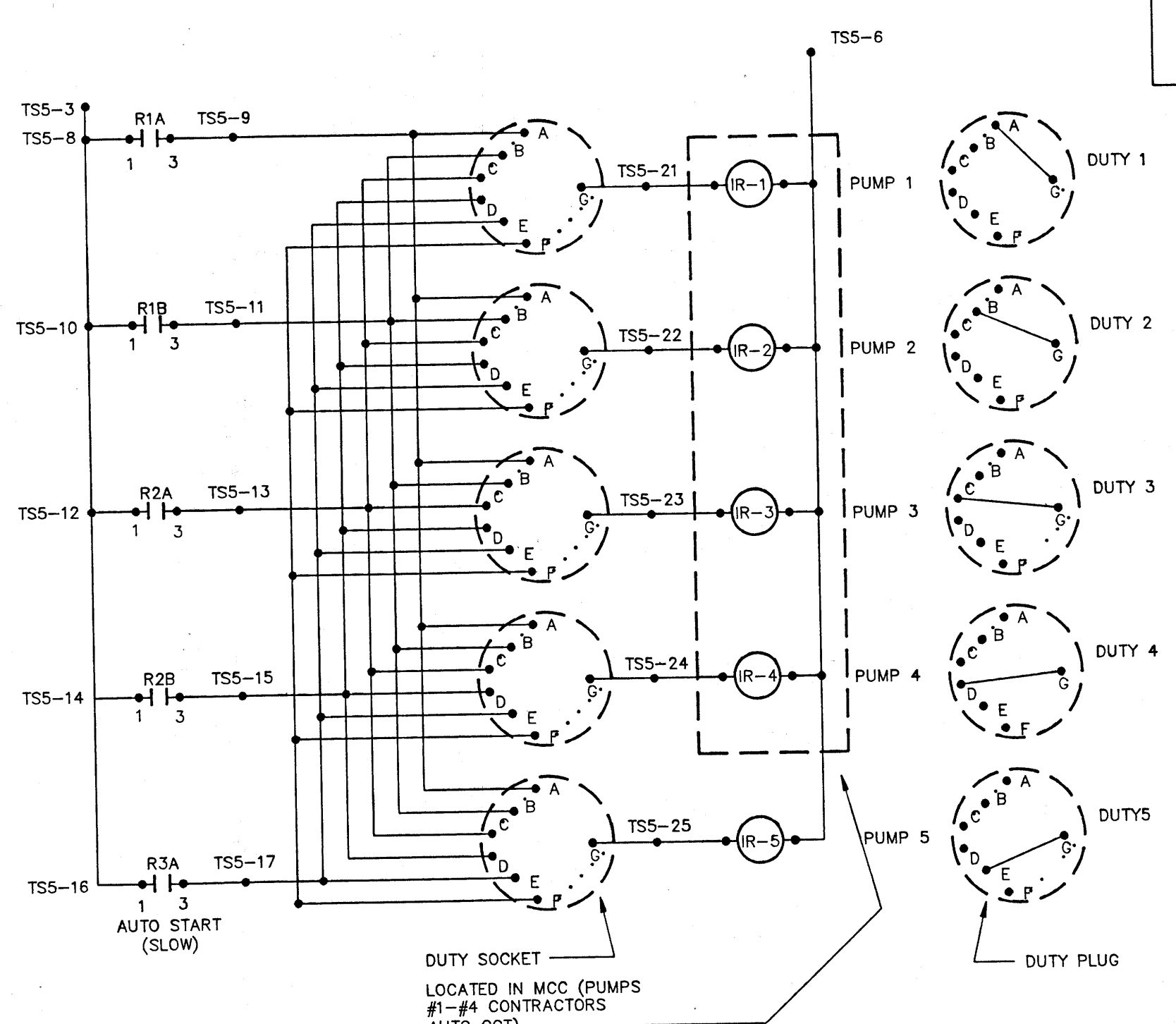
ENGINEER'S SEAL	<p><b>THE CITY OF WINNIPEG</b> WATER AND WASTE DEPARTMENT</p>
<p><b>WESTWOOD LIFT STATION ELECTRICAL AND CONTROL</b></p>	
<p>SHEET OF</p> <p>CITY DRAWING NUMBER</p> <p><b>4589</b></p>	<p>PLDT DATE: 2005 12 08</p>

©:\DRAWINGS\SEWER\COMBINED\LIFTSTATION\4589.DWG

ALARM SCHEMATIC

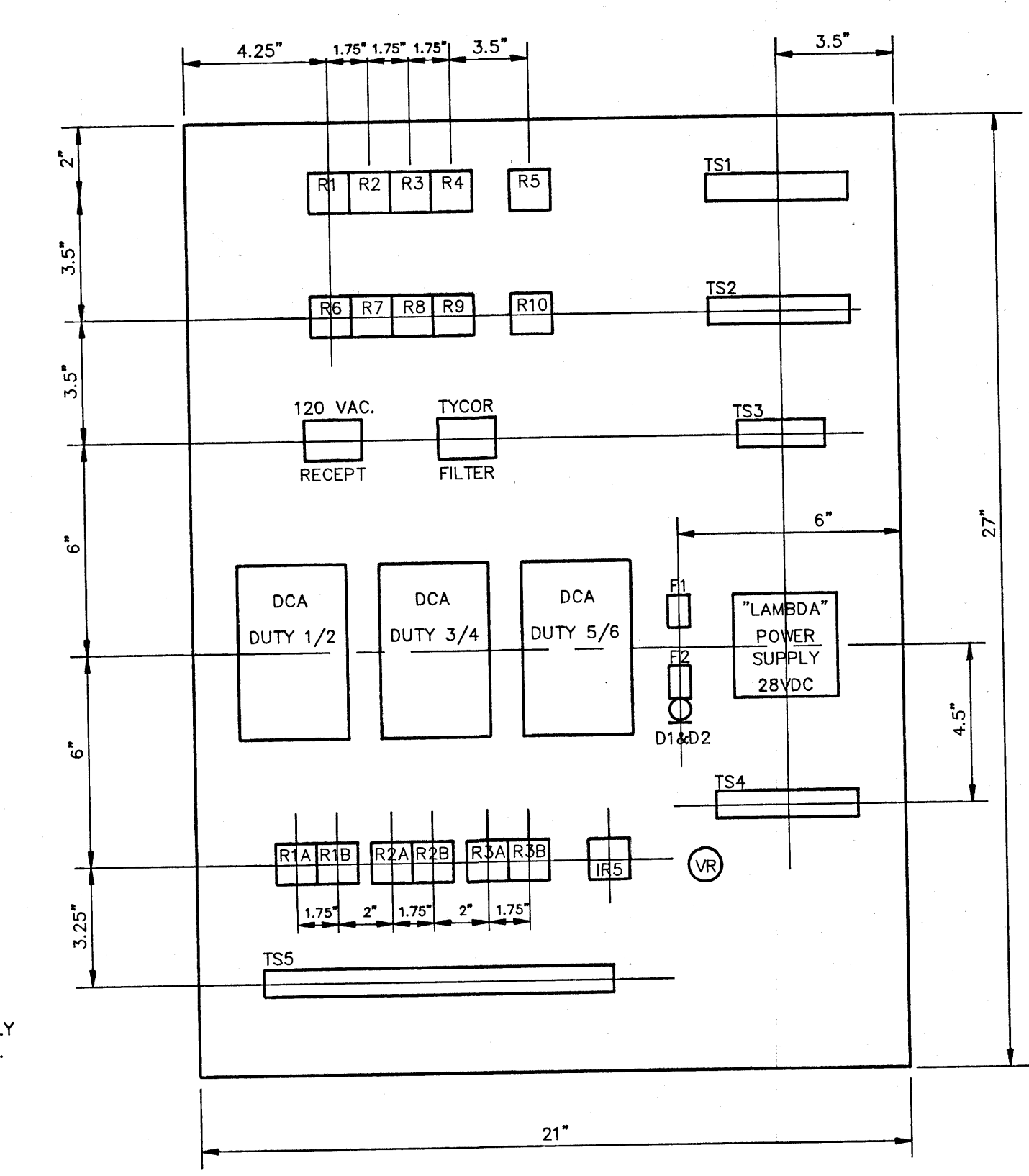
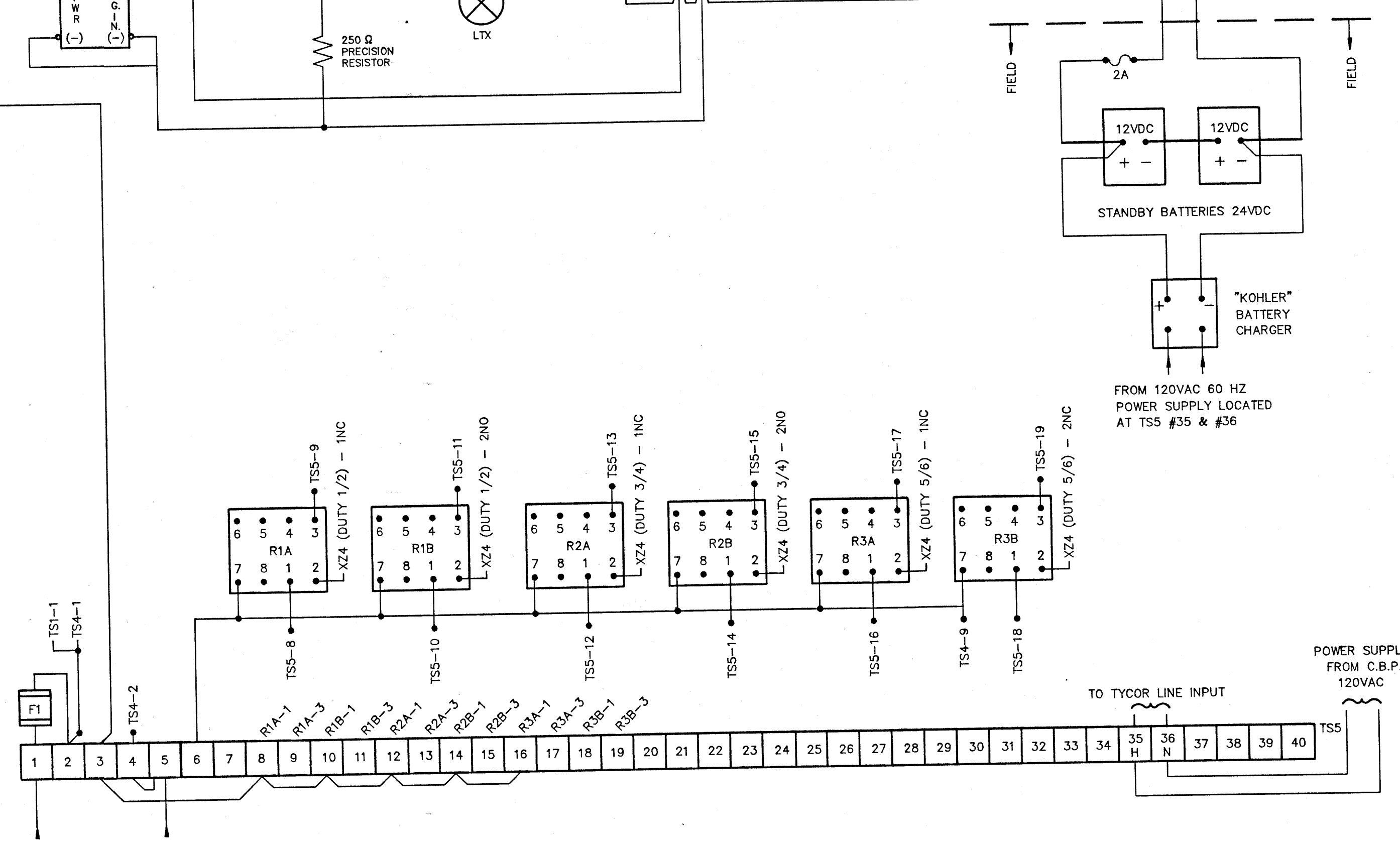


- NOTE: HOLE DIMENSIONS:
- 1.) LIGHTS - 3/8"
  - 2.) P. BUTTONS - 15/32"
  - 3.) SWITCH - 15/32"
  - 4.) DUTY SOCKETS
  - 4.1) 19 PIN - 1-3/8"
  - 4.2) 14 PIN - 1-1/4"
  - 5.) METER - 1-3/4" X 6-5/8"



DUTY	ON	VDC	%	mA	OFF	VDC	%	mA
1	54"	2.8	45	11.2	24	1.8	20	7.2
2	60"	3.0	50	12.0	30	2.0	25	8.0
3	66"	3.2	55	12.8	36	2.2	30	8.8
4	72"	3.4	60	13.6	42	2.4	35	9.6
5	90"	4.0	75	16.0	60	3.0	50	12.0
GAS (FAST)	96"	4.2	80	16.8	54	2.8	45	11.2

NOTE: ZERO SUPPRESSION OF 7.0" H2O  
SPAN → 7.0" → 127" H2O



NO.	REVISIONS	DATE	BY
2	REVISED TO DATE	93.02.18	MTS
1.	MOORE ALARMS REPLACED BY PROMAC XZ4 & WIRING REVISION	93.01	LO

DESIGNED BY	R. HAHLWEG	CHECKED BY	K. DALTON
DRAWN BY	L. OBIREK	APPROVED BY	
HOR. SCALE	N.T.S.	RELEASED FOR CONSTRUCTION	
VERTICAL		DATE	1993 01 18

ENGINEER'S SEAL

**THE CITY OF WINNIPEG**  
WORKS AND OPERATIONS DIVISION  
WATERWORKS WASTE AND DISPOSAL DEPARTMENT

WESTWOOD FLOOD STATION  
AUTOMATIC LEVEL CONTROL  
AND ALARM SYSTEM

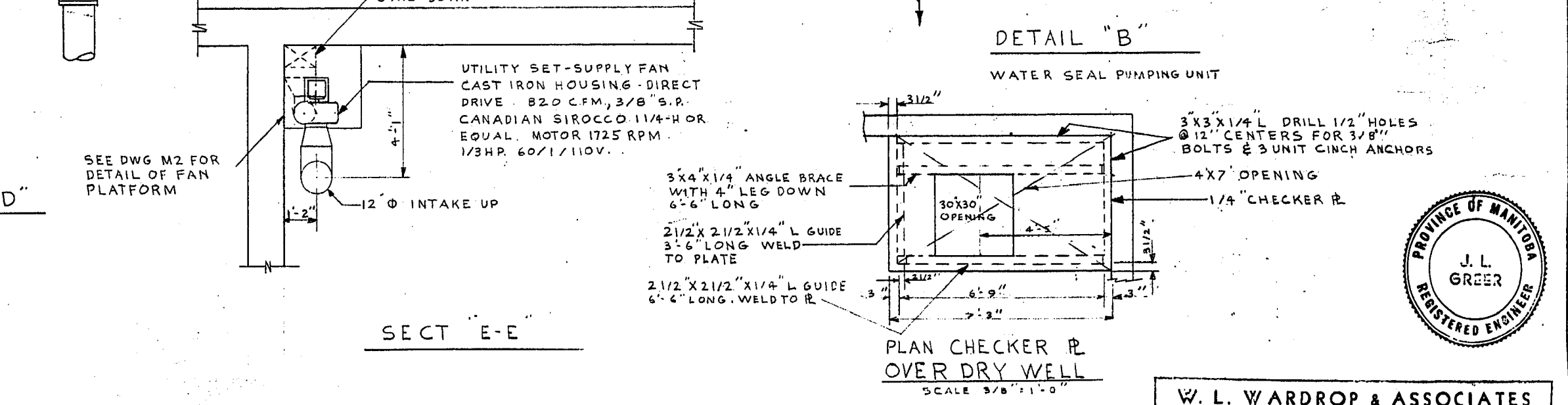
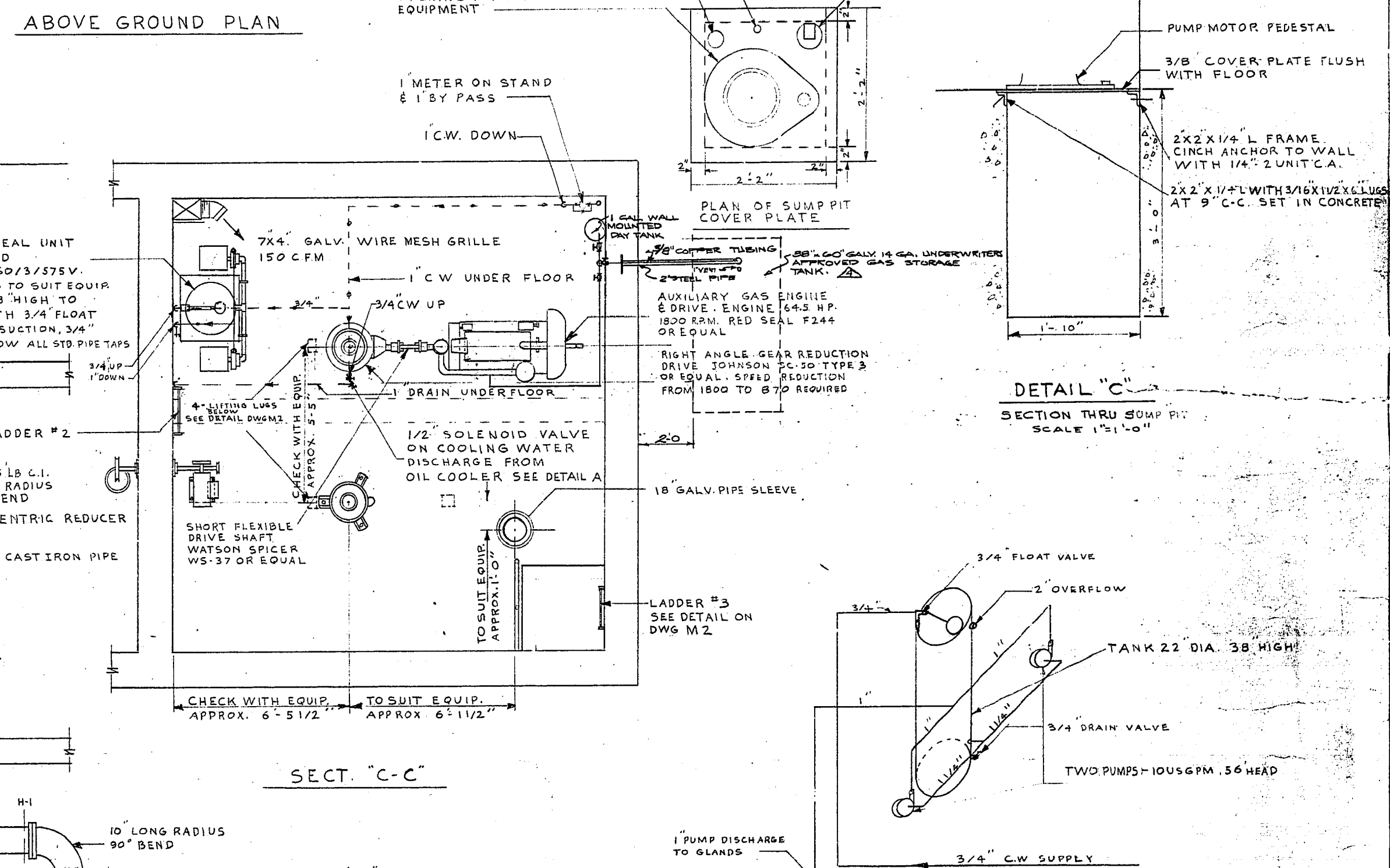
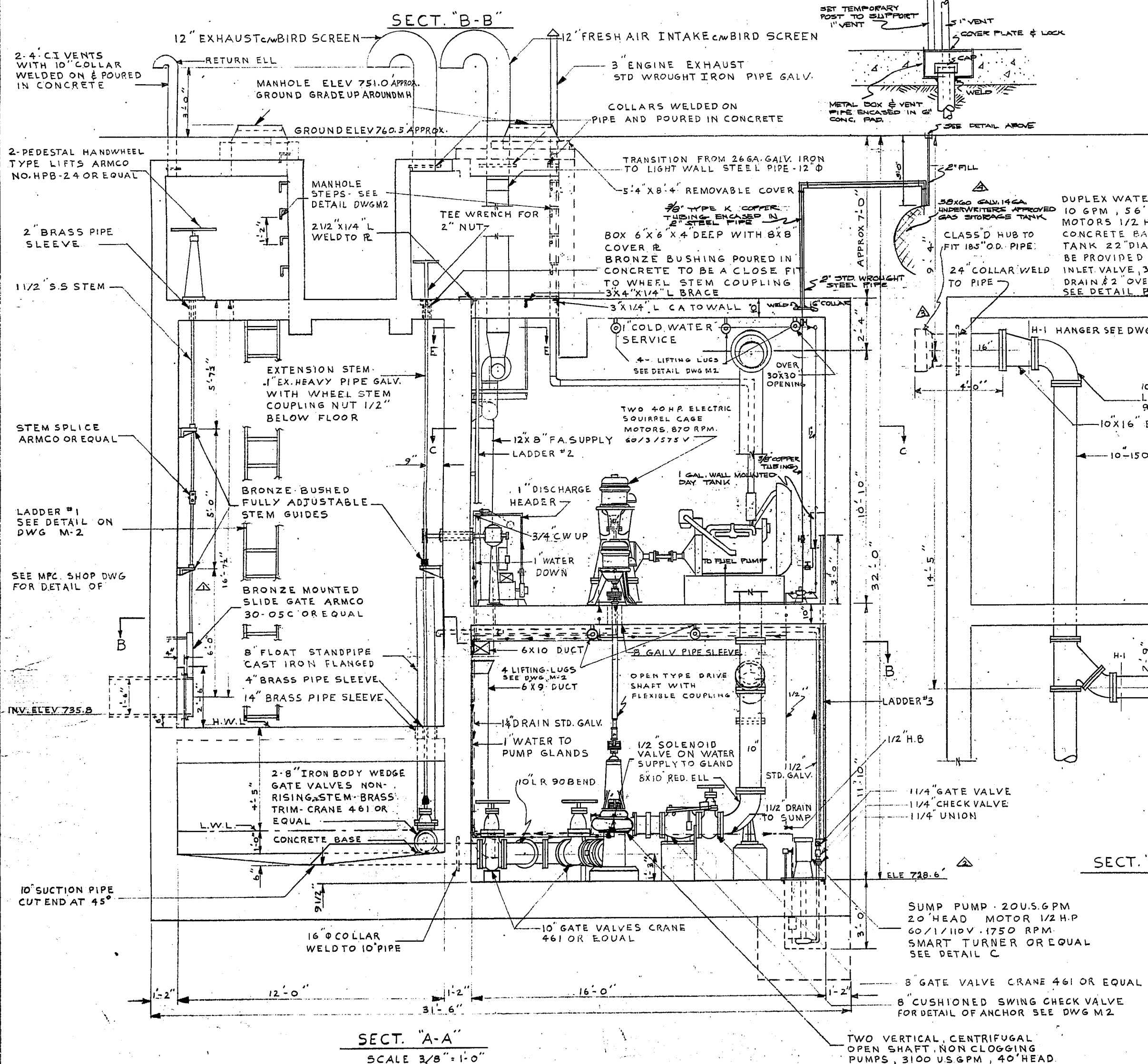
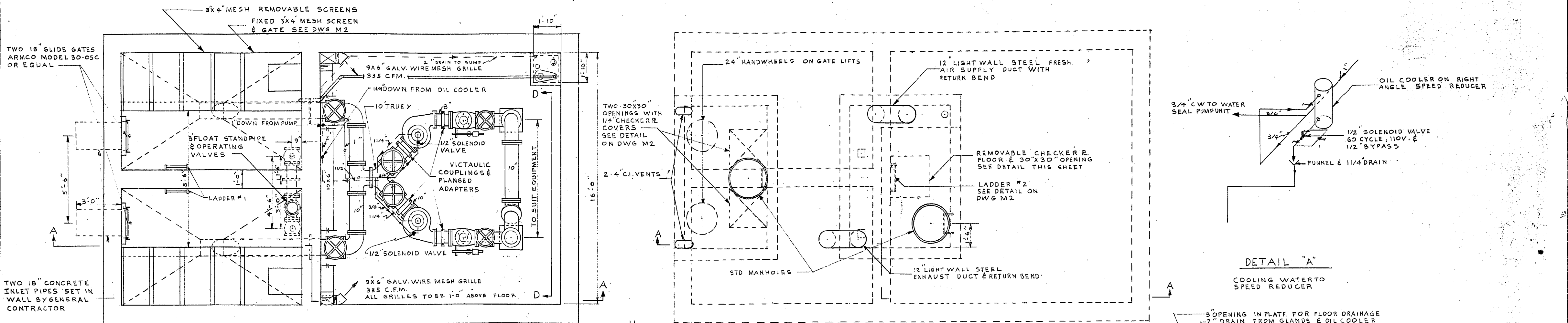
WIRING DIAGRAM AND PANEL LAYOUT

SHEET OF CITY DRAWING NUMBER 92-FS-Q-5

file # FP10137



# Windsor Park Lift Station Drawings



REVISIONS			
NO.	DESC.	DATE	BY
1	DIMENSION ADD.	SEP 22	JLG
2	CHD.	SEP 22	JLG
3	REVISION	SEP 22	JLG
4	CONTINUED	4/17/65	JLG

W. L. WARDROP & ASSOCIATES  
ENGINEERING CONSULTANTS  
MANITOBA CANADA

LADCO DEVELOPMENT  
ST. BONIFACE MANITOBA  
MECHANICAL LAYOUT OF  
SEWAGE LIFT STATION

Scale: 3/8" = 1'-0" Date: JULY 16/55

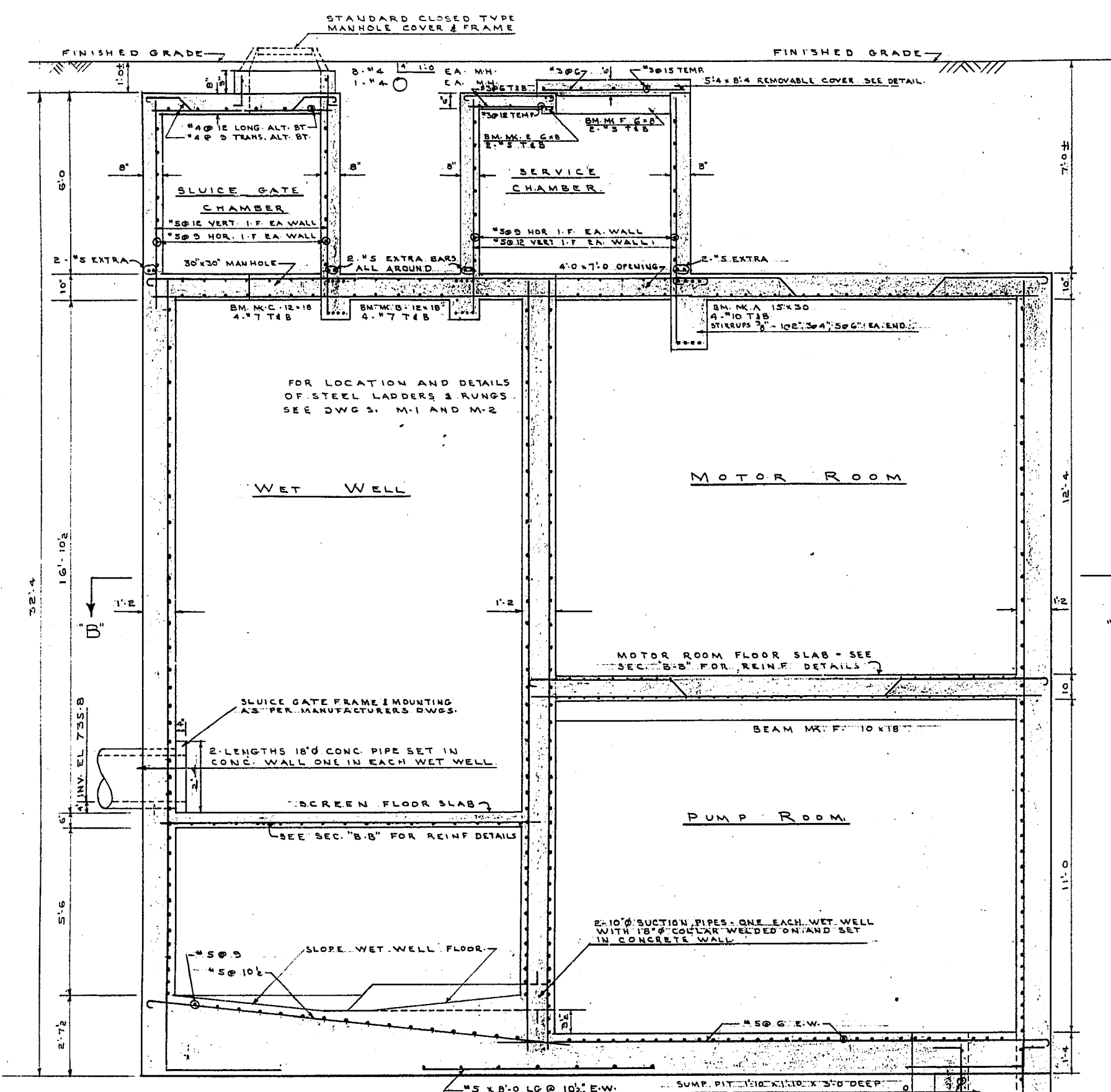
Drawn By: J.L.G. Drawing No: M-1

Checked By: W.L.W. Project No: 5521

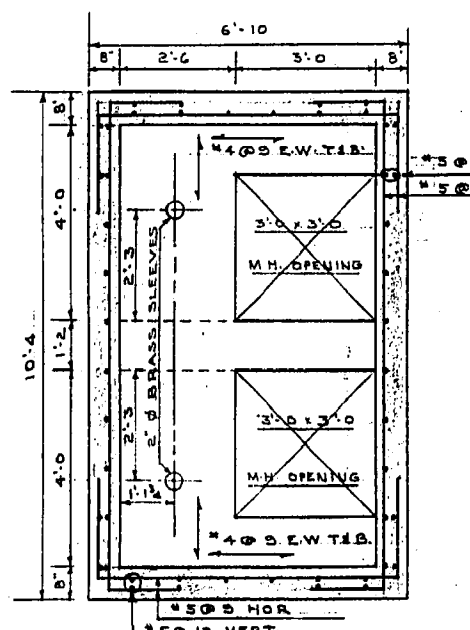
968



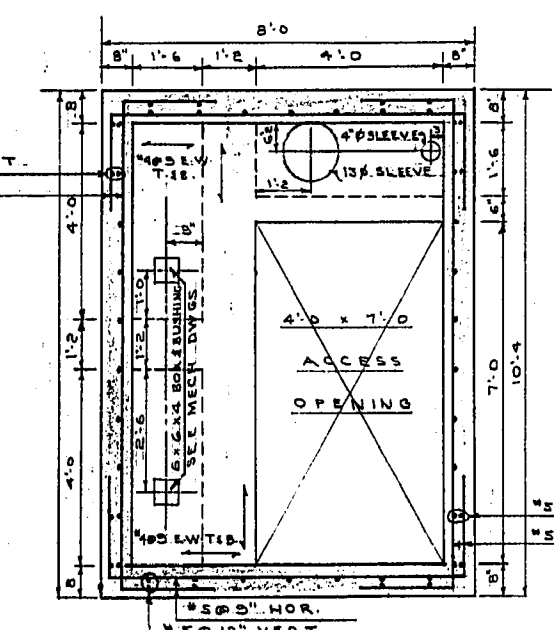
MICROFILMED APR 13 1979



SECTION "A-A"  
3/8" = 1'-0"

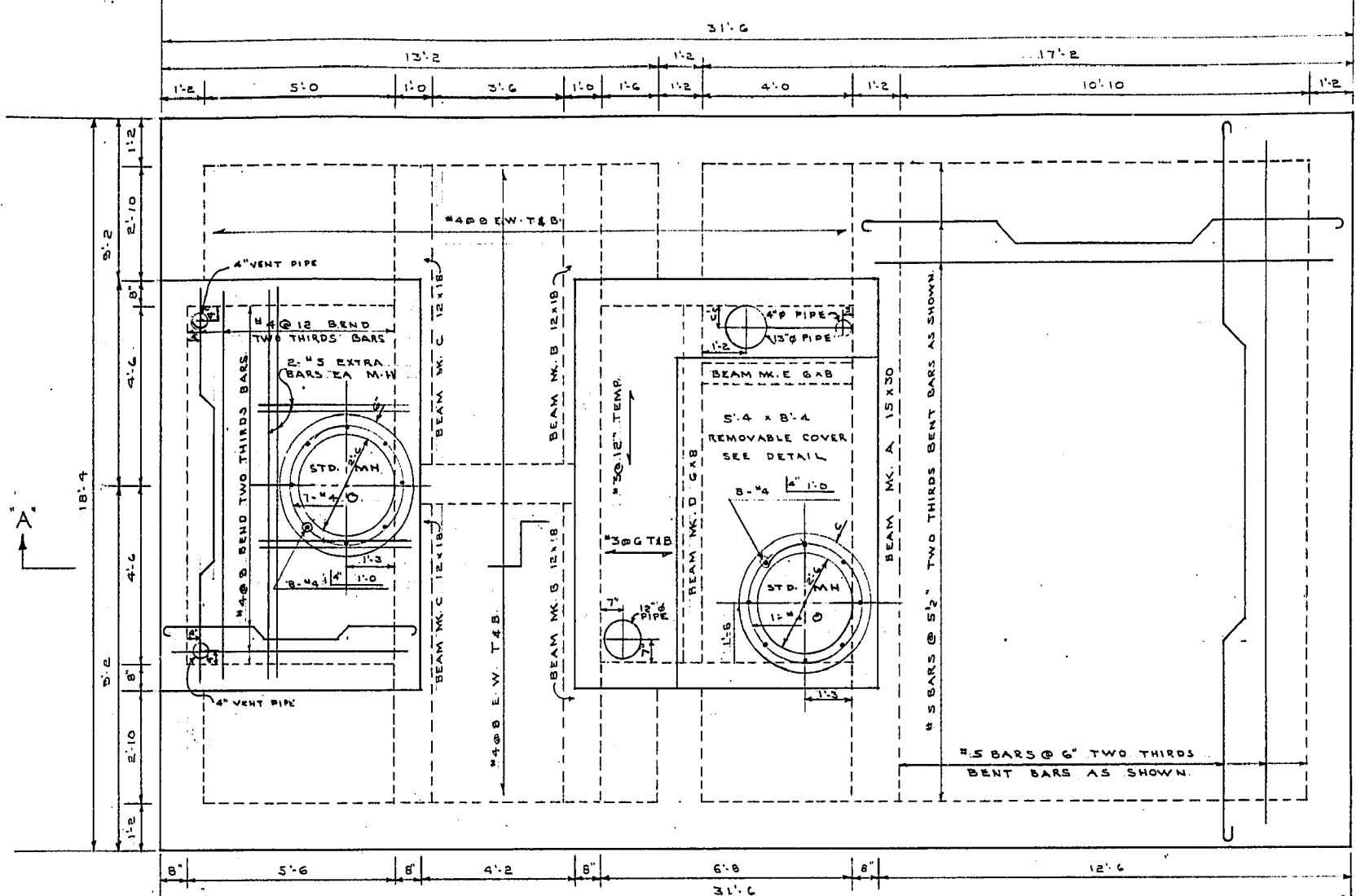


SLUICE GATE CHAMBER  
FLOOR PLAN  
3/8" = 1'-0"

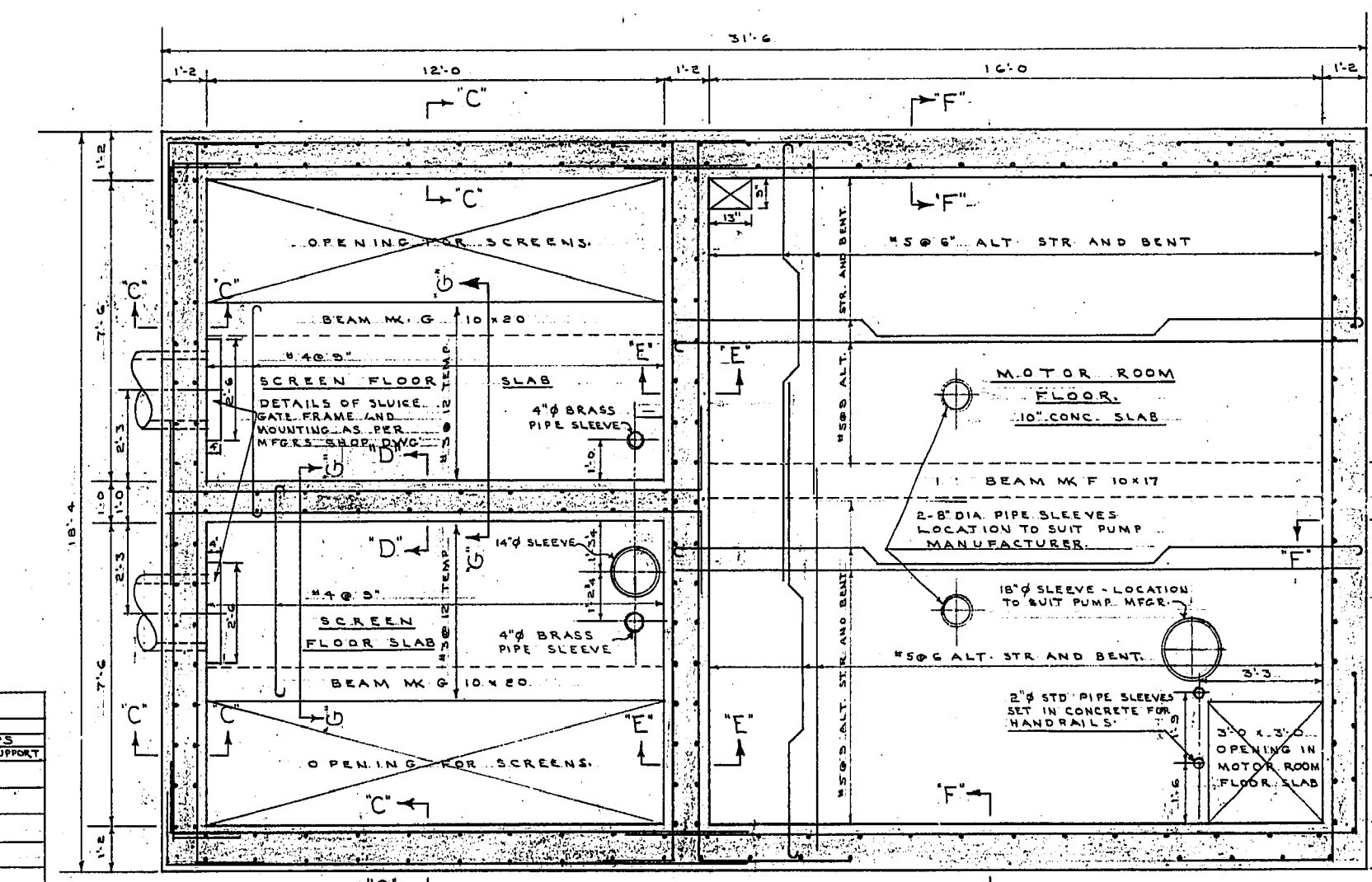


SERVICE CHAMBER  
FLOOR PLAN  
3/8" = 1'-0"

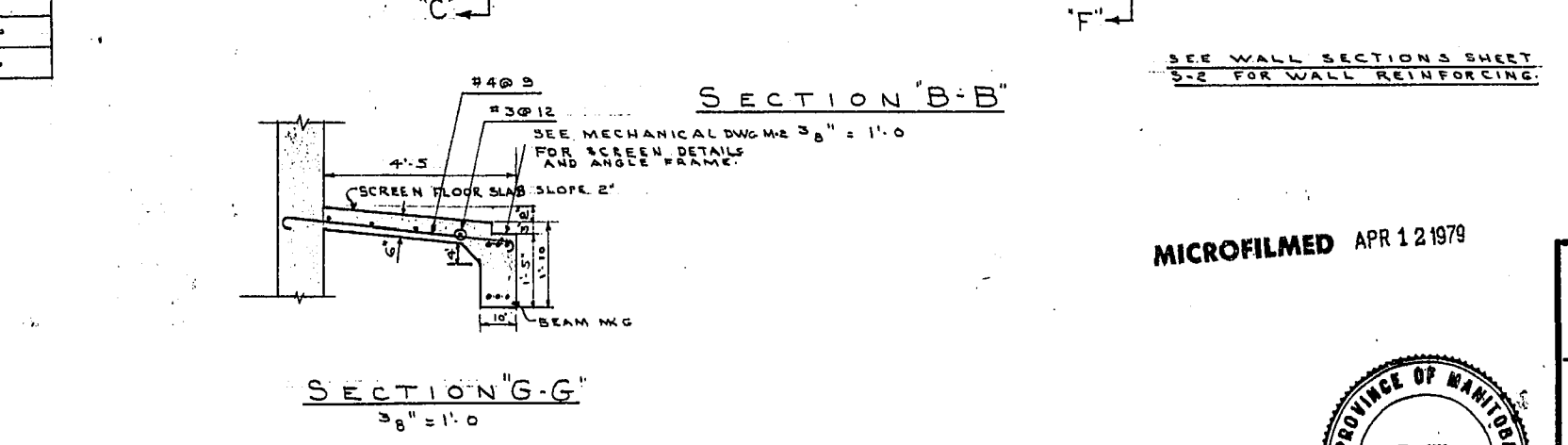
BEAM SCHEDULE			
BEAM SIZE	REINFORCING		
	LONGITUDINAL	TRANSVERSE	STIRRUPS
A 15 30	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS
B 12 18	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS
C 12 18	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS
D 6 8	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS
E 6 8	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS
F 10 18	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS
G 10 20	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS	#5 @ 12" VERT. HOOK BOTH ENDS



ROOF PLAN  
3/8" = 1'-0"



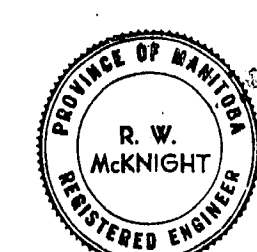
SECTION "B-B"  
3/8" = 1'-0"



SECTION "G-G"  
3/8" = 1'-0"

- NOTES:
- (1) ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
  - (2) REINFORCING STEEL SHALL BE INTERMEDIATE GRADE DEFORMED.
  - (3) LAP WELLS SHALL BE 40" DIA. AT SLICES IN CONCRETE & PROTECTIVE FOR REINFORCING BARS.
  - (4) SLABS - ROOF BOTTOM OF OTHER WALLS SHALL BE IN.
  - (5) REINFORCE ALL OPENINGS WITH #5 BARS ADDITIONAL #5 BARS SHALL BE TERMINATED WITH CONTINUOUS ENDS OR BENT BARS TO TOP BARS IN SLABS WITH A STANDARD HOOK.
  - (6) USE ALL ALKALI RESISTANT PORTLAND CEMENT THROUGHOUT.
  - (7) SEE MECHANICAL DRAWINGS FOR LOCATIONS AND DETAILS OF ALL SLICES, FRAMES, LADDERS, ETC. TO BE PLACED IN CONCRETE.

MICROFILMED APR 12 1979

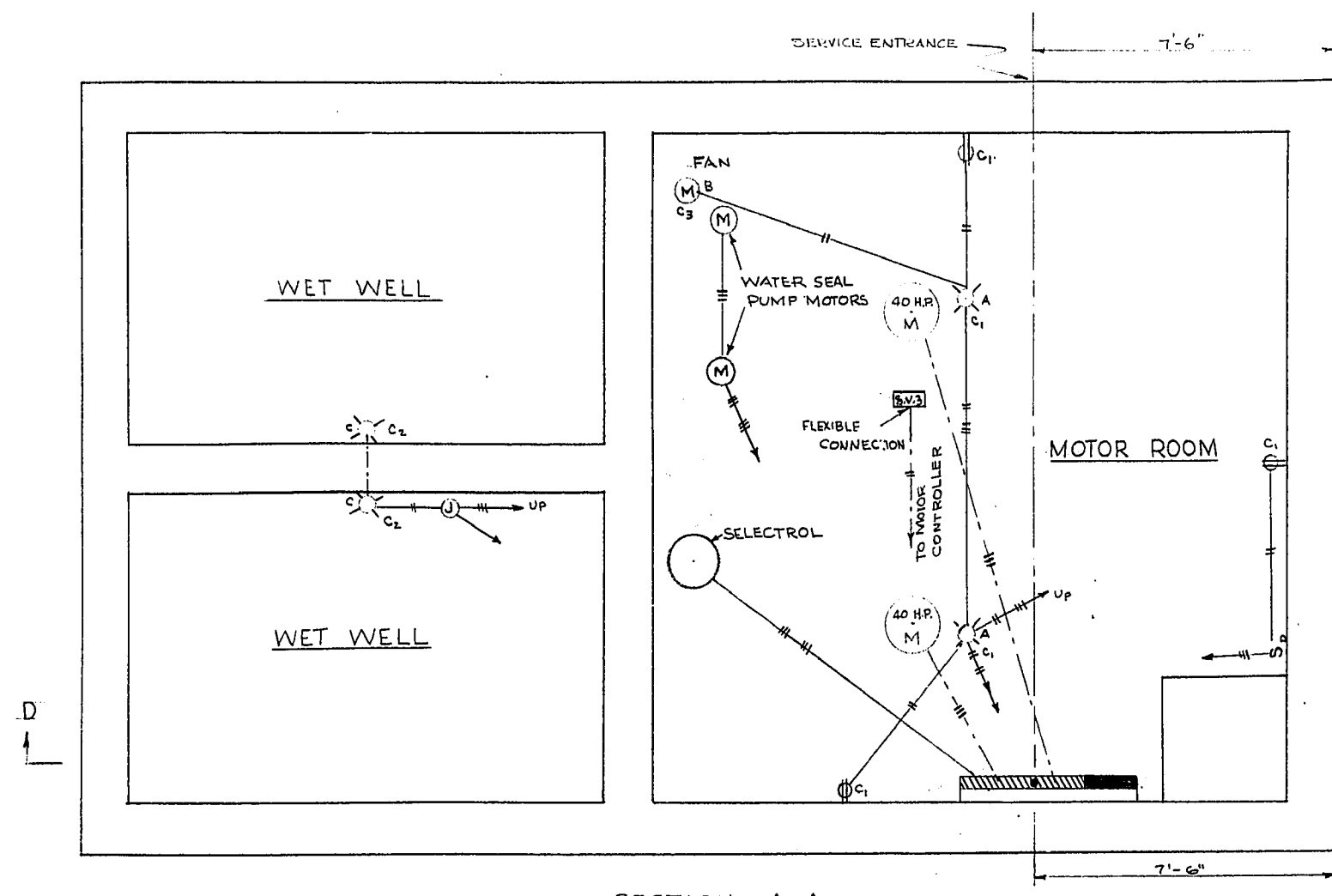


**W. L. WARDROP & ASSOCIATES**  
ENGINEERING CONSULTANTS  
WINNIPEG CANADA

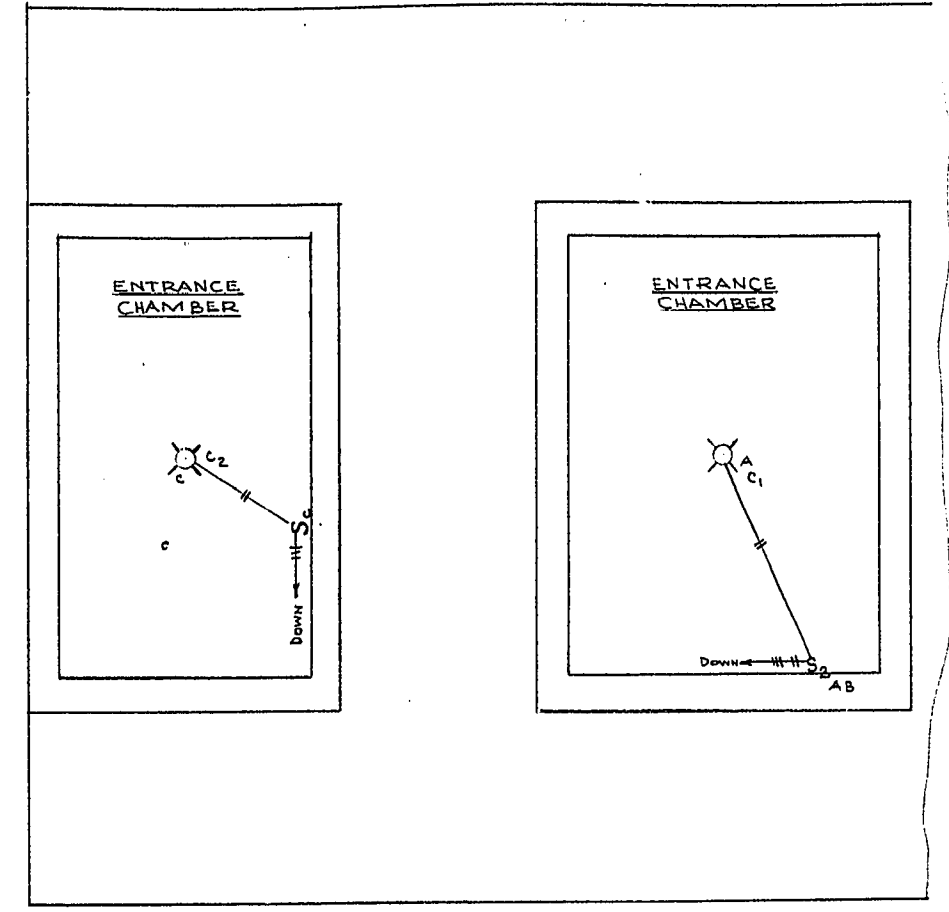
LADCO DEVELOPMENT  
ST. BONIFACE MANITOBA  
STRUCTURAL LAYOUT  
SEWAGE LIFT STATION

Scale: As Shown  
Designed By: R.W. McKnight  
Drawn By: R.W. McKnight  
Checked By: W.L.W.

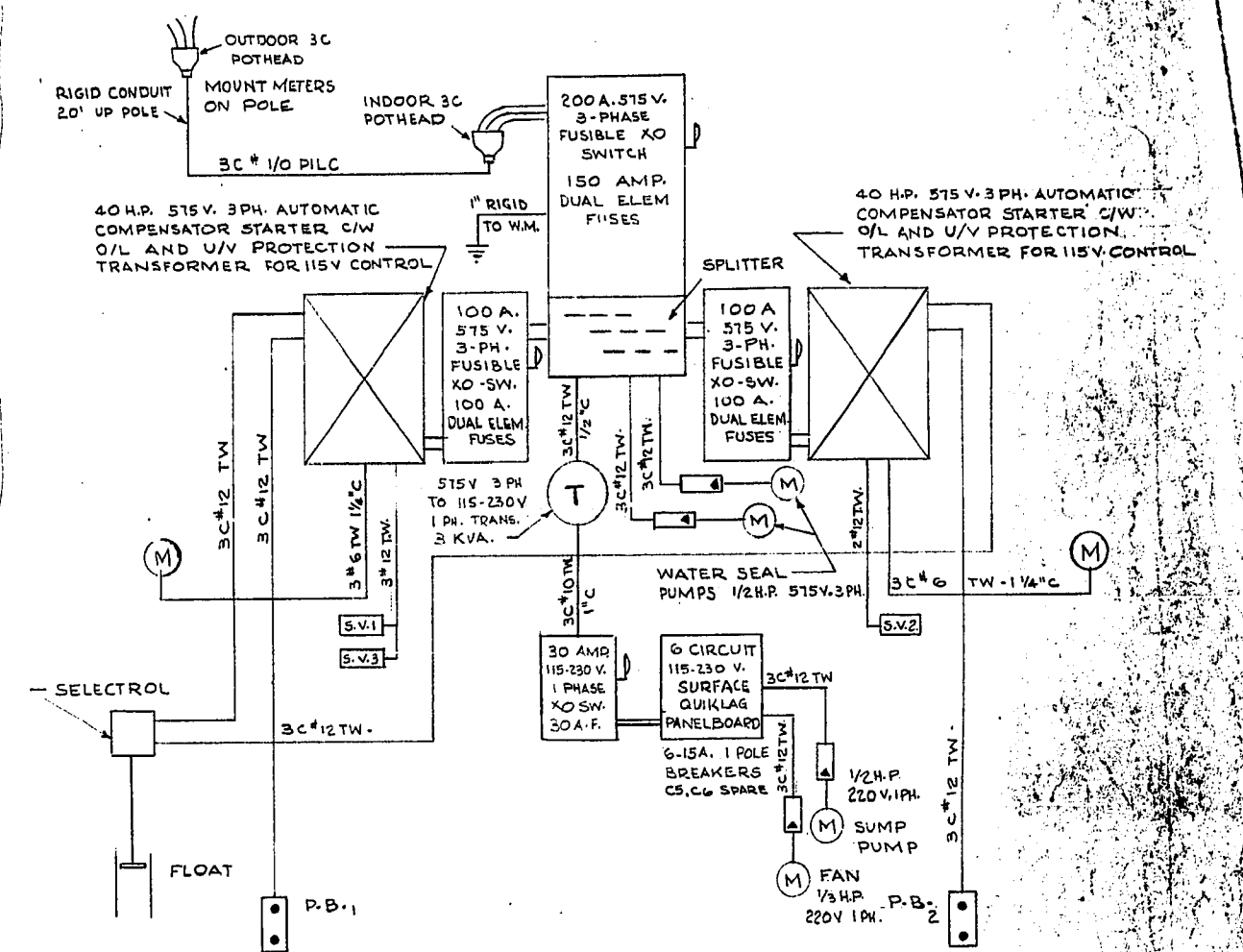




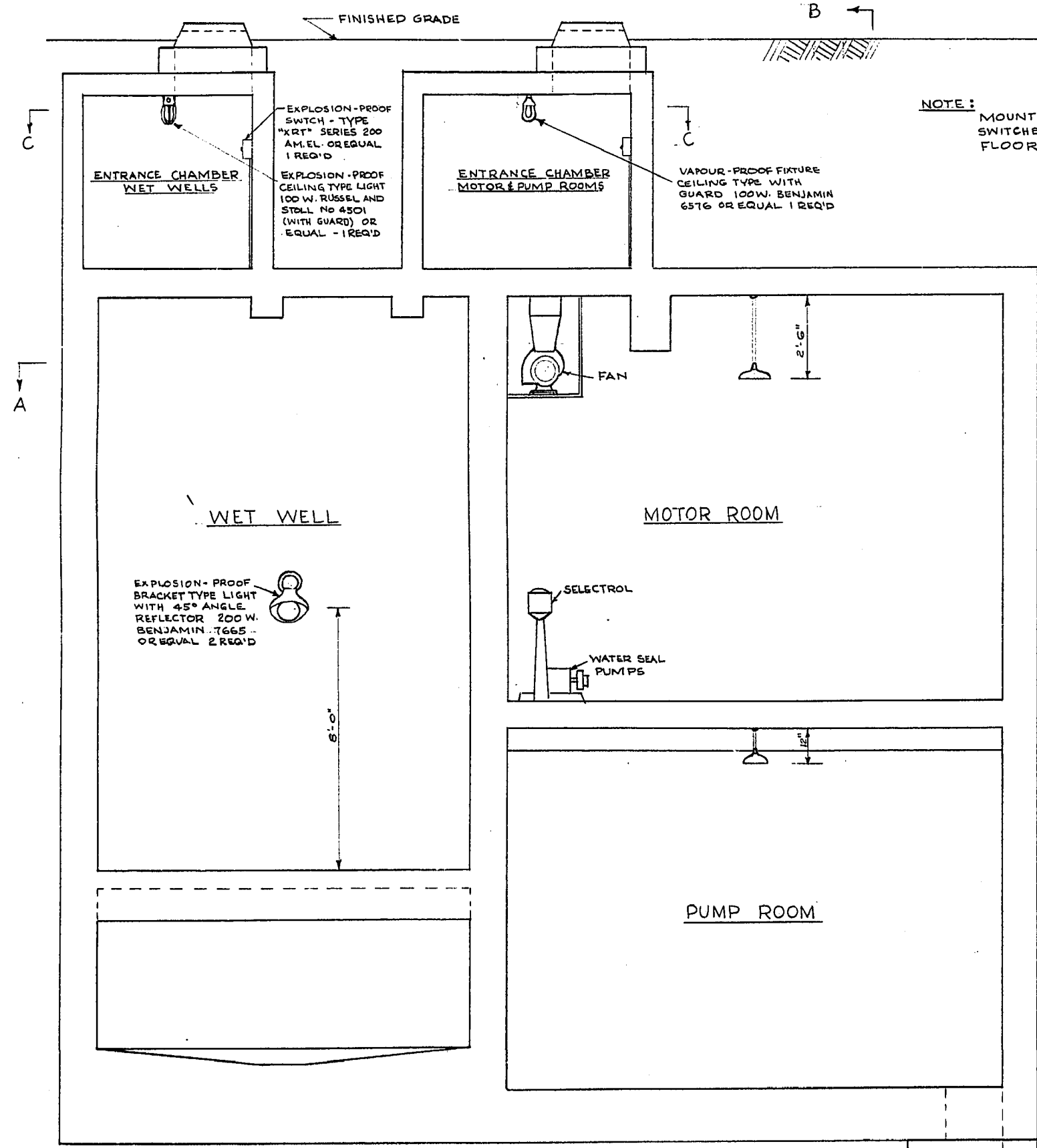
SECTION A-A



SECTION C-C

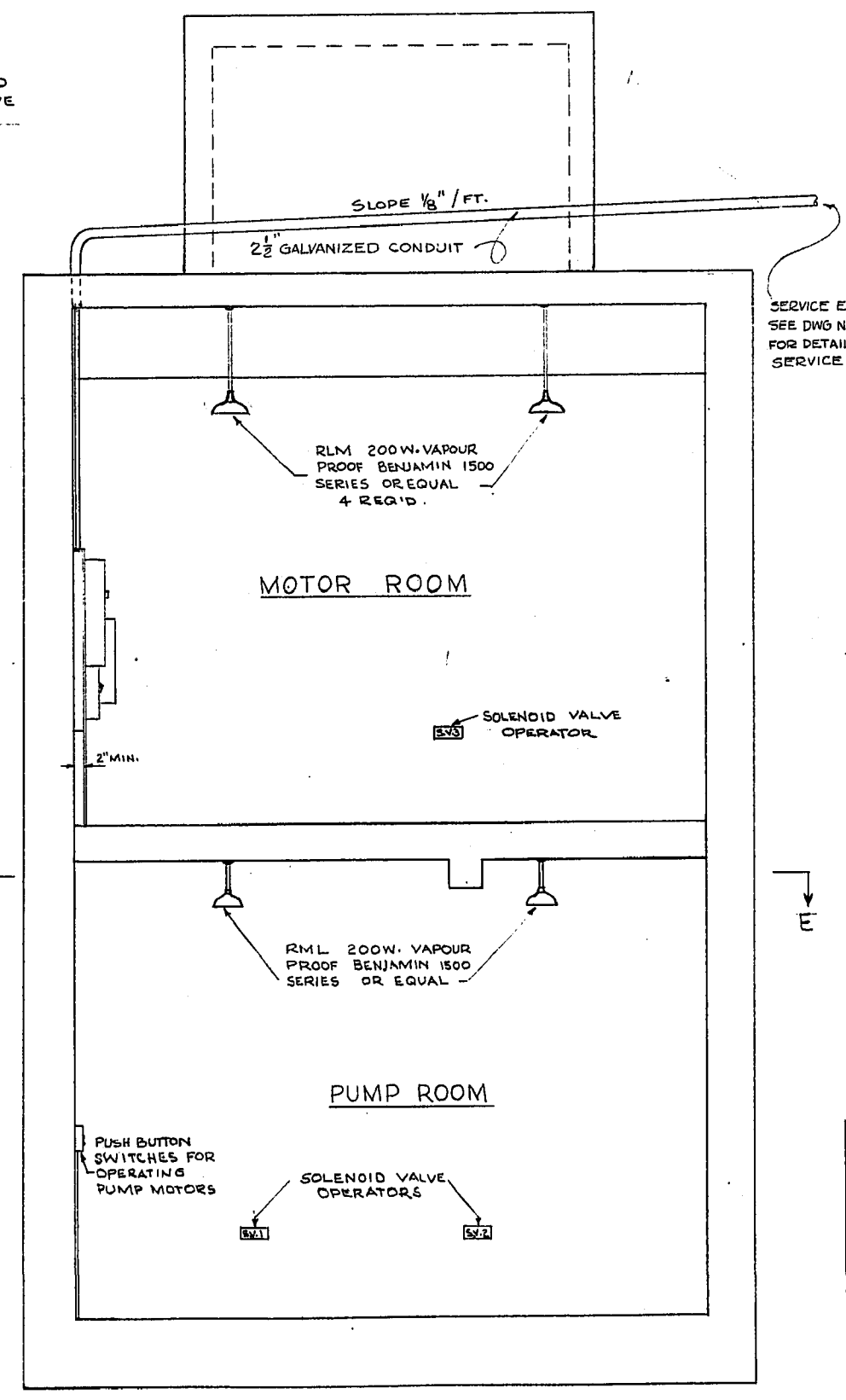


SCHEMATIC LAYOUT OF ELECTRICAL DISTRIBUTION

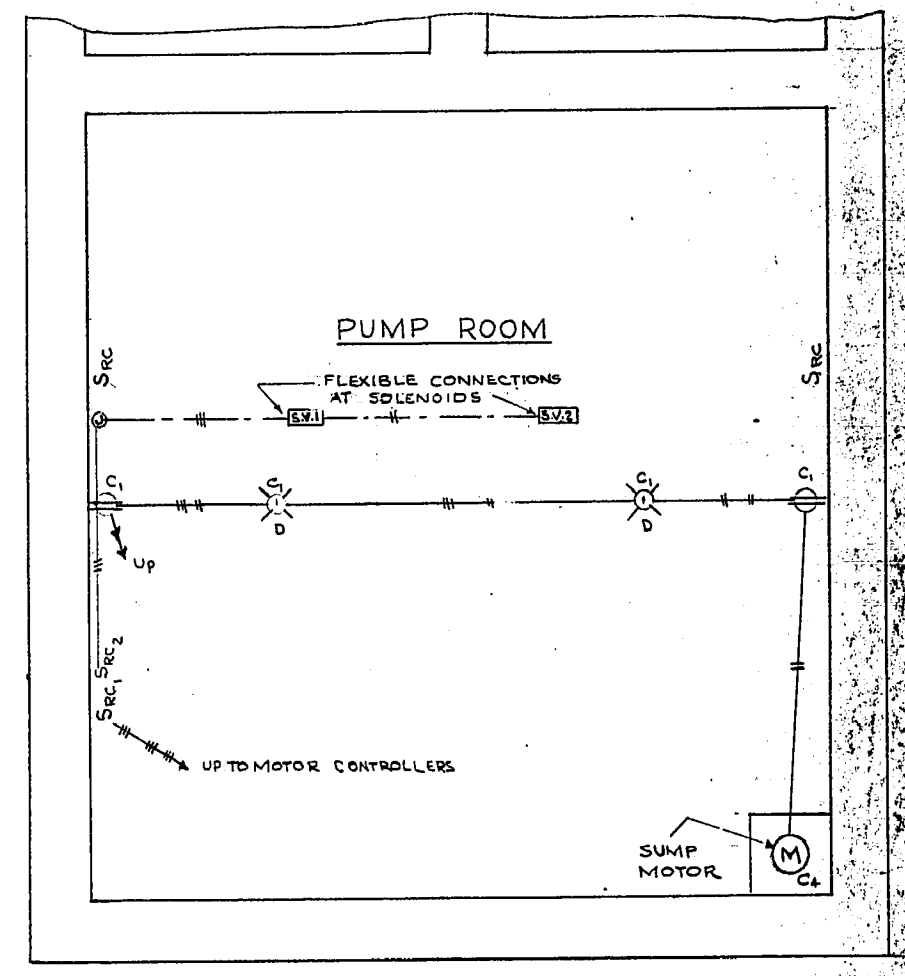


SECTION D-D

NOTE: MOUNT OUTLETS AND SWITCHES 4'-0" ABOVE FLOOR LEVEL



SECTION B-B



SECTION E-E

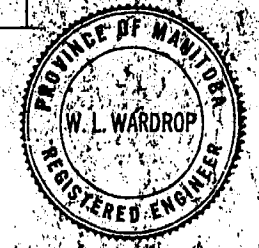
MICROFILMED APR 12 1979

**SYMBOLS**

○	LIGHT FIXTURE INCANDESCENT
Src	REMOTE CONTROL SWITCH
□	PUSH BUTTON - SAME AS SRC
⊗	MOTOR CONTROL SWITCH c/w O/L & U/V
⊕	SOLENOID VALVE OPERATOR
⊙	MOTOR
S	SWITCH
⊖	DUPLEX OUTLET-POLARIZED

**REVISIONS**

NO.	DESC.	DATE	BY
1	3C #1/0 PILC CHANGED TO 3C #1/0 PILC	8/1/55	R.B.
2	SERVICE ENTRANCE TO BE CHANGED	Do	R.B.

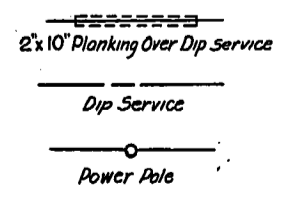
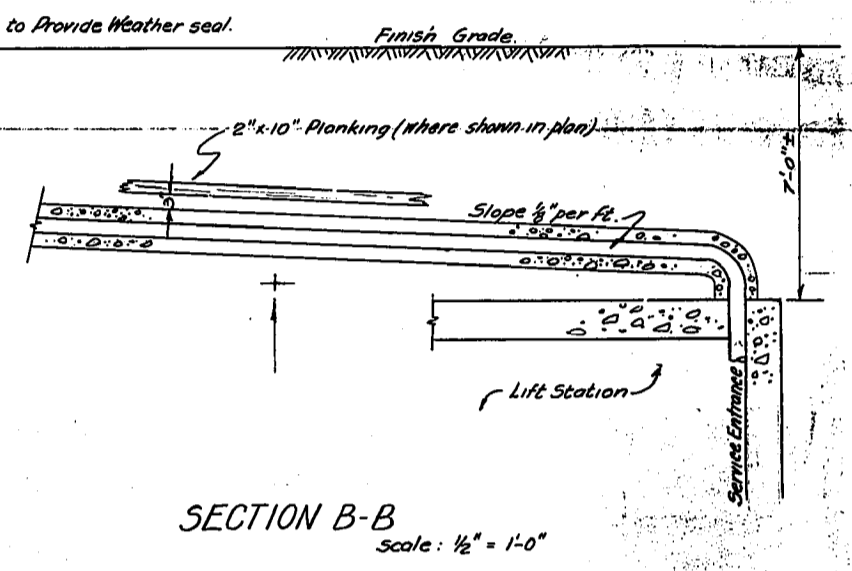
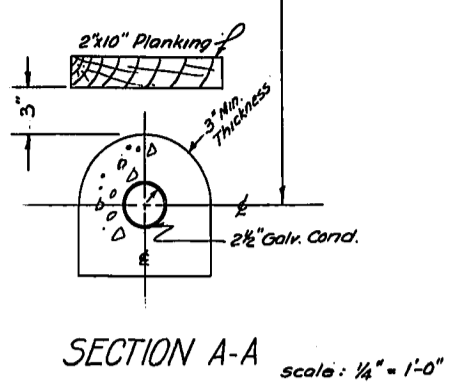
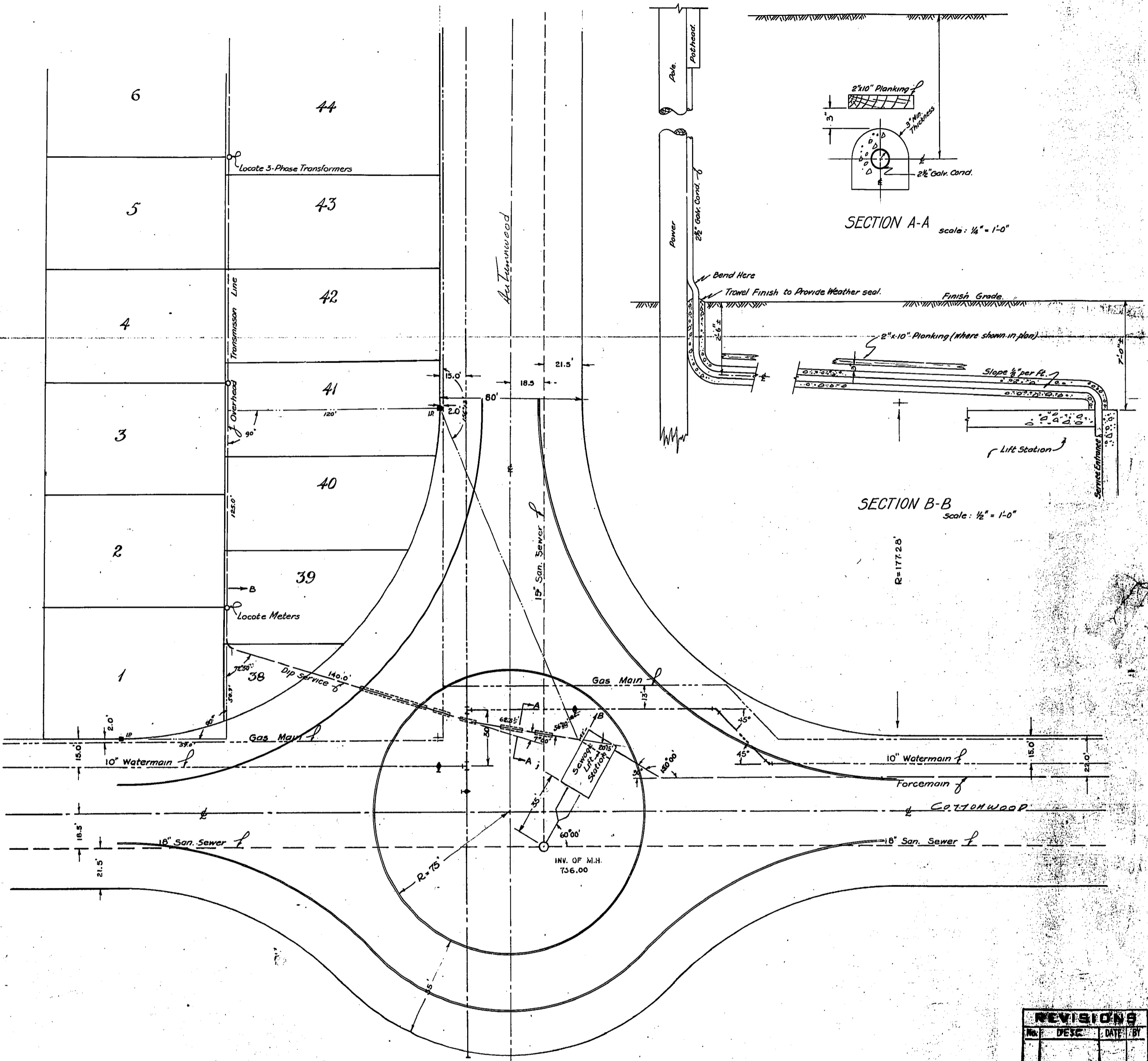


**W. L. WARDROP & ASSOCIATES**  
ENGINEERING CONSULTANTS  
WINNIPEG CANADA

**LADCO DEVELOPMENT - ST. BONIFACE**

**ELECTRICAL DETAILS**  
**SEWAGE LIFT STATION**

Scale: 3/8" = 1'-0" Date: JULY 15, 1955  
 Designed By: W.L.W. Project No. 5321  
 Drawn By: W.L.W. Drawing No. 101  
 Checked By:



REVISIONS			
No.	DESC.	DATE	BY

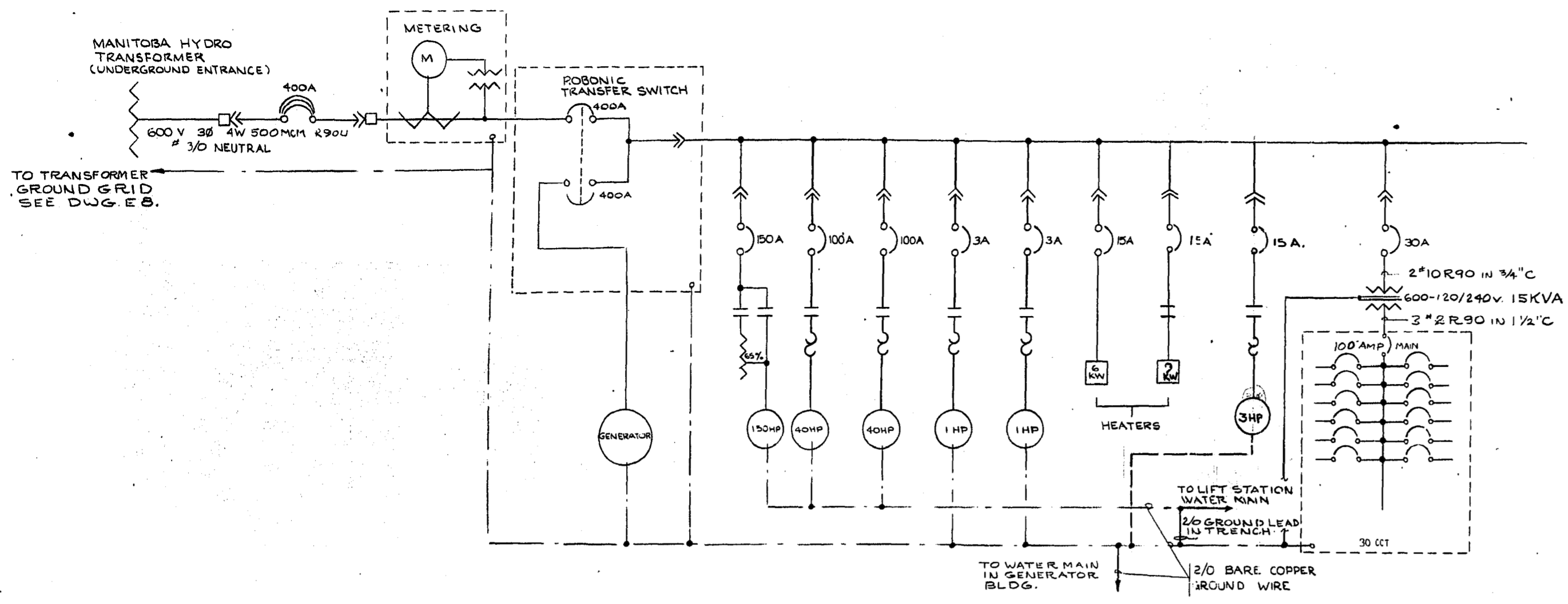
MICROFILMED APR 12 1979



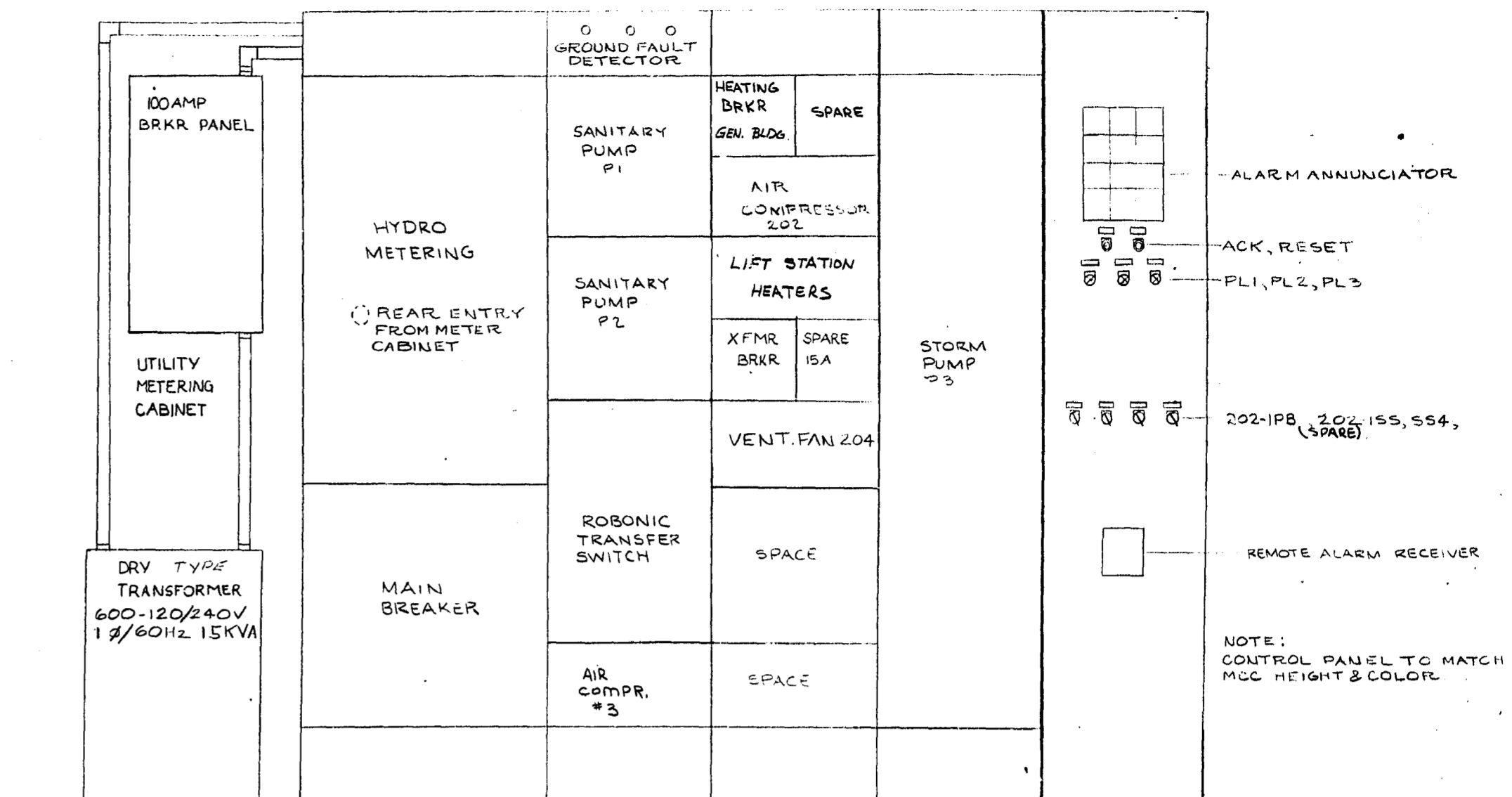
W. L. WARDROP & ASSOCIATES  
 ENGINEERING CONSULTANTS  
 WINNIPEG CANADA

**LADCO DEVELOPMENT**  
 ST. BONIFACE MANITOBA  
 LOCATION & DETAILS OF DIP SERVICE TO LIFT STN

Scale: 1" = 30'	Date: Nov. 2/1979
Designed By: W.L.W.	Project No. 5521
Drawn By: R.D.	Sheet No.
Checked By: W.L.W.	E-2



600 VOLT MAIN POWER DISTRIBUTION



MAIN POWER DISTRIBUTION PANEL  
 SCALE: 3/8" = 1"

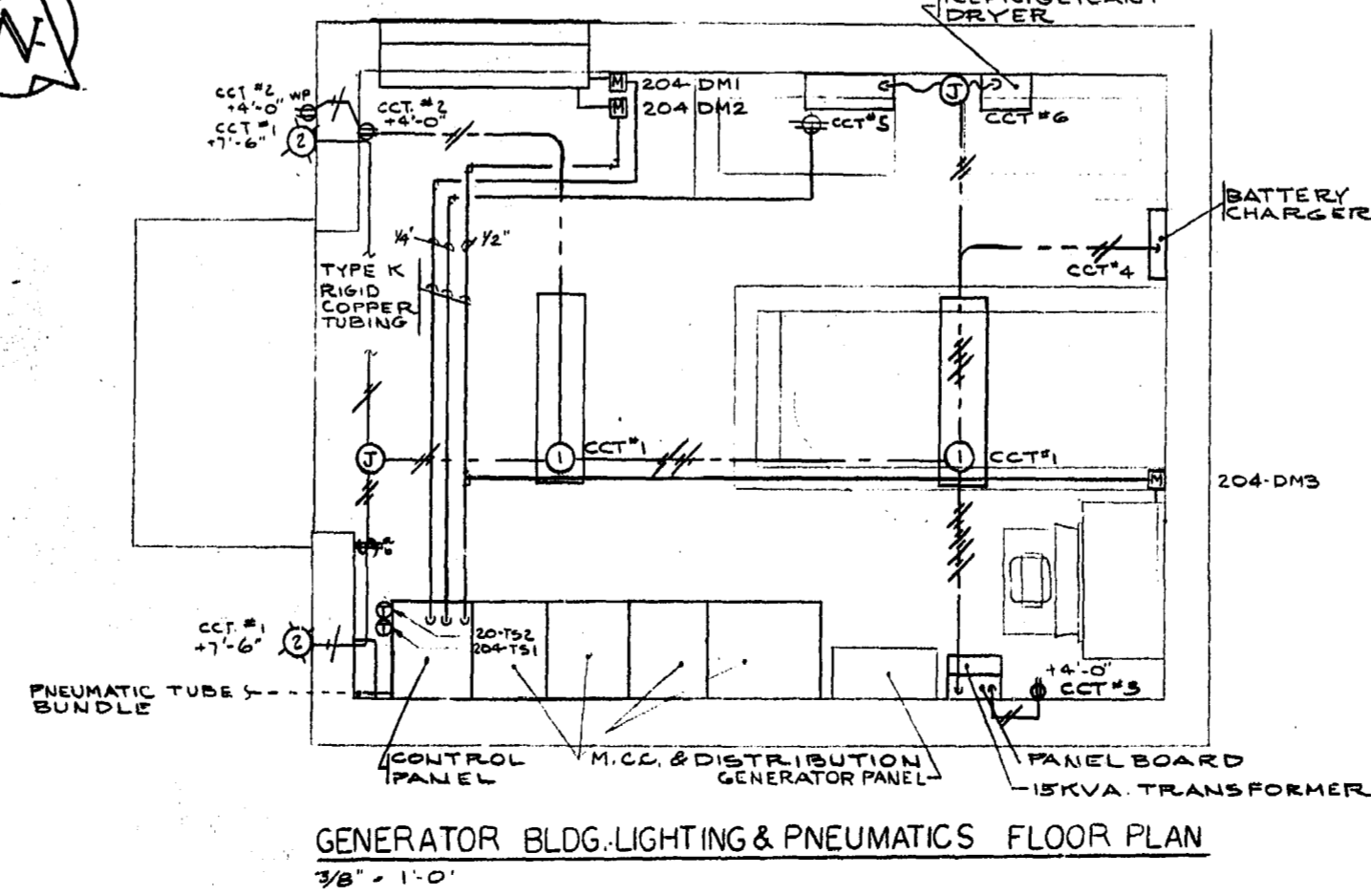
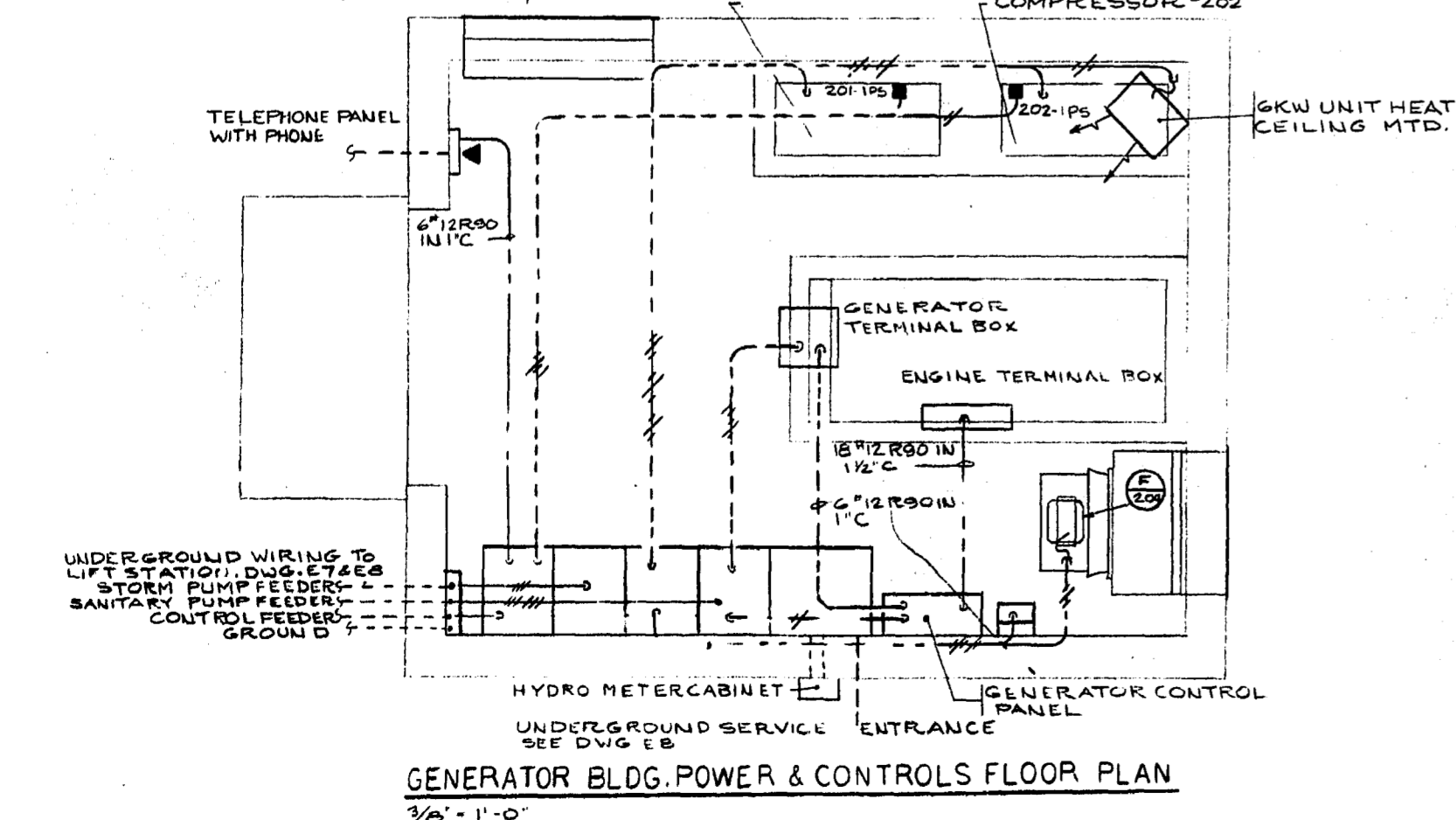
**600 VOLT DISTRIBUTION SCHEDULE**

UNIT NO.	MOTOR DESCRIPTION	LOCATION	FULL LOAD OR AMPS KW	CEMA	STARTER TYPE	COPY IN SIZE	FEEDER TYPE	CIRCUIT PROTECTION CONTINUOUS RATING	FRAME SIZE	CIRCUIT PROTECTION TYPE	AT MCC	AT MOTOR	CONTROLS	REMARKS
P1	SANITARY PUMP	STATION	41A 40HP	3	FVNR	70 3-C # 6	RWU 90	100A, 3P	MCP	INTG. LEVEL CONTROL	NIL	NIL	AUX CONTACT ON BREAKER FOR CONTROL CIRCUIT	
P2	SANITARY PUMP	STATION	41A 40HP	3	FVNR	70 3-C # 6	RWU 90	100A, 3P	MCP	INTG. LEVEL CONTROL	NIL	NIL		
P3	STORM PUMP	STATION	44A 40HP	5	FVNR (AUTOMATICALLY LATCHING, CLOSED POSITION)	185 3-C 2/Ø	RWU 90	250A, 3P	LB		NIL	NIL		
	AIR COMPRESSOR	GEN. BUILDING	14A 1HP	1	FVNR	20 3-C # 12	R 90	3A, 3P	MCP	AIR PRESS. CONTROL			AUTO-STOP DUTY SELECTOR ON & TEST PUSH BUTTON IN CONTROL PANEL	
	AIR COMPRESSOR HEATER	STATION	9KW			20 3-C # 12	R 90	15A, 3P	FB				INTEGRAL THERMOSTAT	
204	VENTILATION FAN	GEN. BUILDING	2.7 3HP	1	FVNR	20 3-C # 12	R 90	7A, 3P	MCP	THERMOSTAT-THAND.				
203	AIR COMPRESSOR	STATION	3.6 3HP	1	FVNR	30 3 # 10	TWU 90	15A, 3P	MCP	AIR PRESS. CONTROL				

100 Amp. 120/240 Volt 1 Phase P/NELEBOARD Complete With 100 Amp. Main Breaker

DESCRIPTION	WATT		CCT	Ø	A	B	WATT		DESCRIPTION
	A	B					A	B	
Generator Building Lighting	350	1	15	15	2	500	1000	Generator Building Outlets	
Generator Building Outlets	200	3	15	4	1000	5000	5000	Safety Charger	
REFLECTOR	1000	5	15	6	1000	1000	1000	Refrigerant Dryer	
Control Cct.-SEAL WATER	500	7	15	8	500	500	500	Pump Control Cct.	
Sump Pump Control Cct.	500	9	15	10	500	500	500	Annunciator Supply	
Sump Pump #1	500	11	15	12	500	500	500	Alarm Receiver Supply	
Vent Fan 105	800	13	15	14	950	950	950	Vent Fan 106	
LIFT Station Wet Well Lights	300	17	20	18	1400	1400	1400	Vent Fan 106	
Battery	190	19	20	20	1400	1400	1400		
Sump Pump 201	1400	21	20	22					
Sump Pump 201	1300	23	20	24					
		25		26					
		27		28					
		29		30					

FOR TELEPHONE SERVICE ENTRANCE:  
 INSTALL 1-1/4" RIGID CONDUIT THROUGH 2" SLEEVE PROVIDED IN FLOOR (SLEEVE PROVIDED BY BUILDING CONTRACTOR). ROUTE CONDUIT DOWN, TO EXIT BUILDING 3'-0" BELOW GRADE AND TERMINATE 3'-0" FROM BUILDING WALL.



**ELECTRICAL LEGEND**

CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE
CONDUIT	CONDUIT TO BE INSTALLED IN WALL OR FLOOR OR BELOW GRADE

1. REVISED TO DATE

NO. DESCRIPTION DATE BY

CITY OF WINNIPEG  
 WORKS AND OPERATIONS DIVISION  
 DISTRICT 5

W.L. WARDROP & ASSOCIATES LTD.  
 ENGINEERING CONSULTANTS  
 WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON

WINDSOR PARK LIFT STATION RENOVATION

DISTRIBUTION &  
 GENERATOR BUILDING LAYOUT

DESIGNED BY: B.S. DRAWN BY: J.L. CHECKED BY: [Signature]

APPROVED BY: [Signature]

SCALE: AS NOTED DATE: 1/76

DRAWING NO.: 76012-04-E2 REV 0

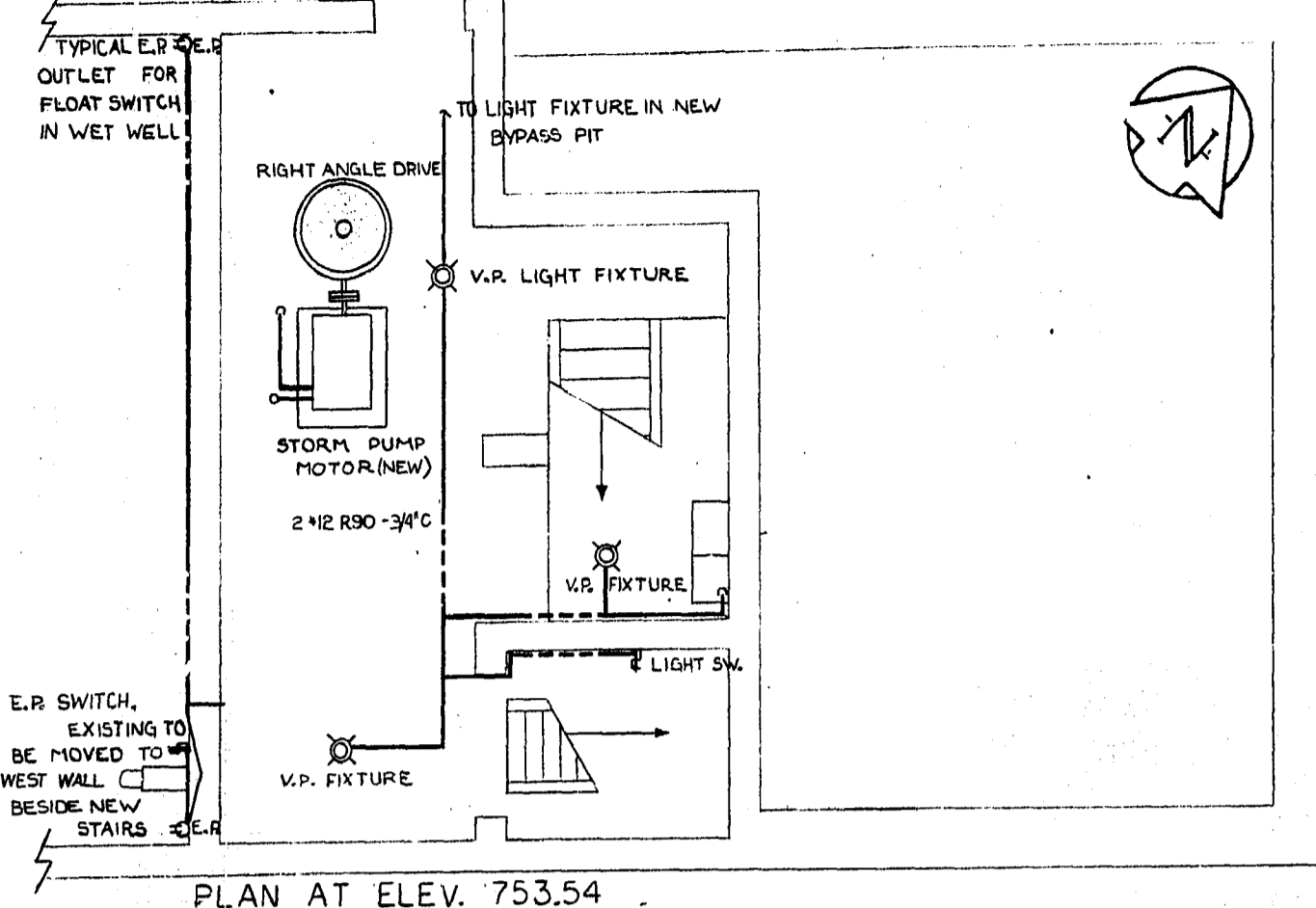
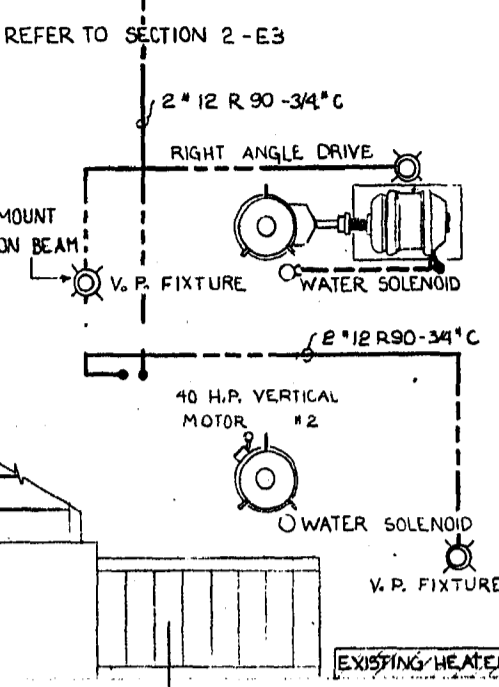
R.S. MORRISON  
 REGISTERED ENGINEER

AS - BUILT  
 DATE: 7/6 FB. NO. PAGE



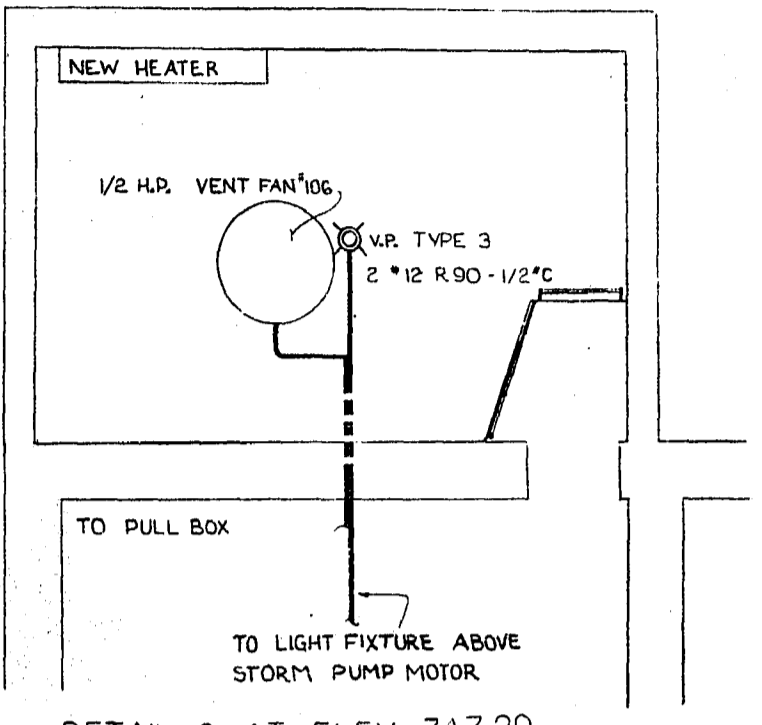
SEE NEW ADDITION PLAN VIEW  
DETAIL C

E.P. MOTOR  
DISCONNECT SW. (NEW)  
EXISTING HEATER  
VENTILATION  
FAN (EXISTING) # 105  
REFER TO SECTION 2-E3

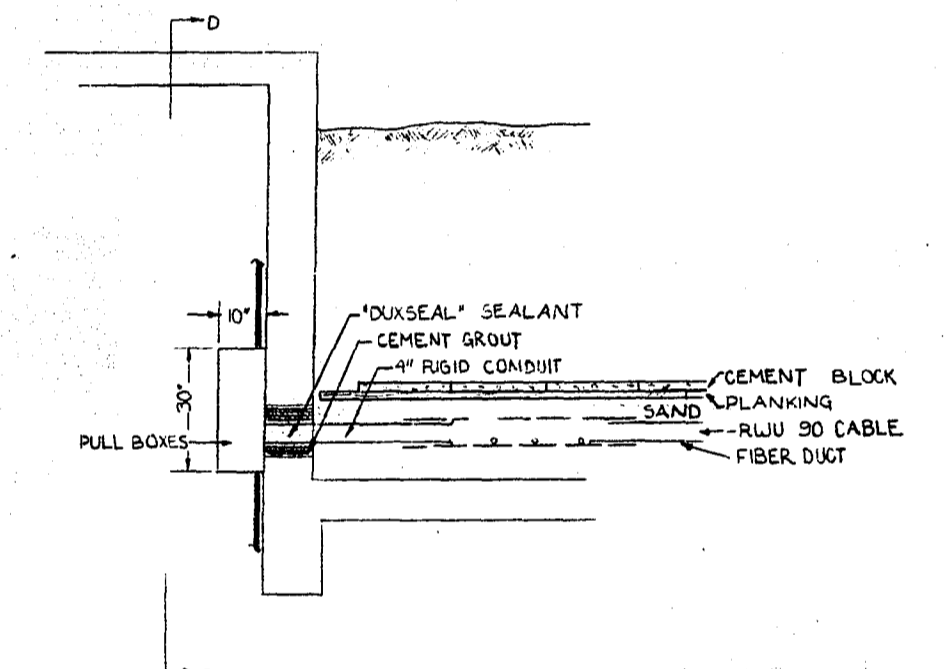


PLAN AT ELEV. 740.43

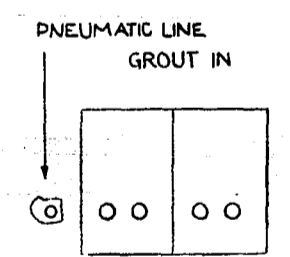
PLAN AT ELEV. 753.54



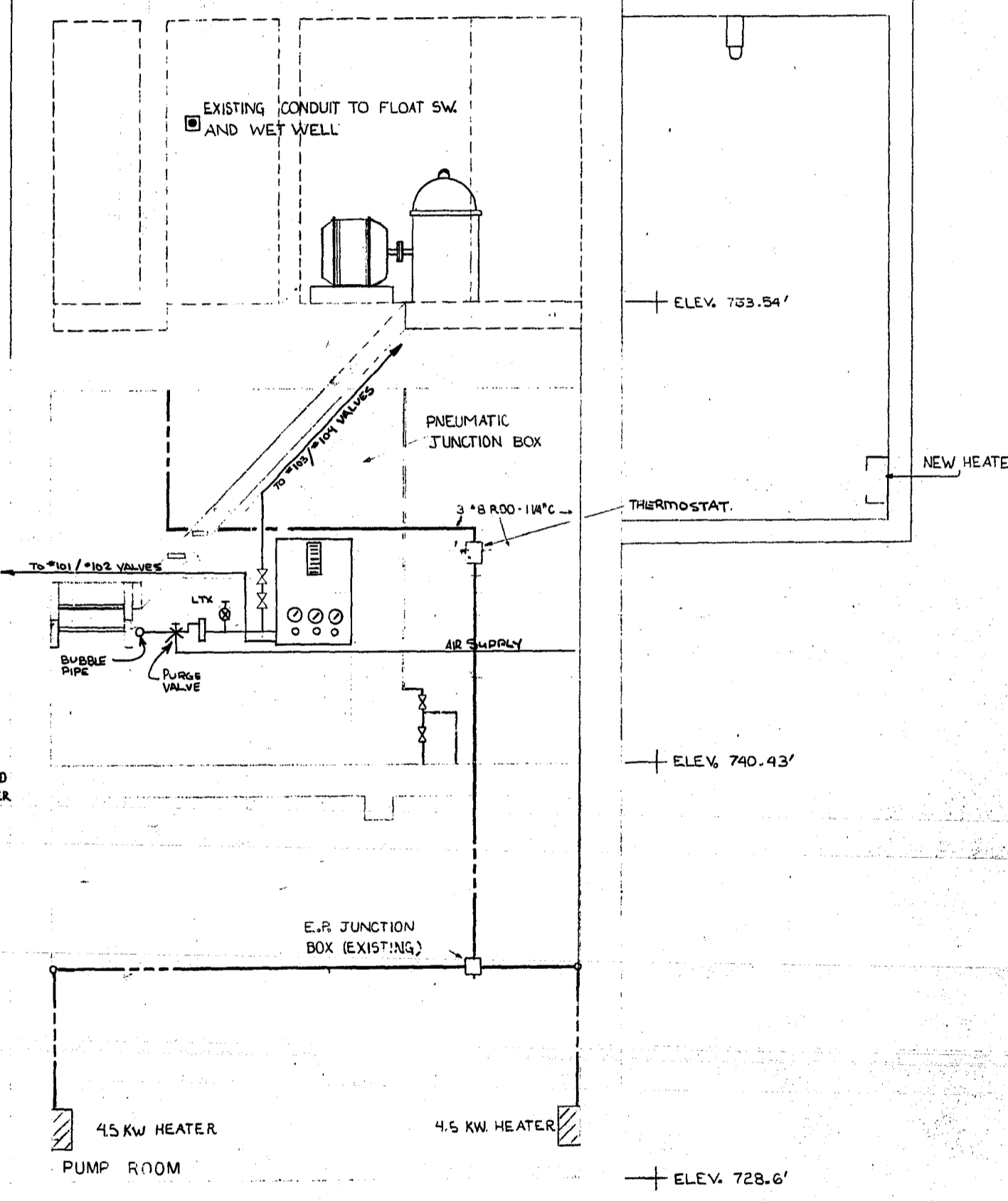
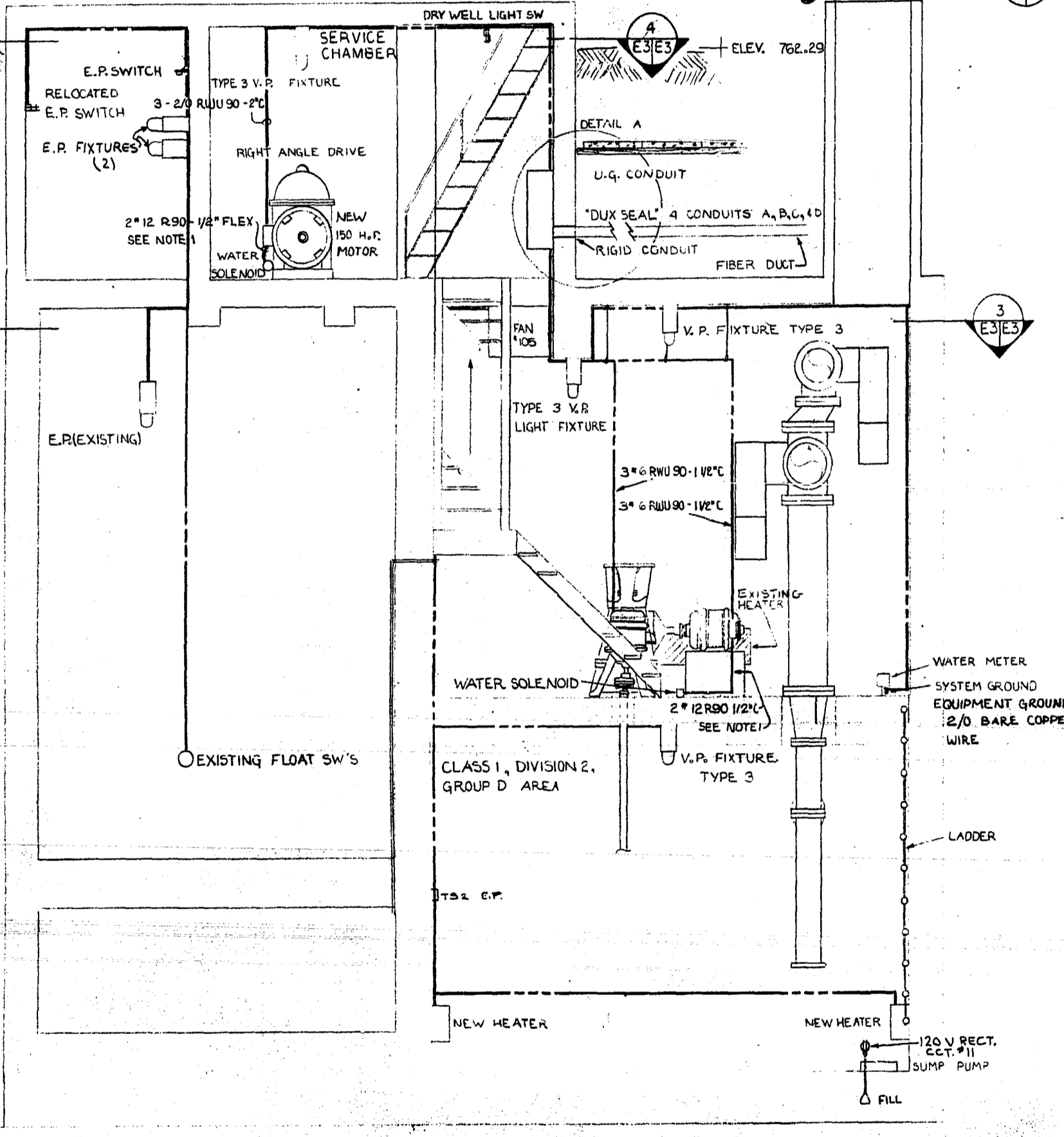
DETAIL C AT ELEV. 747.29  
SCALE 3/8" = 1"



DETAIL A  
SCALE 3/8" = 1"



D-D SECTION  
SCALE 3/8" = 1"



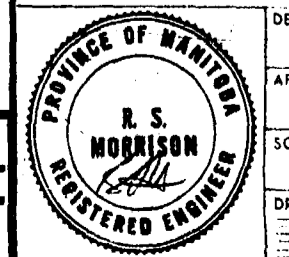
SECTION 1  
SCALE 3/8" = 1"

SECTION 2  
SCALE 3/8" = 1"

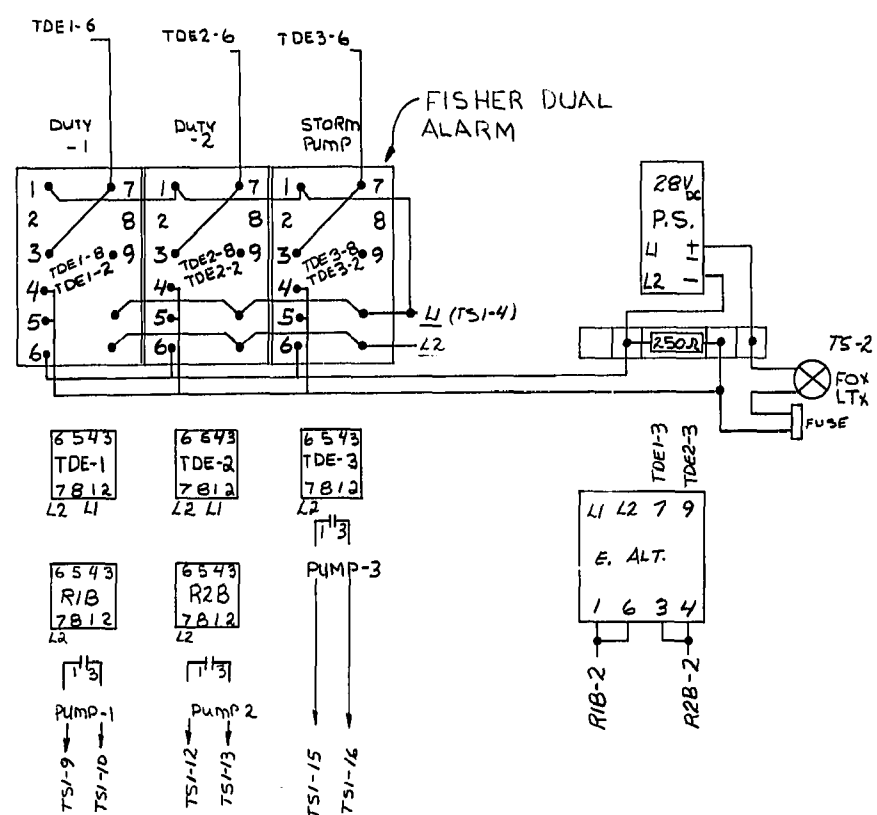
- NOTE:
- INSTALL EXPLOSION PROOF INLINE FUSES TO SOLENOIDS
  - REMOVE EXISTING CONDUIT AS DIRECT BY OWNERS REPRESENTATIVE

NO.	DESCRIPTION	DATE	BY
1	REVISED TO DATE		
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
<b>W. L. WARROP &amp; ASSOCIATES LTD</b> ENGINEERING CONSULTANTS <small>WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON</small>			
WINDSOR PARK LIFT STATION RENOVATION			
LIFT STATION LAYOUT & DETAILS			
DESIGNED BY:	TBS	DRAWN BY:	KFM
CHECKED BY:			
APPROVED BY:	<i>[Signature]</i>		
SCALE:	3/8" = 1"	DATE:	1/76
DRAWING NO.:	76012-04-E3	REV:	0

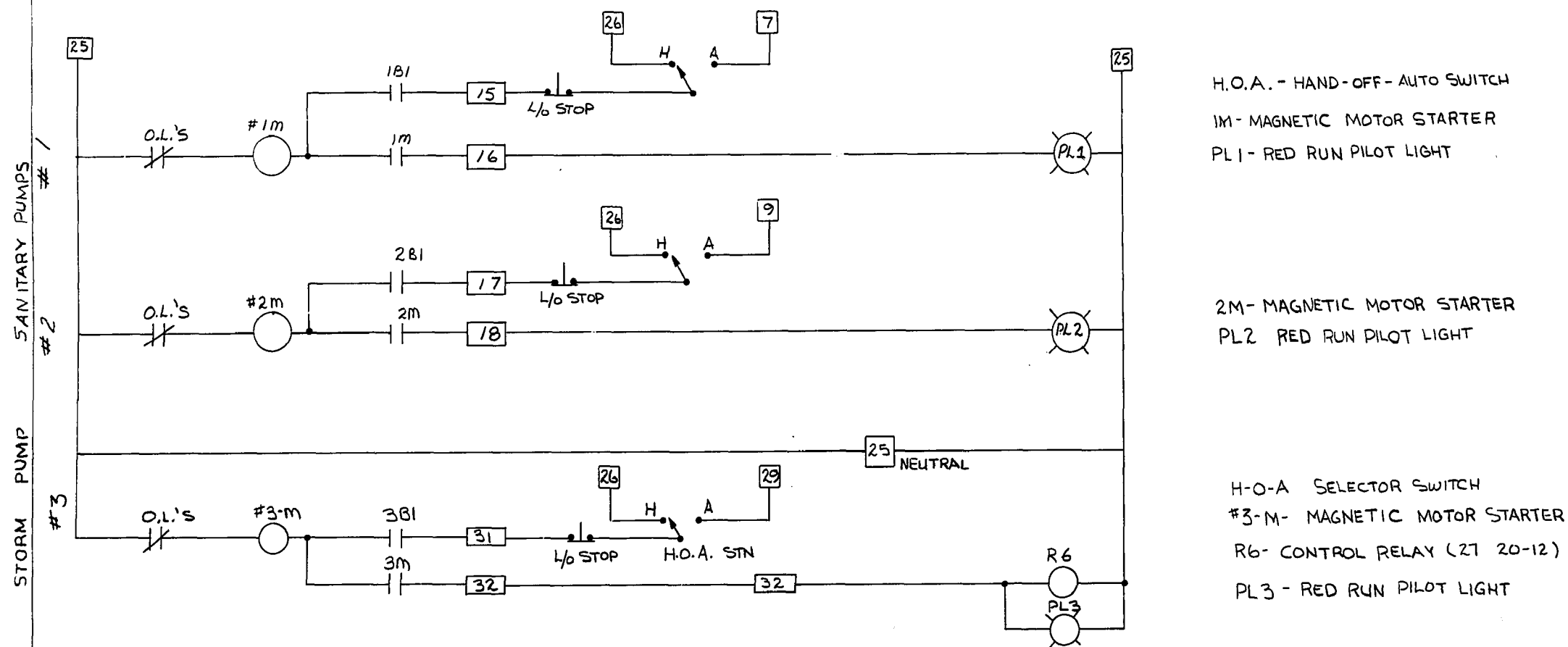
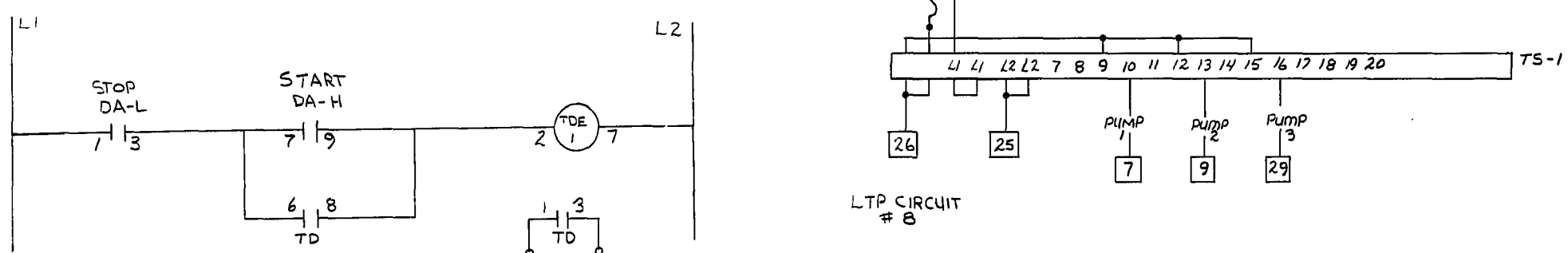
AS-BUILT  
DATE: FB. NO. PAGE



CONTROL PANEL



CONCEPT - DUAL ALARM UNIT CONTROL, TYPICAL

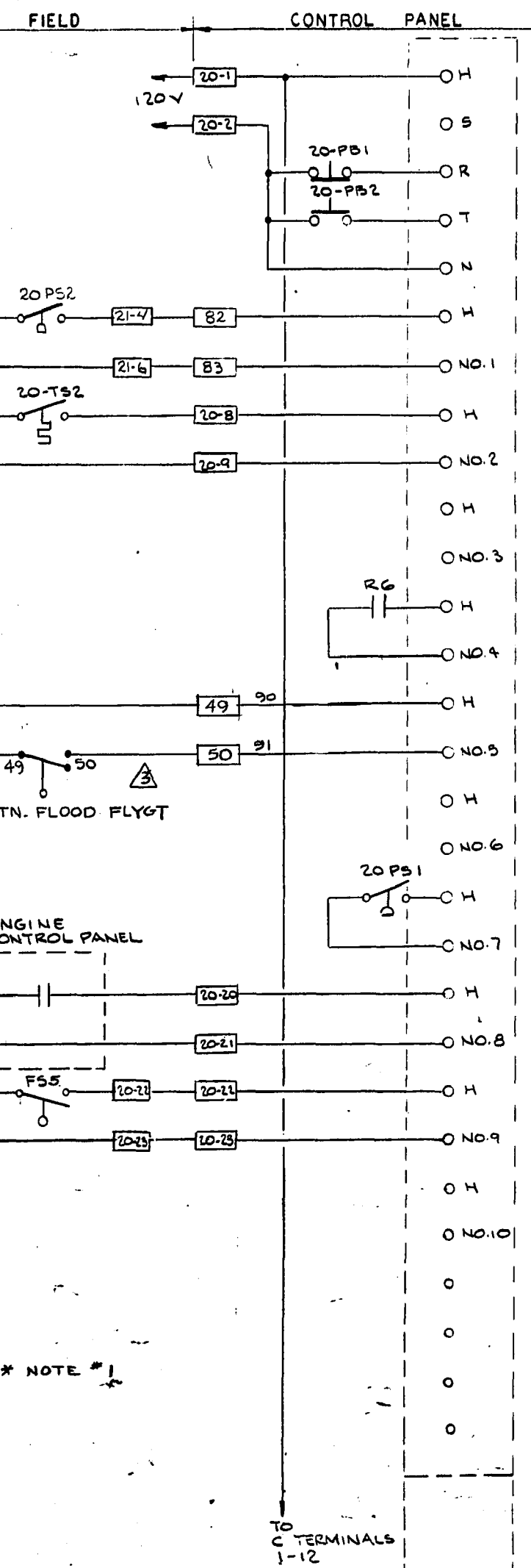


H.O.A. - HAND-OFF-AUTO SWITCH  
 #1M - MAGNETIC MOTOR STARTER  
 PL1 - RED RUN PILOT LIGHT

#2M - MAGNETIC MOTOR STARTER  
 PL2 - RED RUN PILOT LIGHT

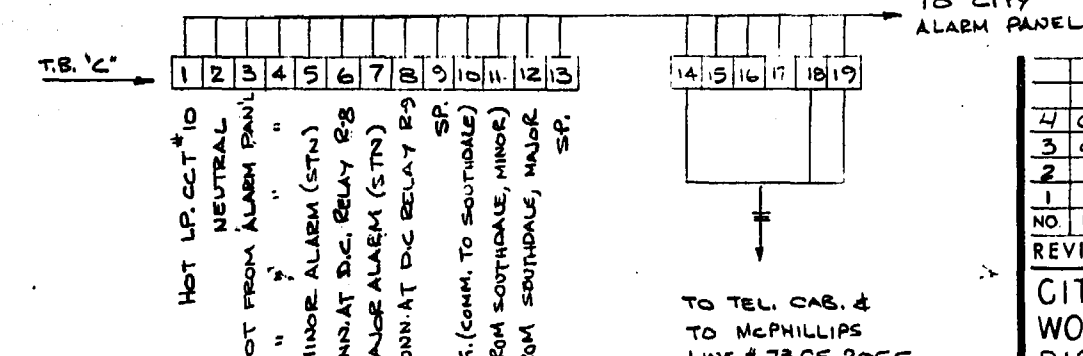
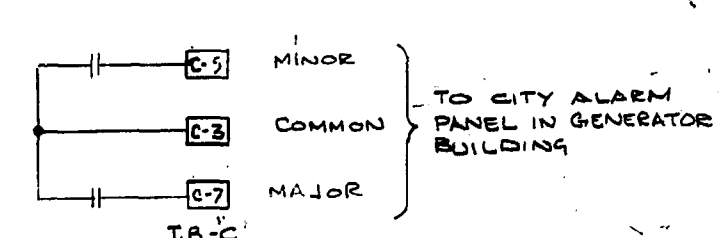
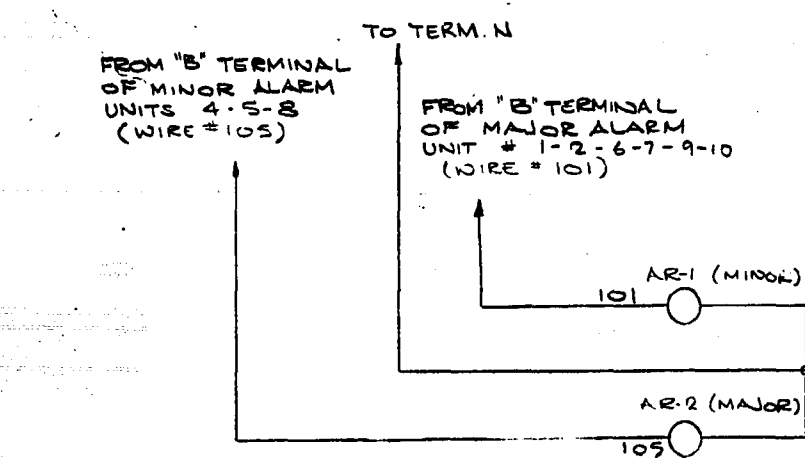
H.O.A. SELECTOR SWITCH  
 #3M - MAGNETIC MOTOR STARTER  
 R6 - CONTROL RELAY (ZT 20-12)  
 PL3 - RED RUN PILOT LIGHT

OPERATING FROM LTP CIRCUIT #11



- 20-1 120 VOLT SUPPLY FROM PANEL 'A' CCT. #10
- 20-2
- 20-3 20-PB1 - ACKNOWLEDGE PUSH-BUTTON
- 20-4 20-PB2 - "TEST" PUSH-BUTTON
- 20-5
- 20-6 20-PS2 PRESS SW. SET @ 50 PSIG
- 20-7 NO.1 - "LIFT STATION LOW AIR ALARM"
- 20-8 20-TS2 - TEMPERATURE SENSOR CLOSSES WHEN GEN. BLDG TEMP DROPS TO 50°F
- 20-9 NO.2 - "GEN. BLDG LOW TEMP. ALARM"
- 20-10
- 20-11 NO.3 - SPARE
- 20-12
- 20-13 NO.4 - "STORM PUMP RUNNING" ALARM
- 20-14
- 20-15 NO.5 - "STATION FLOOD (MAJOR)"
- 20-16
- 20-17 NO.6 - SPARE
- 20-18 20-PS1 - PRESSURE SWITCH SET AT 65 PSIG
- 20-19 NO.7 - "LOW AIR PRESSURE" ALARM
- 20-20 DRY CONTACT IN ENGINE CONTROL PANEL CLOSSES WHEN ENGINE RUNNING
- 20-21 NO.8 - "GENERATOR RUNNING" ALARM
- 20-22 FS-5 - FLOAT SWITCH CLOSSES ON WET WELL HIGH LEVEL
- 20-23 NO.9 - "WET WELL HIGH LEVEL" ALARM
- 20-24
- 20-25 NO.10 SPARE
- 20-26
- 20-27 NO.11 SPARE ALARM POINTS
- 20-28
- 20-29 NO.12

\* NOTE #1



NOTE  
 SEE WINDSOR PARK ALARM  
 DWG. L-5-20

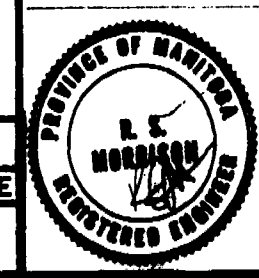
NO.	DESCRIPTION	DATE	BY
1	CONTROL PANEL ANNUNCIATOR	REVISIONS	JAN 86 MD
2	GEN. REV.	820812 MS	
3	GEN. REVISION	1/81 ES	
4	SEE DWG 76-012-1B-E1		RS

CITY OF WINNIPEG  
 WORKS AND OPERATIONS DIVISION  
 DISTRICT 5

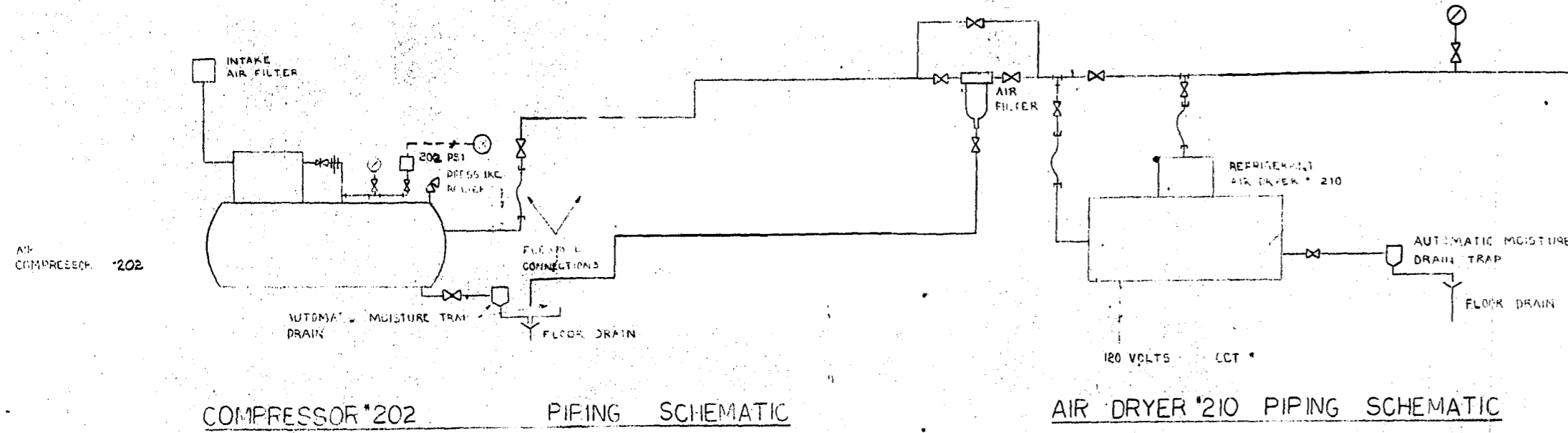
W.L. WARDROP & ASSOCIATES LTD  
 ENGINEERING CONSULTANTS  
 WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON

WINDSOR PARK LIFT STATION RENOVATION  
 CONTROL SCHEMATICS  
 PUMP CONTROL AND ANNUNCIATION

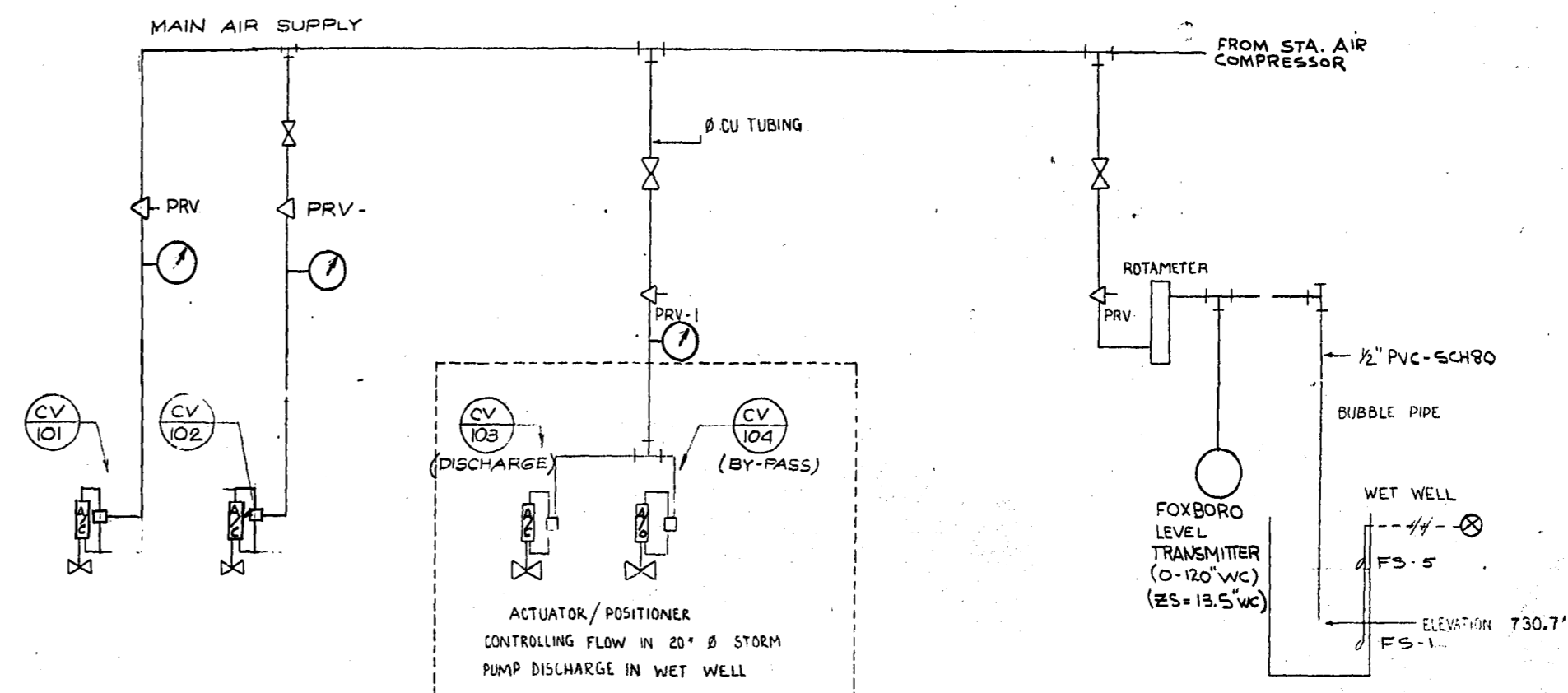
DESIGNED BY: JH	DRAWN BY: JL	CHECKED BY: [Signature]
APPROVED BY: [Signature]	DATE: 1/76	REV: 0
SCALE: N.T.S.	DRAWING NO: 76012-04-E5	



AS-BUILT  
 DATE: 7/20/76  
 FB NO. PAGE

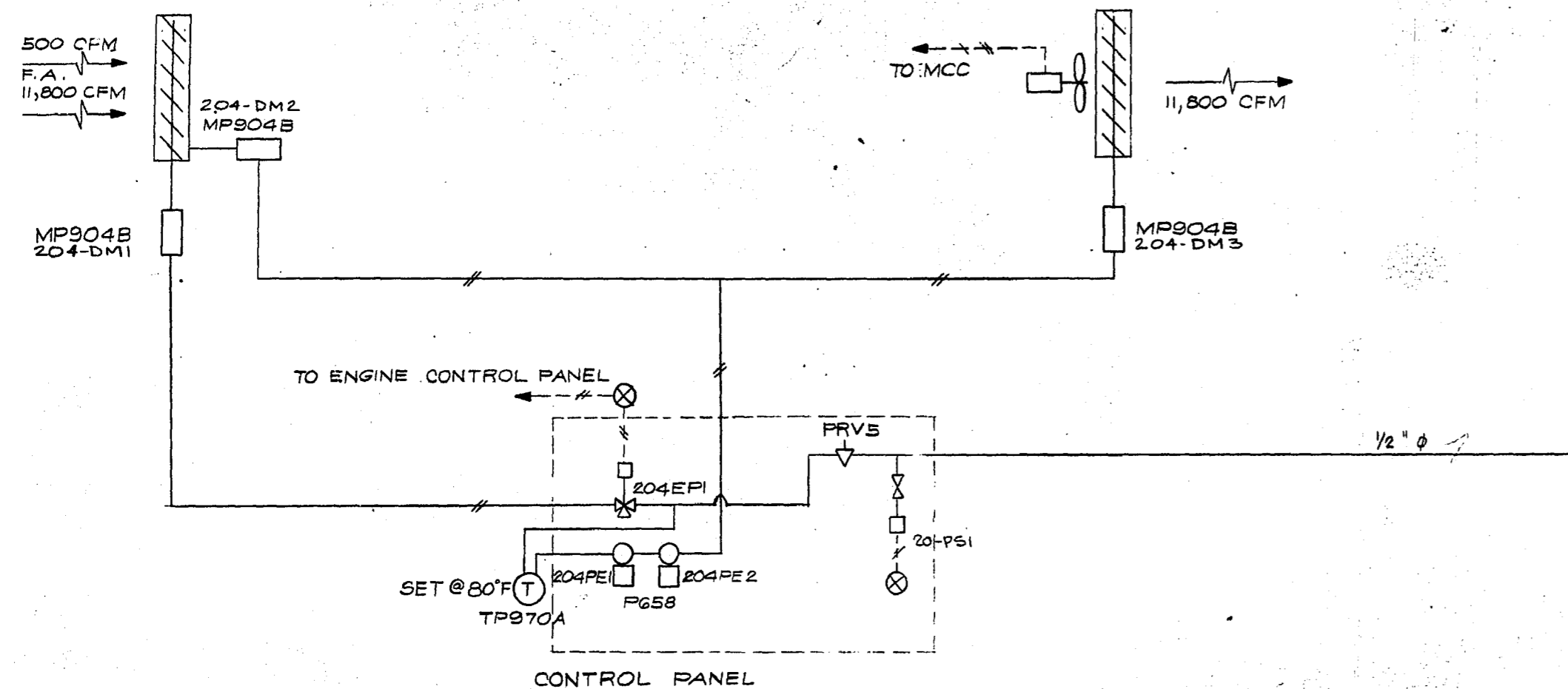


GENERATOR BLDG. CONTROL AIR SYSTEM

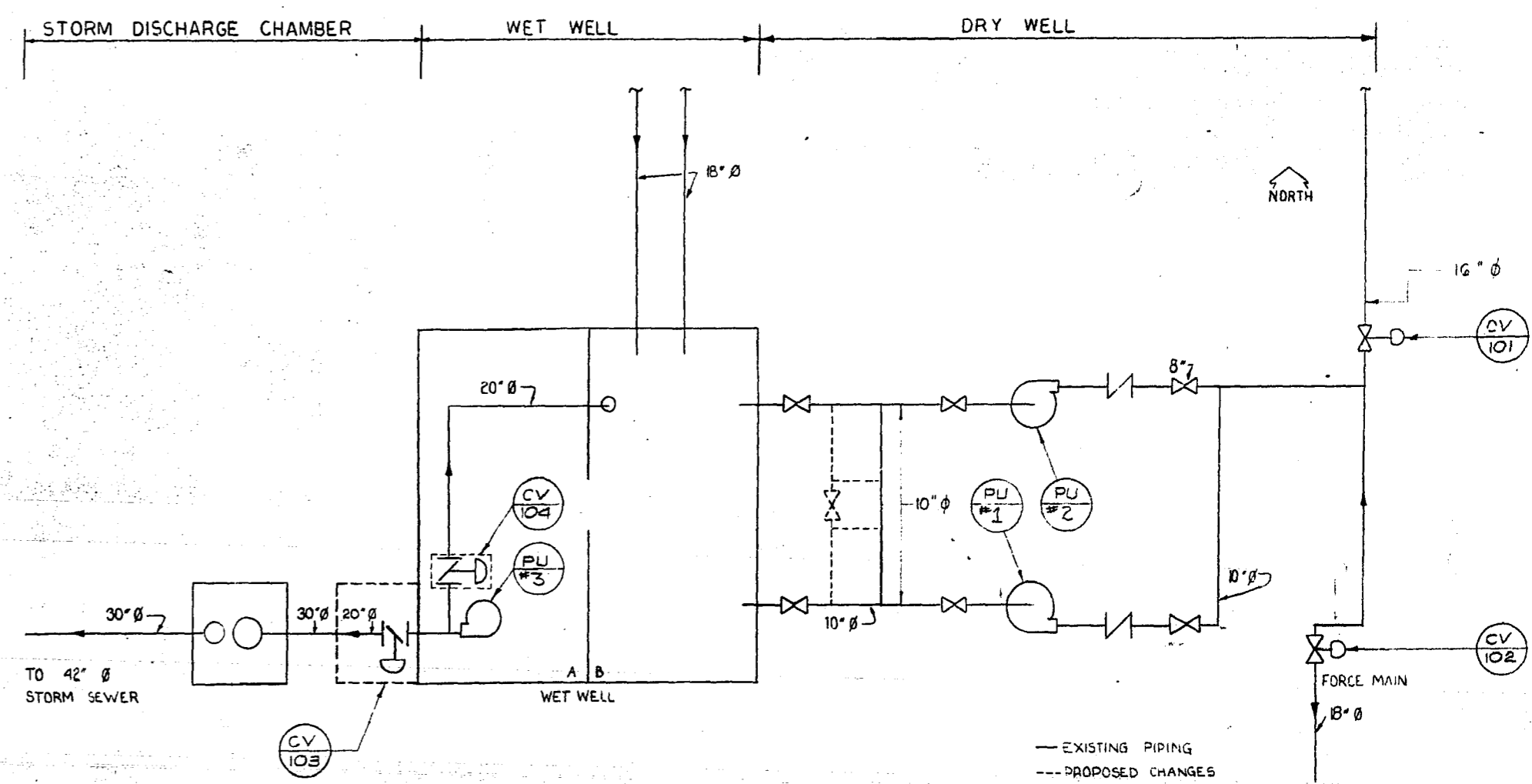


LIFT STATION PNEUMATIC SYSTEM

⊗ REFER TO SCHEMATICS DWG. #E5  
 ⊙ " " " " #E4



GENERATOR BLDG. VENTILATION DIAGRAM



STATION FLOW CHART

DIVISION OF RESPONSIBILITY

	SECTION 15		SECTION 16		OWNER SUPPLIED	REMARKS
	SUPPLY	MOUNT	SUPPLY	MOUNT		
ELECTRIC HEATERS			X	X	X	EXISTING UNITS TO BE RE-USED
THERMOSTATS, PNEUMATIC	X	X				
THERMOSTAT, ELECTRIC			X	X	X	
MOTOR CONTROL CENTRE			X	X	X	
LIGHT FIXTURES			X	X	X	
TRENCHING & WIRE (TO STATION)					X	SHORT SECTION INTO BLDG. SECT. 16
AIR COMPRESSOR	X	X			X	1-NEW, 1-EXISTING RELOCATED
PNEUMATIC BUNDLE (BURIED)					X	SHORT SECT. INTO BLDG. BY SECT. 15
DAMPERS	X	X				
DAMPER MOTORS	X	X				
LIGHT SWITCHES			X	X	X	
MOTOR DISCONNECT SWITCHES			X	X	X	
FLOAT SWITCHES			X	X	X	ROD ACTIVATED FOR SUMP PUMPS
FLOAT SWITCHES	X	X	X	X	X	TILT TYPE - WET WELL/MAN HOLE
PRESSURE SWITCHES	X	X				
LEVEL CONTROLLER	X	X				
AIR PRESSURE REGULATORS	X	X				
ROTO METER	X	X				
CONTROL VALVES	X	X			X	
SOLENOID VALVES	X	Y			X	
CONTROL PANEL			X	X	X	
REFRIGILITER	X	X				
DESICCANT DRYER	X	X				
CONTROL VALVES, ACTUATORS & POSITIONERS					X	
PNEUMATIC PIPING	Y	Y				
GENERATOR UNIT			X	X	X	SECT. 15 TO CONNECT WATER, GAS & EXHAUST
GENERATOR EXHAUST SILENCER			X	X	X	
TRANSFORMER (600-120V/240V)			X	X	X	
ISOPH MOTOR		X				
LIGHTING PANEL BOARD			Y	X	X	
VENT. FANS	X	Y				UNIT 105 IN STATION IS EXISTING.
MAIN SERVICE ENTRANCE			X	X	X	
SLEEVES						BY STRUCT. SEE ELECT. & MECH. DWGS.

FLOAT & PRESSURE SWITCH SCHEDULE

NO.	RANGE	DUTY	CONTACT		SIGNAL LEVEL	PROCESS
			N.O.	N.C.		
		SANITARY PUMPS STOP	X		11.2 / 54"	
		1ST DUTY SANITARY PUMP	X	X	13.0 / 60"	
		2ND DUTY SANITARY PUMP	X	X	15.0 / 90"	
		STORM PUMP STOP	X		18.0 / 66"	
		STORM PUMP START	X	X	18.0 / 66"	
202-PS	0-150	AIR COMPRESSOR	X	X	85 & 70	
20PSI	0-150	LOW CONTROL AIR PRESS. ALARM	X		65	
FS1		LOW WET WELL ALARM	X	X	730.0'	S.P.D.T.
FS5		HIGH WET WELL ALARM	X	X	738.0'	
FS-2		SUMP PUMP STOP	X		6"	
FS-3		1ST DUTY SUMP PUMP START	X	X	15"	

1 REVISED TO DATE JAN 86 MD

NO. DESCRIPTION DATE BY

REVISIONS

CITY OF WINNIPEG  
 WORKS AND OPERATIONS DIVISION  
 DISTRICT 5

W.L. WARDROP & ASSOCIATES LTD.  
 ENGINEERING CONSULTANTS  
 WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON

WINDSOR PARK LIFT STATION RENOVATION

CONTROL DIAGRAMS &  
 DIVISION OF RESPONSIBILITY

DESIGNED BY: B.S. DRAWN BY: KFM CHECKED BY: [Signature]

APPROVED BY: [Signature]

SCALE: N.T.S. DATE: 1/76

DRAWING NO: 76012-04-E6 REV: 0

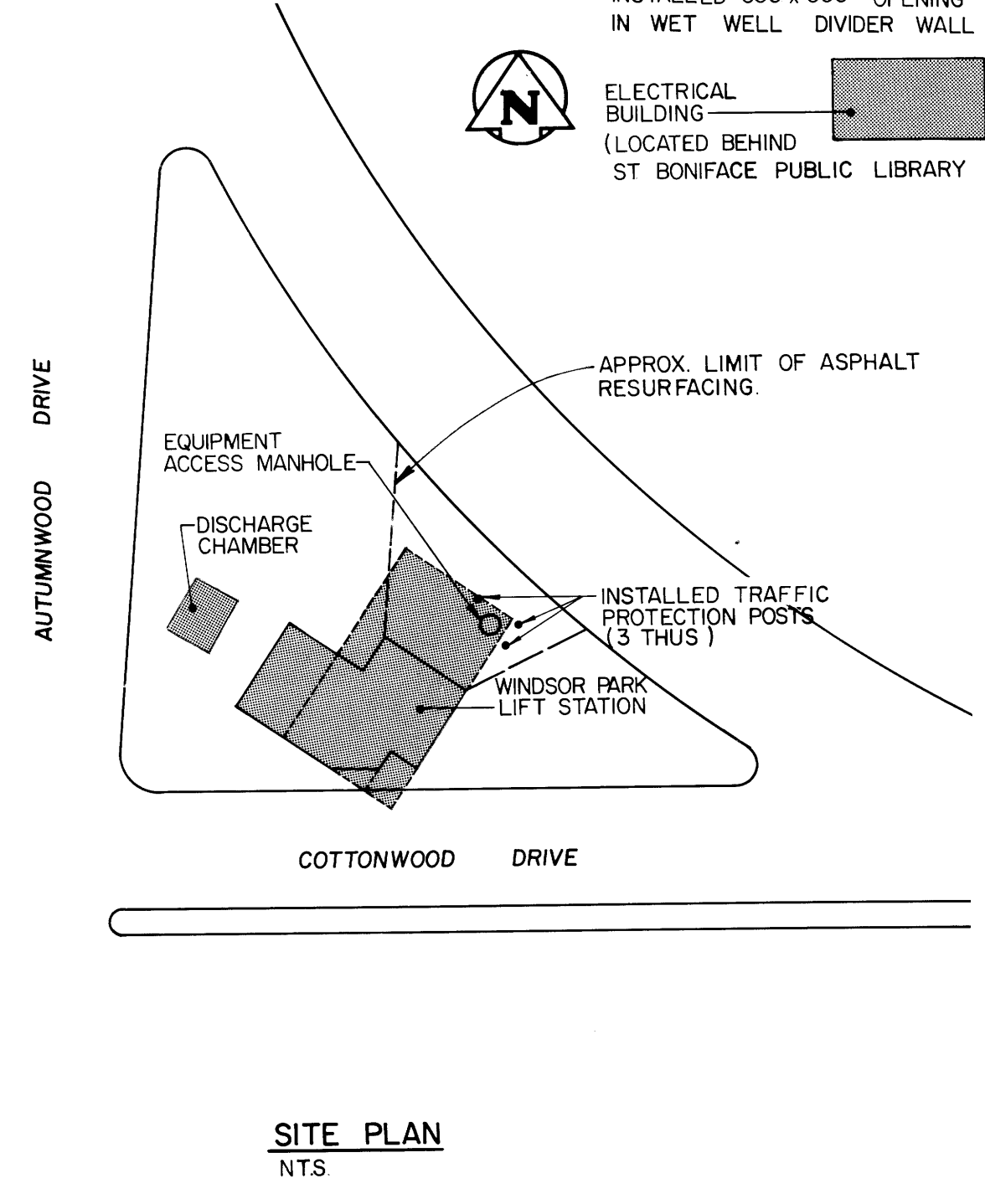
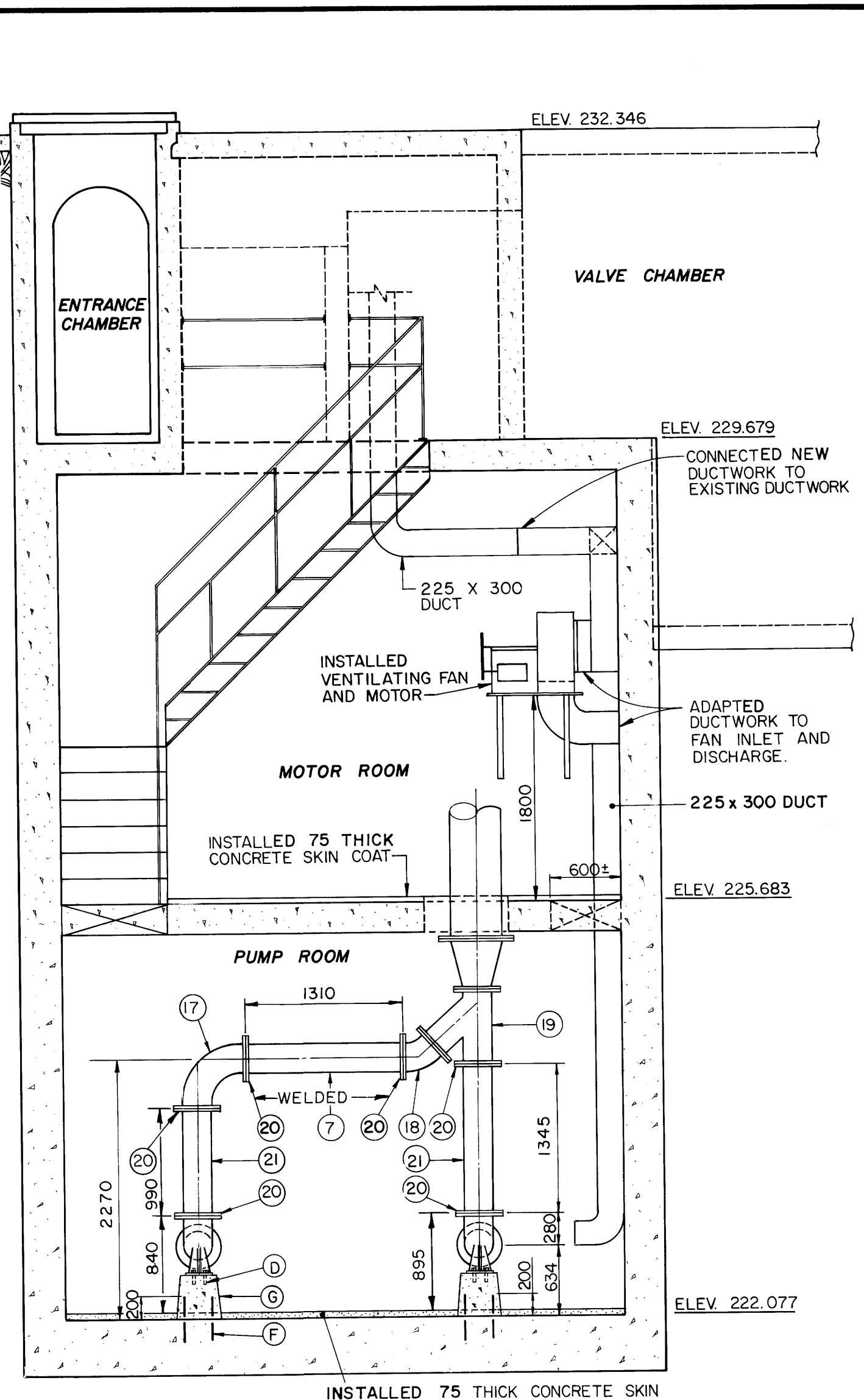
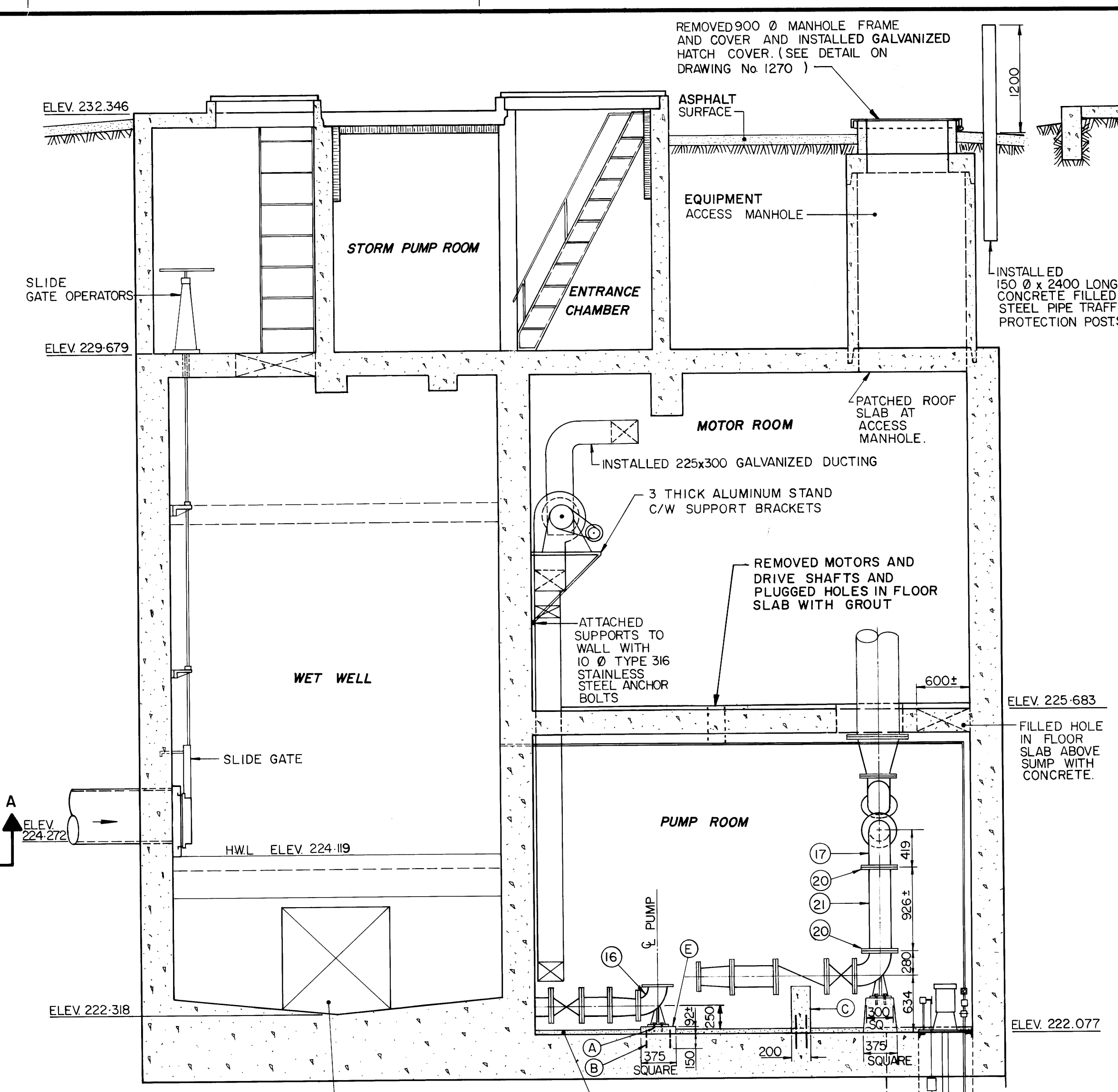
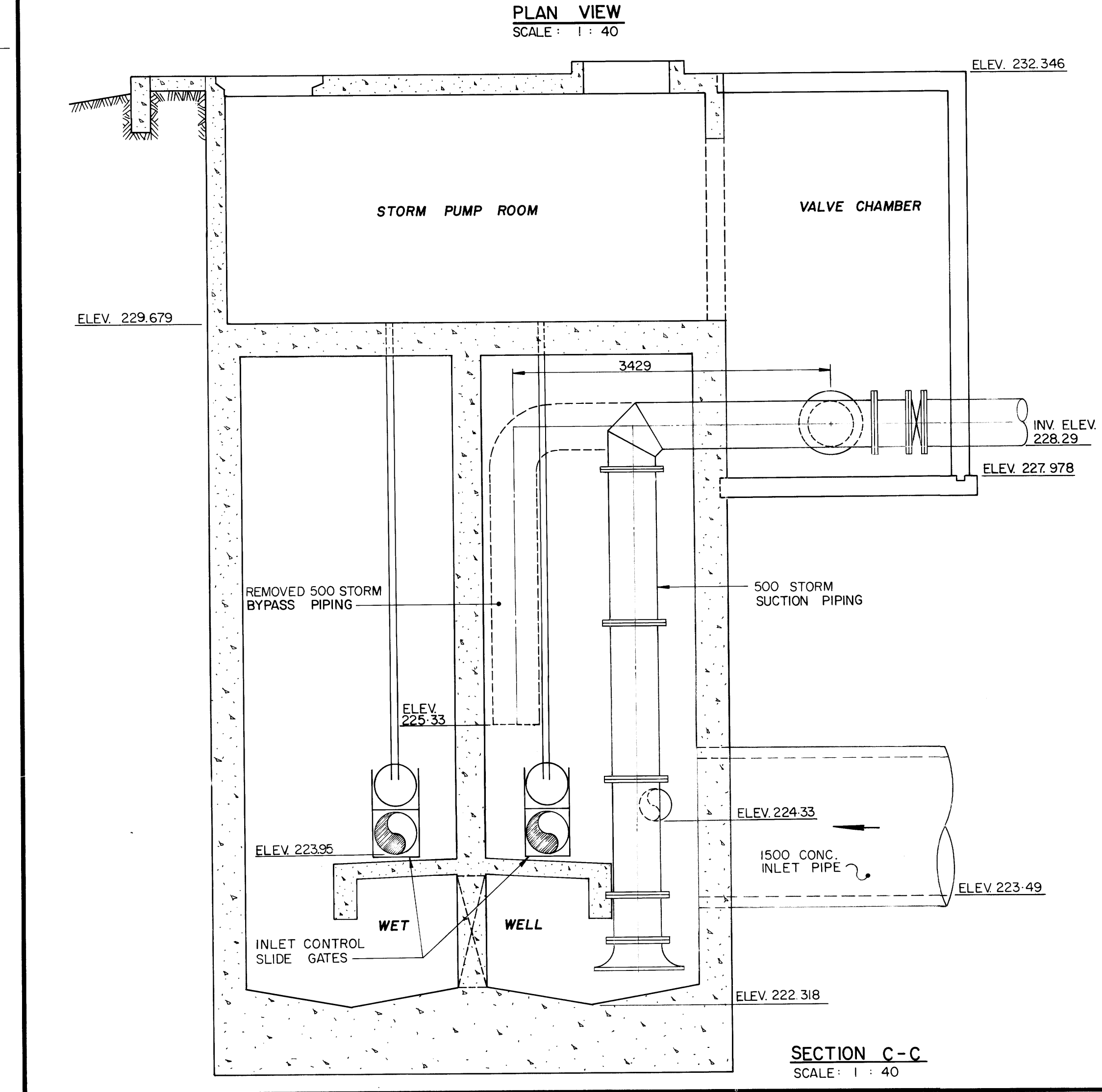
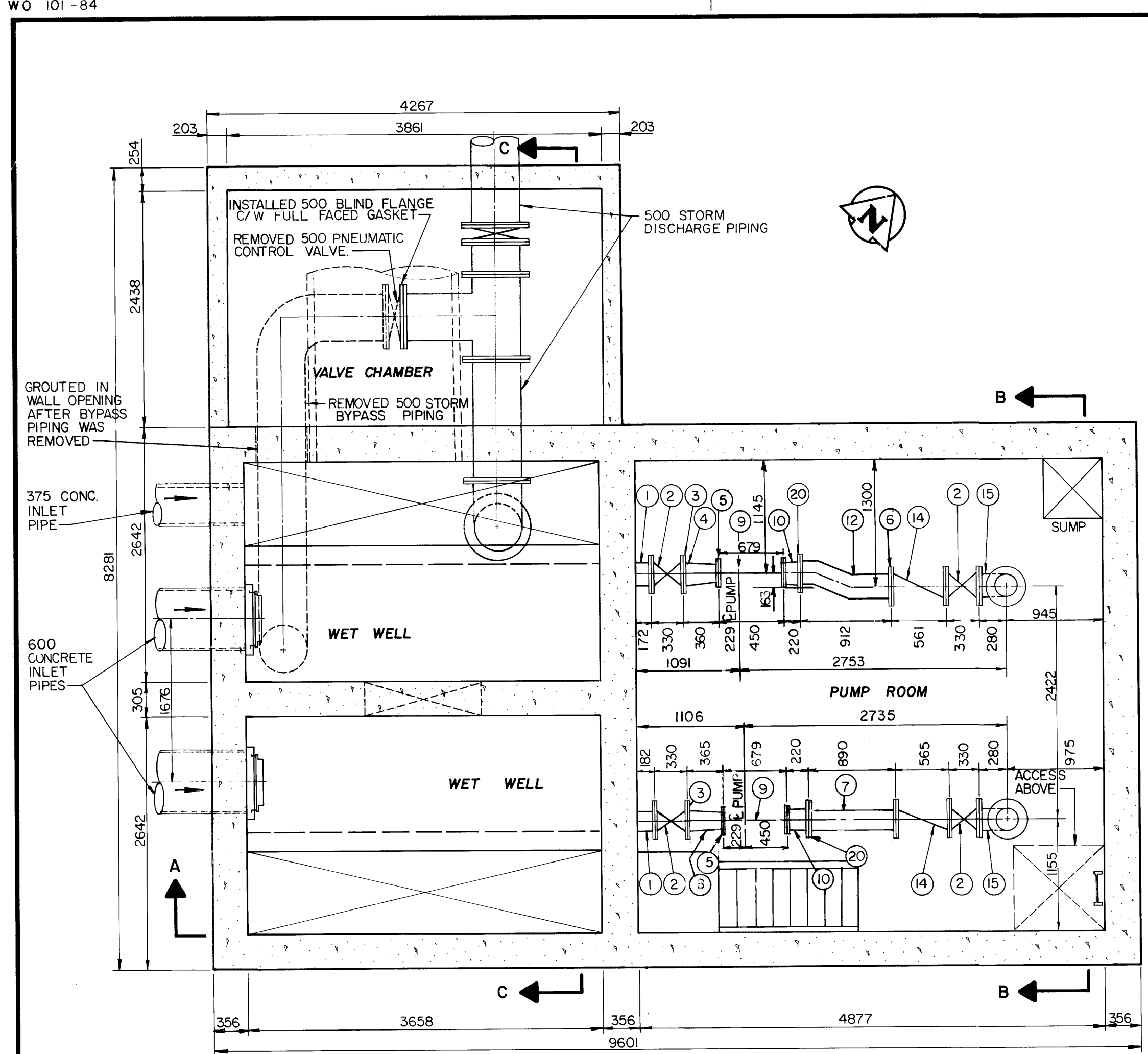
AS-BUILT  
 DATE: 7/06/76

MICROFILMED OCT 23 1987



REF. or DRAWING No. **1209** file # **SP10374** DETAILS

WO 101-84



- NOTES:**
- A INSTALLED 4-20 DIAMETER TYPE 316 STAINLESS STEEL ANCHOR BOLTS PER BASE
  - B INSTALLED 6-15M DOWELS 200 LONG PER PEDESTAL
  - C INSTALLED CONCRETE VALVE SUPPORT (TYPICAL)
  - D INSTALLED 4-23 DIAMETER TYPE 316 STAINLESS STEEL ANCHOR BOLTS PER BASE
  - E INSTALLED CONCRETE PUMP PEDESTALS (TYPICAL)
  - F INSTALLED 6-15M DOWELS 400 LONG PER SUPPORT
  - G INSTALLED CONCRETE PIPE SUPPORT (TYPICAL)

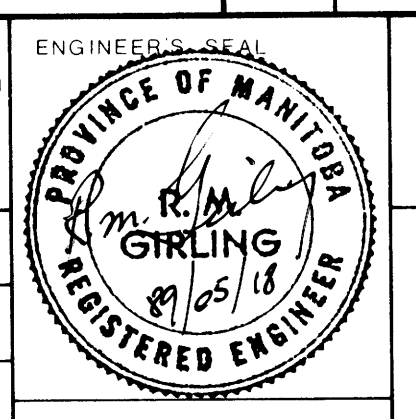
**AS-CONSTRUCTED**  
INSPECTION SURVEY DATE: 02-05-89  
TECHNICAL SERVICES  
WATERWORKS, WASTE & DISPOSAL DEPARTMENT

LIST OF MATERIALS				
ITEM	DESCRIPTION	ENDS	LENGTH	QUANTITY
1	250 CAST IRON INLET PIPING	FLANGED	AS SHOWN	2
2	250 CAST IRON GATE VALVE	FLANGED	330	4
3	250 VICTAULIC STYLE 341 FLANGE			2
4	250 x 200 REDUCER ANT. 4ES	GROOVED	152	1
5	200-150 LB. SLIP-ON WELDING FLANGE			2
6	250 No. 50 GRUVLOK FIG. 7012 FLANGE			2
7	250 SCHEDULE 40 STEEL FILLER PIPE	FLANGED	AS SHOWN	
8	250 x 200 CAST IRON CONCENTRIC REDUCER	FLANGED & GROOVED	305	1
9	PUMPEX KP 203-3250 SUBMERSIBLE PUMP	FLANGED	AS SHOWN	2
10	250 x 200 SCHEDULE 40 STEEL PIPE BOTH ENDS WELDED FLANGES		365	2
12	250 SCHEDULE 40 STEEL PIPE WELDED 1 PIECE	FLANGED	912	1
14	250 CAST IRON SWING CHECK VALVE	FLANGED	561	2
15	250 STANDARD RADIUS 90° BASE ELBOW	FLANGED	AS SHOWN	2
16	200 STANDARD RADIUS 90° BASE ELBOW	FLANGED	AS SHOWN	2
17	250 LONG RADIUS 90° ELBOW	FLANGED	AS SHOWN	1
18	250 - 45° ELBOW	FLANGED		1
19	250 x 250 x 250 CAST IRON 45° LATERAL	FLANGED		1
20	250 - 150 LB. STEEL SLIP-ON WELDING FLANGE			2
21	250 SCHEDULE 40 STEEL FILLER PIPE	PLAIN	AS SHOWN	2

**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

B.M. ELEV.					
DESIGNED BY	TJW	CHECKED BY	RMG		
DRAWN BY	TM	APPROVED BY	RMG		
HOR. SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION			
DATE	JANUARY 1989	DATE	May 18, 1989		
NO. REVISIONS		DATE			
2	REV'D LIST OF MATERIALS	03/92	EN		
1	REV'D TO AS BUILT	12/90	EN		

**The City of Winnipeg**  
Works & Operations Division  
Waterworks, Waste & Disposal Department



**THE CITY OF WINNIPEG**  
WORKS AND OPERATIONS DIVISION

**WINDSOR PARK**  
LIFT STATION UPGRADING  
PLAN AND SECTIONS

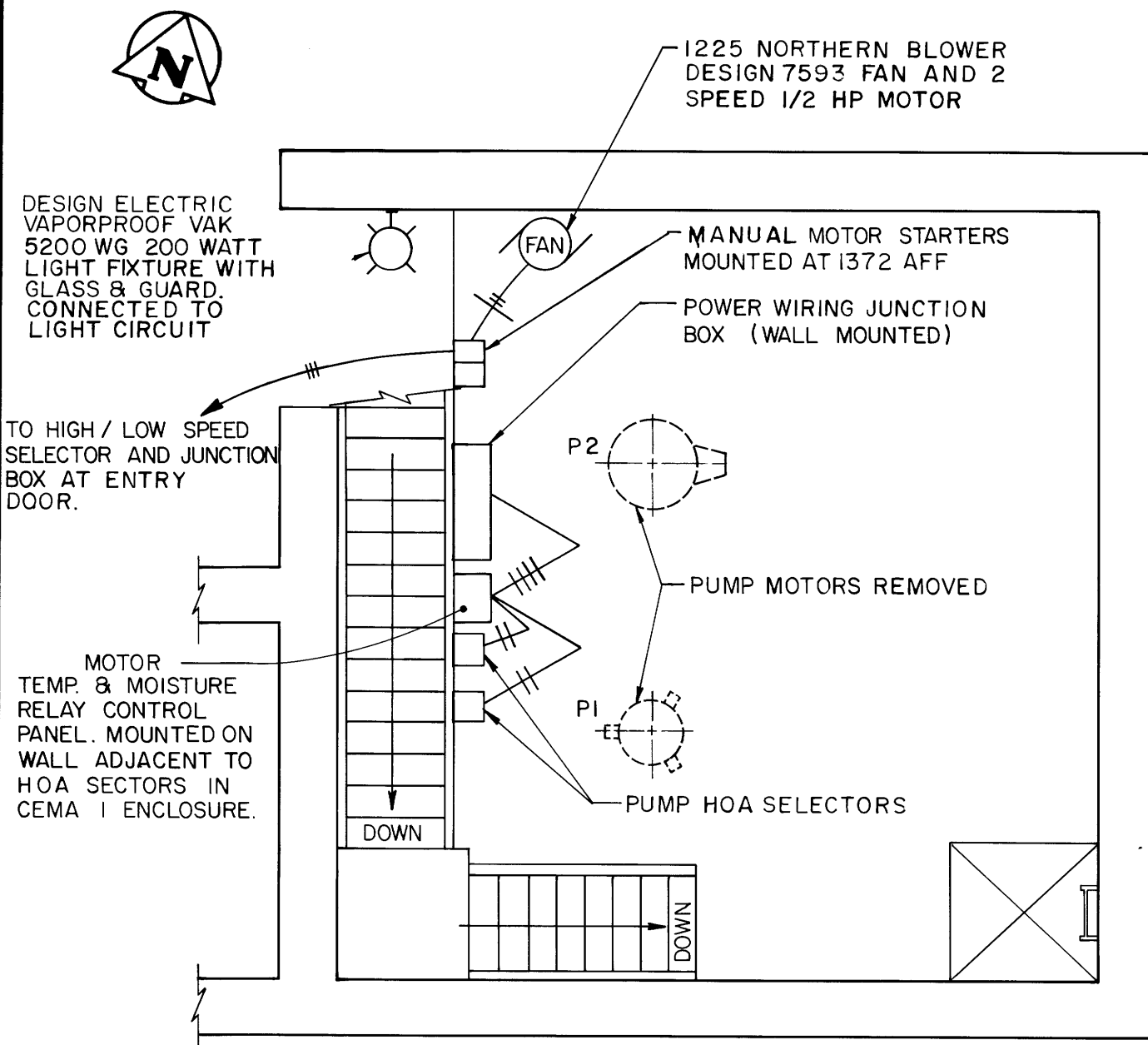
CITY DRAWING NUMBER: 1269  
SHEET 1 OF 3

file # SP1037

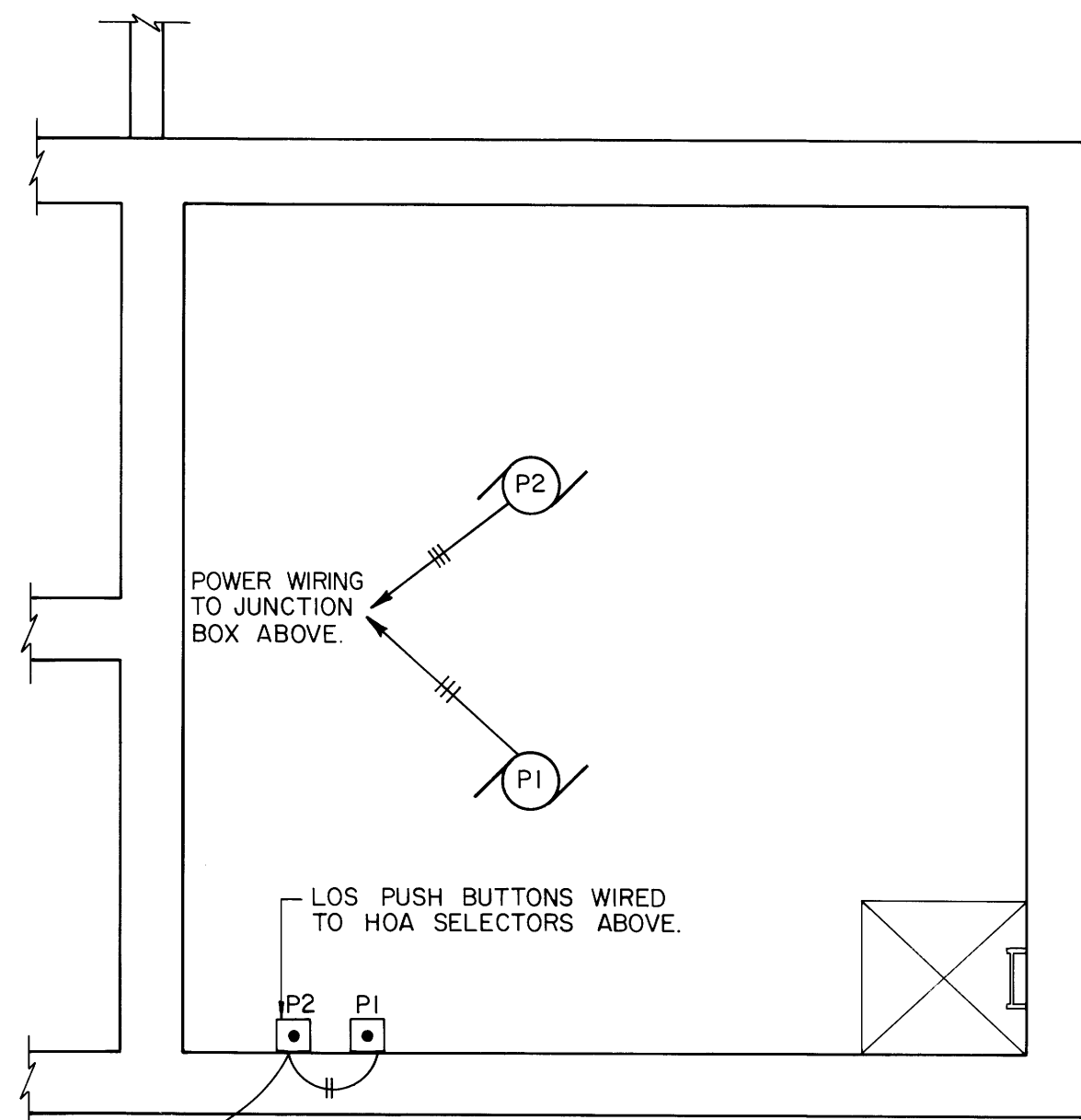
File # SP10376

Ref. or Drawing No. 1271

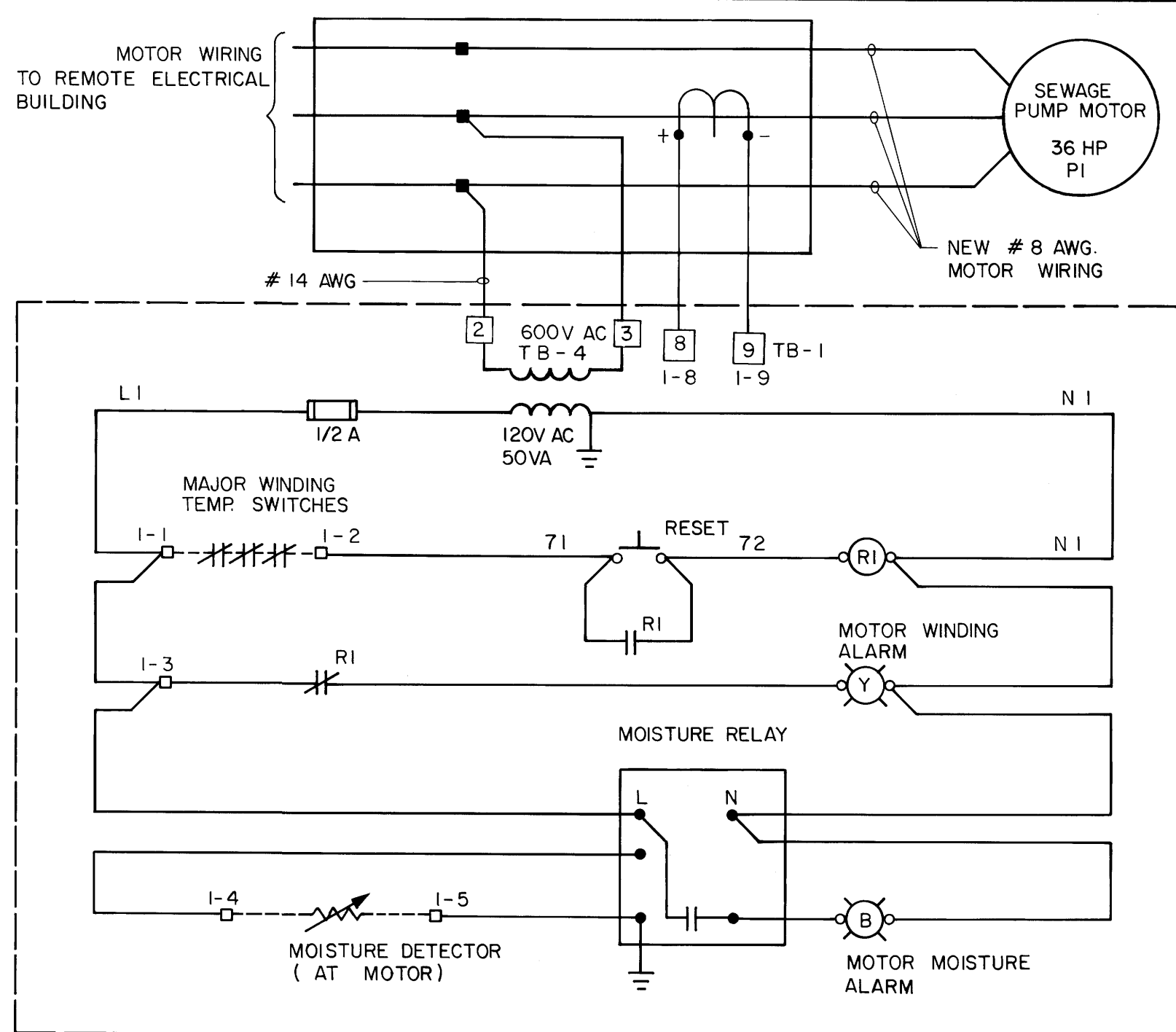
DETAILS



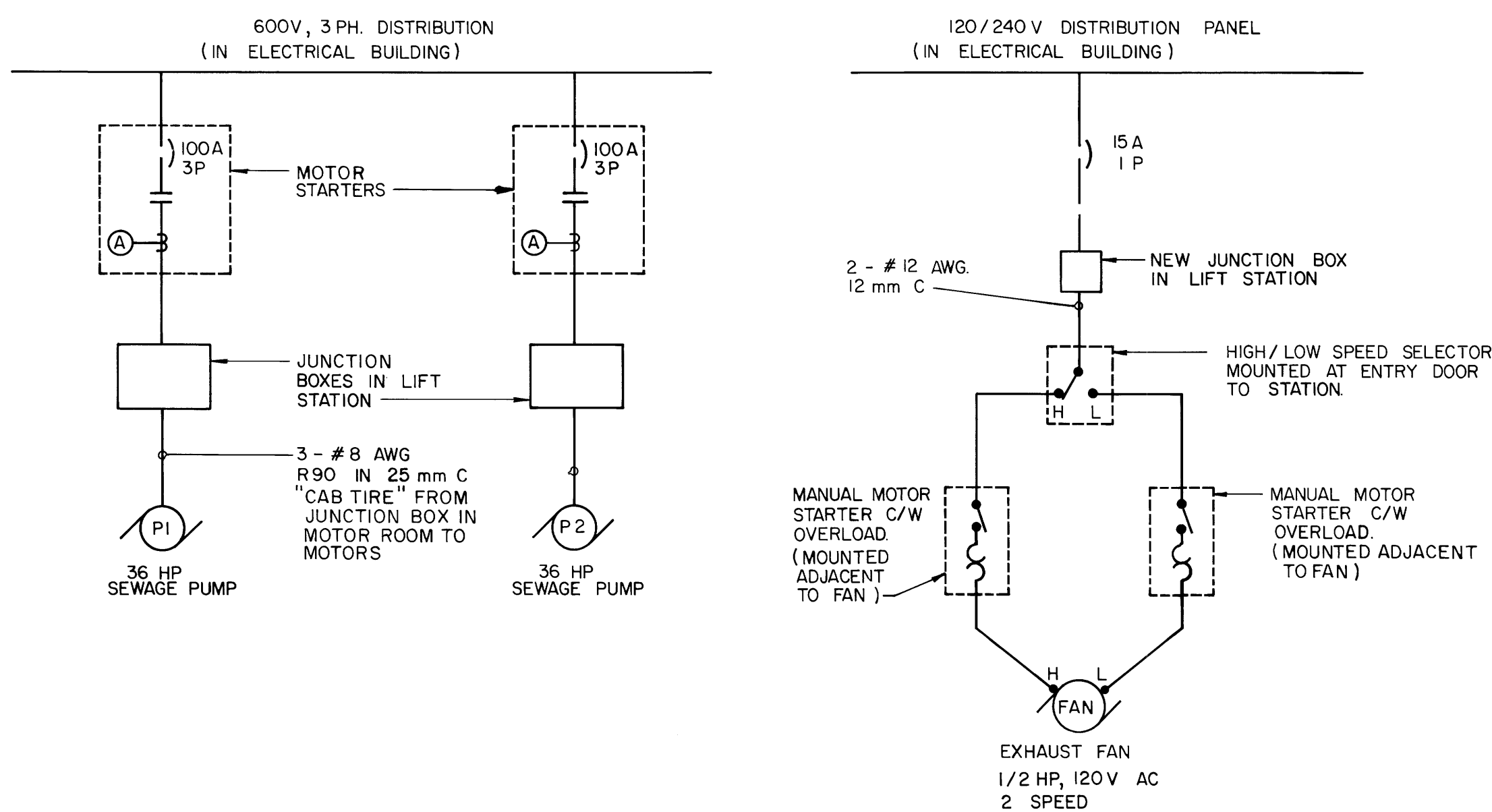
MOTOR FLOOR PLAN N.T.S.



PUMP FLOOR PLAN N.T.S.



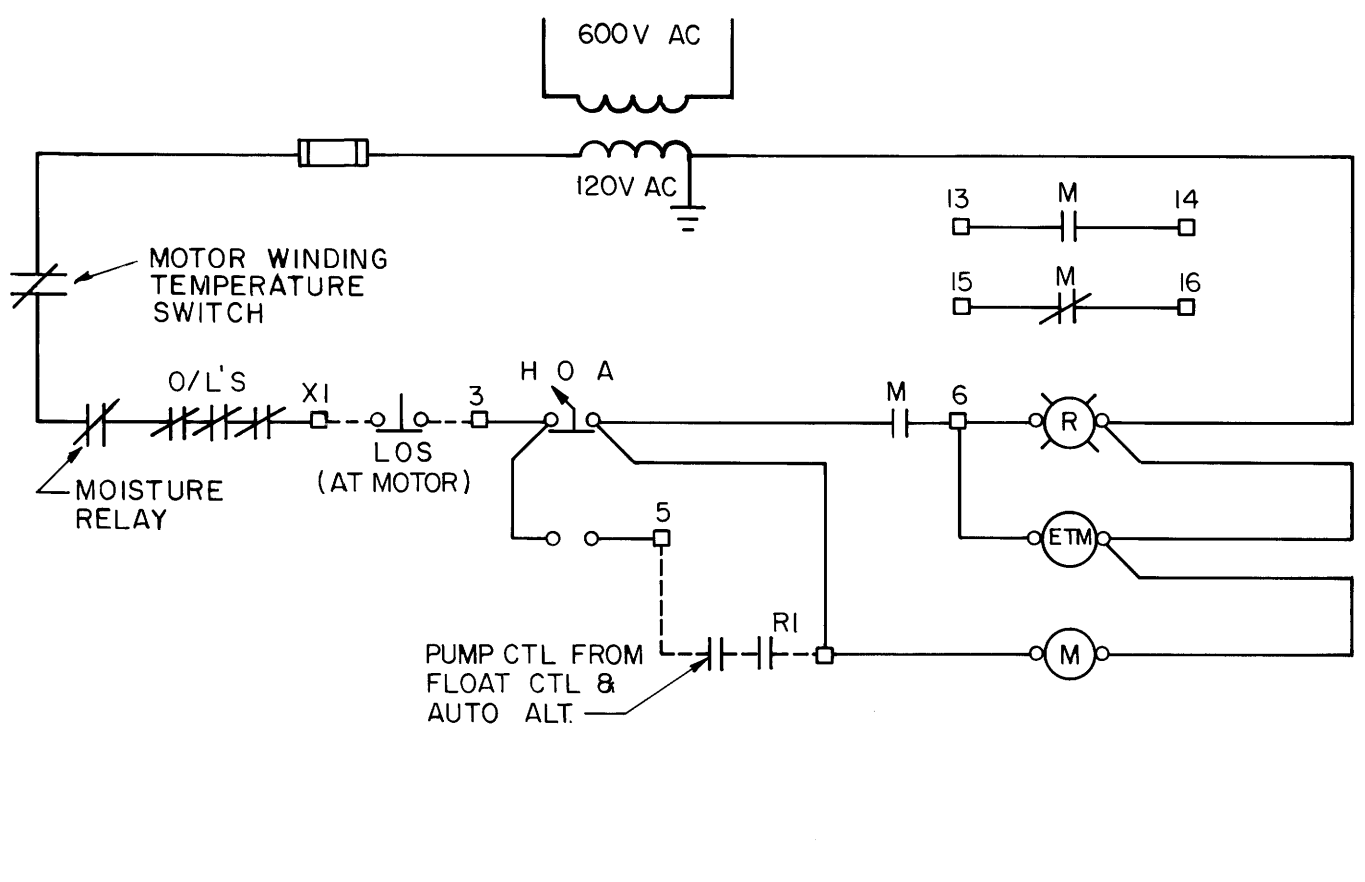
SEWAGE PUMP ALARM CIRCUIT TYPICAL FOR P1 & P2



SINGLE LINE DIAGRAM N.T.S.

LEGEND:

- Fluorescent Fixtures
- Incandescent Fixture
- Duplex Receptacle
- Single Receptacle
- Wiring Run - 2 Wires in Conduit Surface Mounted
- Pushbutton (LOS)
- Thermostat
- Motor Outlet
- Single Pole Switch
- Modulating Damper Motor



SEWAGE PUMP CONTROL CIRCUIT TYPICAL FOR P1 & P2

NOTES:

ALL WIRING IS COPPER

MOTOR STARTERS FOR SEWAGE PUMPS IN ELECTRICAL BUILDING WERE RE-USED. PROVIDED NEW OVERLOADS. SIZED TO ACTUAL MOTOR RATED NAMEPLATE CURRENT. INSTALLED AMMETER ON STARTER DOOR. INSTALLED AMMETER CT & B PHASE. INSTALLED ELAPSE TIME METER (ETM) ON STARTER DOOR.

AS-COMPLETED

INSPECTION SURVEY

TECHNICAL SERVICES

DATE 02-06-89

WATERWORKS, WASTE & DISPOSAL DEPARTMENT

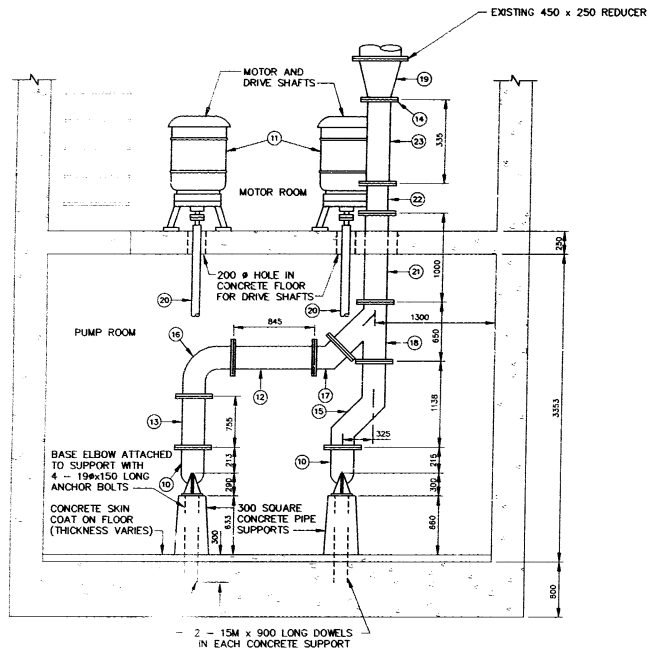
METRIC

WHOLE NUMBERS INDICATE MILLIMETRES

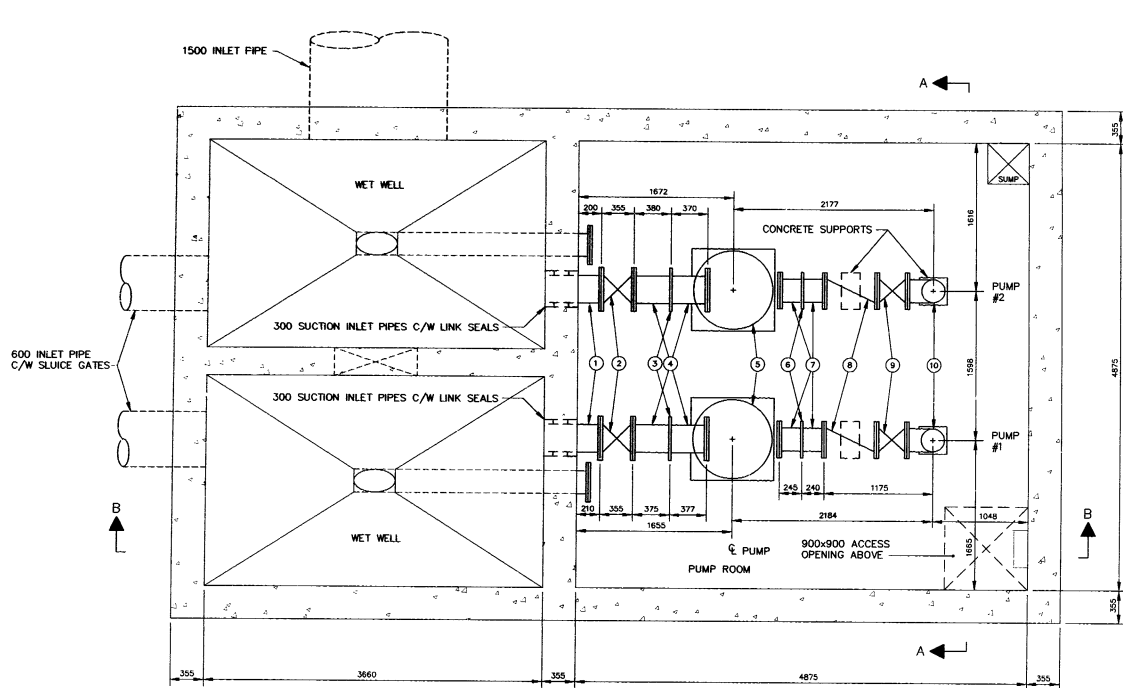
DECIMALIZED NUMBERS INDICATE METRES

S.M. ELEV	<p>The City of Winnipeg Works &amp; Operations Division Waterworks, Waste &amp; Disposal Department</p>	<p>ENGINEER-GEAR E.M. RYCZKOWSKI REGISTERED ENGINEER 23/05/89</p>	<p>THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION</p>		CITY DRAWING NUMBER
			<p>DESIGNED BY ER CHECKED BY ER</p> <p>DRAWN BY TM APPROVED BY</p> <p>HOR SCALE AS SHOWN VERTICAL</p> <p>RELEASED FOR CONSTRUCTION</p> <p>DATE JANUARY 1989 DATE MAY 18, 1989</p>		<p>WINDSOR PARK LIFT STATION UPGRADING</p> <p>ELECTRICAL</p>
<p>NO REVISIONS DATE BY</p>			<p>CONSULTANT DRAWING NO.</p>		1271

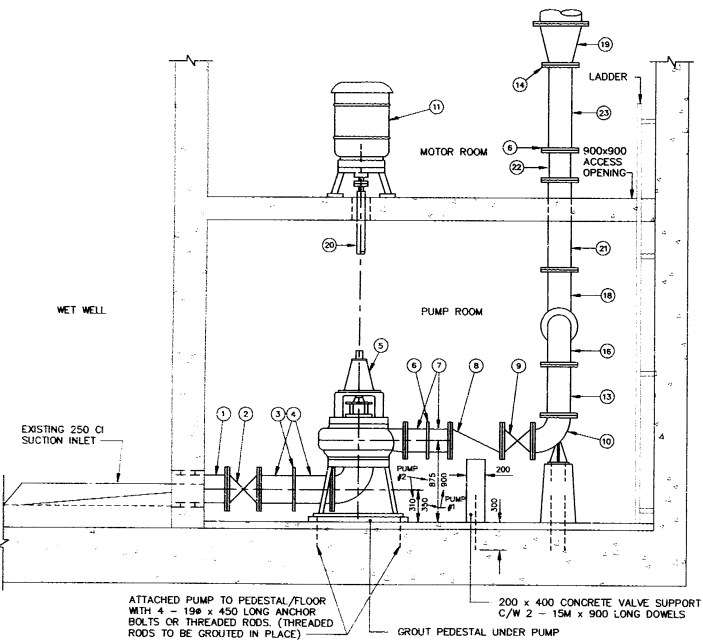
file # SP10376



SECTION A-A  
SCALE 1:30



PLAN VIEW PUMP ROOM  
SCALE 1:30



SECTION B-B  
SCALE 1:30

LIST OF MATERIAL				
ITEM	DESCRIPTION	ENDS	LENGTH	QUANTITY
1	300 Ø INLET PIPE C/W "LINK SEAL"	FL x PE	605	2
2	300 Ø GATE VALVE (RISING STEM)	FLANGED	355	2
3	300 Ø "VICTAULIC" ROUST-A-BOUT STYLE 99N	-	-	2
4	300 Ø FILLER PIPE	FL x PE	-	4
5	AURORA 210 L/S (3300 US gpm) PUMPS	FLANGED	-	2
6	250 Ø "VICTAULIC" ROUST-A-BOUT STYLE 99N	-	-	6
7	250 Ø FILLER PIPE	FL x PE	-	4
8	250 Ø SWING CHECK VALVE	FLANGED	565	2
9	250 Ø GATE VALVE	FLANGED	330	2
10	250 Ø CI 90° BASE ELBOW	FLANGED	280	2
11	60 HP 1150 RPM US ELECTRIC MOTORS	-	-	2
12	250 Ø FILLER PIPE	FL x PE	845	1
13	250 Ø FILLER PIPE	FL x PE	755	1
14	250 Ø GRUVOX FLANGE	-	-	1
15	250 Ø STEEL FILLER PIPE C/W 2-45° ELBOWS (FABRICATED STEEL)	FLx FL	-	1
16	250 Ø LONG RADIUS 90° ELBOW	FLANGED	420	1
17	250 Ø CI 45° ELBOW	FLANGED	165	1
18	250x250x250 CI 45° LATERAL WYE	FLANGED	-	1
19	400 x 250 CI REDUCER	FLANGED	450	1
20	HOLLOW STEEL DRIVE SHAFT	-	-	2
21	250Ø FILLER PIPE	FL x FL	1000	1
22	250Ø ROSEMOUNT FLOWMETER	-	-	1
23	250Ø FILLER PIPE	FL x PE	335	1

NOTES:

- LENGTHS SHOWN FOR PIPING ARE FACE TO FACE AND DO NOT INCLUDE GASKET THICKNESS.
- GASKETS ARE 3 mm THICK, FULL FACED, CLOTH INSERTED RUBBER.
- ALL FLANGE NUTS AND BOLTS TO BE HIGH STRENGTH STEEL
- ALL PIPE IS SCHEDULE 80 STEEL.
- FLANGED FITTINGS CONFORM TO ANWWA C110
- ALL FLANGES ARE WELDED INSIDE AND OUT IN ACCORDANCE WITH ANWWA C-207 CLASS D.
- ALL ANCHOR BOLTS ARE TYPE 316 SS KWIK BOLT STUD ANCHOR.
- BONDING AGENT IS ACRYL-STIX.

METRIC  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

**AS-CONSTRUCTED**

*Febina* *K. O'Brien* 98.09.25  
CONTRACT ADMINISTRATION DRAFTING & GRAPHIC SERVICES DATE  
WATER AND WASTE DEPARTMENT

B.M. ELZV.	
ENTERED IN LBIS	
CONSTRUCTION COMPLETION DATE	97-10-01
DESIGNED BY	TW
CHECKED BY	JE
DRAWN BY	TM
APPROVED BY	
HOR. SCALE	AS NOTED
VERTICAL	
RELEASED FOR CONSTRUCTION	
1. AS-CONSTRUCTED	98.08 SG
NO. REVISIONS	DATE BY
	DATE DECEMBER 1996

**CITY OF WINNIPEG**  
**WATER AND WASTE**  
**ENGINEERING DIVISION**

DESIGNED BY TW  
CHECKED BY JE  
DRAFTED BY TM  
APPROVED BY  
HOR. SCALE AS NOTED  
VERTICAL  
RELEASED FOR CONSTRUCTION

ENGINEER'S SEAL  
PROVINCE OF MANITOBA  
ORIGINAL STAMPED BY  
K.D. LOUDFOOT  
P.ENG.  
97/03/03  
REGISTERED PROFESSIONAL ENGINEER

PD 97-41  
PLOT DATE: 98-09-23  
ACAD V13

**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT

WINDSOR PARK WASTEWATER PUMPING STATION  
PUMP REPLACEMENT  
PLAN AND SECTIONS

CITY DRAWING NUMBER  
SHEET OF  
4171