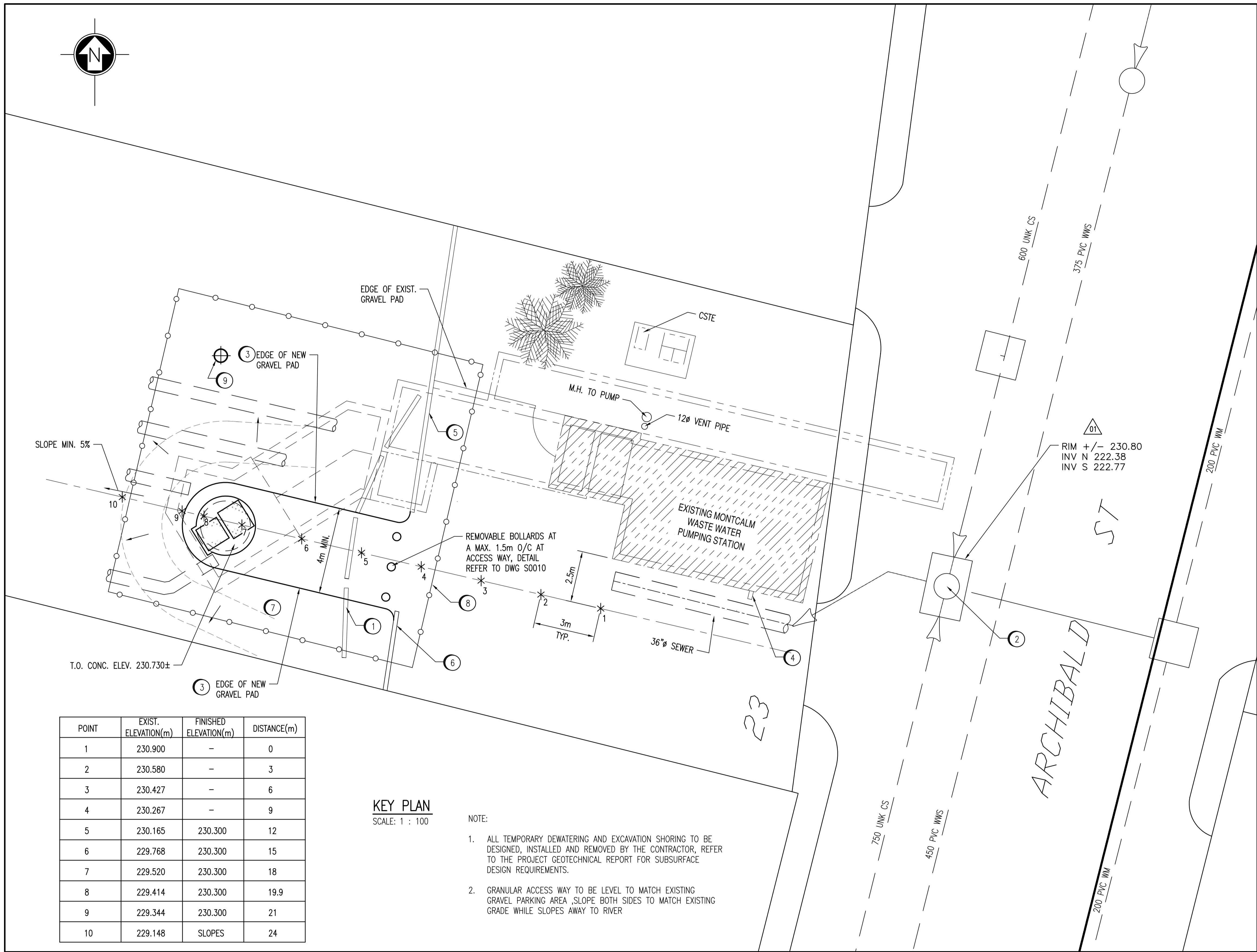


## APPENDIX C – RECORD DRAWINGS



POINT	EXIST. ELEVATION(m)	FINISHED ELEVATION(m)	DISTANCE(m)
1	230.900	-	0
2	230.580	-	3
3	230.427	-	6
4	230.267	-	9
5	230.165	230.300	12
6	229.768	230.300	15
7	229.520	230.300	18
8	229.414	230.300	19.9
9	229.344	230.300	21
10	229.148	SLOPES	24

**KEY PLAN**  
 SCALE: 1 : 100

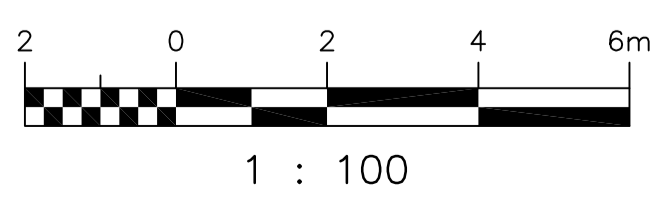
- NOTE:
- ALL TEMPORARY DEWATERING AND EXCAVATION SHORING TO BE DESIGNED, INSTALLED AND REMOVED BY THE CONTRACTOR, REFER TO THE PROJECT GEOTECHNICAL REPORT FOR SUBSURFACE DESIGN REQUIREMENTS.
  - GRANULAR ACCESS WAY TO BE LEVEL TO MATCH EXISTING GRAVEL PARKING AREA, SLOPE BOTH SIDES TO MATCH EXISTING GRADE WHILE SLOPES AWAY TO RIVER

- CONSTRUCTION NOTES:**
- REMOVE AND DISPOSE OF CONCRETE BARRIERS AND OTHER MISCELLANEOUS CONCRETE AT GRADE.
  - UTILIZE THE MANHOLE ON THE STREET FOR TEMPORARY PUMPING.
  - ENLARGE GRAVEL DRIVEWAY AS SHOWN.
  - PROVIDE NEW NATURAL GAS SERVICE. RECORD AND MARK LOCATION OF BURIED NATURAL GAS PIPING ON THE AS-BUILT MARKUPS BY MANITOBA HYDRO.
  - EXIST. BARRICADE TO REMAIN
  - NEW PARKING BARRICADE WITH REMOVABLE GUARD POSTS AT GRAVEL ACCESS WAY TO METER CHAMBER HATCH
  - EXTEND GRAVEL PAD AS SHOWN.
  - PROVIDE TEMPORARY SECURITY FENCING AROUND CONSTRUCTION AT ALL TIMES WHILE EXCAVATION IS OPEN, COORDINATE WITH SHORING PROVIDER.
  - PROPOSED LOCATION OF TEMPORARY DRAW DOWN DEPRESSURIZATION WELL TO BE INSTALLED AND OPERATIONAL PRIOR TO START OF EXCAVATION. MAINTAIN PUMPING CONTINUOUSLY UNTIL SUCH TIME AS EXCAVATION HAS BEEN BACKFILLED.

- NOTES:**
- THIS DRAWING IS ONLY A SKETCH BASED UPON THE EXISTING DRAWINGS AND VISUAL INSPECTION. THE LOCATION OF UNDERGROUND STRUCTURES AND DIMENSIONS ARE NOT EXACT.
  - THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL DIMENSIONS AND CONFIRMING THE LOCATION OF THE BURIED UTILITIES PRIOR TO ASSOCIATED CONSTRUCTION.

**AS-BUILT DRAWING**  
 CONTRACTOR: NELSON RIVER CONSTRUCTION  
 SUBSTANTIAL PERFORMANCE: 2013/09/27  
 THIS DRAWING WAS PREPARED USING UNVERIFIED INFORMATION PROVIDED BY OTHERS AND THEREFORE NO WARRANTY OR CERTIFICATION IS PROVIDED.

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



NO.	REVISIONS	DATE	DESIGN	CHECK
02	AS-BUILT	2014/05/20		
01	REVISED MANHOLE ELEVATIONS	2012/03/16	CJR	CJR
00	ISSUED FOR TENDER, BID OPP. 907-2011	2012/02/23	R.B.	D.S.

**SNC-LAVALIN INC.**  
 148 Nature Park Way  
 Winnipeg, MB, Canada R3P 0X7  
 204-796-8080

DESIGNED BY: R. BEAN  
 CHECKED BY: D. SIDHU  
 DRAWN BY: M. TUGADE  
 APPROVED BY: C. REIMER  
 SCALE: 1:100  
 ISSUED FOR CONSTRUCTION BY: K.R. ZUREK  
 DATE: 2011/10/17  
 DATE: 2012/02/23  
 CONSULTANT NO.: 508042-0000-41DD-0001

ENGINEER'S SEAL  
 ORIGINAL DRAWING SEALED BY:  
 R.C.BEAN  
 SNC-LAVALIN INC  
 2012/02/12  
 REV.00

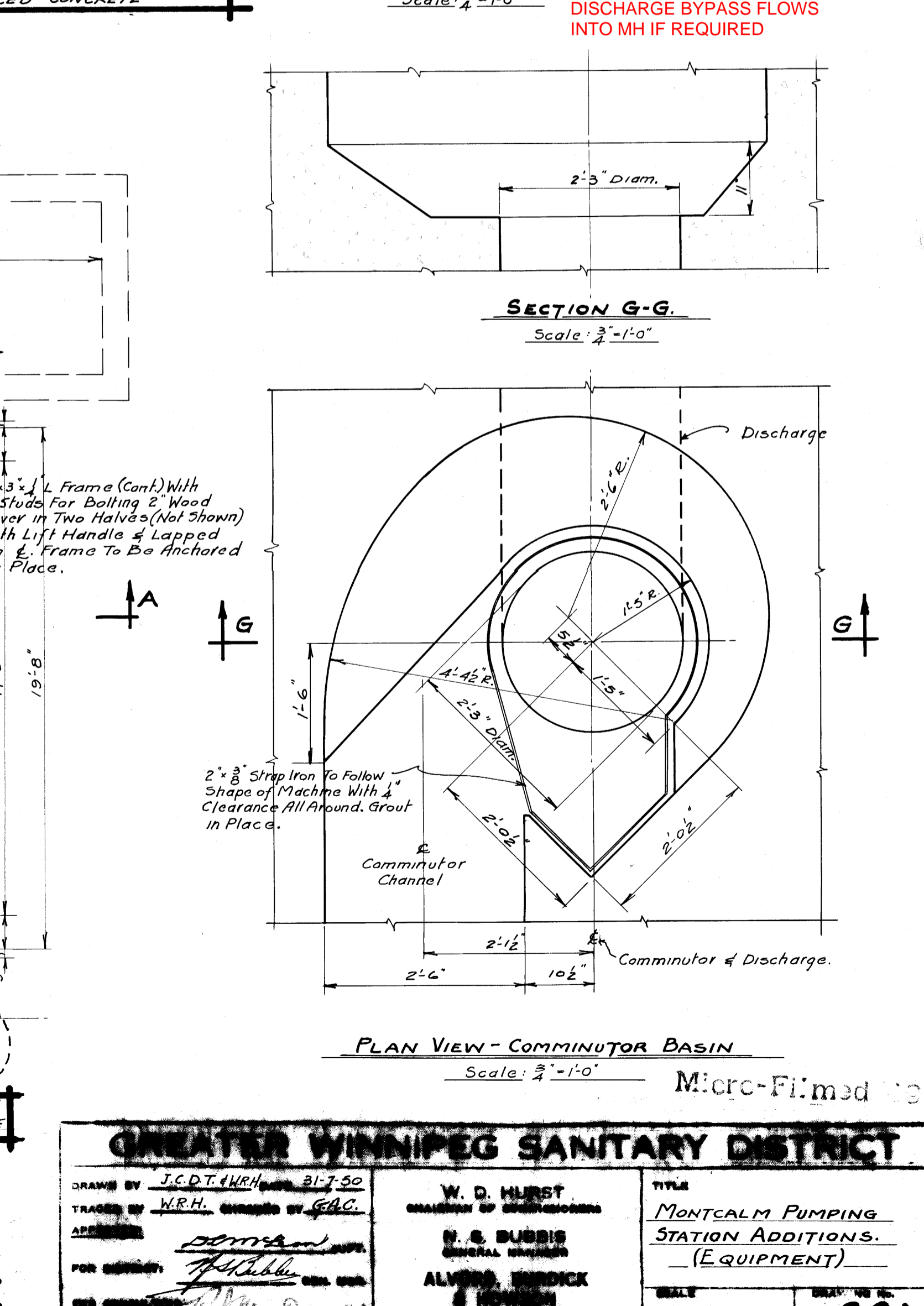
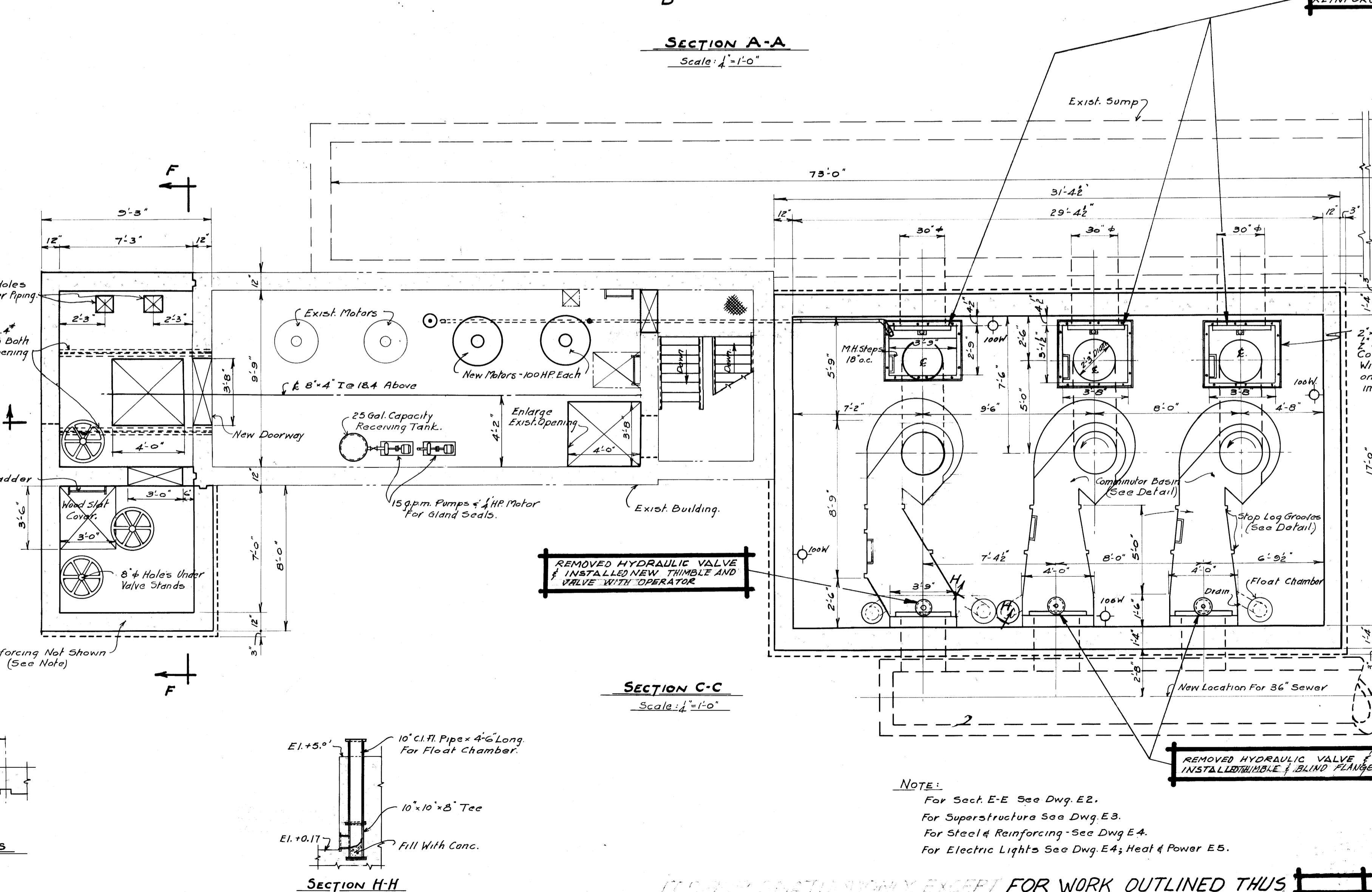
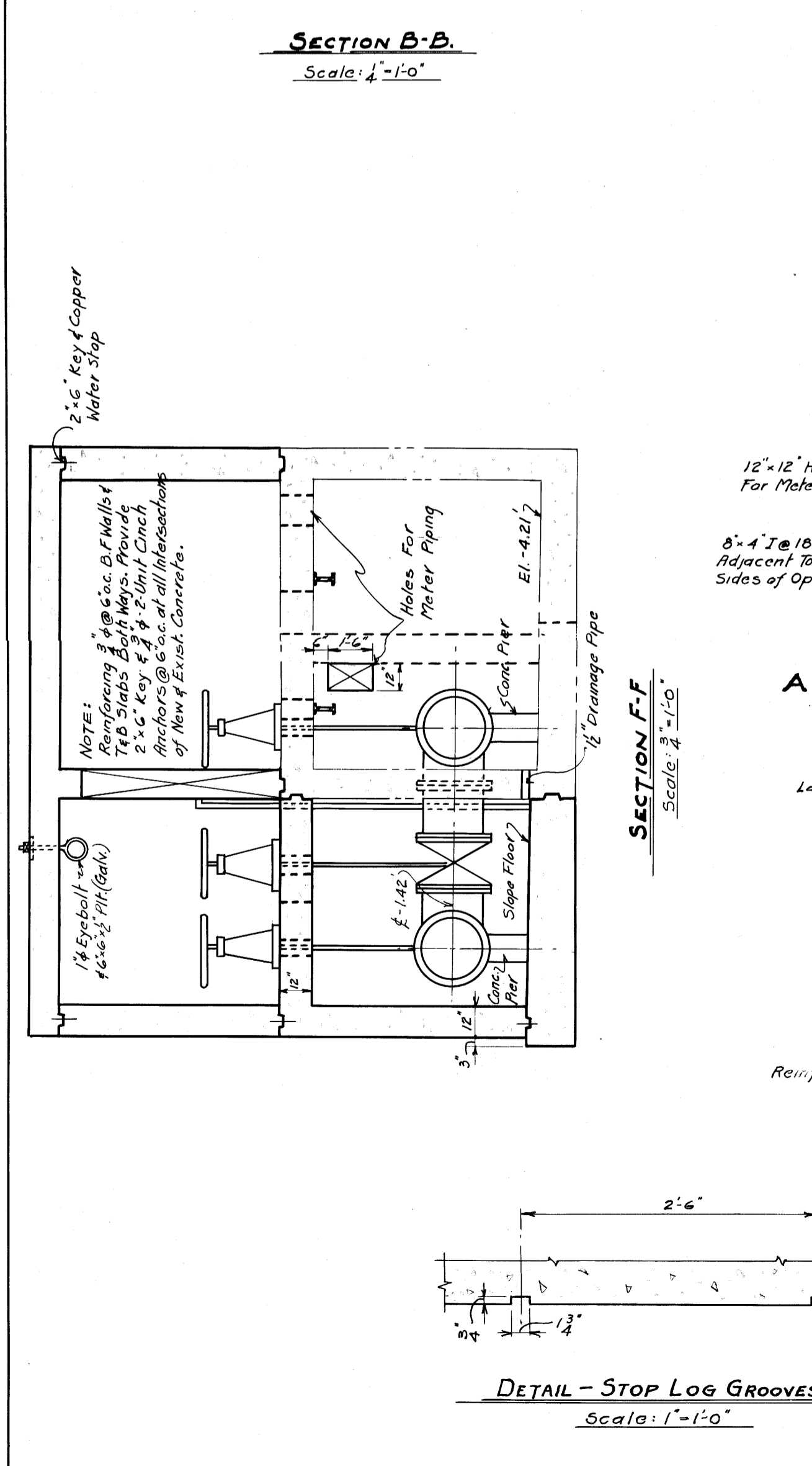
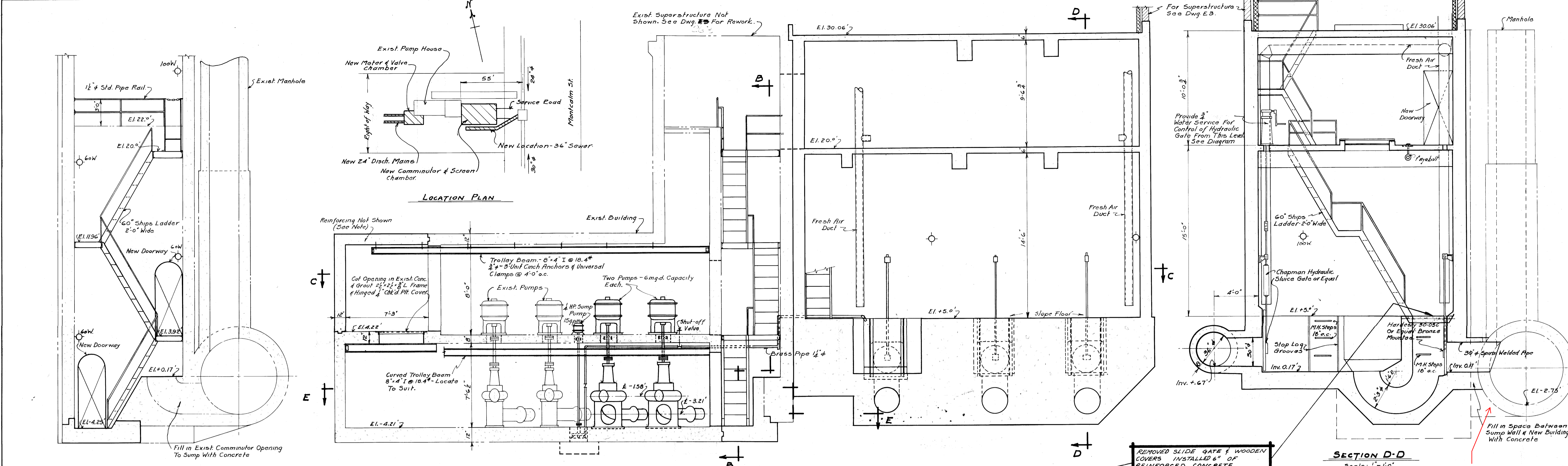
**THE CITY OF WINNIPEG**  
 WATER AND WASTE DEPARTMENT

WINNIPEG

MONTCALM WASTEWATER PUMPING STATION  
 2011 UPGRADES  
 SITE PLAN

CITY DRAWING NUMBER: 1-0164L-C0001  
 SHEET: 001  
 REV: 02  
 SIZE: A1

REF. or DRAWING No. **261** file # **SP10050**  
**DETAILS**

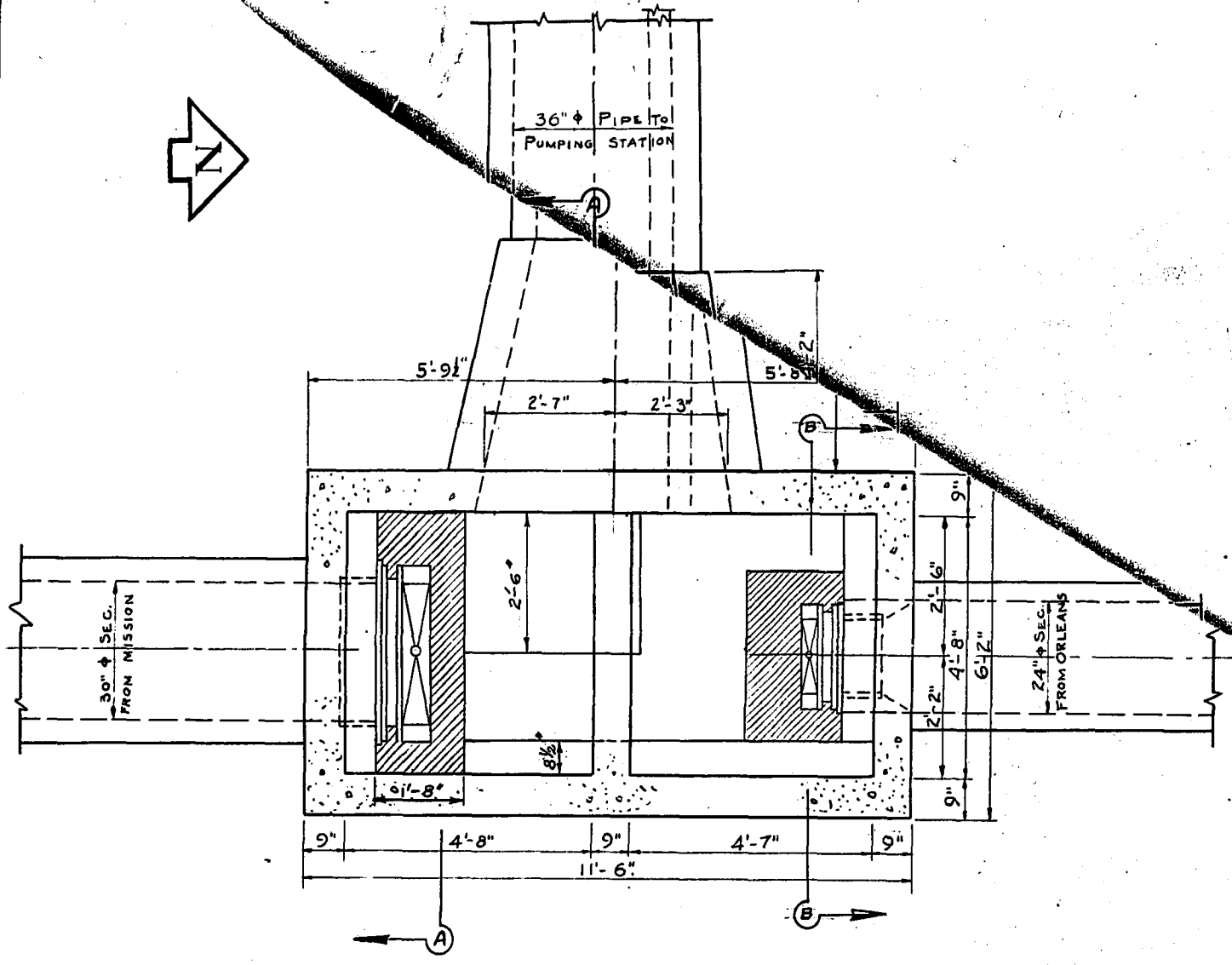


**NOTE:**  
 For Sect. E-E See Dwg. E2.  
 For Superstructure See Dwg. E3.  
 For Steel & Reinforcing See Dwg. E4.  
 For Electric Lights See Dwg. E4; Heat & Power E5.

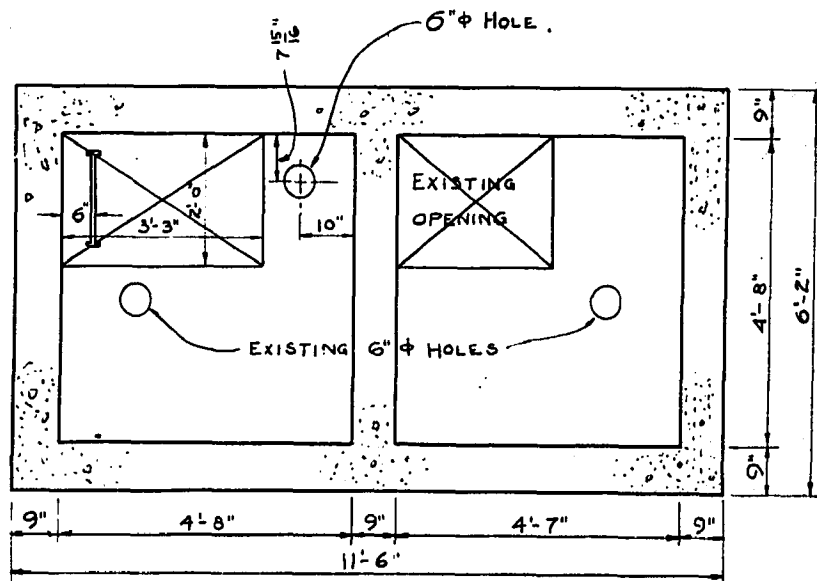
**GREATER WINNIPEG SANITARY DISTRICT**

DRAWN BY: J.C.D. 1/24/89	W. D. HUBERT MANAGER OF OPERATIONS	TITLE MONTCALM PUMPING STATION ADDITIONS - (EQUIPMENT)
TRACED BY: M.R.H. 1/24/89	H. S. BUBBIS SUPERVISOR	DATE
APPROVED: [Signature]	ALVING HENDIX ENGINEER	NOTED
FOR OFFICE: [Signature]		261

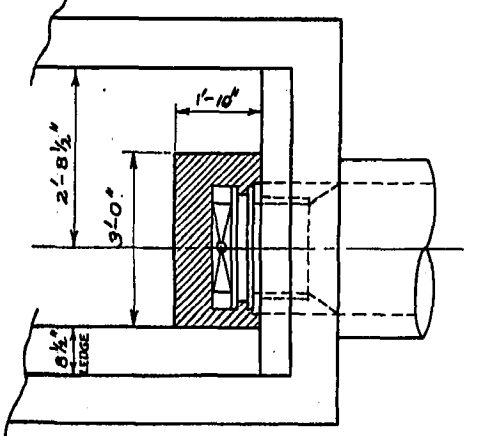
ALL WORK OUTLINED EXCEPT FOR WORK OUTLINED THUS COMPLETED 1989



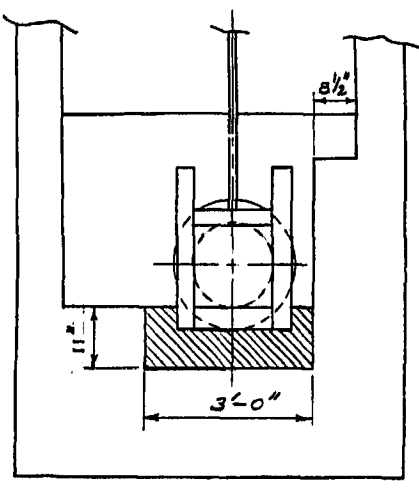
PLAN OF BOTTOM OF CHAMBER



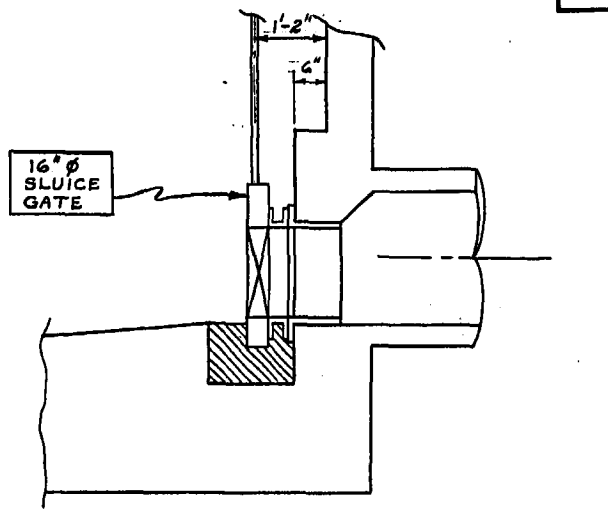
PLAN VIEW OF PLATFORM AT ELEV. +20



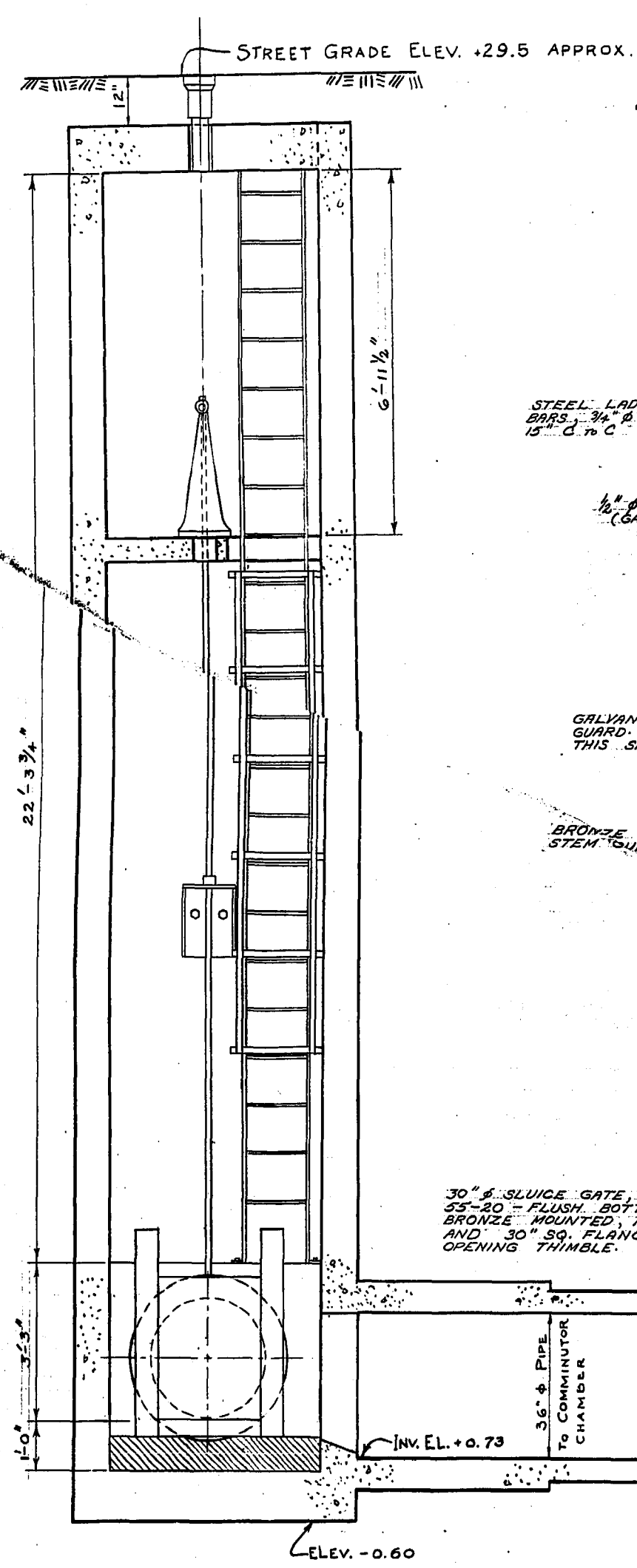
PLAN OF BOTTOM OF CHAMBER



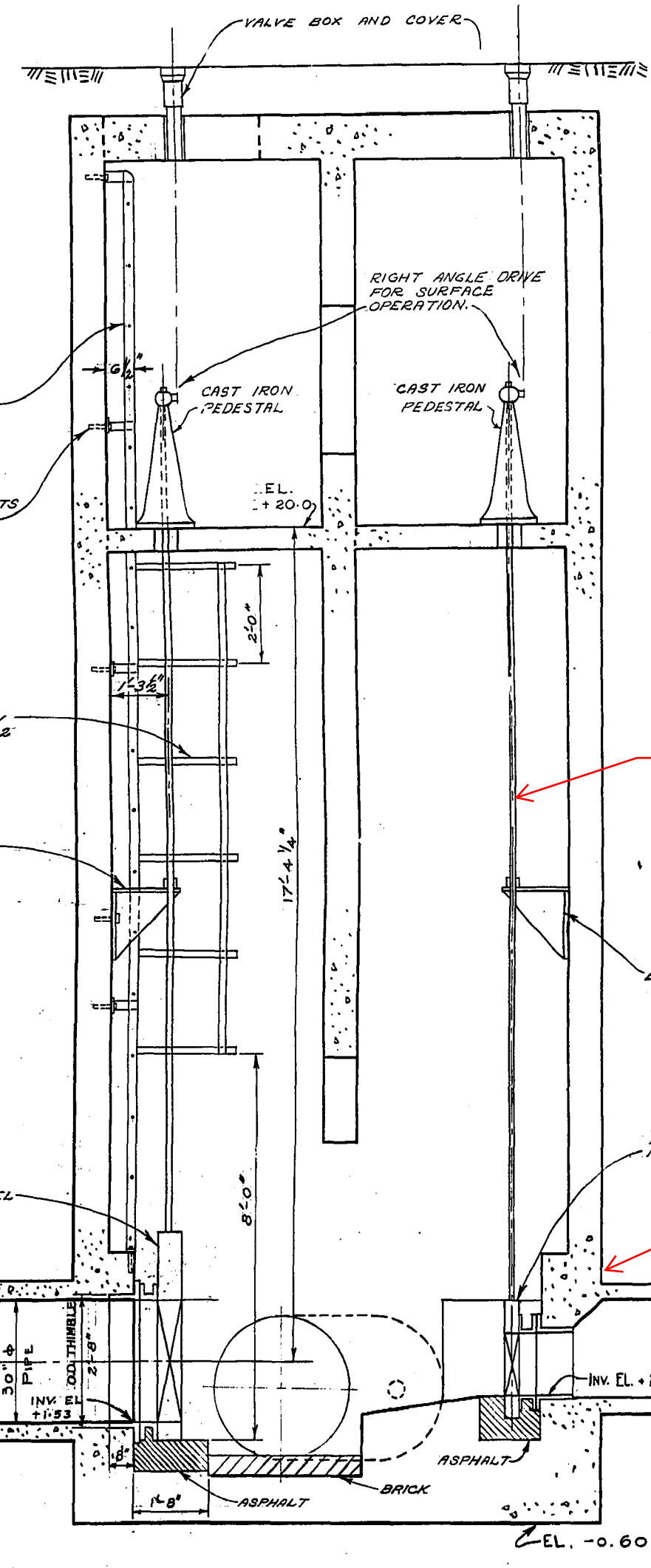
SECTION 'B-B'  
DETAIL 1



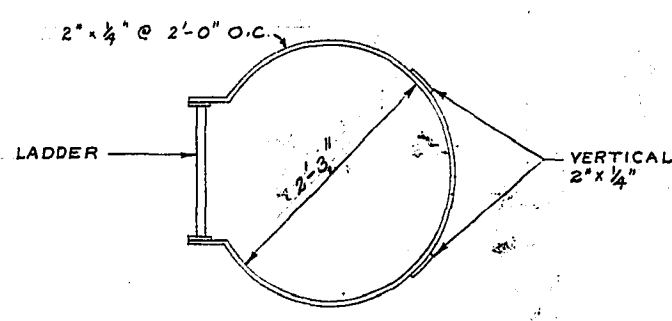
SECTION ON  $\phi$  OF SECONDARY SEWER



SECTION 'A-A'



SECTION ON  $\phi$  OF SECONDARY SEWERS



DETAIL 2  
11-7-5

REMOVE SLUICE GATE PRIOR TO LINING - REPLACE AFTER LINING

OPEN RESTRICTION IN MANHOLE CHAMBER TO ALLOW INSTALLATION OF LINER

AS BUILT JULY 1971  
V.O.  
*[Signature]*

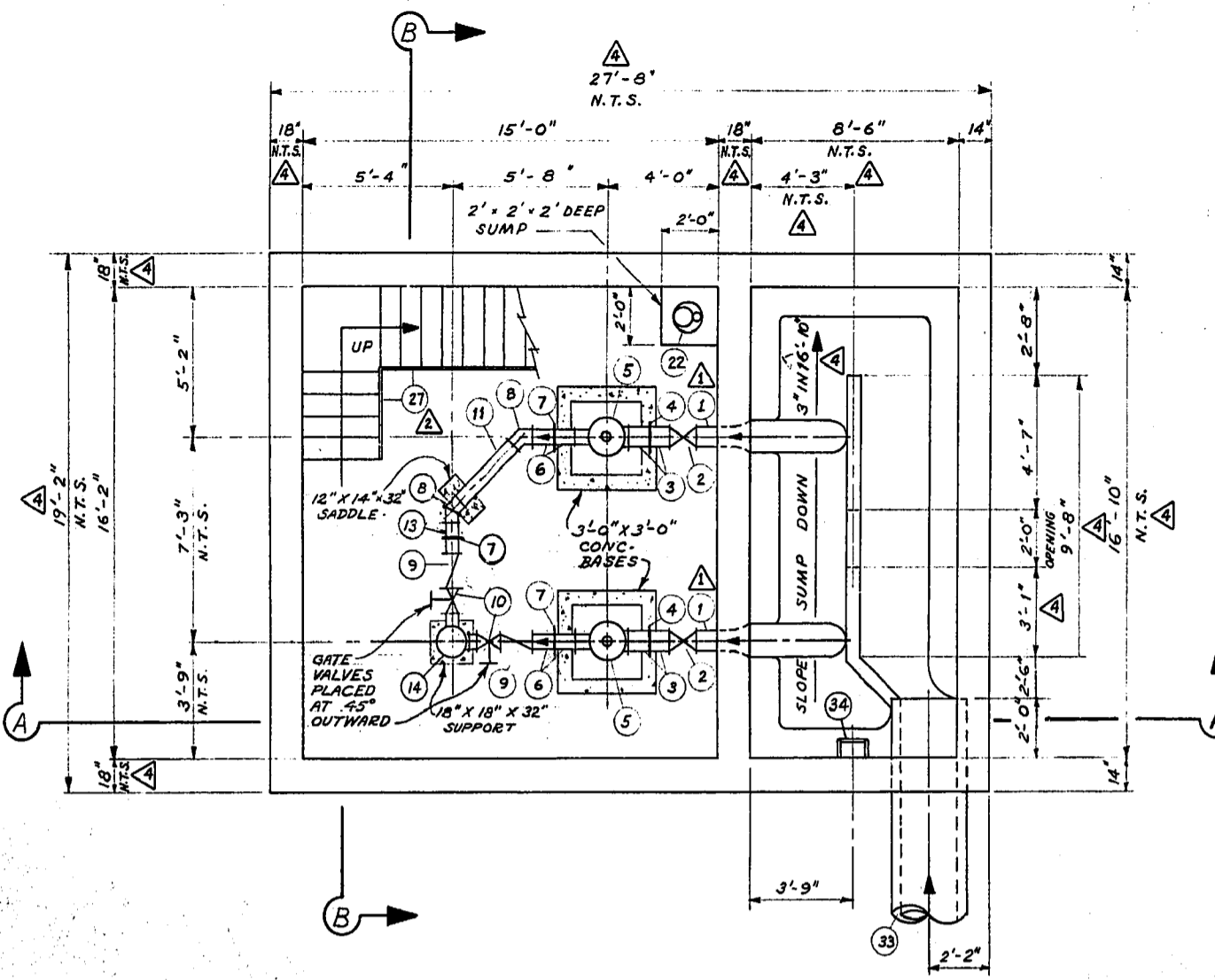
MA50018054

REVISIONS				THE METROPOLITAN CORPORATION OF GREATER WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION SEWAGE DISPOSAL DEPARTMENT	
NO.	DESCRIPTION	DATE	BY		
1					
2					
3					
4					
5					
6					
7					
8					

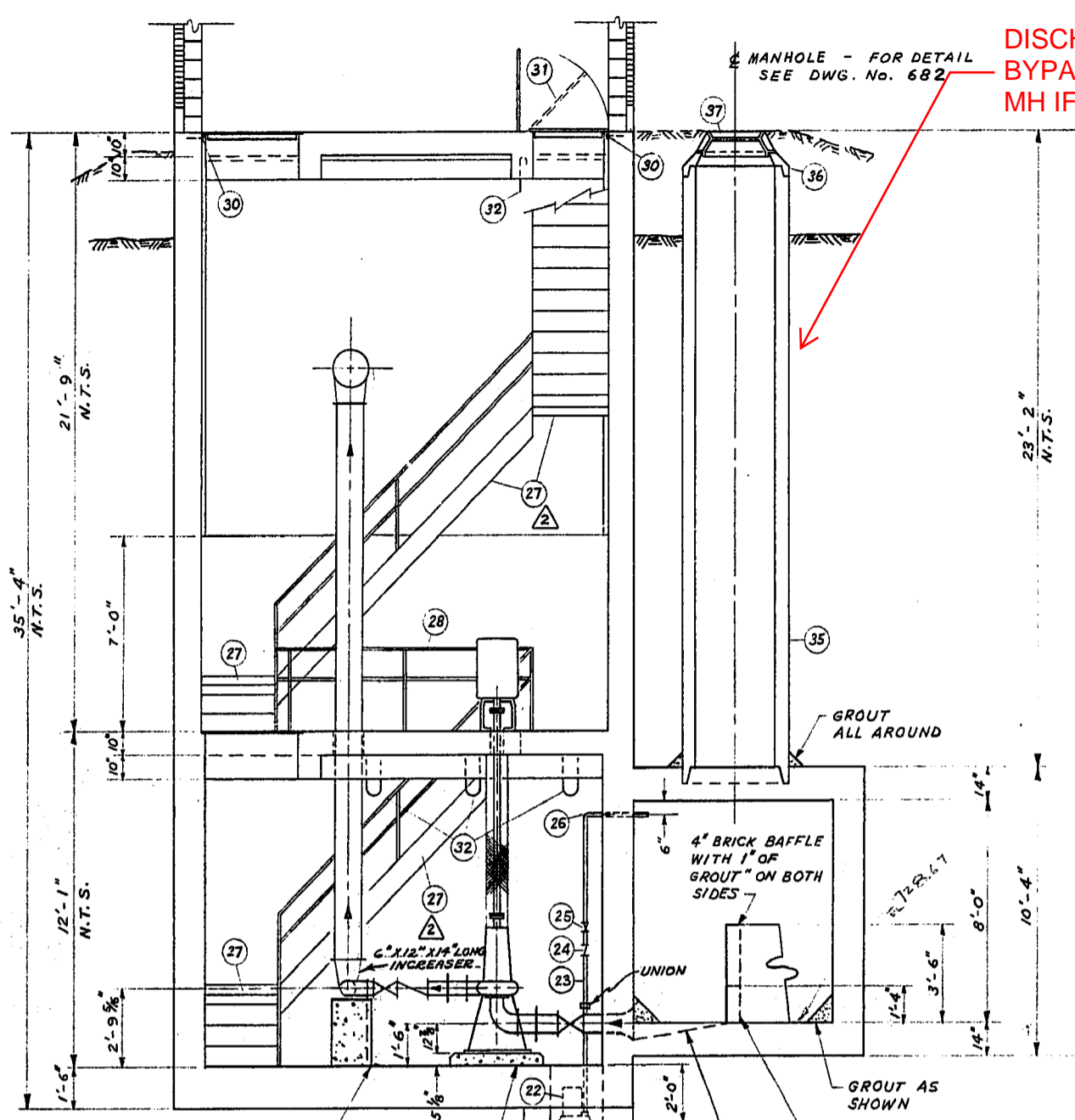
  

DESIGNED BY <i>[Signature]</i>	CHECKED BY <i>[Signature]</i>	DRAWING NO. 624
DRAWN BY K. G. WOOD	DATE JAN 20/48	SCALE 1/2" = 1 FT.

**NOTE:**  
 FOR SUPERSTRUCTURE DETAILS SEE DWG. No. 679  
 FOR REINFORCING DETAILS SEE DWG. No. 681  
 FOR VENTILATION, ELECTRICAL, & MISC. PIPING DETAILS SEE DWG. No. 682



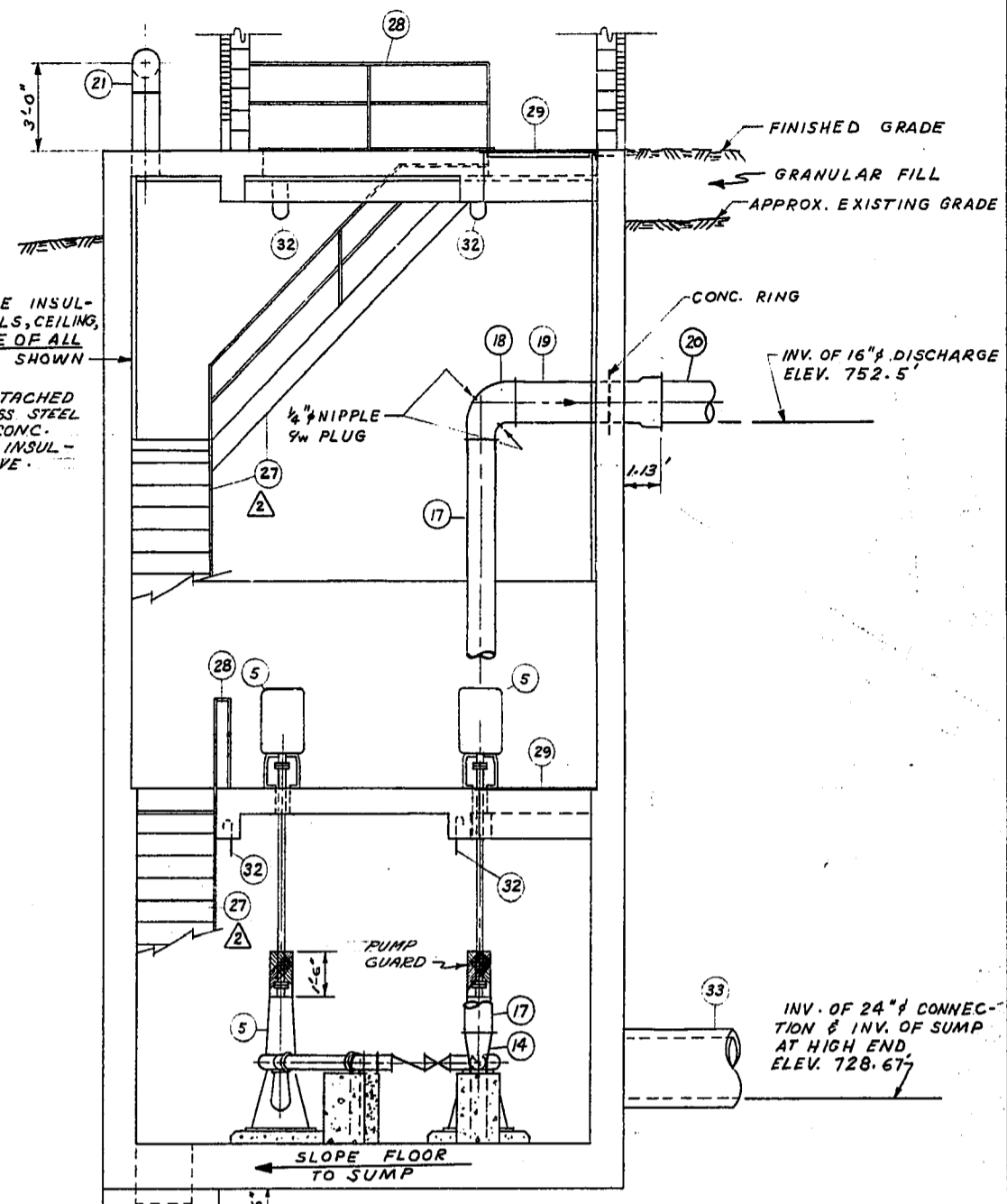
PUMP ROOM & SUMP - PLAN



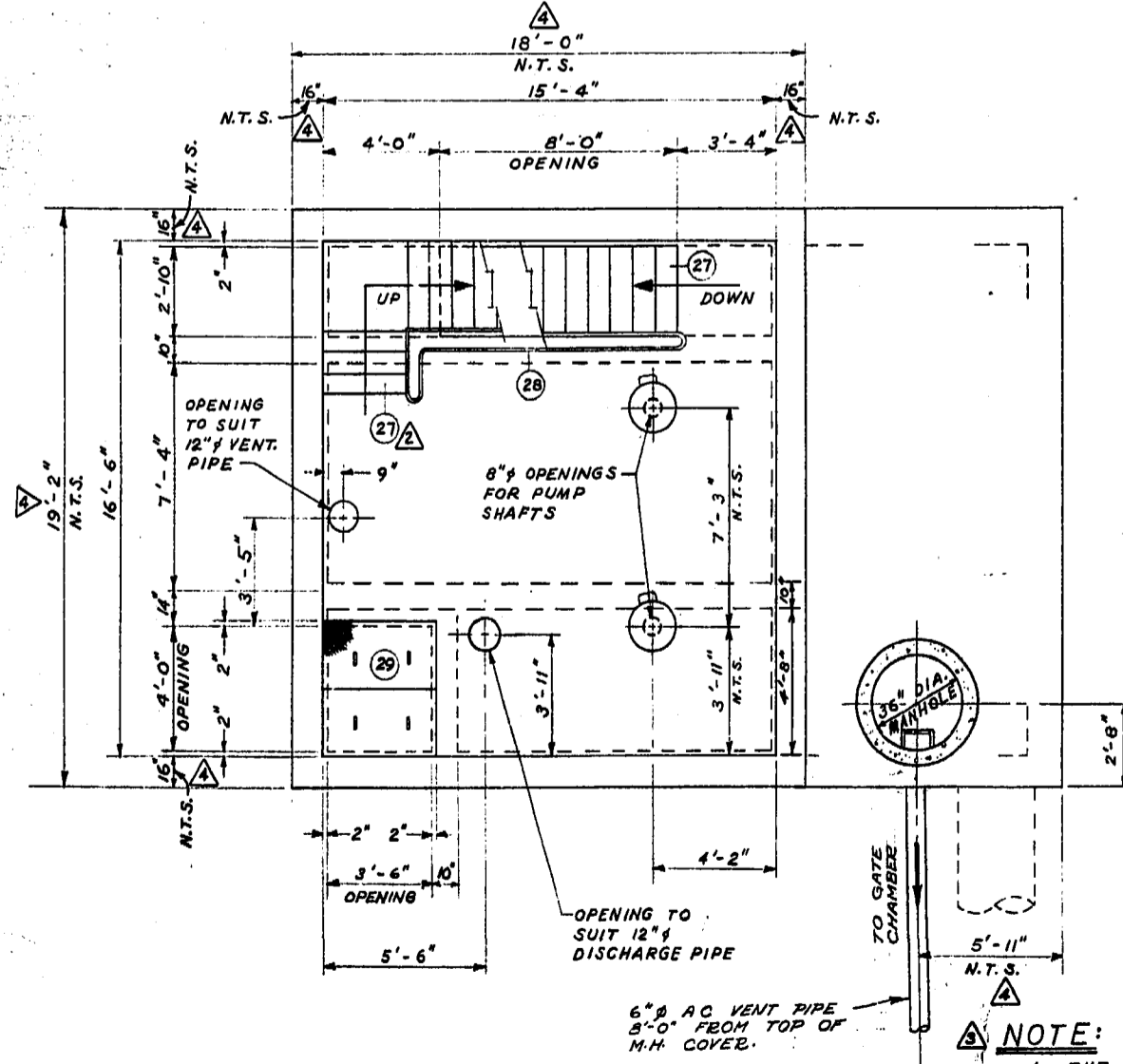
SEC. A-A

REV.	DESCRIPTION	DATE	BY
1	PIPE LENGTH CHANGED	5/12/71	W.A.C.
2	"ALUMINUM" CHANGED TO "CONC. STEEL"	5/12/71	W.A.C.
3	NOTES ADDED	5/12/71	W.A.C.
4	DIMENSIONS REVISED	5/12/71	W.A.C.
5	LAYOUT OF OVERFLOW REV.	5/12/71	W.A.C.

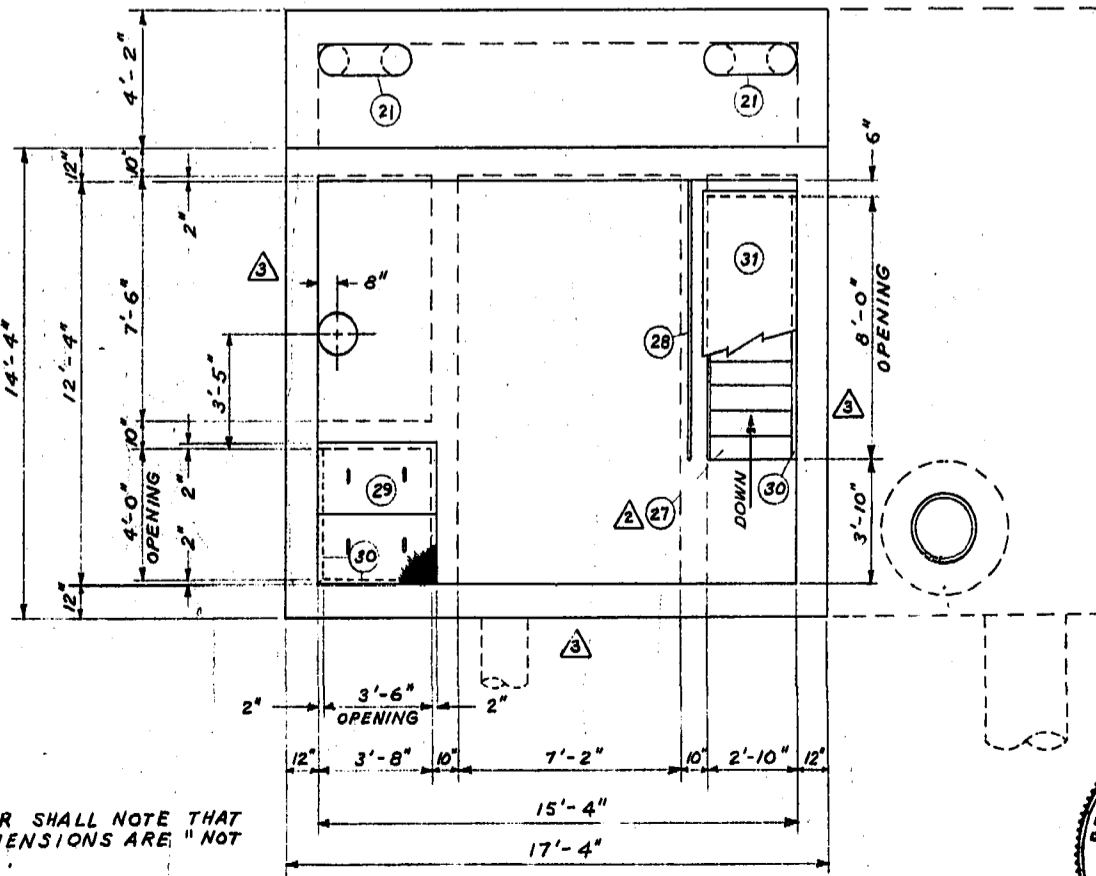
DISCHARGE BYPASS FLOWS TO MH IF REQUIRED



SEC. B-B



MOTOR ROOM - PLAN

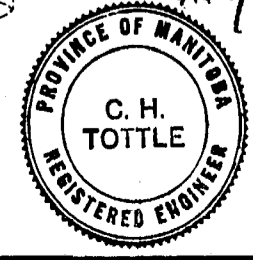


ROOF PLAN (SUBSTRUCTURE)

**NOTE:**  
 1. THE CONTRACTOR SHALL NOTE THAT MANY OF THE DIMENSIONS ARE "NOT TO SCALE" (N.T.S.).  
 2. THE SUBSTRUCTURE SHALL EXTEND FOUR (4") INCHES BEYOND THE SUPERSTRUCTURE ON THE NORTH, WEST, AND SOUTH WALLS.

► SUPPLIED BY METRO CORPORATION

LIST OF MATERIALS									
No.	DESCRIPTION	SIZE	QUANTITY	DETAIL DWG. No.	No.	DESCRIPTION	SIZE	QUANTITY	DETAIL DWG. No.
1	8" C.I. PIPE - FLARE TO FLANGE	12' 11 3/4" L.	2		22	MONARCH MOD. No. 44 SUMP PUMP		1	
2	8" FLANGED GATE VALVE	0'-11 1/2"	2		23	1/4" STEEL PIPE (SCREWED)	15' (TOTAL)		
3	8" C.I. PIPE - FLG. TO VICTAULIC	0'-9"	4		24	1/2" BRZ. CHECK VALVE (SCR.)		1	
4	8" STYLE No. 44 VICT. COUPLING		2		25	1/2" BRZ. GATE VALVE (SCR.)		1	
5	MONARCH "C" SERIES 6x12 PUMP 9W				26	1/4" - 90° STEEL ELBOW (SCR.)		1	
6	30 H.P. MOTOR, SHAFT, & SHAFT GUARD		2		27	GALV. STEEL STAIR @ 45° 3/4" NON-SLIP TREADS & 1 1/2" PIPE HANDRAIL	2'-10" WID.		
7	6" C.I. PIPE - FLG. TO VICTAULIC	0'-9"	4		28	1 1/2" PIPE HANDRAIL			
8	6" - 45° FLANGED C.I. ELBOW		2		29	1/2" CH'KD 12 COVER, RECESSED	2'-2" x 3'-10"	4	
9	6" FLANGED CHECK VALVE	1'-2"	2			INTO FLOOR 9W LIFTING LUGS			S-218
10	6" FLANGED GATE VALVE	0'-10 1/2"	2		30	3" x 2" x 3/8" STEEL ANGLE	8'-0"		
11	6" FLANGED C.I. PIPE	2'-10 1/2"	1		31	HINGED 3/4" PLYWOOD COVER	8'4" x 3'-0"	1	S-226
12	6" C.I. PIPE - FLG. TO VICTAULIC	0'-7"	2		32	U-BOLT HOOK		8	S-222
13	6" x 6" x 6" - 90° C.I. FLANGED SIDE OUTLET ELBOW		1		33	24" C76-CL. X CONC. SEWER PIPE			
14	12" FLANGED STEEL PIPE	20'-11 3/4"	1		34	STD. M.H. STEPS			S-217
15	12" x 16" - 90° FLG. STEEL INCR. ELBOW		1	SEE NOTE	35	36" PRECAST CONC. M.H. RISER			
16	16" C.I. PIPE - FLG. TO BELL	4'-9"	1			9W "RAM-NEK" GSKT JOINTS			
17	16" - CL. 22 - C.I. PIPE - BELL TITE				36	36" x 30" ECCENTRIC REDUCER		1	
18	12" STEEL VENT PIPE		2	682	37	30" x STD. M.H. FRAME & SOLID COVER		1	S-223

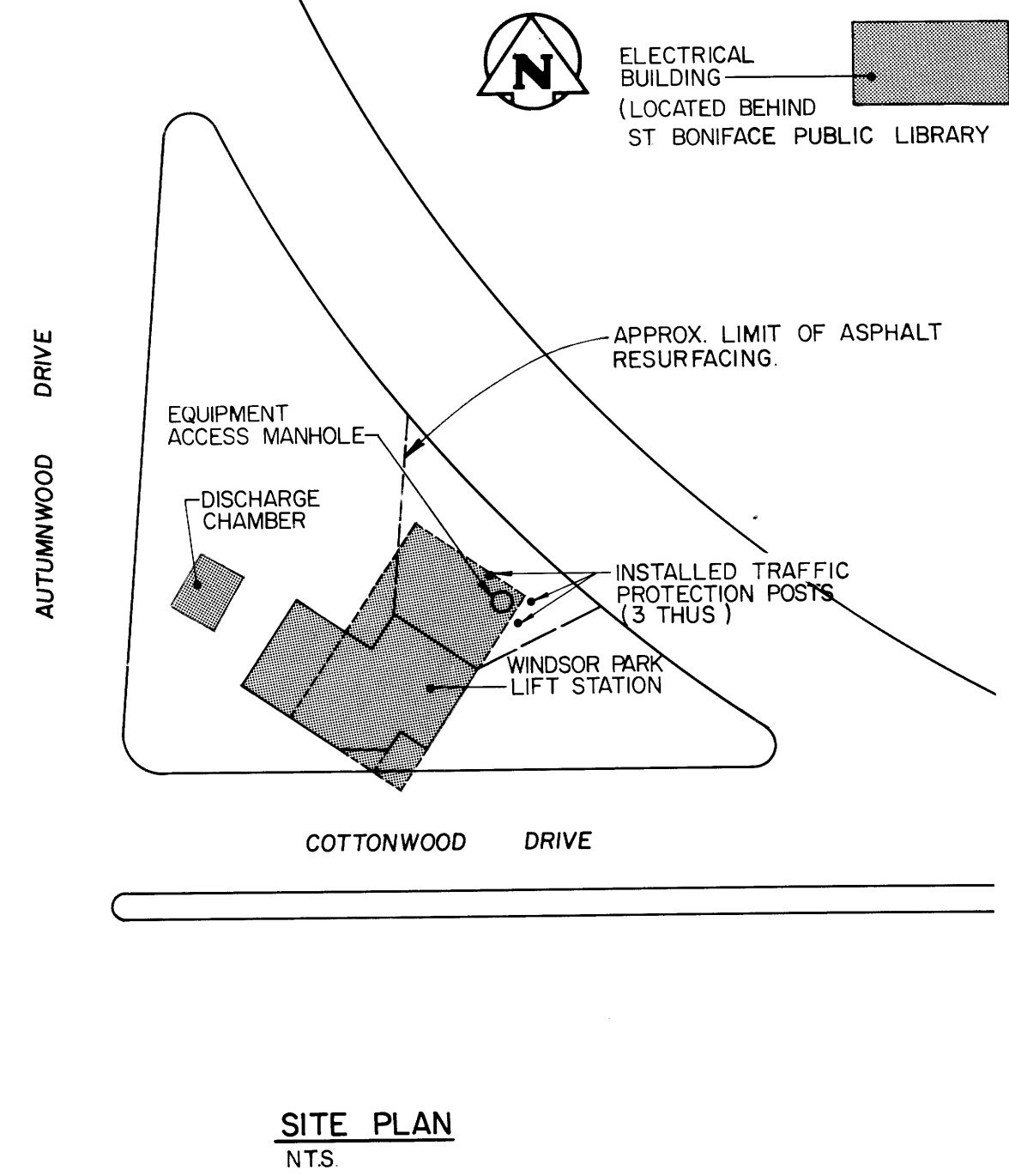
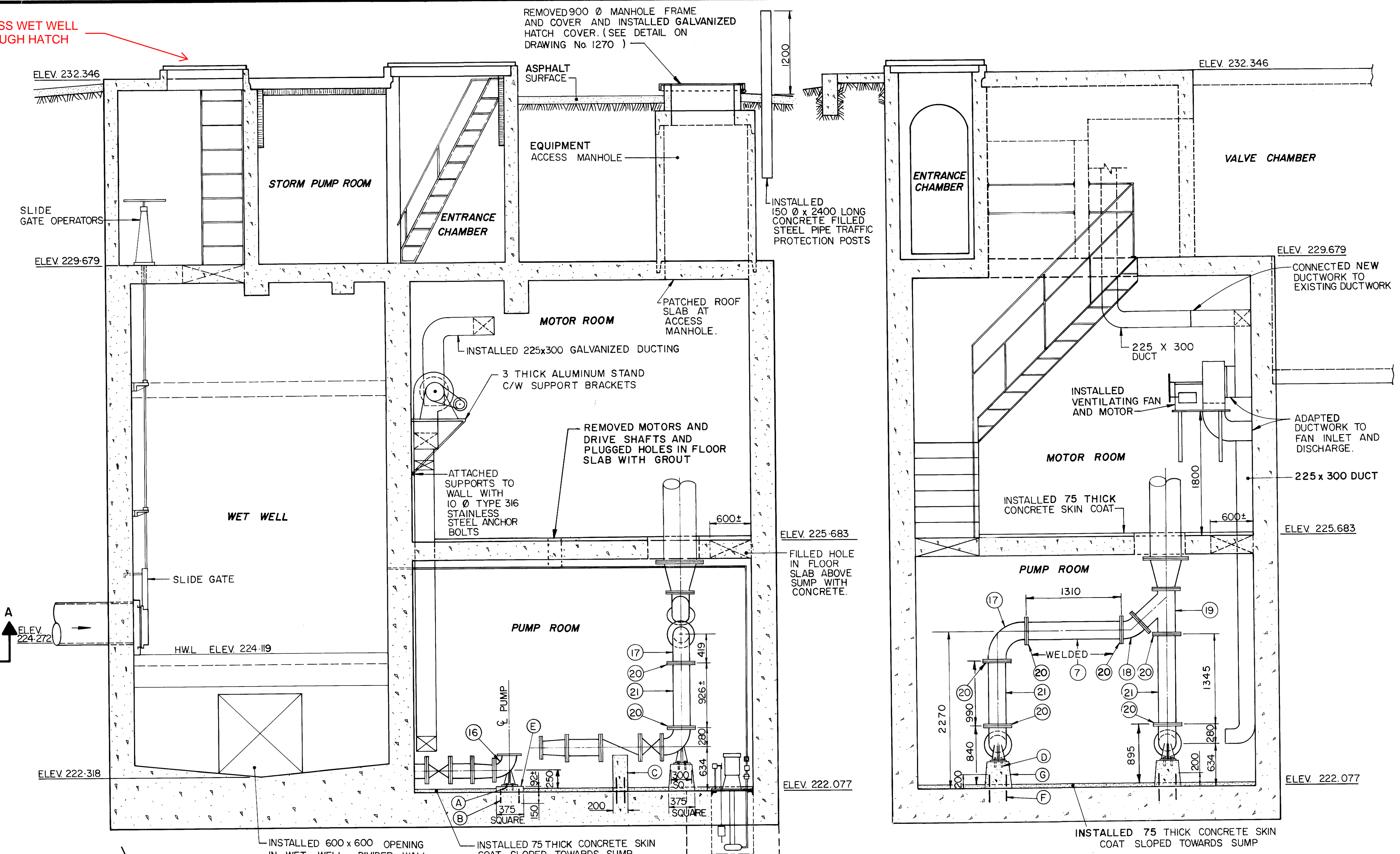
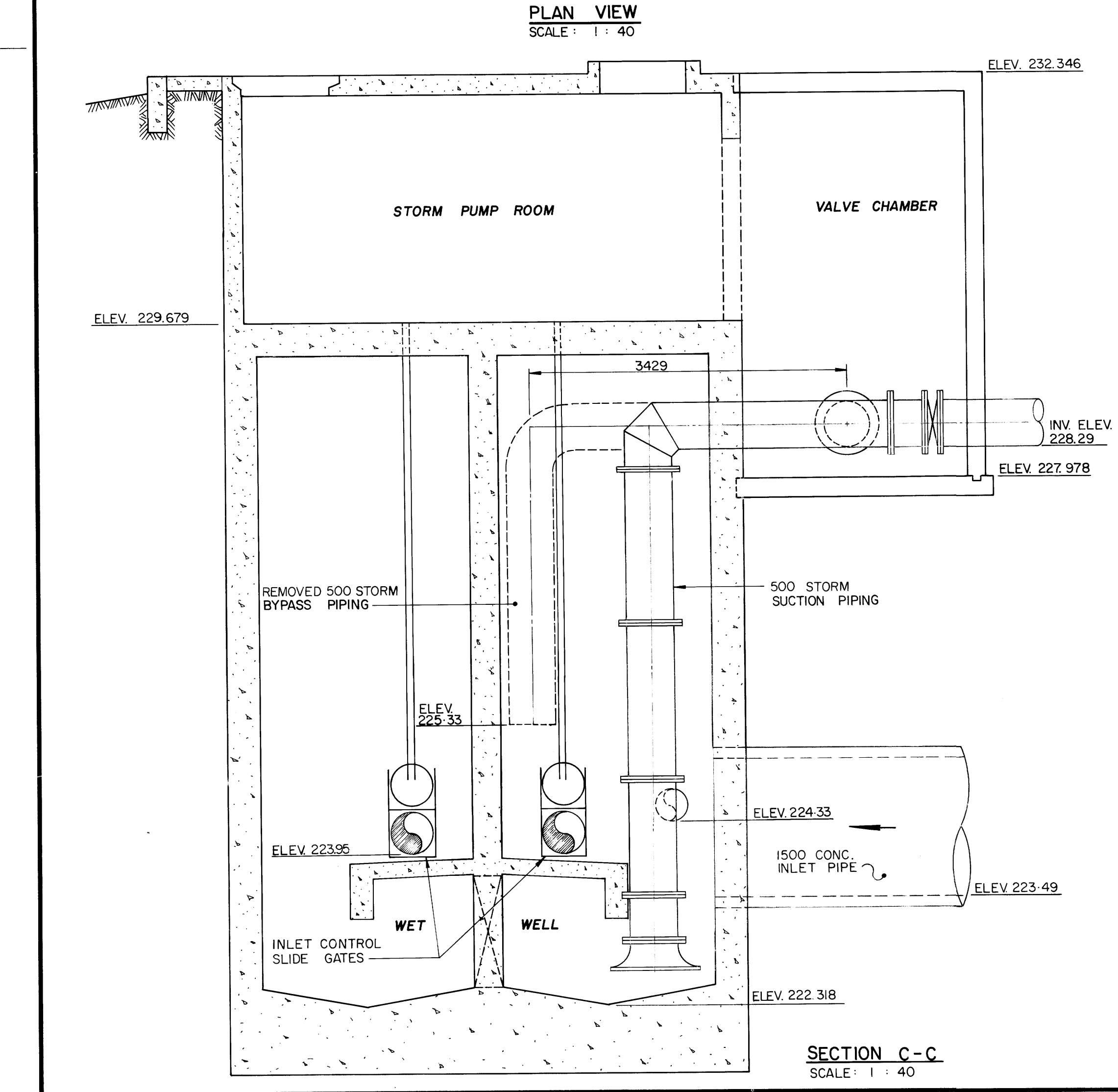
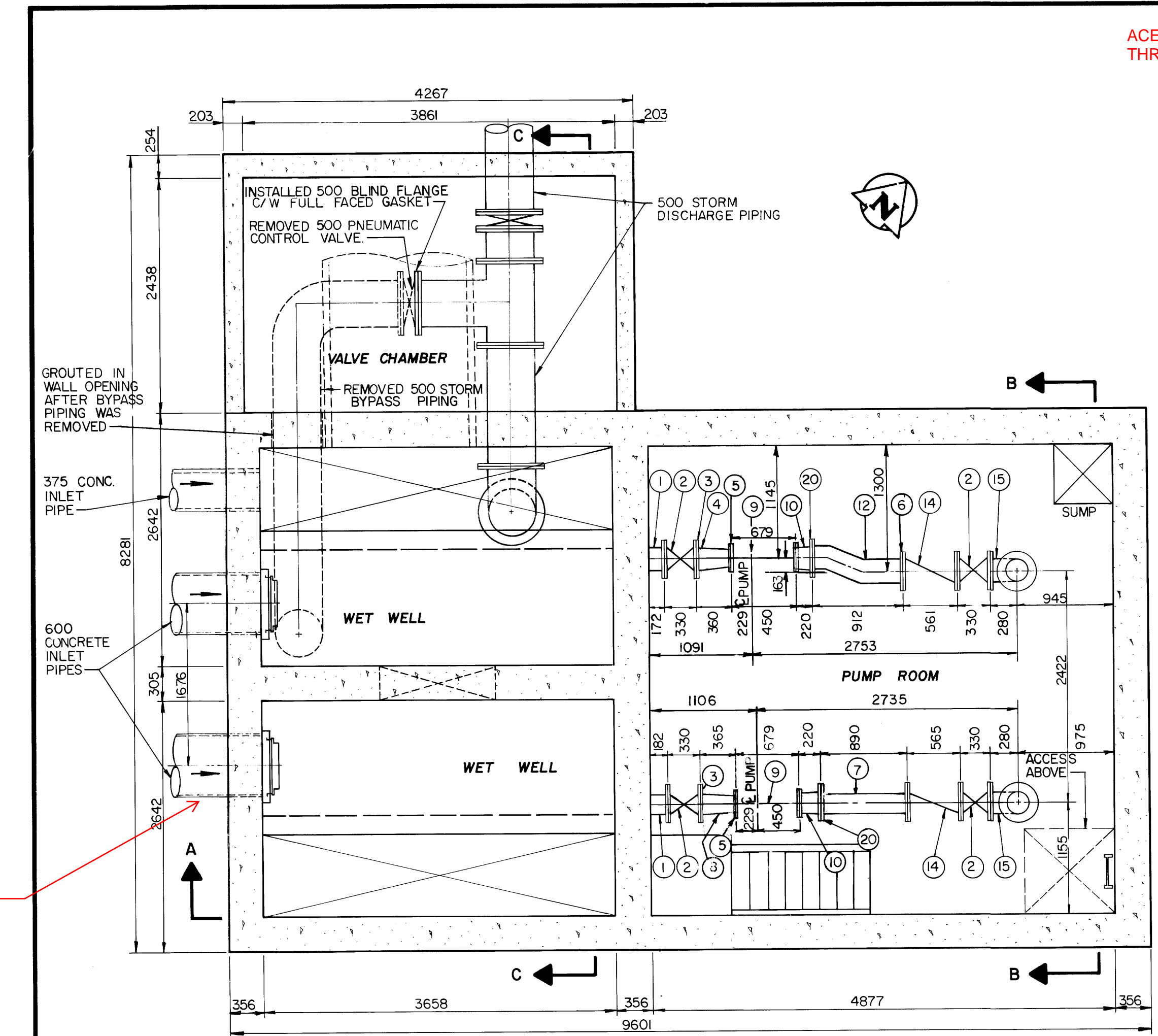


THE METROPOLITAN CORPORATION OF GREATER WINNIPEG  
**WATERWORKS & WASTE DISPOSAL DIVISION**  
 A. PENMAN - DIRECTOR

SEWAGE DISPOSAL DEPT.  
**WILLOW LIFT STATION & CONNECTIONS**  
**SUBSTRUCTURE**  
 DRAWING NO. **680**  
 MICROFILMED NOV 76

file # SP10374  
1209  
REF. or DRAWING No. 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)

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

**AS-CONSTRUCTED**  
 Inspection Survey  
 Technical Services  
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT

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	

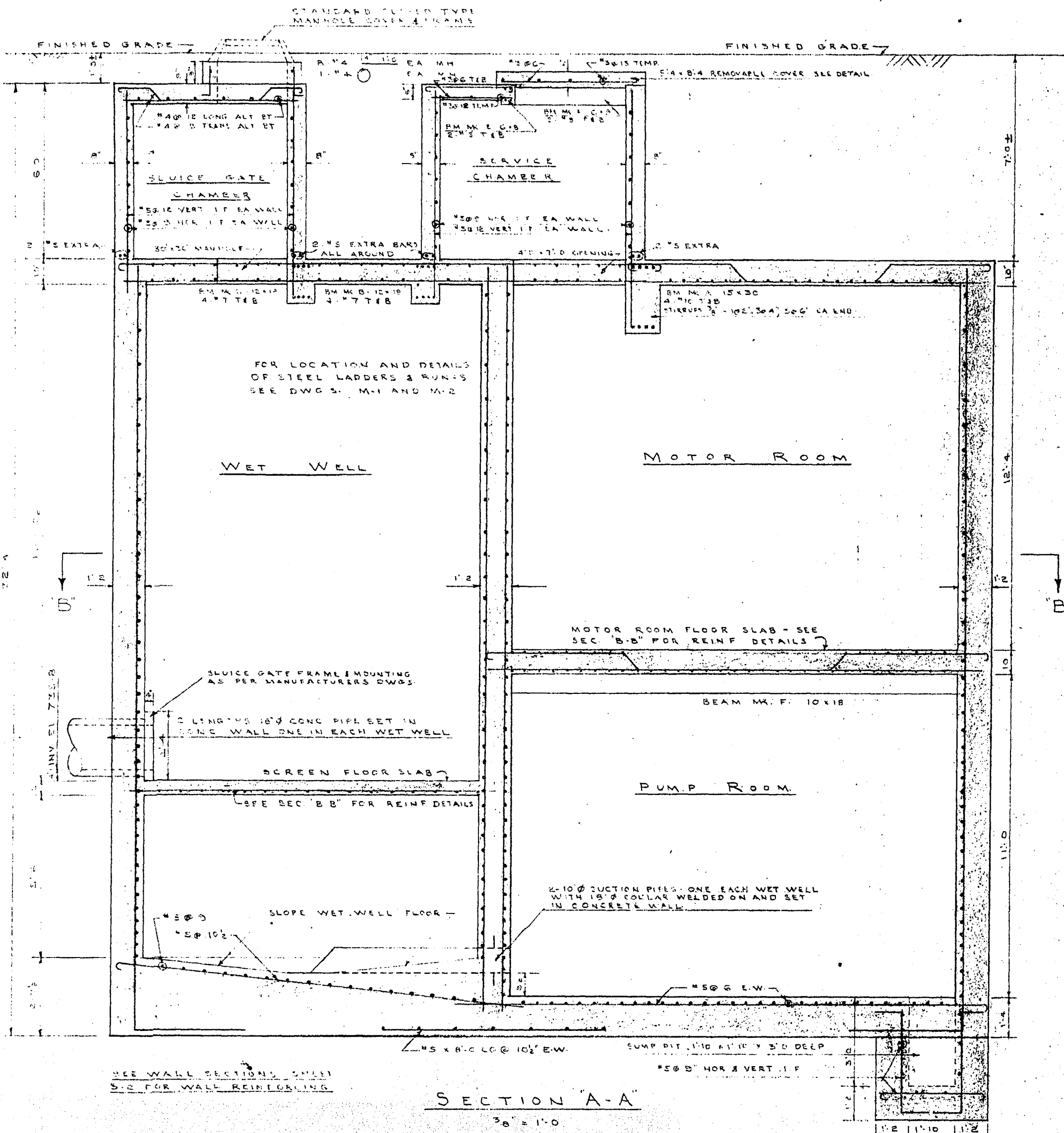
**THE CITY OF WINNIPEG**  
 WORKS AND OPERATIONS DIVISION

WINDSOR PARK  
 LIFT STATION UPGRADING  
 PLAN AND SECTIONS

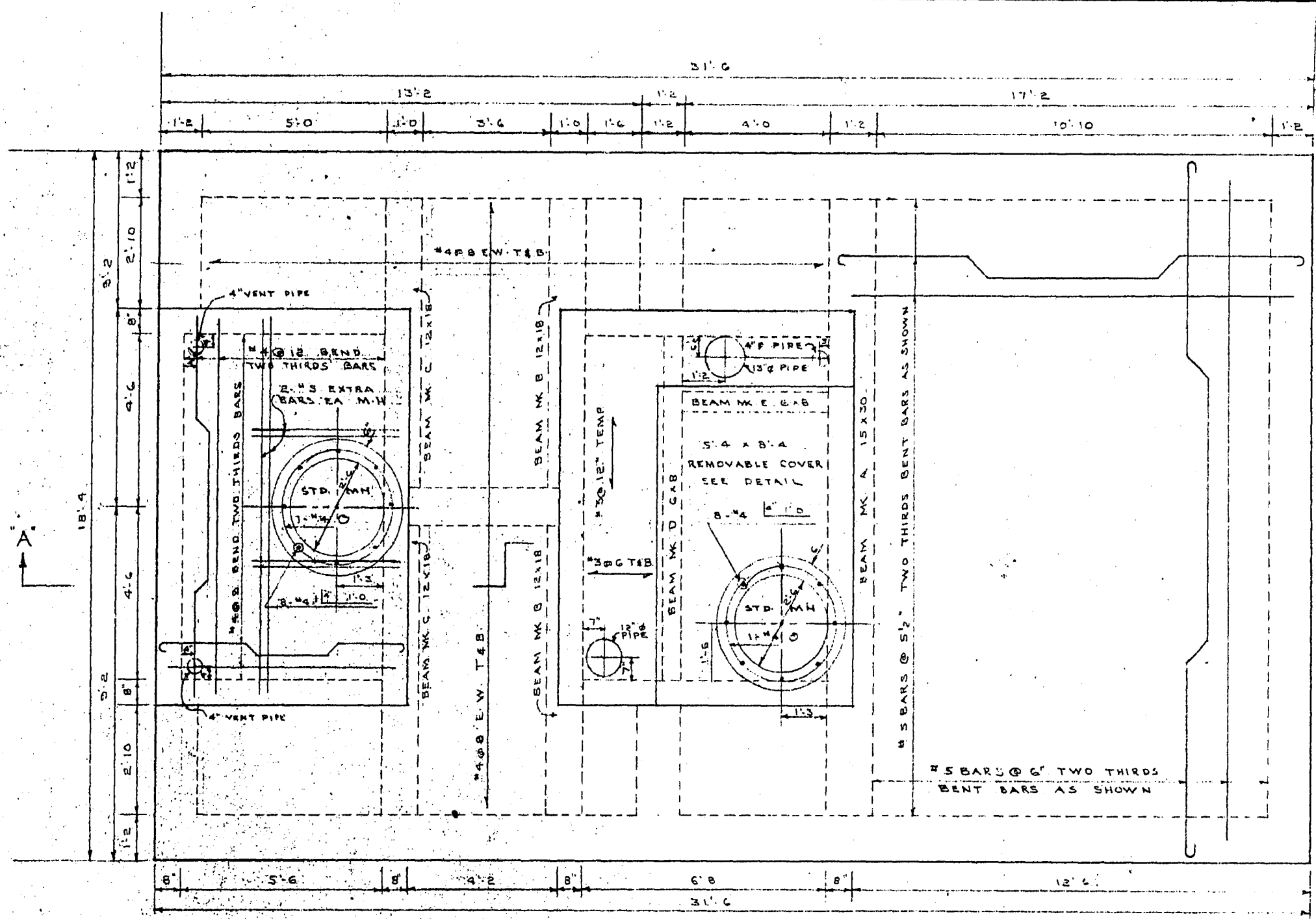
CITY DRAWING NUMBER  
 SHEET 1 OF 3  
 1269

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

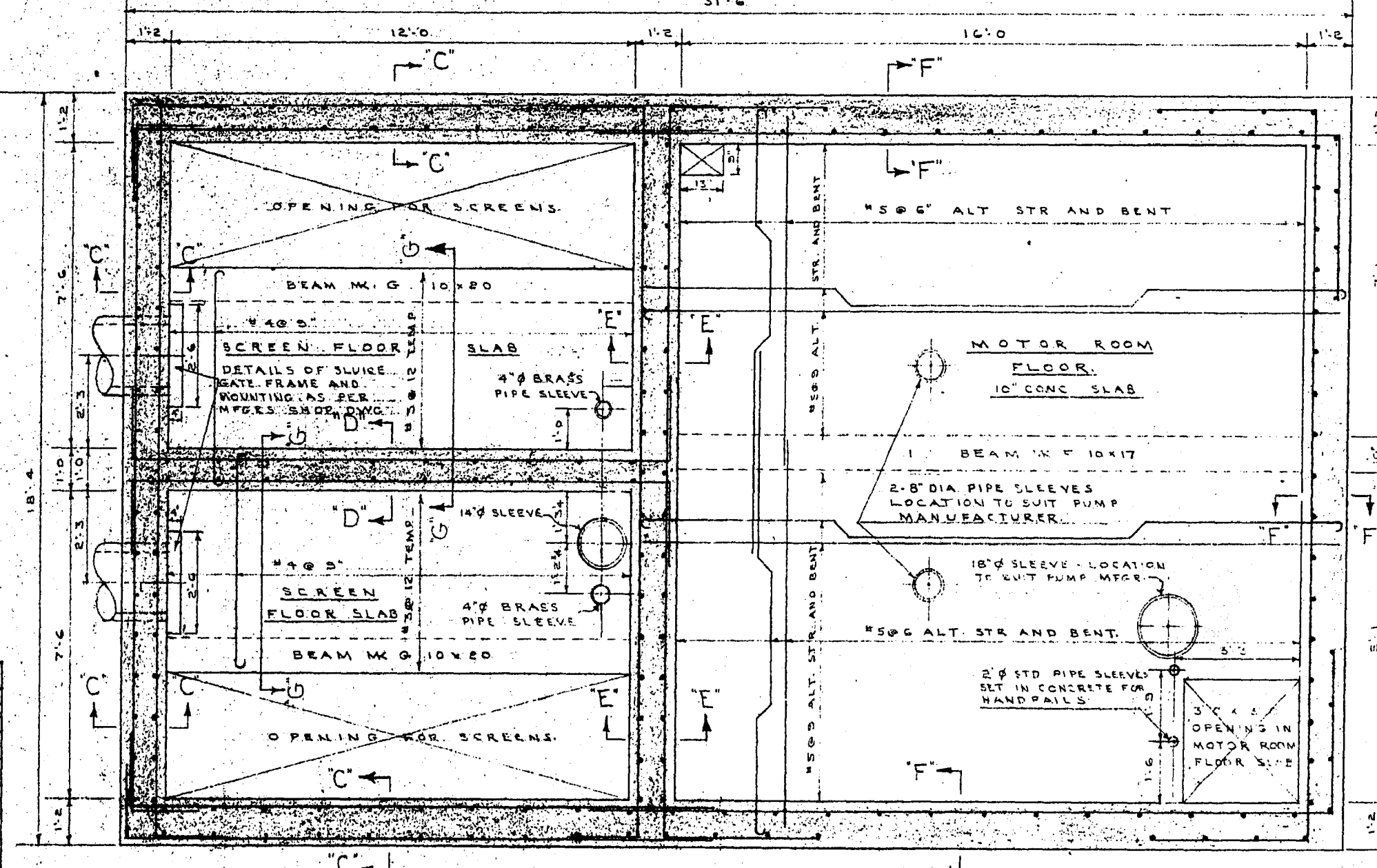
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SECTION A-A  
3/8" = 1'-0"



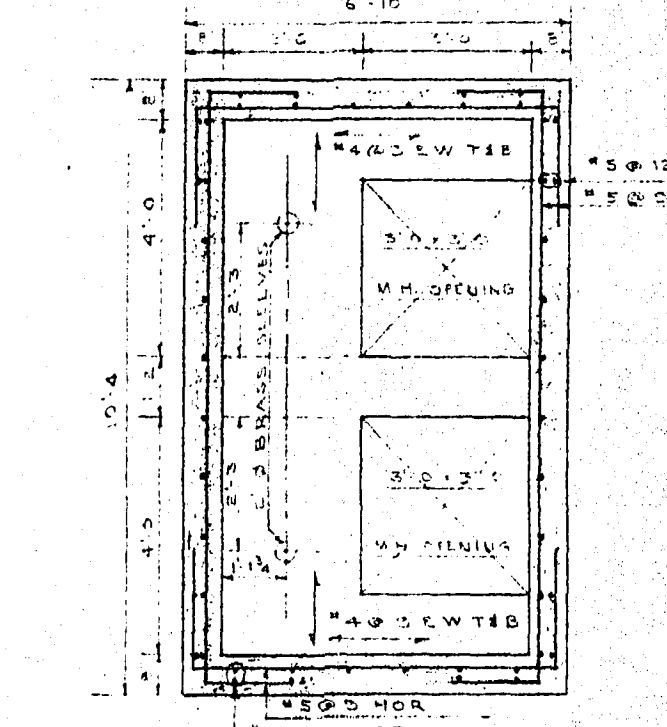
ROOF PLAN  
3/8" = 1'-0"



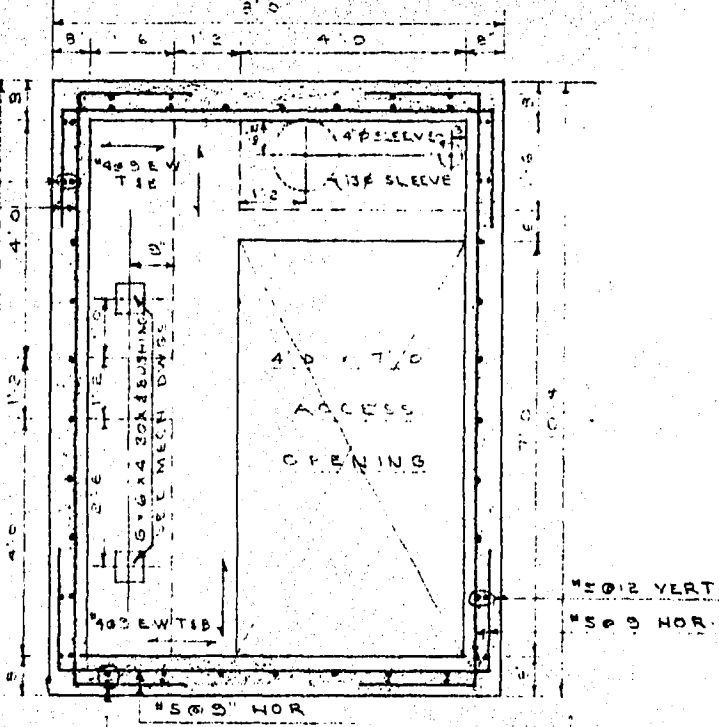
SECTION B-B  
3/8" = 1'-0"

BEAM NO.	SIZE	REINFORCING		REMARKS	STIRRUPS
		LONGITUDINAL	TRANSVERSE		
A	15 30	#4	#4	HOOK BOTH ENDS	18" @ 18" FROM SUPPLY
B	12 18	#4	#4	HOOK BOTH ENDS	18" @ 18" 306
C	12 18	#4	#4	HOOK BOTH ENDS	18" @ 18" 306
D	6 8	#4	#4	HOOK BOTH ENDS	18" @ 18" 306
E	6 8	#4	#4	HOOK BOTH ENDS	18" @ 18" 306
F	10 15	#4	#4	HOOK BOTH ENDS	18" @ 18" 306
G	10 20	#4	#4	HOOK BOTH ENDS	18" @ 18" 306

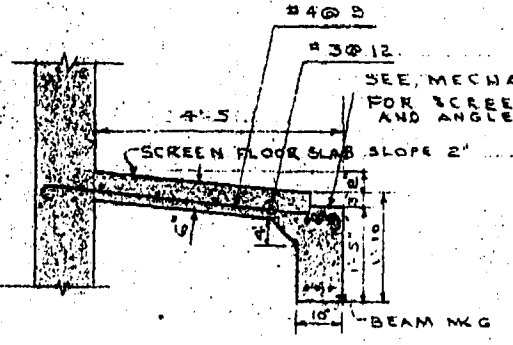
- NOTES:
- (1) ALL CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
  - (2) REINFORCING STEEL SHALL BE INTERMEDIATE GRADE DEFORMED.
  - (3) LAP WALL BARS 40 DIA. AT SPICES. CONCRETE PROTECTION FOR REINFORCEMENT BEAMS 2 IN. SLABS - ROOF & BOTTOM 2" OTHER 1 1/2" WALLS 2 IN.
  - (4) REINFORCE ALL OPENINGS WITH #4 BARS ADDITIONAL ON ALL SIDES.
  - (5) TERMINATE NON CONTINUOUS ENDS OF BENT BARS 1' TOP BARS IN SLABS WITH A STANDARD HOOK.
  - (6) USE ALKALI-SULPHATE RESISTING CEMENT THROUGHOUT.
  - (7) SEE MECHANICAL DRAWINGS FOR LOCATIONS AND DETAILS OF ALL SLEEVES, INSERTS, FRAMES, LADDERS, ETC. TO BE PLACED IN CONCRETE.



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



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



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

W. L. WARDROP & ASSOCIATES  
ENGINEERING CONSULTANTS  
WINNIPEG CANADA

LADCO DEVELOPMENT  
ST. BONIFACE MANITOBA  
STRUCTURAL LAYOUT  
SEWAGE LIFT STATION

Scale: AS SHOWN Date: JULY 10/55  
Designed By: R.W. MCK Project No. 5521  
Drawn By: R.W. MCK Drawing No. 4159 ST  
Checked By: W.L.W.

PROVINCE OF MANITOBA  
R. W. MCKNIGHT  
REGISTERED ENGINEER

FILE # SP10669