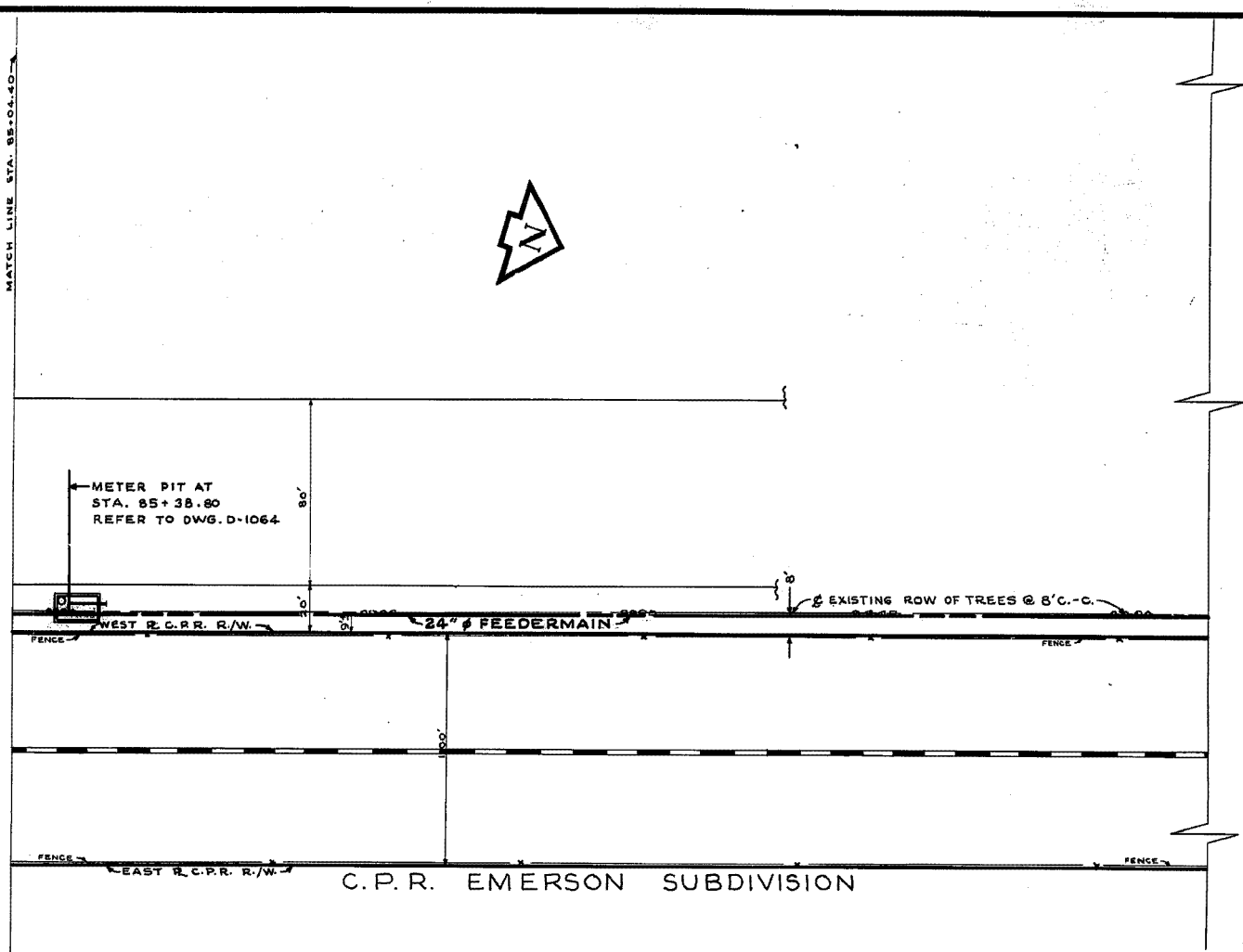
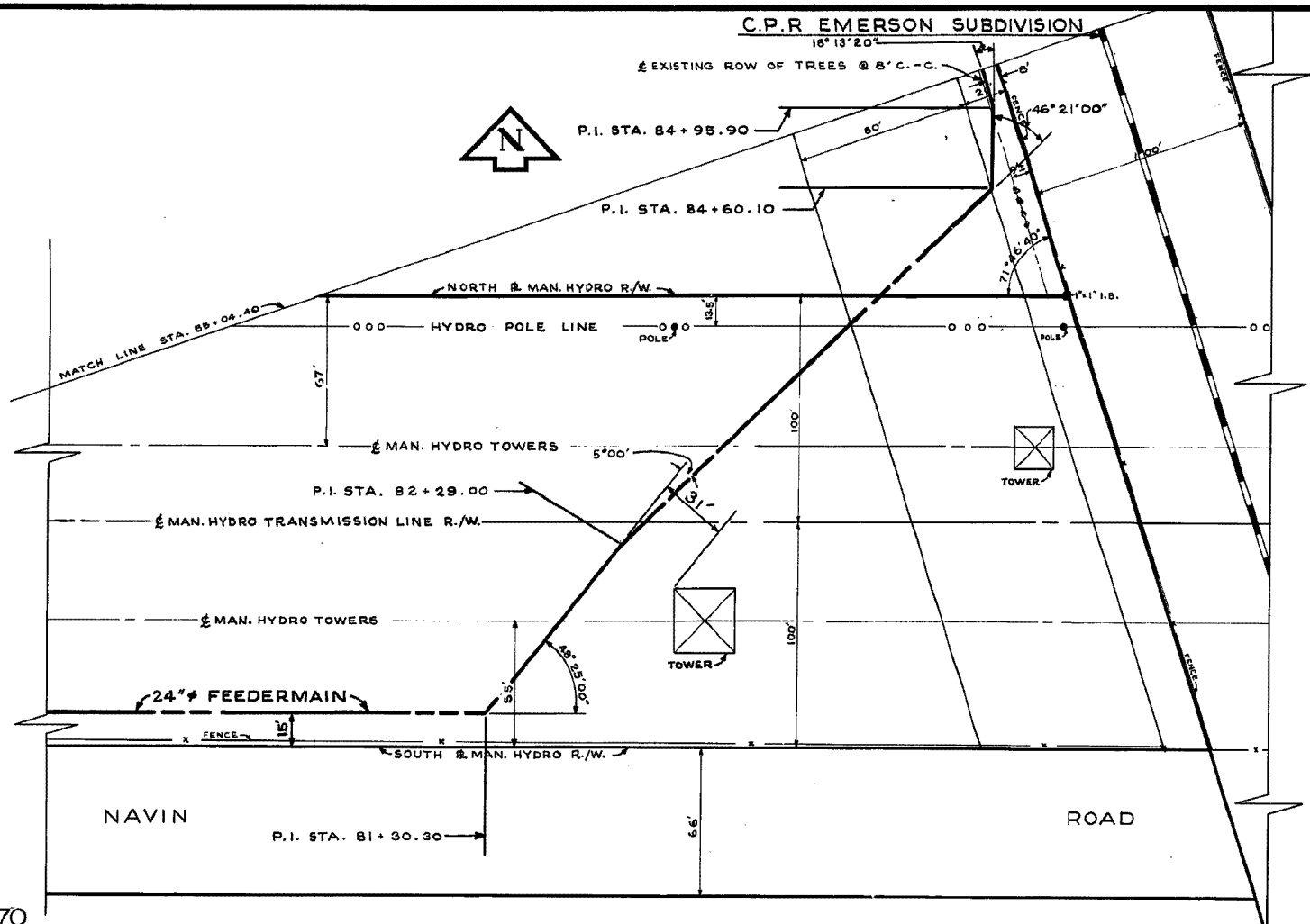
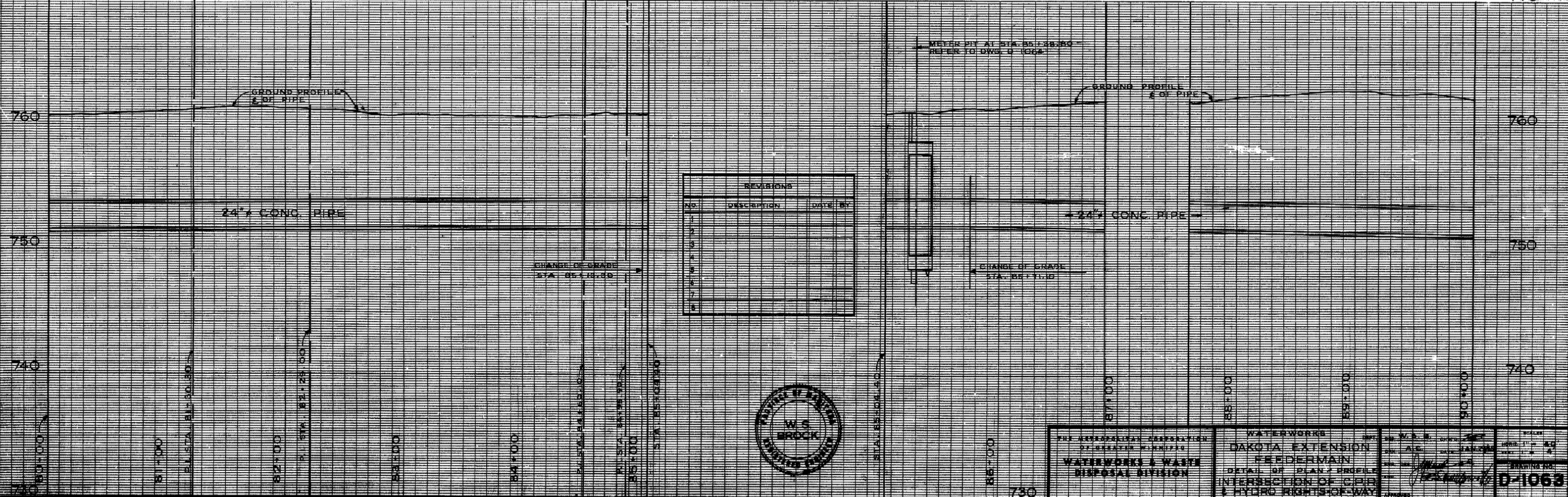


C.P.R. EMERSON SUBDIVISION

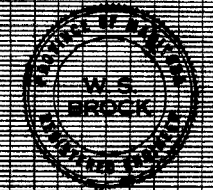


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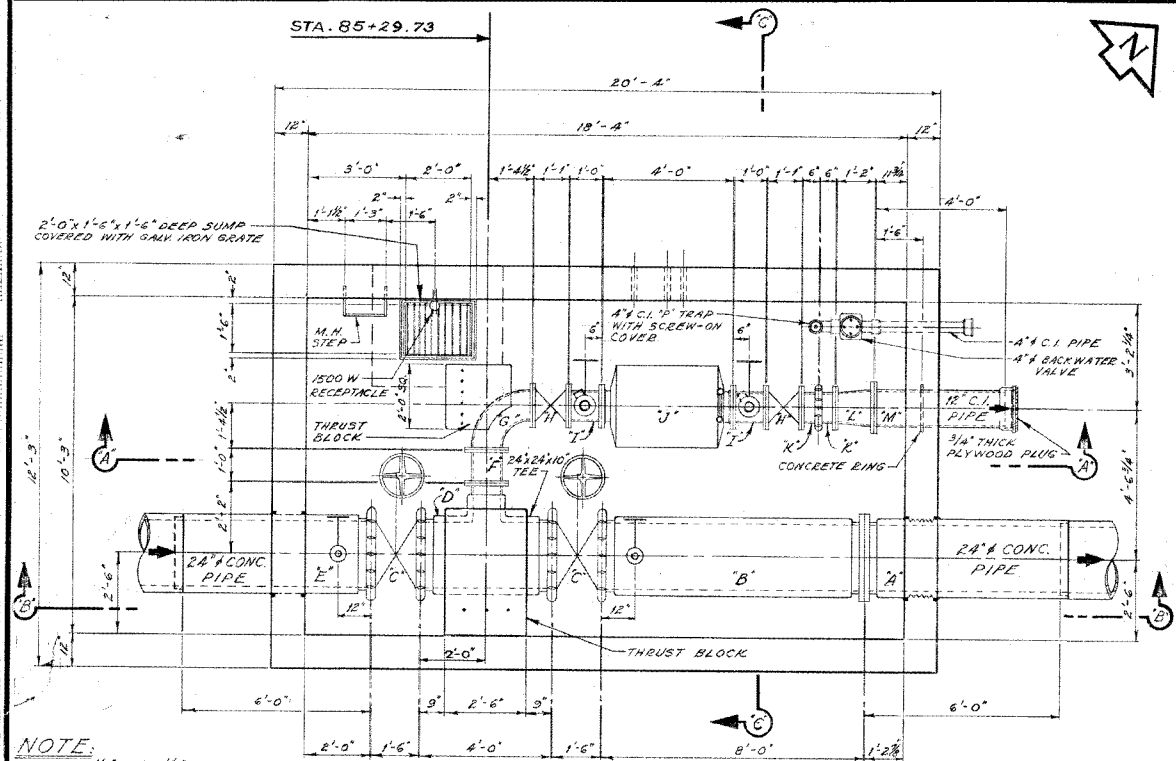
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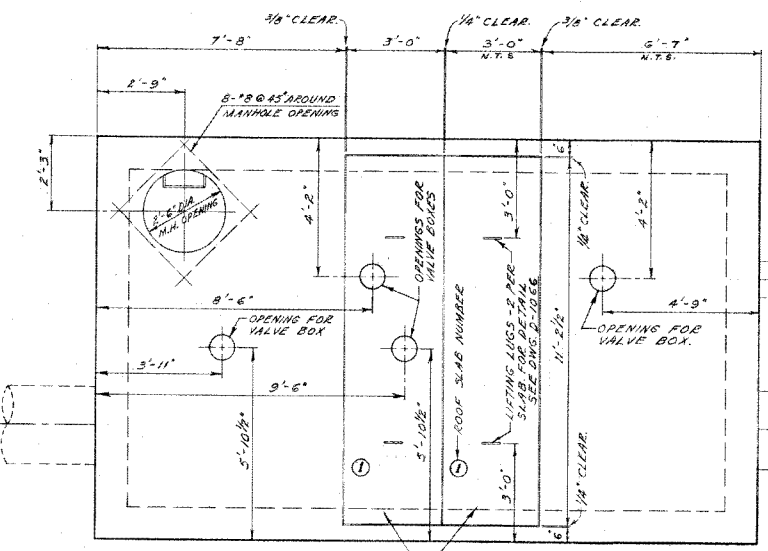
REVISIONS		
NO.	DESCRIPTION	DATE BY
1		
2		
3		
4		
5		
6		
7		
8		



THE MINNESOTA CORPORATION OF GREAT LAKES DISTRICT WATERWORKS & WASTE DISPOSAL DIVISION	WATERWORKS DAKOTA EXTENSION FEEDERMAIN	SHEET NO. 4 DRAWING NO. D-1063
	DETAIL OF PLAN & PROFILE INTERSECTION OF C.P.R. & HYDRO RIGHTS-OF-WAY	
	AS CONSTRUCTED AUG. 19/65 A.C.	



FLOOR PLAN

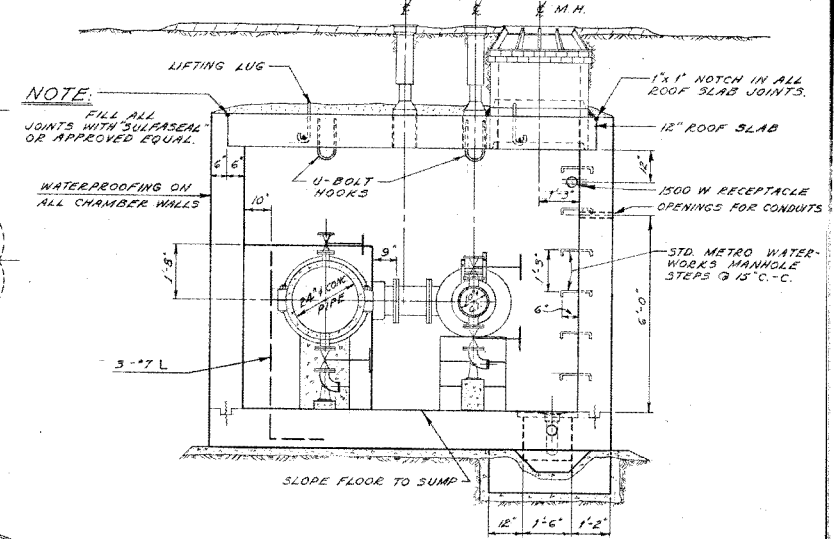


ROOF PLAN

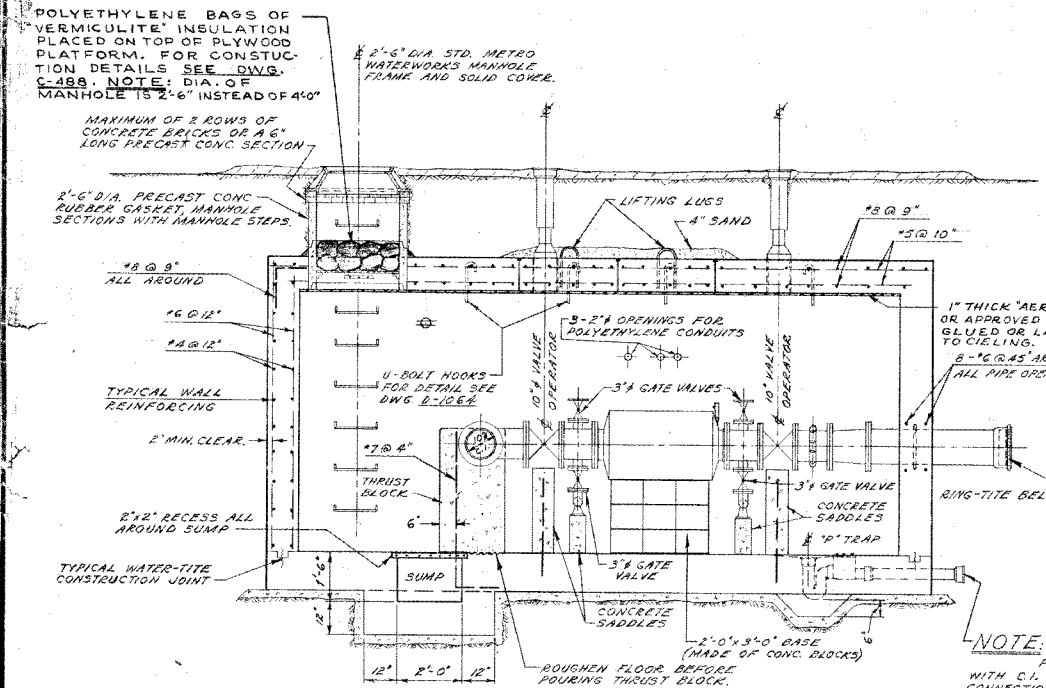
- NOTES**
1. ALL PRECAST CHAMBER SLABS ARE TO BE NUMBERED ON THE UNDERSIDE IN THE ORDER BY WHICH THEY CAN BE REMOVED. CAST IN TYPICAL HOUSE NUMBERS.
 2. PLACE BUILDING PAPER BETWEEN VALVES AND CONCRETE SADDLES, BETWEEN ELBOWS AND CONCRETE SADDLES, BETWEEN CONCRETE BASE AND METER AND BETWEEN CONCRETE SADDLE AND PIPE.
 3. ALL EXTERIOR AND INTERIOR CORNERS, INCLUDING PRECAST SLABS TO BE CHAMFERED AS SPECIFIED IN THE SPECIFICATIONS.
 4. VICTAULIC COUPLINGS TO BE STYLE #8A.
 5. FITTINGS REQUIRED FOR EACH 10" C.I. SHORT WITH 3" OUTLETS (ITEMS 'I')
 - ON THE TOP OF 3" OUTLET: 3" NIPPLE (SCREW TO SCREW-ON-FLANGE).
 - ON THE BOTTOM OF 3" OUTLET: 3" NIPPLE (SCREW TO SCREW-ON-FLANGE).
 - 3" C.I. GATE VALVE FLANGED WITH BRONZE TRIM.
 - 3" C.I. GATE VALVE FLANGED WITH BRONZE TRIM.
 - 3" x 90° GALV. OR C.I. BASE ELBOW (FLANGE TO SCREW). JOIN ELBOW TO VALVE WITH SCREW END DIRECTED TOWARDS MANHOLE OPENING.
 7. SEE DWG. C-480 FOR ELECTRICAL REQUIREMENTS.
 8. ALL CONCRETE SADDLES FOR VALVES SHALL HAVE 2-#6 BARS OF REINFORCING.

NOTE:
1/8" AND 1/4" CLEARANCE PROVIDED FOR GASKETS BETWEEN FITTINGS.

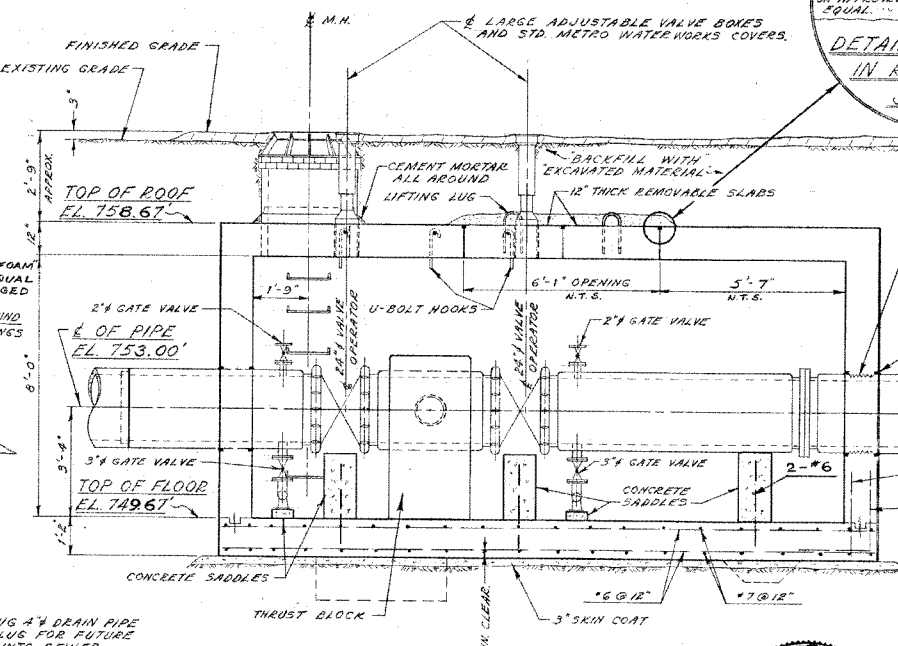
THIS DRAWING SUPERSEDED BY DRAWING D-1758



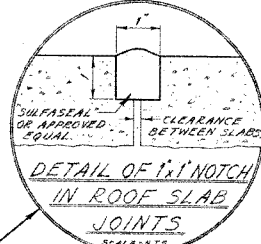
SEC 'C'-'C' CROSS-SECTION



SEC 'A'-'A' LONG SECTION



SEC 'B'-'B' LONG SECTION



DETAIL OF 1" NOTCH IN ROOF SLAB JOINTS

- NOTES (CONTD.)**
9. FITTINGS REQUIRED FOR EACH 24" CONC. SHORT (ITEMS 'B' & 'E')
 - ON TOP OF SHORT: 2" NIPPLE (SCREW TO SCREW-ON-FLANGE) - SUPPLIED WITH PIPE.
 - 2" GATE VALVE FLANGED. 2" BRONZE ADAPTOR (FLANGE TO FIRE HOSE THREAD).
 - ON BOTTOM OF SHORT: 3" NIPPLE (SCREW TO SCREW-ON-FLANGE) - SUPPLIED WITH PIPE.
 - 3" x 90° GALV. OR C.I. BASE ELBOW (FLANGE TO SCREW). JOIN ELBOW TO VALVE WITH SCREW END DIRECTED TOWARDS MANHOLE OPENING.

LIST OF MATERIALS FOR METER PIT

ITEM	DESCRIPTION	LENGTH
A	24" CONC. SHORT (BELL TO FLANGE)	6'-0"
B	24" CONC. SHORT (FLANGE TO VICTAULIC)	8'-0"
C	2-24" VICTAULIC BUTTERFLY VALVES	1'-6"
D	24" x 24" x 10" CONC. TEE (VIC. TO VIC. TO FLANGE BR.)	4'-0"
E	24" CONC. SHORT (VICTAULIC TO SPIGOT END)	6'-0"
F	10" C.I. FILLER PIECE FLANGED.	1'-0"
G	10" x 30" C.I. ELBOW (LONG RADIUS) FLANGED.	1'-4 1/2"
H	2-10" GATE VALVES FLANGED.	1'-1"
I	2-10" FILLER PIECES FLANGED WITH 3" OUTLETS.	1'-0"
J	10" MAGNETIC-FLOW METER FLANGED.	4'-0"
K	2-10" C.I. FILLER PIECES (FLANGE TO VICTAULIC)	0'-6"
L	10" x 12" C.I. INCREASER FLANGED.	1'-2"
M	12" C.I. SHORT (FLANGE TO RING-TITE BELL)	4'-0"

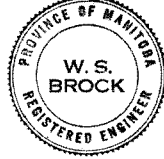
- NOTE:**
- ▲ ITEMS 'I' TO HAVE 3" TAPPED HOLES ON OPPOSITE SIDES. ITEMS 'B' AND 'E' TO HAVE A 2" TAPPED HOLE ON TOP AND A 3" TAPPED HOLE ON BOTTOM.
 - ITEM 'M' TO HAVE A CONCRETE RING 1'-6" FROM FLANGED END.
 - METRO CORPORATION WILL SUPPLY ITEMS 'A', 'B', 'C', 'D', 'E', 'H', AND 'J'. ALSO 4-24" VICTAULIC COUPLINGS AND A 10" VICTAULIC COUPLING.

REVISIONS

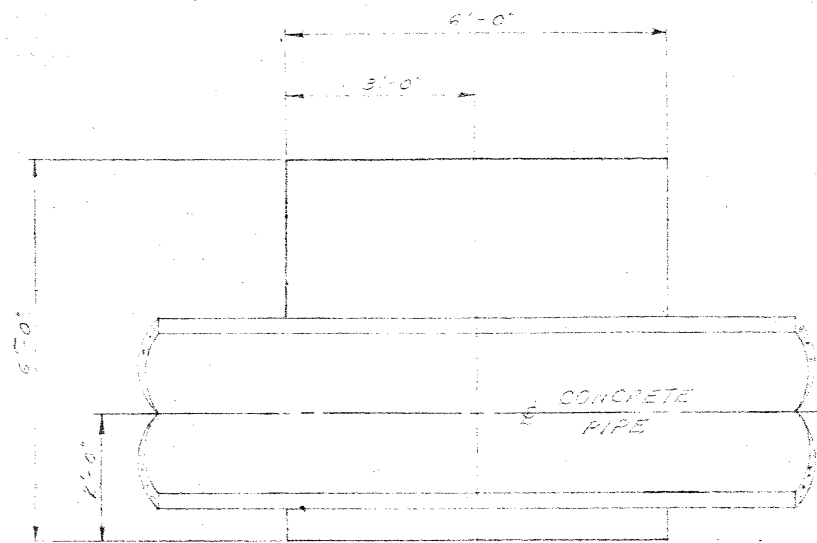
NO.	DESCRIPTION	DATE	BY
1	TITLE CHANGED	93.02.22	KT
2	DRAWING SUPERSEDED	93.02.26	KT

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG
WATERWORKS & WASTE DISPOSAL DIVISION
WATERWORKS DEPT.

DAKOTA EXTENSION FEEDERMAIN
VALVE CHAMBER - STA. 85+29.73
PUBLIC RESERVE - NORTH OF BISHOP GRANDIN BLVD.
WEST OF C.P.R. EMERSON SUBDIVISION



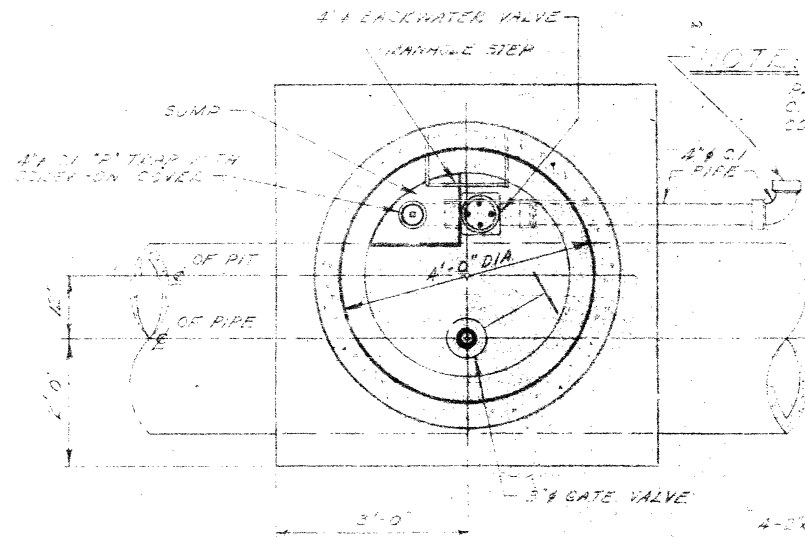
APPROVED BY <i>[Signature]</i>	DESIGNED BY W.S.B.	CHECKED BY S.M.E.A.C.	DATE FEB. 1/85	DRAWING NO. D-1064
SCALES AS NOTED.				



SEC. "A" - "A"

NOTE:

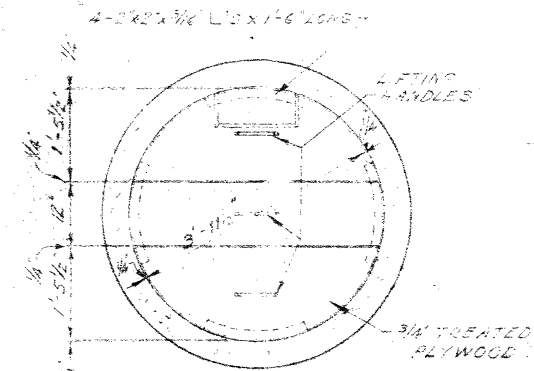
CONNECT 4" TILE MANHOLE TO THE NEAREST EXISTING SEWER.



SEC. "B" - "B"

FLOOR PLAN

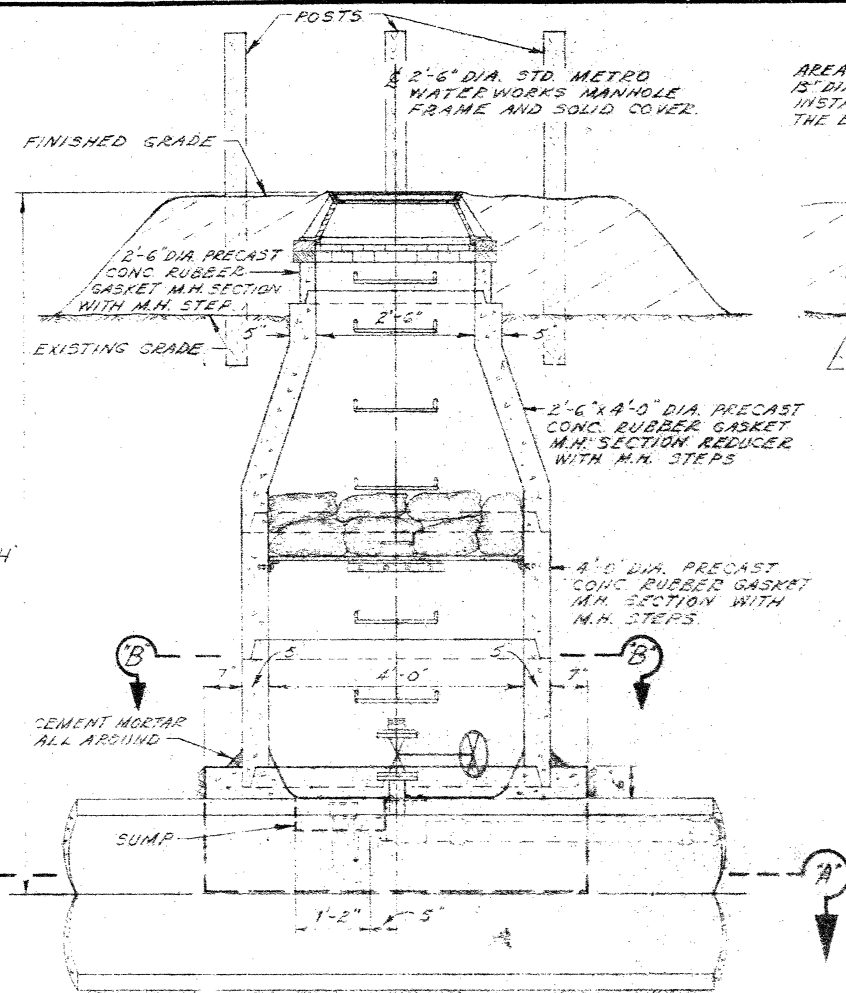
SCALE - 1/2" = 1'-0"



DETAIL OF FLYWOOD PLATFORM

FOR PRECAST-PROOFING

SCALE - 1/2" = 1'-0"



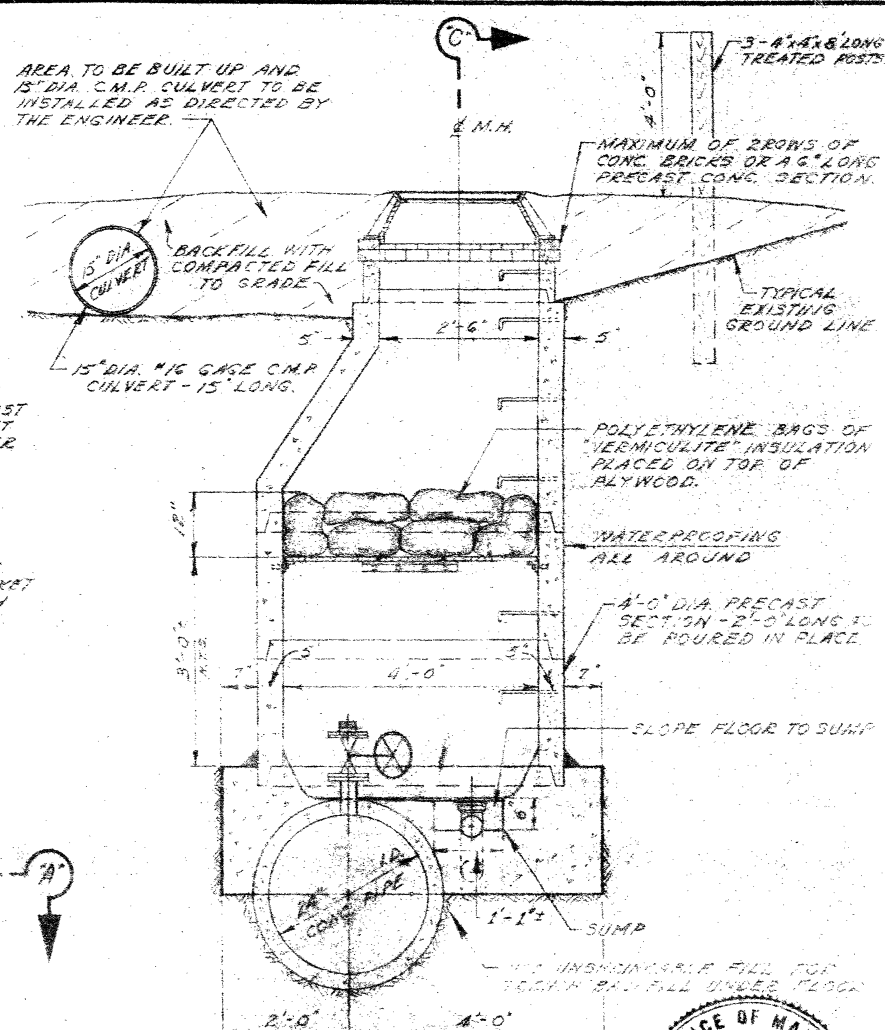
SEC. "C" - "C"

LONG SECTION

SCALE - 1/2" = 1'-0"

NOTE:

- 1 FITTINGS REQUIRED FOR AIR RELEASE CHAMBER.
- 2" BRONZE HUBBLE (SCREW TO SCREW-ON-FLANGE) - SUPPLIED WITH PIPE.
- 2" BRONZE GATE VALVE FLANGED.
- 1" BRONZE ADAPTOR (FLANGE TO FIRE HOSE THREAD)



SEC. "D" - "D"

CROSS-SECTION

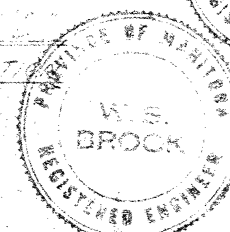
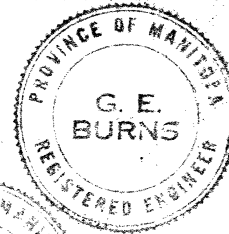
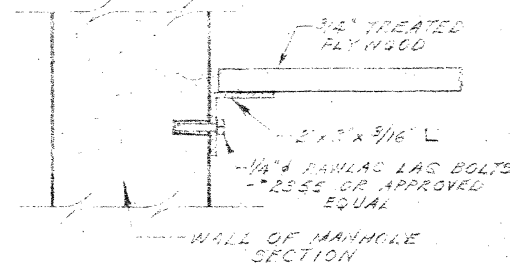


TABLE OF ELEVATIONS FOR 24" DIA AIR RELEASE CHAMBERS				
SIZE OF PIPE IN CHAMBER	LOCATION	E OF PIPE ELEV.	EXISTING GRADE ELEV.	FINISHED GRADE ELEV. "H"
24" DIA. PIPE	STA. 11+70	EL. 754.50'	EL. 762.00'	EL. 762.25' 7.65'
24" DIA. PIPE	STA. 61+60	EL. 748.80'	EL. 757.00'	EL. 757.25' 8.45'



DETAIL OF FLYWOOD ATTACHED TO WALL

SCALE - 3" = 1'-0"

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG
 WATERWORKS & WASTE DISPOSAL DIVISION
 N. S. BUBBIS - DIRECTOR

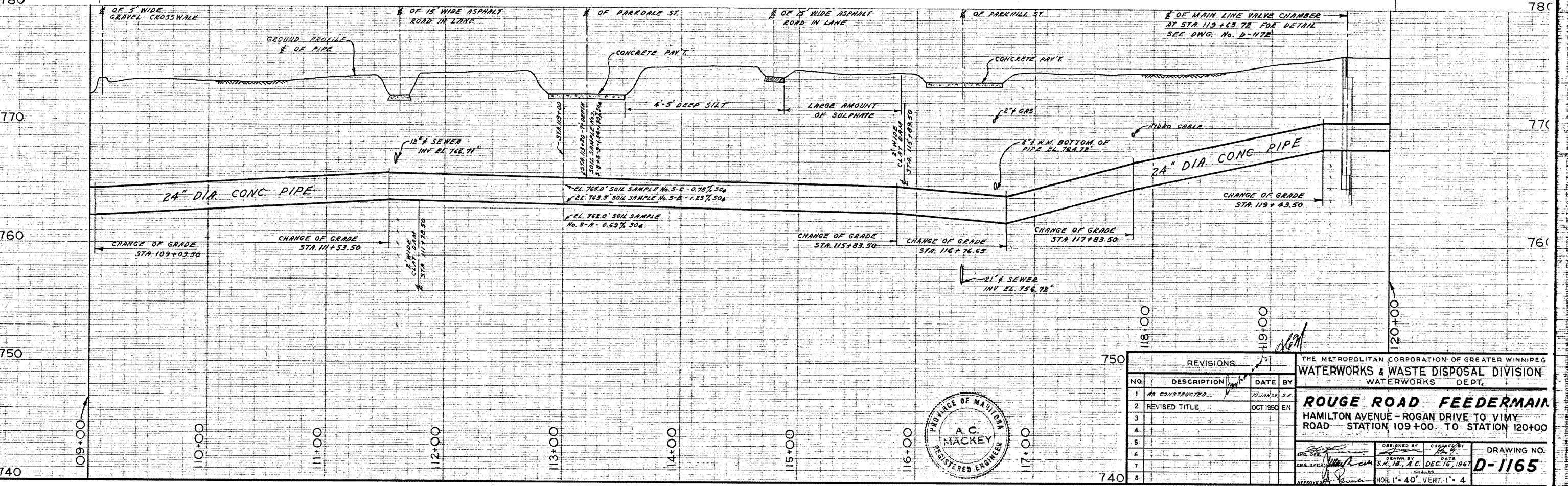
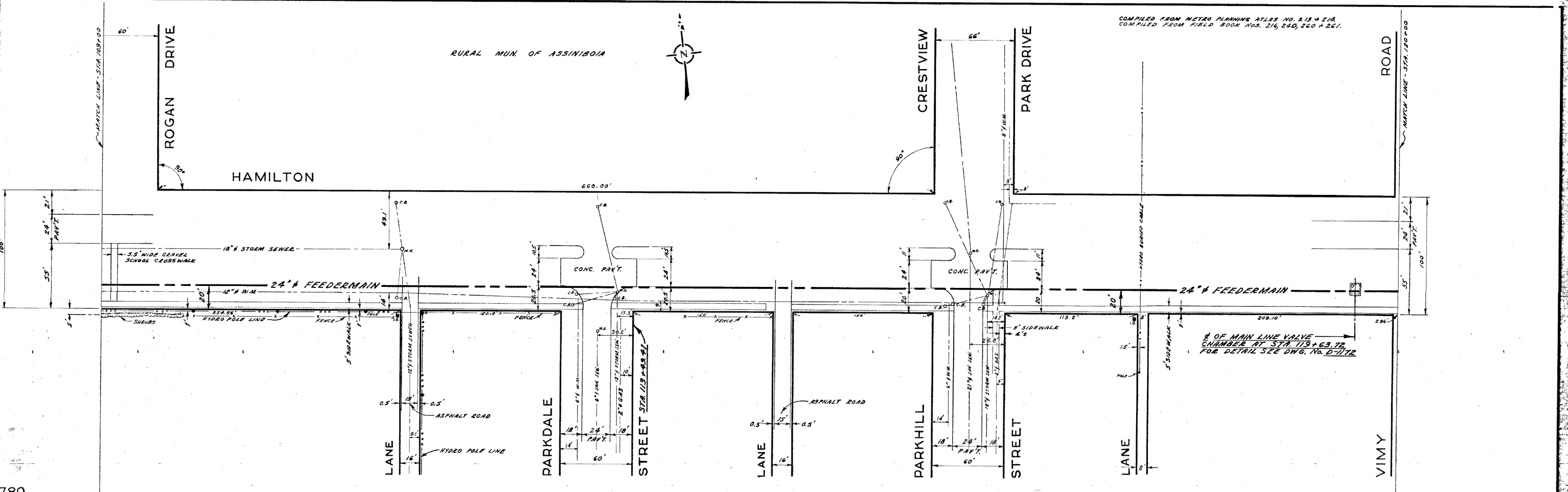
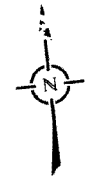
WATERWORKS DEPT
 DAKOTA EXTENSION FEEDERMAIN
 DETAIL OF 24" DIA. AIR RELEASE CHAMBER

DES. W. S. B. CHK'D. G. E. B.
 DRN. S. K. DATE 15 OCT. 64.
 ENG. DES. [Signature]
 ENG. WATERWORKS [Signature]
 APPROVED [Signature]

SCALES
 AS NOTED
 DRAWING NO.
C-489

COMPILED FROM METRO PLANNING ATLAS NO. 213 + 21A
COMPILED FROM FIELD BOOK NOS. 216, 240, 260 + 261.

RURAL MUN. OF ASSINIBOIA



REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	AS CONSTRUCTED	NOVEMBER 5, 1967	EN
2	REVISED TITLE	OCT 1960	EN
3			
4			
5			
6			
7			
8			

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG
WATERWORKS & WASTE DISPOSAL DIVISION
WATERWORKS DEPT.

ROUGE ROAD FEEDERMAIN
HAMILTON AVENUE - ROGAN DRIVE TO VIMY ROAD
STATION 109+00 TO STATION 120+00

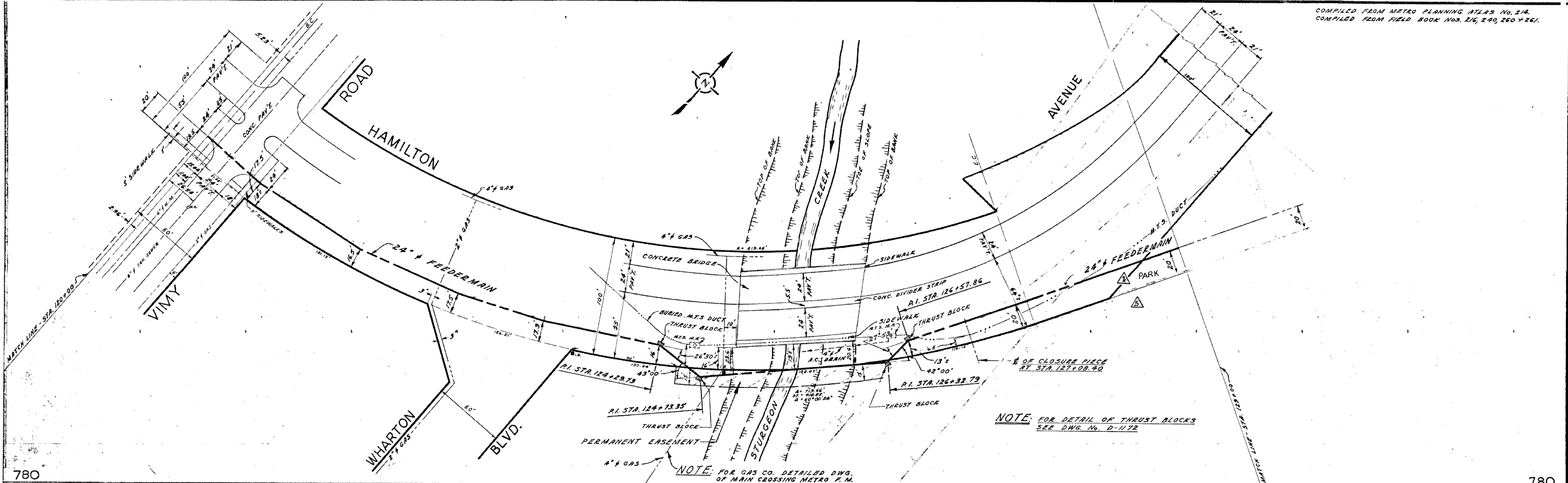
DESIGNED BY: [Signature]
DRAWN BY: S.K., H.C.
DATE: DEC. 16, 1967
SCALE: 1" = 40' VERT. 1" = 4'

DRAWING NO. **D-1165**



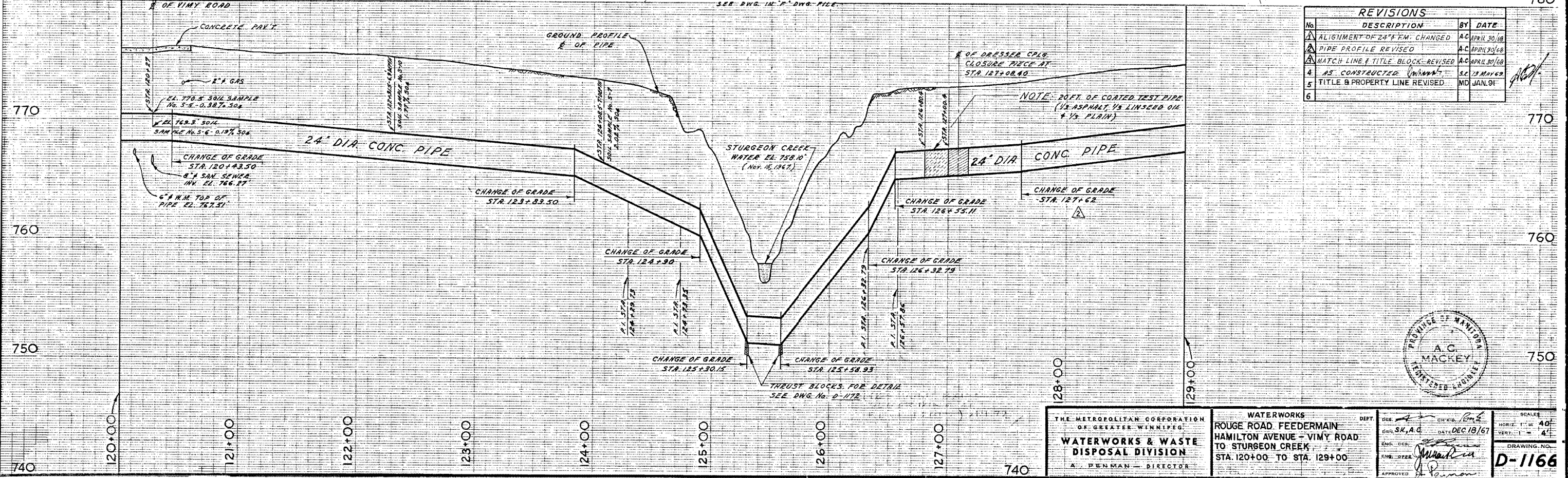
City of Winnipeg
W002300

D-1165



NOTE: FOR DETAIL OF THRUST BLOCKS
SEE DWG. No. D-1172

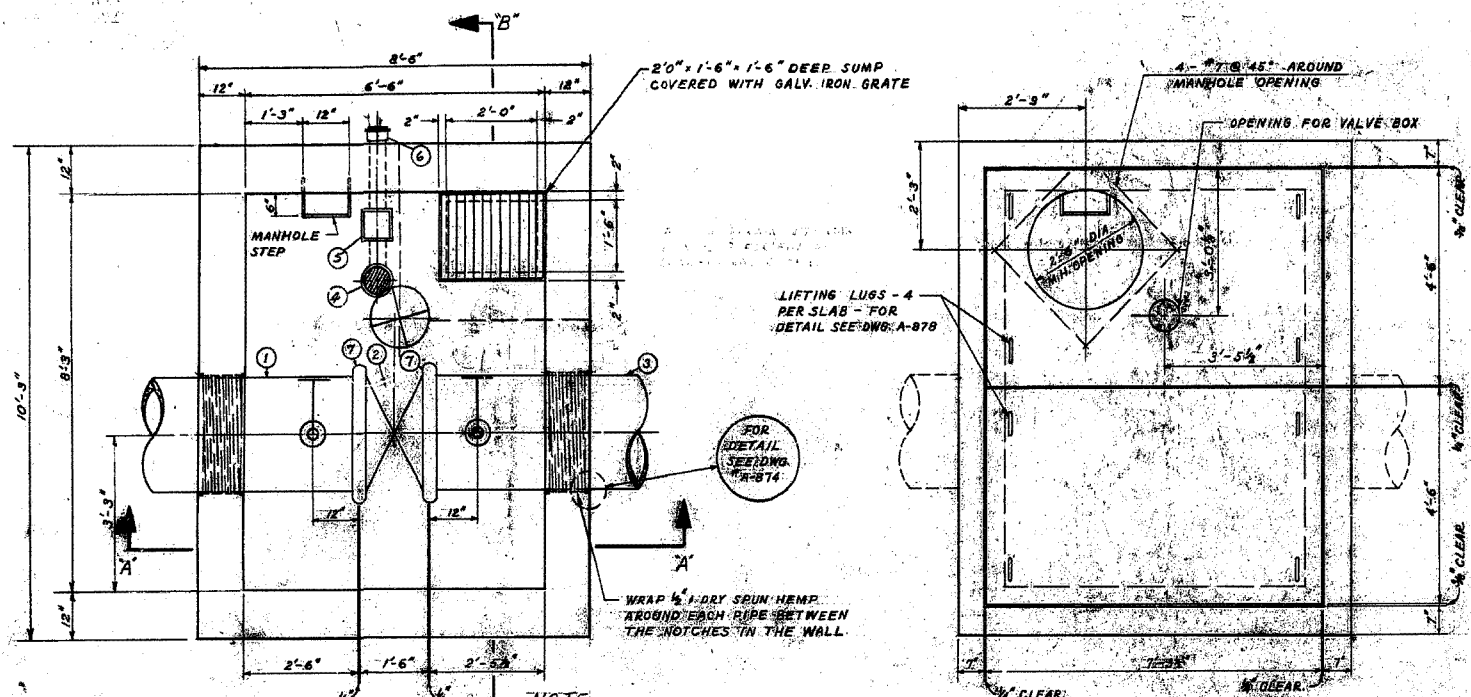
NOTE: FOR GAS CO. DETAILED DWG.
OF MAIN CROSSING METRO T.M.
SEE DWG. IN "F" DWG. FILE



REVISIONS		
No.	DESCRIPTION	BY DATE
1	ALIGNMENT OF 24" EM. CHANGED	A.C. APRIL 30/68
2	PIPE PROFILE REVISED	A.C. APRIL 30/68
3	MATCH LINE & TITLE BLOCK REVISED	A.C. APRIL 30/68
4	AS CONSTRUCTED (MINN.)	S.K. 13 MAY 69
5	TITLE & PROPERTY LINE REVISED	M.D. JAN. 91
6		



THE METROPOLITAN CORPORATION OF GREATER WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION A. PENMAN - DIRECTOR	DEPT. WATERWORKS	ENG. A.C. Mackey	SCALE HORIZ. 1" = 40' VERT. 1" = 4'
	PROJECT ROUGE ROAD FEEDERMAIN HAMILTON AVENUE - VIMY ROAD TO STURGEON CREEK	DATE DEC 18/67	DRAWING NO. D-1166
	STA. 120+00 TO STA. 129+00	APPROVED <i>[Signature]</i>	



FLOOR PLAN

ROOF PLAN

NOTE:
 VALVE CHAMBER AT STA. 61+68.52 HAS 4" PIT DRAIN CONNECTED TO SUMP ON POSTERIOR AND THIS SECTION IS INSTALLED 1'-4" AND 1'-10" WITH ROWS OF BRICKS TO M.H. FRAME 1'-0" DEPTH FROM TOP OF ROOF SLAB TO M.H. COVER.
 VALVE CHAMBER AT STA. 112+63.72 HAS 4" PIT DRAIN WITH PLUG. THEREFORE NOT CONNECTED TO SUMP AND CONTAINS 2' SUMP M.H. SECTION INSTALLED 1'-0" WITH NO BRICKS TO M.H. FRAME 1'-0" DEPTH FROM TOP OF SLAB TO M.H. COVER.

24" DIA. MAIN LINE VALVE CHAMBER

STATION	ELEV. $\frac{1}{2}$ OF PIPE
STATION 61+68.52	ELEV. 754.89'
STATION 112+63.72	ELEV. 759.16'

LIST OF MATERIALS

NO.	DESCRIPTION	QUANTITY
1	24" CONC. PIPE SPIGOT TO VICTAULIC 6' LONG	1
2	24" BUTTERFLY VALVE (MANSO VALVE) VICTAULIC BRAND 15" 1/2" LONG	1
3	6" LONG VICTAULIC TO BELL 6" LONG	1
4	4" 90° TRAP DRAIN WITH SCREW-ON COVER	1
5	4" BACKWATER VALVE	1
6	4" I.C. PIPE	1
7	24" STYLE #4 VICTAULIC COUPLING	2
8	2" BRONZE GATE VALVE - SCREWED ENDS	2
9	2" BRONZE NIPPLE - SCREWED ENDS	2
10	3" BRONZE NIPPLE - SCREWED ENDS	2
11	3" BRONZE GATE VALVE - SCREWED ENDS	2
12	3/4-90° BRONZE ELBOW - SCREWED ENDS	2

LIST OF THRUST BLOCKS

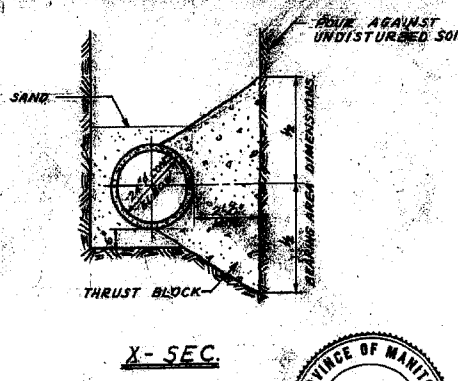
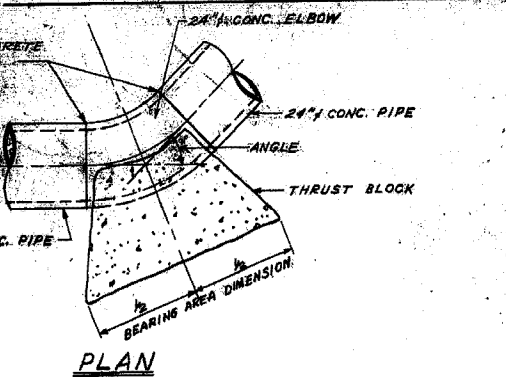
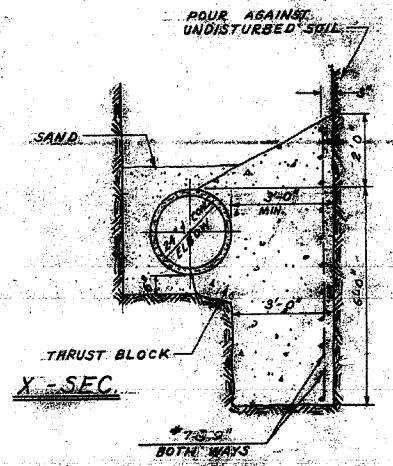
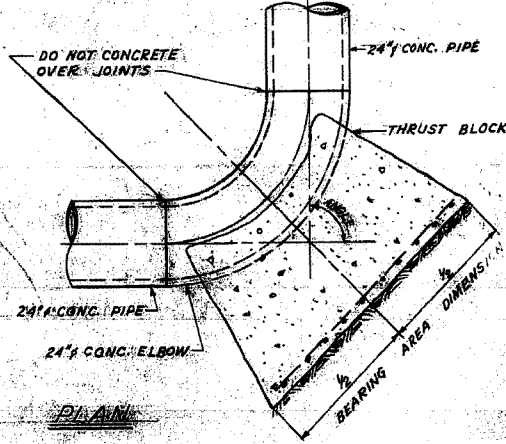
No.	LOCATION	ANGLE	BEARING AREA
1	P.I. STA. 33+03.60	5°00'00"	3'-0" x 2'-6"
2	P.I. STA. 34+28.86	5°00'00"	3'-0" x 2'-6"
3	P.I. STA. 61+28.51	75°07'00"	8'-0" x 7'-0"
4	P.I. STA. 64+28.08	35°00'00"	5'-0" x 4'-9"
5	P.I. STA. 64+38.54	45°00'00"	6'-0" x 5'-6"
6	P.I. STA. 88+00.59	74°58'50"	8'-0" x 7'-0"
7	P.I. STA. 105+15.30	7°30'00"	3'-0" x 2'-6"
8	P.I. STA. 105+36.70	7°30'00"	5'-0" x 2'-6"
9	P.I. STA. 124+28.73	26°30'00"	3'-0" x 4'-9"
10	P.I. STA. 124+38.51	25°00'00"	3'-0" x 2'-6"
11	P.I. STA. 125+32.70	42°00'00"	4'-0" x 7'-0"
12	P.I. STA. 125+38.86	27°58'00"	3'-0" x 4'-9"
13	STA. 125+30.15 (CHAMBER OF GRADE)	15°00'00"	2'-0" x 2'-6"
14	STA. 125+30.93 (CHAMBER OF GRADE)	15°00'00"	2'-0" x 2'-6"
15	P.I. STA. 125+36.08	18°00'00"	3'-0" x 2'-6"
16	P.I. STA. 125+38.86	18°00'00"	2'-0" x 2'-6"
17	P.I. STA. 125+38.77	46°00'00"	6'-0" x 2'-6"
18	P.I. STA. 125+36.93	32°00'00"	4'-0" x 2'-6"
19	P.I. STA. 125+30.01	72°00'00"	4'-0" x 2'-6"

NOTE:
 BUILDING PAPER PLACED BETWEEN CONCRETE PIPE AND THRUST BLOCK FOR T.B. NO. 13 AND NO. 14.

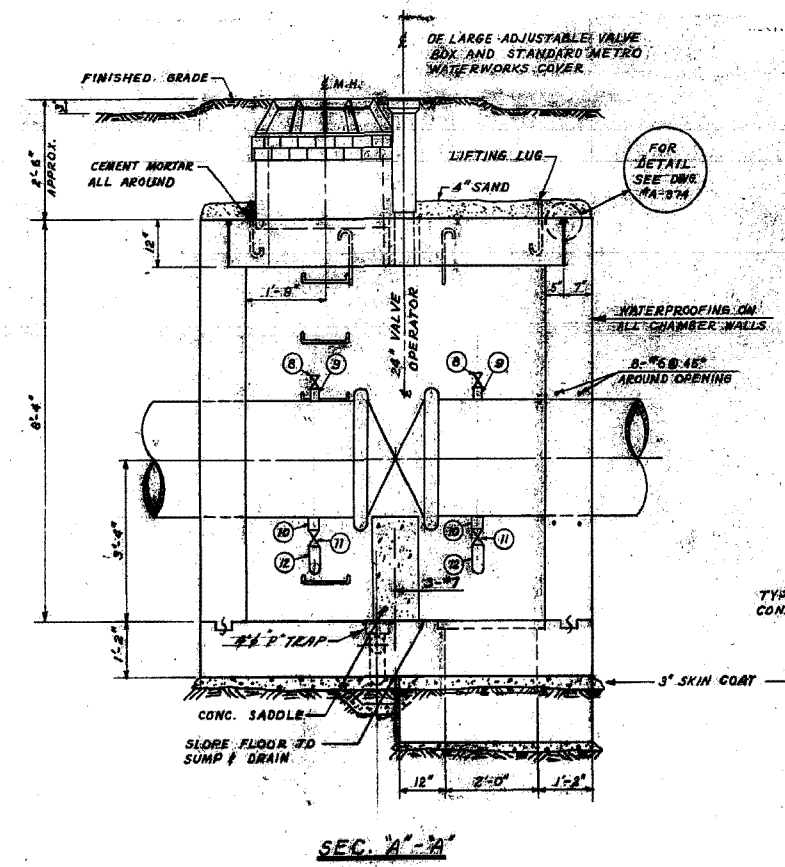
NOTE: BUILDING PAPER PLACED BETWEEN VALVES AND CONCRETE SADDLES.

NOTE: PLACE BUILDING PAPER BETWEEN ALL VALVES AND SADDLES AND CONCRETE SADDLES.

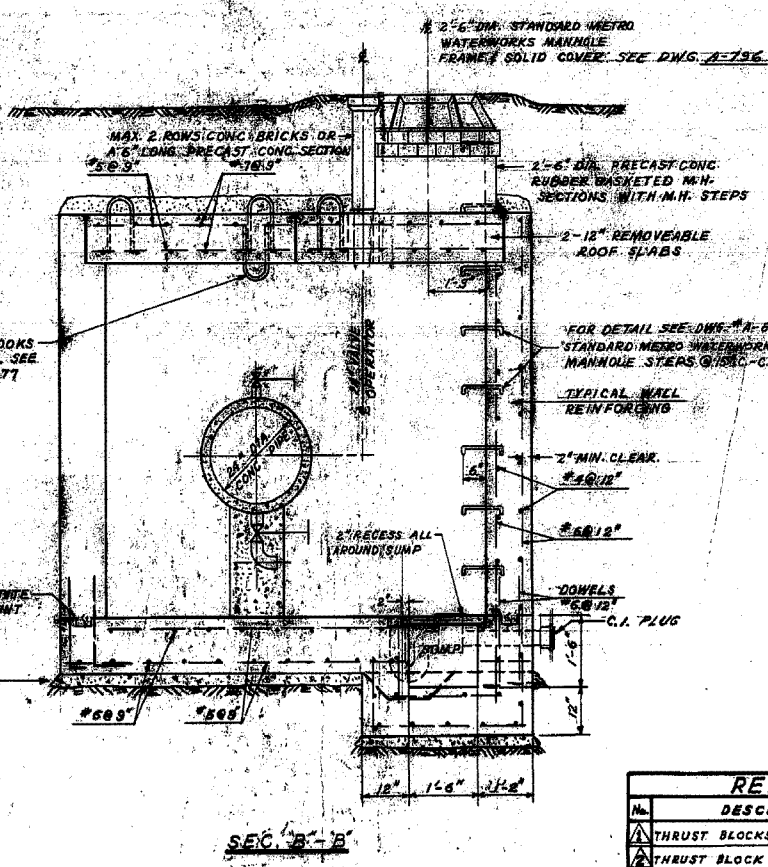
TYPICAL THRUST BLOCK DETAIL FOR 24" 70° TO 90° CONC. ELBOWS
 SCALE: 3/8"=1'-0"



TYPICAL THRUST BLOCK DETAILS FOR 24" 45° OR LESS - CONC. ELBOWS
 SCALE: 3/8"=1'-0"



SEC. A-A



SEC. B-B

TYPICAL 24" DIA. MAIN LINE VALVE CHAMBER
 SCALE: 1/4"=1'-0"

REVISIONS

No.	DESCRIPTION	BY	DATE
1	THRUST BLOCKS NO. 13 & 14 DELETED	A.C.	APRIL 1968
2	THRUST BLOCK NO. 15 RELOCATED	A.C.	APRIL 1968
3	AS CONSTRUCTED	S.E.	MAY 1968
4			
5			

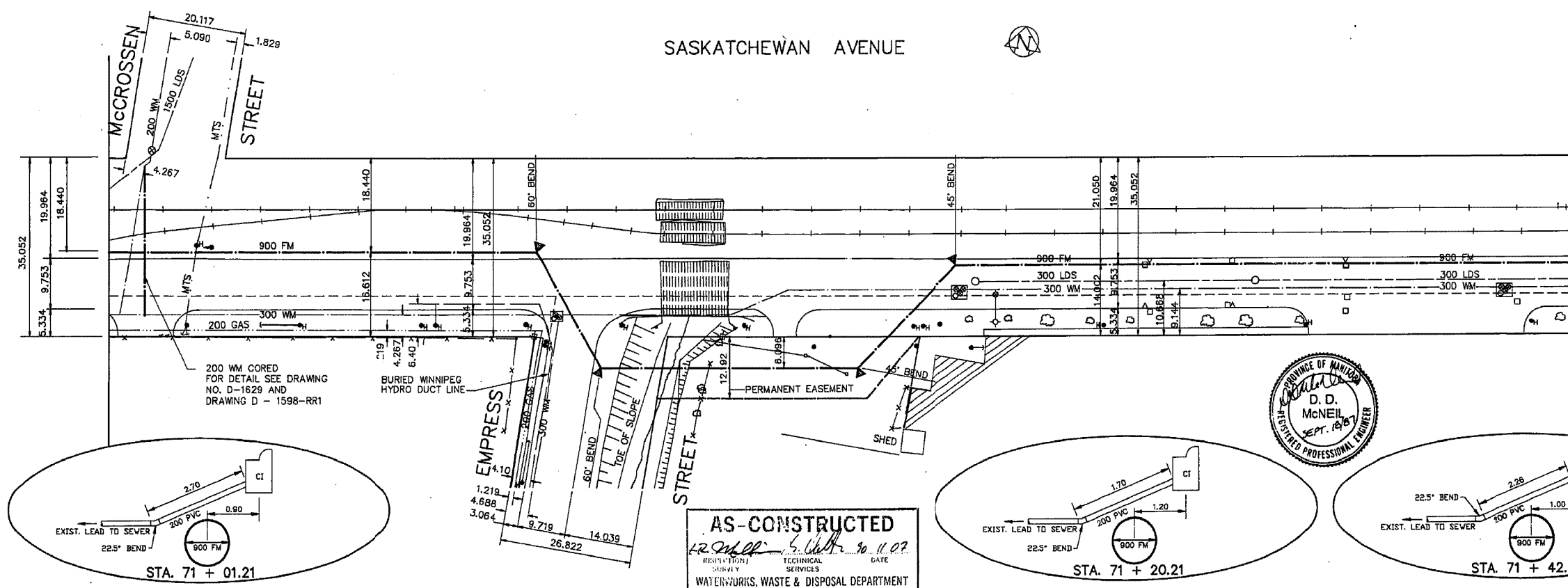
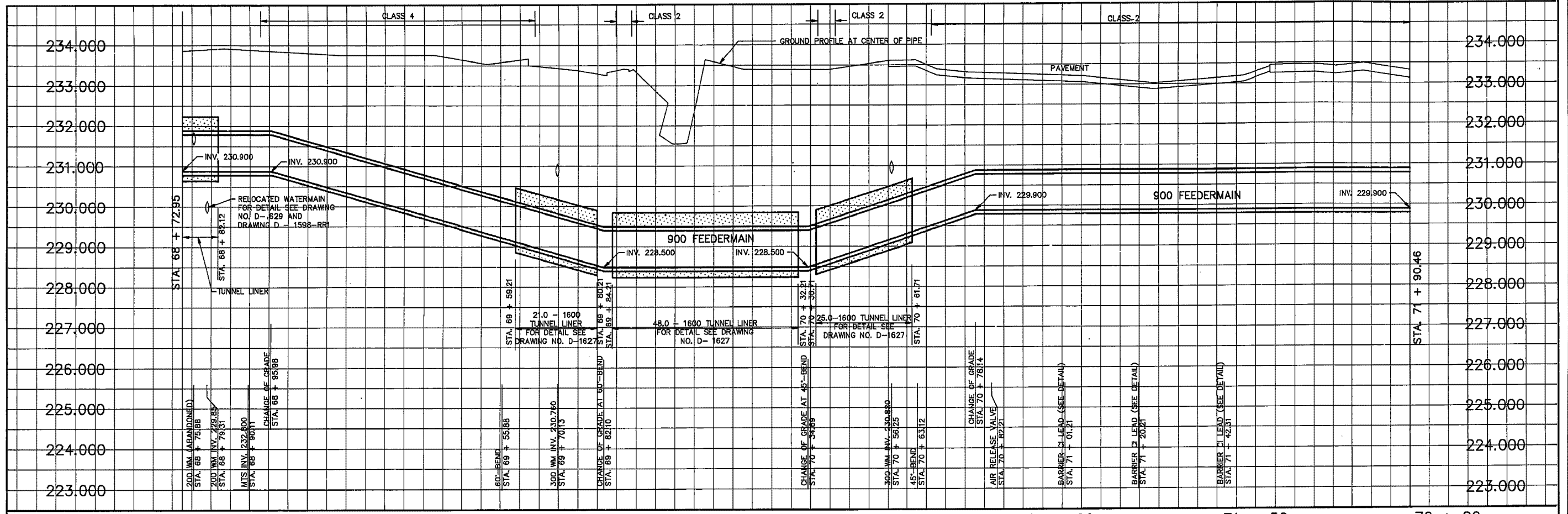
THE METROPOLITAN CORPORATION OF GREATER WINNIPEG
 WATERWORKS & WASTE DISPOSAL DIVISION
 A. PENMAN - DIRECTOR

WATERWORKS DEPT.
ROUGE ROAD FEEDERMAIN
 MAIN LINE VALVE CHAMBERS & THRUST BLOCK DETAILS

DESIGNED BY: [Signature]
 DATE: JAN 10/68
 ENGR. DES: [Signature]
 ENGR. OPR: [Signature]
 APPROVED: [Signature]

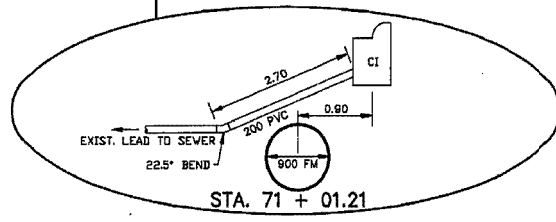
SCALE: AS SHOWN
 DRAWING NO. D-1172



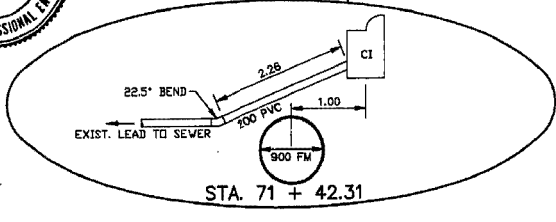
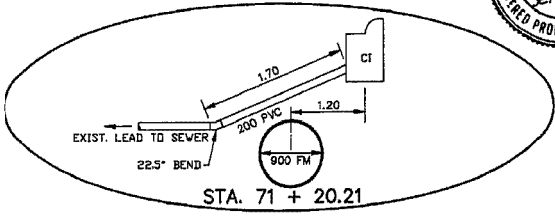


1W-404

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



AS-CONSTRUCTED
12/24/86
RESURVEYED
DATE
WATERWORKS, WASTE & DISPOSAL DEPARTMENT



EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PROFILE	PROPOSED
200 WM	WATERMAIN	200 WM	SL, HYDRO	150 WM	WATERMAIN	150 WM		
HYDRANT VALVE		MTS	CONCRETE	HYDRANT VALVE				
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		
MANHOLE		FENCE		6" PROFILE				
CATCH BASIN		POLE - HYDRO, MTS						
CURB INLET		RAILWAY SIGN						
JUNCTIONS		GUY ANCHOR						
CULVERT		LIGHT STANDARD						
50 GAS	GAS	50 GAS	TREE					

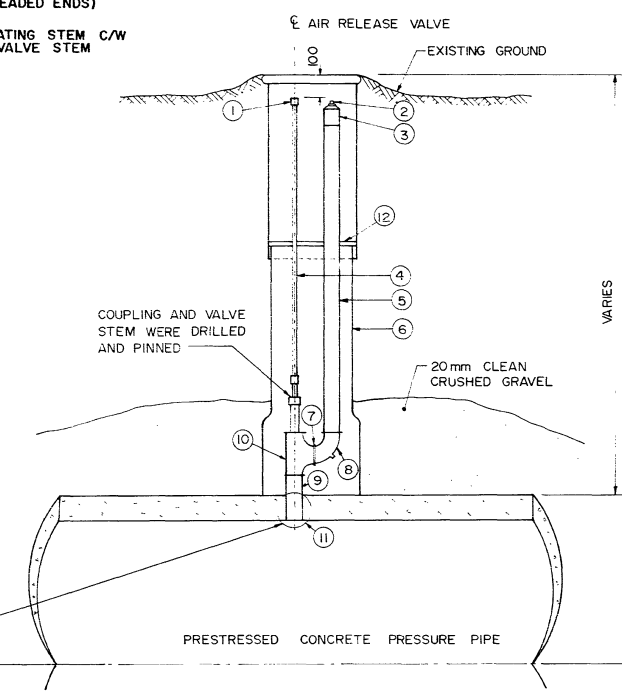
LOCATION APPROVED
UNDERGROUND STRUCTURES
DATE
NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES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

The City of Winnipeg
Works & Operations Division
Waterworks, Waste & Disposal Department
DESIGNED BY RAS,DDM
CHECKED BY RAS,DDM
DRAWN BY REF, TM
APPROVED BY
HOR. SCALE 1:500
VERTICAL 1:50
OCTOBER, 1986

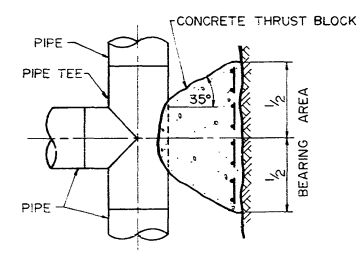
ENGINEER'S SEAL
PROVINCE OF MANITOBA
D. D. McNEIL
REGISTERED PROFESSIONAL ENGINEER
CONSULTANT DRAWING NO.

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
WATERWORKS WASTE AND DISPOSAL DEPARTMENT
WEST END FEEDERMAIN
SASKATCHEWAN AVE. - McCROSSEN ST.
TO 270 METERS EAST
STA. 68 + 72.95 TO STA. 71 + 90.46
CITY DRAWING NUMBER
SHEET OF
D-1599

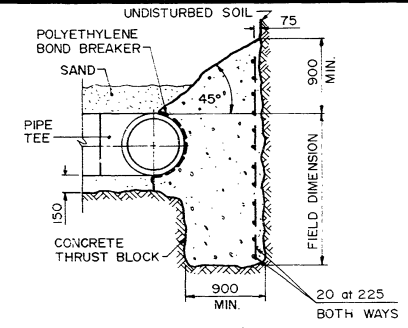
- ① 25 OPERATING NUT
- ② 32 CAST BRONZE OR BRASS PLUG (FINGER TIGHT)
- ③ 32 CAST BRONZE OR BRASS COUPLING (THREADED ENDS)
- ④ 19 TYPE 316 STAINLESS STEEL VALVE OPERATING STEM C/W THREADED COUPLING SIZED FOR ITEM ⑩ VALVE STEM
- ⑤ 32 COPPER PIPE (FIELD MEASURED)
- ⑥ STANDARD CITY OF WINNIPEG ADJUSTABLE VALVE BOX
- ⑦ 32 CLOSE BRONZE OR BRASS NIPPLE
- ⑧ 32 90° CAST BRONZE OR BRASS STREET ELBOW WITH 5 DRAINING HOLES
- ⑨ 32 CAST BRONZE OR BRASS NIPPLE 75 LONG (THREADED)
- ⑩ 32 CLASS 150 BRONZE, ANGLE GLOBE VALVE (CRANE FIG. 17 OR APPROVED EQUAL)
- ⑪ 32 THREADED OUTLET (IRON PIPE THREADS)
- ⑫ SUPPORT WASHER



STANDARD AIR RELEASE VALVE DETAIL - N.T.S.

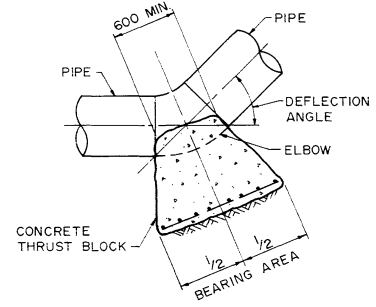


PLAN

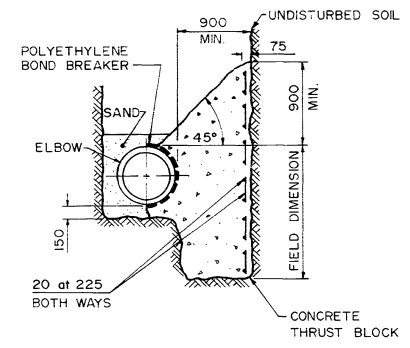


TEE

CROSS-SECTION



PLAN

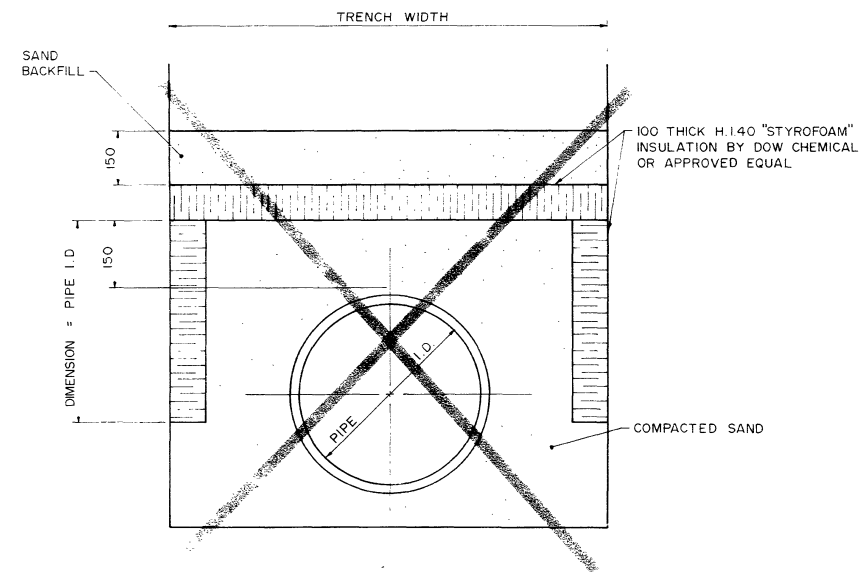


ELBOW

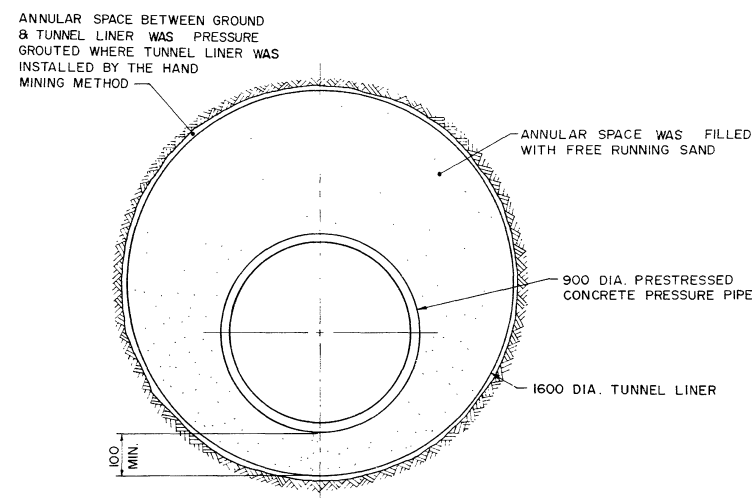
CROSS-SECTION

TYPICAL THRUST BLOCK DETAILS FOR ELBOWS AND TEES - N.T.S.

LIST OF THRUST BLOCKS			
LOCATION (APPROX.)	PIPE DIA.	ANGLE	BEARING AREA
STA. 0+39.20	900	45°	7.25 sq. metres
STA. 0+55.37	900	45°	7.25 sq. metres
STA. 3+79.22	900	45°	7.25 sq. metres
STA. 4+69.24	900	45°	7.25 sq. metres
STA. 18+67.14	900	45°	7.25 sq. metres
STA. 18+75.76	900	45°	7.25 sq. metres
STA. 34+67.35	900	45°	7.25 sq. metres
STA. 34+80.28	900	45°	7.25 sq. metres
STA. 37+96.77	900	45°	7.25 sq. metres
STA. 38+10.96	900	45°	7.25 sq. metres
STA. 38+76.12	900	45°	7.25 sq. metres
STA. 38+89.16	900	45°	7.25 sq. metres
STA. 48+57.58	900	60°	9.46 sq. metres
STA. 49+00.73	900	30°	4.90 sq. metres
STA. 54+69.49	900	45°	7.25 sq. metres
STA. 55+04.01	900	35°	5.70 sq. metres
STA. 66+37.58	900	22°30'	3.69 sq. metres
STA. 66+60.28	900	22°30'	3.69 sq. metres
STA. 69+66.67	900	60°	9.46 sq. metres
STA. 69+92.89	900	60°	9.46 sq. metres
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STA. 70+73.91	900	45°	7.25 sq. metres
STA. 75+26.35	900	45°	7.25 sq. metres
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STA. 79+28.94	900	45°	7.25 sq. metres
STA. 80+67.36	900	58°	9.18 sq. metres
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STA. 87+48.89	900	33°05'	5.39 sq. metres
STA. 87+57.48	900	45°	7.25 sq. metres
STA. 93+49.31	900	45°	7.25 sq. metres
STA. 93+56.38	900	45°	7.25 sq. metres
STA. 95+53.72	900	45°	7.25 sq. metres
STA. 95+60.79	900	45°	7.25 sq. metres
STA. 96+76.05	900	46°51'	7.53 sq. metres
STA. 96+82.88	900	46°51'	7.53 sq. metres
STA. 96+92.26	900	DEAD END	9.46 sq. metres



INSULATION DETAIL - N.T.S.

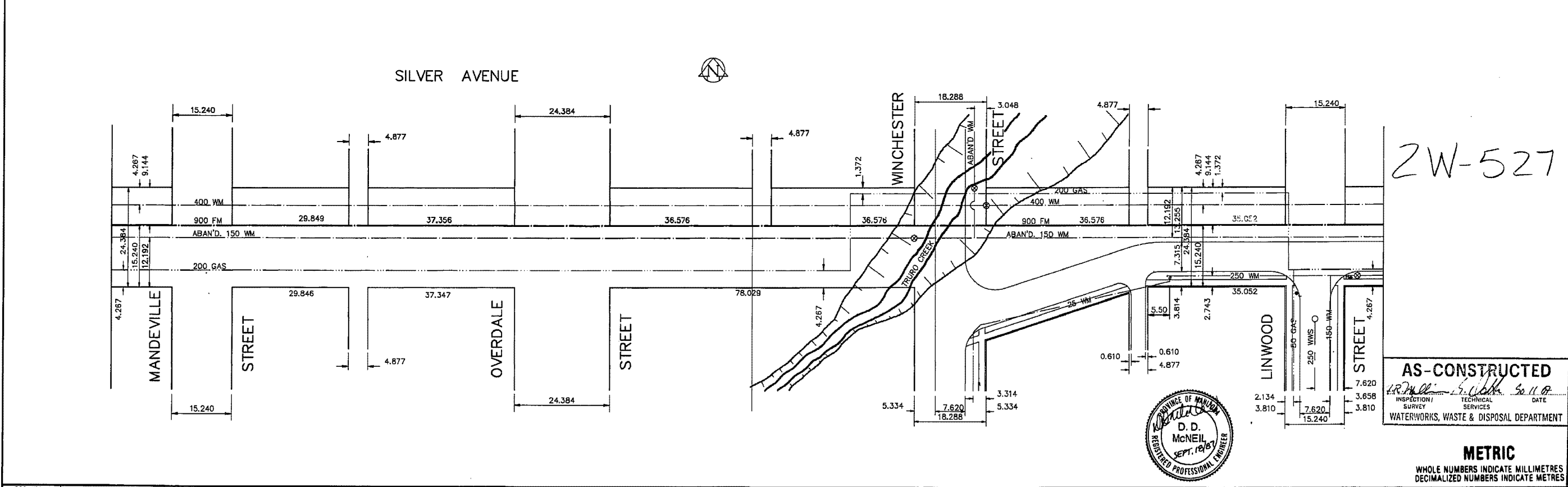
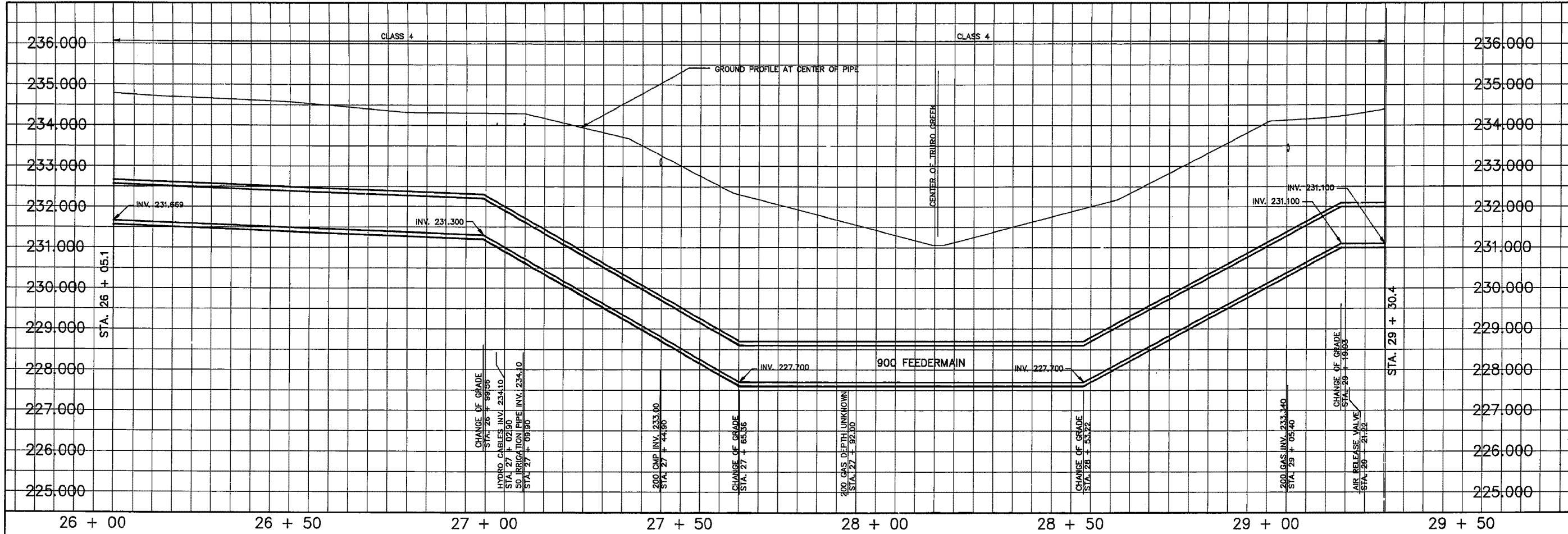


TYPICAL TUNNEL LINER DETAIL - N.T.S.



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

B.M. ELEV.		WORKS & OPERATIONS DIVISION WATERWORKS, WASTE & DISPOSAL DEPARTMENT	ENGINEER'S SEAL 	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION	CITY DRAWING NUMBER SHEET OF
DESIGNED D.D.M., R.A.S. BY					
DRAWN BY J.D.P.	APPROVED BY [Signature]	RELEASED FOR CONSTRUCTION DATE 17/09/15			
NO REVISIONS	DATE 89.09.13	DATE AUGUST /87	CONSULTANT DRAWING NO.		



2W-527

AS-CONSTRUCTED
 INSPECTED BY: *[Signature]* DATE: *[Date]*
 TECHNICAL SERVICES
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT



METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

200 WM	WATERMAIN	200 WM	SL, HYDRO	300 LWS	WATERMAIN	150 WM
HYDRANT	VALVE	575 LWS	CONCRETE	300 LWS	HYDRANT	300 LWS
575 LWS	LAND DRAINAGE SEWER	375 WWS	PROPERTY LINE	250 WWS	VALVE	300 LWS
375 WWS	WASTEWATER SEWER	MANHOLE	SURVEY BAR	250 WWS	LAND DRAINAGE SEWER	250 WWS
MANHOLE	CATCH BASIN	CURB INLET	JUNCTIONS	CULVERT	50 GAS	50 GAS
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING

LOCATION APPROVED		B.M. ELEV.
UNDERGROUND STRUCTURES		
SUPV. U/C 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.		

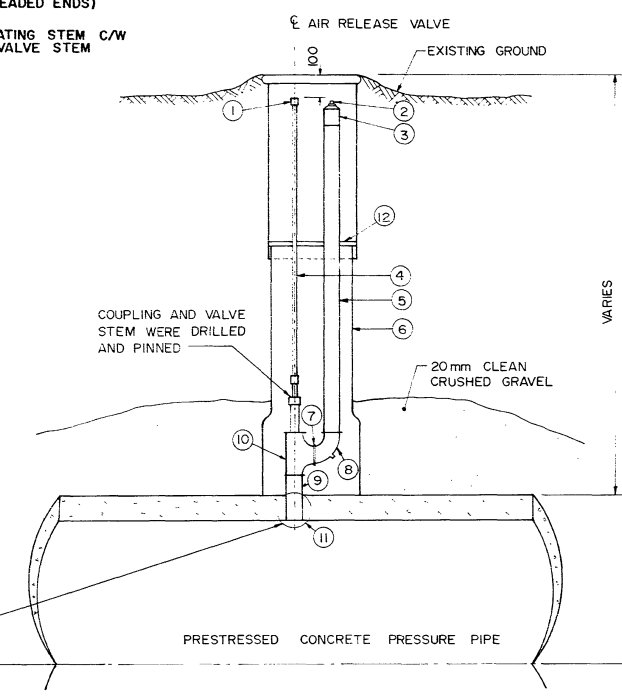
The City of Winnipeg		ENGINEER'S SEAL	
Works & Operations Division		D. D. McNEIL	
Waterworks, Waste & Disposal Department		SEPT. 1987	
DESIGNED BY: RAS,DDM	CHECKED BY: RAS,DDM	CONSULTANT DRAWING NO.	
DRAWN BY: REF, TM	APPROVED BY: <i>[Signature]</i>	DATE: OCTOBER, 1986	
HOR. SCALE 1:500		VERTICAL 1:50	

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

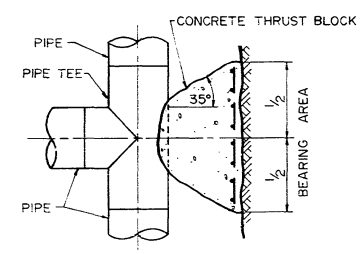
WEST END FEEDERMAIN
 SILVER AVE. - BELVIDERE ST. TO
 LINWOOD ST.
 STA. 26 + 05.1 TO STA. 29 + 30.4

CITY DRAWING NUMBER: **D-1584**

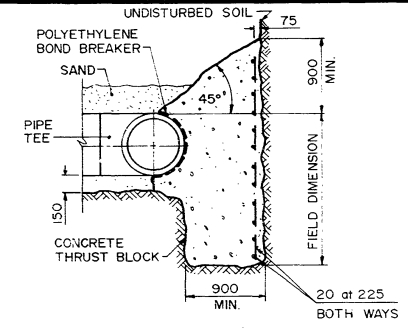
- ① 25 OPERATING NUT
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STANDARD AIR RELEASE VALVE DETAIL - N.T.S.

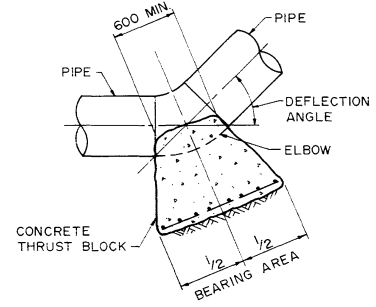


PLAN

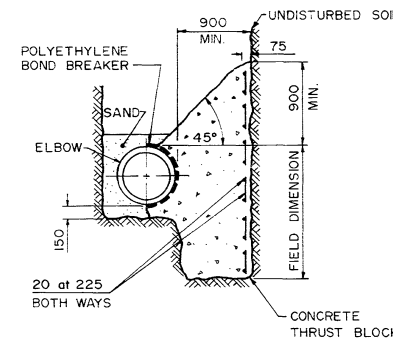


TEE

CROSS-SECTION



PLAN

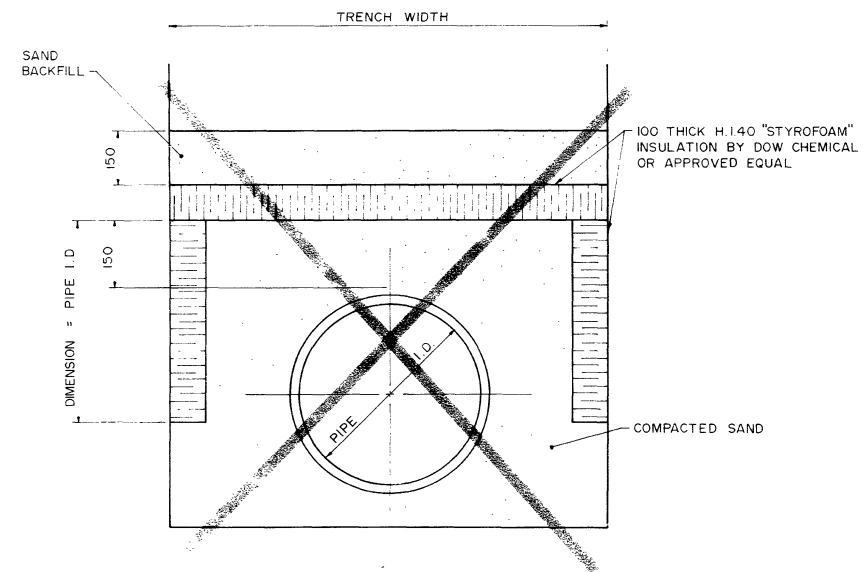


ELBOW

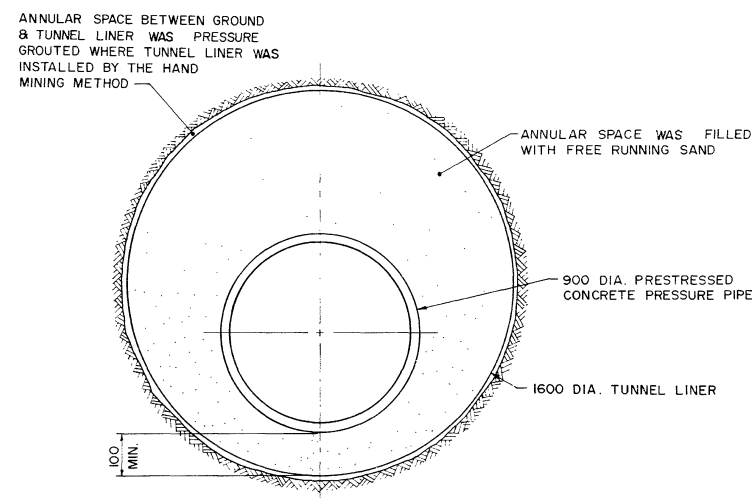
CROSS-SECTION

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INSULATION DETAIL - N.T.S.

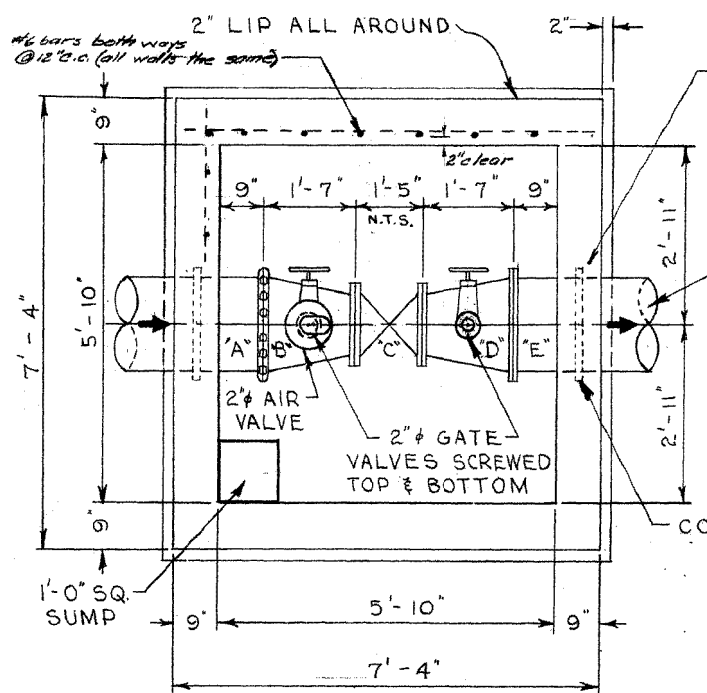


TYPICAL TUNNEL LINER DETAIL - N.T.S.

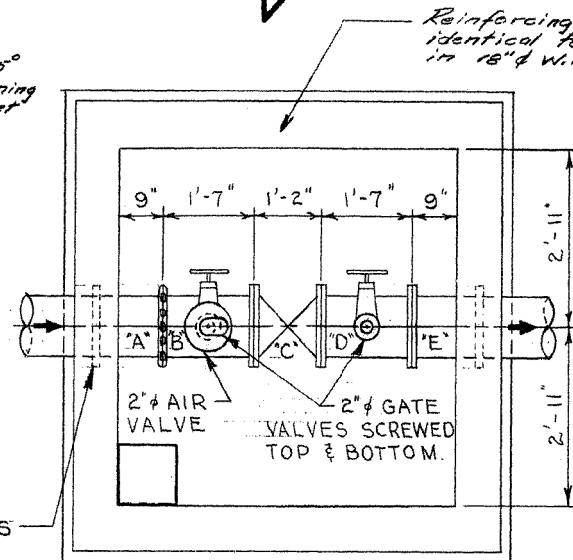


METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

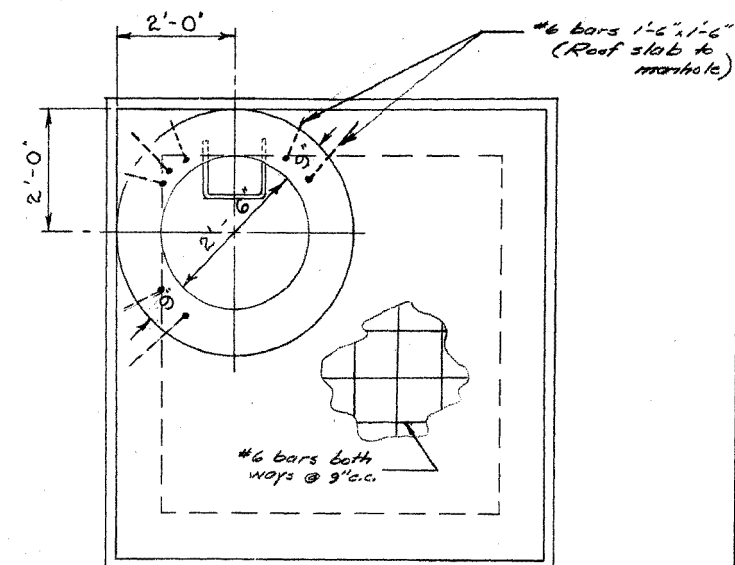
B.M. ELEV.		WORKS & OPERATIONS DIVISION WATERWORKS, WASTE & DISPOSAL DEPARTMENT	ENGINEER'S SEAL 	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION	CITY DRAWING NUMBER SHEET OF
DESIGNED D.D.M., R.A.S. BY					
DRAWN BY J.D.P.	APPROVED BY [Signature]	RELEASED FOR CONSTRUCTION DATE 17/09/87			
01 REVISED TO ASBUILT 89.09.13 TM					
NO REVISIONS					



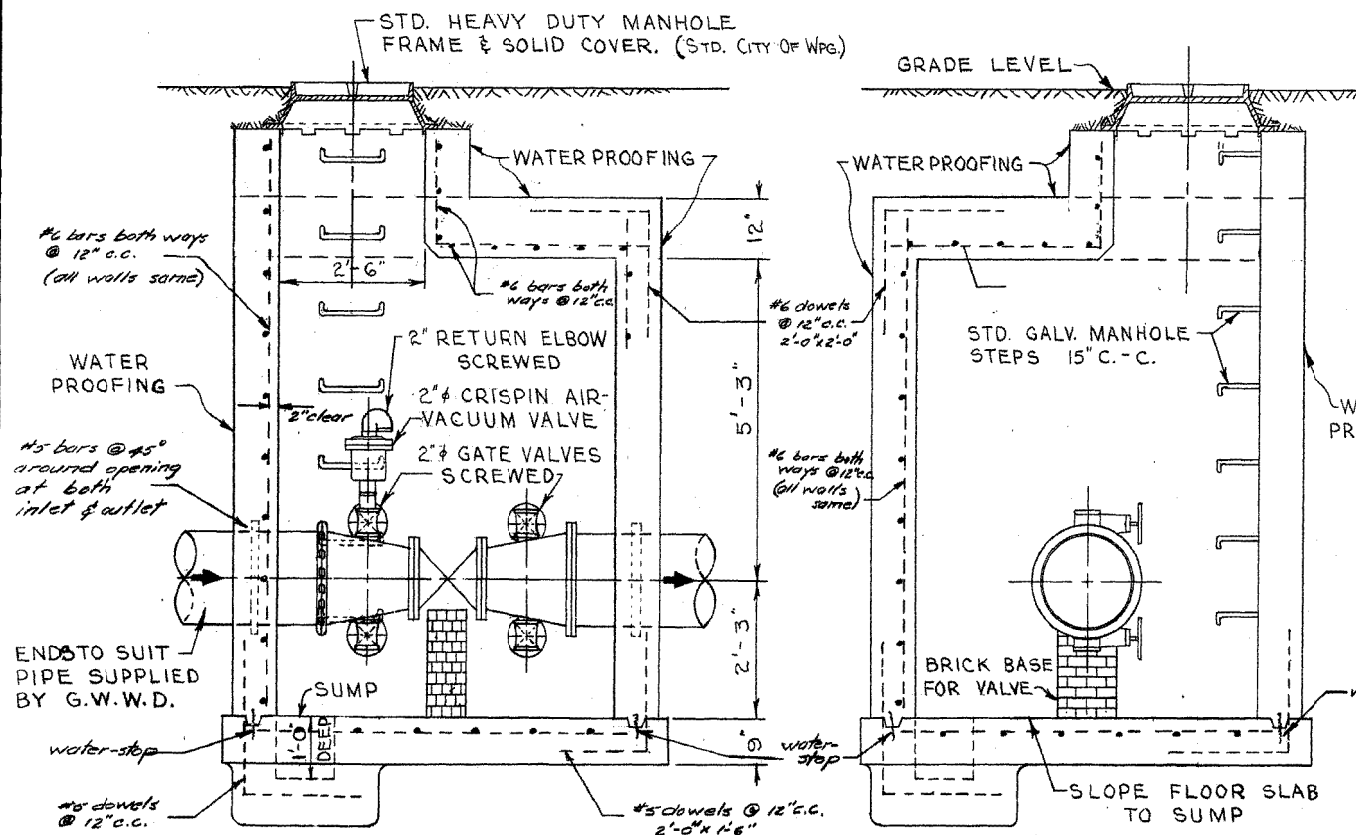
FLOOR PLAN
FOR 18" DIA. WATERMAIN



FLOOR PLAN
FOR 12" DIA. WATERMAIN
(SAME CHAMBER DIMENSIONS AS)
(FOR 18" WATERMAIN)



ROOF PLAN
FOR 18" OR 12" DIA. WATERMAIN



LONGITUDINAL SECTION
FOR 18" OR 12" DIA. WATERMAIN

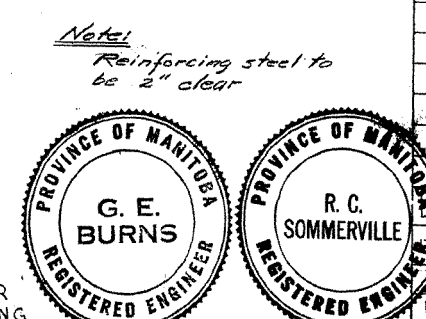
X-SECTION
FOR 18" OR 12" DIA. WATERMAIN

LIST OF MATERIALS FOR 18" WATERMAIN

ITEM	DESCRIPTION	NO. REQ'D
A	18" C.I. PIPE - ENDS TO SUIT	1
B	18" x 16" REDUCER - VICT. CPLG. TO FLGE.	1
C	16" GEARED GATE VALVE FLGED. (N.R.S.)	1
D	18" x 12" REDUCER FLGED.	1
E	18" C.I. PIPE - ENDS TO SUIT.	1
	2" CRISPIN AIR-VACUUM VALVE SCREWED.	1
	2" RETURN ELBOW SCREWED.	1
	2" BRASS GATE VALVE SCREWED WITH NIPPLES	4

LIST OF MATERIALS FOR 12" WATERMAIN

ITEM	DESCRIPTION	NO. REQ'D
A	12" C.I. PIPE - ENDS TO SUIT.	1
B	12" C.I. PIPE - VICT. CPLG. TO FLGE.	1
C	12" GATE VALVE FLGED. (N.R.S.)	1
D	12" C.I. PIPE FLGED.	1
E	12" C.I. PIPE - ENDS TO SUIT.	1
	2" CRISPIN AIR-VACUUM VALVE SCREWED	1
	2" RETURN ELBOW SCREWED.	1
	2" BRASS GATE VALVE SCREWED WITH NIPPLES	4
	1-18" OR 12" VICTAULIC COUPLING REQUIRED.	



NOTE:
PIPE THROUGH CHAMBER WALLS SHALL BE C.I. OR STEEL. A.C. PIPE WILL NOT BE ALLOWED.

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	5.6 FEET ADDED TO STA. CHAINAGE.	30 June 60	S.K.

GREATER WINNIPEG WATER DISTRICT MUNICIPAL WATERMAINS

HANEY - MORAY WATERMAIN

GATE VALVE CHAMBER

@ STA. 62 + 55.6

APPROVED BY: *G.E. Burns* CHIEF ENGINEER

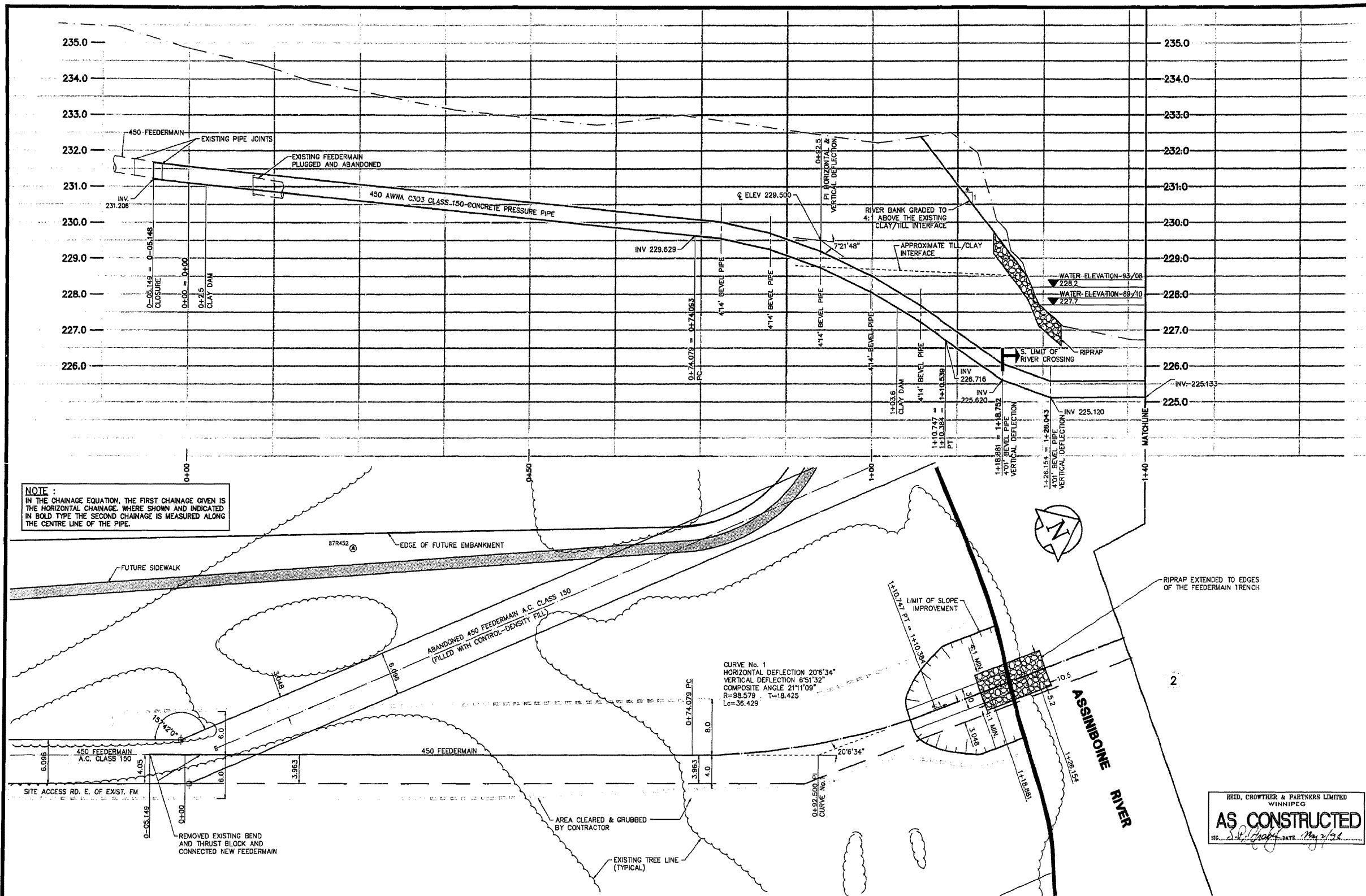
DESIGNED BY: NWS. CHECKED BY: ECS

DRAWN BY: S.K. DATE: 16 JUNE 60

SCALE: 1/2" INCH = 1'-0" FT. OTHERWISE AS NOTED.

DRAWING NO. **C-451**

File #
FE10862



NOTE:
IN THE CHAINAGE EQUATION, THE FIRST CHAINAGE GIVEN IS THE HORIZONTAL CHAINAGE. WHERE SHOWN AND INDICATED IN BOLD TYPE THE SECOND CHAINAGE IS MEASURED ALONG THE CENTRE LINE OF THE PIPE.

CURVE No. 1
HORIZONTAL DEFLECTION 20°34'
VERTICAL DEFLECTION 6°51'32"
COMPOSITE ANGLE 21°11'09"
R=98.579 T=18.425
Lc=36.429

REID, CROWTHER & PARTNERS LIMITED
WINNIPEG
AS CONSTRUCTED
DATE: May 2/94

EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PROFILE	PROPOSED
	150mm W.M. WATERMAIN HYDRANT VALVE			HYDRO M.T.S. CONCRETE ASPHALT PROPERTY LINE SURVEY BAR ELEVATION (32.750)			150mm W.M. WATERMAIN HYDRANT VALVE	
	300mm L.D.S. LAND DRAINAGE SEWER MANHOLE			250mm W.W.S. WASTEWATER SEWER MANHOLE			300mm L.D.S. LAND DRAINAGE SEWER MANHOLE	
	250mm W.W.S. WASTEWATER SEWER MANHOLE			CATCH BASIN			250mm W.W.S. WASTEWATER SEWER MANHOLE	
	CURB INLET			JUNCTIONS			250mm W.W.S. WASTEWATER SEWER MANHOLE	
	CULVERT			SIDEWALK RAMP			250mm W.W.S. WASTEWATER SEWER MANHOLE	
	GAS			CONCRETE SIDEWALK FENCE			250mm W.W.S. WASTEWATER SEWER MANHOLE	

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.

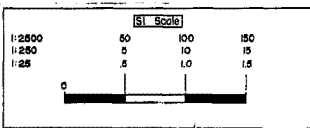
B.M. 39-048 ELEV. 237.184	N. SIDE OF PORTAGE IN MIDWAY OF MURRAY ST. TRLT. ON TOP OF 0.25m x 2.4m IRON PIPE 0.5m WALL, PORTAGE & 10.0m W.C. MURRAY	Reid Crowther Brid Crowther & Partners Ltd. Consulting Engineers	DESIGNED BY: BAM/GSK CHECKED BY: BAM DRAWN BY: GSK APPROVED BY: BAM HOR. SCALE: 250 VERTICAL: 50 DATE: 93-08-28
D AS CONSTRUCTED	34.05.02	GSK	
C ISSUED FOR TENDER	33.09.15	DED	
B ISSUED FOR CITY REVIEW	33.08.24	GSK	
A ISSUED FOR APPROVAL	33.08.13	GSK	
NO. REVISIONS	DATE	BY	DATE

ENGINEER'S SEAL
PROVINCE OF MANITOBA
DESIGN ORIGINAL
STAMPED BY
B.A. MORTON
AUG. 16/93
REGISTERED PROFESSIONAL ENGINEER

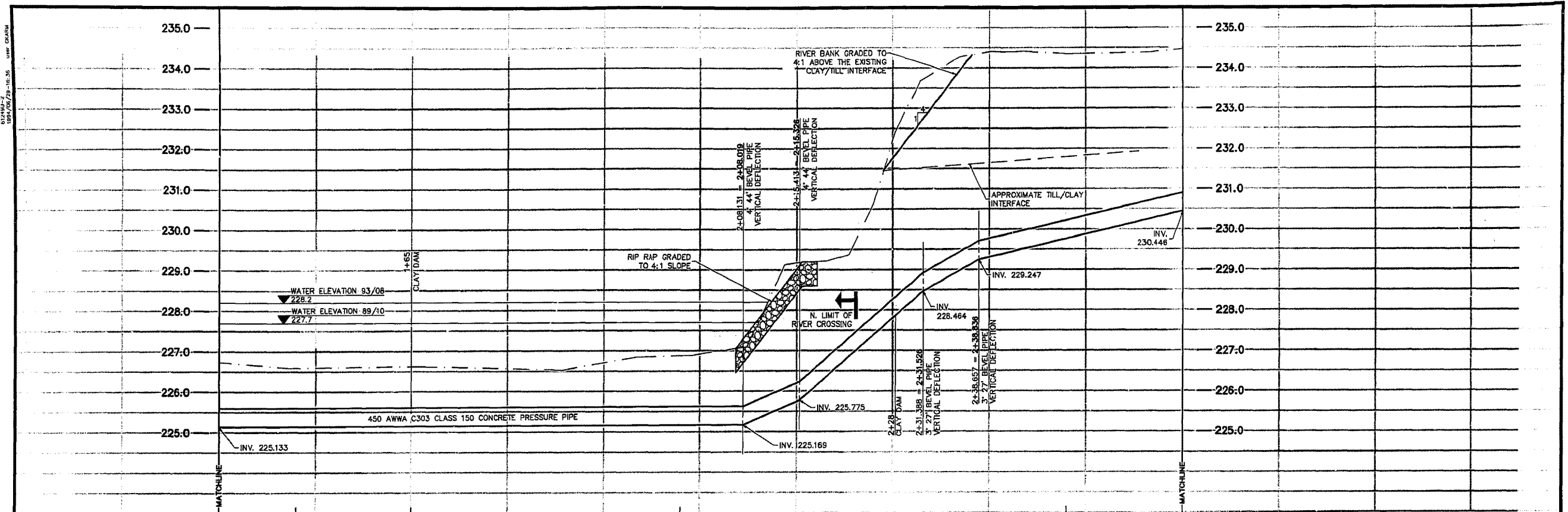
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
WATER WORKS, WASTE AND DISPOSAL DEPT.

HANEY-MORAY FEEDERMAIN RELOCATION
298m NORTH OF ROBILN BLVD. TO PINWOOD DRIVE
FEEDERMAIN RELOCATION
0+00 TO 1+40

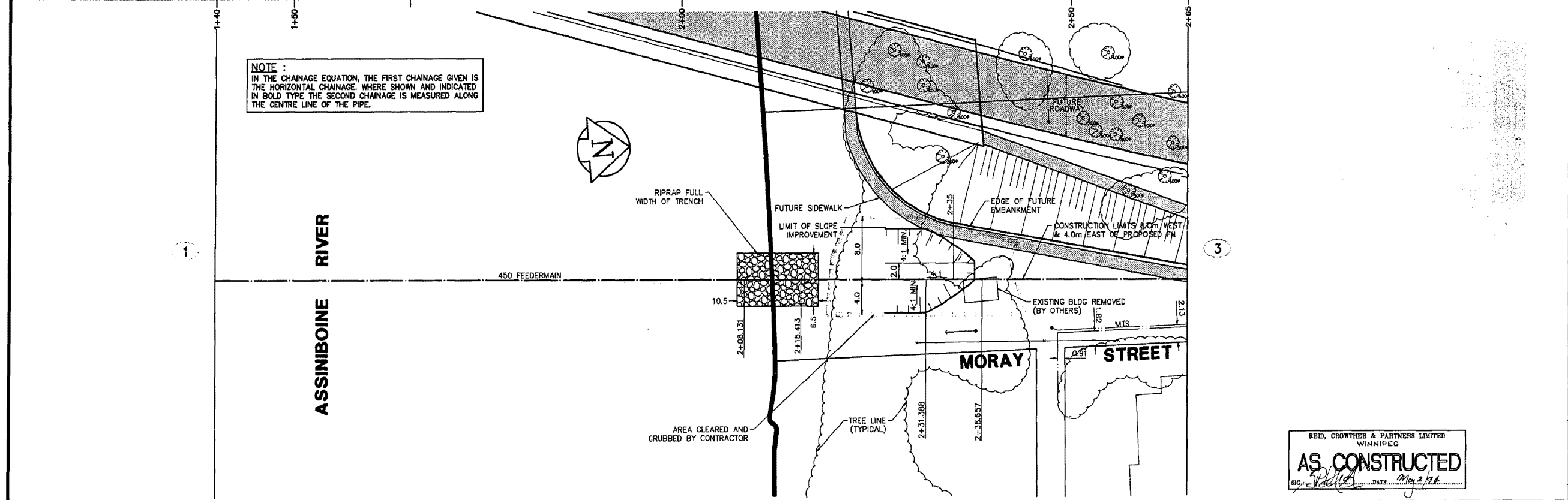
CITY DRAWING NUMBER
SHEET 1 OF 5
D-1955



File # FE10862



NOTE:
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REID, CROWTHER & PARTNERS LIMITED
WINNIPEG
AS CONSTRUCTED
SIGNED: [Signature] DATE: May 2, 1994

EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PROFILE	PROPOSED
	WATERMAIN HYDRANT			HYDRO M.T.S.			WATERMAIN HYDRANT	
	LAND DRAINAGE SEWER VALVE			CONCRETE PROPERTY LINE			LAND DRAINAGE SEWER	
	WASTEWATER SEWER CATCH BASIN			SURVEY BAR ELEVATION (32.750)			WASTE WATER SEWER	
	JUNCTIONS			TREE			FEEDERMAIN	
	GAS			CONCRETE SIDEWALK				
	FENCE			CONCRETE SIDEWALK				

LOCATION APPROVED UNDERGROUND STRUCTURES
SUPV. U/C 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
D	AS CONSTRUCTED	24.05.02	GSK
C	ISSUED FOR TENDER	23.09.15	DED
B	ISSUED FOR CITY REVIEW	23.08.24	GSK
A	ISSUED FOR APPROVAL	23.08.13	GSK

Reid Crowther
Reid Crowther & Partners Ltd.
Consulting Engineers

DESIGNED BY: BAM/GSK
CHECKED BY: BAM
DRAWN BY: GSK
APPROVED BY: [Signature]
HOR. SCALE: 250
VERTICAL: 50
DATE: 93-08-28

ENGINEER'S SEAL
PROFESSIONAL ENGINEER
DESIGN ORIGINAL
STAMPED BY
B.A. MORTON
AUG. 16 / 93
CONSULTANT DRAWING NO.
61249-01-2

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
WATER WORKS, WASTE AND DISPOSAL DEPT.

HANEY-MORAY FEEDERMAIN RELOCATION
298m NORTH OF ROBLIN BLVD. TO PINewood DRIVE
FEEDERMAIN RELOCATION
1+40 TO 2+65

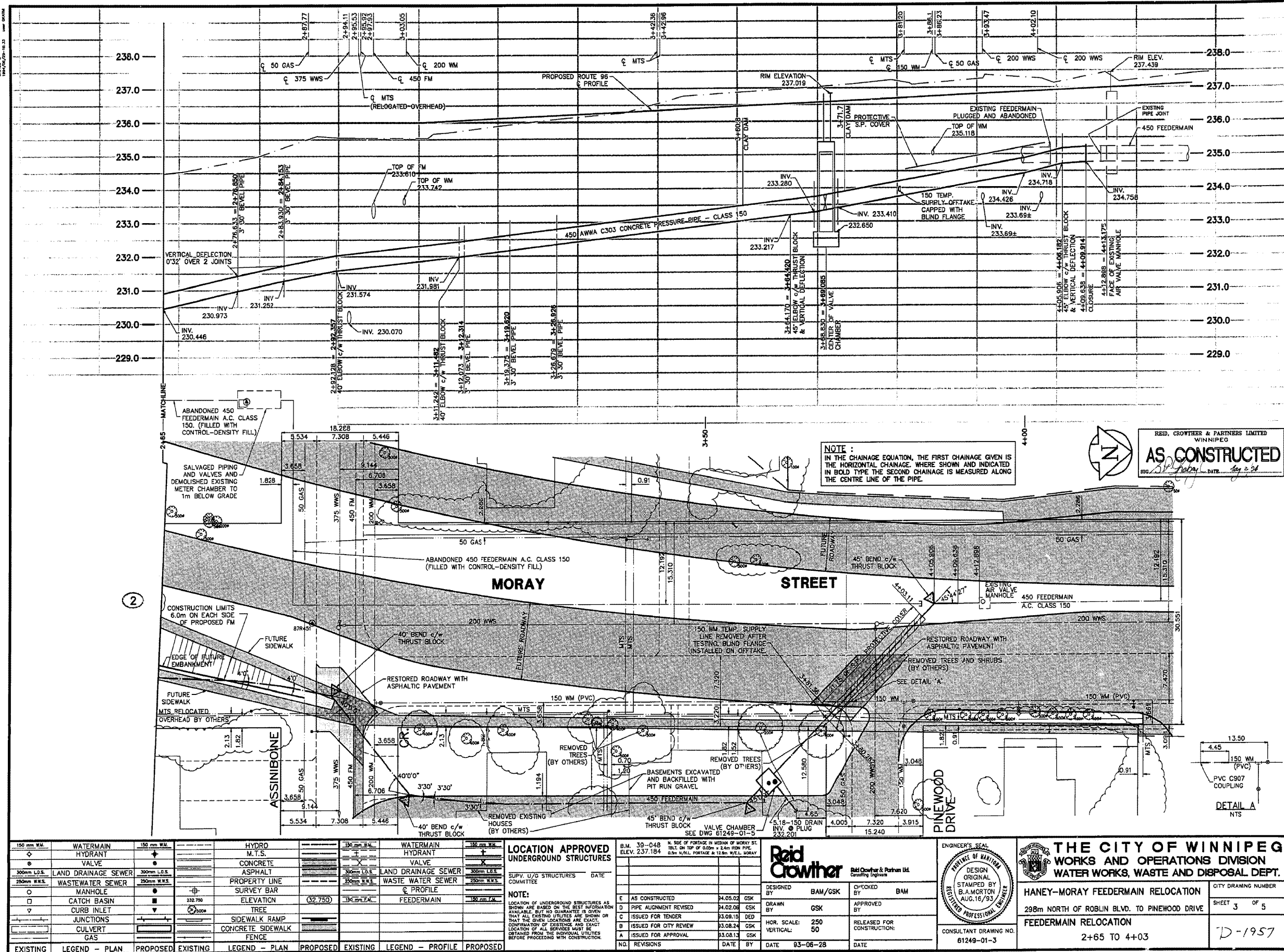
CITY DRAWING NUMBER
SHEET 2 OF 5
D-1956

D 1957

REF. or DRAWING No.

DETAILS

File # FE10864



EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PROFILE	PROPOSED
150 mm W.M.	WATERMAIN	150 mm W.M.	HYDRO	M.T.S.	150 mm W.M.	WATERMAIN	HYDRANT	150 mm W.M.
300mm L.D.S.	LAND DRAINAGE SEWER	300mm L.D.S.	CONCRETE	ASPHALT	PROPERTY LINE	WASTE WATER SEWER	Q PROFILE	FEEDERMAIN
250mm W.W.S.	WASTEWATER SEWER	250mm W.W.S.	SURVEY BAR	ELEVATION	(32,750)	300mm W.W.S.	FEEDERMAIN	150 mm W.M.
MANHOLE	MANHOLE	232.750	TREE	SIDEWALK RAMP	CONCRETE SIDEWALK	FENCE	FENCE	
CATCH BASIN	CATCH BASIN		JUNCTIONS	JUNCTIONS				
CULVERT	CULVERT							
GAS	GAS							

LOCATION APPROVED UNDERGROUND STRUCTURES	DATE
SUPV. U/G STRUCTURES COMMITTEE	

NO.	REVISIONS	DATE	BY
E	AS CONSTRUCTED	04.05.02	GSK
D	PIPE ALIGNMENT REVISED	04.02.06	GSK
C	ISSUED FOR TENDER	03.08.19	DED
B	ISSUED FOR CITY REVIEW	03.08.24	GSK
A	ISSUED FOR APPROVAL	03.08.13	GSK

Raid Crowther
Raid Crowther & Partners Ltd.
Consulting Engineers

DESIGNED BY: BAM/GSK
CHECKED BY: BAM
DRAWN BY: GSK
APPROVED BY: [Signature]

HOR. SCALE: 250
VERTICAL: 50

RELEASED FOR CONSTRUCTION: [Date]

CONSULTANT DRAWING NO. 61249-01-3



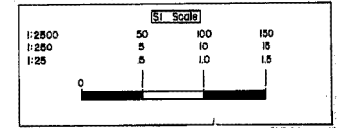
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
WATER WORKS, WASTE AND DISPOSAL DEPT.

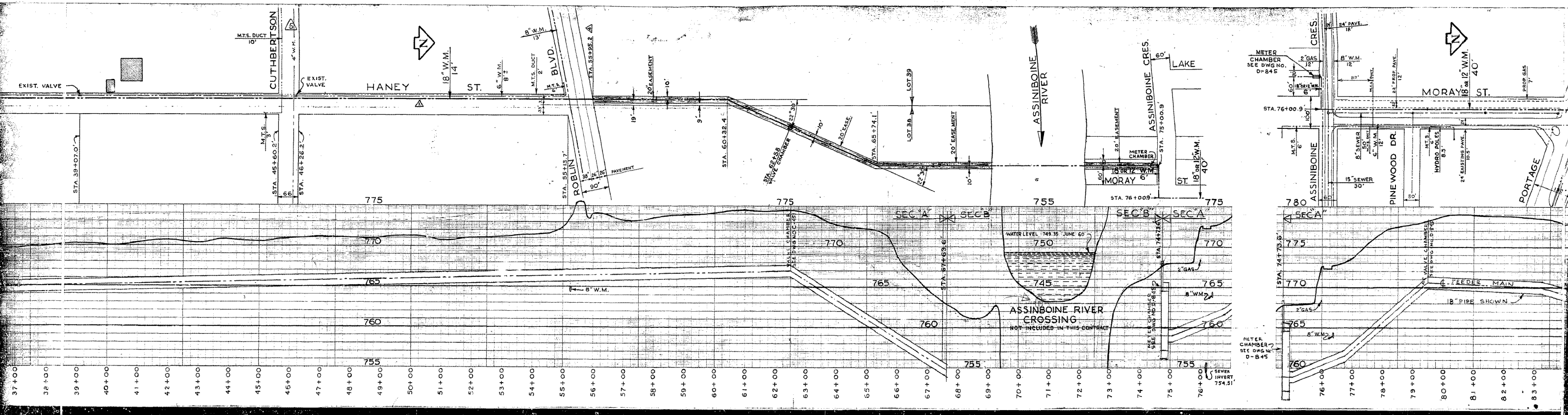
HANEY-MORAY FEEDERMAIN RELOCATION
298m NORTH OF ROBLIN BLVD. TO PINEWOOD DRIVE
FEEDERMAIN RELOCATION
2+65 TO 4+03

CITY DRAWING NUMBER: D-1957
SHEET 3 OF 5

File # FE10864

29x





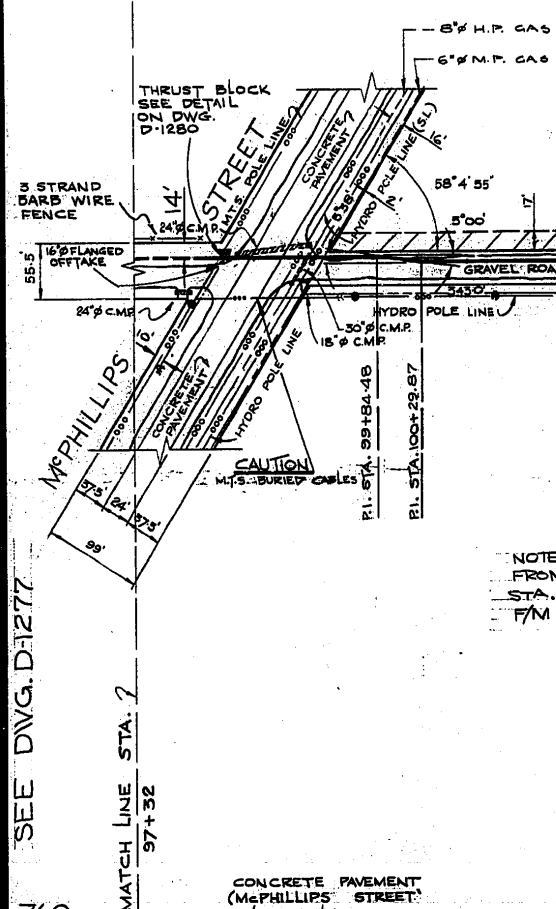
SEE DWG. D-1277

760

760

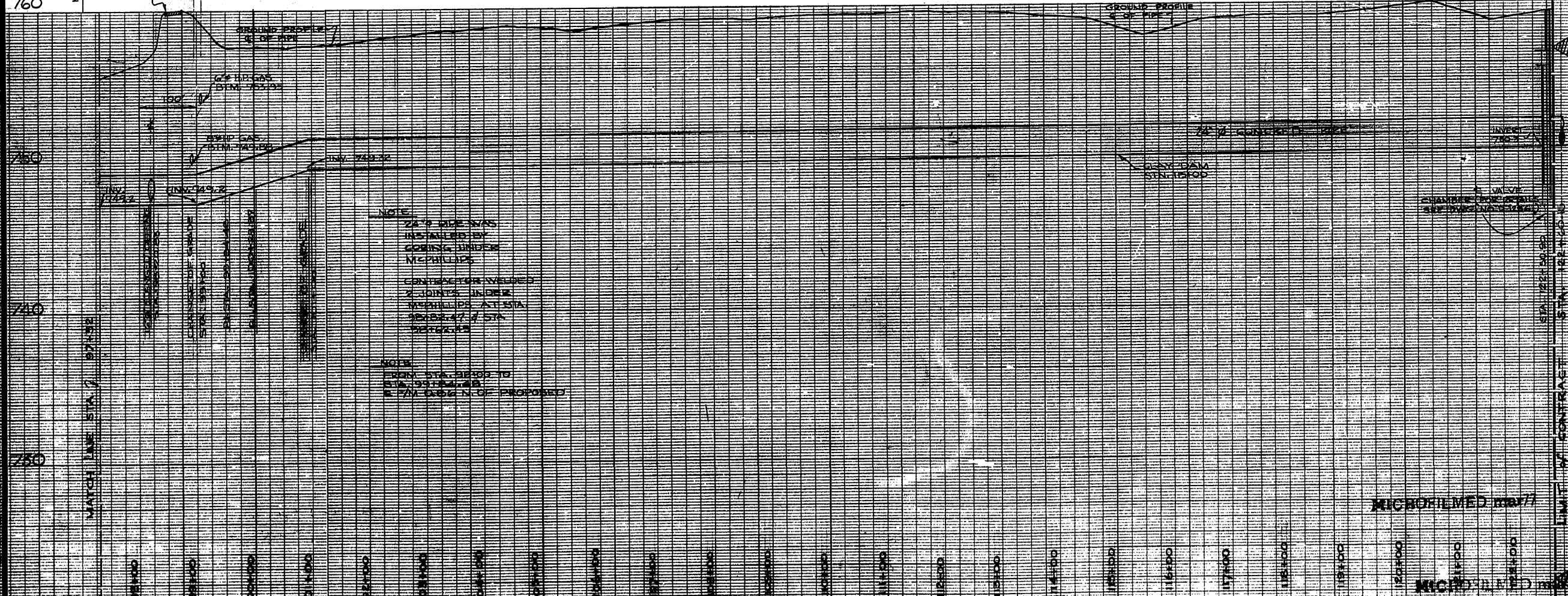
740

760



NOTE
 FROM STA. 98+00 TO
 STA. 99+84.48 ±
 7' N. OF PROPOSED

NOTE
 VALVE CHAMBER
 RELOCATED 2.74' WEST
 OF PLANNED LOCATION
 OR 2.74' WEST OF 1" I.B.



NOTE
 24" PIPE WAS
 RE-ALIGNED BY
 CONTRACTOR UNDER
 McPHILLIPS ST. STA.
 98+84.48 ± STA.
 99+84.48 ±

NOTE
 FROM STA. 98+00 TO
 STA. 99+84.48 ±
 7' N. OF PROPOSED

MICROFILMED MAY 77

MICROFILMED MAY 77

LEGEND

WATERWORKS, WASTE AND DISPOSAL; UNDERGROUND UTILITIES

PROPOSED FORCEMAIN, INTERCEPTOR OR SECONDARY SEWER _____

EXISTING FORCEMAIN, INTERCEPTOR OR SECONDARY SEWER _____ W.W.D. 24" SEWER _____

PROPOSED FEEDERMAIN _____

EXISTING FEEDERMAIN _____ W.W.D. 24" W.M. _____

W.W.D. _____ WATERWORKS, WASTE AND DISPOSAL

OTHER UNDERGROUND UTILITIES

COMMUNITY SEWER _____

COMMUNITY WATERMAIN _____

GAS _____

HYDRO DUCT _____

M.T.S. DUCT OR CABLE _____

STREET LIGHTING, RAILWAY SIGNAL OR TRAFFIC SIGNAL CABLE _____

SURFACE UTILITIES

COMMUNITY BOUNDARY LINE _____

FENCE LINE _____ X _____ X _____

POLE LINE _____

RAILWAY LINE _____

MISCELLANEOUS SYMBOLS

CATCH BASIN _____ ○

CULVERT _____ □

HYDRANT _____ ⊕

MANHOLE _____ ○

HYDRO OR M.T.S. POLE _____ ●

LAMP STANDARD _____ ⊙

RAILWAY OR TRAFFIC SIGNAL STANDARD _____ ⊕

SURVEY BAR _____ ■

TREE _____ ⊕

VALVE _____ ⊙

NOTES

AS BUILT

D.S. & W. Alex. Leon Nov 25/76
 SURVEY ENGINEERING DATE

AS BUILT	9-11-74	M.S.
NO.	DESCRIPTION	DATE BY

REVISIONS

FIELD BOOK(S) NO. F-387, F-394, F-408, F-424	SURVEYED BY P.M. GALKA
LAND SURVEY PLAN(S) NO. B.M.	DATE MAY 14, 1974

The City of Winnipeg
 Waterworks, Waste and Disposal Division

Branch Operations (Waterworks)

-MURRAY AVENUE FEEDERMAIN-
 MAIN ST. TO MANITOBA HYDRO
 RIGHT OF WAY
 PLAN - PROFILE

STA. 97+32 TO STA. 122+60.15

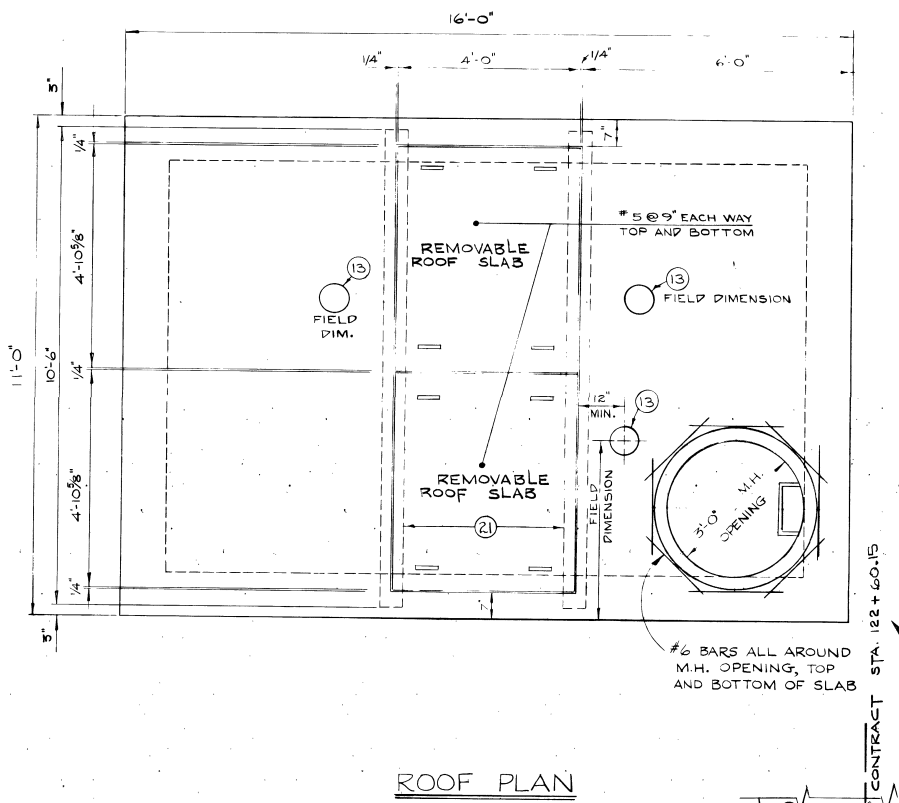
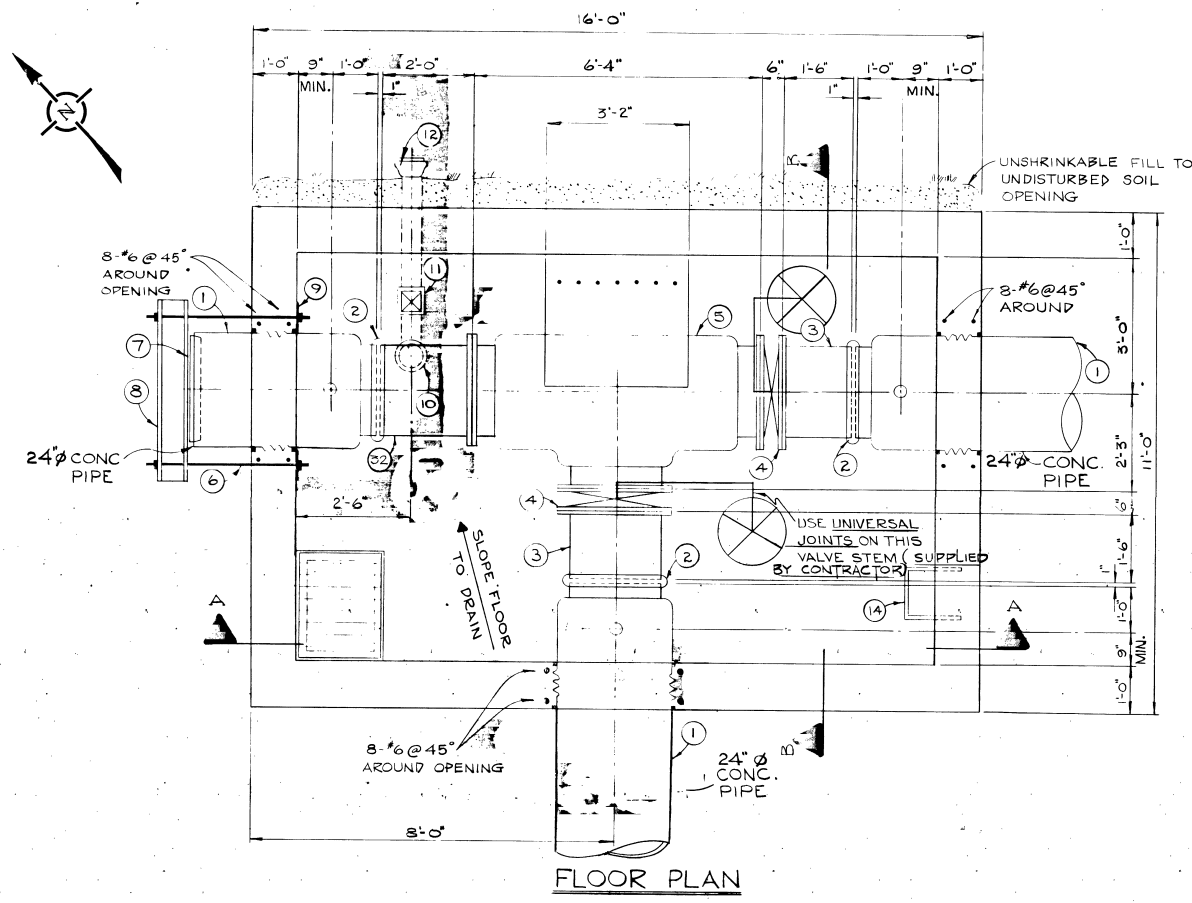
DESIGNED BY *Rah* DRAWN BY F. Kolbert

CHECKED BY *[Signature]* DATE SEPT. 10-74

APPROVED BY *[Signature]*

SCALE HOR. 1" = 100' VERT. 1" = 4' 0"

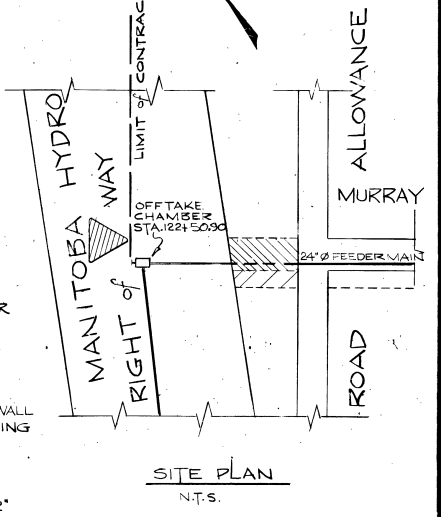
DRAWING NO. D-1278



LIST OF MATERIALS FOR OFFTAKE CHAMBER

No.	Description	Quantity
1*	4'0" short prestressed concrete pipe	3
2*	Victualic coupling style #51	3
3*	1'6" prestressed concrete adaptor	2
4*	Butterfly Valve wafer style	2
5*	Prestressed concrete tee flange to flange to flange	1
6	4'0" x 5/8" galvanized bolts c/w cadmium plated nuts and washers	8
7*	Concrete Plug	2
8	W 12 x 19 steel beam	2
9	10"x10" galvanized plate 1/2" thick	2
10	4" C.I. "P" trap and drain with screw on cover	1
11	4" backwater valve	1
12	4" C.I. Pipe spigot to bell	1
13	Large adjustable valve box and standard City of Winnipeg Waterworks Cover & W stems	3
14	Standard City of Winnipeg manhole steps at 12" center to center. For details see drawing No. A-817	3
15	36" ASTM C-76 Class II precast concrete manhole section with "Ramnek" or an approved equal gasket.	1
16	30"x36" ASTM C-76 Class II precast concrete eccentric flat top reducer section.	1
17	Maximum 2 rows concrete brick or a 6" long precast concrete section, Standard City of Winnipeg waterworks manhole frame and solid cover.	1
18	Lifting Lugs. For details see drawing No. A-878.	8
19	U-bolt hook. For details see drawing No. A-877	4
20	M6 x 20 steel beam (6 40.12)	2
21	Bearing plate 9"x6"x3/8"	4
22	2" bronze gate valve - threaded	3
23	2" bronze nipple - threaded	3
24	2" threaded flange	3
25	2" steel outlet - flanged	3
26	3" steel outlet - flanged	3
27	3" threaded flange	3
28	3" bronze nipple - threaded	3
29	3" bronze gate valve - threaded	3
30	3" 90° elbow - threaded and galvanized	3
31	2'-0" x 2'-0" filler piece	1

* To be supplied by the City.
Notes:
1. Waterproofing to be supplied to all exterior walls.
2. Concrete on tee to be roughened and coated with epoxy bonding agent prior to pouring of thrust block.



NO.	DESCRIPTION	DATE	BY
2	REMOVED THRUST BEAM FROM SOUTH WALL	9-01-18	M.T.
1	AS BUILT	0-11-74	M.S.

REVISIONS

FIELD BOOK(S) NO. _____ SURVEYED BY _____

LAND SURVEY PLAN(S) NO. _____ DATE _____

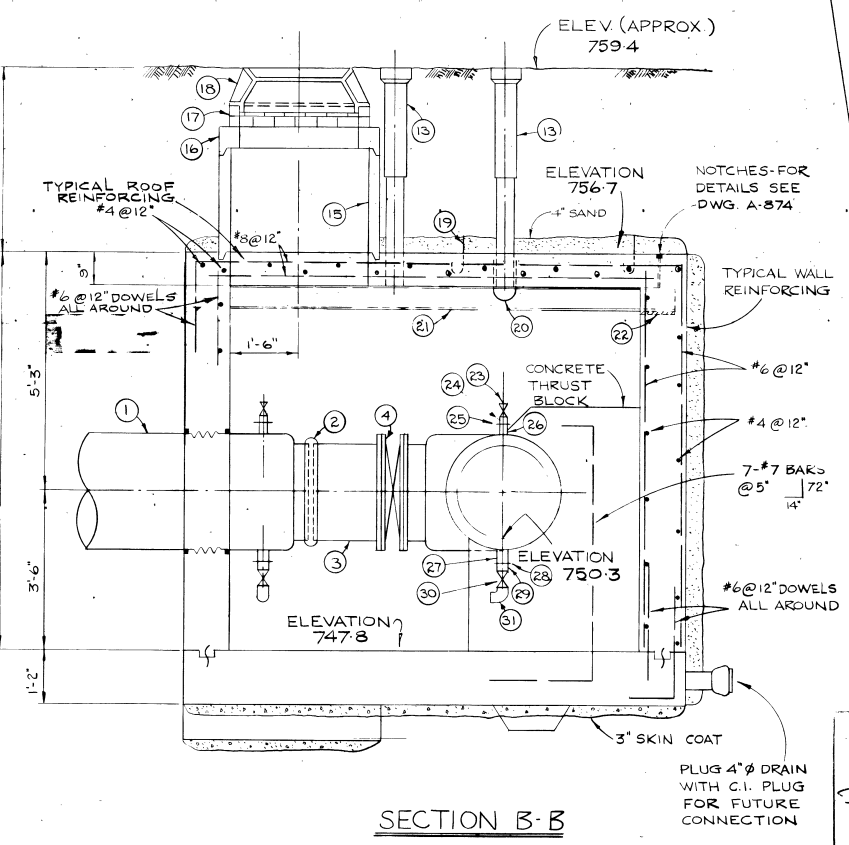
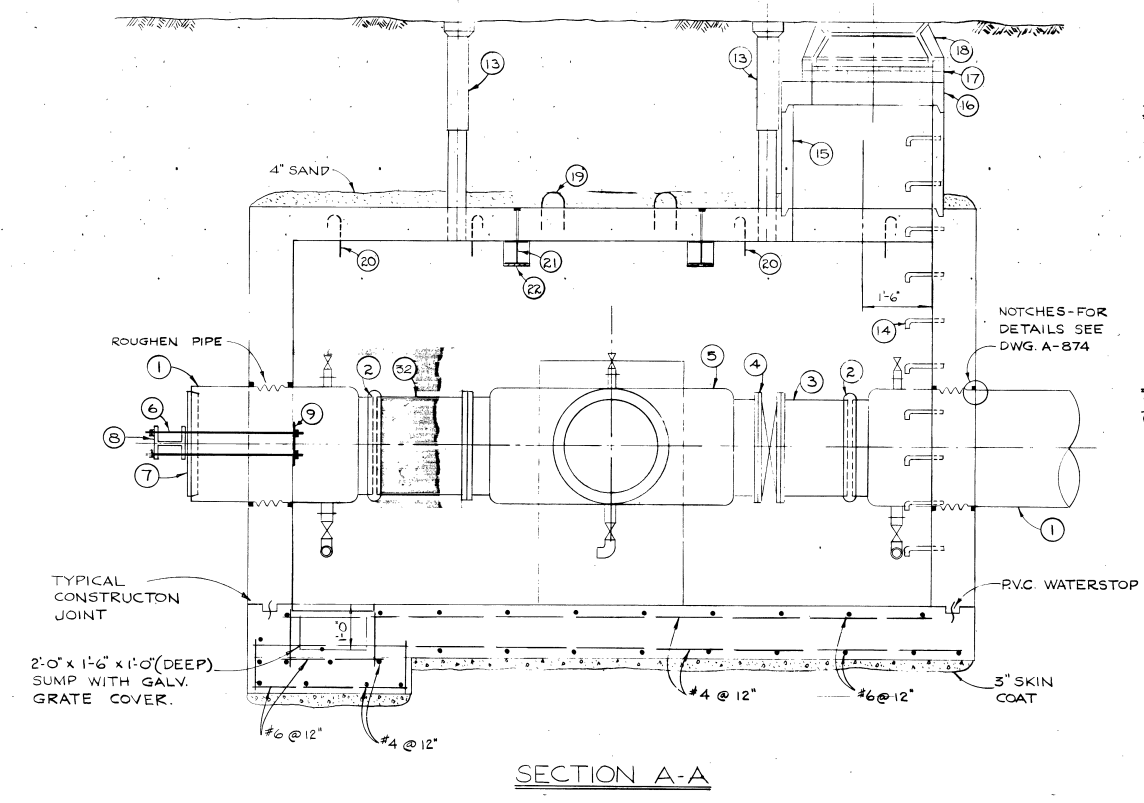
B.M. _____

The City of Winnipeg
Waterworks, Waste and Disposal Division

Branch Operations (Waterworks)

MURRAY AVE. FEEDER MAIN VALVE CHAMBER

MAN. HYDRO R.O.W. & MURRAY AVE EX STA 122+50.96



AS BUILT

D.S. & W.L. Survey Engineering

DESIGNED BY _____ DRAWN BY F. Kolbert

CHECKED BY _____ DATE OCT. 10-74

APPROVED BY _____

SCALE 1/2" = 1'-0" DRAWING NO. D-1286

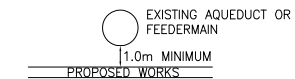
MICROFILMED

LBIS 96-09-24

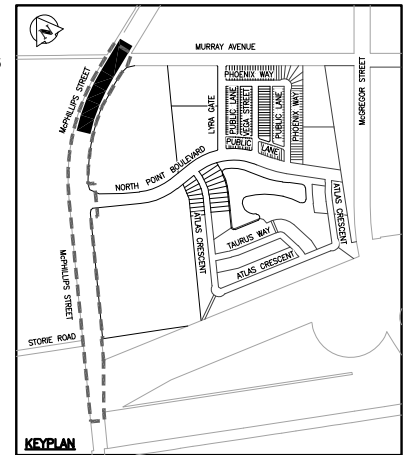
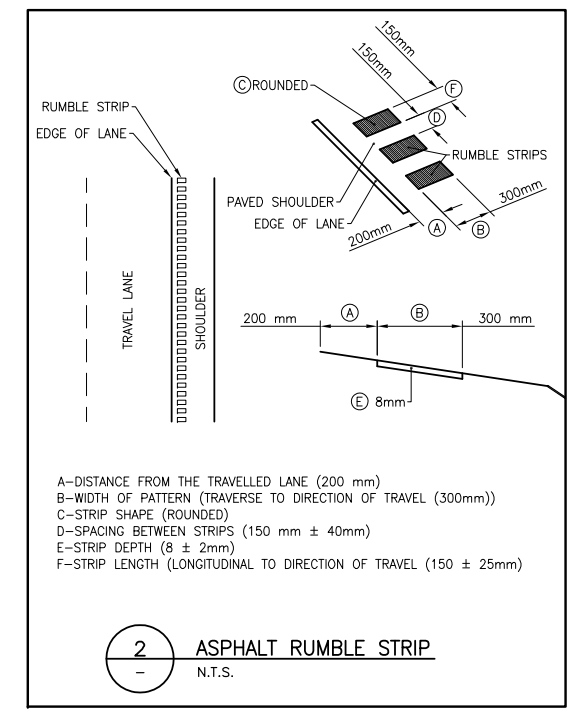
City of Winnipeg
W000027

D-1286

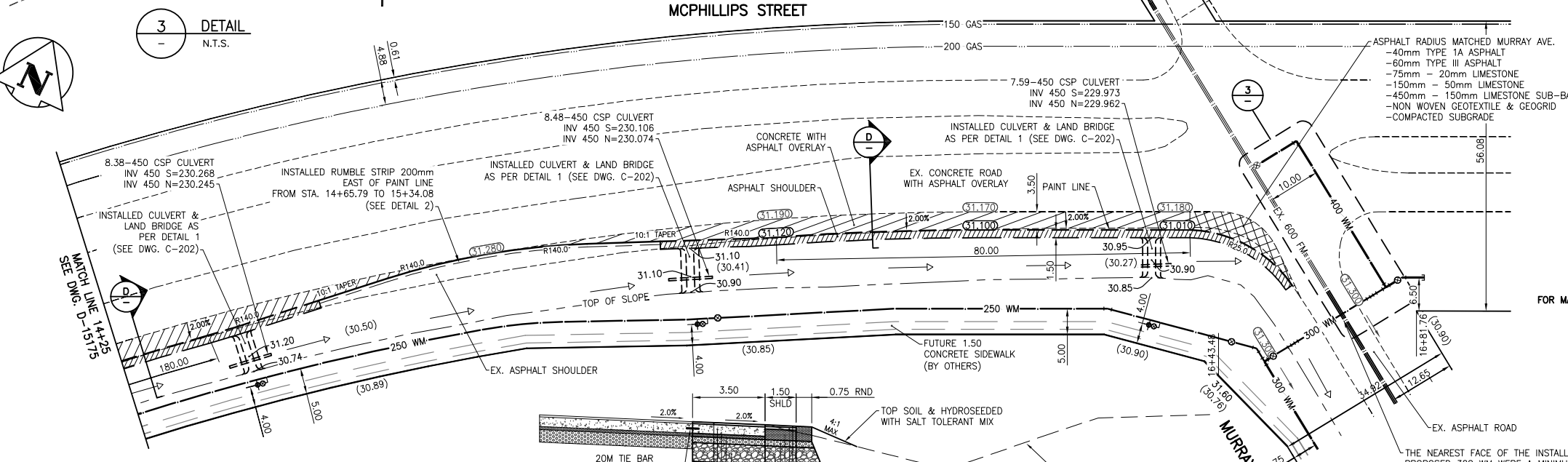
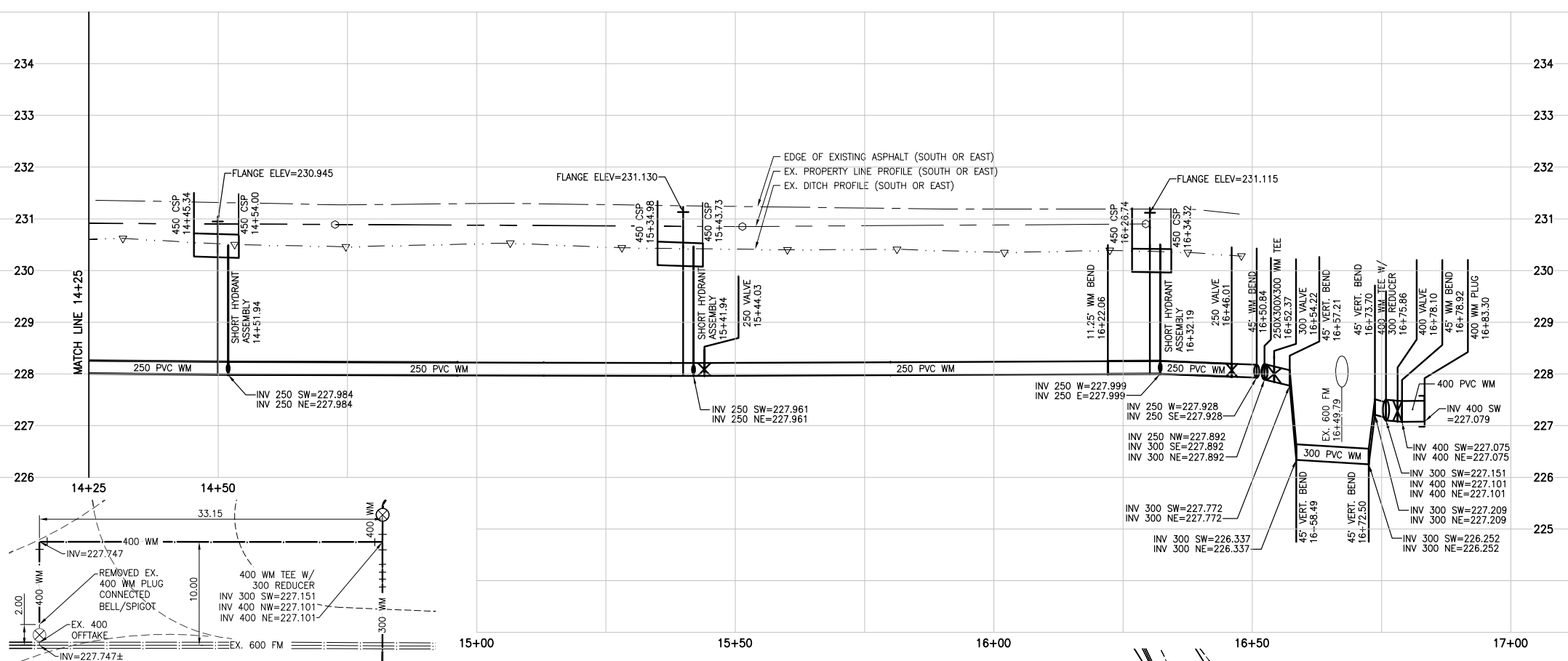
- NOTES:**
- CHAINAGES SHOWN ARE ALONG CENTERLINE OF R.O.W.
 - ALL LONG ASSEMBLY HYDRANTS (SD-006) ALL SHORT ASSEMBLY HYDRANTS (SD-007).
 - PRIOR TO ANY CONSTRUCTION, THE FEEDERMAIN WAS EXPOSED BY A SOFT DIG METHOD SO AS TO CONFIRM DEPTH AND LOCATION.
 - A MINIMUM CLEARANCE OF 1.0m WAS PROVIDED BETWEEN THE UNDERSIDE OF THE FEEDERMAIN AND THE TOP OF THE PROPOSED WORKS.



- A SHAFT WAS EXCAVATED BY SOFT DIG METHODS 4.0m FROM THE CENTERLINE OF THE FEEDERMAIN TO CONFIRM THE ALIGNMENT AND ELEVATION OF THE DRILLING ROD BEFORE IT CROSSED UNDER THE FEEDERMAIN. THIS CONFIRMATION WAS WITNESSED BY A CITY REPRESENTATIVE.
- VIBRATORY EQUIPMENT WAS NOT OPERATED OVER OR WITHIN 3.0m OF THE FEEDERMAIN CENTERLINE. INSTALLATION EQUIPMENT DID NOT CROSS OR TRAVEL ALONG EITHER SIDE OF THE FEEDERMAIN WITHIN A LATERAL DISTANCE OF 5.0m FROM THE CENTERLINE OF THE AQUEDUCT AND/OR FEEDERMAIN.
- CONSTRUCTED VERTICAL WM BENDS IN ACCORDANCE WITH SD-005.



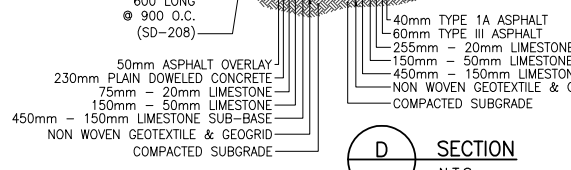
CONSTRUCTION COMPLETION DATE - SEPTEMBER 2017



RECORD DRAWING
BY L.D. DATE 18/05/10
CHECKED BY D.P.M.

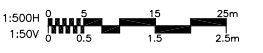


METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



BENCHMARK: S.E. Cor. Murray Ave. & Ferrier St., 19 mm dia. x 6.1 m I.B. in Valve Box, 3 m S. of S.L. of Murray Ave. & 0.3 m W. of E.L. Ferrier St., also 79.5 m E. of E. wall & 4.0 m S. of S. wall No. 811 Murray Ave.

NOTE: ALL GATE VALVES WERE INSTALLED CLOCKWISE TO CLOSE



EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PROFILE	PROPOSED	EXISTING	LEGEND-PROFILE	PROPOSED
150 WM	WATERMAIN	150 WM	HYDRO	M.T.S.	150 WM	WATERMAIN	150 WM	HYDRANT, VALVE	300 LDS	LAND DRAINAGE SEWER	300 LDS
300 LDS	LAND DRAINAGE SEWER	300 LDS	CONCRETE	ASPHALT	250 WWS	WASTE WATER SEWER	250 WWS	Q PROFILE	MANHOLE	PROPERTY LINE	PROPERTY LINE
250 WWS	WASTE WATER SEWER	250 WWS	SIDEWALK	SURVEY BAR	250 WWS	WASTE WATER SEWER	250 WWS	NORTH OR WEST GUTTER	CATCH BASIN	SURVEY BAR	SURVEY BAR
250 WWS	WASTE WATER SEWER	250 WWS	DITCH	ROAD ELEVATION	250 WWS	WASTE WATER SEWER	250 WWS	SOUTH OR EAST GUTTER	CURB INLET	DITCH	DITCH
250 WWS	WASTE WATER SEWER	250 WWS	ELEVATION	ELEVATION	250 WWS	WASTE WATER SEWER	250 WWS	NORTH OR WEST DITCH	JUNCTIONS	ROAD ELEVATION	ROAD ELEVATION
250 WWS	WASTE WATER SEWER	250 WWS	COMPACTED SUBGRADE	COMPACTED SUBGRADE	250 WWS	WASTE WATER SEWER	250 WWS	SOUTH OR EAST DITCH	CULVERT	ELEVATION	ELEVATION
250 WWS	WASTE WATER SEWER	250 WWS	NON WOVEN GEOTEXTILE & GEOGRID	NON WOVEN GEOTEXTILE & GEOGRID	250 WWS	WASTE WATER SEWER	250 WWS		GAS		
250 WWS	WASTE WATER SEWER	250 WWS			250 WWS	WASTE WATER SEWER	250 WWS				

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 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	BY	DATE
5	RECORD DRAWING	18.05.10	D.P.M.
4	ISSUED FOR CONSTRUCTION	16.09.28	D.P.M.
3	RESUBMITTED FOR REVIEW	16.08.28	D.P.M.
2	ISSUED FOR BIDDING	16.04.28	D.P.M.
1	SUBMITTED FOR CITY REVIEW	16.04.25	D.P.M.

Stantec
500 - 311 Portage Avenue, Winnipeg MB Canada R3B 2B9
Tel. 204.489.5900 Fax. 204.453.9012 www.stantec.com

DESIGNED BY	D.P.M.	CHECKED BY	P.J.S.
DRAWN BY	L.D.	APPROVED BY	D.P.M.

HOR. SCALE: 1:500
VERTICAL: 1:50

RELEASSED FOR CONSTRUCTION: 16/09/28

DATE: 2016.01.26

ENGINEER'S SEAL
ORIGINAL SEALED BY D.P. MAGES P. ENG. 16/09/28

THE CITY OF WINNIPEG
DASZ 40/2015
1910588 ALBERTA LTD. (AG 40/15)

AURORA AT NORTH POINT - MCPHILLIPS STREET

MCPHILLIPS STREET
200m NE OF NORTH POINT BOULEVARD TO MURRAY AVENUE

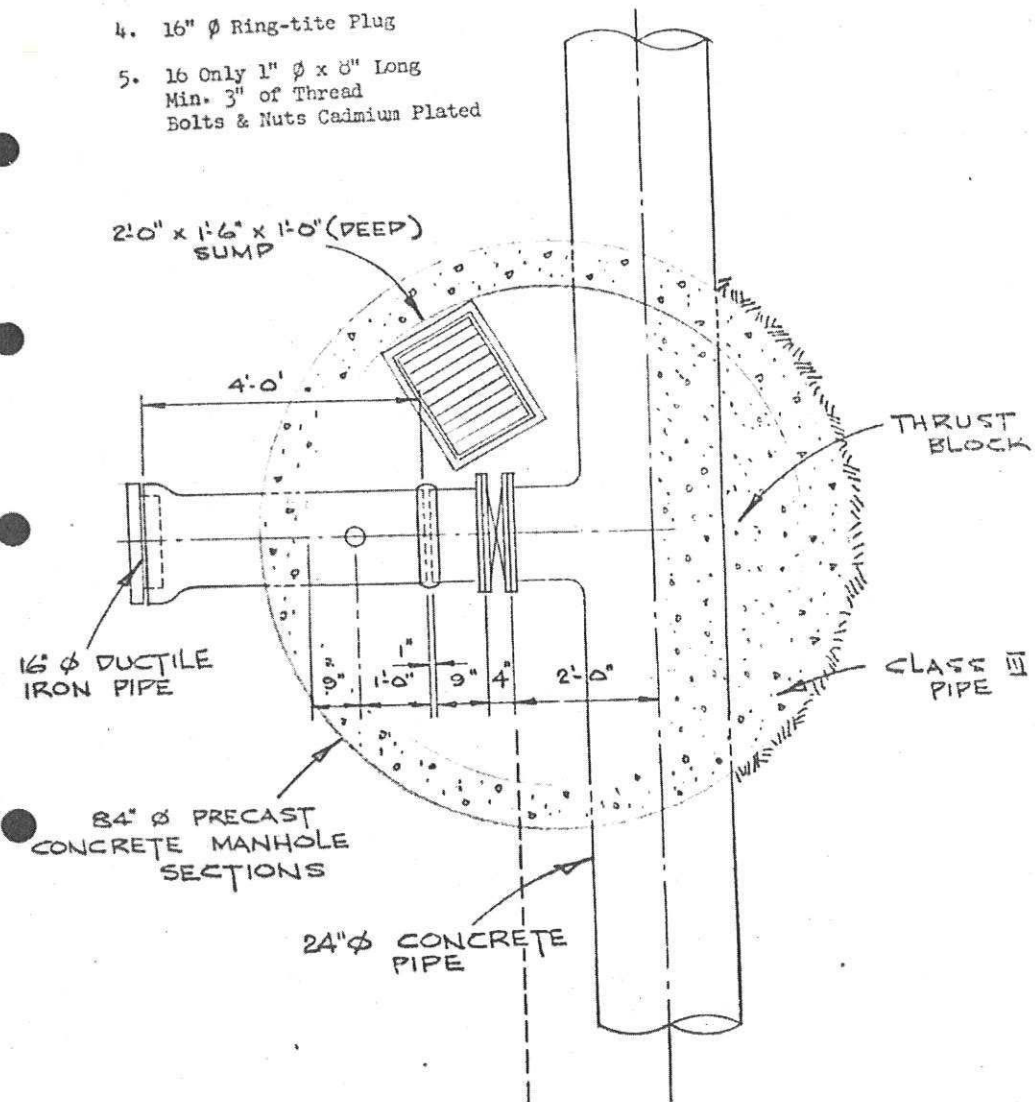
SHEET 5 OF 5
CAD FILE DRAWING NUMBER 09401C-201-880.DWG
CITY DRAWING NUMBER D-15176

C4-2-227 W

CITY WILL SUPPLY 16" Ø VALVE

Contractor to Supply:

1. 9" Ductile Filler Piece
Flange to Plain End
2. 16" Ø Style 31 Victaulic
3. 4' Long x 16" Ø Ductile Iron
Plain End to Ring-tite Bell
(c/w 2" & 2" Outlets)
4. 16" Ø Ring-tite Plug
5. 16 Only 1" Ø x 8" Long
Min. 3" of Thread
Bolts & Nuts Cadmium Plated



"NOTE"

PRICE PIPE & PIT ONLY