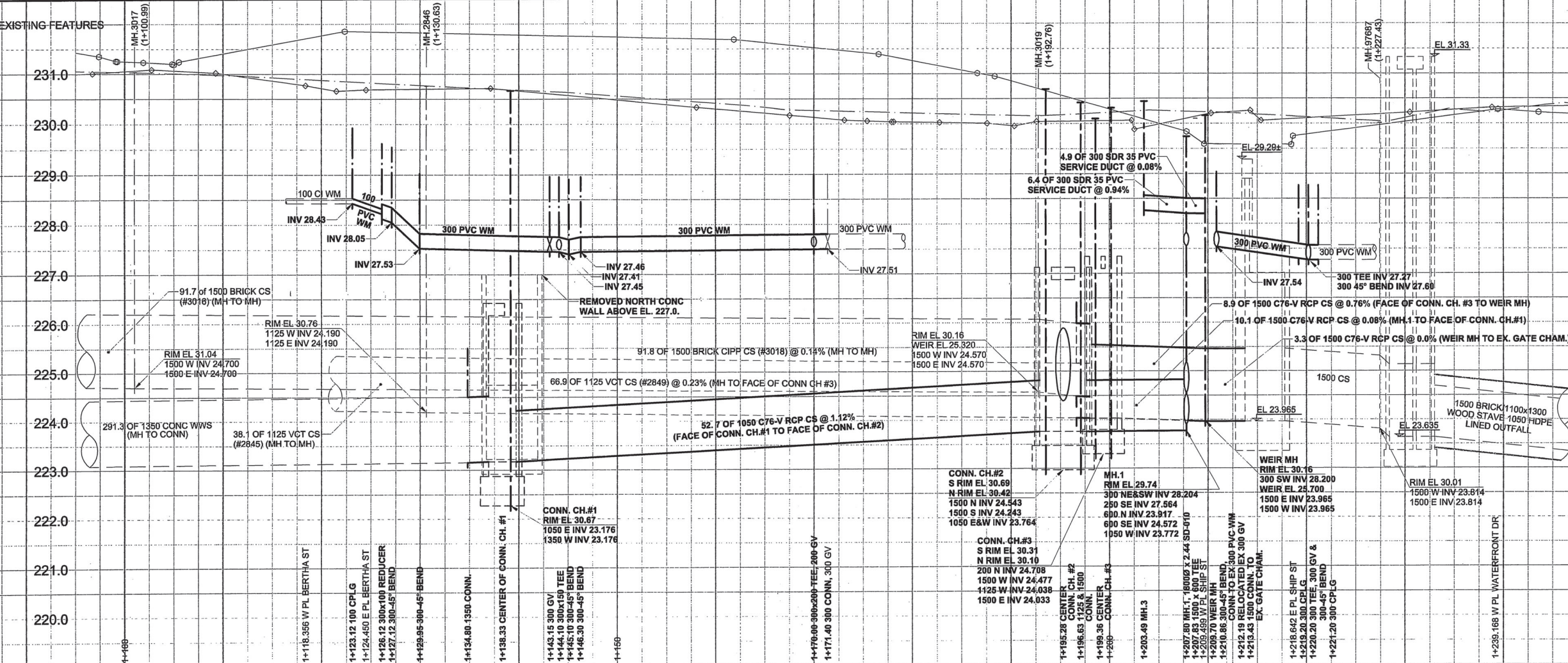
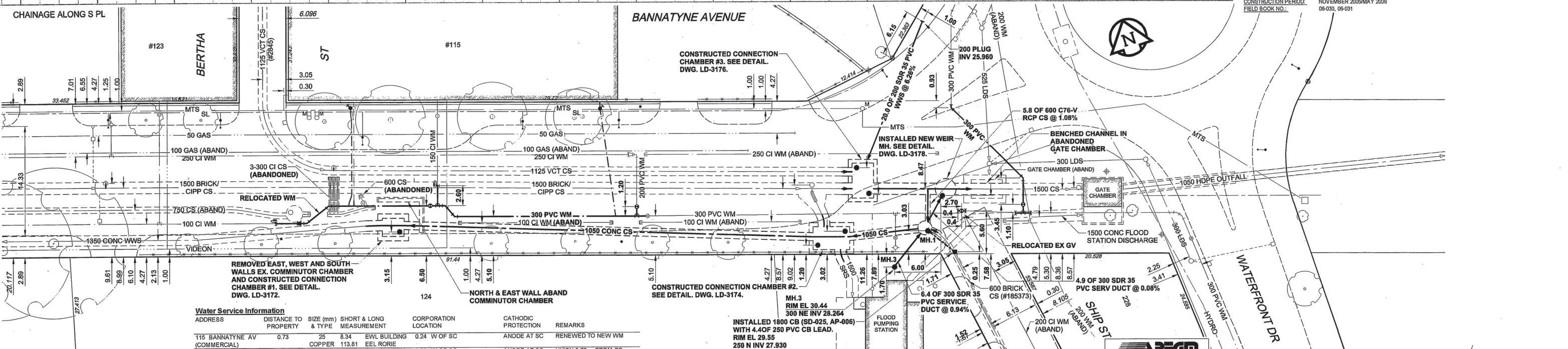


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ITEM	MANUFACTURER	MATERIAL SPECIFICATION	SPECIAL FEATURES
WATERMAIN			
150/200/300 PIPE	IPEX INC.	AWWA C900 CSA B137.3	"BLUE BRUTE" PVC PIPE CLASS 150
150/200/300 PVC FITTINGS	IPEX INC.	AWWA C907 CSA B137.2	"BLUE BRUTE" CLASS 150 INJECTION MOULDED FITTINGS
REDUCERS, TEES, BENDS			MUELLER RESILIENT WEDGE G.V.
GATE VALVES	MUELLER CANADA INC.	AWWA C509 MODEL A-2360	CW TO OPEN (RED TOP) CONFORMS TO SD-100A
VALVE BOX UPPER	W.D. VALVE BOXES LTD.	C.I. UPPER (WD46) INCL HINGE COVER (WD39)	CONFORMS TO SD-100A
VALVE BOX BOTTOM	IPEX INC.	PVC DR 18 AWWA C900	CONFORMS TO SD-101A
VALVE STEM EXTENSION COUPLINGS	TITAN FOUNDRY LTD.	TITAN "T" ROBAR STYLE "1507"	EPOXY COATED D.I. SLEEVE & END RINGS, STEEL NUTS & BOLTS WITH ZNC END CAPS, 10.9 kg GALVANIC ZINC ANODE
ANODES	INTERPROVINCIAL CORROSION CONTROL	TYPE II (ASTM B419-88)	
SEWER PIPE			
200 WASTEWATER SEWER PIPE	IPEX INC.	ASTM D3034 CSA B182.2	RING-TITE PVC SDR 35
250 C.B. LEAD	IPEX INC.	ASTM D3034 CSA B182.2	RING-TITE PVC SDR 35
300 SERVICE DUCT	IPEX INC.	ASTM D3034 CSA B182.2	RING-TITE INJECTION MOULDED PVC FITTINGS
200 WASTEWATER SEWER FITTINGS			STEEL REINFORCED
600, 1050, 1500 CONCRETE PIPE	LAFARGE CANADA INC.	ASTM C76M CSA A 257.2 (CLASSES AS NOTED)	PRECAST CONCRETE PRECAST CONCRETE 750 L.D. CONCRETE ADJUSTING RINGS
MANHOLES	LAFARGE CANADA INC.	ASTM C-478	MANHOLE/CATCHBASIN MANHOLE & CATCHBASIN ADJUSTING RINGS
CATCHBASIN/CATCHPIT MANHOLE & CATCHBASIN	LAFARGE CANADA INC.	ASTM C-478	MANHOLE/CATCHBASIN JOINT GASKETS
MANHOLE/CATCHBASIN JOINT GASKETS	TITAN FOUNDRY	ASTM A-48 CLASS 30B	MANHOLE FRAMES & COVERS
MANHOLE FRAMES & COVERS	W.D. VALVE BOXES LTD.	ASTM A-48 CLASS 30B	MANHOLE FRAMES AND SOLID COVER
MANHOLE FRAME LIFTER RINGS	W.D. VALVE BOXES LTD.	ASTM A536	MH FRAME WD50F, STJ SOLID COVER WD50S, STJ GRATED COVER WD50G, STJ WD5 (38), WD-8 (51), WD-7 (64), WD-8 (76)
MANHOLE/CB RUNGS	LAFARGE CANADA INC.		ALUMINUM MANHOLE RUNGS (MSU)
CATCHBASIN FRAMES & COVERS	W.D. VALVE BOXES LTD.	ASTM A-48 CLASS 30B	MH FRAME WD50F, STJ GRATED COVER WD50G CONFORMS TO SD-101A
CATCHBASIN HOOD BUILDING CONNECTIONS	B & A MFG. LTD.	"BA 1.12" POLY MAXHOOD	
50 WATER PIPE	WOLVERINE DIV. OF UOP LTD.	ASTM B88	TYPE "K" COPPER
25 CORPORATION STOP	MUELLER CANADA INC.	CAT. NO. "A-220W3"	AWWA INLET THREAD/ FLARED OUTLET
25 CURB STOP	MUELLER CANADA INC.	MARK II ORISAL CAT. NO. H1515W403	MINNEAPOLIS PATTERN WITH POLYMER BASE FLARED FITTINGS
CURB STOP BOX (FOR 25 WM)	W.D. VALVE BOXES LTD.	WD SB-1A, SD-12	
WATER CONNECTION FITTINGS - UNION BRASS CONNECTION SADDLE	MUELLER CANADA INC.	H-1300 SERIES SADDLE H-10036 BUSHING	BRASS SADDLE (300) CW 50 OUTLET AND REDUCER BUSHING
GROUND CLAMP	BURNDY INC.	TYPE GAR	GROUND CONNECTION FOR COPPER CABLE
SPlice CONNECTORS	RAYCHEM CANADA LTD.	D-406-0003	"DURASEAL" HEAT SHRINK SPLICER FOR UNDERGROUND SPLICING OF COPPER WIRE
ROADS			
ITEM	MANUFACTURER / SUPPLIER		
CONCRETE	LAFARGE CANADA INC.		
REINFORCING STEEL	COWIN STEEL CO. LTD.		
ASPHALT	BISON ROCK & ASPHALT PRODUCTS LTD.		
CONTRACTOR:	NELSON RIVER CONSTRUCTION LTD.		
CONSTRUCTION PERIOD:	NOVEMBER 2005/MAY 2006		
FIELD BOOK NO.:	05-030, 06-031		



Water Service Information	ADDRESS	DISTANCE TO PROPERTY	SIZE (mm)	SHORT & LONG MEASUREMENT	CORPORATION LOCATION	CATHODIC PROTECTION	REMARKS
	115 BANNATYNE AV (COMMERCIAL)	0.73	25	8.34	EVL BUILDING	0.24 W OF SC	ANODE AT SC RENEWED TO NEW WM
	115 BANNATYNE AV (COMMERCIAL)	0.73	38	8.78	EVL BUILDING	0.08 W OF SC	ANODE AT SC UNION 0.70m FROM CC
	115 BANNATYNE AV (COMMERCIAL)	1.57	150	19.87	EVL BUILDING	TEE OPP GATE VALVE	ANODE AT CPLG CPLG 2.60m FROM TEE
	115 BANNATYNE AV (COMMERCIAL)	0.90	25	2.25	WEL BUILDING	2.02 E OF SC	ANODE AT SC RENEWED TO NEW WM
	115 BANNATYNE AV (COMMERCIAL)		146.25		EEL RORIE		

INSTALLED 1800 CB (SD-025, AP-006) WITH 4.40F 250 PVC CB LEAD. RIM EL 29.55 250 N INV 27.930

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

APECM
Certificate of Authorization
UMA Engineering Ltd.
No. 256 Expiry: April 30, 2007

CONSTRUCTION COMPLETION DATE
MAY 2006
RECORD DRAWING BID OPPORTUNITY NO. 507-2005
15-3150

EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PROFILE	NEW
150 mm WM	WATERMAIN	150 mm WM	CURB STOP	150 mm WM	WATERMAIN	150 mm WM	WATERMAIN	150 mm WM
Hydrant	HYDRANT	Valve	REDUCER	Hydrant	HYDRANT	Valve	HYDRANT	Valve
300 mm LDS	LAND DRAINAGE SEWER	300 mm LDS	COUPLING	300 mm LDS	LAND DRAINAGE SEWER	300 mm LDS	LAND DRAINAGE SEWER	300 mm LDS
250 mm WWS	WASTE WATER SEWER	250 mm WWS	ANODE	250 mm WWS	WASTE WATER SEWER	250 mm WWS	WASTE WATER SEWER	250 mm WWS
Manhole	MANHOLE	Manhole	HYDRO	Manhole	MANHOLE	Manhole	MANHOLE	Manhole
Catch Basin	CATCH BASIN	Catch Basin	MTS	Catch Basin	CATCH BASIN	Catch Basin	CATCH BASIN	Catch Basin
Curb Inlet	CURB INLET	Curb Inlet	GAS	Curb Inlet	CURB INLET	Curb Inlet	CURB INLET	Curb Inlet
Culvert	CULVERT	Culvert	TESTHOLE	Culvert	CULVERT	Culvert	CULVERT	Culvert
Pipe Abandonments	PIPE ABANDONMENTS	Pipe Abandonments	LAMP STANDARD	Pipe Abandonments	PIPE ABANDONMENTS	Pipe Abandonments	PIPE ABANDONMENTS	Pipe Abandonments
Survey Bar	SURVEY BAR	Survey Bar	TREE	Survey Bar	SURVEY BAR	Survey Bar	SURVEY BAR	Survey Bar

LOCATION APPROVED
UNDERGROUND STRUCTURES

DATE COMMITTEE

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
1	ISSUED FOR RECORD	06/11/06	ADL
0	ISSUED FOR CONSTRUCTION	05/08/29	ADL

DESIGNED BY	CHECKED BY
GEB	
DRAWN BY	APPROVED BY
ADL	
HOR. SCALE	RELEASED FOR CONSTRUCTION
1:250	
VERT. SCALE	DATE
1:50	06/11/07

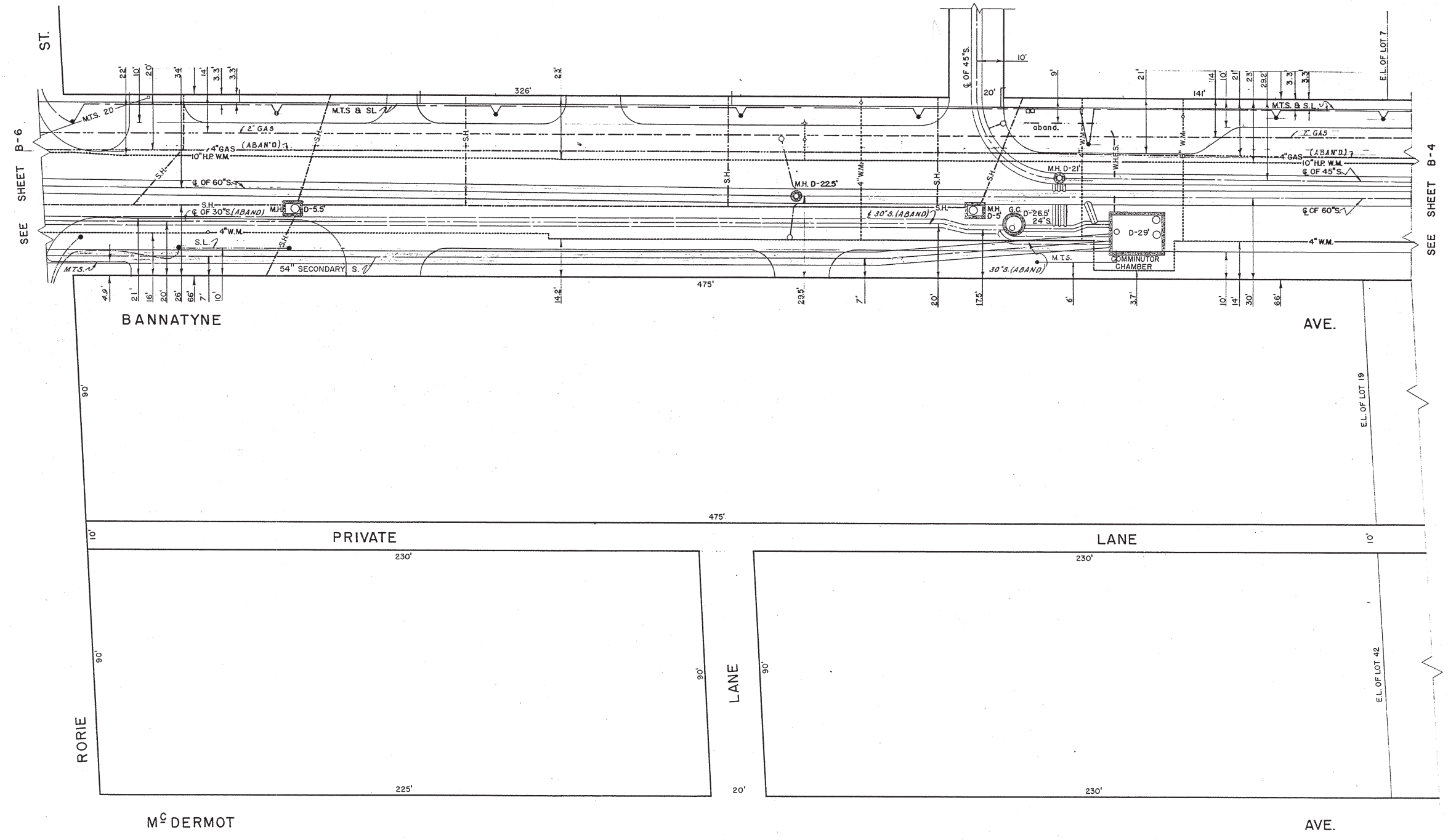
PROFESSIONAL'S SEAL
A. NAGY
06/11/07
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

ALEXANDER/BANNATYNE CSO ABATEMENT UPGRADES

BANNATYNE AVENUE
70m EAST OF RORIE STREET TO WATERFRONT DRIVE

SHEET 1 OF 8
CITY DRAWING NUMBER
LD-3171
REV 1



SEE SHEET B-6

SEE SHEET B-4

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN AND EXACT LOCATIONS OF ALL UNDERGROUND INCLUDING SERVICE CONNECTIONS MUST BE CHECKED WITH THE UTILITY CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.

M.H. DEPTH PAV'T. TO FLOOR	D.
HYDRANT	+
WATER VALVES	+
SERVICE BOX	+
CATCH BASIN	+
ST. LIGHTING POLE	+
SURVEY BAR	+
W.H.E.S.	+
W.E.CO.	+
M.T.S.	+
CITY SIGNALS	+
ST. LIGHTING	+
SEWER (S)	+
WATERMANS	+
GAS	+
W.H.E.S. STEAM HT.	+
W.C.H.T. CO. STEAM HT.	+
C.P.R.Y. TELEGRAPHS	+
C.N.R.Y.	+

NOTE - ALL S.H. DUCTS APPROX. 2' SQ. G.C. - GATE CHAMBER

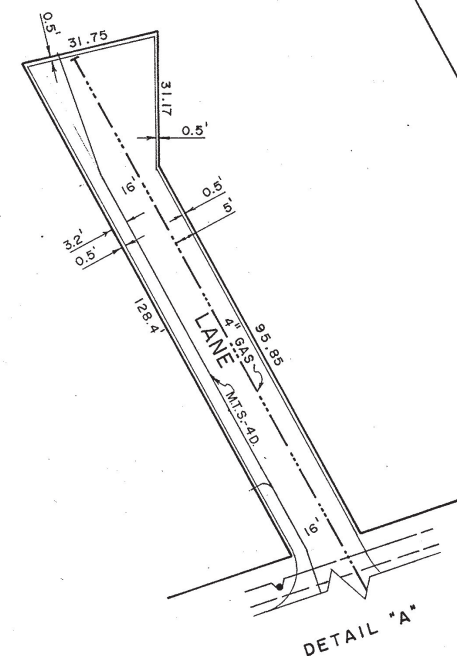
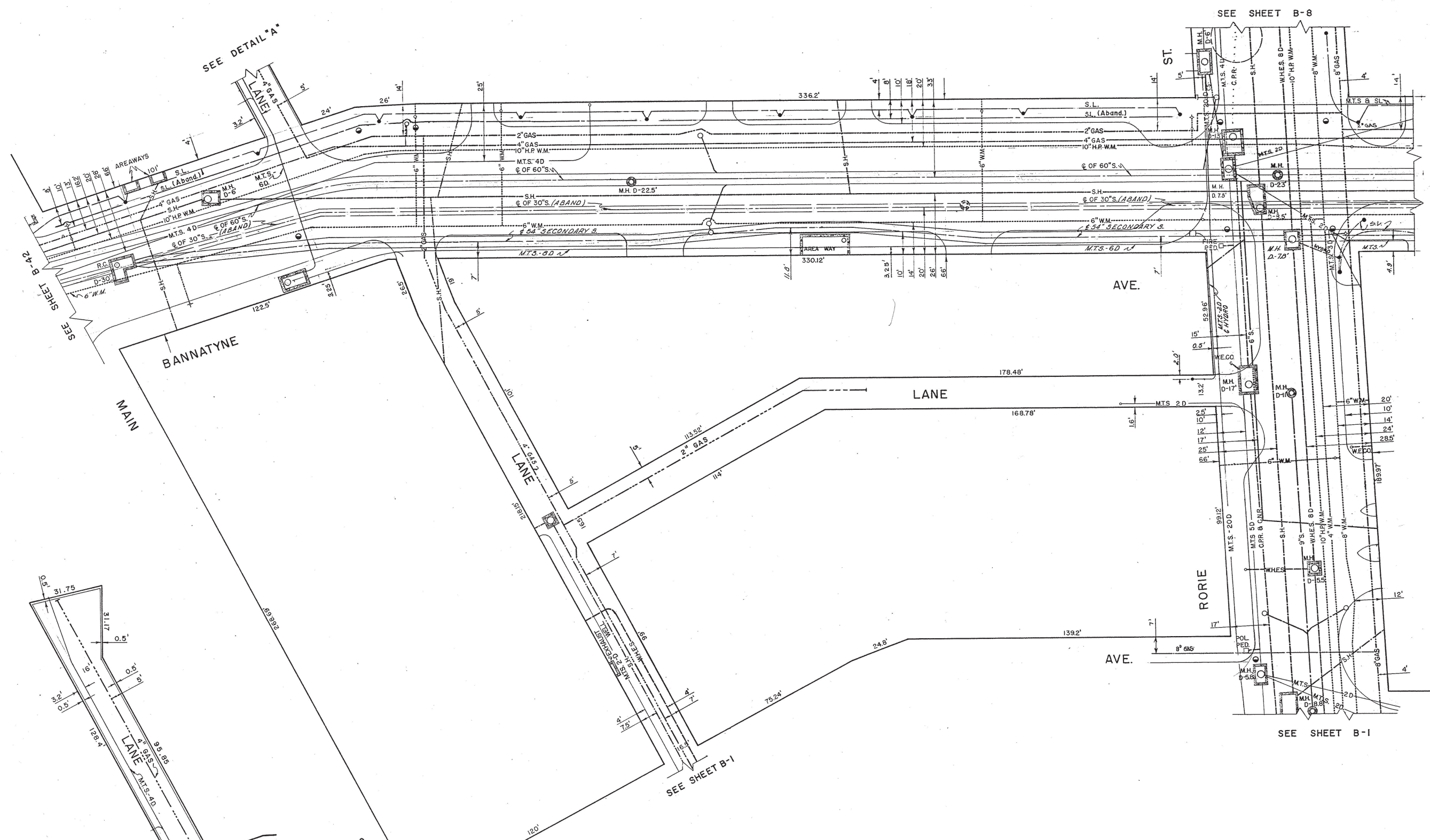
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7	13-11-74		R.D.	
6	13-2-73		I.Z.	
5	23-2-71		J.P.	
4	90-12-17		D.H.	
3	37-02-70		D.G.	
9	85-02-14		R.D.	
8	83-02-04		A.D.	

BLOCK BOUNDED BY BANNATYNE - McDERMOT RORIE TO 475' EAST

THE CITY OF WINNIPEG UNDERGROUND STRUCTURES

DRAWN BY R. POLLRATH
 TRACED BY E. KOROLL
 CHECKED BY J.D. STITT
 DATE APRIL 10-56

SCALE 1" = 20'
 SHEET NO. B-5



NO	DATE	REVISION	BY	CHKD
13	03-02-09		R.D.	
12	28-4-77		WKK	
11	13-11-74		R.D.	
10	13-2-73		IZ	
9	29-12-71		CH	
8	1-9-70	GAS	GH	
7	2-19-69		M.L.	
6	2-3-67		M.L.	
5	1-6-66		H.R.	
4	29-6-64	2" GAS - BANNATYNE	W.S.	
3	90-12-17		D.J.H.	
2	87-02-11		D.G.	
14	85-02-25		R.D.	

M.H. DEPTH PAV'T. TO FLOOR D.
 HYDRANT +
 WATER VALVES +
 SERVICE BOX +
 CATCH BASIN ○
 ST. LIGHTING POLE ○
 SURVEY BAR ●
 W.H.E.S. ---
 W.E.CO. ---
 M.T.S. ---
 CITY SIGNALS ---
 ST. LIGHTING ---
 SEWER (S) ---
 WATERMAINS ---
 GAS ---
 W.H.E.S. STEAM HT. ---
 W.C.H.T.CO. STEAM HT. ---
 C.P.R.Y. TELEGRAPHS ---
 C.N.R.Y. ---

NOTE - ALL S.H. DUCTS APPROX. 2" SQ.

BLOCK BOUNDED BY BANNATYNE - M^CDERMOT MAIN - RORIE

THE CITY OF WINNIPEG UNDERGROUND STRUCTURES

DRAWN BY R. VOLLRATH
 TRACED BY E. KOROLL
 CHECKED BY J.D. STITT
 DATE APR. 21-56

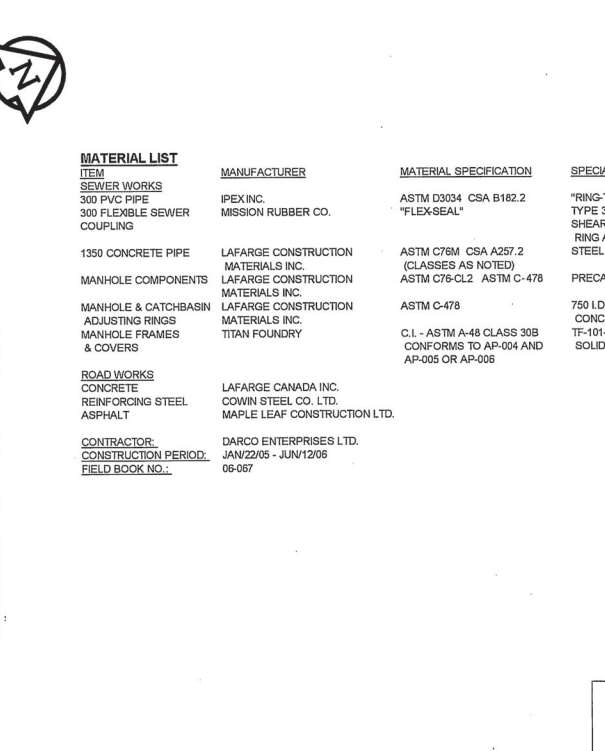
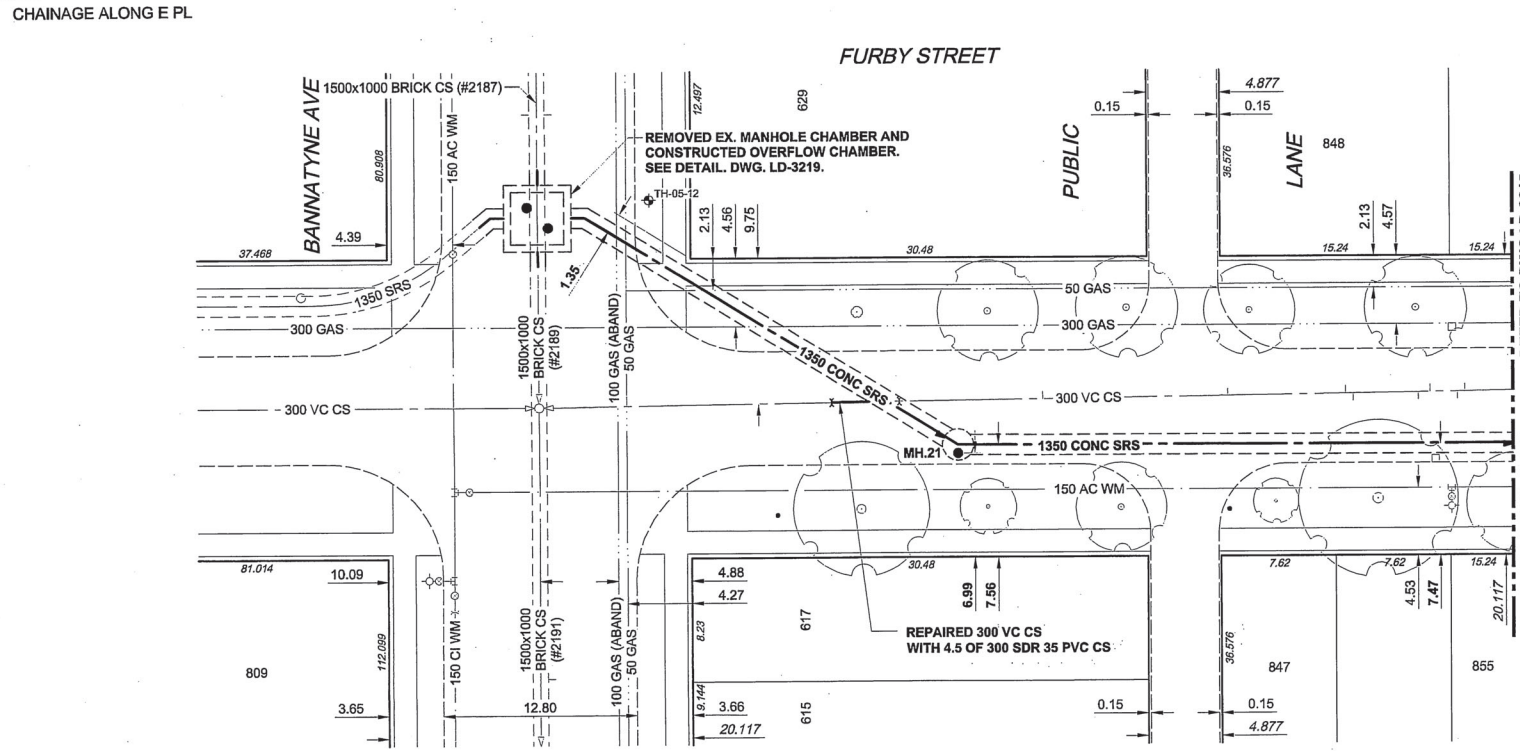
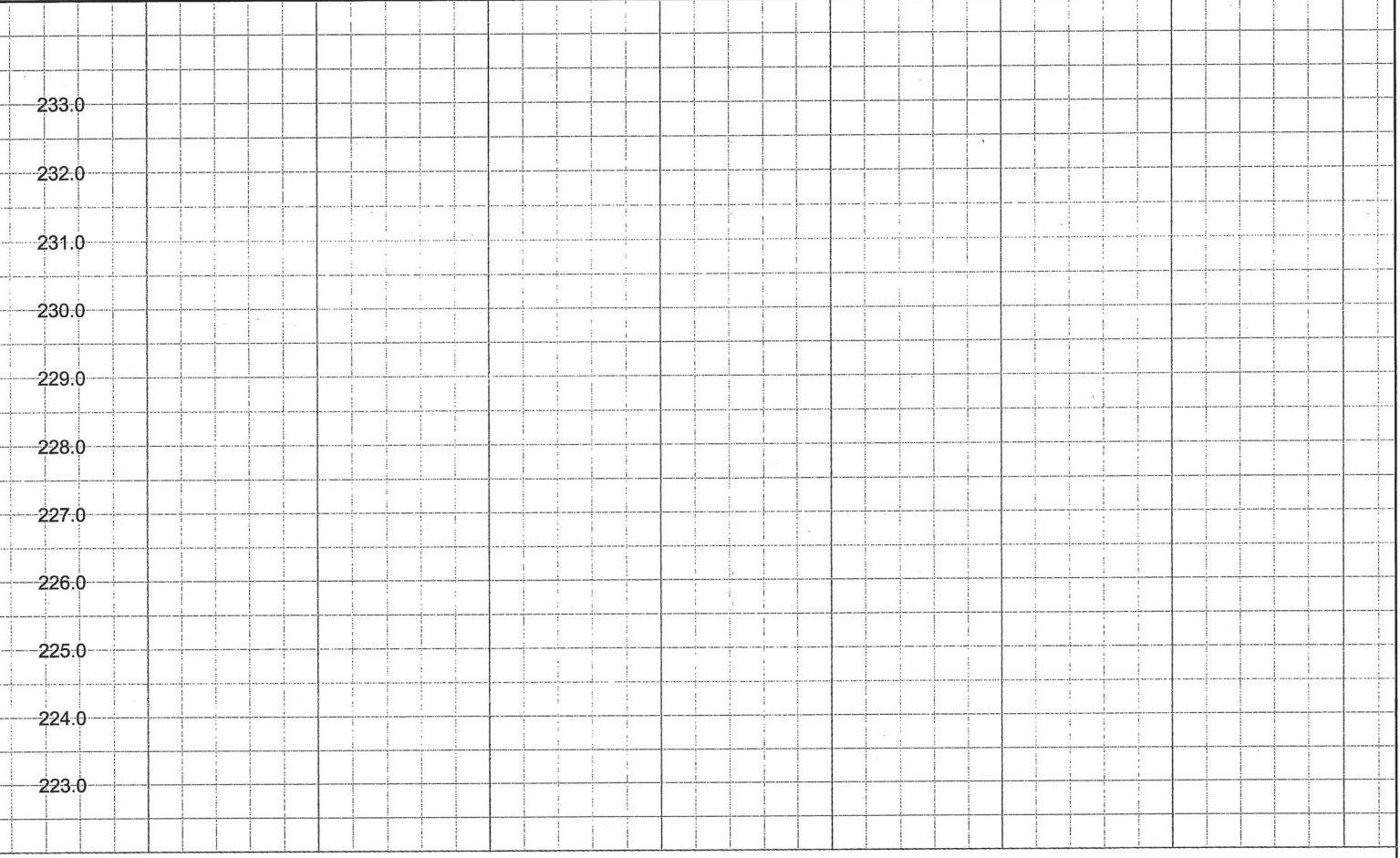
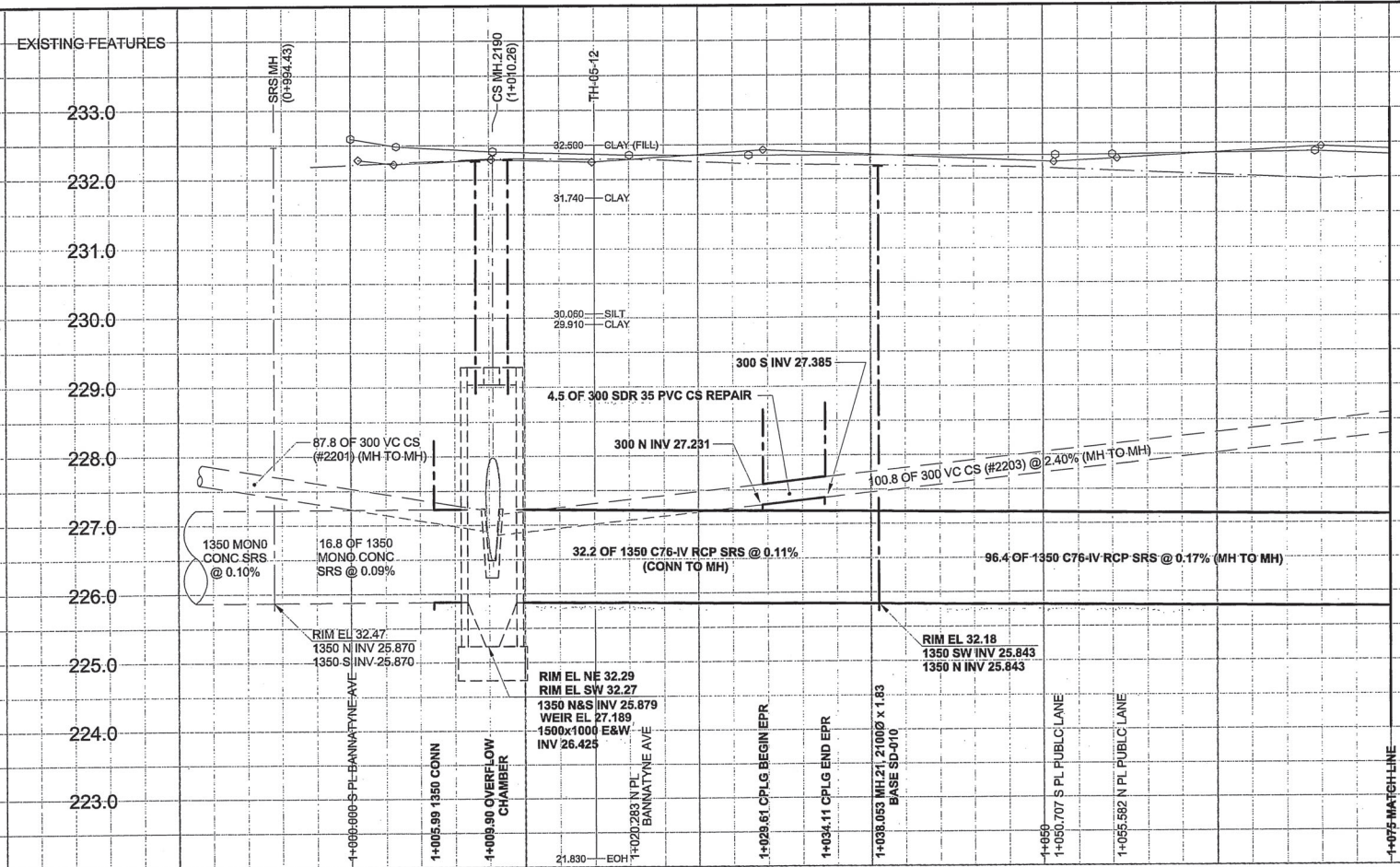
SCALE 1" = 20'
 SHEET NO. B-6

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN AND EXACT LOCATIONS OF ALL UNDERGROUND HOLDING SERVICE CONNECTIONS MUST BE CHECKED WITH THE UTILITY COMPANIES BEFORE PROCEEDING WITH CONSTRUCTION

D SIZE 22" x 34" (559mm x 864mm)

PLOT: 07/07/10 11:51:44 AM

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ITEM	MANUFACTURER	MATERIAL SPECIFICATION	SPECIAL FEATURES
SEWER WORKS			
300 PVC PIPE	IPEX INC.	ASTM D3034 CSA B182.2	"RING-TITE" SDR-35
300 FLEXIBLE SEWER COUPLING	MISSION RUBBER CO.	"FLEX-SEAL"	TYPE 316 STAINLESS STEEL SHEAR RING AND STRAPS
1350 CONCRETE PIPE	LAFARGE CONSTRUCTION MATERIALS INC.	ASTM C76M CSA A257.2 (CLASSES AS NOTED)	STEEL REINFORCED
MANHOLE COMPONENTS	LAFARGE CONSTRUCTION MATERIALS INC.	ASTM C78-CL2 ASTM C-478	PRECAST, STEEL REINFORCED
MANHOLE & CATCHBASIN ADJUSTING RINGS	LAFARGE CONSTRUCTION MATERIALS INC.	ASTM C-478	750 L.D. x (50 TO 125) PRECAST CONCRETE ADJUSTING RINGS
MANHOLE FRAMES & COVERS	TITAN FOUNDRY	C.I. - ASTM A-48 CLASS 30B CONFORMS TO AP-004 AND AP-005 OR AP-006	TF-101-8 MH FRAME AND SOLID OR GRATED COVER
ROAD WORKS			
CONCRETE	LAFARGE CANADA INC.		
REINFORCING STEEL	COWIN STEEL CO. LTD.		
ASPHALT	MAPLE LEAF CONSTRUCTION LTD.		
CONTRACTOR:	DARCO ENTERPRISES LTD.		
CONSTRUCTION PERIOD:	JAN/22/05 - JUN/12/06		
FIELD BOOK NO.:	06-067		

150 mm WM	150 mm WM	150 mm WM	150 mm WM	150 mm WM	150 mm WM	150 mm WM	150 mm WM
HYDRANT	HYDRANT	REDUCER	REDUCER	HYDRANT	HYDRANT	LAND DRAINAGE SEWER	LAND DRAINAGE SEWER
VALVE	VALVE	COUPLING	COUPLING	VALVE	VALVE	WASTE WATER SEWER	WASTE WATER SEWER
MANHOLE	MANHOLE	MTS	MTS	MANHOLE	MANHOLE	PAVEMENT CROWN	PAVEMENT CROWN
CATCH BASIN	CATCH BASIN	GAS	GAS	CATCH BASIN	CATCH BASIN	N/W PROPERTY LINE	N/W PROPERTY LINE
CURB INLET	CURB INLET	TESTHOLE	TESTHOLE	CURB INLET	CURB INLET	N/W GUTTER	N/W GUTTER
CULVERT	CULVERT	LAMP STANDARD	LAMP STANDARD	CULVERT	CULVERT	S/E GUTTER	S/E GUTTER
PIPE ABANDONMENTS	PIPE ABANDONMENTS	TREE	TREE	PIPE ABANDONMENTS	PIPE ABANDONMENTS		
SURVEY BAR	SURVEY BAR			SURVEY BAR	SURVEY BAR		
EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PROFILE	NEW	EXISTING	LEGEND - PROFILE

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.

NO.	REVISIONS	BY	DATE
1	ISSUED FOR RECORD	KMB	06/12/19
0	ISSUED FOR CONSTRUCTION	ADL	05/11/03

DESIGNED BY	CHECKED BY	APPROVED BY	RELEASED FOR CONSTRUCTION
GEB			
ADL			

UMA | AECOM

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PROFESSIONAL'S SEAL

PROVINCE OF MANITOBA

REGISTERED PROFESSIONAL ENGINEER

A. NAGY

July 1, 2007

CONSULTANT DRAWING NO. 11

D265-177-02

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT

ALEXANDER/BANNATYNE COMBINED SEWER RELIEF CONTRACT 2B

FURBY STREET
BANNATYNE AVENUE
TO 45m SOUTH OF WILLIAM AVENUE

CONSTRUCTION COMPLETION DATE
MAY 19, 2006

RECORD DRAWING

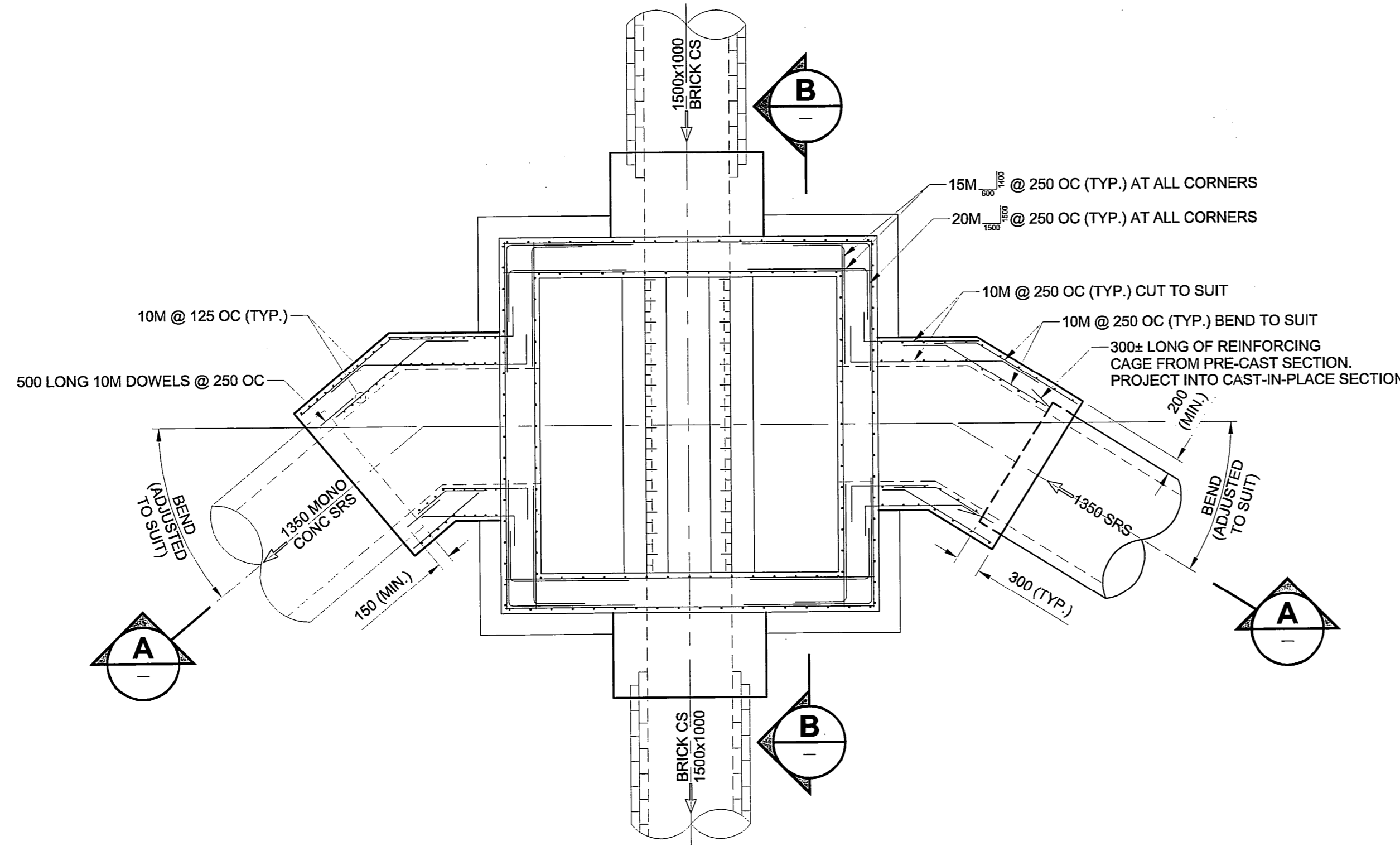
BID OPPORTUNITY NO. 584-2005

SHEET 11 OF 18

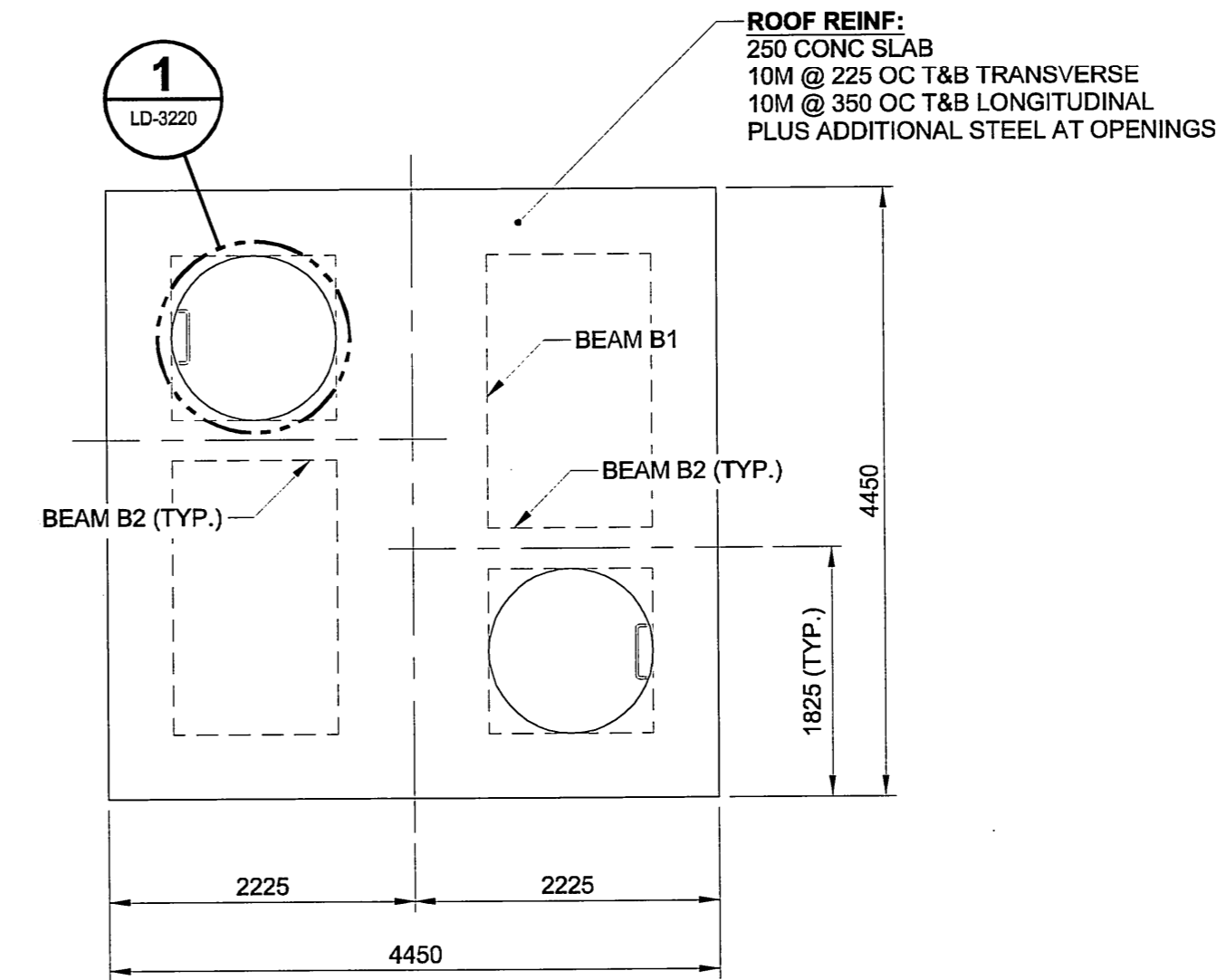
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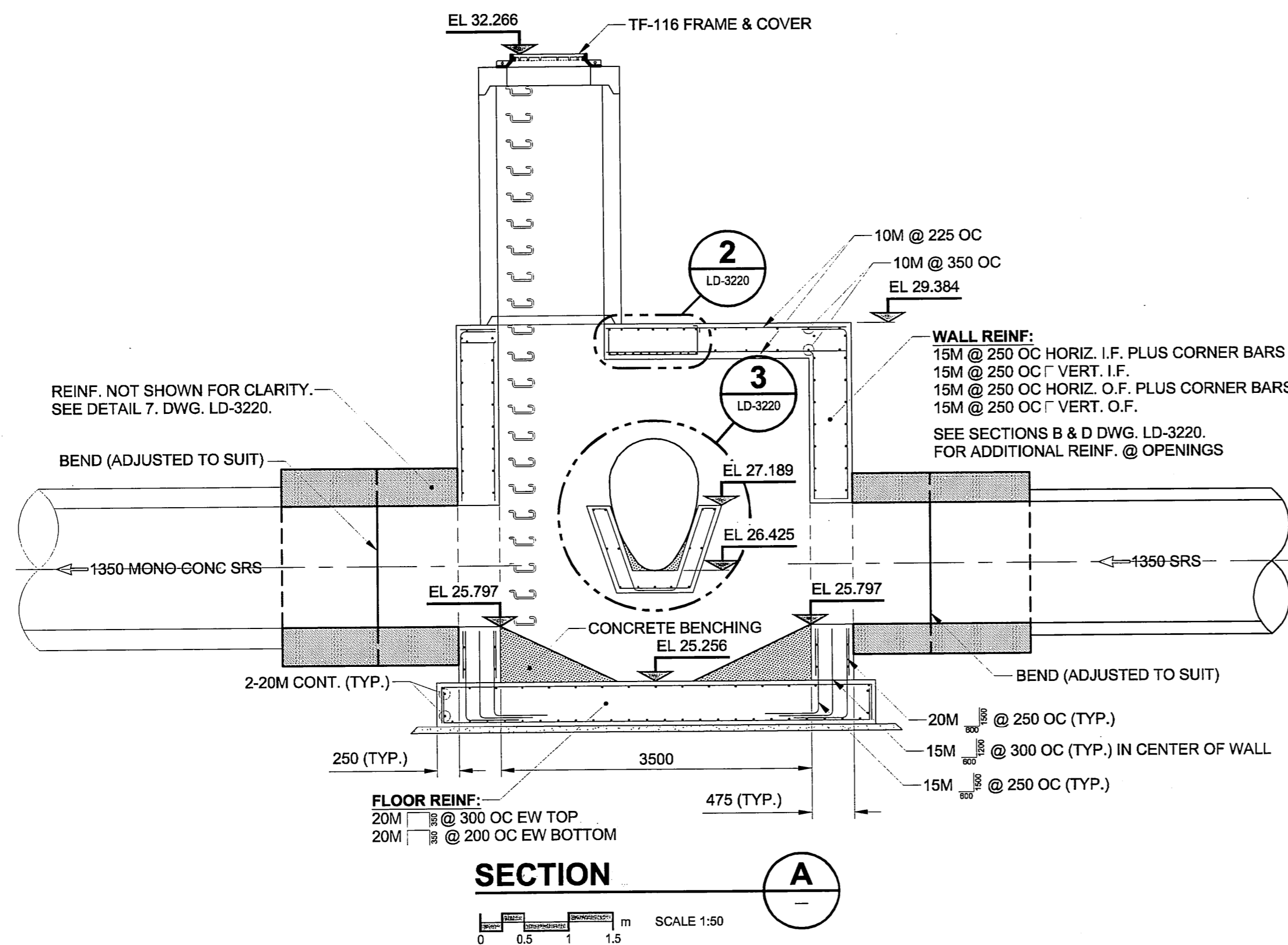
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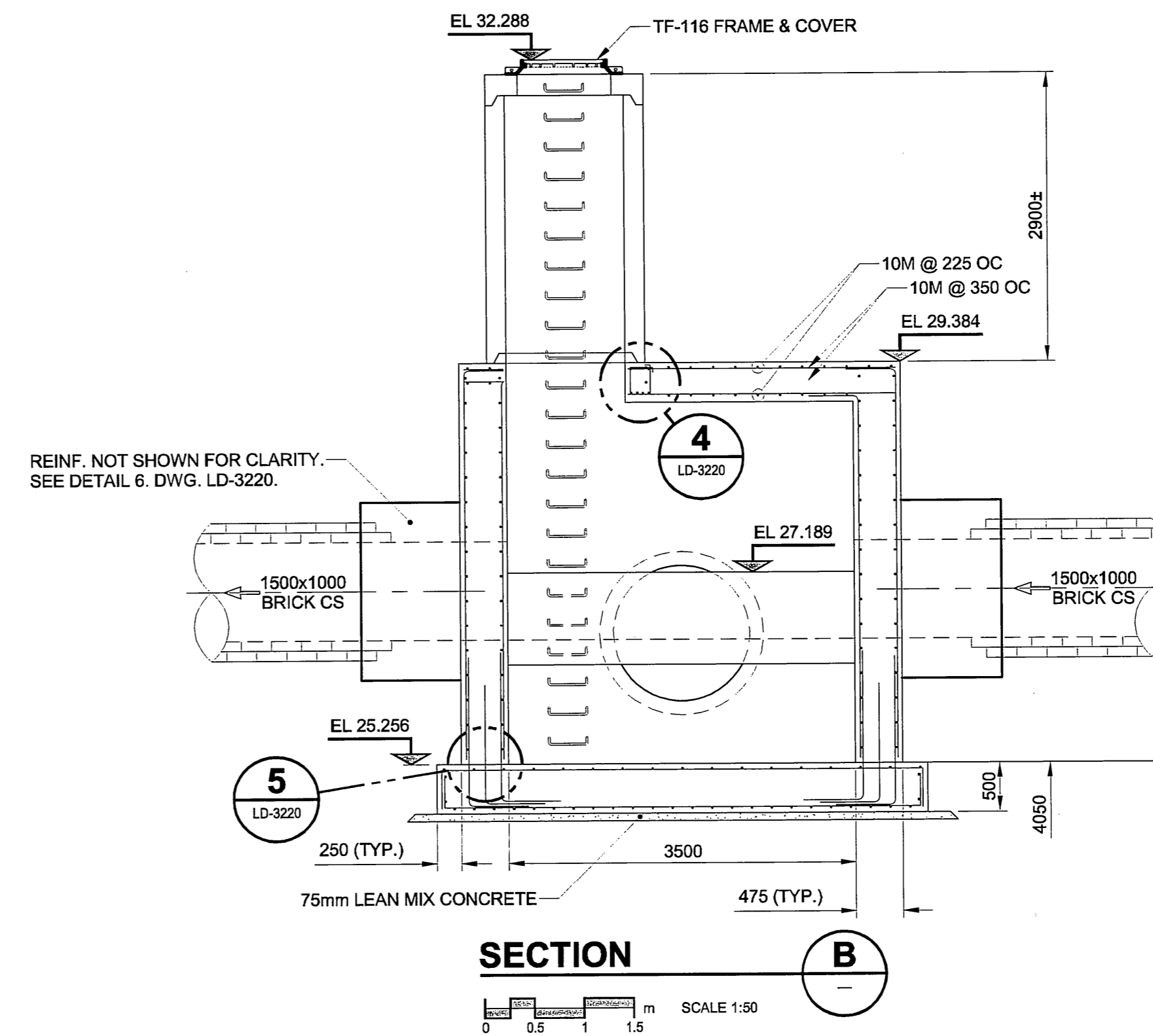
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SCALE 1:50



ROOF PLAN
SCALE 1:50



SECTION A-A
SCALE 1:50



SECTION B-B
SCALE 1:50

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMAL NUMBERS INDICATE METRES

APECM
Certificate of Authorization
UMA Engineering Ltd. (MB)
No. 256 Date: 07/07/10

CONSTRUCTION COMPLETION DATE
MAY 19, 2005
RECORD DRAWING

BID OPPORTUNITY NO. 584-2005

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

LOCATION APPROVED UNDERGROUND STRUCTURES	
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0	ISSUED FOR CONSTRUCTION 05/11/03 ADL
NO.	REVISIONS

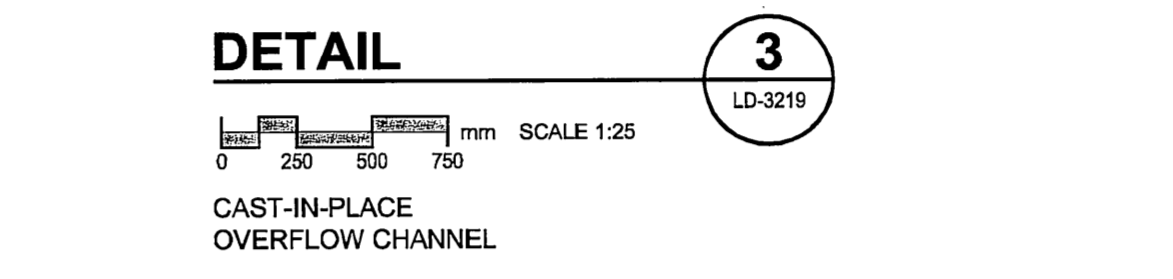
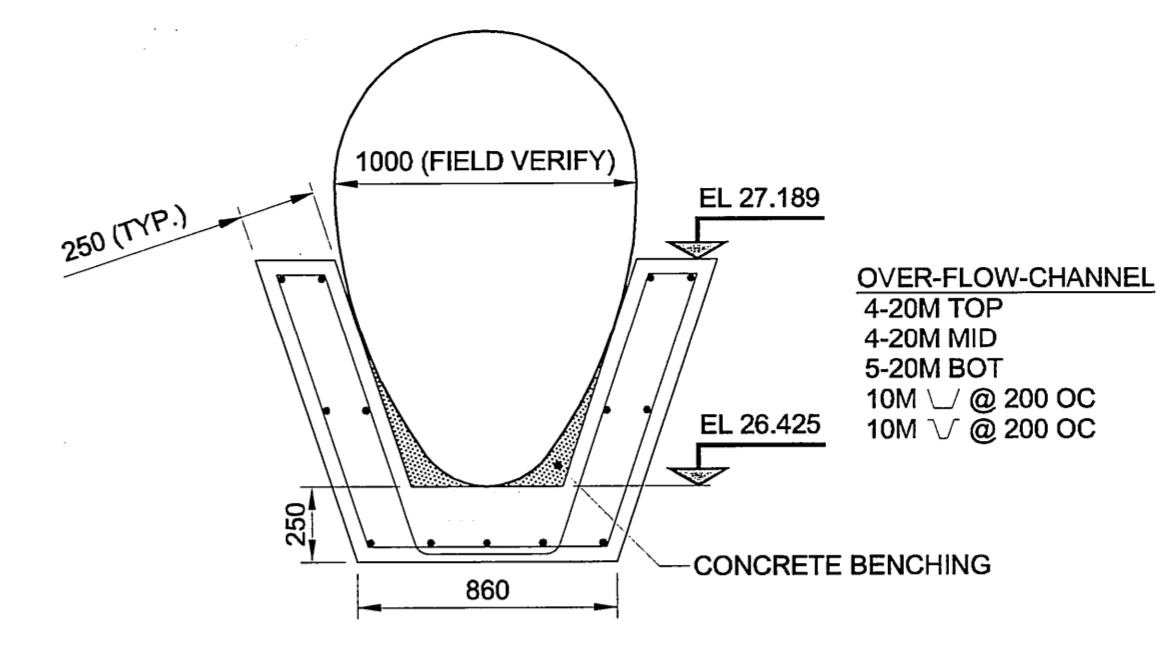
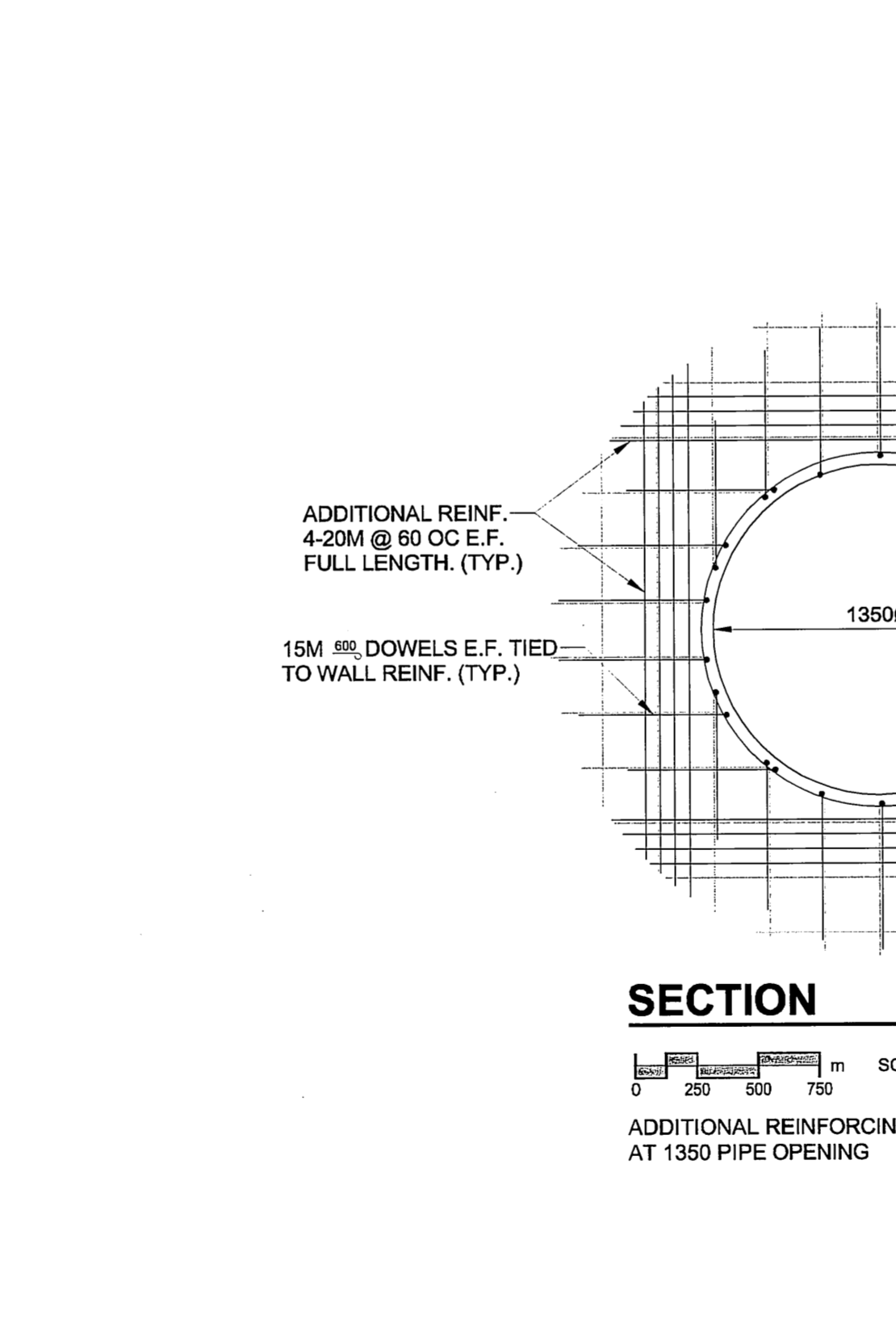
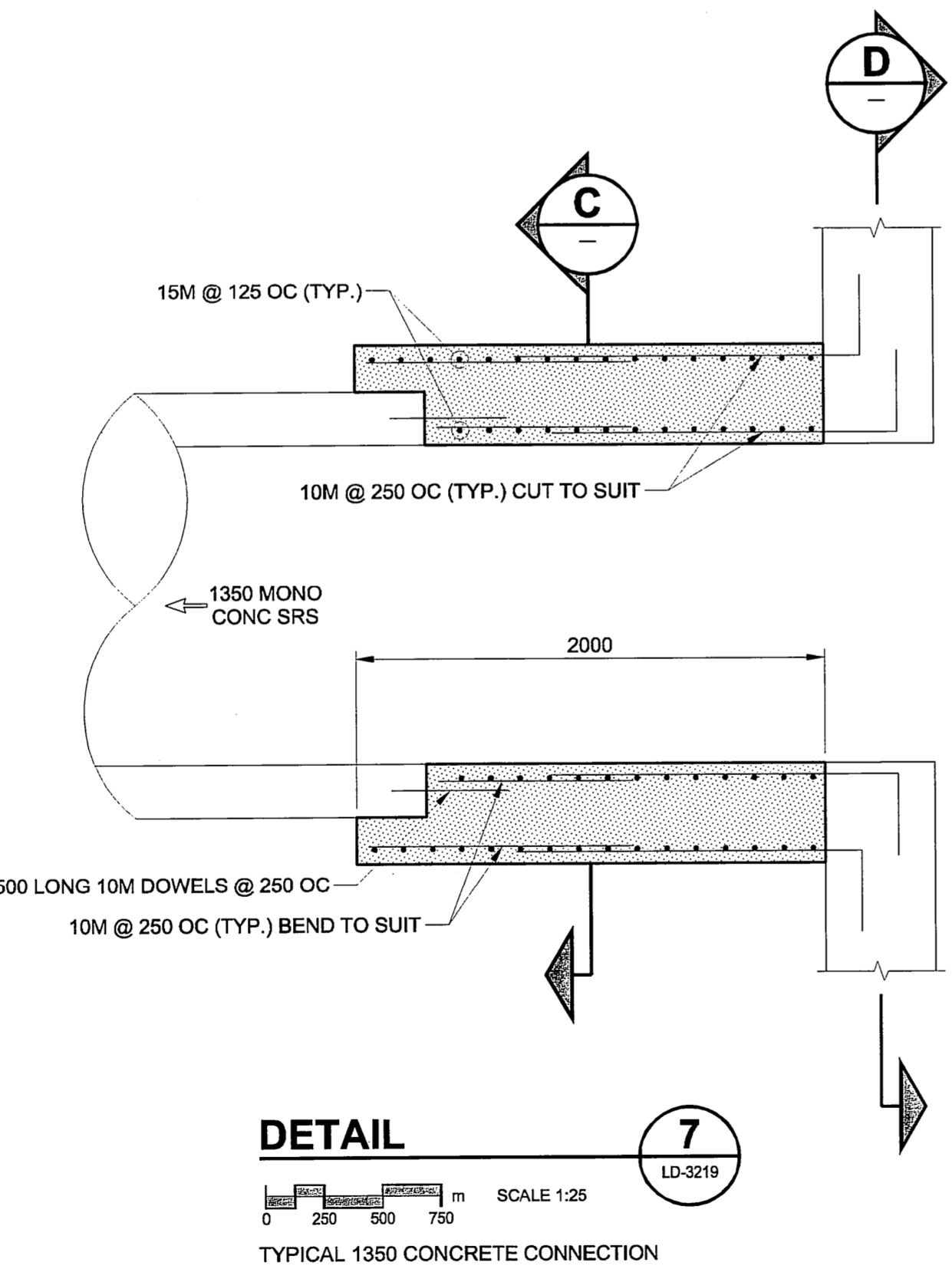
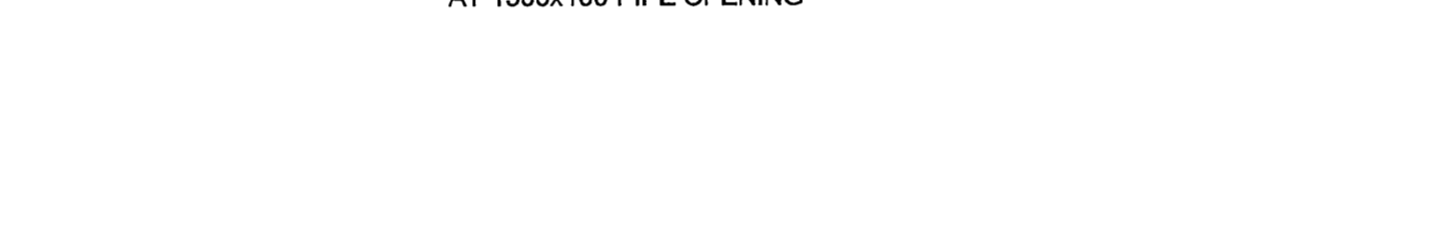
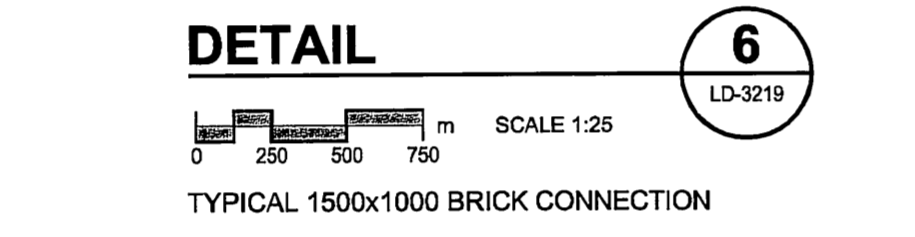
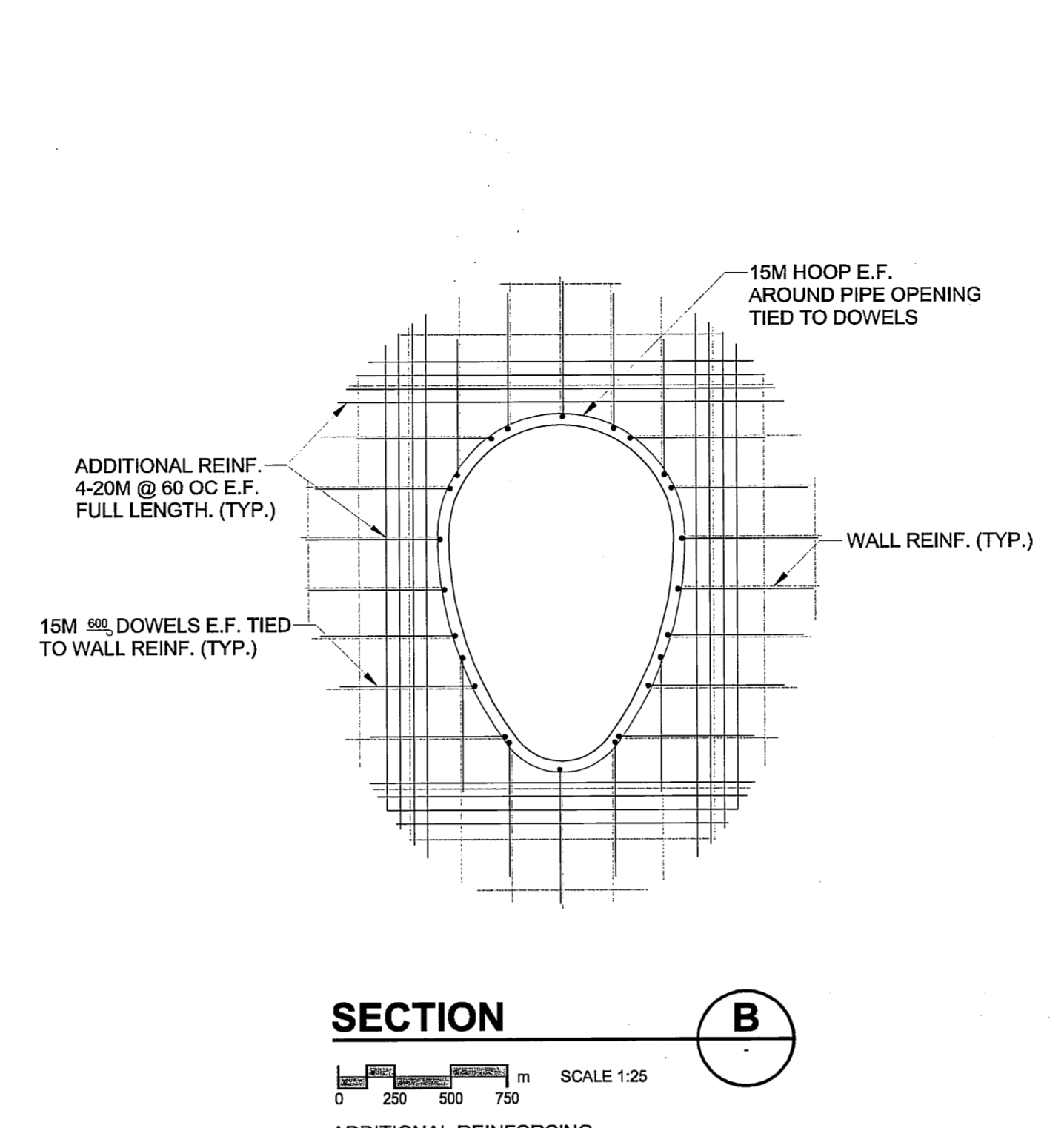
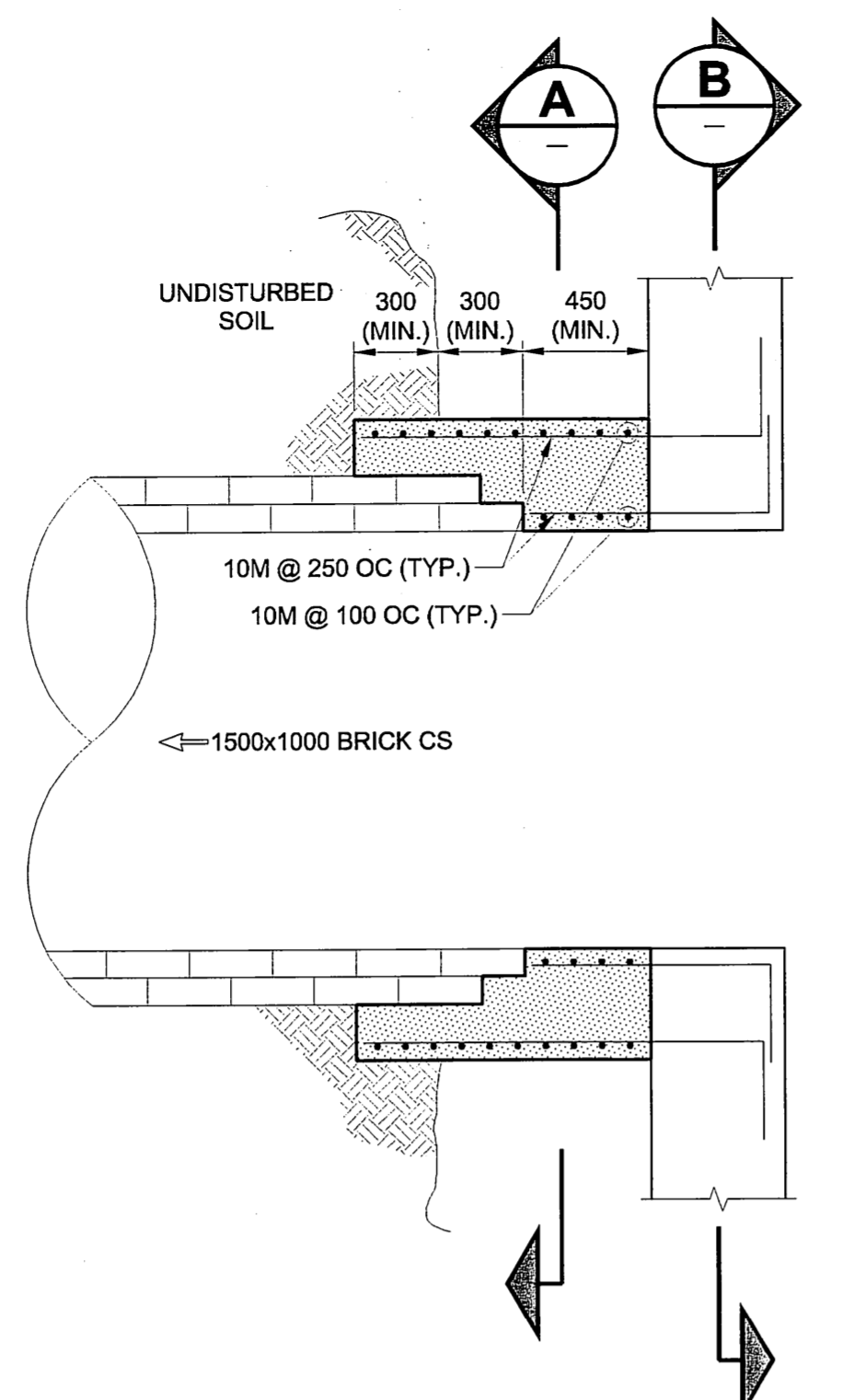
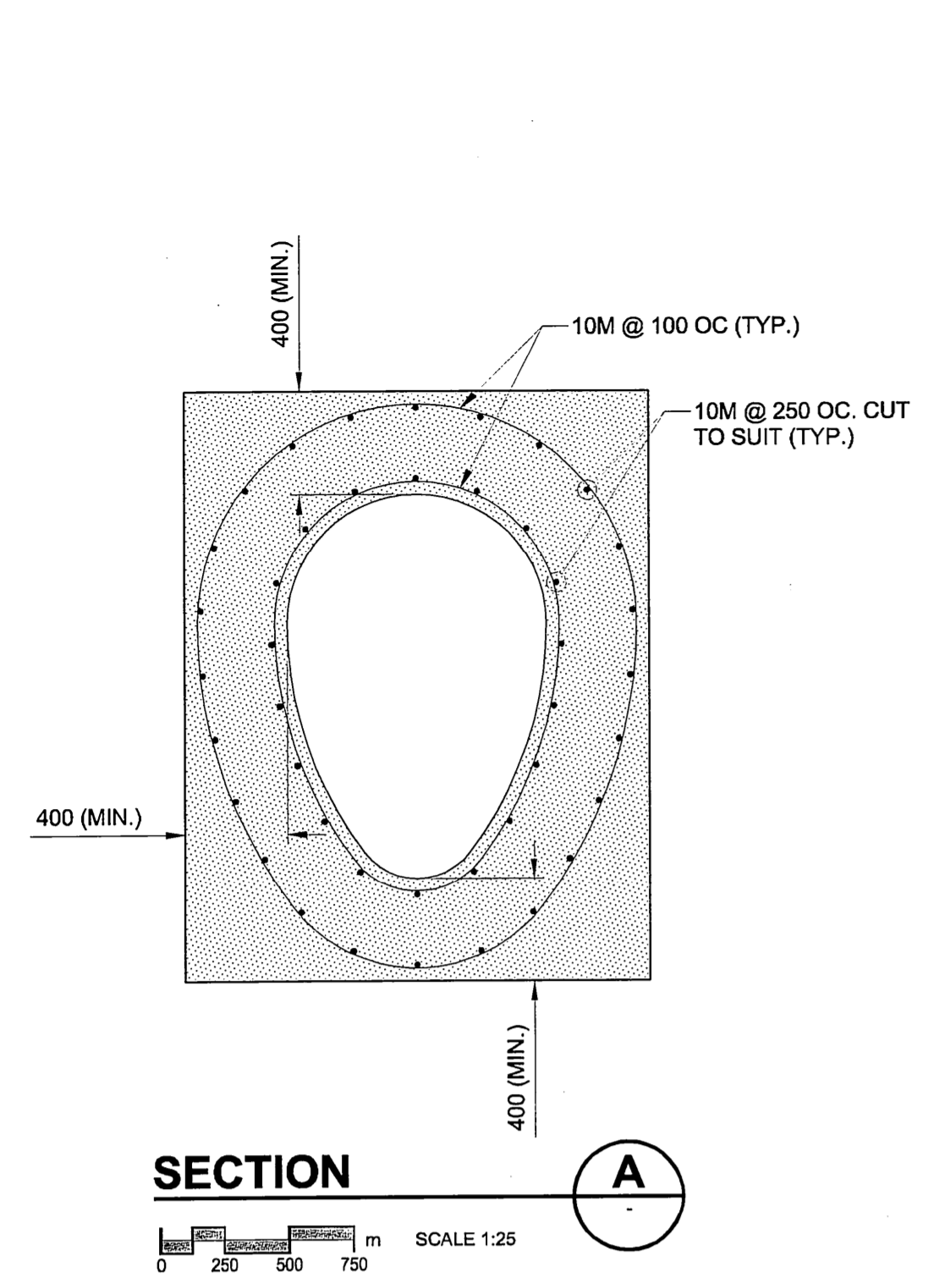
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ADL			
HOR. SCALE		RELEASED FOR CONSTRUCTION	
AS NOTED			
VERT. SCALE		DATE	
N/A			
DATE		DATE	
07/07/10			

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA
REGISTERED PROFESSIONAL ENGINEER
A. NAGY
JULY 19, 2005
CONSULTANT DRAWING NO. 16
D265-177-02

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

ALEXANDER/BANNATYNE
COMBINED SEWER RELIEF
CONTRACT 2B
OVERFLOW STRUCTURE
STRUCTURAL PLANS & SECTIONS

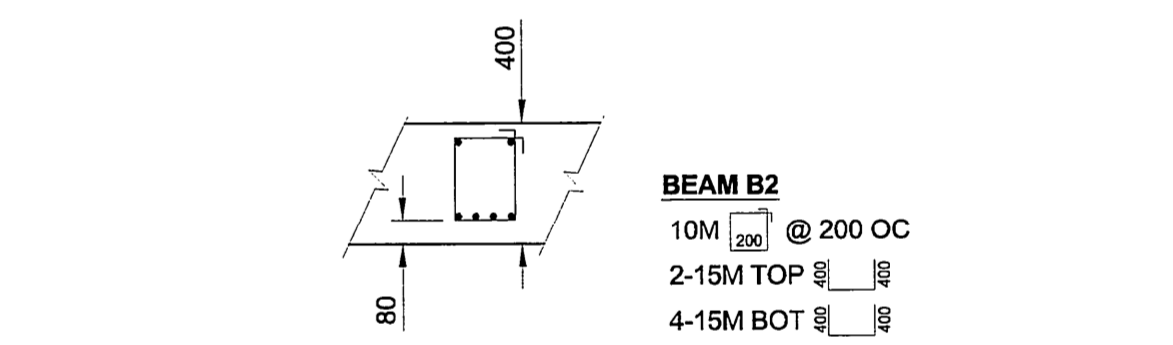
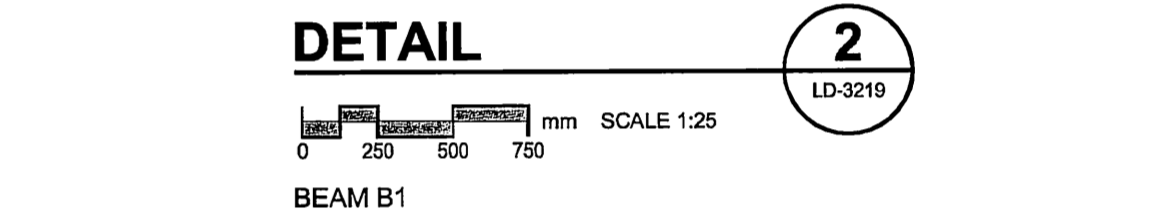
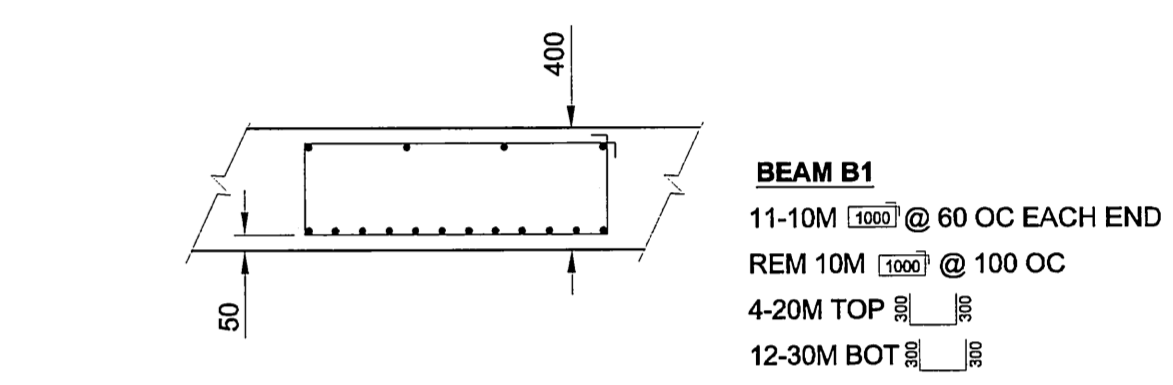
SHEET 16 OF 18
CITY DRAWING NUMBER
LD-3219
REV 1



HYDRAULIC CEMENT GROUT	EXPOXY GROUT
d = BAR DIA. +20mm	
Le: 10M - 150mm	d AND Le IN ACCORDANCE WITH MANUFACTURER'S PRINTED SPECIFICATIONS
15M - 200mm	
20M - 250mm	
25M - 300mm	

d = REINFORCING BAR DIAMETER
Le = LENGTH OF REINFORCING BAR

LAP TABLE	
BAR	LAP
10M	500
15M	700
20M	870



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

APEGM
Certificate of Authorization
UMA Engineering Ltd. (MB)
No. 256 Date: 07/07/10

CONSTRUCTION COMPLETION DATE
2006 MAY 19
RECORD DRAWING

BID OPPORTUNITY NO. 584-2005

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPR. U/G STRUCTURES DATE COMMITTEE

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.	ISSUED FOR RECORD	DATE	BY
1	ISSUED FOR RECORD	06/12/19	KMB
0	ISSUED FOR CONSTRUCTION	05/11/03	ADL
NO.	REVISIONS	YYMMDD	BY

UMA | AECOM

DESIGNED BY: GEB
CHECKED BY: [Signature]
DRAWN BY: ADL
APPROVED BY: [Signature]

HOR. SCALE: AS NOTED
VERT. SCALE: N/A

RELEASED FOR CONSTRUCTION

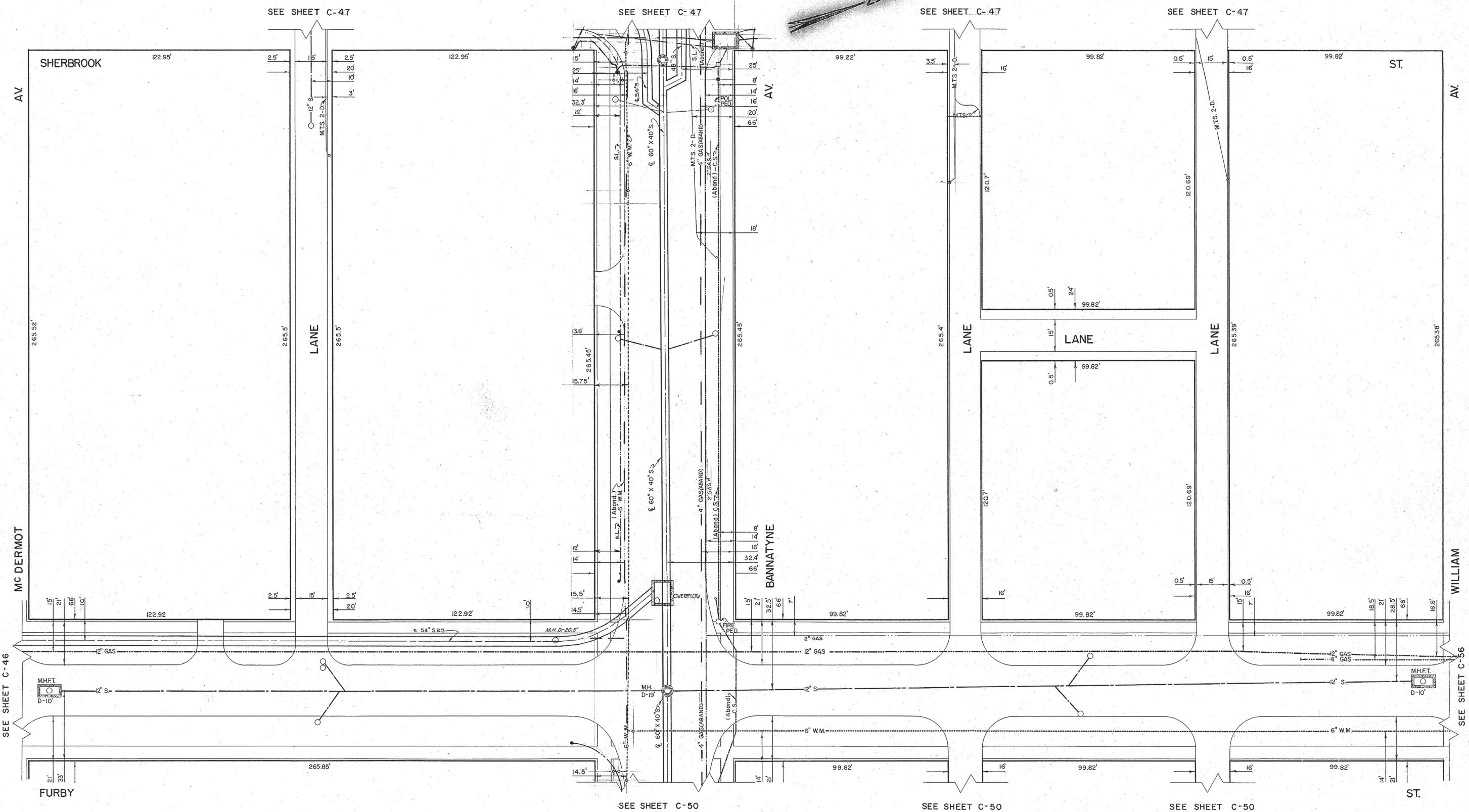
DATE: 07/07/10

PROFESSIONAL'S SEAL
A. NAGY
REGISTERED PROFESSIONAL ENGINEER
CONSULTANT DRAWING NO. 17
D265-177-02

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

ALEXANDER/BANNATYNE
COMBINED SEWER RELIEF
CONTRACT 2B
OVERFLOW STRUCTURE
STRUCTURAL SECTIONS & DETAILS

SHEET 17 OF 18
CITY DRAWING NUMBER
LD-3220
REV 1



LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN, AND EXACT LOCATIONS OF ALL UNDERGROUND INCLUDING SERVICE CONNECTIONS MUST BE CHECKED WITH THE UTILITY CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.

NO	DATE	REVISION	BY	CHKD
10	92-02-03		RC	
8	85-06-21		R.D.	
7	80-2-13		HH	
6	14-3-73		IZ	
5	1-2-72		QH	
4	80-1-70		ML	
3	27-1-69		AC	
2	12-3-68		AC	
9	88-7-11		R.D.	

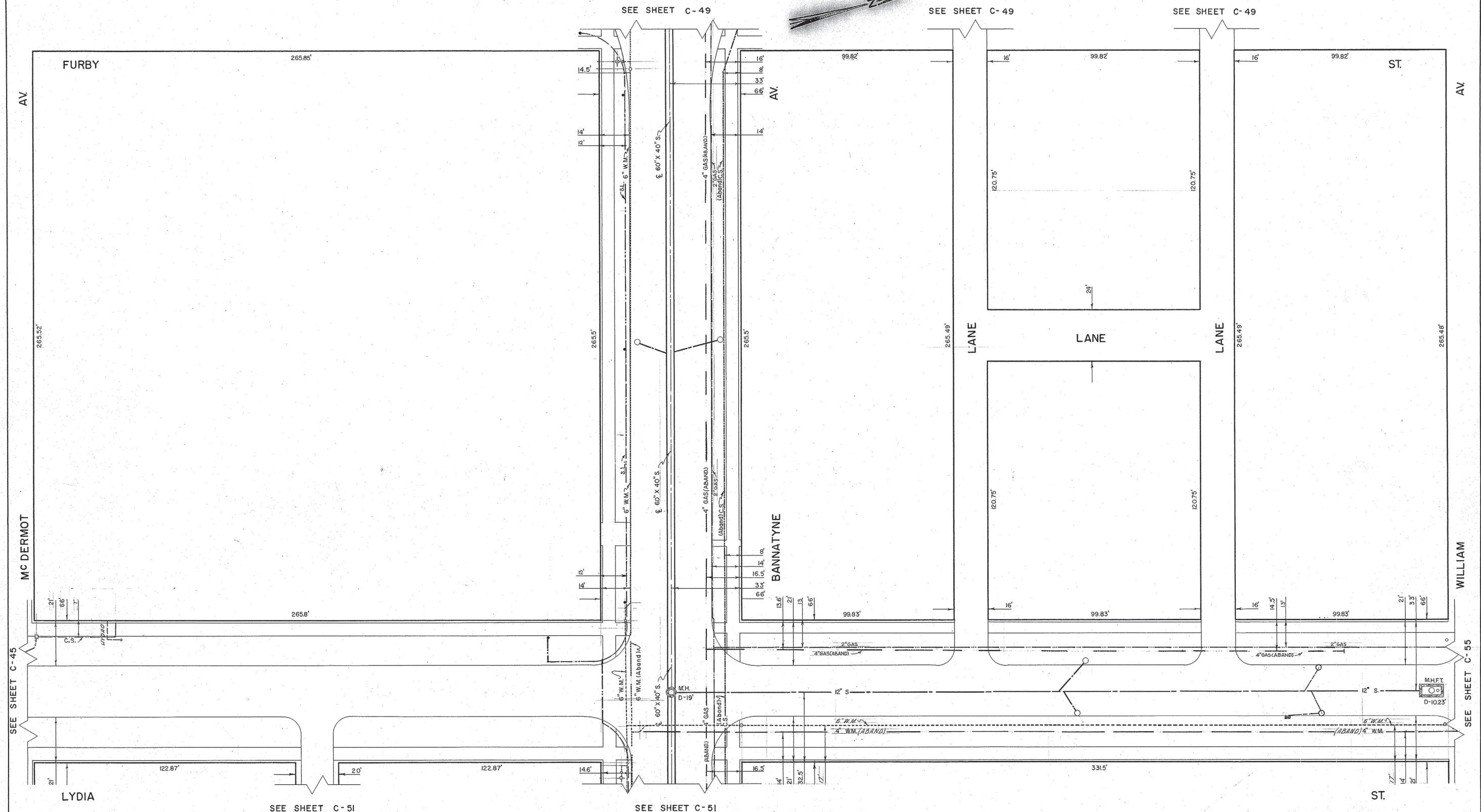
NO	DATE	REVISION	BY	CHKD
10	92-02-03		RC	
8	85-06-21		R.D.	
7	80-2-13		HH	
6	14-3-73		IZ	
5	1-2-72		QH	
4	80-1-70		ML	
3	27-1-69		AC	
2	12-3-68		AC	
9	88-7-11		R.D.	

BLOCK BOUNDED BY
WILLIAM - McDERMOT
FURBY - SHERBROOK

THE CITY OF WINNIPEG
UNDERGROUND STRUCTURES

DRAWN BY: W. SCHWARZENAU
TRACED BY: R.W. DONALD
CHECKED BY: J. J. G. G.
DATE: MAY 15, 1964

SCALE
1" = 20'
SHEET NO.
C-49



NO	DATE	REVISION	BY	CHKD
11	88-07-11			
10	85-06-21			R.D.
9	83-03-25			R.D.
8	7-6-77			A.D.
7	13-11-74			W.H.
6	16-3-73			R.F.
5	2-2-72			I.Z.
4	30-1-70			C.H.
3	28-1-69			M.L.
2	16-1-68			H.R.
1	18-1-57	HYDRO	G.H.	H.R.

LEGEND	D.
M.H. DEPTH PAV'T. TO FLOOR	+
HYDRANT	o
WATER VALVES	+
SERVICE BOX	o
CATCH BASIN	o
ST. LIGHTING POLE	o
SURVEY BAR	o
W.H.E.S.	o
M.T.S.	o
CITY SIGNALS	o
ST. LIGHTING	o
SEWER (S)	o
WATERMANS	o
GAS	o
W.H.E.S. STEAM HT.	o
W.G.H.T. CO. STEAM HT.	o
C. P. RY. TELEGRAPHS	o
C. N. RY.	o

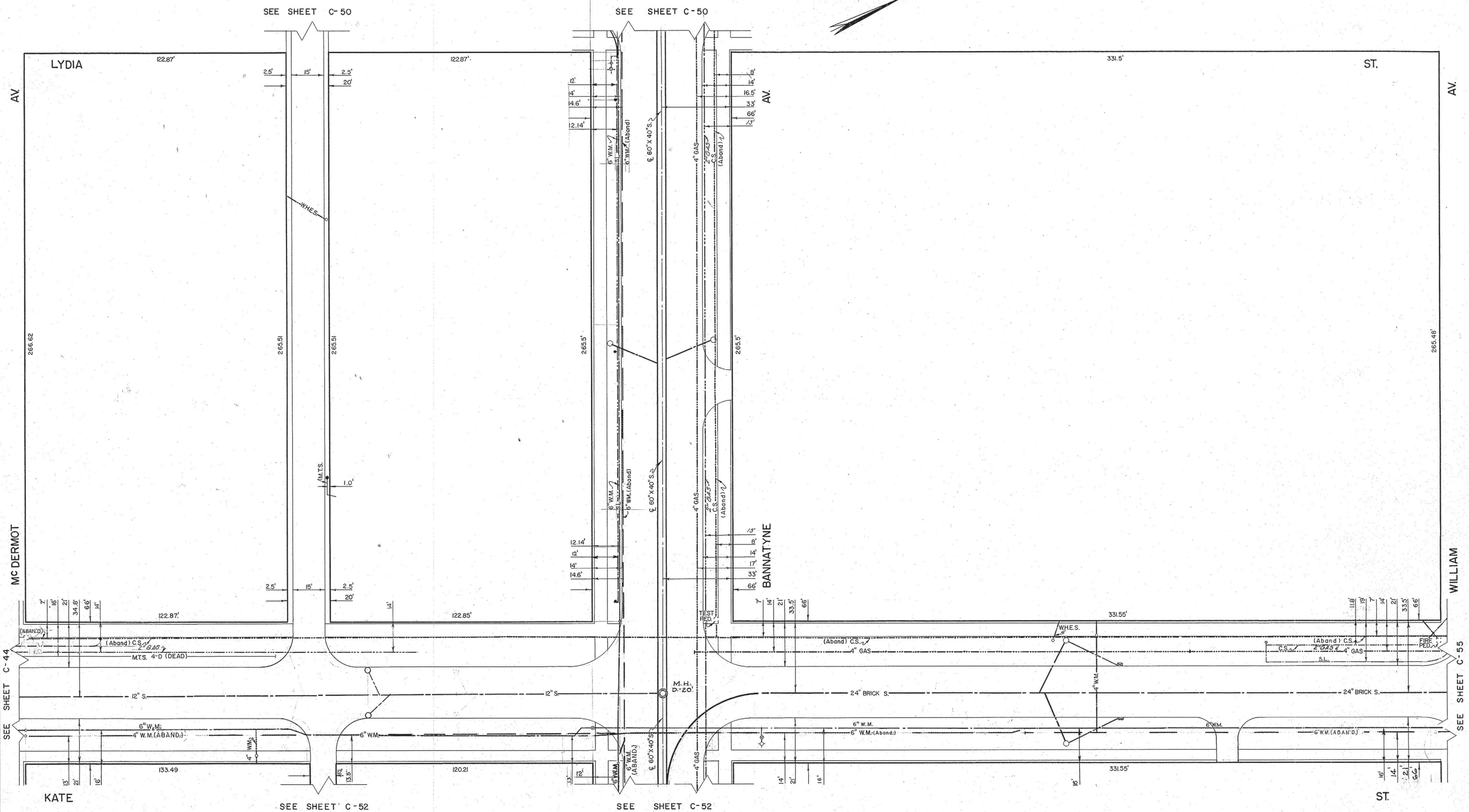
BLOCK BOUNDED BY
 WILLIAM - MC DERMOT
 LYDIA - FURBY

THE CITY OF WINNIPEG
 UNDERGROUND STRUCTURES

DRAWN BY: W. SCHWARZENAU
 TRACED BY: R.W. DONALD
 CHECKED BY: B.M. 1-65
 DATE: MAY 20, 1964

SCALE
 1" = 20'
 SHEET NO.
 C-50

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN, AND EXACT LOCATIONS OF ALL UNDERGROUND INCLUDING SERVICE CONNECTIONS, MUST BE CHECKED WITH THE UTILITY CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.



NO	DATE	REVISION	BY	CHKD
12	92-02-04			P.C.
11	88-07-12			R.D.
10	78-10-06			B.K.
9	1-6-77			W.K.H.
8	18-11-74			AR
7	19-3-73			IZ
6	3-2-72			SI
5	2-2-72			CH
4	30-1-70			M.L.
3	24-6-69			AR
2	12-3-68			AR
1	10-1-67	GAS	G.H.	AR

SYMBOL	DESCRIPTION
D	M.H. DEPTH PAV'T. TO FLOOR
+	HYDRANT
o	WATER VALVES
□	SERVICE BOX
○	CATCH BASIN
●	ST LIGHTING POLE
•	SURVEY BAR
—	W.H.E.S.
---	M.T.S.
---	CITY SIGNALS
---	ST LIGHTING
---	SEWER (S)
---	WATERMANS
---	GAS
---	W.H.E.S. STEAM HT.
---	W.G.H.T CO. STEAM HT.
---	C.P.R.Y TELEGRAPHS
---	C.N.R.

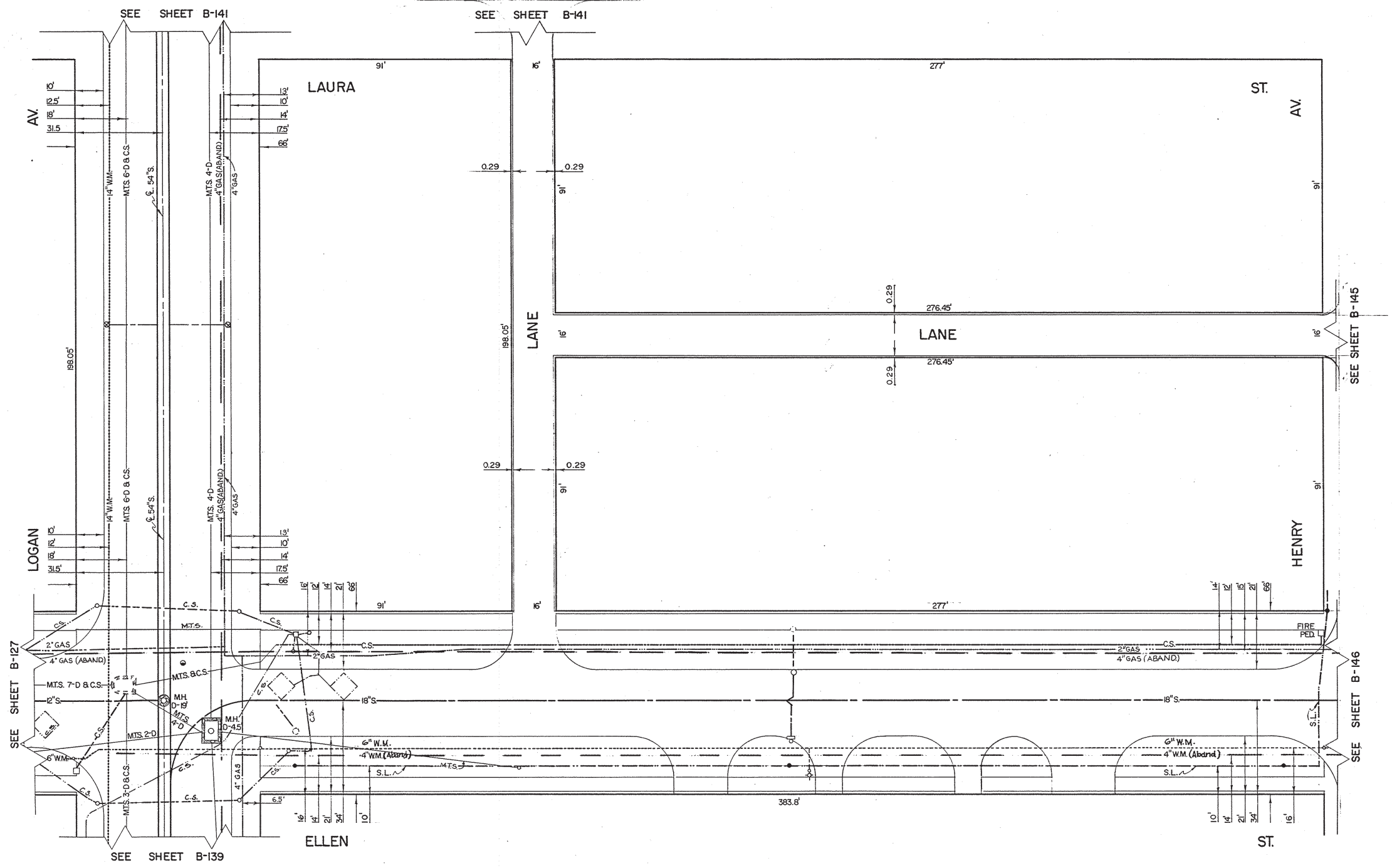
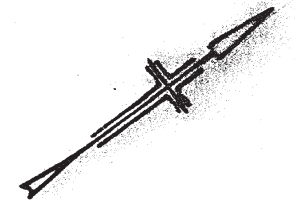
BLOCK BOUNDED BY
WILLIAM - MC DERMOT
KATE - LYDIA

THE CITY OF WINNIPEG
UNDERGROUND STRUCTURES

DRAWN BY W. SCHWARZENAU
TRACED BY R.W. DONALD
CHECKED BY J.M.L.G.S.
DATE MAY 26, 1964

SCALE
1" = 20'
SHEET NO.
C-51

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN, AND EXACT LOCATIONS OF UNDERGROUND INCLUDING SERVICE CONNECTIONS MUST BE CHECKED WITH THE UTILITY CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.



Symbol	Description
D	M.H. DEPTH PAV'T. TO FLOOR
+	HYDRANT
+	WATER VALVES
+	SERVICE BOX
○	CATCH BASIN
○	ST. LIGHTING POLE
○	SURVEY BAR
○	W.H.E.S.
○	M.T.S.
○	CITY SIGNALS
○	ST. LIGHTING
○	SEWER (S)
○	WATERMANS
○	GAS
○	W.H.E.S. STEAM HT.
○	W.C.H.T. CO. STEAM HT.
○	C. P. RY. TELEGRAPHS
○	C. N. RY.

NO	DATE	REVISION	BY
9	05-07-24		SW
8	03-03-17		BW
7	79-01-25		B.K.
6	13-12-74		R.D.
5	13-3-73		I.Z.
4	27-1-72		C.
3	1-28-70		S.
2	2-11-69		M.L.
10	07-04-23		R.D.

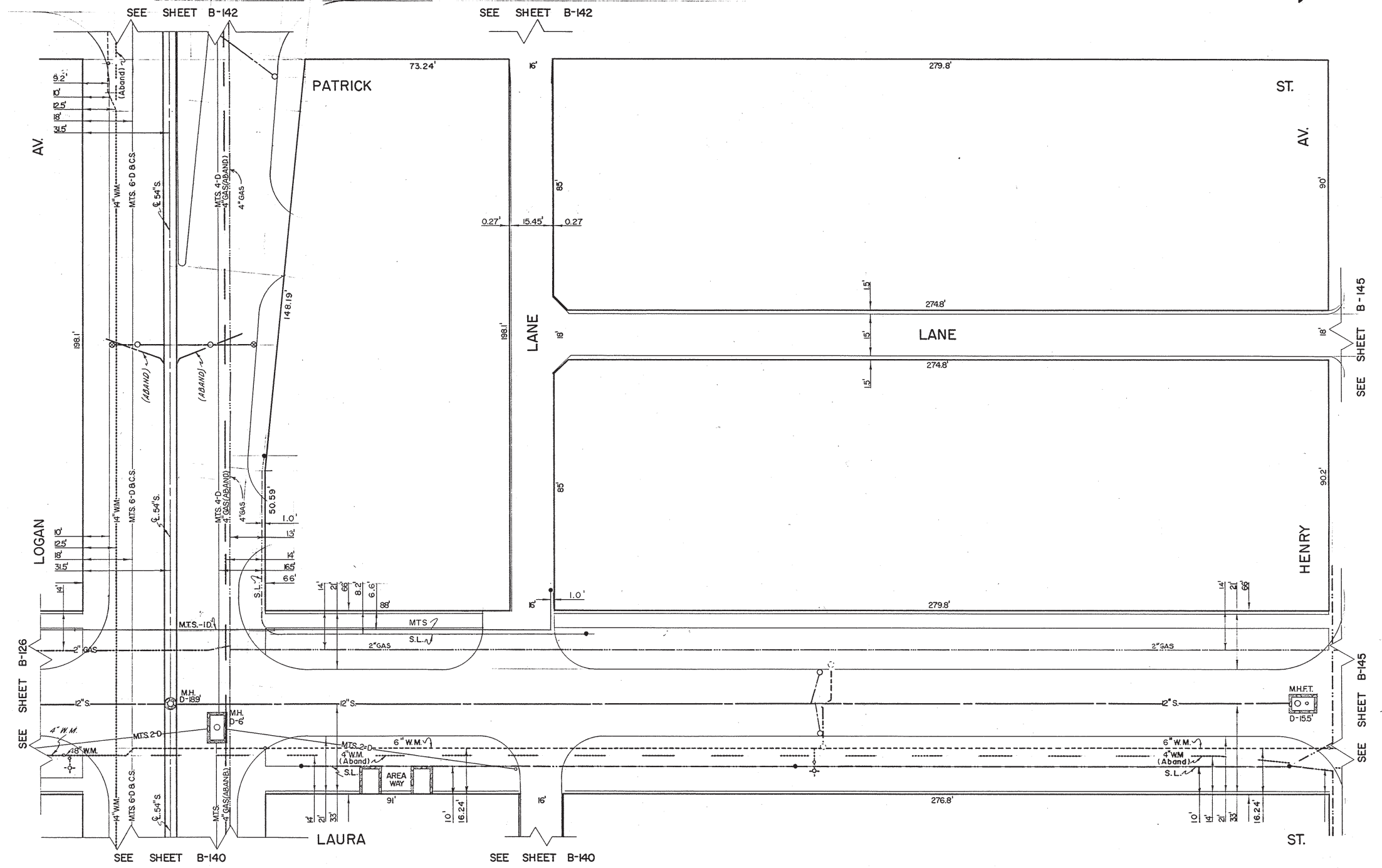
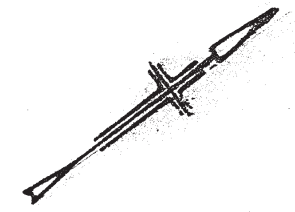
BLOCK BOUNDED BY
HENRY - LOGAN
ELLEN - LAURA

THE CITY OF WINNIPEG
UNDERGROUND STRUCTURES

DRAWN BY: K.M. HUCKLE
TRACED BY: W. SCHWARZENAU
CHECKED BY: [Signature]
DATE: 10 JAN. 1964

SCALE
1" = 20'
SHEET NO.
B-140

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN, AND EXACT LOCATIONS OF ALL UNDERGROUND UTILITIES SERVICE CONNECTIONS MUST BE CHECKED WITH THE UTILITY CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.



NO	DATE	REVISION	BY	CHKD
9	91-03-06		DJH	
7	85-07-22		RD	
6	83-03-17		AD	
5	13-3-73		JZ	
4	27-1-72		GR	
3	1-28-70		GR	
2	2-11-69		ML	
8	87-04-28		RD	

SYMBOL	DESCRIPTION
D	M.H. DEPTH PAV'T. TO FLOOR
+	HYDRANT
+	WATER VALVES
+	SERVICE BOX
○	CATCH BASIN
○	ST. LIGHTING POLE
○	SURVEY BAR
○	W.H.E.S.
○	M.T.S.
○	CITY SIGNALS
○	ST. LIGHTING
○	SEWER (S)
○	WATERMANS
○	GAS
○	W.H.E.S. STEAM HT.
○	W.G.H.T CO. STEAM HT.
○	C.P.R.Y. TELEGRAPHS
○	C.N.R.Y.

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN AND EXACT LOCATIONS OF ALL UNDERGROUND STRUCTURES AND SERVICE CONNECTIONS, MUST BE CHECKED WITH THE AGENCY CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.

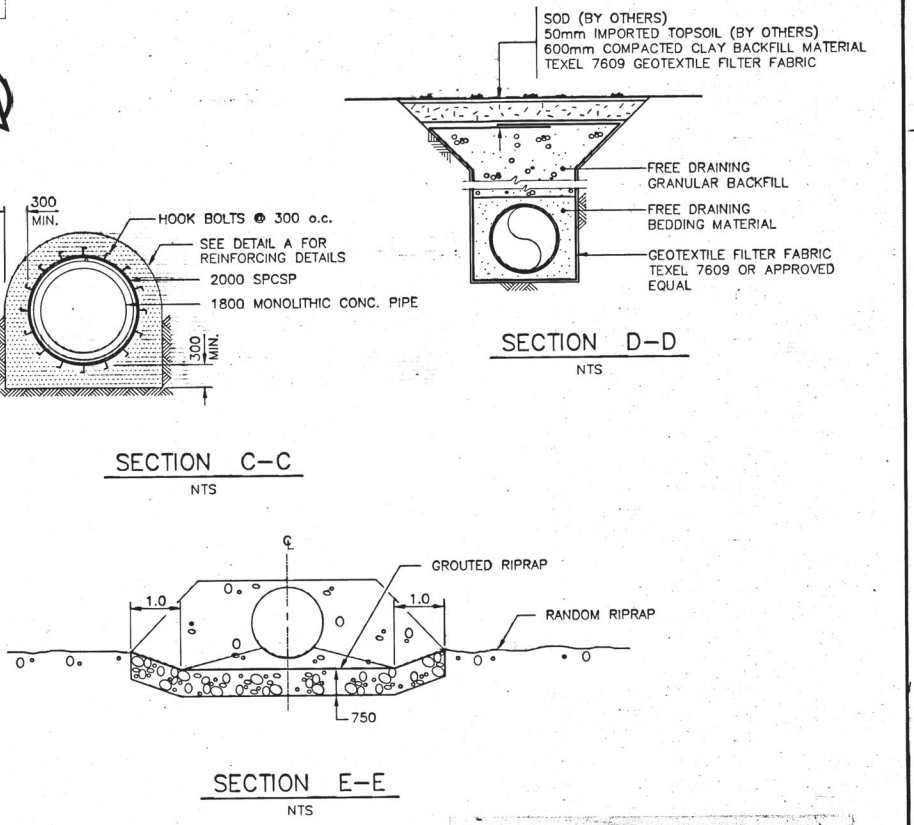
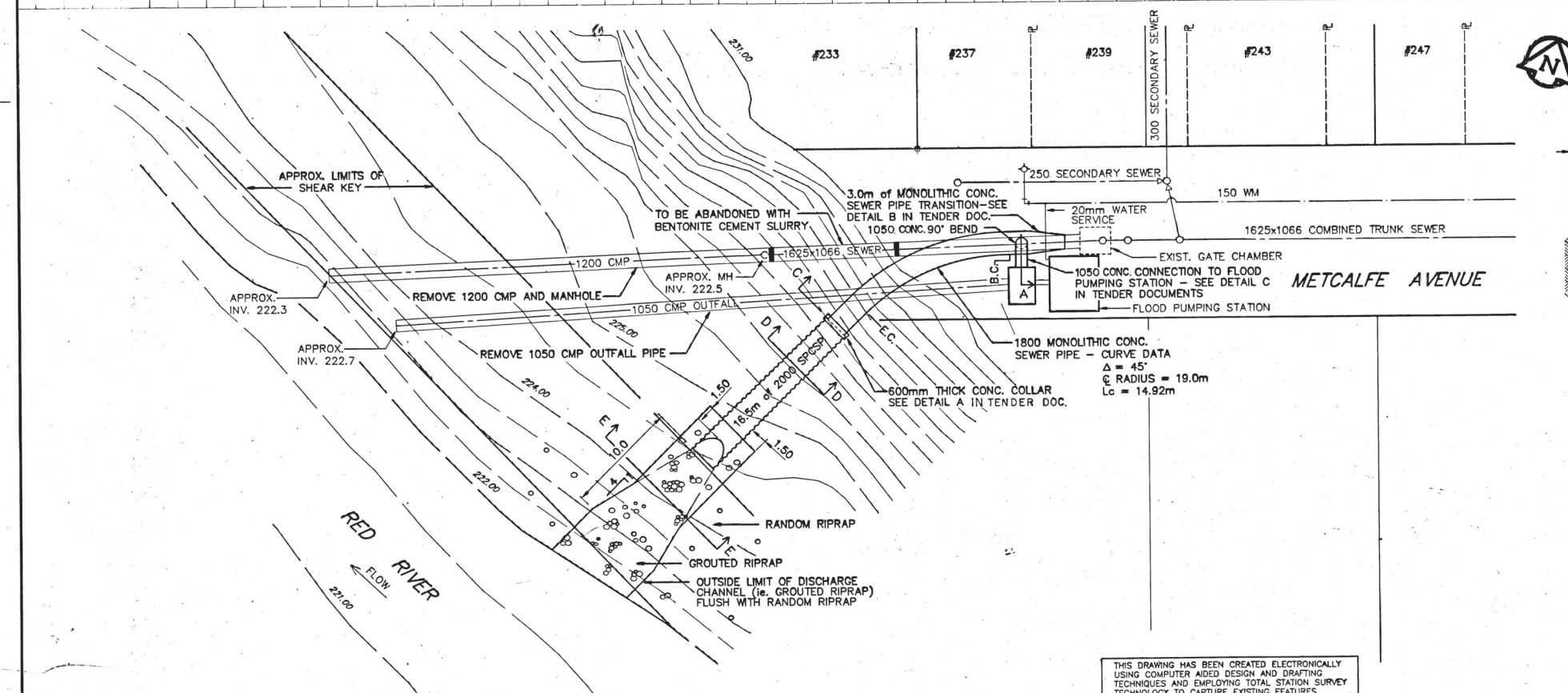
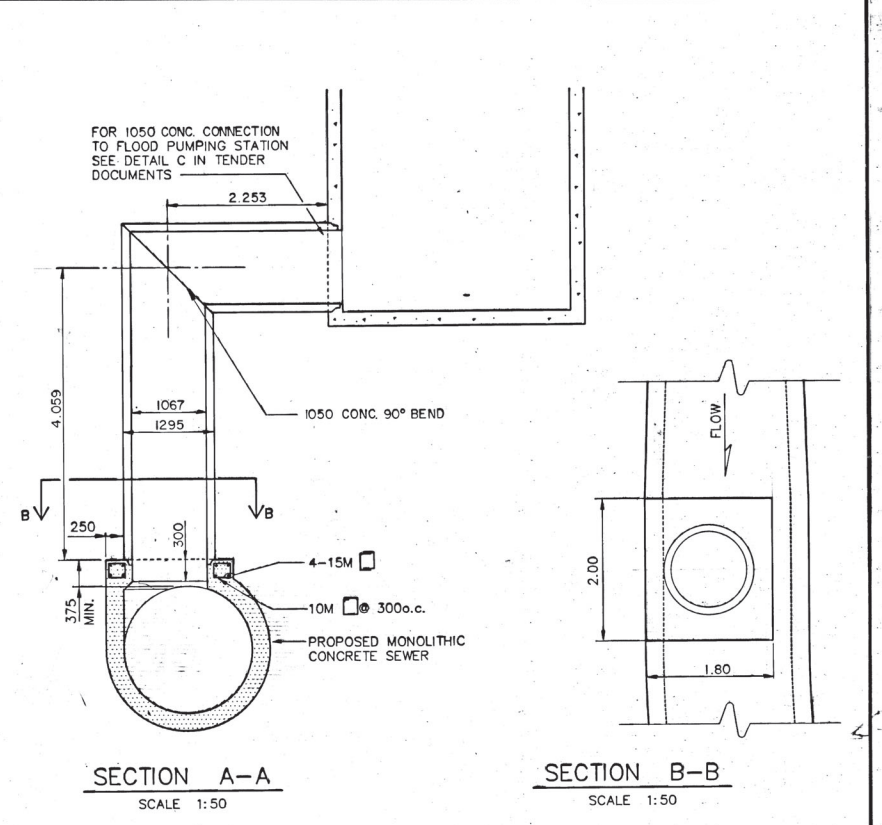
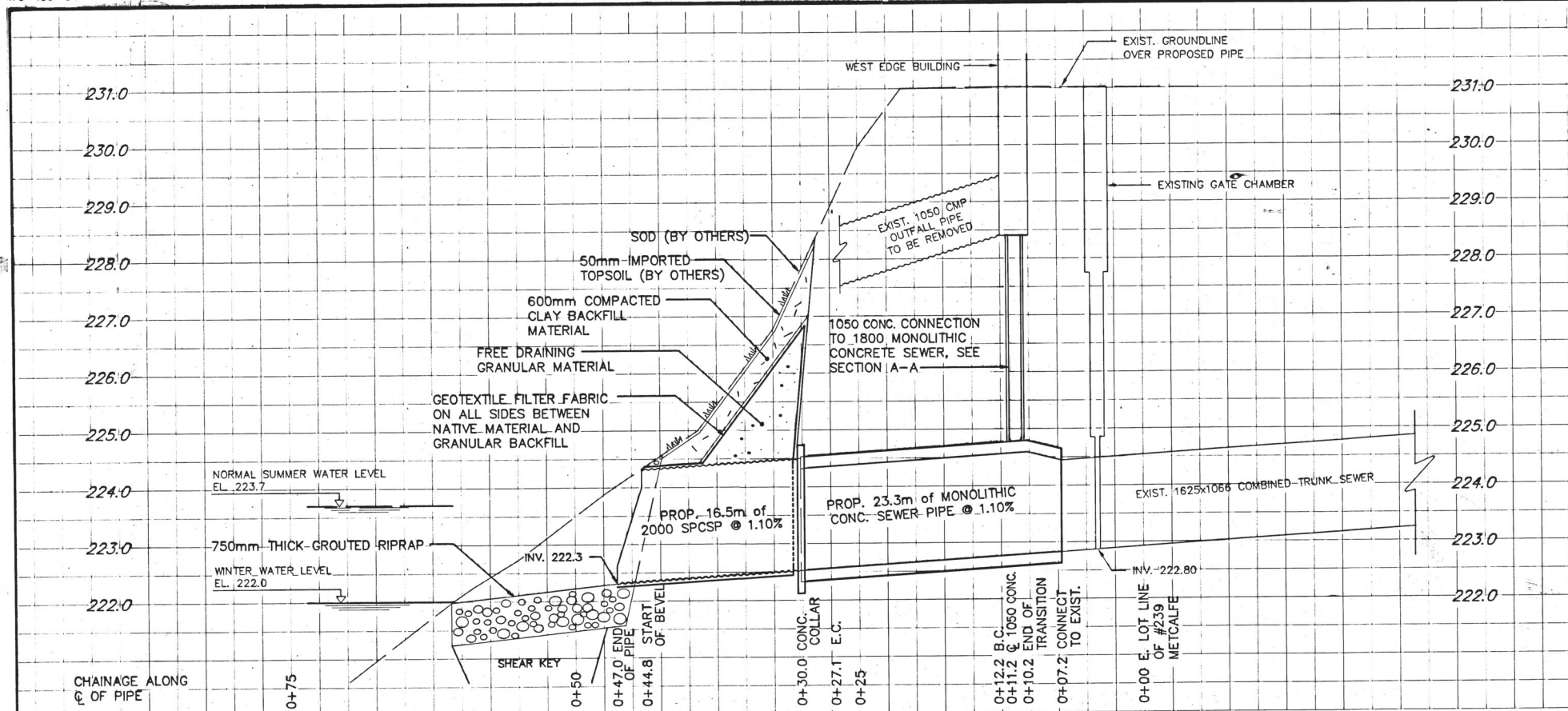
BLOCK BOUNDED BY
HENRY - LOGAN
LAURA - PATRICK

THE CITY OF WINNIPEG
UNDERGROUND STRUCTURES

DRAWN BY: K.M. HUCKLE
TRACED BY: W. SCHWARZENAU
CHECKED BY: [Signature]
DATE: 11 Dec. 1993

SCALE
1" = 20'
SHEET NO.
B-141

REF. of DRAWING No. **LD-1144**
DETAILS: FILE NO. **0010052**



THIS DRAWING HAS BEEN CREATED ELECTRONICALLY USING COMPUTER AIDED DESIGN AND DRAFTING TECHNIQUES AND EMPLOYING TOTAL STATION SURVEY TECHNOLOGY TO CAPTURE EXISTING FEATURES.

RECORD DRAWING

150 mm W.M.	WATERMAIN	150 mm W.M.	HYDRO	150 mm W.M.	WATERMAIN	300 mm L.D.S.	LAND DRAINAGE SEWER
Hydrant	HYDRANT	Valve	M.T.S.	Hydrant	HYDRANT	300 mm L.D.S.	LAND DRAINAGE SEWER
Valve	VALVE	Manhole	CONCRETE	Valve	VALVE	250 mm W.W.S.	WASTE WATER SEWER
300 mm L.D.S.	LAND DRAINAGE SEWER	Catch Basin	ASPHALT	300 mm L.D.S.	LAND DRAINAGE SEWER	250 mm W.W.S.	WASTE WATER SEWER
250 mm W.W.S.	WASTE WATER SEWER	Curb Inlet	PROPERTY LINE	250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
Manhole	MANHOLE	Junctions	SURVEY BAR	250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
Catch Basin	CATCH BASIN	Culvert		250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
Curb Inlet	CURB INLET	Gas		250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
Junctions	JUNCTIONS			250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
Culvert	CULVERT			250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
Gas	GAS			250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	WASTE WATER SEWER
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PROFILE

LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE

DATE

NOTE:
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B.M. ELEV.

UMA Engineering Ltd.
Engineers & Planners
1479 Buffalo Place, Winnipeg, Manitoba, Canada R3T 1L7

DESIGNED BY: CCM LGC
CHECKED BY: CCM
DRAWN BY: DML
APPROVED BY: [Signature]
HOR. SCALE: 1:250
VERTICAL SCALE: 1:50
RELEASING FOR CONSTRUCTION: [Signature]
DATE: Feb 1, 1989

B REVISED TO RECORD DWG. APR '92 KK
A REV. 1000CSP TO 1050 CONC. FEB 7/89 bgd

NO REVISIONS

DATE BY

ENGINEER'S SEAL
PROVINCE OF MANITOBA
C.C. MACEY
REGISTERED ENGINEER

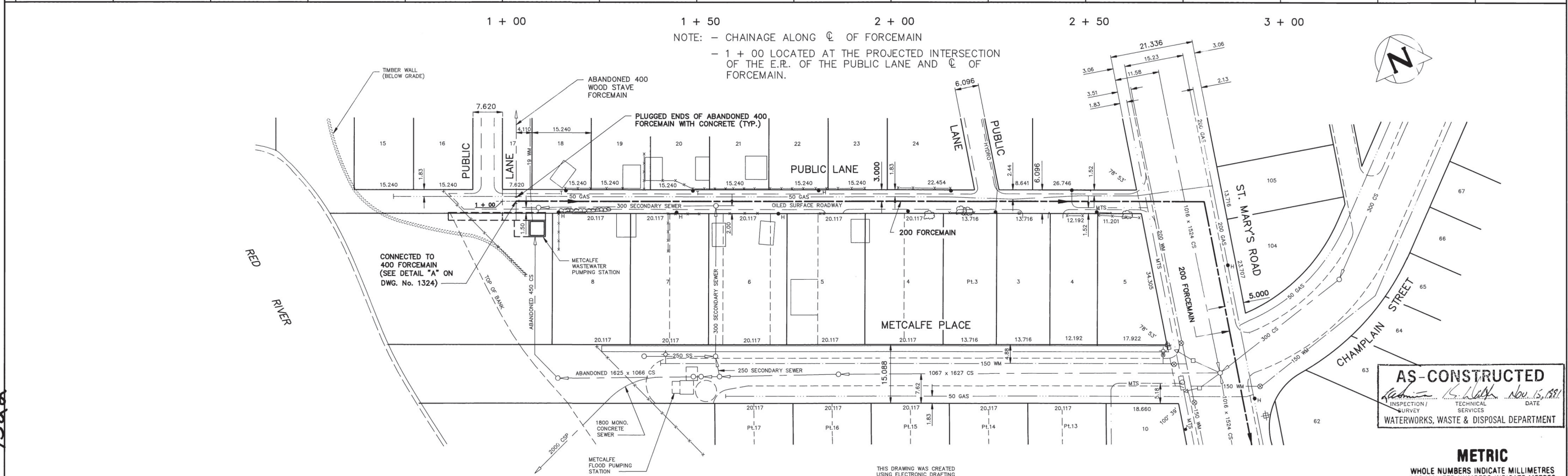
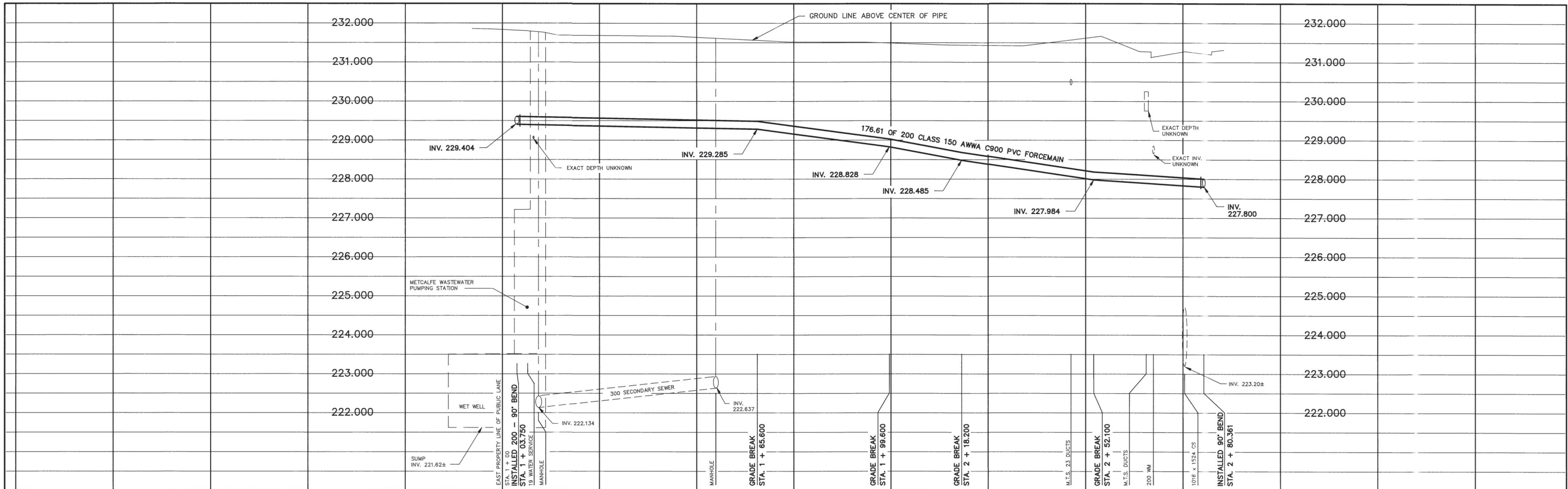
CONSULTANT DRAWING NO. 06-0265-247-02

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

LYNDALE DRIVE OUTFALL
SITE PLAN AND PROPOSED OUTFALL WORKS

CITY DRAWING NUMBER
LD-1144
SHEET 2 OF 2
REV 02

FILE# **0010052**



AS-CONSTRUCTED
 Inspection: *[Signature]* Nov. 15, 1991
 Technical Services
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

200 WM	WATERMAIN	200 WM	HYDRO	150 WM	WATERMAIN	150 WM
⊕	HYDRANT	⊕	MTS	⊕	HYDRANT	⊕
⊗	VALVE	⊗	GAS	⊗	VALVE	⊗
---	FORCEMAIN	---	PROPERTY LINE	---	FORCEMAIN	---
---	SECONDARY SEWER	---	SURVEY BAR	---	SECONDARY SEWER	---
---	COMBINED SEWER	---	FENCE	---	GROUND LINE	---
○	MANHOLE	○	POLE - HYDRO, MTS	○	BEND	○
□	CATCH BASIN	□	TRAFFIC SIGNAL	□		□
▽	CURB INLET	▽	CORP. STOP	▽		▽
---	EDGE OF CURB	---	LIGHT STANDARD	---		---
---	EDGE OF LANE	---	TREE	---		---
---	EXISTING	---	PROPOSED	---	EXISTING	---
---	LEGEND-PLAN	---	LEGEND-PLAN	---	LEGEND-PROFILE	---

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. ELEV. 54 - 001 231.117 FIELD BOOK: # 615

DESIGNED BY TJW CHECKED BY JE / KD
 DRAWN BY REF APPROVED BY *[Signature]*
 HOR. SCALE 1 : 500
 VERTICAL 1 : 50
 RELEASED FOR CONSTRUCTION *[Signature]*
 DATE JULY, 1990 DATE AUGUST 16, 1990

WORKS & OPERATIONS DIVISION
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT

ENGINEER'S SEAL
 PROVINCE OF MANITOBA
 R. A. SOROKOWSKI
 REGISTERED PROFESSIONAL ENGINEER
 CONSULTANT DRAWING NO.

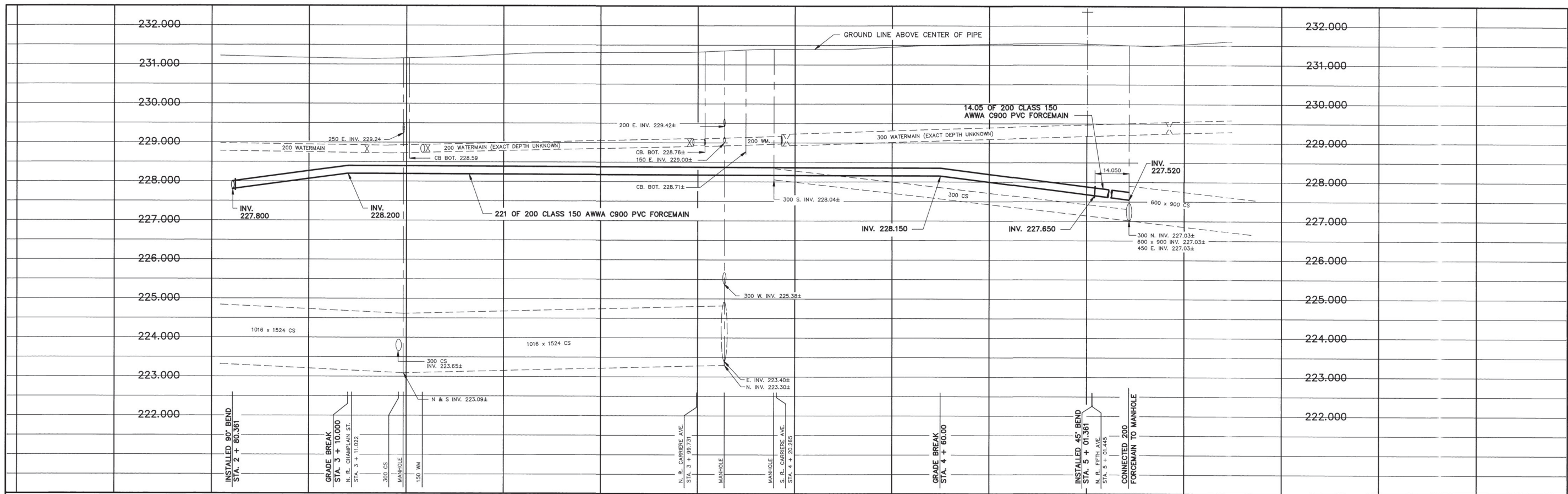
THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 WATERWORKS WASTE AND DISPOSAL DEPARTMENT

RELOCATION OF THE METCALFE WASTEWATER PUMPING STATION FORCEMAIN (ALONG PUBLIC LANE NORTH OF METCALFE PLACE)

CITY DRAWING NUMBER SHEET 1 OF 3
1322

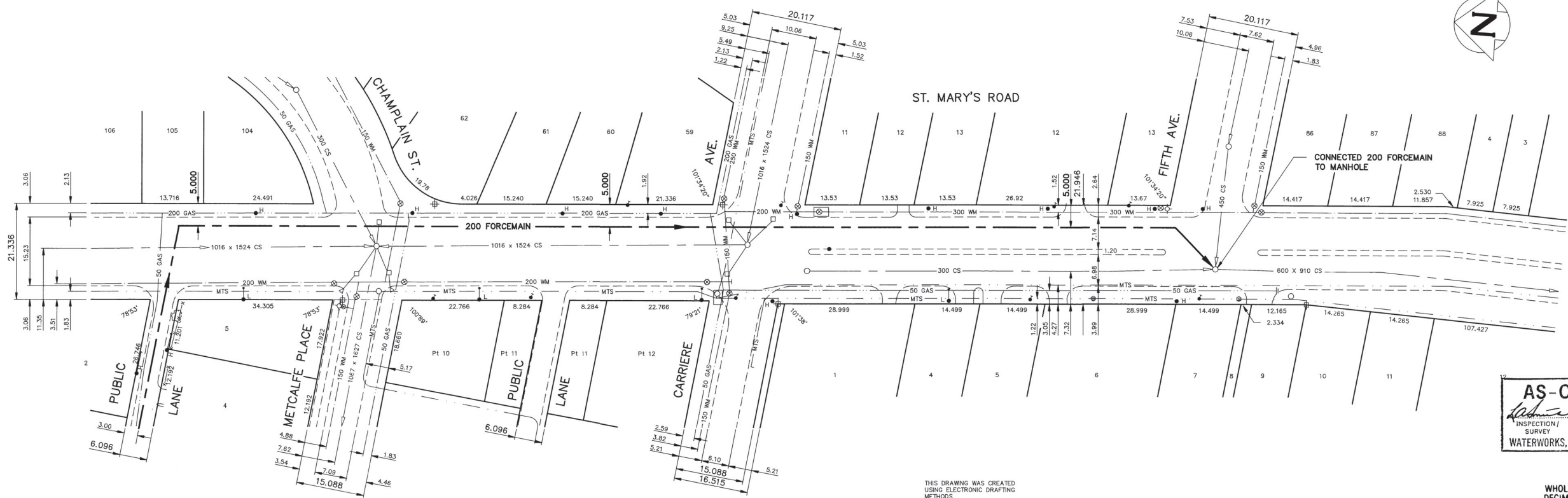
file # FM10112 PLOT DATE: 1991 11 06

1322



2 + 50 3 + 00 3 + 50 4 + 00 4 + 50 5 + 00 5 + 50

NOTE: - CHAINAGE ALONG C OF FORCEMAIN



AS-CONSTRUCTED
Richard S. Volk Nov. 15, 1991
 INSPECTION SURVEY TECHNICAL SERVICES DATE
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

200 WM	WATERMAIN	200 WM	HYDRO	200 WM	WATERMAIN	150 WM
MTS	HYDRANT	MTS	CONCRETE	300 CS	HYDRANT	150 WM
⊗	VALVE	⊗	PROPERTY LINE	---	VALVE	---
---	FORCEMAIN	---	SURVEY BAR	---	FORCEMAIN	---
---	SECONDARY SEWER	---	FENCE	---	COMBINED SEWER	---
375 CS	COMBINED SEWER	375 CS	POLE - HYDRO, MTS	---	GROUND LINE	---
○	MANHOLE	○	TRAFFIC SIGNAL	---	BEND	---
□	CATCH BASIN	□	CORP. STOP	---		
▽	CURB INLET	▽	LIGHT STANDARD	---		
---	EDGE OF CURB	---	TREE	---		
50 GAS	GAS	50 GAS		---		
---	EXISTING	---		---		
---	LEGEND-PLAN	---		---		
---	PROPOSED	---		---		
---	EXISTING	---		---		
---	LEGEND-PLAN	---		---		
---	PROPOSED	---		---		
---	EXISTING	---		---		
---	LEGEND-PROFILE	---		---		
---	PROPOSED	---		---		

LOCATION APPROVED
 UNDERGROUND STRUCTURES
 SUPPLY 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. ELEV.	54 - 001	FIELD BOOK:	# 615
231.117			
DESIGNED BY	TJW	CHECKED BY	JE / KD
DRAWN BY	REF	APPROVED BY	<i>R.A. Sorokowski</i>
HOR. SCALE	1 : 500	RELEASED FOR CONSTRUCTION	<i>R. Sorokowski</i>
VERTICAL	1 : 50	DATE	AUGUST 16, 1990
1	REVISED TO AS-BUILT	91.10.02	TM
NO.	REVISIONS	DATE	BY

W WORKS & OPERATIONS DIVISION
 WATERWORKS, WASTE & DISPOSAL DEPARTMENT

DESIGNED BY: TJW CHECKED BY: JE / KD
 DRAWN BY: REF APPROVED BY: *R.A. Sorokowski*
 HOR. SCALE: 1 : 500 RELEASED FOR CONSTRUCTION: *R. Sorokowski*
 VERTICAL: 1 : 50 DATE: JULY 1990 DATE: AUGUST 16, 1990

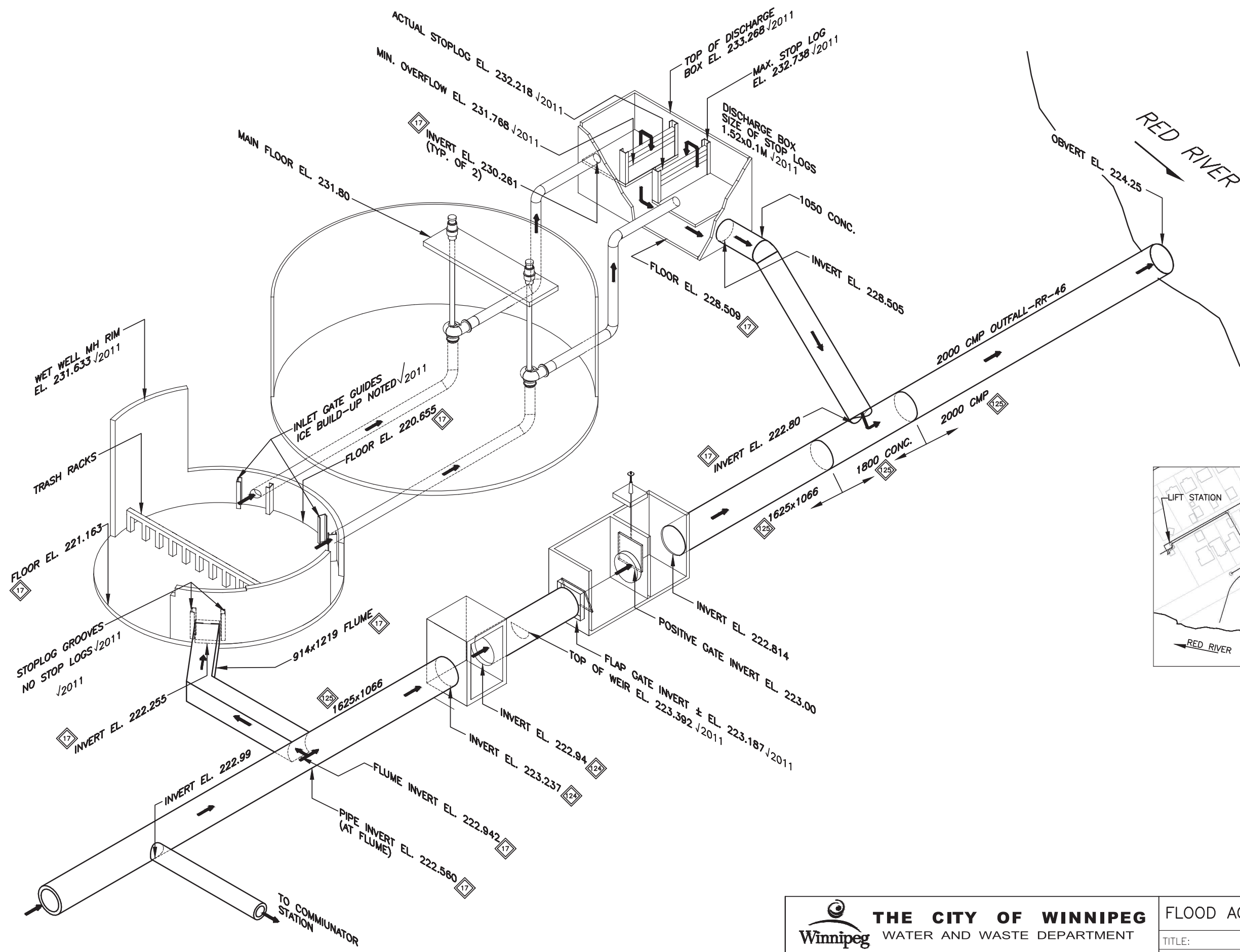


THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 WATERWORKS WASTE AND DISPOSAL DEPARTMENT

RELOCATION OF THE METCALFE WASTEWATER PUMPING STATION FORCEMAIN
 PUBLIC LANE NORTH OF METCALFE PLACE TO FIFTH AVENUE (ALONG ST. MARY'S ROAD)

CITY DRAWING NUMBER: SHEET 2 OF 3
1323
 CONSULTANT DRAWING NO. *JW# FM1014* PLOT DATE: 1991 11 06

FILE No.: P:/PROJECTS/2012/12-0194-005/MECH/DWGS/FPS Isometrics - Rev. 2011/Metcalf-FPS-2011-024-Rev.2.dwg



LOCATION

- AREA EAST
- SECTOR 77
- ADDRESS _____

KEY ELEVATIONS

- JAMES ST. 25.8 FT = 7.864m
- LOW BASEMENT 228.9
- MAXIMUM ACTIVATION 228.3
- ACTUAL ACTIVATION
 - JAMES 3.96
 - SITE RIVER 226.24
- PUMP START/STOP 1 223.89/223.28
- 2 224.20/223.59
- HIGH ALARM

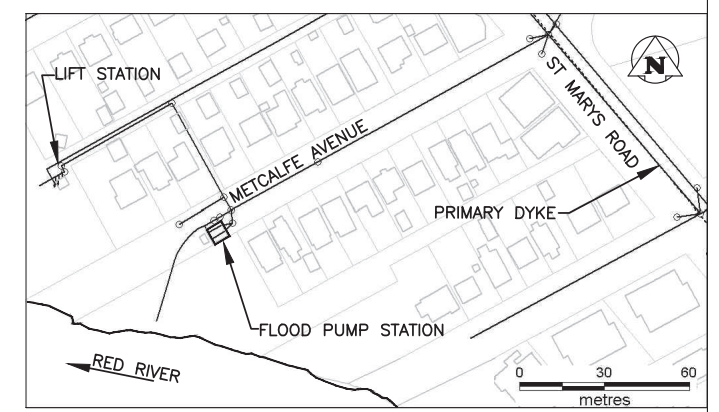
NOTES

1. SOURCE OF DATA SHOWN CAN BE TRACED BY REFERRING TO THE BASELINE DATA SPREADSHEETS. FOR SPECIFIC CROSS REFERENCES ON THE DRAWING (IE. 73), REFER TO THE FPS BASELINE DATA SPREADSHEET-SUPERSCRIPT CROSS-REFERENCE SHEET.

PUMP INFORMATION

PUMP REF No.	HP	CAPACITY	
		NO STOPLOGS (CMS)	FULL STOPLOGS (CMS)
29	125	0.65	0.51
30	125	0.67	0.51
TOTAL		1.36	1.03

✓ 2011 - INDICATES FIELD CONFIRMED



SITE PLAN

NO.	D / M / Y	DESCRIPTION	BY
2	-/-/-	UPDATED	RED
1	10/03/05	UPDATED	RED

REVISIONS / ISSUE

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

uma **KGS GROUP**

FLOOD ACTIVITY / EMERGENCY MANUAL

TITLE: METCALFE FPS ISOMETRIC

JOB No. 020-08-09-09-00 DATE: MAR. 19, 2003

SCALE: N.T.S. DWG. No. 00-107-10-M24

CHECKED: HSW/RED