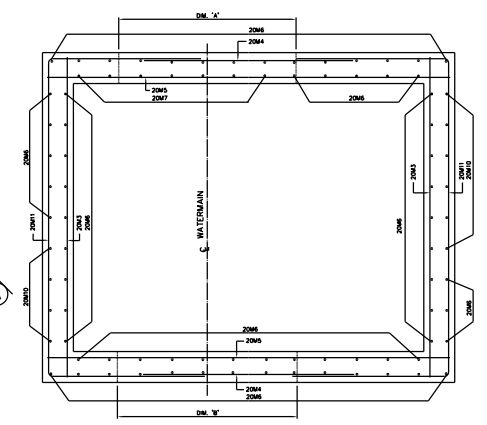
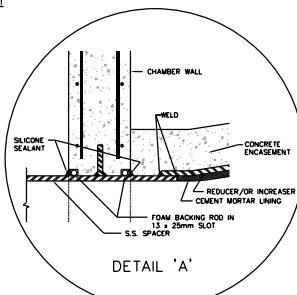


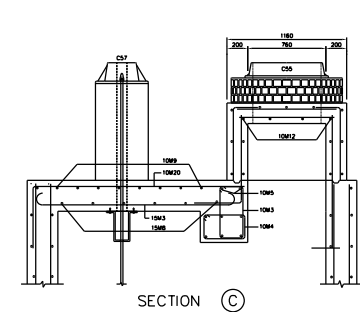
CHAMBER No.	DM. 'A'	DM. 'B'	DM. 'C'	DM. 'D'	DM. 'E'



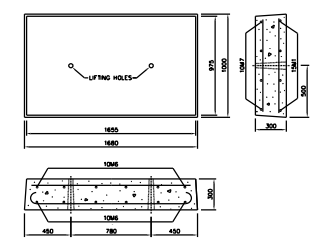
WALL SECTION



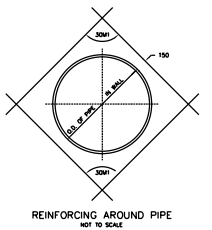
DETAIL 'A'



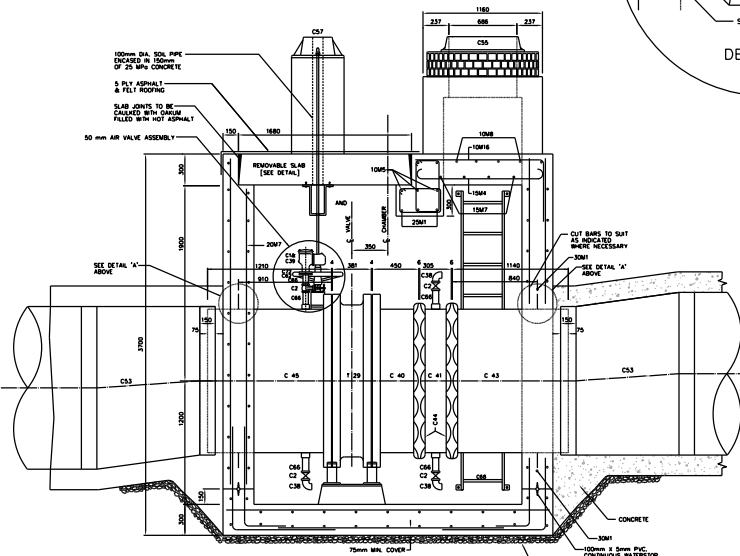
SECTION C



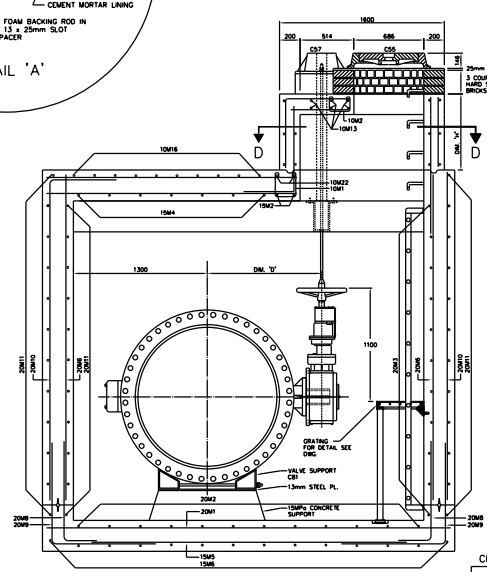
REMOVABLE SLAB (2 REQUIRED)



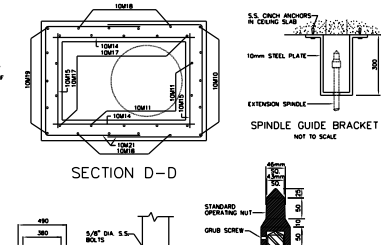
REINFORCING AROUND PIPE NOT TO SCALE



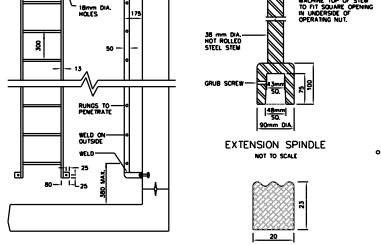
SECTION A



SECTION B



SECTION D-D



REMOVABLE ALUMINUM LADDER NOT TO SCALE

CHAMBERS	CHANGE No.	INTERIENAL E. ELEV. IN METRES	SURFACE ELEV. IN METRES	DIFFERENCE IN ELEV. IN METRES	COVER LOCATION	DRAIN TYPE/OUTLET DR.	FOR LOCATION REFER TO PLAN No.	REMARKS

- NOTES**
- 25MPa CONCRETE TO BE USED EXCEPT AS NOTED.
 - MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20mm.
 - COVER TO MAIN REINFORCING TO BE 50mm OR AS INDICATED.
 - ALL BAR DIMENSIONS ARE OUT TO OUT.
 - BARs TO BE BENT COLD, MINIMUM INSIDE RADIUS TO 4 DIAMETERS.
 - ALL CROSSING BARs TO BE WELL WIRED.
 - ALL REINFORCING STEEL TO BE DEFORMED BILLET-STEEL BARs GRADE 350, CONFORMING TO C.S.A. STANDARD C50.12M.
 - ALL LAPS IN REINFORCING STEEL TO BE AT LEAST 30 DIAMETERS IN LENGTH OR AS SHOWN, AND TO BE STAGGERED.
 - ALL BRICKWORK TO BE OF HIGH QUALITY HARD SEWER BRICK, LAD IN FULL MORTAR BED AND JOINTS, PARGED INSIDE AND OUTSIDE.
 - WATERSTOP [P.V.C.] TO BE PROVIDED AT ALL CONSTRUCTION JOINTS.
 - WHERE NECESSARY ADJUST REINFORCING STEEL TO SUIT WATERSTOPS AND OPENINGS.
 - PROVIDE SLUMP WITH GRATING AND SLOPE FLOOR TO SLUMP 10mm/AETRE.
 - DRAIN OUTLET TO BE LOCATED AT NEAREST POINT TO EXISTING SEWER.
 - DRAIN CONNECTION TO SEWER TO BE MADE BY CONTRACTOR UNLESS OTHERWISE NOTED IN THE GENERAL SPECIFICATIONS.
 - LADDERS, GRATINGS AND RAILINGS TO BE ALUMINUM AND OF REMOVABLE TYPE WITH STAINLESS STEEL BOLTS.
 - TOP TWO STEPS AND ANY ADDITIONAL STEPS IN THE CHIMNEY TO BE OF THE REMOVABLE TYPE.
 - CHAMBERS DEEPER THAN 1200mm FROM SURFACE ELEVATION TO TOP OF VALVE OPERATING SPINDLE SHALL HAVE EXTENSION SPINDLE AND GUIDE BRACKET.
 - ALL ALUMINUM SURFACES CONTACTING CONCRETE TO RECEIVE ONE COAT OF BITUMINOUS PAINT.
 - 'X' DEPENDS ON HEIGHT OF CHIMNEY [DM.'H'] AND BARs SHALL BE COUNTED TO ENSURE THAT THE BOTTOM BAR IS LESS THAN 150mm ABOVE THE CHAMBER ROOF.

BENDING SCHEDULE									
BAR No.	DLA	TOTAL LENGTH	DIMENSIONS				SHAPE	O.C.	No. REQS.
			a	b	c	d			
10M2	10	900	230	230	230		AS SHOWN	300	20
10M2	10	710	130	230	130		AS SHOWN	150	8
10M3	10	1840	520	230	520	230	AS SHOWN	200	20
10M4	10	1240	380	230	380	230	AS SHOWN	200	20
10M5	10	3000					AS SHOWN	300	5
10M8	10	900					AS SHOWN	300	24
10M7	10	1880					AS SHOWN	300	8
10M6	10	2400					AS SHOWN	200	4
10M9	10	1600					AS SHOWN	300	8
10M10	10	H+100					AS SHOWN	300	5
10M11	10	H+600					AS SHOWN	300	6
10M12	10	614					AS SHOWN	300	4
10M13	10	1060					AS SHOWN	200	6
10M14	10	1500					AS SHOWN	300	2
10M15	10	1060					AS SHOWN	300	2
10M16	10	1880	1270	600			AS SHOWN	200	10
10M17	10	H+830	H+200	450			AS SHOWN	300	8
10M18	10	H+180	H+100	300			AS SHOWN	300	8
10M19	10	H+934	H+100	614			AS SHOWN	300	5
10M20	10	2620	2000	600			AS SHOWN	300	6
10M21	10	2900	900	1060	900		AS SHOWN	300	6
10M22	10	4280	600	3100	600		AS SHOWN	200	2
15M1	15	1940	1580				AS SHOWN	300	8
15M2	15	2460	2100				AS SHOWN	300	2
15M3	15	2400	2040				AS SHOWN	300	7
15M4	15	1830	1270				AS SHOWN	300	6
15M5	15	3000					AS SHOWN	300	11
15M6	15	2200					AS SHOWN	300	14
15M7	15	2400					AS SHOWN	300	4
15M8	15	2400					AS SHOWN	300	7
20M1	20	3900					AS SHOWN	300	9
20M2	20	3100					AS SHOWN	300	12
20M3	20	3100					AS SHOWN	300	22
20M4	20	2000					AS SHOWN	300	24
20M5	20	3900					AS SHOWN	300	7
20M6	20	3150					AS SHOWN	300	7
20M7	20	3900					AS SHOWN	300	7
20M8	20	1310	1050	300			AS SHOWN	300	42
20M9	20	2080	1050	1050			AS SHOWN	300	48
20M10	20	3710	3150	600			AS SHOWN	300	10
20M11	20	6120	1550	3100	1550		AS SHOWN	200	24
25M1	25	4480	3900				AS SHOWN	300	3
30M1	30	O.D.+600					AS SHOWN	300	8

MARK	SUPPLIED BY CITY OF TORONTO	MARK	SUPPLIED BY CONTRACTOR
129	1-100mm HORIZONTAL BUTTERFLY VALVE	C40	1-1200mm FABRICATED S.S. FL-VCT CONNECTION
		C41	1-1200mm FABRICATED S.S. VCT-VCT SPACER
		C42	1-1200mm FABRICATED S.S. METALLIC CONNECTION
		C43	2-1200mm VCT COUPLINGS, STYLE 44 SHOULDERED
		C44	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
		C45	2-1200mm 10 1200mm ECCENTRIC REDUCERS
		C46	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C47	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C48	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C49	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C50	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C51	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C52	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C53	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C54	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C55	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C56	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C57	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C58	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C59	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C60	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C61	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C62	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C63	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C64	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C65	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C66	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C67	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C68	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C69	1-1200mm 10 1200mm ECCENTRIC REDUCERS
		C70	1-1200mm 10 1200mm ECCENTRIC REDUCERS



Toronto Engineering & Construction Services

Title
Sub#11
Sub#12

GENERAL MANAGER,
TORONTO WATER

DIRECTOR,
Design and Construction
Linear Underground Infrastructure

EXECUTIVE DIRECTOR,
Engineering & Construction Services
Design and Construction
Linear Underground Infrastructure

MANAGER,
Design and Construction
Linear Underground Infrastructure

1200 mm HORIZONTAL BUTTERFLY VALVE CHAMBER (Position A)					
DESIGN	Design	DRAWN	Drawn	CHECKED	Checked
SCALE	SCALE	DRAWING NUMBER	CONTRACT No. XX		
DATE	DATE				

No.	DATE	REVISIONS	INITIAL	SIGNED

T-1110.11-1 SHEET X OF X