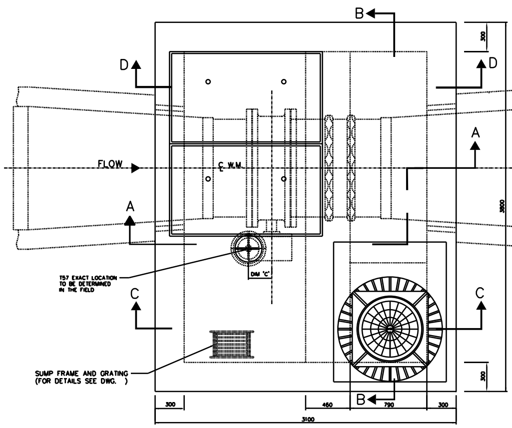
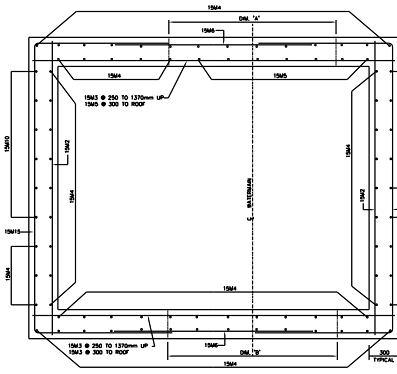
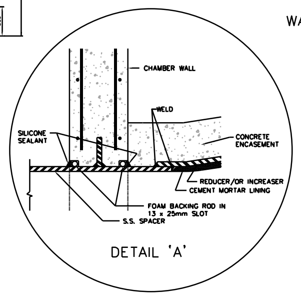


PLAN

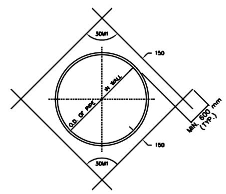
CHAMBER No.	DIM. 'A'	DIM. 'B'	DIM. 'C'	DIM. 'D'	DIM. 'H'



WALL SECTION

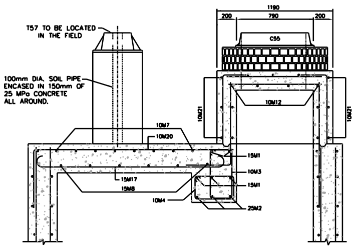


DETAIL 'A'

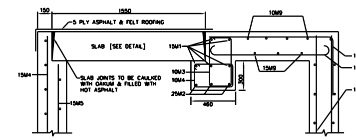


REINFORCING AROUND PIPE

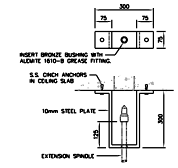
NOT TO SCALE



SECTION C–C

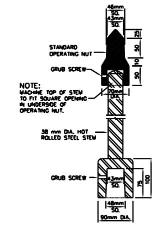


SECTION D–D



SPINDLE GUIDE BRACKET DETAIL

NOT TO SCALE

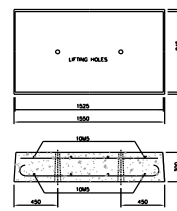


EXTENSION SPINDEL DETAIL

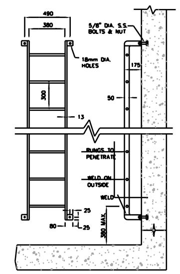
NOT TO SCALE

NOTES:

1. 25MPa CONCRETE TO BE USED EXCEPT AS NOTED.
2. MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20mm
3. COVER TO MAIN REINFORCEMENT TO BE 50mm OR AS INDICATED.
4. ALL BAR DIMENSIONS ARE OUT TO OUT.
5. BARS TO BE BENT COLD, MINIMUM INSIDE RADIUS TO 4 DIAMETERS.
6. ALL CROSSING BARS TO BE WELL WIRED.
7. ALL REINFORCING STEEL TO BE DEFORMED BILLET-STEEL BARS GRADE 350, CONFORMING TO C.S.A. STANDARD G30.12M
8. ALL LAPS IN REINFORCING STEEL TO BE AT LEAST 30 DIAMETERS IN LENGTH OR AS SHOWN, AND TO BE STAGGERED.
9. ALL BRICKWORK TO BE OF HIGH QUALITY HARD SEWER BRICK, LAID IN FULL MORTAR BED AND JOINTS, PARGED INSIDE AND OUT.
10. WATERSTOP (PVC) TO BE PROVIDED AT ALL CONSTRUCTION JOINTS.
11. WHERE NECESSARY ADJUST REINFORCING STEEL TO SUIT WATERSTOPS AND OPENINGS.
12. PROVIDE SUMP PIT WITH GRATING AND SLOPE FLOOR TO SUMP 10mm/METRE.
13. DRAIN OUTLET TO BE LOCATED AT NEAREST POINT TO EXISTING SEWER. IF ELEVATION OF SEWER IS HIGHER THAN CHAMBER FLOOR THE DRAIN MAY BE CLAMPED TO THE WALL BY AN APPROVED METHOD. IF NO SEWER IS AVAILABLE DELETE DRAIN TYPE 'A' AND CONSTRUCT DRAIN TYPE 'B' AND INSTALL PIPE WITH STOPPER AS SHOWN ON DWG.
14. DRAIN CONNECTION TO SEWER TO BE MADE BY CONTRACTOR UNLESS OTHERWISE STATED IN THE GENERAL SPECIFICATIONS.
15. LADDERS, GRATINGS AND RAILINGS TO BE ALUMINUM AND OF REMOVABLE TYPE WITH STAINLESS STEEL BOLTS.
16. TOP TWO STEPS AND ANY ADDITIONAL STEPS IN THE CHIMNEY TO BE OF THE REMOVABLE TYPE.
17. CHAMBERS DEEPER THAN 1200mm FROM SURFACE ELEVATION TO TOP OF VALVE OPERATING SPINDLE SHALL HAVE EXTENSION SPINDLE AND GUIDE BRACKET.
18. ALL ALUMINUM SURFACES CONTACTING CONCRETE TO RECEIVE ONE COAT OF BITUMINOUS PAINT.
19. 'X' DEPENDS ON HEIGHT (H) & BARS SHALL BE COUNTED TO ENSURE THAT THE BOTTOM BAR IS LESS THAN 150mm ABOVE THE ROOF CHAMBER.



SLAB DETAIL



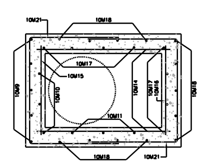
REMOVABLE ALUMINUM LADDER

NOT TO SCALE

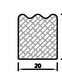
BENDING SCHEDULE

BAR No.	DIA.	TOTAL LENGTH	DIMENSIONS a	b	c	d	SHAPE	O.C.	No. REQ'D.
10M1	10	900	220	220	220			200	7
10M2		710	120	230	120			150	8
10M3		1640	520	230	520	230		200	19
10M4		1360	380	230	380	230		200	19
10M5		770						AS SHOWN	16
10M6		1425						AS SHOWN	4
10M7		1660						200	8
10M8		2200						200	5
10M9		H-100						300	5
10M10		H+600						300	6
10M11		614						300	4
10M12		1090						200	6
10M13		1500						300	'x'
10M14		1090						300	'x'
10M15		1830	1300	550				200	9
10M16		H+630	H+200	450				300	8
10M17		H+180	H-100	300				300	8
10M18		H+494	H-100	614				300	5
10M19		2440	1910	550				200	5
10M20		2850	900	1090	900			300	'x'
10M21		4060	550	3000	550			AS SHOWN	2
15M1	15	3700						AS SHOWN	5
15M2		3000						300	30
15M3		3700						250/300	29
15M4		2750						300	68
15M5		2450						300	6
15M6		1800						300	22
15M8		1660						300	5
15M9		2200						300	3
15M10		3270	2750	550				300	10
15M11		1270	1000	300				300	22
15M12		1220	700	550				300	18
15M13		5640	1000	3700	1000			300	9
15M14		4540	800	3000	800			300	13
15M15		5440	1250	3000	1250			150/250	32
15M16		1660	1300					300	6
15M17		2270	1910					300	4
15M18		1810	1450					AS SHOWN	12
25M1	25	3560	3000					200	2
25M2		4260	3700					AS SHOWN	3
30M1	30	O.D. OF PIPE + 600						AS SHOWN	8

FOR REINFORCING AT DRAIN REFER TO SUMP AND DRAIN DETAIL DWG.



SECTION E–E



RUNG DETAIL

FULL SIZE

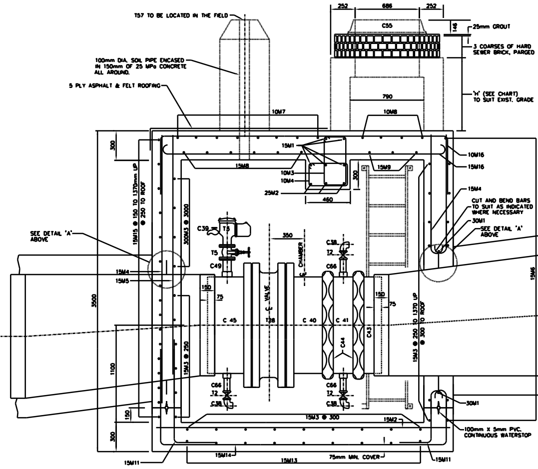
MATERIAL LIST

MARK	SUPPLIED BY CONTRACTOR
T2	4-50mm BALL VV SS BODY/BALL TEFLON SEAT
T3	1-100mm VENTOMAT RBX STYLE AIR VALVE (FLG)
T5	1-100mm GATE VALVE AWWA C509 (FLANGED)
o T6	1-150mm BACKWATER CHECK VALVE
T9	CENTRE PLUG FOR CHAMBER COVER
T28	1-1050mm HOR. BUTTERFLY VALVE
T57	1-SMALL ROUND TOP

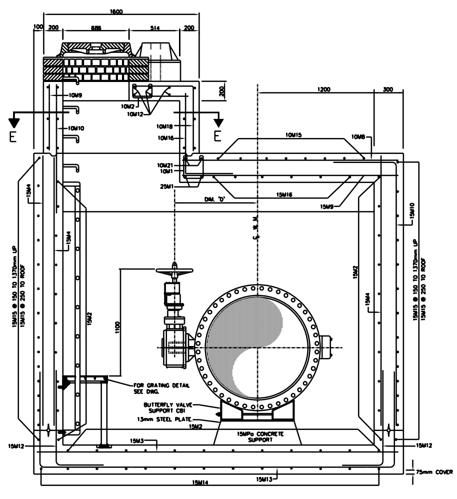
MARK	SUPPLIED BY CONTRACTOR
C38	4-50mm SS304L Sch40 STREET ELBOW
C39	1-13mm MALE INLET SINK FAUCET, ROUGH BRASS WITH HOSE END, EMCO # 3700 OR EQUIVALENT
C49	1-FABRICATED 100mm S.S. NOZZLE
C61	16 – M16 x 88mm S.S. BOLTS & NUTS
C62	2-100mm GASKETS (FULL FACE, ONE PIECE)
C66	4-50mm x 150mm SS304L Sch40 NIPPLE THREADED BOTH ENDS

MARK	SUPPLIED BY CONTRACTOR
C40	1-1050mm FABRICATED S.S. FL-VICT. CONNECTION
C41	1-1050mm FABRICATED S.S. VICT. TO VICT. SPACER
C43	1-1050mm FABRICATED S.S. VICTAULIC CONNECTION
C44	2-1050mm VICT. COUPLING, STYLE44 SHOULDERED.
C45	1-1050mm FABRICATED S.S. FLANGE ASSEMBLY.
C53	2-1200mm TO 1050mm REDUCERS
C55	1-RECTANGULAR FRAME AND COVER PLATE AS PER CITY STANDARD DWG# 3000-2005-1
C61	56 -M39 x 165mm S.S. BOLTS & NUTS
C61	56 -M39 x 158mm LG. S.S. STUDS EACH WITH 1 NUT (U.N.C.)
C61	-CINCH ANCHOR WITH M16 S.S. BOLTS WITH NUT
C62	2- 1050mm CLOTH INSERTED RUBBER GASKETS (FULL FACE, ONE PIECE)
o C63	1-C.I. RUNNING TRAP WITH CLEANOUT & COVER
C64	1-150mm SOIL PIPING
C65	1-SUMP WITH FRAME AND GRATING
C68	STANDARD ALUMINUM LADDER AND STEPS
• C75	1-STEEL PLATE, 340mm x 940mm x 6mm
C81	2-STANDARD BUTTERFLY VALVE SUPPORTS

o FOR DRAIN TYPE 'A' AND 'C' ONLY
• FOR DRAIN TYPE 'B' ONLY



SECTION A–A



SECTION B–B

CHAMBERS

CHAMBER No.	CHAINAGE (m)	WATERMAIN ℄ ELEV. (m)	SURFACE ELEV. (m)	DIFFERENCE IN ELEV. (m)	COVER LOCATION	DRAIN TYPE	DRAIN OUTLET DIRECTION	FOR LOCATION REFER TO PLAN No.	REMARKS

ALL DIMENSIONS SHOWN HERE ARE IN MILIMETRES UNLESS OTHERWISE NOTED

TORONTO Water

No.	DATE	REVISIONS	INITIAL	SIGNED

TORONTO Engineering & Construction Services

GENERAL MANAGER, TORONTO WATER

CHIEF ENGINEER AND EXECUTIVE DIRECTOR, Engineering & Construction Services

DIRECTOR, Design and Construction Linear Underground Infrastructure

MANAGER, Design and Construction Linear Underground Infrastructure

Title

Subtitle1

Subtitle2

1050 mm HORIZONTAL BUTTERFLY VALVE CHAMBER (POSITION 'B')

DESIGN	Design	DRAWN	Drawn	CHECKED	Checked	CONTRACT No. X-X
SCALE	SCALE	DRAWING NUMBER	T-1110.10-2	SHEET X OF X		
DATE	DATE					