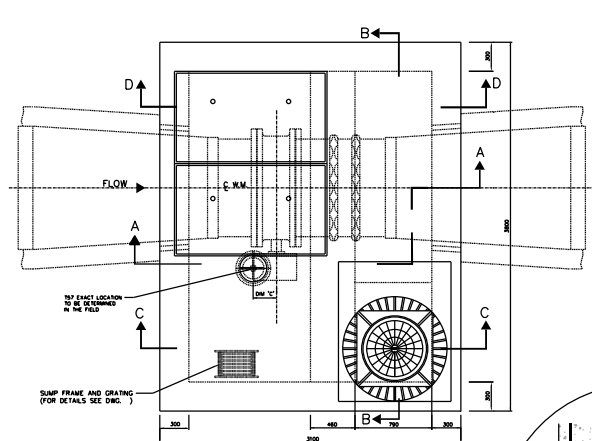
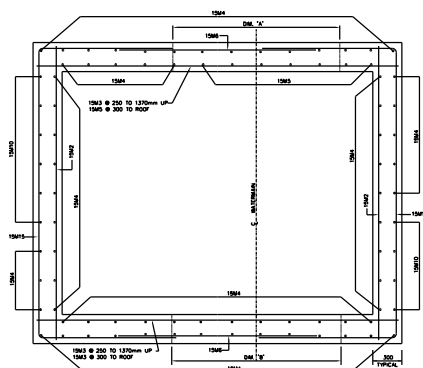


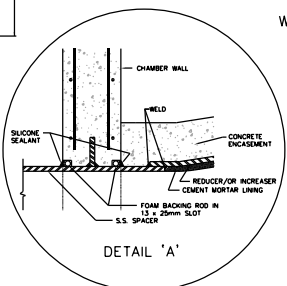


PLAN

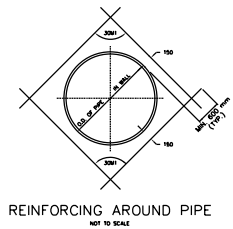
CHAMBER NO.	DRN 'Y'	DRN 'Y'	DRN 'Y'	DRN 'Y'	DRN 'Y'



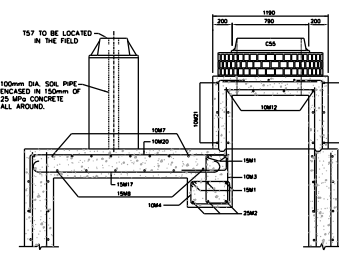
WALL SECTION



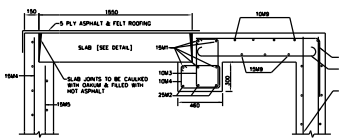
DETAIL 'A'



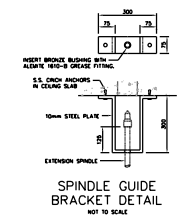
REINFORCING AROUND PIPE



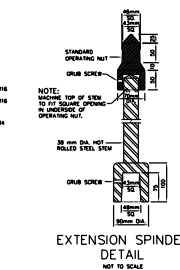
SECTION C-C



SECTION D-D



SPINDLE GUIDE BRACKET DETAIL

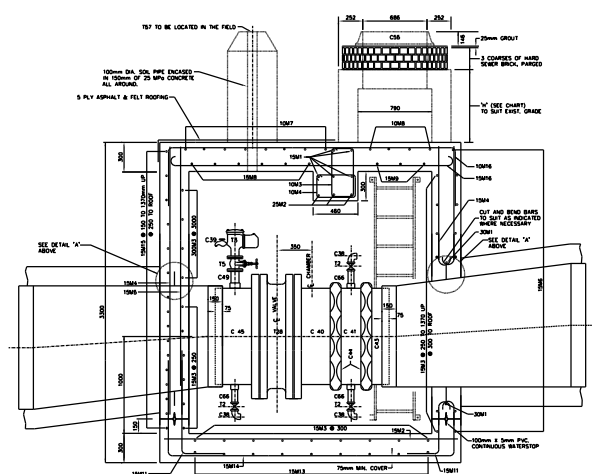


EXTENSION SPINDLE DETAIL

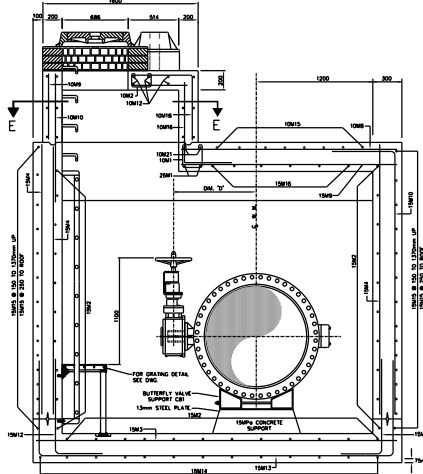
- NOTES:
- 25MPa CONCRETE TO BE USED EXCEPT AS NOTED.
 - MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20mm.
 - COVER TO MAIN REINFORCEMENT TO BE 50mm OR AS INDICATED.
 - ALL BAR DIMENSIONS ARE OUT TO OUT.
 - BARS TO BE BENT COLD, MINIMUM INSIDE RADIUS TO 4 DIAMETERS.
 - ALL CROSSING BARS TO BE WELL WELDED.
 - ALL REINFORCING STEEL TO BE DEFORMED BULLET-STEEL BARS GRADE 500, CONFORMING TO C.S.A. STANDARD C30.2M.
 - 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 SEVEN BRICK, LAID IN FULL MORTAR BED AND JOINTS, PARSED INSIDE AND OUT.
 - WATERSTOP (PVC) TO BE PROVIDED AT ALL CONSTRUCTION JOINTS.
 - WHERE NECESSARY, ADJUST REINFORCING STEEL TO SUIT WATERSTOPS AND OPENINGS.
 - PROVIDE SUMP PIT WITH GRATING AND SLOPE FLOOR TO SUMP 10mm/METRE.
 - 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 'Y' AND CONSTRUCT DRAIN TYPE 'Y' AND INSTALL PIPE WITH STOPPER AS SHOWN ON DWG.
 - DRAIN CONNECTION TO SEWER TO BE MADE BY CONTRACTOR UNLESS OTHERWISE STATED 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.
 - 'Y' DEPENDS ON HEIGHT (H) & BARS SHALL BE COUNTED TO INCLUDE THAT THE BOTTOM BAR IS LESS THAN 150mm ABOVE THE ROOF CHAMBER.

BENDING SCHEDULE

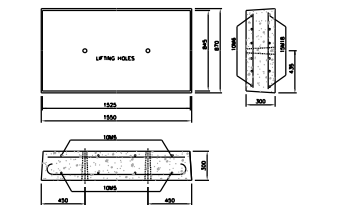
BAR NO.	DRN	TOTAL LENGTH	#	S	Z	SHAPE	D.C.	NO. BOLTS
1001	10	300	200	200	200	100	5	7
1002	10	710	120	230	120	100	5	7
1003	10	1840	540	230	520	230	10	19
1004	10	1360	380	200	230	200	10	19
1005	10	770	160	200	230	200	10	19
1006	10	1420	380	200	230	200	10	19
1007	10	1660	380	200	230	200	10	19
1008	10	2200	380	200	230	200	10	19
1009	10	1420	380	200	230	200	10	19
1010	10	1420	380	200	230	200	10	19
1011	10	1420	380	200	230	200	10	19
1012	10	1420	380	200	230	200	10	19
1013	10	1420	380	200	230	200	10	19
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1015	10	1420	380	200	230	200	10	19
1016	10	1420	380	200	230	200	10	19
1017	10	1420	380	200	230	200	10	19
1018	10	1420	380	200	230	200	10	19
1019	10	1420	380	200	230	200	10	19
1020	10	1420	380	200	230	200	10	19
1021	10	1420	380	200	230	200	10	19
1022	10	1420	380	200	230	200	10	19
1023	10	1420	380	200	230	200	10	19
1024	10	1420	380	200	230	200	10	19
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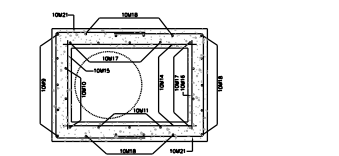
SECTION A-A



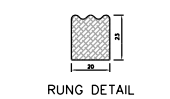
SECTION B-B



SLAB DETAIL



REMOVABLE ALUMINUM LADDER



RUNG DETAIL

CHAMBERS

CHAMBER NO.	CHAMBER NO.	CHAMBER NO.	CHAMBER NO.	CHAMBER NO.	CHAMBER NO.

ALL DIMENSIONS SHOWN HERE ARE IN MILLIMETRES UNLESS OTHERWISE NOTED

MATERIAL LIST

MARK	SUPPLIED BY CONTRACTOR	MARK	SUPPLIED BY CONTRACTOR
10	2-800mm BELL VALVE/VALVE OUTLET SEAT	C01	1-800mm FABRICATED S.S. FL-VCT CONNECTION
11	1-100mm WINDSTOP PER TYPE AND VALVE (PUG)	C02	1-800mm FABRICATED S.S. VCT TO VCT SPACER
12	1-100mm GATE VALVE (FLANGED)	C03	1-800mm FABRICATED S.S. WETLAND CONNECTION
13	1-800mm BACKWATER CHECK VALVE	C04	2-800mm VCT. COUPLER, STEEL#4 SHOULDERED
14	1-800mm HOR. BUTTERFLY VALVE ASSE. C04	C05	1-800mm FABRICATED S.S. FLANGE ASSEMBLY
15	1-800mm HOR. BUTTERFLY VALVE ASSE. C04	C06	2-1200mm TO 800mm REDUCERS
16	1-800mm HOR. BUTTERFLY VALVE ASSE. C04	C07	1-REINFORCING FRAMES AND OTHER PLATE AS PER CITY STANDARD DRG 2002-2005-1
17	1-SMALL ROUND TOP	C08	86-400 x 100mm LG. S.S. BOLTS EACH WITH 1 NUT (U.A.C.)
		C09	—CHECK ANCHOR WITH W/S S.S. BOLTS WITH NUT
		C10	2-800mm COUPLER WETLAND WETLANDS (FULL FACE ONE PEE)
		C11	1-CL. MANNING TRAP WITH CLEANOUT & COVER
		C12	1-100mm S.S. PIPE
		C13	1-SLIP WITH FRAME AND GRATING
		C14	STANDARD ALUMINUM LADDER AND STEPS
		C15	1-STEEL PLATE, 240mm x 80mm x 8mm
		C16	2-STANDARD BUTTERFLY VALVE SUPPORTS

• FOR DRAIN TYPE 'Y' AND 'Y' ONLY
• FOR DRAIN TYPE 'Y' ONLY



Toronto Engineering & Construction Services

Title
Subtitle1
Subtitle2

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

GENERAL MANAGER,
TORONTO WATER