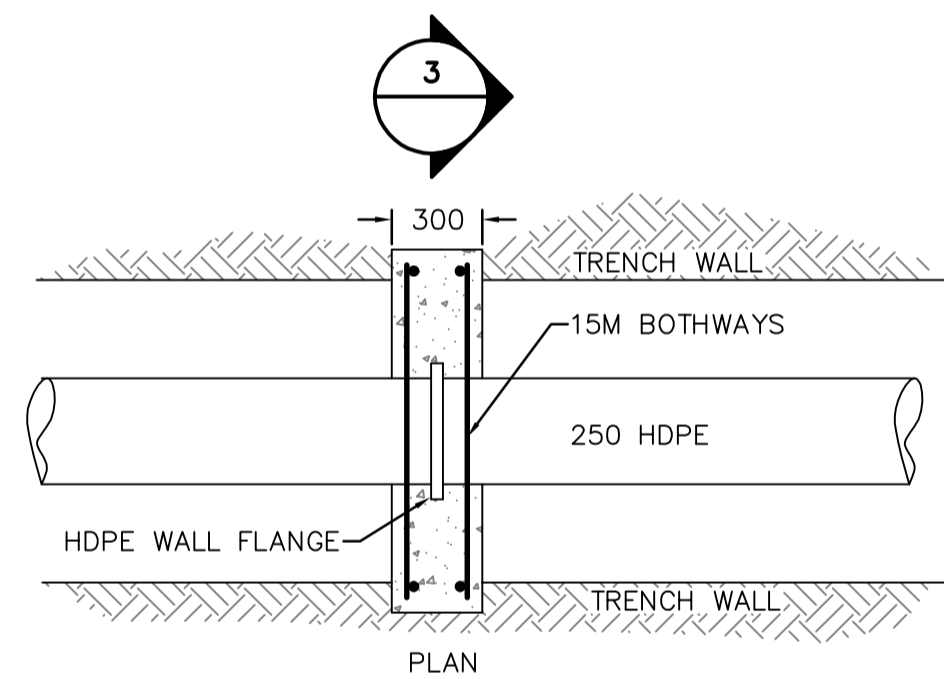


1 AIR RELEASE VALVE CHAMBER
NTS

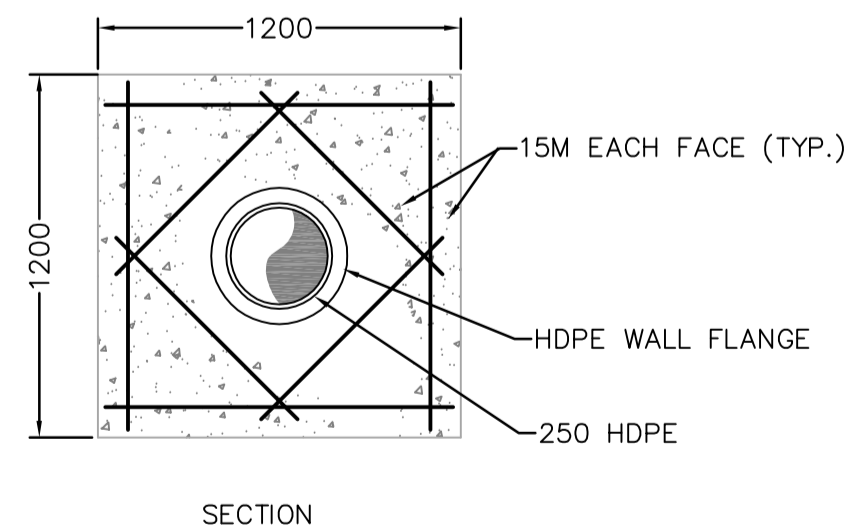
ID NUMBER	DETAIL #	NORTHING	EASTING	OUTLET SIZE	MODEL TYPE	STATION
ARC 01	1	5523932.766	647729.925	50 mm	402WA	29+06.000
ARC 02	1	5524055.875	647566.953	50 mm	402WA	27+03.000
ARC 03	4	5524155.242	647283.877	50 mm	402WA	24+30.000
ARC 04	1	5524298.729	646885.949	50 mm	402WA	19+80.000
ARC 05	1	5524483.885	646372.219	25 mm	401WA	14+33.915
ARC 06	1	5524794.067	645512.545	25 mm	401WA	5+20.000
ARC 07	1	5524916.085	645174.356	50 mm	402WA	1+60.464
ARC 08	1	5525013.401	645102.125	50 mm	402WA	30+03.608
ARC 09	1	5525350.883	645092.908	50 mm	402WA	26+66.000
ARC 10	1	5525896.679	645078.002	25 mm	401WA	21+20.000
ARC 11	1	5526696.381	645056.163	25 mm	401WA	13+20.000
ARC 12	1	5527226.183	645041.694	25 mm	401WA	7+90.000

ID NUMBER	NORTHING	EASTING	DIAMETER	STATION
FM 01	5523926.678	647727.749	250 mm	29+09.000
FM 02	5524145.578	647310.680	250 mm	24+31.50
FM 03	5524299.237	646884.538	250 mm	19+78.50
FM 04	5524382.571	646653.429	250 mm	17+32.819
FM 05	5524916.432	645172.886	250 mm	1+58.964
FM 06	5525011.901	645102.166	250 mm	30+05.108

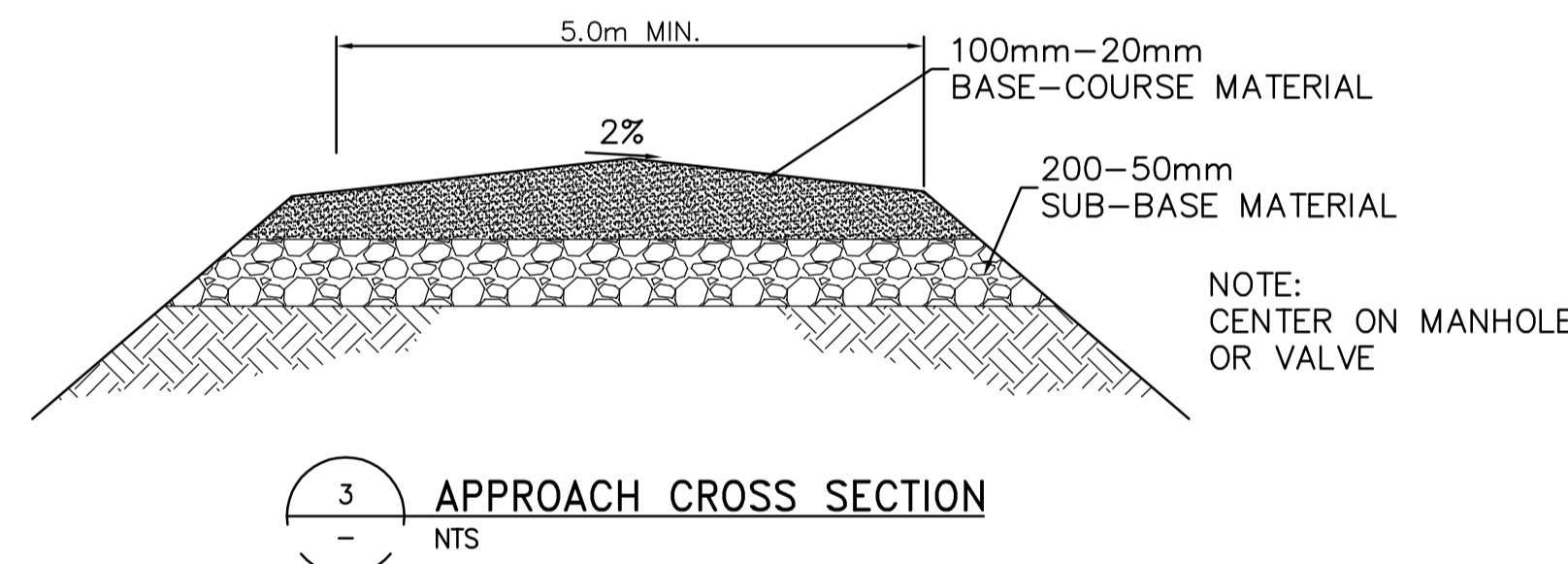
NOTE: FLANGED VALVES MUST MEET ALL MATERIAL AND DESIGN REQUIREMENTS OF CITY OF WINNIPEG STANDARDS AT-4.1.1.80 AND BE FROM ONE OF THE APPROVED MANUFACTURES.



NOTE: ANCHOR BLOCK TO BE LOCATED 1.5-2.0m EACH SIDE OF CLEANOUT MANHOLE OR CONNECTION TO DUCTILE IRON PIPE



2 ANCHOR BLOCK DETAIL
NTS



3 APPROACH CROSS SECTION
NTS

DESCRIPTION	NORTHING	EASTING	INVERT	STATION
CONNECTION	5523925.863	647728.339	231.642	29+10.000
11.25 BEND	5523946.929	647713.090	231.132	28+84.000
22.5 BEND	5524045.384	647596.059	233.350	27+33.939
15 BEND	5524145.541	647318.173	233.523	24+38.554
15 BEND	5524145.238	647311.621	233.529	24+32.499
60 BEND	5524941.236	645104.095	229.722	0+84.162

NOTE:
A. 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.

BENCHMARK NOTES:

DRAWING COORDINATES ARE UTM NAD83 - SCALE FACTOR 0.99983			
B.M. No.	NORTHING	EASTING	ELEVATION
PILE 136	5523873.734	647764.406	236.242
PILE 133	5523256.606	647782.387	236.056



150 mm W.M.	WATERMAIN	150 mm W.M.	HYDRO	CONCRETE	ASPHALT	PROPERTY LINE	SURVEY BAR	ELEVATION	TREE	ANODE	CONCRETE SIDEWALK	FENCE
○	HYDRANT	+	M.T.S.	■	■	---	+	32.750	○	○	---	---
○	VALVE	+	CONCRETE	■	■	---	+	32.750	○	○	---	---
○	LAND DRAINAGE SEWER	○	ASPHALT	■	■	---	+	32.750	○	○	---	---
○	WASTEWATER SEWER	○	PROPERTY LINE	■	■	---	+	32.750	○	○	---	---
○	MANHOLE	○	SURVEY BAR	■	■	---	+	32.750	○	○	---	---
○	CATCH BASIN	○	ELEVATION	■	■	---	+	32.750	○	○	---	---
○	CURB INLET	○	TREE	■	■	---	+	32.750	○	○	---	---
○	JUNCTIONS	○	ANODE	■	■	---	+	32.750	○	○	---	---
○	CULVERT	○	CONCRETE SIDEWALK	■	■	---	+	32.750	○	○	---	---
○	GAS	○	FENCE	■	■	---	+	32.750	○	○	---	---
○	EXISTING	○	LEGEND - PLAN	■	■	---	+	32.750	○	○	---	---
○	PROPOSED	○	PROPOSED	■	■	---	+	32.750	○	○	---	---

B.M. ELEV.	DATE	BY	
00	ISSUED FOR TENDER	07/07/30	DA
NO.	REVISIONS	DATE	BY

CH2MHILL
Frederickson Cooper ARCHITECTS

EarthTech
A Tyco International Ltd. Company

DESIGNED BY: KWF
CHECKED BY: GK

DRAWN BY: JS
APPROVED BY: AHL

SCALE: AS NOTED
RELEASED FOR CONSTRUCTION BY: R. SOROKOWSKI

DATE: 2005/12/09
DATE: 2007/7/30

ENGINEER'S SEAL
PROVINCE OF MANITOBA
ORIGINAL SIGNED BY
K.W. FITCHETT
30/07/2007
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO.
WZ-C0121

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WATER TREATMENT PLANT
SUPPLY AND INSTALLATION
OF FORCEMAIN

CIVIL
AIR RELEASE CHAMBER
PLAN AND SECTION AND DETAILS

CITY FILE NUMBER
SHEET 22 OF 23
CITY DRAWING NUMBER
1-0602Z-C-C0121-001-00D