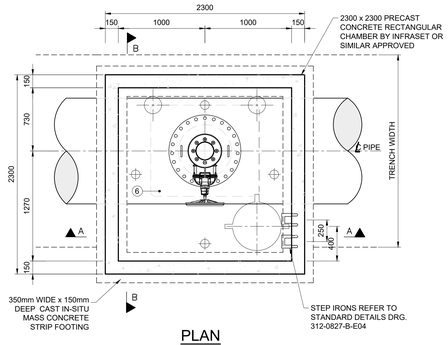
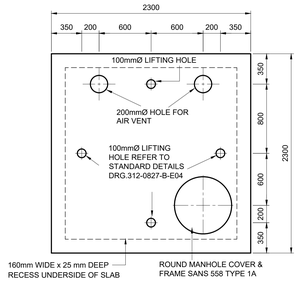
NOTE:
ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF WORKS.
REFER ANY DISCREPANCIES TO THE ENGINEER.

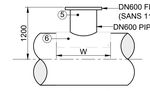
AIR VALVE TYPE 1
IN-LINE SINGLE DN200



PLAN
SCALE 1 : 25



PRECAST ROOF SLAB DETAIL (TYPE 1)
SCALE 1 : 25

PIPEWORK AND FITTINGS SCHEDULE 1.1 (TYPE 1 - PER INSTALLATION)						
ITEM NO.	DESCRIPTION	WALL THICKNESS	NO. OFF	LINING	COATING	GRADE OF STEEL
1	DN200 VENT-O-MAT RBX OR SIMMILAR APPROVED AIR VALVE, PN10 OR PN16. REFER TO SCHEDULE 2.1 & GENERAL NOTES - VALVES & FITTINGS	-	1	-	-	-
2	DN200 RSV OR WEDGE GATE VALVE, HAND WHEEL OPERATED, PN10 OR PN16 COMPLETE WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS & GASKETS. REFER TO SCHEDULE 2.1 & GENERAL NOTES - VALVES & FITTINGS	-	1	-	-	-
3	SPECIAL: DN200 SPOOL PIECE, 300mm F/F, FOE, PLAIN END WELDED CENTRALLY TO ITEM 4. DN200 FLANGE SUPPLIED WITH ITEM 2 AS DETAILED BELOW: ELEVATION SCALE 1:50	4.5mm	1	CML	CMS	X42 / GRADE C
4	DN600 BLANK FLANGE (SANS 1123 OR BS EN 1092 PART 1), REFER TO SCHEDULE 2.1, WITH 200mm HOLE CENTRALLY DRILLED AND LIFTING HOOKS. (REFER TO STANDARD DETAILS DRG. 312-0827-B-E04 FOR LIFTING HOOK DETAIL).	-	1	-	-	-
5	SPECIAL: DN600 STRAIGHT PIECE (FLANGED STUB), FOE, AS DETAILED BELOW:  ELEVATION SCALE 1 : 50	SEE SCHEDULE 2.1	1	CML	CMS	SEE SCHEDULE 2.1
6	COLLAR PLATE IF SPECIFIED. REFER TO SCHEDULE 2.1	SEE SCHEDULE 2.1	1	-	CMS	SEE SCHEDULE 2.1

NOTE:

THIS DRAWING INDICATES THE IDEAL POSITION AND MEASUREMENT THEREOF FOR THE TYPE 1 AIR VALVE INSTALLATION. SHOULD ANY ADJUSTMENTS BE REQUIRED, IT SHOULD BE APPROVED BY THE ENGINEER ON SITE.

GENERAL NOTES

PIPEWORK

1. ALL PIPEWORK TO BE MILD STEEL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS UNLESS OTHERWISE STATED.
2. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL PIPEWORK AND ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION.
3. ALL PIPES GREATER THAN AND INCLUDING DN100, FITTED TO EQUIPMENT OR FITTINGS, OR WHERE SPECIFICALLY INDICATED SHALL BE FLANGED TO SANS 1123 (TABLE 3) OR BS EN 1092 - 1 WHERE SANS 1123 (TABLE 3) DOES NOT APPLY OR AS SPECIFIED ON THE DRAWINGS. SHOULD THE RESPECTIVE FLANGE DRILLING NOT BE COVERED IN THE ABOVE SPECIFICATIONS THE RESIDENT ENGINEER SHALL BE CONSULTED FOR THE APPROPRIATE SPECIFICATION, BEFORE PROCURING ANY VALVES OR FLANGES.
4. SURFACE PREPARATION FOR APPLICATION OF CORROSION PROTECTION MATERIALS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
5. DAMAGED COATINGS AND LININGS SHALL BE REPAIRED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
6. ALL PIPEWORK AND SPECIALS TO BE COATED AND LINED AS PER THE PROJECT SPECIFICATIONS.
7. ALL JOINTS SHALL BE COATED, PROTECTED AND WRAPPED AS PER THE PROJECT SPECIFICATIONS.
8. THE PRESSURE RATINGS OF ALL PIPEWORK, FLANGES AND VALVES, SHALL BE AS INDICATED IN THE SCHEDULES OF FITTINGS.
9. ALL MILD STEEL PIPEWORK, COLLARS, WRAPPERS AND CROTCH PLATES TO BE MANUFACTURED FROM STEEL PIPE OF THE SAME GRADE AS THE MAIN PIPE.
10. ALL BENDS TO BE FABRICATED AND DIMENSIONED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
11. FOR COLLAR PLATES, PRE-DRILL 2 x 5mmØ HOLE. UPON COMPLETION OF FILLET WELDING WELD HOLES CLOSED.

VALVES AND FITTINGS

12. AIR VALVES:
    12.1. DN25 TO DN50 TO BE SCREW TYPE.
    12.2. DN80 TO DN200 TO BE FLANGED TYPE.
13. BUTTERFLY VALVES.
    13.1. FLANGED U-SECTION TYPE - SIZES UP TO DN1200, HAND WHEEL OPERATED, CLOCKWISE CLOSING (SUPPLIED WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS AND GASKETS). UNLESS OTHERWISE SPECIFIED.
14. RSV & WEDGE GATE VALVES:
    14.1. DN100 TO DN300, HAND WHEEL OPERATED, CLOCKWISE CLOSING (SUPPLIED WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS AND GASKETS). UNLESS OTHERWISE SPECIFIED.

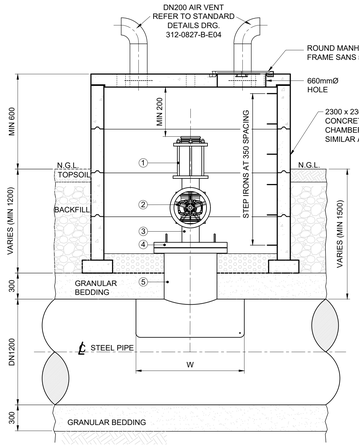
CONCRETE

15. ALL DIMENSIONS IN MILLIMETERS UNLESS STATED OTHERWISE.
16. ALL EXPOSED EDGES TO BE CHAMFERED 25x25.
17. MINIMUM COVER TO ALL REINFORCING SHALL BE 50mm.
18. CONSTRUCTION JOINTS TO BE WELL CLEANED & SCABBLED TO EXPOSE FRESH AGGREGATE AND THOROUGHLY WETTED BEFORE THE NEXT LIFT IS POURED.
19. FLOOR SCREED LAID TO FALL WITH THICKNESS VARYING FROM 100 TO 50mm.
20. CONCRETE GRADE
    20.1. BLINDING : C12/15-20 UNLESS OTHERWISE STATED
    20.2. CONCRETE : C25/20-20 UNLESS OTHERWISE STATED
    20.3. SCREED : 1:3 (CEMENT/SAND)
21. FINISHES
    21.1. EXTERNAL WALLS UNEXPOSED : F1 FINISH
    21.2. EXTERNAL WALLS EXPOSED : F1 FINISH
    21.3. INTERNAL WALLS : F2 FINISH
    21.4. FLOOR : U4 FINISH
22. WHERE APPLICABLE, AIR VENTS, LIFTING HOLES, LIFTING HOOKS, STEP IRONS AND MANHOLE COVER & FRAME ARE TO BE CAST IN CONCRETE.
23. BOTTOM OF AIR INLET TO BE MINIMUM OF 200mm ABOVE NGL.
24. ACCESS LADDERS TO HAVE CAGE FROM 2.3m ABOVE CHAMBER FLOOR.
25. PRESSURE RATING IN ACCORDANCE TO SCHEDULES

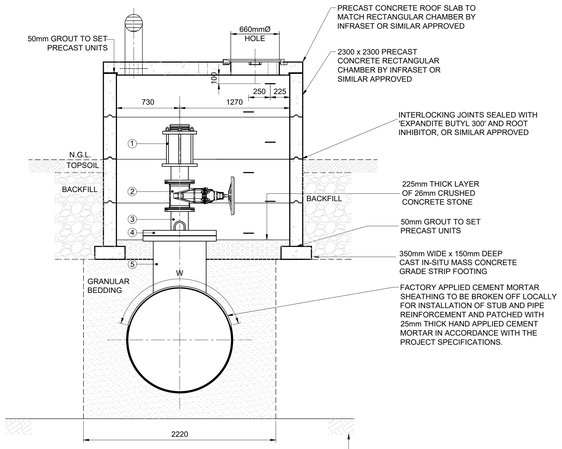
ABBREVIATIONS :

ID	-	INSIDE DIAMETER	DI	-	DUCTILE IRON
CI	-	CAST IRON	F/F	-	FACE TO FACE DIMENSION
DN	-	DIAMETER NOMINAL	C/F	-	CENTER TO FACE DIMENSION
OD	-	OUTSIDE DIAMETER	FOE	-	FLANGED ONE END
MS	-	MILD STEEL	BEF	-	BOTH ENDS FLANGED
SS	-	STAINLESS STEEL	FAR	-	FLANGED ALL ROUND
FRL	-	FINAL ROAD LEVEL	LRB	-	LONG RADIUS BEND
SFE	-	SOLVENT FREE EPOXY	SRB	-	SHORT RADIUS BEND
CML	-	CEMENT MORTAR LINED	NGL	-	NATURAL GROUND LEVEL
FBE	-	FUSION BONDED EPOXY	HDGMS	-	HOT DIPPED GALVANIZED MILD STEEL
CMS	-	CEMENT MORTAR SHEATHING			





SECTION A - A
SCALE 1 : 25



SECTION B - B
SCALE 1 : 25

SCHEDULE 2.1

AIR VALVE ASSEMBLY DETAILS

DESCRIPTION				PRESSURE	MAIN PIPE DETAILS			BRANCH PIPE DETAILS			VALVE DETAILS			FLANGE RATING & DRILLING TABLES			INSTALLATION	PIPE REINFORCING DETAILS - COLLAR PLATE DETAILS		
PI	CHAINAGE (m)	IL (MSL)	DEPTH TO IL (m)	PRESSURE CLASS	MAIN PIPE DIAMETER DN (mm)	MAIN PIPE PLATE THICKNESS (mm)	MAIN PIPE GRADE	AIR VALVE COLLECTOR TEE DN (mm)	AIR VALVE COLLECTOR PIPE PLATE THICKNESS (mm)	AIR VALVE COLLECTOR TEE GRADE	AIR VALVE SIZE	ISOLATING VALVE SIZE	ISOLATING VALVE TYPE	AIR VALVE	ISOLATING VALVE	PIPE FLANGES	TYPE	PLATE REINF. GRADE	THICKNESS OF REINF.	OVERALL REINF. WIDTH
																			t (mm)	(W mm)
PI-B2	4.000	96.718	2.856	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	IV	X42	6.0	1200.0
PI-B6	80.000	96.226	2.775	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B9	362.687	94.439	3.121	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B12	570.745	93.973	3.038	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B17	816.764	95.048	2.693	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B22	1060.481	93.774	2.424	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B26	1255.304	93.137	2.649	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B31	1645.996	93.621	2.693	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B35	2005.233	95.271	2.694	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B38	2510.739	99.936	2.787	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B44	3093.872	117.796	2.706	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	I	X42	6.0	1200.0
PI-B47	3182.774	120.023	2.553	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	I	X42	6.0	1200.0
PI-B49	3442.774	120.707	2.405	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	I	X42	6.0	1200.0
PI-B50	3607.066	118.250	2.394	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	I	X42	6.0	1200.0
PI-B52	3807.703	112.991	2.694	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	I	X42	6.0	1200.0
PI-B58	4162.774	100.723	2.694	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B61	4370.247	101.251	2.694	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B63	4434.245	101.670	2.694	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B64	4502.256	100.691	2.706	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B68	4757.535	100.218	3.051	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	I	X42	6.0	1200.0
PI-B69	4782.256	101.148	2.812	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	IV	X42	6.0	1200.0



No.	DATE	REVISION	CONSULT. ENG.
V1	23/11/2023	ORIGINAL VERSION	

CONSTRUCTION RECORD (AS-BUILT)
WORKS CONTRACT ENGINEER
Name :
Prof. Reg. No. :
Date :
SANRAL PROJECT MANAGER
Name :
Date :

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SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
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BUILDING SOUTH AFRICA THROUGH BETTER ROADS

WESTERN REGION
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ACCEPTANCE

THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING

for the SA NATIONAL ROADS AGENCY SOC LTD.
Date:

PROJECT DESCRIPTION
THE CAPACITY IMPROVEMENT OF THE NATIONAL ROUTE 1 SECTION 1 FROM OLD OAK INTERCHANGE (KM 18.90) TO KOELENOFF INTERCHANGE (KM 33.00)

DRAWING DESCRIPTION
N1 - WEMMERSHOEK PIPELINE RELOCATION
SECTION B - KRAAIFONTEIN TO BRACKENFELL
TYPICAL AIR VALVE DETAILS - DN1200 MAINLINE

SCALE : AS SHOWN | SHEET 1 OF 1

PROJECT NUMBER	N.001-010-2021/1	
DRAWING LOCATION DATA	START	END
ROUTE	N01	N01
SECTION	01	01
DRAWING km DISTANCE	18.90	33.00
DRAWING TYPE	ROADS-UTILITIES	
BRIDGE/STRUCTURE No.		
CONSULTANT DRAWING No.	312-0827-B-E02	VER
SANRAL DOCUMENT #	-	V1