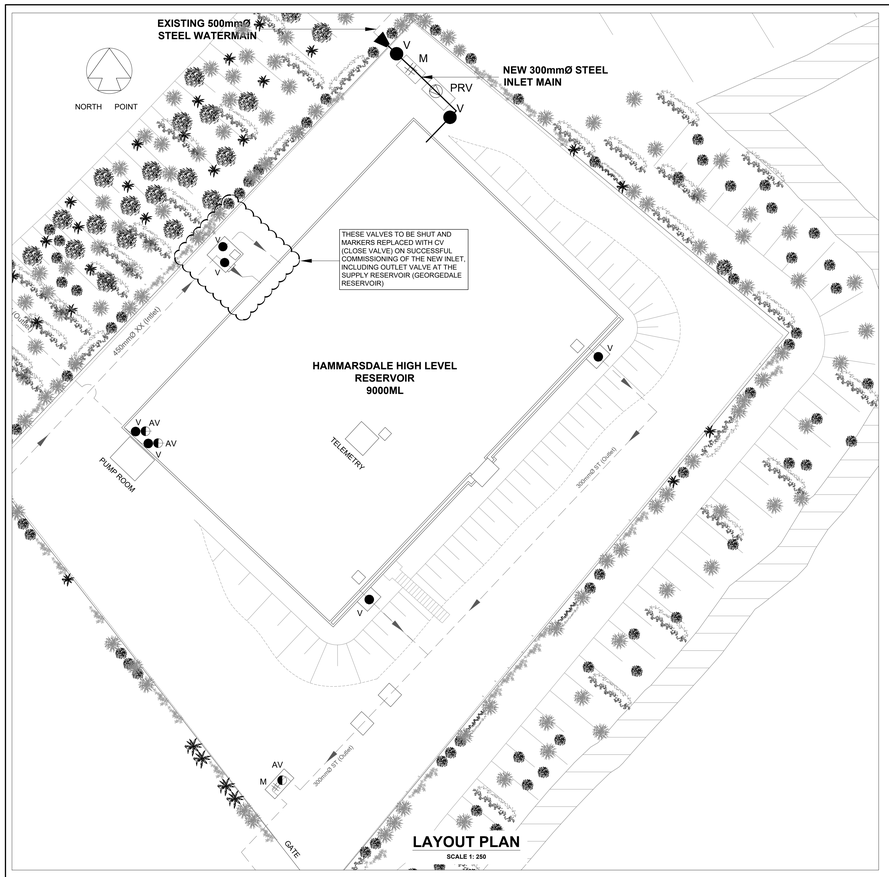
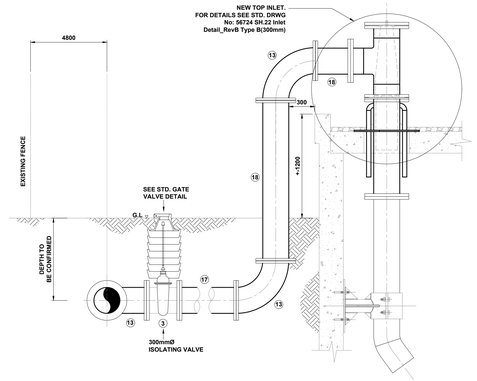


LAYOUT PLAN
SCALE 1: 250

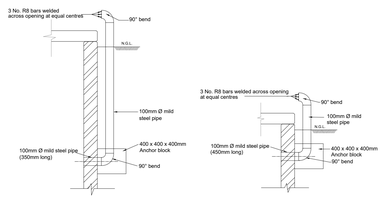


TYPICAL SECTION E-E SHOWING NEW INLET PIPE WORK INTO HAMMARSDALE RESERVOIR
SCALE 1 : 25

TABLE OF LENGTHS

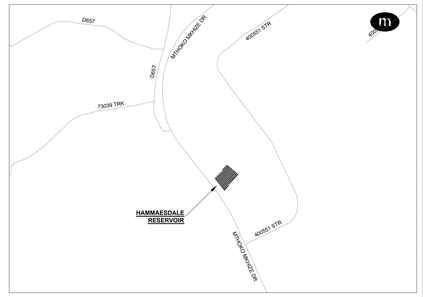
300mmØ STEEL WATERMAIN	25m

REASON REQUIRED :	NEW WATER TRUNKMAIN
RESERVOIR ZONE :	HAMMARSDALE RES
LEVEL OF SERVICE :	1

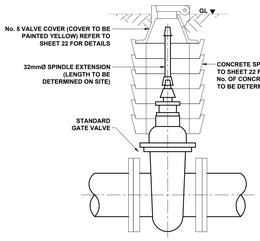


AIR VENT ASSEMBLY TYPE "B"
n.t.s

AIR VENT ASSEMBLY TYPE "A"
n.t.s



LOCALITY SKETCH
NOT TO SCALE



STANDARD GATE VALVE DETAIL
NOT TO SCALE

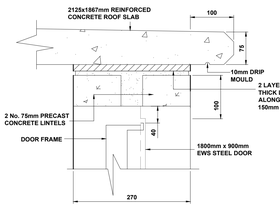
STAGES OF CONSTRUCTION
1. WATER CONSTRUCTION/CONTRACTOR- FABRICATE & INSTALL STEEL PIPE WORK.
2. WATER CONSTRUCTION TO CONSTRUCT BRICKWORK KIOSK.
3. WATER OPERATIONS TO REMOVE SPOOL PIECE (15b) & INSTALL INLET CONTROL VALVE (15b) & MAKE UP SPOOL PIECE, & COMMISSION I.C.V.

NB: WATER MAINS ARE ALWAYS TO BE CHARGED SLOWLY SO THAT HIGH VELOCITIES DO NOT DAMAGE THE METER.

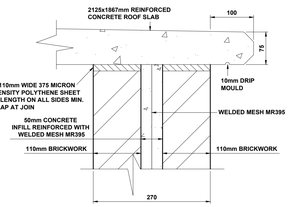
PIPE WORK DETAILS

No:	DESCRIPTION	QUANT
1	500mmØ SPOOL PIECE 270mm LONG. F.B.E. (PN16)	1
2	500x300mmØ FLANGED CONCENTRIC TAPER	1
3	300mmØ FLANGED GATE VALVE	2
4	300mmØ SPOOL PIECE 730mm LONG. F.B.E. (PN16)	2
5	300mmØ DIRT BOX (SEE DRWG 45484)	1
6	300mmØ SPOOL PIECE 900mm LONG. F.B.E. (PN16)	1
7	300mmØ BULK METER 500mm LONG F.B.E.	1
8	300mmØ SPOOL PIECE 1010mm LONG. F.B.E. (PN16)	1
9	300mmØ x 90° LONG RADIUS BEND WITH 100mm SPOOL PIECE ON BOTH ENDS F.B.E. (API B16.9)	2
10	300mmØ SPOOL PIECE, LENGTH TO BE DETERMINED ONCE THE DEPTH OF EXISTING INLET MAIN IS KNOWN. F.B.E. (PN16)	2
11	300mmØ SPOOL PIECE 410mm LONG. F.B.E. (PN16)	2
12	300mmØ BUTTERFLY VALVE (SUPPLIED WITH MATCHING FLANGES & BOLT SETS)	2
13	300mmØ x 90° LONG RADIUS BEND F.B.E (API B16.9)	5
14	25mm Ø AIR VALVE. REFER DETAIL "C".	2
15a	300mmØ SPOOL PIECE F.B.E. 850mm LONG. (API SH 40) - SEE DETAIL	1
15b	300mmØ PRESSURE REDUCING VALVE	1
16	300mmØ SPOOL PIECE 1375mm LONG. F.B.E. (PN16)	1
17	300mmØ SPOOL PIECE 1700mm LONG. F.B.E. (PN16)	1
18	300mmØ SPOOL PIECE CUT TO SUIT F.B.E. (PN16)	2
19	AIR VENT - SEE TYPICAL AIR VENT ASSEMBLY TYPE "A" AND "B"	2

NOTE : ALL FLANGES TO S.A.B.S. TABLE 16

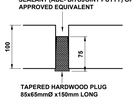


DETAIL "A"
SCALE 1:5



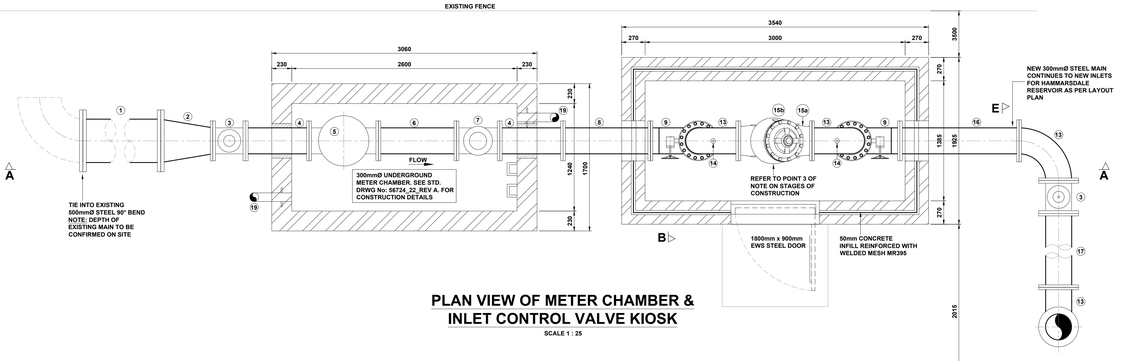
DETAIL "B"
SCALE 1:5

DETAIL "C"
NOT TO SCALE

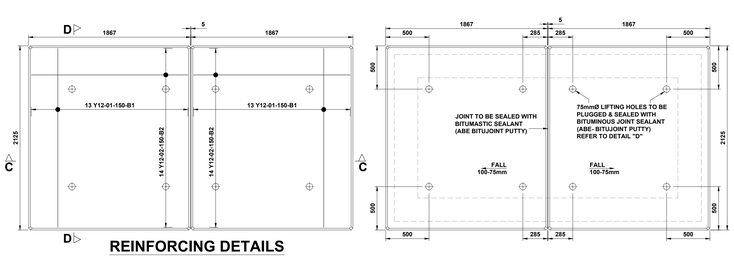


DETAIL "D"
NOT TO SCALE

NOTES FOR NEW PIPE WORK & INLET CONTROL VALVE KIOSK
1. EXACT POSITION OF METER CHAMBER & INLET CONTROL VALVE KIOSK TO BE INDICATED BY ENGINEER'S REPRESENTATIVE ON SITE.
2. CONTRACTOR TO CONFIRM DIMENSIONS OF ALL NEW STEEL PIPE WORK PRIOR TO FABRICATION & INSTALLATION.
3. PIPE WORK TO BE FABRICATED USING API SCHEDULE 40 STEEL PIPE & TO BE IN ACCORDANCE WITH SABS 719 - MEDIUM GREY -4.5 mm THICK
4. ALL FLANGES TO BE TO SANS 1123 TABLE 1600/3.
5. PRIOR TO INSTALLATION ALL FABRICATED PIPE WORK TO BE EXTERNALLY COATED AND INTERNALLY LINED WITH "RILSAN" OR APPROVED EQUIVALENT.
6. PRIOR TO INSTALLATION AND ASSEMBLY ANY UNCOATED FLANGE FACES TO BE COATED WITH "COPON HICOTE 151" TO A MINIMUM DRY FILM THICKNESS OFF 300 MICRONS.
7. ONCE THE PIPE WORK HAS BEEN INSTALLED ANY DAMAGED STEEL PIPE WORK IS TO BE REPAIRED USING THE RILSAN REPAIR MEDIUM OR SIMILAR APPROVED.
8. ALL GATE VALVES TO BE INSTALLED UNDER CONCRETE SPACER RINGS AND VALVE COVERS AS PER SHEET 22.
9. MINIMUM STRENGTH OF ROOF SLAB CONCRETE TO BE 25 MPa AT 28 DAYS. ALL OTHER CONCRETE TO BE 20MPa AT 28 DAYS.
10. 75mmØ LIFTING HOLES IN ROOF SLABS TO BE PLUGGED & SEALED WITH BITUMINOUS JOINT SEALANT (ABE-BITUJOINT PUTTY) OR APPROVED EQUIVALENT
11. MINIMUM COVER TO REINFORCING TO BE 30mm.
12. CHAMBER TO BE FOUNDED ON IN-SITU MATERIAL OR ON REWORKED MATERIAL COMPACTED TO 95% MOD. A.A.S.H.T.O.
13. FOUNDATION EXCAVATIONS TO BE APPROVED BY ENGINEER.
14. 600x200 DEEP MASS CONCRETE STRIP FOUNDATIONS. CONCRETE GRADE 20/19 TO BE CAST ON A LAYER OF POLYTHENE SHEETING.250 MICRON "GUNPLAS" OR APPROVED EQUIVALENT
15. BRICKWORK TO BE REINFORCED WITH BRICKFORCE EVERY SECOND COURSE.
16. BRICKWORK:- MORTAR CLASS :- iii
BRICK MASONRY BOND :- ENGLISH BOND
BELOW GROUND :- NFK
EXTERNAL :- "VILLAGE ANTIQUE" TRAVERTINE FACE BRICKS OR APPROVED EQUIVALENT
17. INTERNAL WALLS ARE TO BE BAGWASHED WITH CEMENT / SAND (1:4) & THEN PAINTED WITH 1 COAT OF UNDERCOAT & 2 COATS OF WHITE 100% PURE ACRYLIC PAINT.
18. ALL EXPOSED CONCRETE EDGES TO HAVE A 20mm X 20mm CHAMFER.
19. 'EWS' STEEL DOOR TO BE COLLECTED BY CONTRACTOR FROM ETHEKWINI WATER STORE AT ELECTRON ROAD , SPRINGFIELD.
20. AIR VENT TO BE COLLECTED,IF AVAILABLE BY CONTRACTOR FROM ETHEKWINI WATER STORE AT ELECTRON ROAD, SPRINGFIELD.
21. THE CONTROL VALVE IS NOT TO BE PAINTED.
22. THE CONTROL VALVE IS TO BE INSTALLED LEVEL IRRESPECTIVE OF THE EXISTING GRADE OF THE PIPELINE. THE CONTRACTOR SHALL MAKE NECESSARY ALLOWANCES IN THE PIPEWORK LEADING UP TO & FOLLOWING ON FROM THE I.C.V. IN ORDER TO ACHIEVE THIS LEVEL GRADE.
23. THE CONTRACTOR IS TO NEATLY STENCIL THE DEVICE NUMBER (DV) NUMBER ON THE DOOR WITH 80mm HIGH STENCIL 1400mm FROM THE BOTTOM OF THE DOOR AND THIS TEXT IS TO BE CENTRALISED. NEW GALVANISED IRON DOOR IS TO BE SCRUBBED DOWN WITH GALVANISED IRON CLEANER AND ABRASIVE CLEANING PAD AND THEN RINSED WITH CLEAN WATER. STENCILING OF DV NUMBER TO BE DONE WITH 2 COATS OF AN APPROVED HIGH QUALITY BLACK ENAMEL PAINT.
24. METER SPECIFICATION TO BE CONFIRMED WITH ENGINEER.
25. THRUST PLATE DETAIL / PUDDLE FLANGE DETAIL TO BE CONFIRMED WITH ENGINEER.
26. ALL THRUST BLOCK DETAILS TO BE CONFIRMED WITH ENGINEER AT TIME OF CONSTRUCTION.

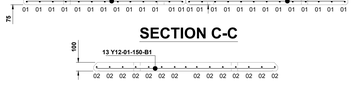


PLAN VIEW OF METER CHAMBER & INLET CONTROL VALVE KIOSK
SCALE 1 : 25



PLAN VIEW OF INLET CONTROL VALVE KIOSK ROOF SLABS

REINFORCING DETAILS



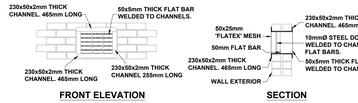
SECTION C-C

SECTION D-D

BENDING SCHEDULE

BAR	LENGTH	TOTAL NO.	SHAPE CODE	MASS kg	TOTAL
Y12-01	2065	26	20	47.68	92.56
Y12-02	1805	28	20	44.88	

COVER TO STEEL: 30mm

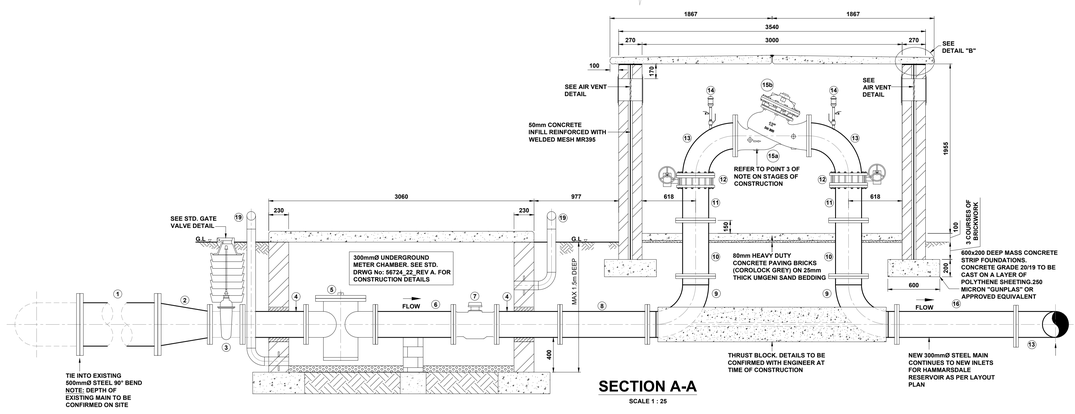


FRONT ELEVATION

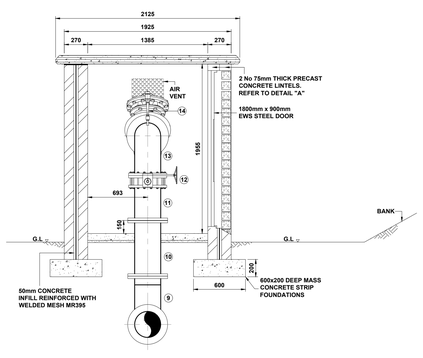
SECTION

INLET CONTROL VALVE KIOSK ROOF SLABS DETAILS
SCALE 1 : 25

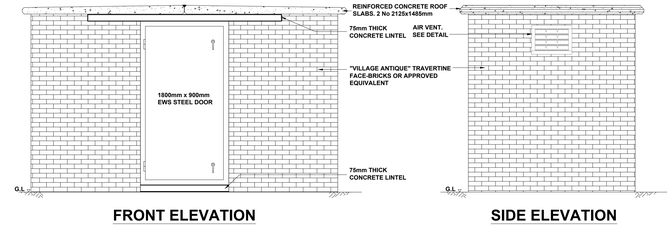
AIR VENT DETAIL
SCALE 1 : 25



SECTION A-A
SCALE 1 : 25



SECTION B-B
SCALE 1 : 25



FRONT ELEVATION
SCALE 1 : 25

SIDE ELEVATION
SCALE 1 : 25

FOR TENDER PURPOSES

ETHEKWINI WATER AND SANITATION

WATER DESIGN BRANCH

eThekwini Municipality

REDUCED PLAN USE SCALE BELOW

0 10 20 30 40 50 60 70

70mm ON ORIGINAL PLAN

LEGEND EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.

- NEW WATER MAIN & VALVES
- ABANDONED WATERMAIN
- EX. WATER MAINS AND VALVES
- GRAVITY SEWERS AND M.H'S
- SEWER RISING MAIN
- STORM WATER DRAINS AND M.H'S
- SUBSOIL DRAINS
- ELECTRICITY CABLES
- RMU (2R) (3R) (4R) & 315kVa MINI SUB
- 3 x160mm Ø PVC SLEEVES FOR ELEC
- TELKOM CABLES (160mm Ø DUCT)
- FIBRE (OTHER TELECOM 160mm Ø DUCT)
- CCTV CABLES (110mm Ø DUCT)
- CCTV MAST, KIOSK & MANHOLE
- 160mm Ø GENERAL DUCT
- ROAD EDGE

CONSTRUCTION INFORMATION	
MAINLAYER	
START DATE	
FINISH DATE	
W/O NUMBER	
LEVEL OF SERVICE	
SUPERVISOR NAME	
CONTACT NUMBER	
DATE SENT TO GIS	
GIS INFORMATION	
DATE RECEIVED	
NAME	

NOTES :
1. CONTRACTOR TO CONTACT RELEVANT AUTHORITIES AT LEAST 14 DAYS IN ADVANCE PRIOR TO WORKING IN THE VICINITY OF KNOWN SERVICES.

Revision	Date	Description
A	MAR 2023	ISSUED FOR TENDER

NOTE: No construction work to commence until land and servitude acquisitions have been completed

Acquisitions completed:

Date Engineer

NORTH POINT

UNDERGROUND SERVICES CHECKED -

SERVICE	DATE	SIGNATURE
S.W DRAINS		
SEWERS		
WATERMAINS		
TELKOM CABLES		
ELECTRIC CABLES		
S.A.R CABLES		
E.S.C CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations, trenches etc., to avoid damage to underground services such as sewers,drains,cables,watermains and connections. Wherever possible these must be located before work begins.

Contract No. WS 7589

Project No. X6714

Planning Unit: WEST HAMMARSDALE - STERKSPRUIT

Ward No.: 103 and 4

Project Title: HAMMARSDALE HIGH LEVEL RESERVOIR INLET (PHASE 2)

Drawing Title: LAYOUT PLAN & DETAILS OF 300mm Ø STEEL INLET REPLACEMENT AT HAMMARSDALE HIGH LEVEL RESERVOIR

Scale : 1:500

Designed : R.NHLUMAYO | Date : MAR 2023

Checked : | Drawn: S.ZULU

Area Engineer

Manager (Water Design)

Deputy Head (Engineering)

E. MSWELI - Head (W & S)

Drawing No. 56724 | Sheet 21/24 | Rev. A