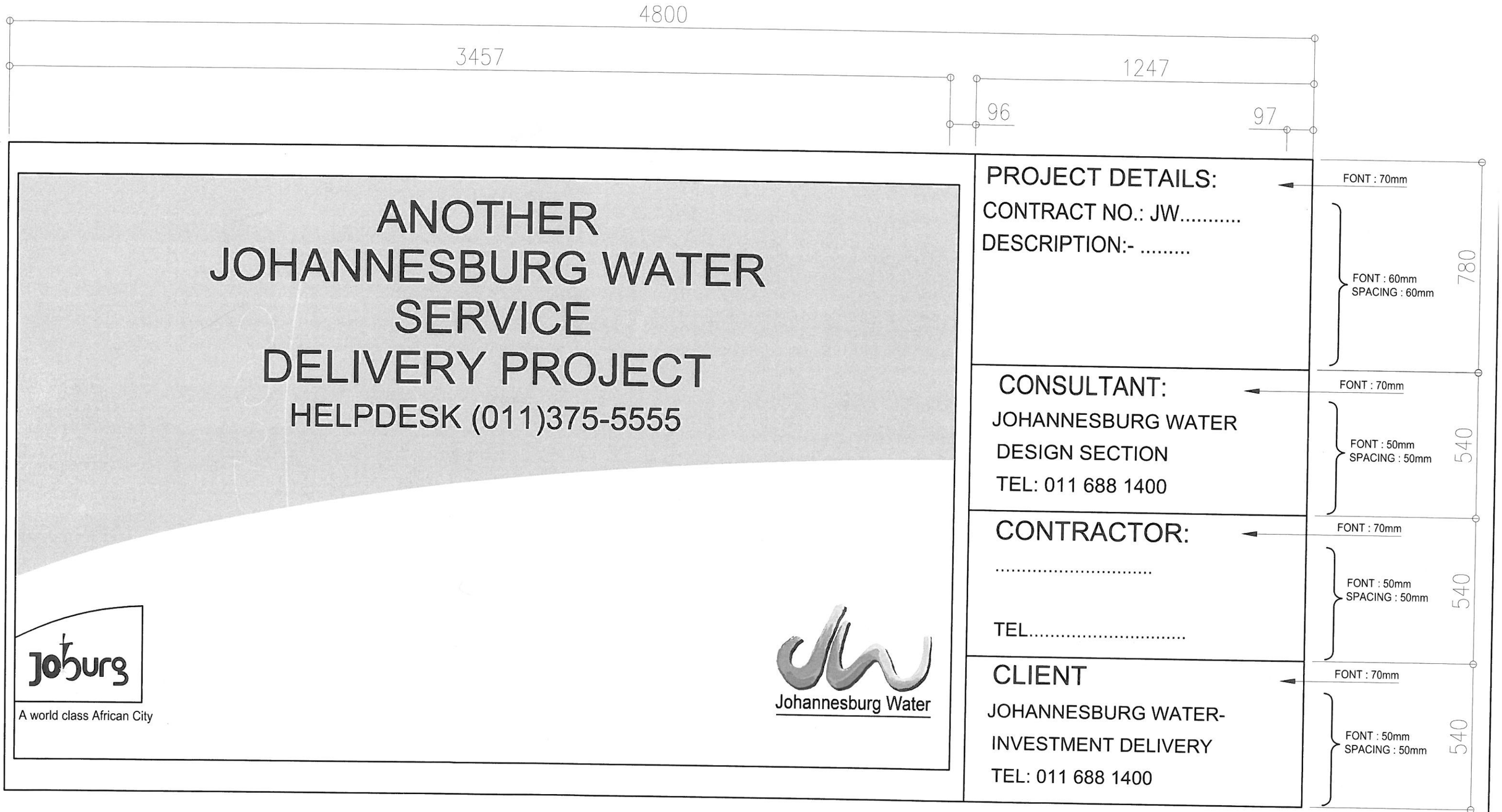

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CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017	
DRAWN	B.M.KHUMALO	MAY 2017	
CHECKED	J.GUMBO	DATE: 18/7/17	
	SIGNATURE:	ECSA REG. No: 20137 0644	
APPROVED BY:	T.MPANDAGUTA	DATE:	
	SIGNATURE:	ECSA REG. No: 20170150	

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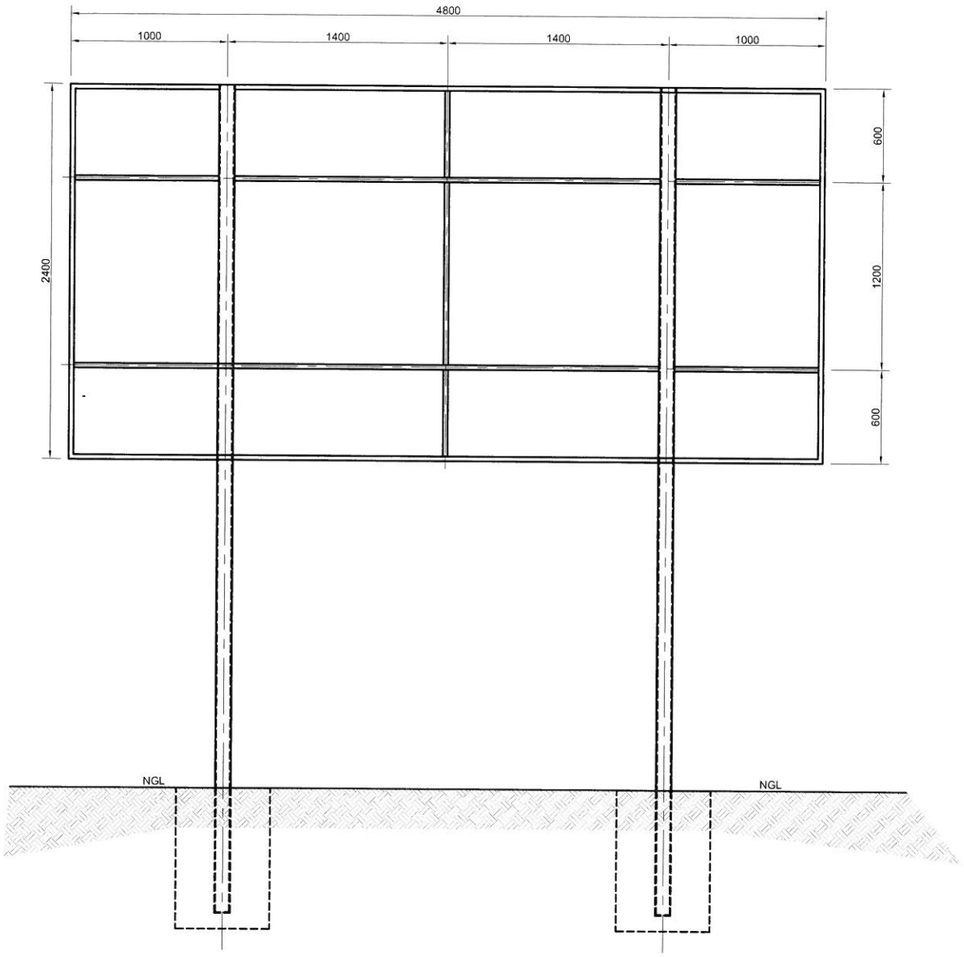

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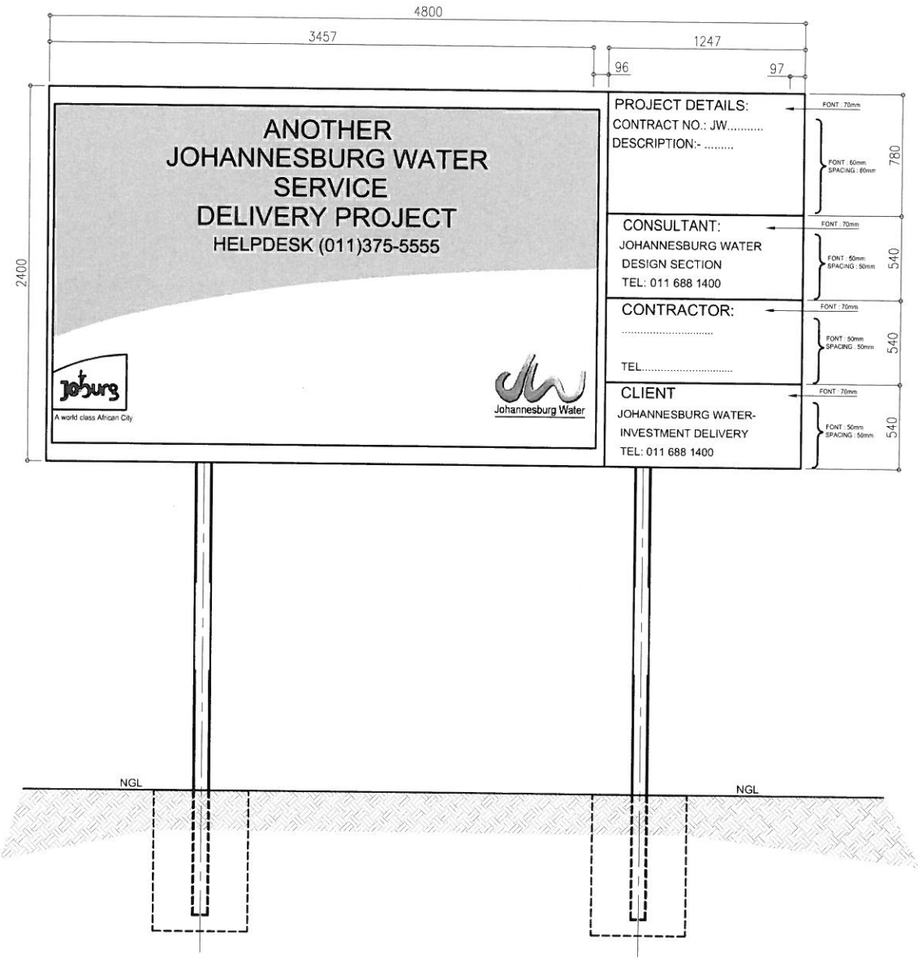

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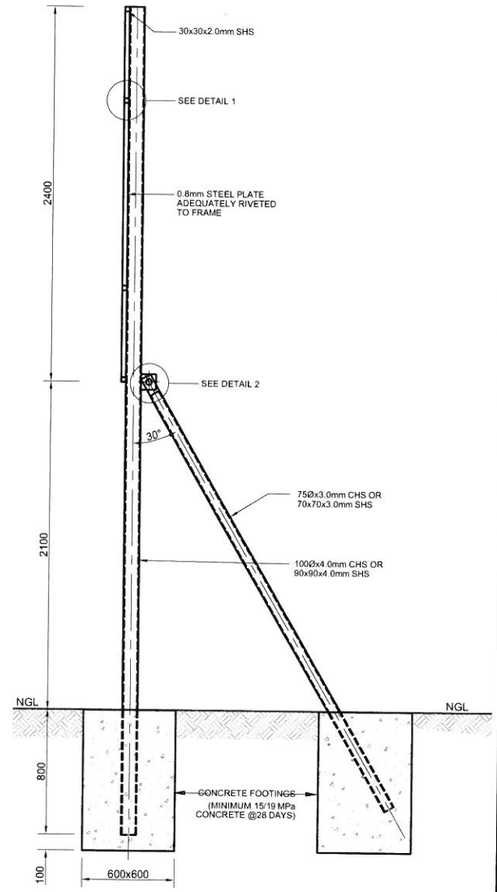
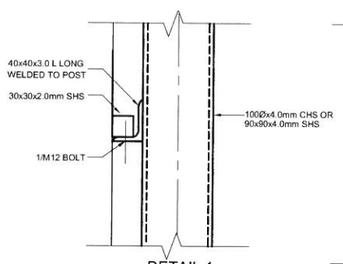


TYPICAL SECTION



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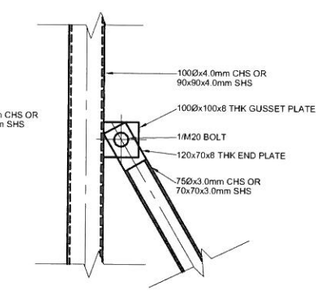

DETAIL 2

NOTE:
ALL WELDS TO BE 6mm FILLET
WELD ALL AROUND UNLESS
OTHERWISE SPECIFIED

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017
DRAWN	B.M.KHUMALO	MAY 2017
CHECKED	J.GUMBO	DATE 19/7/17
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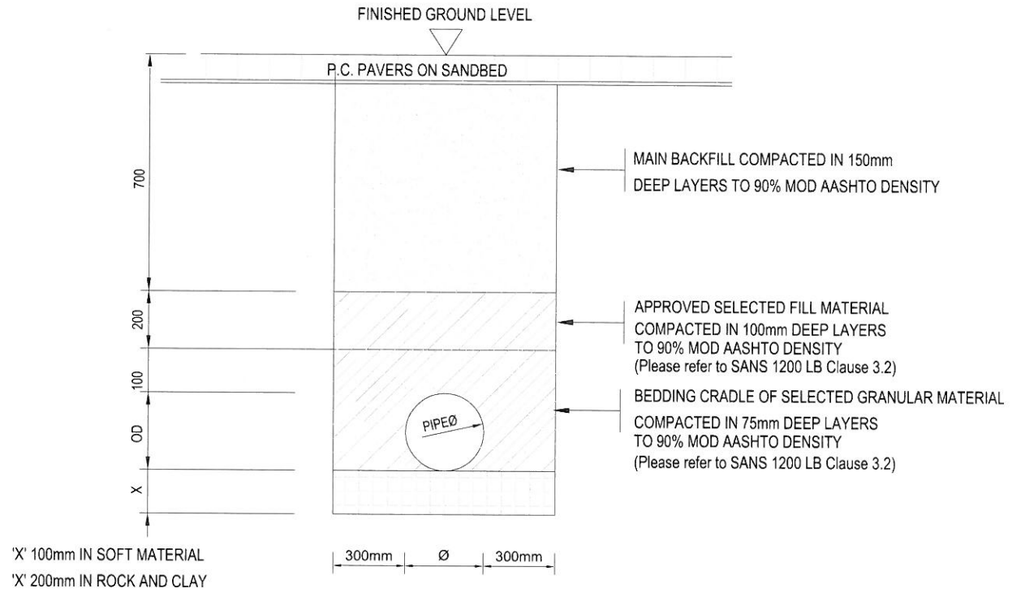
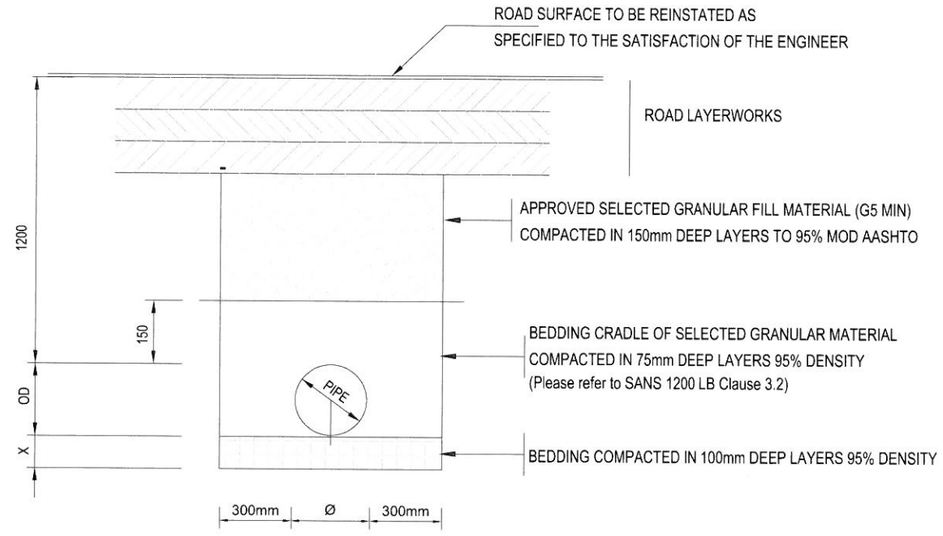


'X' 100mm IN SOFT MATERIAL
'X' 200mm IN ROCK AND CLAY

TYPICAL TRENCH SECTION ACROSS PAVED WALKWAYS AND OPEN GROUND



'X' 100mm IN SOFT MATERIAL
'X' 200mm IN ROCK AND CLAY

TYPICAL TRENCH SECTION BENEATH ROAD

NOTES:

1. PIPE SIDE ALLOWANCE OF 300mm TYPICAL FOR UP TO 700mm Dia.
FOR PIPES GREATER THAN 700mm REFER TO SANS 1200DB CLUASES 5.2
"MINIMUM BASE WIDTHS."
2. COMPATION OF MAIN FILL TO MINIMUM MOD AASHTO OR THAT OF
SURROUNDING IN SITU UNDISTURBED GROUND AND AS DIRECTED BY THE ENGINEER.
3. DIMENSIONS IN MILLIMETERS (mm)
4. REFER ALSO TO JRA AND OTHER SERVICE PROVIDERS SPECIFICATIONS FOR BEDDING
DETAILS IN ROAD RESERVES OR WHERE THE PIPE INTERSECT WITH OTHER SERVICES.

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7TH FLOOR

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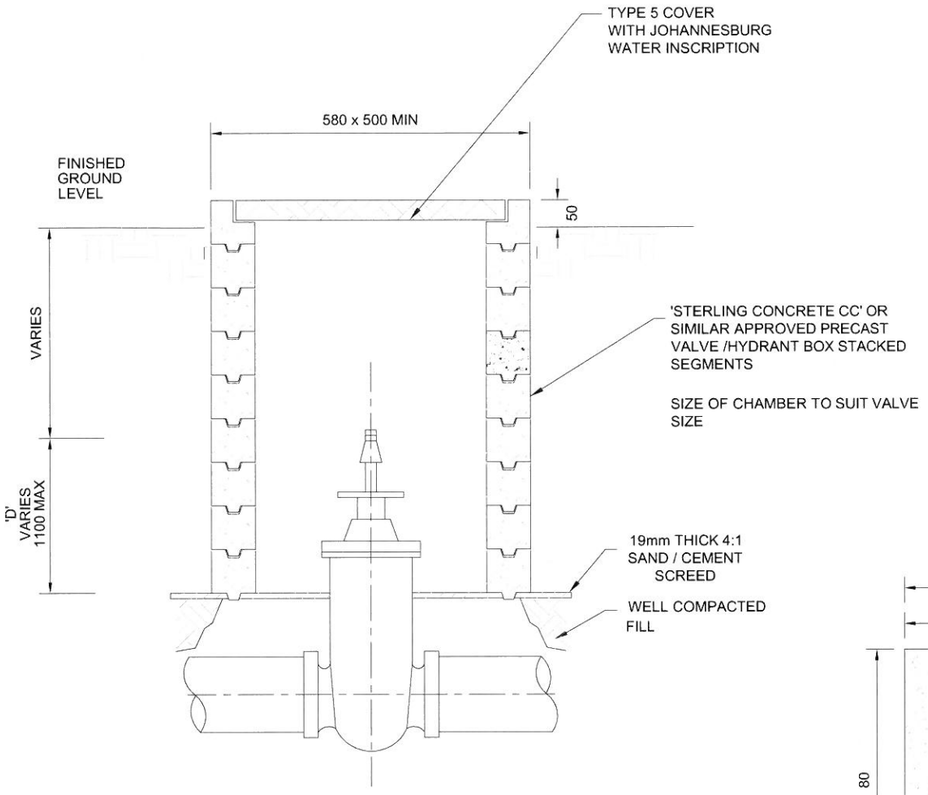
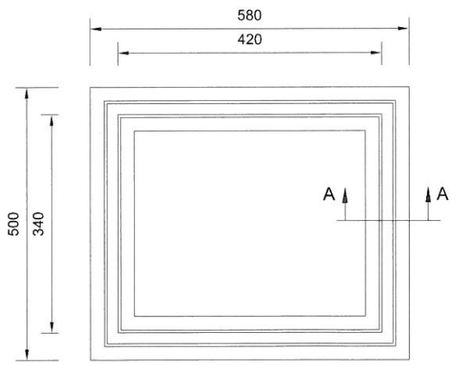
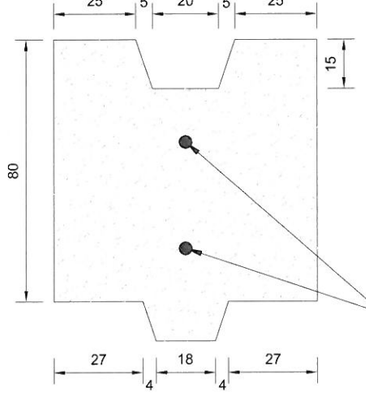
F.E.No.





PLAN VIEW
VALVE AND HYDRANT BOX (MINIMUM SIZE)



SECTION A-A (1 PRECAST SEGMENT)

NOTES

a) VALVES UP TO 350mm N.B.

1) RESILIENT SEAL GATE VALVE (80mm UP TO 150mm N.B)
2) WEDGE TYPE GATE VALES (200mm UP TO 350mm N.B.
3) NON RISING SPINDLE
4) ANTI CLOCKWISE CLOSING, EXCEPT IN MIDRAND AREA - CLOCKWISE CLOSING.
5) SPECIFICATIONS TO SANS 664 AND SPECIFICATIONS IN ANNEXURE E OF THE JW STANDARDS GUIDELINES.

b) PRECAST SEGMENT SPECIFICATIONS

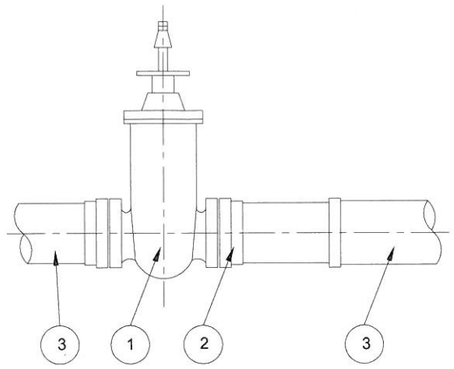
1) ALL MANHOLE SEGMENTS ACCORDING TO SANS 1294-1981
2) TOP SURFACE OF MANHOLE COVER TO BE 50 mm ABOVE THE FINISHED GROUND LEVEL EXCEPT IN PAVED AREAS
3) SEGMENTS TO BE DRY STACKED

c) ISOLATION VALVE

ALL VALVES SHALL BE FLANGED.

1) VICTAULIC VALVES AND FITTINGS MAY BE USED AS AN ALTERNATIVE TO THE PROPOSED ASSEMBLY.
2) WRITTEN PERMISSION FROM THE ENGINEER MUST BE OBTAINED FOR THE INSTALLATION OF ALTERNATIVES.
3) THE INSTALLATION MUST BE OF SUCH A NATURE THAT THE REMOVAL OF VALVES AND FITTINGS, FOR MAINTENANCE PURPOSES, CAN EASILY BE EXECUTED.

2 x 3 mmØ MILD STEEL RIENFORCING BARS
(15mm MINIMUM COVER)



TYPICAL VALVE ASSEMBLY

SCHEDULE

1. FLANGED RESILIENT WEDGE TYPE GATE VALVE
2. FLANGE ADAPTOR COMPATIBLE TO BOTH uPVC/HDPE PIPES
3. uPVC /HDPE PIPE

NOTE: 28 DAYS CONCRETE STRENGTH TO BE 25 MPa

TYPICAL VALVE BOXES FOR VALVES NOT EXCEEDING 350mm N.B.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

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CHECKED	J.GUMBO	DATE 20170644	
	SIGNATURE	20170644	
	ECSA REG. No.		
APPROVED BY:	T.MPANDAGUTA	DATE	
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	ECSA REG. No.	20170150	

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STANDARD DETAIL
TYPICAL VALVE BOXES FOR VALVES NOT EXCEEDING 350mm N.B.

AMENDMENTS

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DRAWING No.JW100-DET03-W01

PROJECT No. | REV.

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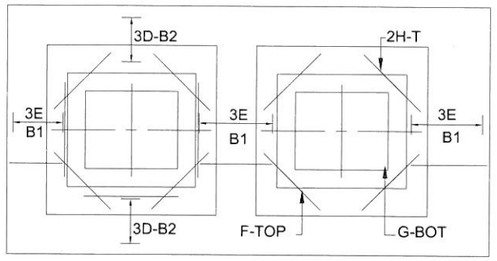
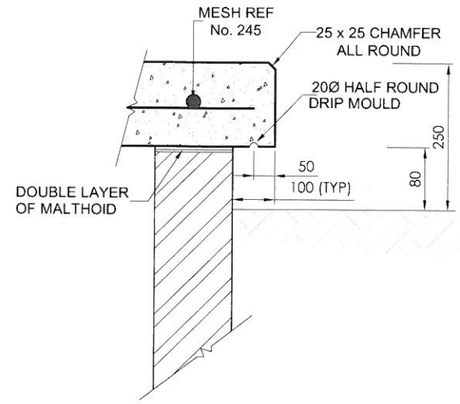
FILE No.

ITEM	No.	MARK	No.	TOT. No.	DIA.	c/c	LENGTH	SHAPE CODE	A	B	C	D	E/r
	COVER SLAB												
		D		6	Y12	-	2680	35	2560				
		E		9	Y12	-	1420	35	1300				
		F		2	Y16	-	2500	86	730	0	0		
		G		2	Y16	-	2850	86	840	0	0		
		H		16	Y10	-	750	20	750				
		J		21	Y10	-	400	20	400				
	REF 395 MESH = 3,35mÉ2												

STEEL SCHEDULE
REINFORCEMENT DETAILS



PLAN OF COVER SLAB



DETAIL 1
SCALE 1:10

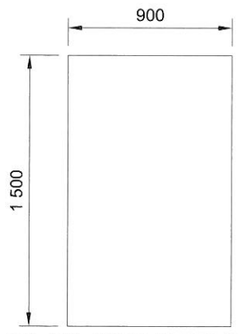
NOTES:

1. ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATERTIGHT CHAMBER. USE ENGINEERING BRICKS. BRICK FORCE TO EVERY COURSE.
2. CONCRETE TO BE GRADE 25/19. COVER = 30mm.
3. ALL FITTINGS TO BE PAINTED WITH KSIR88 EPOXY PAINT,SUCH AS COPON KSIR88 OR SIMILAR APPROVED. AFTER INSTALLATION 5mm BFGW REPAIR WRAP COATING.
4. ALL FLANGES TO TABLE 1600 OF SANS 1123.
5. FOR CHAMBERS OF DEPTHS MORE THAN 2.5m, ENGINEER TO DESIGN FLOOR SLAB AND WALLS.
6. CHAMBERS TO FLASH WITH SURFACED AREAS IN ROADS E.T.C
7. OTHER : ISOLATION AND SCOUR VALVE SPECIFICATION REFER TO ANNEXURE E:

SCHEDULE OF FITTINGS

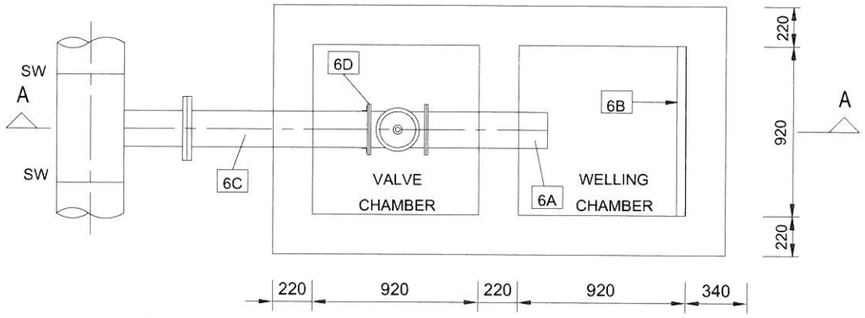
- 6A - 600 LENGTH x 168 x 4.5 MEDIUM CLASS MS PIPE TO SANS 62.
- 6B - 900 x 900 x 5 MS PLATE BOLTED TO THE WALL USING 4 No. x M10 RAWL BOLTS ONE IN EACH CORNER 100 x 100 OFF EACH FACE.
- 6C - 2000 LENGTH x 168 x 4.5 MEDIUM CLASS MS PIPE TO SANS 62.
- 6D - 168 ND SLIP ON BOSS FLANGE TO TABLE 1600/5 OF SANS 1123.
- 6G - 150 ND WATER WORKS PATTERN RESILIENT SEAL GATE VALVE, CLASS 16 TO SANS 664 WITH FLANGED ENDS TO TABLE 1600/3 OF SANS 1123, WITH CAP, NON-RISING SPINDLE, ANTI-CLOCKWISE CLOSING.
- 6F - DUCTILE IRON COVER - HEAVY DUTY ON ROADS AND POLYMER CONCRETE OR THEMOPLASTIC IN OTHER AREAS (FRAME SET IN REINFORCED CONCRETE ROOF IN BOTH CASES)

SW - SITE WELD

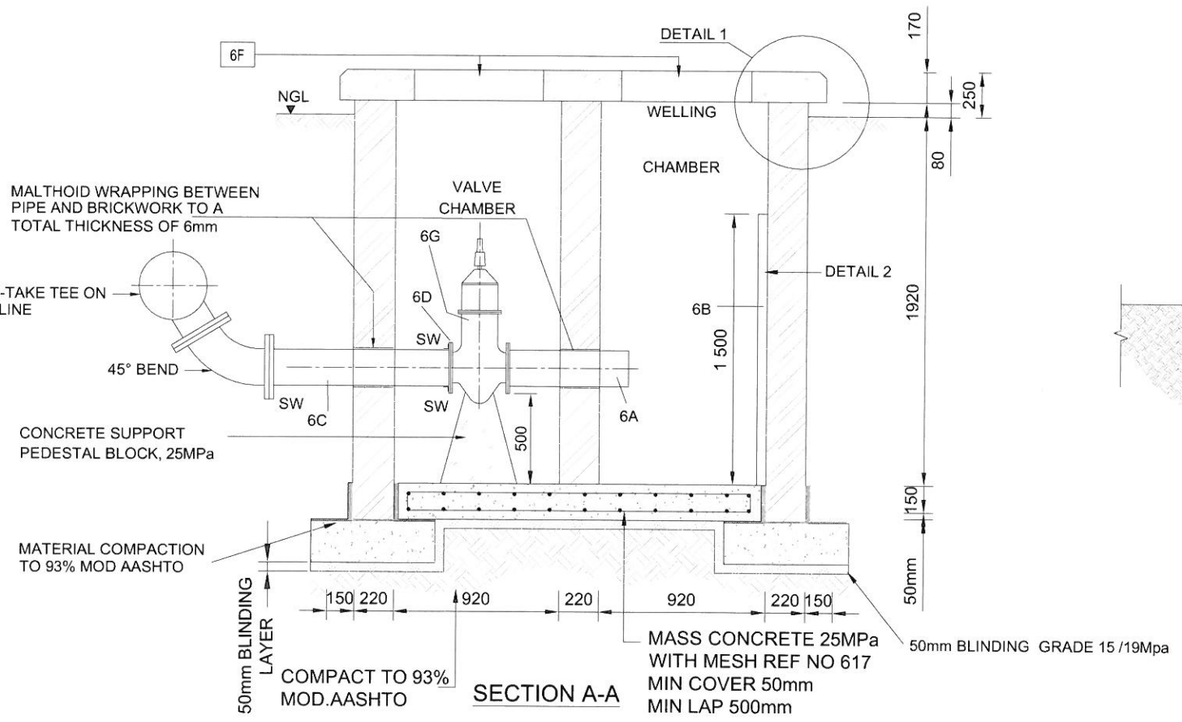


- 900 x 900 x 5 MS PLATE BOLTED TO THE WALL USING 4 No. x M10 RAWL BOLTS ONE IN EACH CORNER 100 x 100 OFF EACH FACE.

DETAIL 2

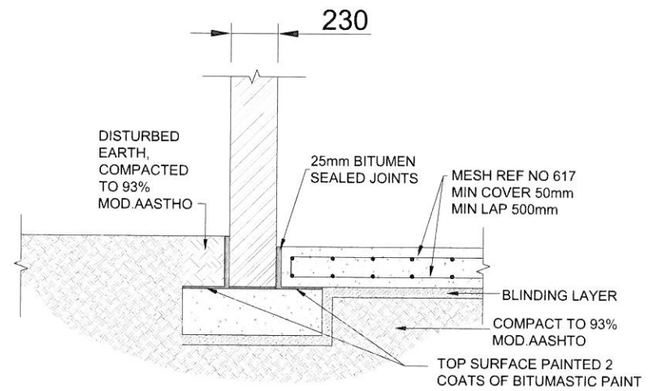


PLAN



SECTION A-A

TYPICAL SCOUR VALVE CHAMBER 160mm N.B



DETAIL OF BRICK COLUMN BASE

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	DRAWN	B.M.KHUMALO	MAY 2017	
	CHECKED	J.GUMBO	DATE 18/7/17	
		SIGNATURE	ECSA REG. No 20137004	
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		SIGNATURE	ECSA REG. No 20170150	

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STANDARD DETAIL
TYPICAL SCOUR VALVE CHAMBER 160mm N.B

AMENDMENTS

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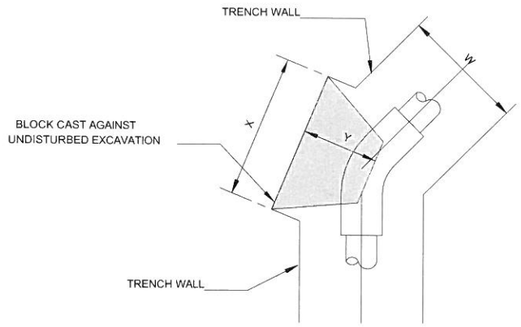
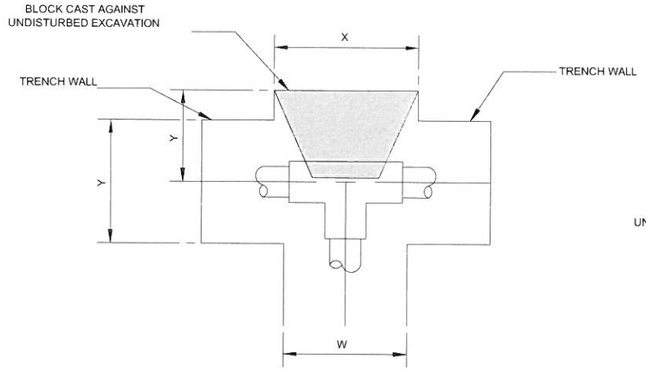


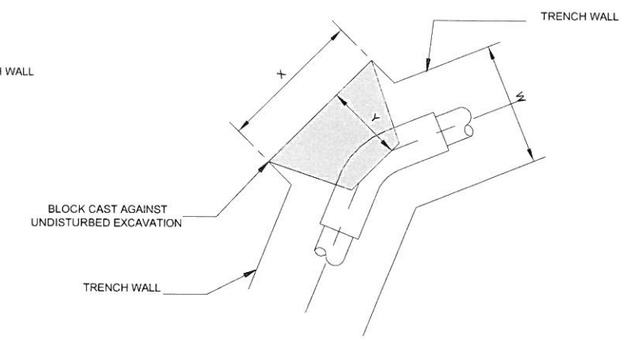
THRUST BLOCK FOR 45° BEND

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m^3)
300	1 400	700	2 000	1 000	1,400
250	1 300	650	1 600	800	0,800
200	1 200	600	1 200	600	0,430
150	1 000	500	1 000	500	0,250
100	1 000	500	350	250	0,043
75	800	400	350	200	0,028



THRUST BLOCK FOR TEE

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m^3)
300	1 400	700	2 700	1 300	2,550
250	1 300	650	2 150	1 100	1,500
200	1 200	600	1 600	800	0,770
150	1 000	500	1 300	650	0,420
100	1 000	500	500	300	0,075
75	800	400	450	300	0,054

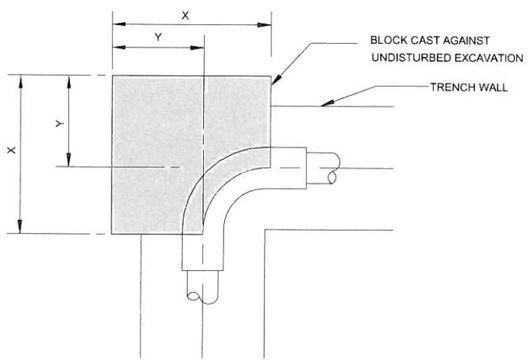


THRUST BLOCK FOR 221½° BEND

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m^3)
300	1 400	700	1 000	500	0,350
250	1 300	650	760	400	0,200
200	1 200	600	600	400	0,150
150	1 000	500	500	300	0,075
100	1 000	400	300	200	0,024
75	800	300	300	200	0,018

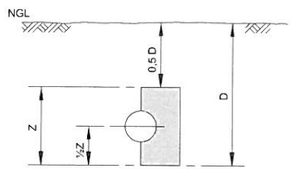
TYPICAL THRUST BLOCK DETAILS

N.T.S.



THRUST BLOCK FOR 90° BEND

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m^3)
300	1 400	700	2 700	1 400	5,00
250	1 300	650	2 150	1 100	3,00
200	1 200	600	1 600	800	1,54
150	1 000	500	1 300	700	0,80
100	1 000	500	500	300	0,12
75	800	400	450	300	0,08



SECTION

NOTES :

1. THIS TABLE WAS CALCULATED FOR THRUST BLOCKS IN SANDY SOILS.
2. USE 15 MPa CONCRETE.
3. HALF THE DEPTH OF THE THRUST BLOCK NEEDS TO BE BELOW THE PIPE AXIS.
4. KEEP THE CONCRETE AWAY FROM THE COUPLINGS & THE PIPE JOINTS.
5. THRUST BLOCKS FOR PIPE ø LARGER THAN 300mm & HIGHER TEST PRESSURES THAN 18 BAR NEEDS TO BE DESIGNED BY THE ENGINEER.
6. THRUST BLOCKS AT PADDLE FLANGES NEEDS TO BE REINFORCED & DESIGNED BY THE ENGINEER.
7. IN CASES OF SOFT CLAY & SILTY SANDS, THE ANCOR BLOKS NEED TO BE DESIGNED BY THE ENGINEER.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017
DRAWN	B.M.KHUMALO	MAY 2017
CHECKED	J.GUMBO	DATE 18/7/17
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STANDARD DETAIL

TYPICAL THRUST BLOCK DETAILS

AMENDMENTS

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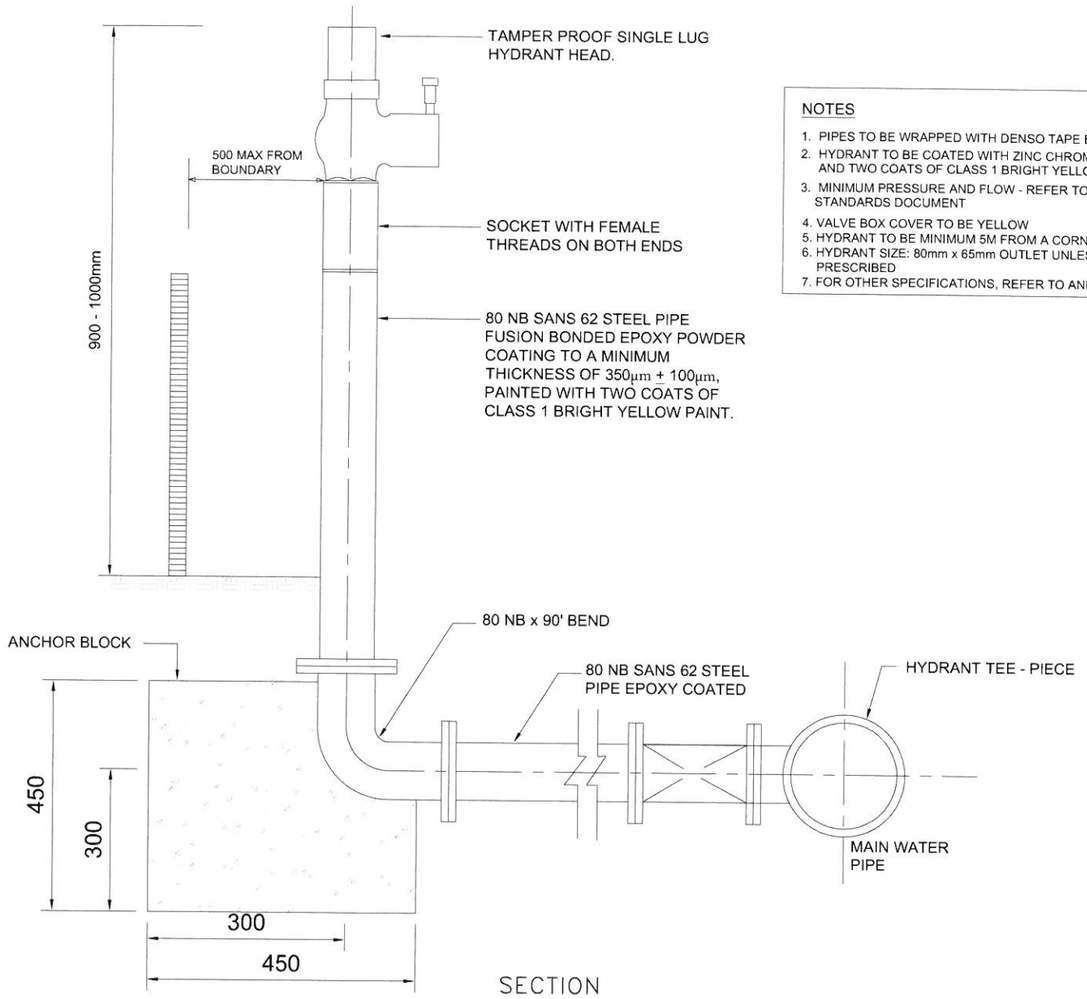

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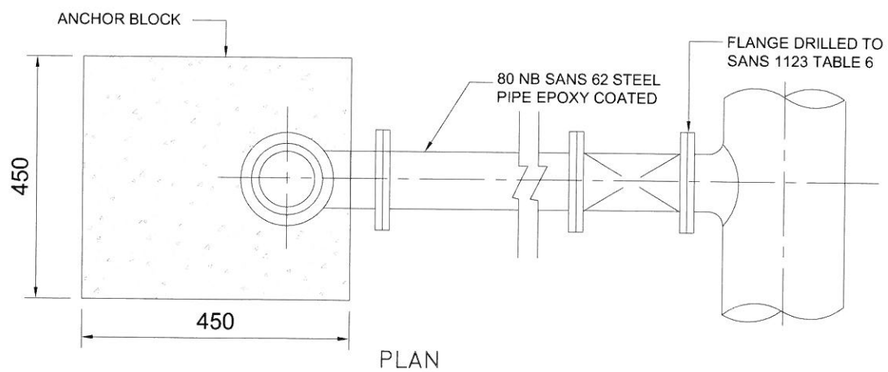

PLAN

NOTES

1. PIPES TO BE WRAPPED WITH DENSO TAPE BELOW GROUND
2. HYDRANT TO BE COATED WITH ZINC CHROMATE UNDERCOAT AND TWO COATS OF CLASS 1 BRIGHT YELLOW PAINT.
3. MINIMUM PRESSURE AND FLOW - REFER TO TABLE 7 OF THE JW STANDARDS DOCUMENT
4. VALVE BOX COVER TO BE YELLOW
5. HYDRANT TO BE MINIMUM 5M FROM A CORNER SPLAY
6. HYDRANT SIZE: 80mm x 65mm OUTLET UNLESS OTHERWISE PRESCRIBED
7. FOR OTHER SPECIFICATIONS, REFER TO ANNEXURE E

ABOVE GROUND HYDRANT

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

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DRAWN	B.M.KHUMALO		MAY 2017
CHECKED	J.GUMBO	DATE	
	SIGNATURE		
	ECSA REG. No.	20137ec44	
APPROVED BY:	T.MPANDAGUTA	DATE	
	SIGNATURE		
	ECSA REG. No.	20170150	

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STANDARD DETAIL
FIRE HYDRANT DETAIL

AMENDMENTS

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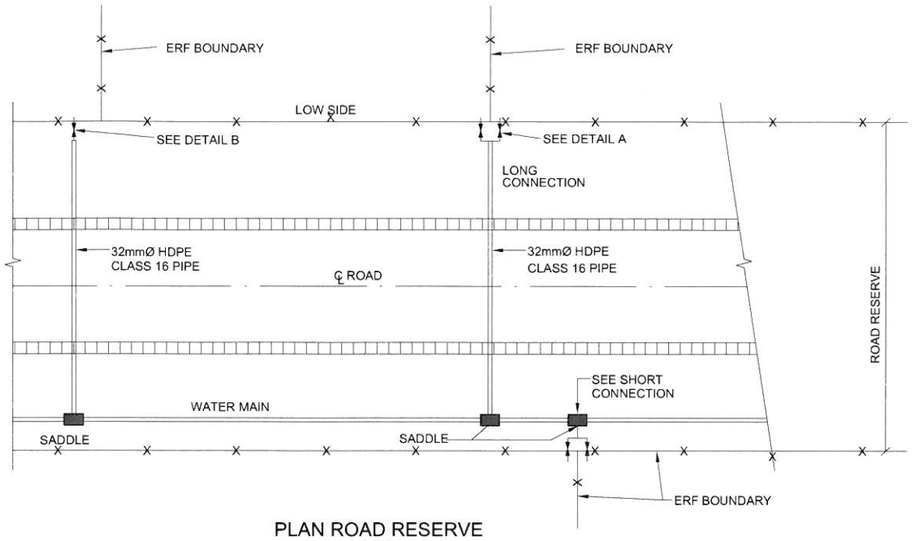
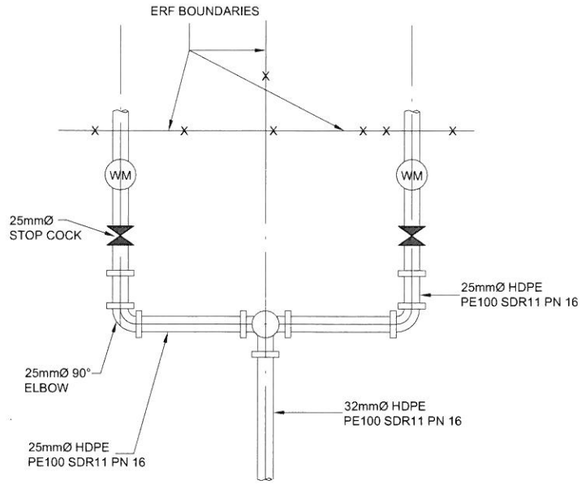


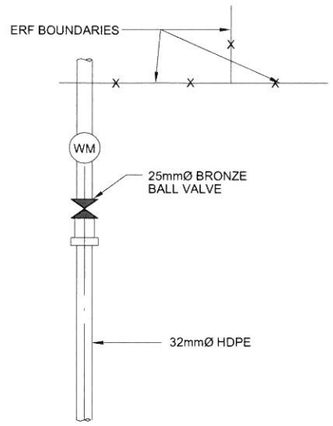
PLAN ROAD RESERVE

N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



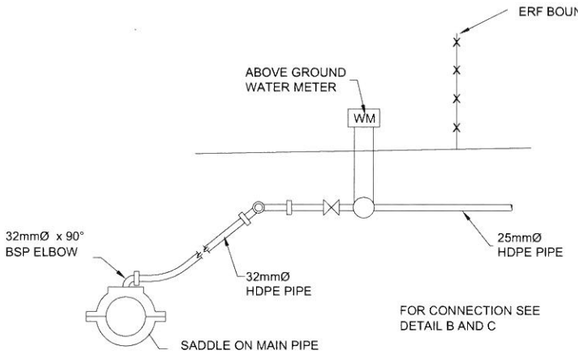
DETAIL A

(LONG DOUBLE ERF CONNECTION)
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



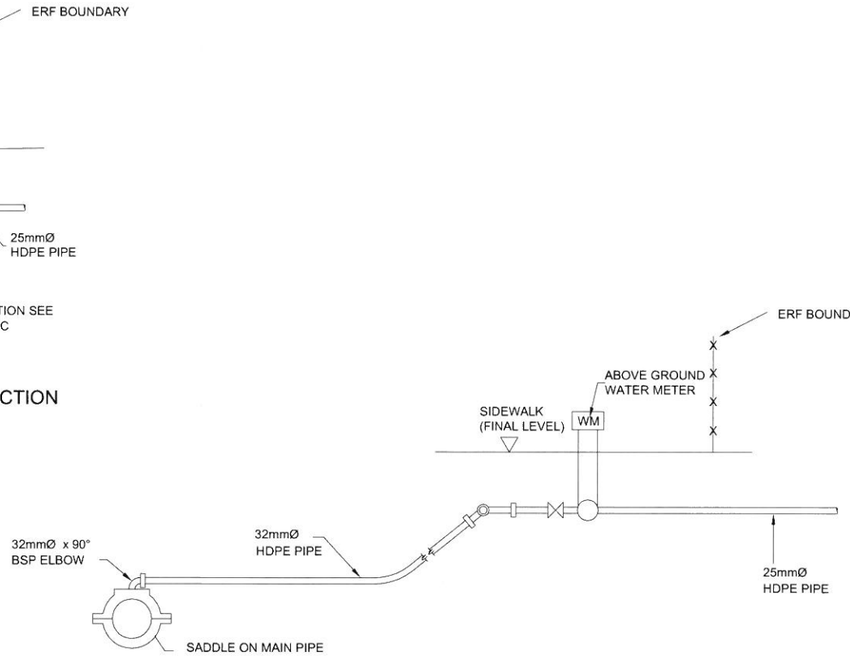
DETAIL B

(LONG AND SHORT SINGLE ERF CONNECTION)
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



SECTION OF SHORT DOUBLE ERF CONNECTION

N.T.S
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



SECTION OF LONG DOUBLE ERF CONNECTION

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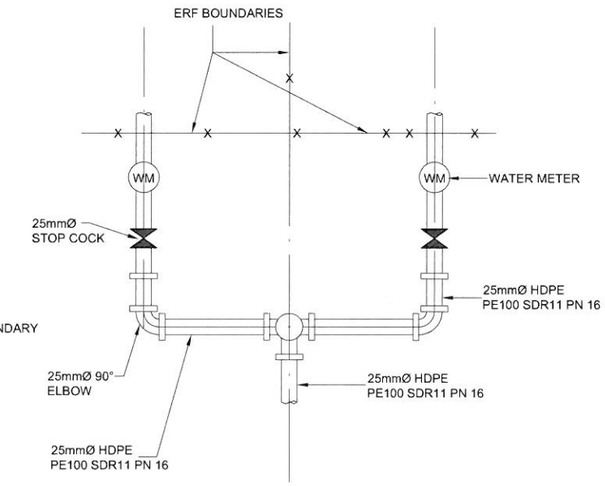

DETAIL C

(SHORT DOUBLE ERF CONNECTION)
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017
DRAWN	B.M.KHUMALO	MAY 2017
CHECKED	J.GUMBO	DATE
	SIGNATURE	
	ECSA REG. No.	20137ec44
APPROVED BY:	T.MPANDAGUTA	DATE
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	ECSA REG. No.	20170110

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STANDARD DETAIL
WATER ERF CONNECTIONS

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET07-W01

PROJECT No.

REV.

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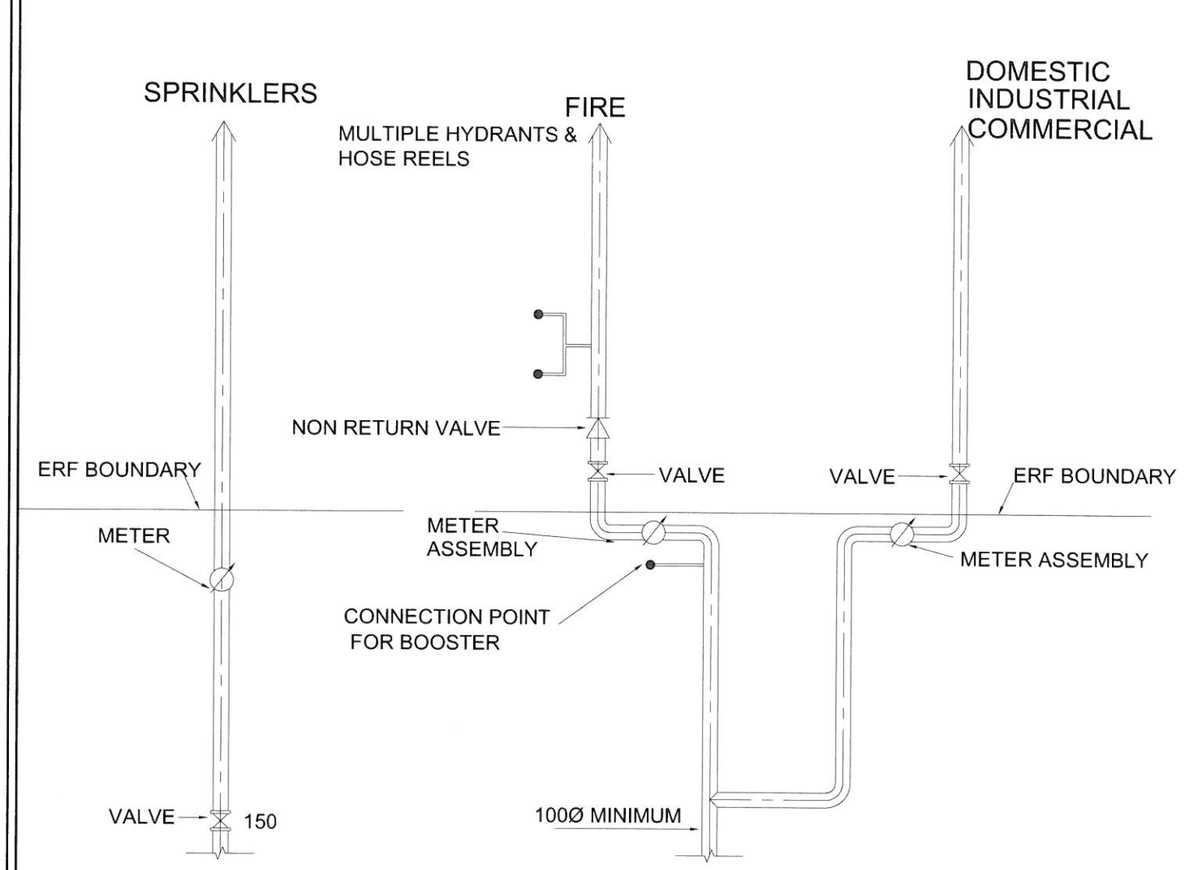
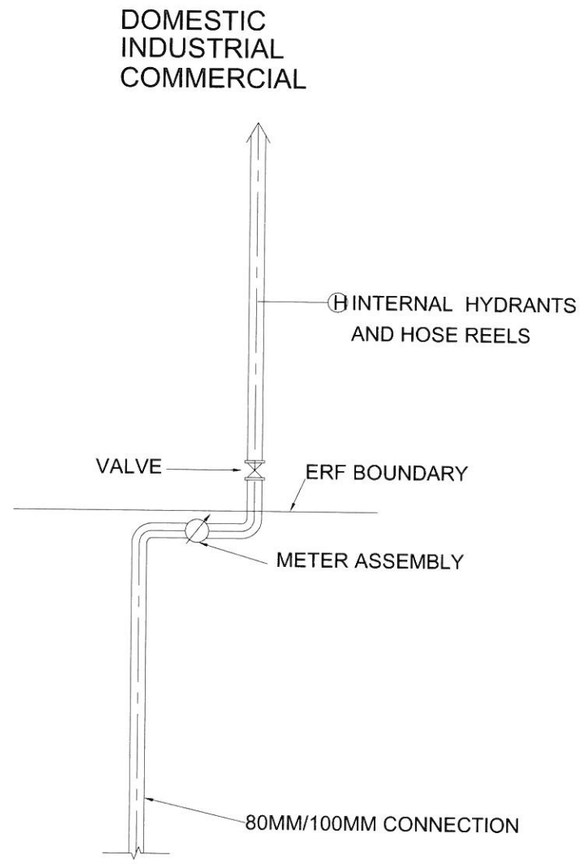
FILE No.



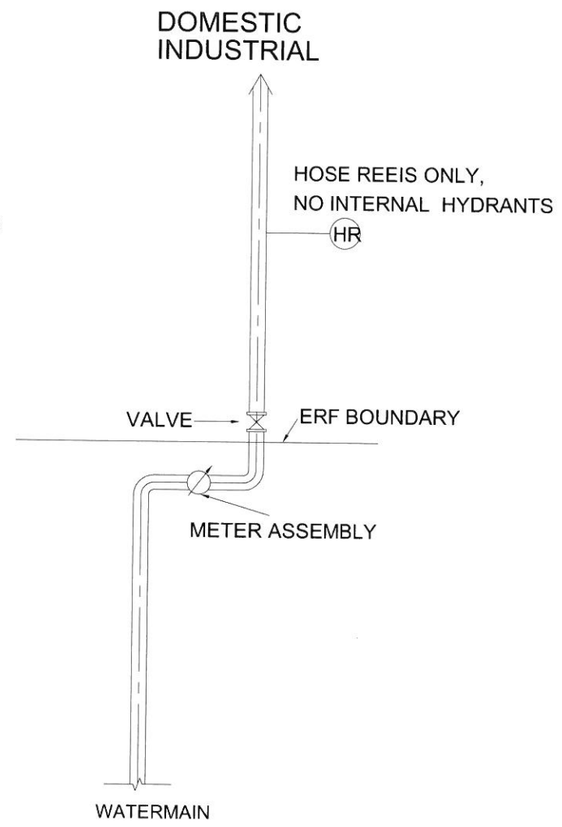
TYPE A CONNECTION

PROVISION MADE TO BOOST PRESSURE
TWO CONNECTIONS FROM STREET MAIN



TYPE B CONNECTION

PRESSURE BOOSTER POINT OPTIONAL
SINGLE SUPPLY (DOMESTIC AND FIRE)



TYPE C CONNECTION

NON-BOOSTED FIRE CONNECTION
SINGLE SUPPLY (DOMESTIC AND FIRE)

SCHEMATIC LAYOUT OF TYPICAL WATER CONNECTIONS FOR DOMESTIC, INDUSTRIAL AND COMMERCIAL PROPERTIES (BIG CONNECTION)

(HOSE REELS, INTERNAL HYDRANTS AND OR SPRINKLERS REQUIRED)

NOTES:

1. VALVES TYPE: RESILIENT OR WEDGE TYPE GATE VALVE AS APPLICABLE.
2. REFER TO METERING GUIDELINES. (LATEST VERSION)
3. METER ASSEMBLY TO INCLUDE STRAINER, METER AND ISOLATION VALVE.
4. METER ARRANGEMENT: AS PER DETAIL JW100-DET09W01 FOR SIZES 50-150mm N.B

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017	
DRAWN	B.M.KHUMALO	MAY 2017	
CHECKED	J.GUMBO	DATE: 18/9/17	
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APPROVED BY:	T.MPANDAGUTA	DATE:	
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STANDARD DETAIL
METERED FIRE CONNECTIONS

AMENDMENTS				
SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET8-W01

PROJECT No. | REV.

A3 | SHEET 8 | OF

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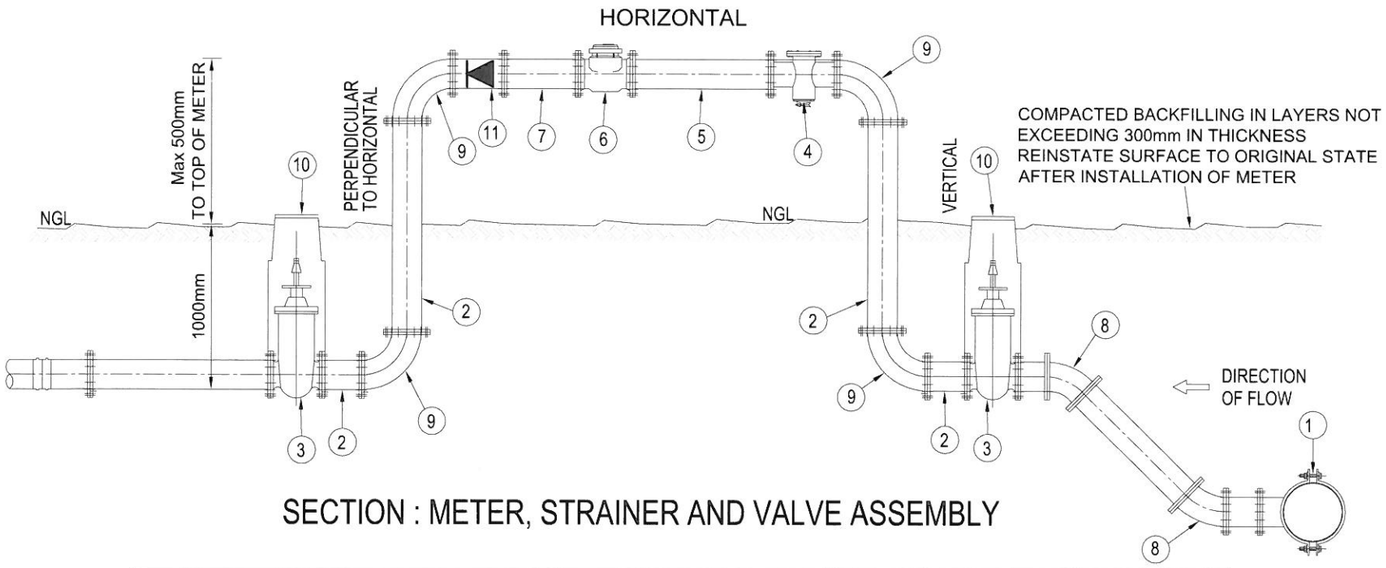
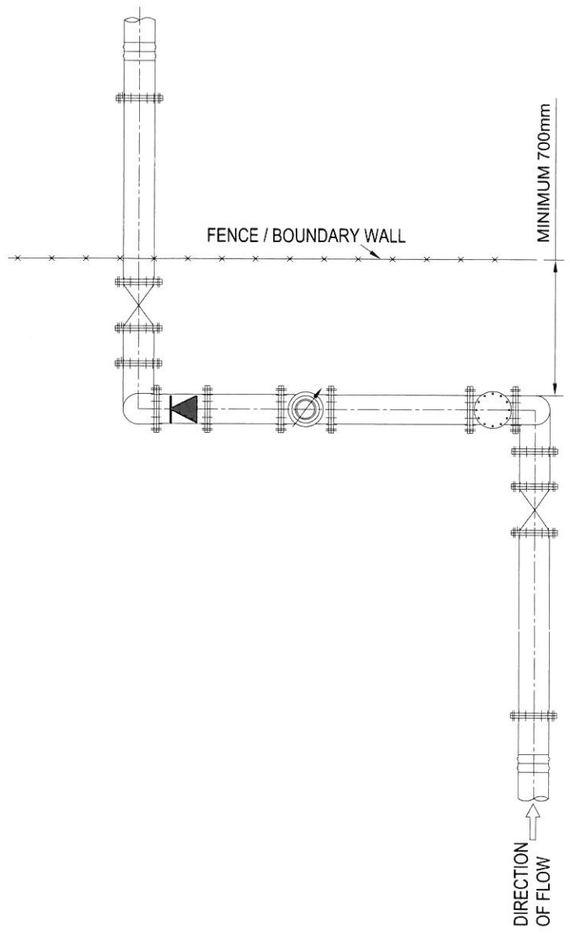


SECTION : METER, STRAINER AND VALVE ASSEMBLY



TYPICAL DETAIL FOR METER INSTALLATIONS FOR JOHANNESBURG WATER		
PIPE SCHEDULE AND FITTINGS 50 -150mm + DIA. WATER METER INSTALLATION		
ITEM	**No OFF**	**DESCRIPTION**
1	1	REDUCING TEE (TO BE FLANGED OR FABRICATED TO SUIT EXISTING PIPE MATERIAL)
2	4	FLANGED STEEL PIPE TO SUIT
3	2	RSV (Ø UP TO AND INCLUDING 150mm) NON RISING SPINDLE GATE VALVE, FLANGED ON BOTH ENDS TO JHB WATER SPECIFICATION.
4	1	IN LINE STRAINER, FLANGED BOTH ENDS
5	1	5 X Dia. STEEL FLANGED DISTANCE PIECE,(50mm : 5xDia STEEL FLANGED DISTANCE PIECE MINIMUM 250mm)
6	1	WPD WATER METER FLANGED BOTH ENDS.
7	1	3 X Dia . STEEL FLANGED DISTANCE PIECE,(50mm : 3xDia STEEL FLANGED DISTANCE PIECE MINIMUM 150mm)
8	2	FLANGED 45° BEND
9	4	FLANGED 90° BEND
10	1	JOHANNESBURG WATER VALVE BOXES WITH BLUE LID, TO SUIT VALVE SIZE TYPE 5 TO SANS 1808..
11	1	NON RETURN VALVE

NOTES:
1. ALL FLANGES TO TABLE 1600/3.
2. ALL FLANGES ABOVE GROUND MUST HAVE ONE SHEARING BOLTS PER FLANGE ARRANGEMENT.
3. ALL DIMENSIONS TO BE CHECKED BEFORE MANUFACTURE/FITTING.
4. ALL PIPES AND FITTINGS TO HAVE MINIMUM WORKING PRESSURE OF 16 BAR.
5. LENGTH OF ITEM 5 TO BE AT LEAST 5 X DIA.AND ITEM 7 TO AT LEAST 3 X DIA.
6. ALL BURIED MILD STEEL FLANGES AND COUPLINGS MUST BE MUST BE CORROSION PROTECTED USING DENSO PRODUCTS. OR SIMILAR APPROVED PRODUCT USED FOR CATHODIC PROTECTION TO BE SUITABLE FOR MATERIAL PROTECTION.
7. METER ARRANGEMENT APPLICABLE TO ALL NEW INSTALLATIONS SUCH AS INDUSTRIAL/ COMMERCIAL/ TOWNHOUSE/COMPLEXES/ FIRE INSTALLATIONS AS APPLICABLE.
8. ALL STEEL PIPE PIECES FOR ABOVE GROUND INSTALLATIONS MUST BE LINED INTERNALLY AND COATED EXTERNALLY WITH NON-TAINTING FUSION BONDED POWDERED EPOXY COATING (SANS 1217 TYPE 2) WITH MINIMUM 250 MICRONS AND MAXIMUM 600 MICRONS COAT FILM THICKNESS. FOR FLANGED DISTANCE PIECES AND FLANGED BENDS A UV PROTECTOR MUST BE INCORPORATED ON THE EXTERNAL COATING. THE FINAL COLOUR FOR ALL PIPES AND FITTINGS SHALL BE CORNFLOWER BLUE.
9. FOR ALL OTHER SPECIFICATIONS NOT COVERED ABOVE , REFER TO THE JW METERING GUIDELINES.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

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DRAWN: B.M.KHUMALO MAY 2017
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ECSA REG. No.: 20137001144
APPROVED BY: T.MPANDAGUTA DATE:
SIGNATURE:
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STANDARD DETAIL
ABOVE GROUND WATER METER UP TO 150mm N.B

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET09-W01

PROJECT No. | REV. 1
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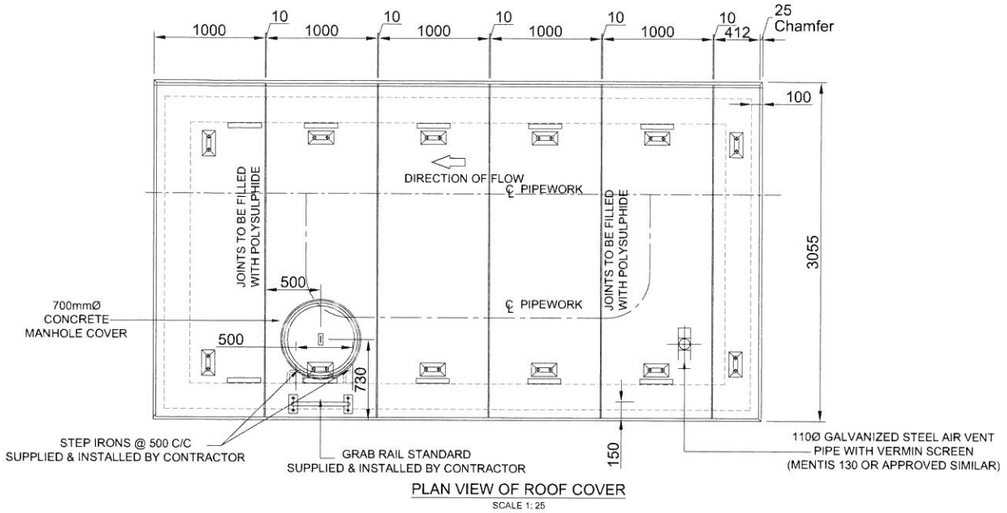
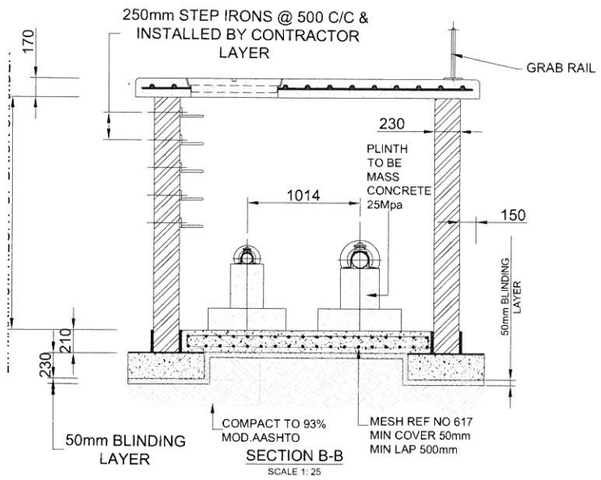
FILE No:

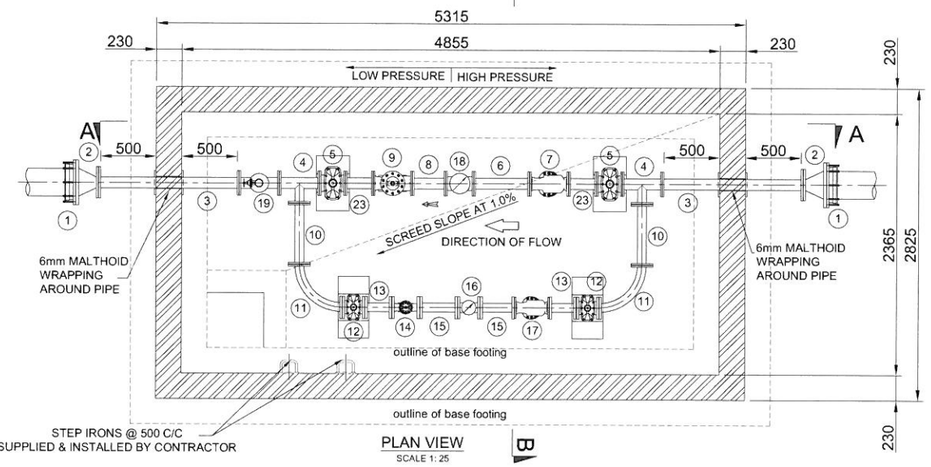


PLAN VIEW OF ROOF COVER
SCALE 1: 25



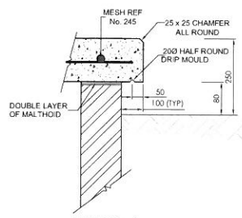
SECTION B-B
SCALE 1: 25

B



PLAN VIEW
SCALE 1: 25

B



DETAIL 1
SCALE 1:10

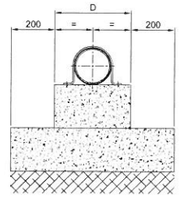
PRECAST CONCRETE COVER HEAVY DUTY

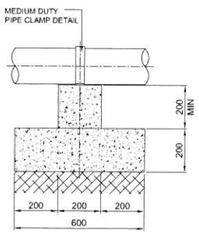
MANHOLE FRAME

CONCRETE MANHOLE COVER & FRAME

NOTES:

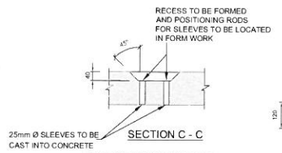
1. PLINTHS TO BE FOUNDED ON COMPACTED MATERIAL (MIN 90% Mod AASHTO)





TYPICAL PLINTH DETAIL
SCALE 1:10

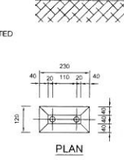
PIPE POSITIONING ON PLINTHS				
PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE 'B'	'C'	'D'
50	165	600	400	200
65	185	650	450	200
80	195	650	450	300
100	220	750	500	300
160	275	900	600	350
200	330	1060	700	400



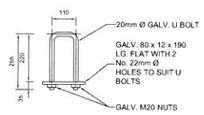
SECTION A-A
SCALE 1: 25

SECTION C - C

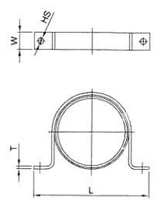
DETAILS OF LIFTING EYE
SCALE 1:10
9 No. OFF
(SUPPLIED BY CONTRACTOR)



PLAN

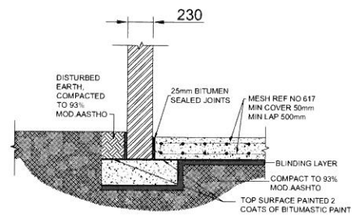


BOLT DETAIL
(SUPPLIED BY CONTRACTOR)



MEDIUM DUTY PIPE CLAMP DETAIL
SCALE 1:5

MEDIUM DUTY PIPE CLAMP SIZES			
PIPE SIZE (NB)	L (mm)	W x T (mm)	HS (mm)
50	160	40 x 6	14
65	175	40 x 6	14
80	190	40 x 6	14
100	215	40 x 6	14
150	265	40 x 6	14
200	315	40 x 6	14



DETAIL OF BRICK COLUMN BASE
SCALE 1:20

PRESSURE REDUCING VALVE

STEEL PIPE FITTINGS AND ITEM LIST				FLANGE TABLE
ITEM NR.	DESCRIPTION	DIMENSIONS	QUANTITY	
①	250Ø FLANGE ADAPTOR FOR STEEL/uPVC CLASS 16 PIPE		2	SABS 1123 TABLE 1600
②	250x150 FLANGED REDUCER	230	2	
③	150Ø DOUBLE FLANGED STEEL PIPE WITH A PRESSURE TRANSMITTER (EXCLUDING PRESSURE GAUGE) AND PUDDLE FLANGE	1265	2	
④	150 x 100 FLANGED REDUCING TEE	1220 1430	2	
⑤	150Ø NB ISOLATING WEDGE TYPE GATE VALVE	280	2	
⑥	150Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP PRESSURE TRANSMITTER	750	1	
⑦	150Ø FLANGED STRAINER	600	1	
⑧	150Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP	450	1	
⑨	150Ø PRESSURE REDUCING VALVE	480	1	
⑩	100Ø DOUBLE FLANGED DISTANCE PIECE	500	2	
⑪	100Ø x 90° FLANGED STEEL BEND	230	2	
⑫	100Ø NB ISOLATING WEDGE TYPE GATE VALVE	254	2	
⑬	100Ø DOUBLE FLANGED DISTANCE PIECE	504	2	
⑭	100Ø PRESSURE REDUCING VALVE	310	1	
⑮	100Ø DOUBLE FLANGED DISTANCE PIECE	487	2	
⑯	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	230	1	
⑰	100Ø FLANGED STRAINER	370	1	
⑱	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	370	2	
⑲	150NB x 80NB FLANGED UNEQUAL TEE (AIR ACCUMULATOR); FLANGES DRILLED TO SANS 1123-1600/3		1	
⑳	FLANGED RISER PIECE, ONE END FLANGED TO SUIT AIR VALVE, OTHER END FLANGED TO SUIT 80NB. FLANGES DRILLED TO SANS 1123 1600/3		1	
㉑	80NB FLANGED, PN 16, RSV; (TO JOHANNESBURG WATER SPECIFICATIONS)		1	
㉒	80mm VENT-O-MAT AIR VALVE : TYPE 080 RBX 1601		1	
㉓	150Ø DOUBLE FLANGED DISTANCE PIECE	810	2	

GENERAL NOTES:

1. ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATERTIGHT CHAMBER. USE ENGINEERING BRICKS.
2. CONCRETE FOR THE BASE AND ROOF SLAB TO BE GRADE 25/19. COVER TO REINFORCEMENT = 30mm.
3. ALL FITTINGS TO BE PAINTED WITH COPON KSIR88 EPOXY PAINT. AFTER INSTALLATION 5mm BFGW REPAIR WRAP COATING.
4. ALL FLANGES TO TABLE 1600 OF SANS 1123.
5. PIPES TO BE WRAPPED WITH 6mm THICK MALTHOID WRAPPING THROUGH WALLS.
6. CHAMBER DIMENSION AND DEPTH ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE LOCATION AND DEPTH.
7. FITTINGS ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE MATERIALS.
8. EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE.
9. PEDESTALS TO BE PROVIDED AS DIRECTED BY THE ENGINEER AT SITE.
10. VALVE KEY HOLES TO BE PROVIDED IN THE ROOF ABOVE EVERY VALVE OR AS DIRECTED.
11. DEPTH OF CHAMBERS 2m MAXIMUM HIEGHT OF BRICK CHAMBER.
12. ENGINEERING BRICKS WITH BRICK-FORCE EVERY 3rd COURSE FOR ALL CHAMBERS.
13. ROOF SLAB TO BE MADE OF PRECAST PANELS.
14. 230mm BRICK-WALL OF 1m HIGH FROM BASE SLAB.

PRESSURE REDUCING VALVE(CLAYTON + ANTI CAVITATION RING)

ALL PRV SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

a. 690G-01ABECSI x101 PRESSURE REDUCING VALVES.
b. DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL TRIM.
c. FUSION BONDED EPOXY COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
d. COMPLETE WITH FULLY ADJUSTABLE CRD PRESSURE REDUCING PILOT VALVE (ADJUSTABLE DOWNSTREAM BETWEEN 2.1 BARS AND 21 BARS).
e. WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND x101 VISION POSITION INDICATOR.
f. MUST BE FLANGED AND DRILLED TO SANS 1123 TABLE 1600, INCLUDING CUTTING OF PIPES,COUPLING etc.
g. MUST BE COMPLETE WITH H-TYPE STRAINER-DUCTILE IRON BODY AND COVER-STAINLESS STEEL REMOVABLE IN A DUCTILE IRON FUSION BONDED EPOXY COATED FRAME 2mm MESH-FUSION BONDED EPOXY INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250mm MICRON - PN 25 RATED FLANGED AND DRILLED TO SANS 1123 TABLE 1600 FACE TO FACE = 900mm
h. WALLS TO BE REINFORCEMENT CONCRETE.

CONSULTING ENGINEERS
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STANDARD DETAIL

TYPICAL 100Ø PRESSURE REDUCING VALVE CHAMBER

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET10.1-W01

PROJECT No.

REV.

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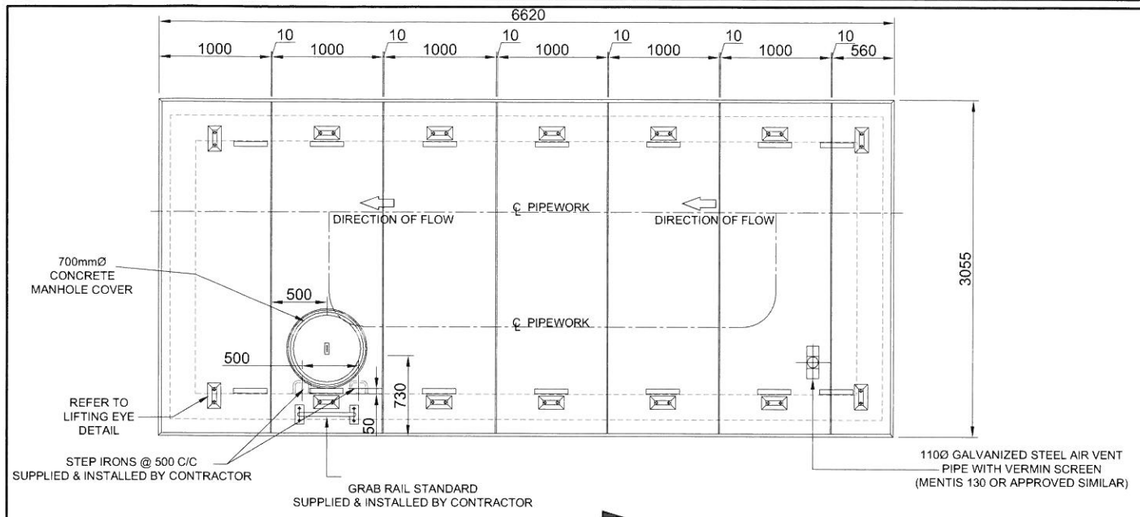
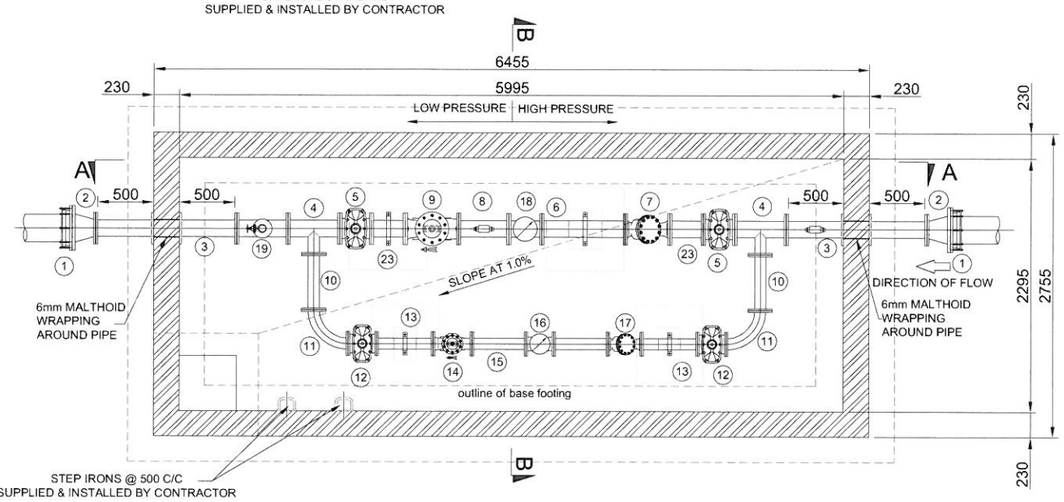
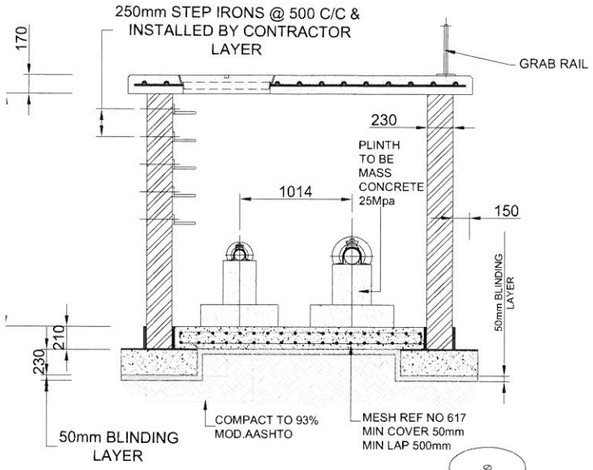
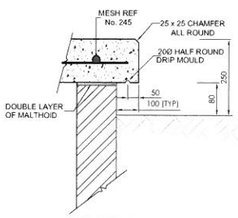
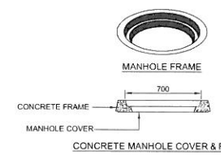








DETAIL 1
SCALE 1:10



CONCRETE MANHOLE COVER & FRAME

NOTES:

1. PLINTHS TO BE FOUNDED ON COMPACTED MATERIAL (MIN 90% Mod AASHTO)

PRESSURE REDUCING VALVE

STEEL PIPE FITTINGS AND ITEM LIST

ITEM NR.	DESCRIPTION	DIMENSIONS	QUANTITY	FLANGE TABLE
①	250Ø FLANGE ADAPTOR FOR STEEL/uPVC CLASS 16 PIPE		2	SABS 1123 TABLE 1600
②	250x150 FLANGED REDUCER	230	2	
③	150Ø DOUBLE FLANGED STEEL PIPE WITH A PRESSURE TRANSMITTER (EXCLUDING PRESSURE GAUGE) AND PUDDLE FLANGE	1265	2	
④	150 x 100 FLANGED REDUCING TEE	1220 450 450	2	
⑤	150Ø NB ISOLATING WEDGE TYPE GATE VALVE	450	2	
⑥	150Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP PRESSURE TRANSMITTER	750	1	
⑦	150Ø FLANGED STRAINER	400	1	
⑧	150Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP	400	1	
⑨	150Ø PRESSURE REDUCING VALVE	480	1	
⑩	100Ø DOUBLE FLANGED DISTANCE PIECE	500	2	
⑪	100Ø x 90° FLANGED STEEL BEND	450	2	
⑫	100Ø NB ISOLATING WEDGE TYPE GATE VALVE	254	2	
⑬	100Ø DOUBLE FLANGED DISTANCE PIECE	504	2	
⑭	100Ø PRESSURE REDUCING VALVE	350	1	
⑮	100Ø DOUBLE FLANGED DISTANCE PIECE	487	2	
⑯	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED). PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	250	1	
⑰	100Ø FLANGED STRAINER	350	1	
⑱	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED). PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	350	2	
⑲	150NB x 80NB FLANGED UNEQUAL TEE (AIR ACCUMULATOR). FLANGES DRILLED TO SANS 1123-1600/3		1	
⑳	FLANGED RISER PIECE. ONE END FLANGED TO SUIT AIR VALVE, OTHER END FLANGED TO SUIT 80NB. FLANGES DRILLED TO SANS 1123-1600/3		1	
㉑	80NB FLANGED, PN 16, RSV; (TO JOHANNESBURG WATER SPECIFICATIONS)		1	
㉒	80mm VENT-O-MAT AIR VALVE : TYPE 080 RBX 1601		1	
㉓	150Ø DOUBLE FLANGED DISTANCE PIECE	350	2	

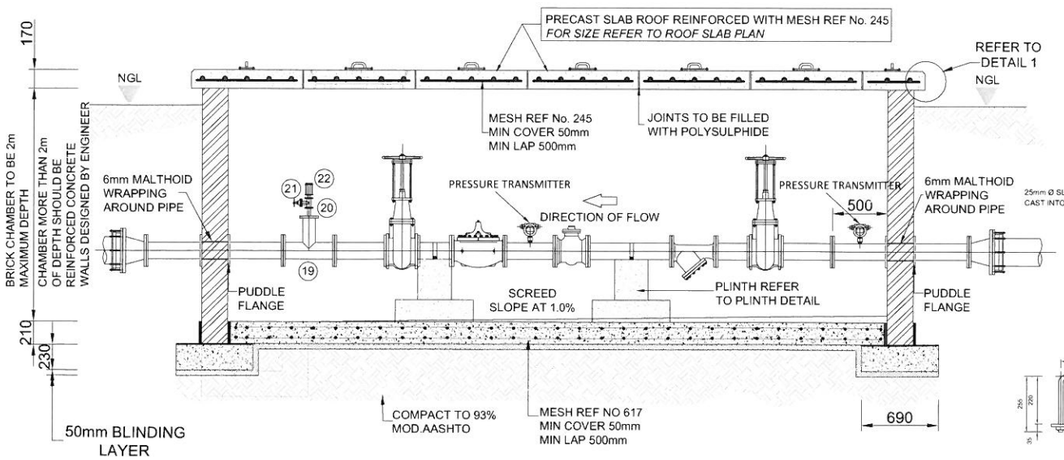
GENERAL NOTES:

1. ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATERTIGHT CHAMBER. USE ENGINEERING BRICKS.
2. CONCRETE FOR THE BASE AND ROOF SLAB TO BE GRADE 25/19. COVER TO REINFORCEMENT = 30mm.
3. ALL FITTINGS TO BE PAINTED WITH COPON KSI/88 EPOXY PAINT. AFTER INSTALLATION 5mm BFGW REPAIR WRAP COATING.
4. ALL FLANGES TO TABLE 1600 OF SANS 1123.
5. PIPES TO BE WRAPPED WITH 6mm THICK MALTHOID WRAPPING THROUGH WALLS.
6. CHAMBER DIMENSION AND DEPTH ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE LOCATION AND DEPTH.
7. FITTINGS ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE MATERIALS.
8. EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE.
9. PEDESTALS TO BE PROVIDED AS DIRECTED BY THE ENGINEER AT SITE.
10. VALVE KEY HOLES TO BE PROVIDED IN THE ROOF ABOVE EVERY VALVE OR AS DIRECTED.
11. DEPTH OF CHAMBERS 2m MAXIMUM HIEGHT OF BRICK CHAMBER.
12. ENGINEERING BRICKS WITH BRICK-FORCE EVERY 3rd COURSE FOR ALL CHAMBERS.
13. ROOF SLAB TO BE MADE OF PRECAST PANELS.
14. 230mm BRICK-WALL OF 1m HIGH FROM BASE SLAB.

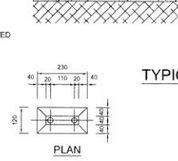
PRESSURE REDUCING VALVE(CLAYTON + ANTI CAVITATION RING)

ALL PRV SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

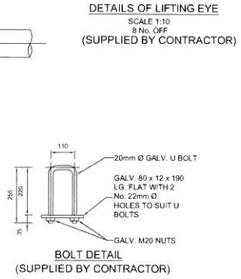
a. 690G-01ABECSI x101 PRESSURE REDUCING VALVES.
b. DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL TRIM.
c. FUSION BONDED EPOXY COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
d. COMPLETE WITH FULLY ADJUSTABLE CRD PRESSURE REDUCING PILOT VALVE (ADJUSTABLE DOWNSTREAM BETWEEN 2.1 BARS AND 21 BARS).
e. WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND x101 VISION POSITION INDICATOR.
f. MUST BE FLANGED AND DRILLED TO SANS 1123 TABLE 1600, INCLUDING CUTTING OF PIPES,COUPLING etc.
g. MUST BE COMPLETE WITH H-TYPE STRAINER-DUCTILE IRON BODY AND COVER-STAINLESS STEEL REMOVABLE IN A DUCTILE IRON FUSION BONDED EPOXY COATED FRAME 2mm MESH-FUSION BONDED EPOXY INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250mm MICRON - PN 25 RATED FLANGED AND DRILLED TO SANS 1123 TABLE 1600 FACE TO FACE = 500mm
h. WALLS TO BE REINFORCEMENT CONCRETE.



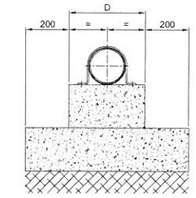
SECTION A-A
SCALE 1: 25



DETAILS OF LIFTING EYE
SCALE 1:10
8 No. OFF
(SUPPLIED BY CONTRACTOR)



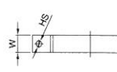
BOLT DETAIL
(SUPPLIED BY CONTRACTOR)



TYPICAL PLINTH DETAIL
SCALE 1:10

PIPE POSITIONING ON PLINTHS

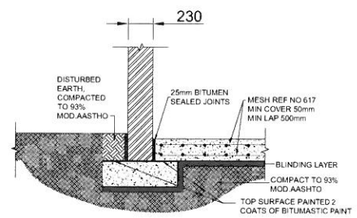
PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE 'B'	'C'	'D'
50	165	600	400	200
65	185	650	450	200
80	195	650	450	300
100	220	750	500	300
160	275	900	600	350
200	330	1060	700	400



MEDIUM DUTY PIPE CLAMP SIZES

PIPE SIZE (NB)	L (mm)	W x T (mm)	HS (mm)
50	160	40 x 6	14
65	175	40 x 6	14
80	190	40 x 6	14
100	215	40 x 6	14
150	265	40 x 6	14
200	315	40 x 6	14

MEDIUM DUTY
PIPE CLAMP DETAIL
SCALE 1:5



DETAIL OF BRICK COLUMN BASE
SCALE 1:20

CONSULTING ENGINEERS CAPEX DESIGN SECTION SWISS HOUSE 7TH FLOOR	DESIGNED	B.M.KHUMALO	MAY 2017	
	DRAWN	B.M.KHUMALO	MAY 2017	
	CHECKED	J.GUMBO	DATE: 12/7/17	
		SIGNATURE:	ECSA REG. No: 20137008	
	APPROVED BY:	T.MPANDAGUTA	DATE:	
		SIGNATURE:	ECSA REG. No: 20170150	

Johannesburg Water

17 HARRISON STREET
MARSHALLTOWN
2107

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FAX: (011) 688-1529

Joburg

STANDARD DETAIL

TYPICAL 150Ø PRESSURE REDUCING VALVE CHAMBER

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET10.2-W01

PROJECT No.

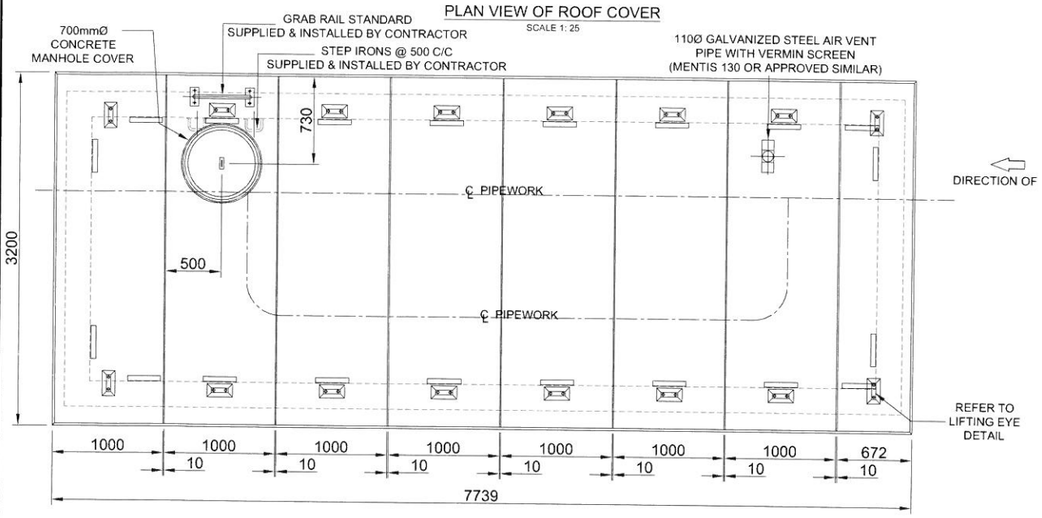
REV.

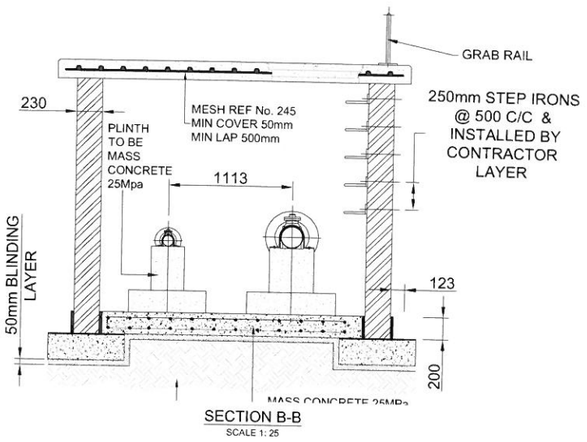
A3
ORIGINAL PAGE SIZE

SHEET 10.2 OF

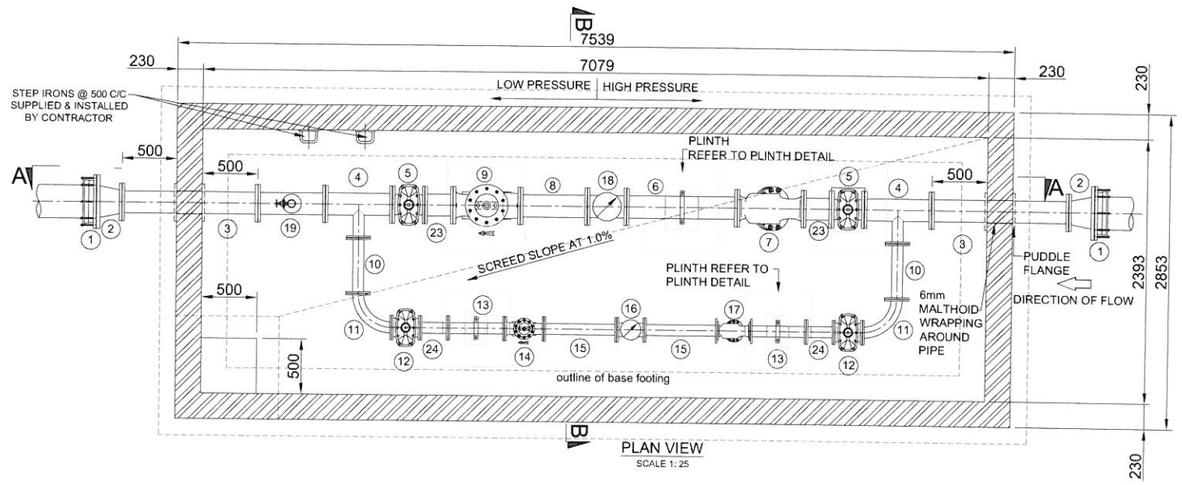
FILE No.

PLAN VIEW OF ROOF COVER
SCALE 1: 25

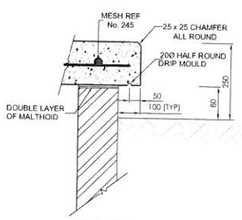




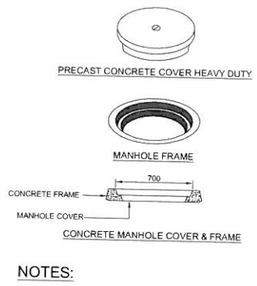
SECTION B-B
SCALE 1: 25



PLAN VIEW
SCALE 1: 25



DETAIL 1
SCALE 1:10



CONCRETE MANHOLE COVER & FRAME

NOTES:
1. PLINTHS TO BE FOUNDED ON COMPACTED MATERIAL (MIN 90% Mod AASHTO)

PRESSURE REDUCING VALVE
STEEL PIPE FITTINGS AND ITEM LIST

ITEM NR.	DESCRIPTION	DIMENSIONS	QUANTITY	FLANGE TABLE
1	Ø FLANGE ADAPTOR FOR STEEL/uPVC CLASS 16 PIPE		2	
2	Øx200 FLANGED REDUCER	230	2	
3	200Ø DOUBLE FLANGED STEEL PIPE WITH A PRESSURE TRANSMITTER (EXCLUDING PRESSURE GAUGE) AND PUDDLE FLANGE	1265	2	
4	200 x 100 FLANGED REDUCING TEE	604	2	
5	200Ø NB ISOLATING WEDGE TYPE GATE VALVE	250	2	
6	200Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP PRESSURE TRANSMITTER	1000	1	
7	200Ø FLANGED STRAINER	400	1	
8	200Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP	600	1	
9	200Ø PRESSURE REDUCING VALVE	600	1	
10	100Ø DOUBLE FLANGED DISTANCE PIECE	500	2	
11	100Ø x 90° FLANGED STEEL BEND	225	2	
12	100Ø NB ISOLATING WEDGE TYPE GATE VALVE	254	2	
13	100Ø DOUBLE FLANGED DISTANCE PIECE	504	2	
14	100Ø PRESSURE REDUCING VALVE	310	1	
15	100Ø DOUBLE FLANGED DISTANCE PIECE	467	2	
16	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	230	1	
17	100Ø FLANGED STRAINER	300	1	
18	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	300	2	
19	200NB x 80NB FLANGED UNEQUAL TEE (AIR ACCUMULATOR), FLANGES DRILLED TO SANS 1123-1600/3	600	1	
20	FLANGED RISER PIECE, ONE END FLANGED TO SUIT AIR VALVE, OTHER END FLANGED TO SUIT 80NB. FLANGES DRILLED TO SANS 1123-1600/3		1	
21	80NB FLANGED, PN 16, RSV; (TO JOHANNESBURG WATER SPECIFICATIONS)		1	
22	80mm VENT-O-MAT AIR VALVE : TYPE 060 RBX 1601		1	
23	200Ø DOUBLE FLANGED DISTANCE PIECE	1000	2	

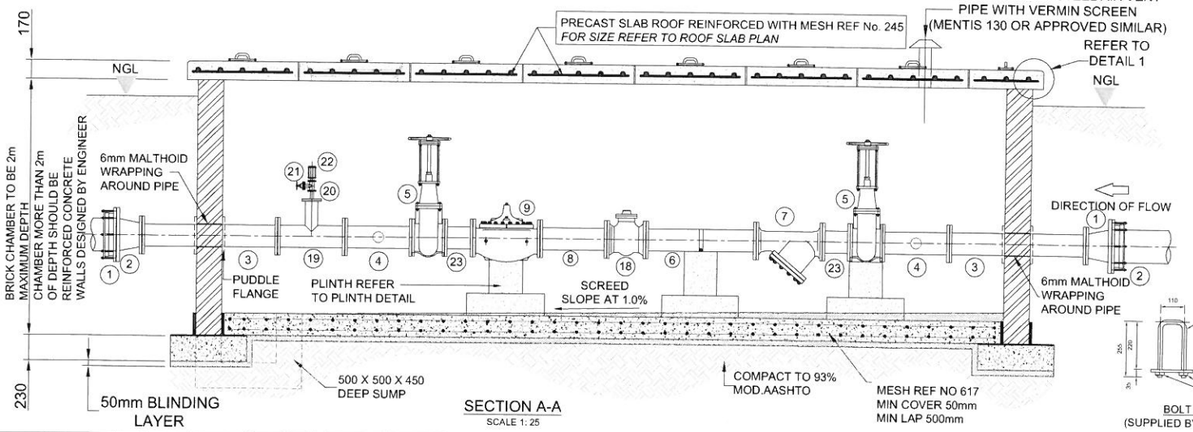
SABS 1123 TABLE 1600

GENERAL NOTES:
1. ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATERTIGHT CHAMBER. USE ENGINEERING BRICKS.
2. CONCRETE FOR THE BASE AND ROOF SLAB TO BE GRADE 25/19. COVER TO REINFORCEMENT = 30mm.
3. ALL FITTINGS TO BE PAINTED WITH COPON KSIR88 EPOXY PAINT. AFTER INSTALLATION 5mm BFGW REPAIR WRAP COATING.
4. ALL FLANGES TO TABLE 1600 OF SANS 1123.
5. PIPES TO BE WRAPPED WITH 6mm THICK MALTHOID WRAPPING THROUGH WALLS.
6. CHAMBER DIMENSION AND DEPTH ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE LOCATION AND DEPTH.
7. FITTINGS ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE MATERIALS.
8. EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE.
9. PEDESTALS TO BE PROVIDED AS DIRECTED BY THE ENGINEER AT SITE.
10. VALVE KEY HOLES TO BE PROVIDED IN THE ROOF ABOVE EVERY VALVE OR AS DIRECTED.
11. DEPTH OF CHAMBERS 2m MAXIMUM HIEGHT OF BRICK CHAMBER.
12. ENGINEERING BRICKS WITH BRICK-FORCE EVERY 3rd COURSE FOR ALL CHAMBERS.
13. ROOF SLAB TO BE MADE OF PRECAST PANELS.
14. 230mm BRICK-WALL OF 1m HIGH FROM BASE SLAB.

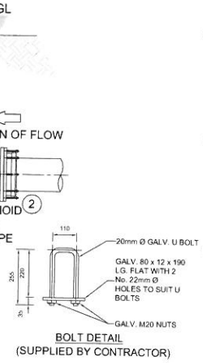
PRESSURE REDUCING VALVE(CLAYTON + ANTI CAVITATION RING)

ALL PRV SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

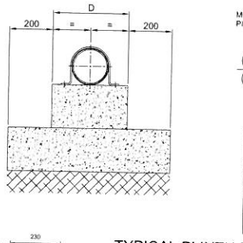
a. 690G-01ABECSI x101 PRESSURE REDUCING VALVES.
b. DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL TRIM.
c. FUSION BONDED EPOXY COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
d. COMPLETE WITH FULLY ADJUSTABLE CRD PRESSURE REDUCING PILOT VALVE (ADJUSTABLE DOWNSTREAM BETWEEN 2.1 BARS AND 21 BARS).
e. WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND x101 VISION POSITION INDICATOR.
f. MUST BE FLANGED AND DRILLED TO SANS 1123 TABLE 1600, INCLUDING CUTTING OF PIPES,COUPLING etc.
g. MUST BE COMPLETE WITH H-TYPE STRAINER-DUCTILE IRON BODY AND COVER-STAINLESS STEEL REMOVABLE IN A DUCTILE IRON FUSION BONDED EPOXY COATED FRAME 2mm MESH-FUSION BONDED EPOXY INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250mm MICRON - PN 25 RATED FLANGED AND DRILLED TO SANS 1123 TABLE 1600 FACE TO FACE = 900mm
h. WALLS TO BE REINFORCEMENT CONCRETE.



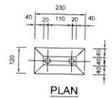
SECTION A-A
SCALE 1: 25



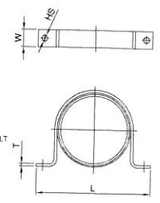
BOLT DETAIL
(SUPPLIED BY CONTRACTOR)



TYPICAL PLINTH DETAIL
SCALE 1:10



PLAN



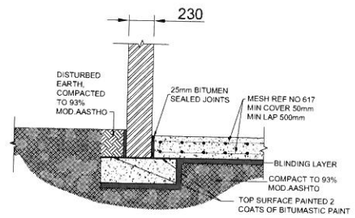
MEDIUM DUTY PIPE CLAMP DETAIL
SCALE 1:5

MEDIUM DUTY PIPE CLAMP SIZES

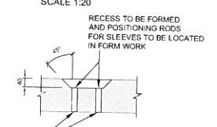
PIPE SIZE (NB)	L (mm)	W x T (mm)	HS (mm)
50	160	40 x 6	14
65	175	40 x 6	14
80	190	40 x 6	14
100	215	40 x 6	14
150	265	40 x 6	14
200	315	40 x 6	14

PIPE POSITIONING ON PLINTHS

PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE 'B'	'C'	'D'
50	165	600	400	200
65	185	650	450	200
80	195	650	450	300
100	220	750	500	300
160	275	900	600	350
200	330	1060	700	400



DETAIL OF BRICK COLUMN BASE
SCALE 1:20



SECTION C - C

DETAILS OF LIFTING EYE
SCALE 1:10
8 No. OFF
(SUPPLIED BY CONTRACTOR)

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017	
DRAWN	B.M.KHUMALO	MAY 2017	
CHECKED	J.GUMBO	DATE	18/7/17
	SIGNATURE		
	ECSA REG. No.	20137	0044
APPROVED BY:	T.MPANDAGUTA	DATE	
	SIGNATURE		
	ECSA REG. No.	20170150	

Johannesburg Water

17 HARRISON STREET
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FAX: (011) 688-1529

Joburg

STANDARD DETAIL
TYPICAL 200Ø PRESSURE REDUCING VALVE CHAMBER

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET10.3-W01

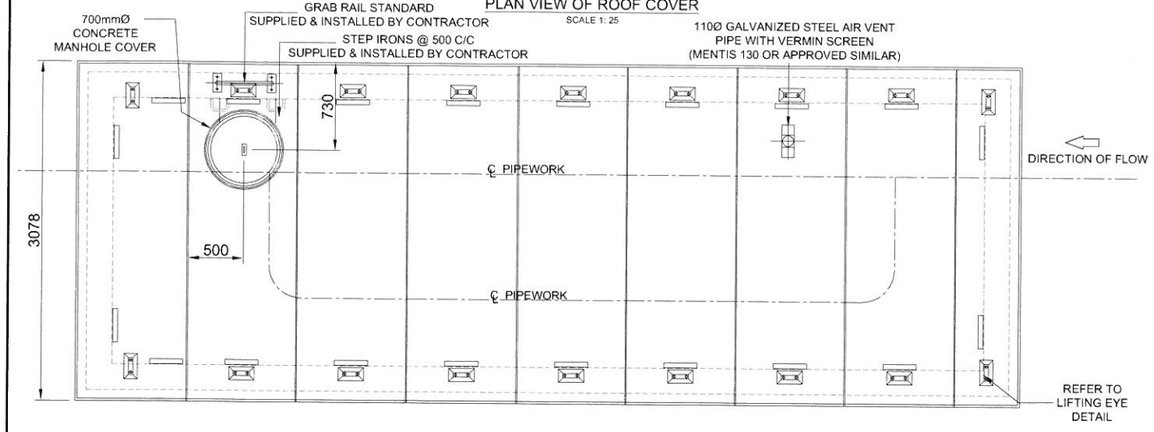
PROJECT No. | REV.

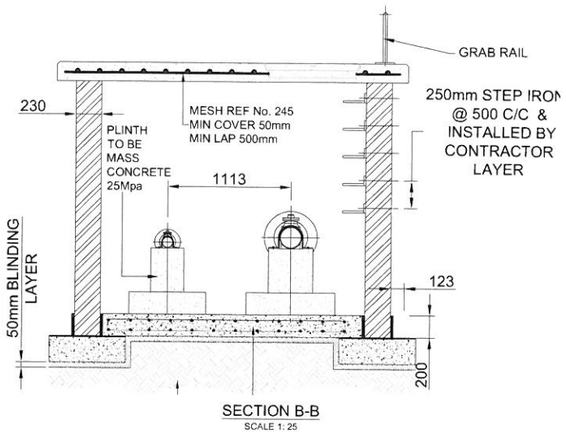
A3 | SHEET 10.3 | OF

ORIGINAL PAGE SIZE

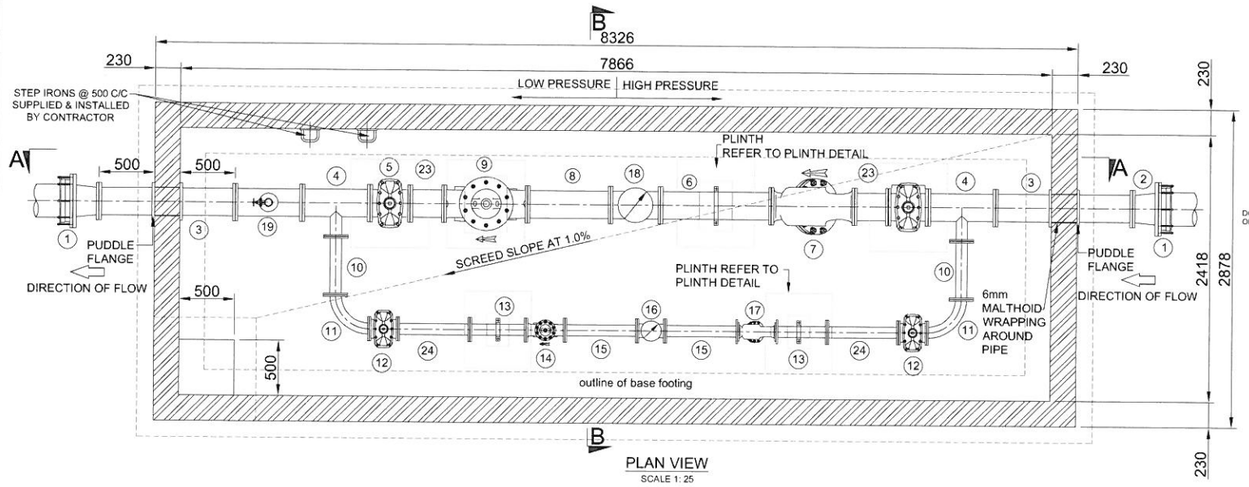
FILE No.

PLAN VIEW OF ROOF COVER
SCALE 1: 25

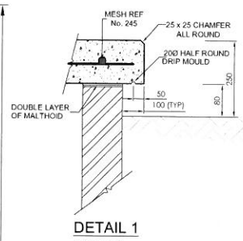




SECTION B-B
SCALE 1: 25



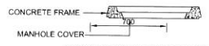
PLAN VIEW
SCALE 1: 25



DETAIL 1
SCALE 1:10

PRECAST CONCRETE COVER HEAVY DUTY

MANHOLE FRAME



CONCRETE MANHOLE COVER & FRAME

NOTES:
1. PLINTHS TO BE FOUNDED ON COMPACTED MATERIAL (MIN 90% Mod AASHTO)

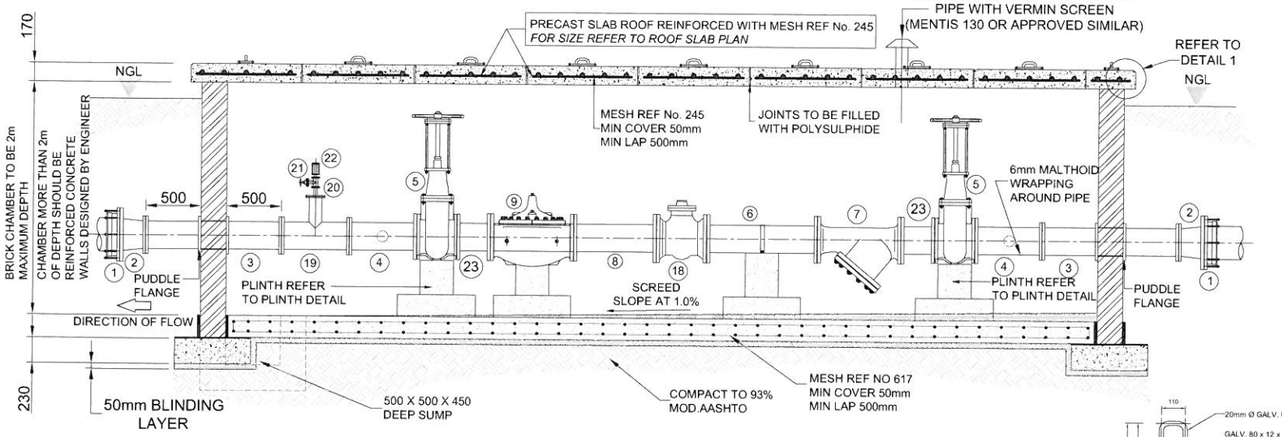
PRESSURE REDUCING VALVE STEEL PIPE FITTINGS AND ITEM LIST				
ITEM NR.	DESCRIPTION	DIMENSIONS	QUANTITY	FLANGE TABLE
1	Ø FLANGE ADAPTOR FOR STEEL/uPVC CLASS 16 PIPE		2	SABS 1123 TABLE 1600
2	Øx250 FLANGED REDUCER	230	2	
3	250Ø DOUBLE FLANGED STEEL PIPE WITH A PRESSURE TRANSMITTER (EXCLUDING PRESSURE GAUGE) AND PUDDLE FLANGE	1280	2	
4	250 x 100 FLANGED REDUCING TEE	604 / 300	2	
5	250Ø NB ISOLATING WEDGE TYPE GATE VALVE	250	2	
6	250Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP PRESSURE TRANSMITTER	1000	1	
7	250Ø FLANGED STRAINER	750	1	
8	250Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP	750	1	
9	250Ø PRESSURE REDUCING VALVE	750	1	
10	100Ø DOUBLE FLANGED DISTANCE PIECE	525	2	
11	100Ø x 90° FLANGED STEEL BEND	225	2	
12	100Ø NB ISOLATING WEDGE TYPE GATE VALVE	204	2	
13	100Ø DOUBLE FLANGED DISTANCE PIECE	460	2	
14	100Ø PRESSURE REDUCING VALVE	210	1	
15	100Ø DOUBLE FLANGED DISTANCE PIECE	653	2	
16	100Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	200	1	
17	100Ø FLANGED STRAINER	350	1	
18	250Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	450	2	
19	250NB x 80NB FLANGED UNEQUAL TEE (AIR ACCUMULATOR), FLANGES DRILLED TO SANS 1123-1600/3	604	1	
20	FLANGED RISER PIECE, ONE END FLANGED TO SUIT AIR VALVE, OTHER END FLANGED TO SUIT 80NB, FLANGES DRILLED TO SANS 1123-1600/3		1	
21	80NB FLANGED, PN 16, RSV; (TO JOHANNESBURG WATER SPECIFICATIONS)		1	
22	80mm VENT-O-MAT AIR VALVE : TYPE 050 RBX 1601		1	
23	250Ø DOUBLE FLANGED DISTANCE PIECE		2	
24	100Ø DOUBLE FLANGED DISTANCE PIECE	640	2	

GENERAL NOTES:
1. ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATERTIGHT CHAMBER. USE ENGINEERING BRICKS.
2. CONCRETE FOR THE BASE AND ROOF SLAB TO BE GRADE 25/19. COVER TO REINFORCEMENT = 30mm.
3. ALL FITTINGS TO BE PAINTED WITH COPON KSI/BB EPOXY PAINT. AFTER INSTALLATION 5mm BFGW REPAIR WRAP COATING.
4. ALL FLANGES TO TABLE 1600 OF SANS 1123
5. PIPES TO BE WRAPPED WITH 6mm THICK MALTHOID WRAPPING THROUGH WALLS.
6. CHAMBER DIMENSION AND DEPTH ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE LOCATION AND DEPTH.
7. FITTINGS ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE MATERIALS.
8. EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE.
9. PEDESTALS TO BE PROVIDED AS DIRECTED BY THE ENGINEER AT SITE.
10. VALVE KEY HOLES TO BE PROVIDED IN THE ROOF ABOVE EVERY VALVE OR AS DIRECTED.
11. DEPTH OF CHAMBERS 2m MAXIMUM HEIGHT OF BRICK CHAMBER.
12. ENGINEERING BRICKS WITH BRICK-FORCE EVERY 3rd COURSE FOR ALL CHAMBERS.
13. ROOF SLAB TO BE MADE OF PRECAST PANELS.
14. 230mm BRICK-WALL OF 1m HIGH FROM BASE SLAB.

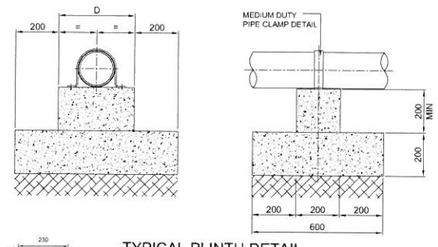
PRESSURE REDUCING VALVE(CLAYTON + ANTI CAVITATION RING)

ALL PRV SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

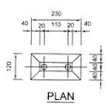
a. 690G-01ABECSI x101 PRESSURE REDUCING VALVES.
b. DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL TRIM.
c. FUSION BONDED EPOXY COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
d. COMPLETE WITH FULLY ADJUSTABLE CRD PRESSURE REDUCING PILOT VALVE (ADJUSTABLE DOWNSTREAM BETWEEN 2.1 BARS AND 21 BARS).
e. WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND x101 VISION POSITION INDICATOR.
f. MUST BE FLANGED AND DRILLED TO SANS 1123 TABLE 1600, INCLUDING CUTTING OF PIPES,COUPLING etc.
g. MUST BE COMPLETE WITH H-TYPE STRAINER-DUCTILE IRON BODY AND COVER-STAINLESS STEEL REMOVABLE IN A DUCTILE IRON FUSION BONDED EPOXY COATED FRAME 2mm MESH-FUSION BONDED EPOXY INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250mm MICRON - PN 25 RATED FLANGED AND DRILLED TO SANS 1123 TABLE 1600 FACE TO FACE = 900mm
h. WALLS TO BE REINFORCEMENT CONCRETE.



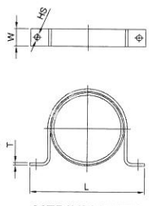
SECTION A-A
SCALE 1: 25



TYPICAL PLINTH DETAIL
SCALE 1:10

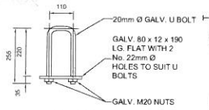


PLAN



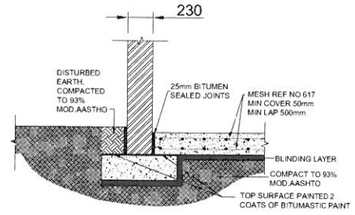
MEDIUM DUTY PIPE CLAMP DETAIL
SCALE 1:5

MEDIUM DUTY PIPE CLAMP SIZES			
PIPE SIZE (NB)	L (mm)	W x T (mm)	HS (mm)
50	160	40 x 6	14
65	175	40 x 6	14
80	190	40 x 6	14
100	215	40 x 6	14
150	265	40 x 6	14
200	315	40 x 6	14

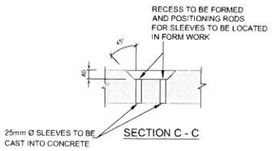


BOLT DETAIL
(SUPPLIED BY CONTRACTOR)

PIPE POSITIONING ON PLINTHS				
PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE 'B'	'C'	'D'
50	165	600	400	200
65	185	650	450	200
80	195	650	450	300
100	220	750	500	300
160	275	900	600	350
200	330	1060	700	400



DETAIL OF BRICK COLUMN BASE
SCALE 1:20



DETAILS OF LIFTING EYE
SCALE 1:10
8 No. OFF
(SUPPLIED BY CONTRACTOR)

CONSULTING ENGINEERS CAPEX DESIGN SECTION SWISS HOUSE 7TH FLOOR	DESIGNED	B.M.KHUMALO	MAY 2017	
	DRAWN	B.M.KHUMALO	MAY 2017	
	CHECKED	J.GUMBO	DATE: 19/7/2017	
		SIGNATURE:		
		ECSA REG. No.: 20137004		
	APPROVED BY:	T.MPANDAGUTA	DATE:	
		SIGNATURE:		
		ECSA REG. No.: 20190150		

Johannesburg Water

17 HARRISON STREET
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TEL: (011) 688-1400

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STANDARD DETAIL
TYPICAL 250Ø PRESSURE REDUCING VALVE CHAMBER

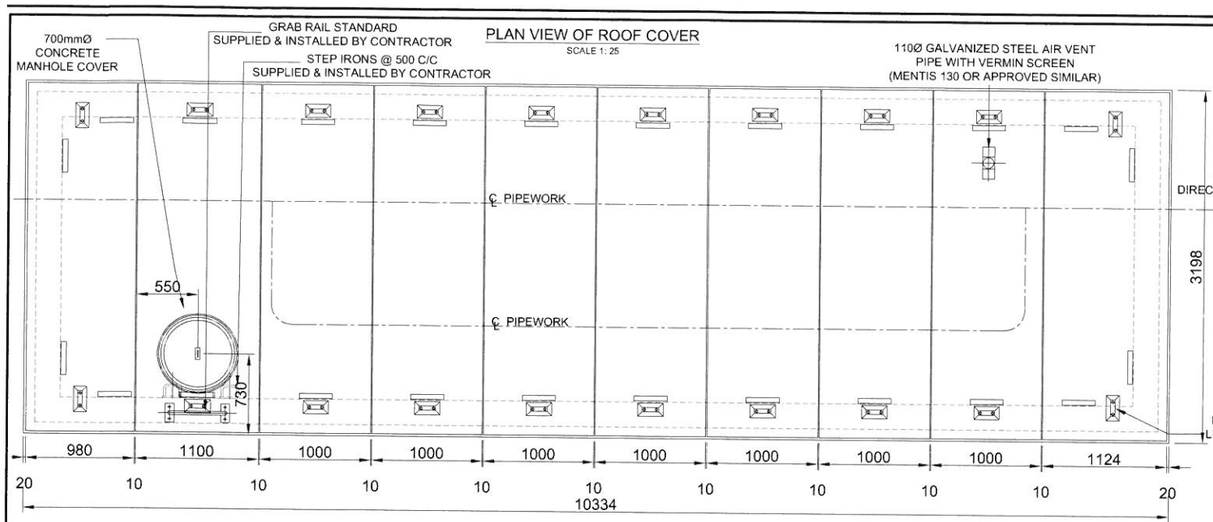
AMENDMENTS				
SCALE	REV:	DESCRIPTION	APPROVED	DATE:

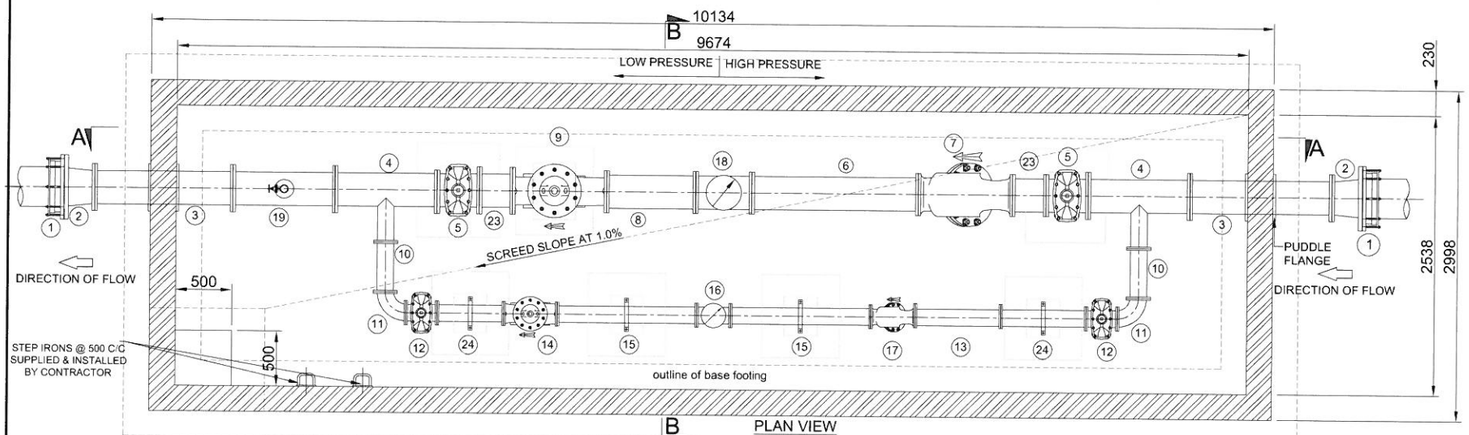
DRAWING No.JW100-DET10.4-W01

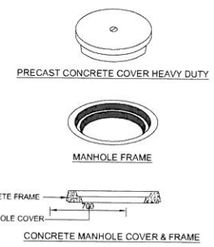
PROJECT No. | REV.

A3 ORIGINAL PAGE SIZE | SHEET 10.4 OF

FILE No.







NOTES:

1. PLINTHS TO BE FOUNDED ON COMPACTED MATERIAL (MIN 90% Mod AASHTO)

PRESSURE REDUCING VALVE

STEEL PIPE FITTINGS AND ITEM LIST

ITEM NR.	DESCRIPTION	DIMENSIONS	QUANTITY	FLANGE TABLE
1	Ø FLANGE ADAPTOR FOR STEEL/uPVC CLASS 16 PIPE		2	SABS 1123 TABLE 1600
2	Øx300 FLANGED REDUCER	230	2	
3	300Ø DOUBLE FLANGED STEEL PIPE WITH A PRESSURE TRANSMITTER (EXCLUDING PRESSURE GAUGE) AND PUDDLE FLANGE	1230	2	
4	300 x 150 FLANGED REDUCING TEE	854 300 554	2	
5	300Ø NB ISOLATING WEDGE TYPE GATE VALVE	280	2	
6	300Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP PRESSURE TRANSMITTER	1500	1	
7	300Ø FLANGED STRAINER	850	1	
8	300Ø DOUBLE FLANGED DISTANCE PIECE WITH CLAMP	800	1	
9	300Ø PRESSURE REDUCING VALVE	850	1	
10	150Ø DOUBLE FLANGED DISTANCE PIECE	400	2	
11	150Ø x 90° FLANGED STEEL BEND	300	2	
12	150Ø NB ISOLATING WEDGE TYPE GATE VALVE	280	2	
13	150Ø DOUBLE FLANGED DISTANCE PIECE	770	2	
14	150Ø PRESSURE REDUCING VALVE	850	1	
15	150Ø DOUBLE FLANGED DISTANCE PIECE	1250	2	
16	150Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	300	1	
17	150Ø FLANGED STRAINER	670	1	
18	300Ø MEINECKE TURBINE COSMOS WPD WATER METER (OR SIMILAR APPROVED), PN16. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	250	2	
19	300NB x 80NB FLANGED UNEQUAL TEE (AIR ACCUMULATOR). FLANGES DRILLED TO SANS 1123-1600/3	915	1	
20	FLANGED RISER PIECE, ONE END FLANGED TO SUIT AIR VALVE, OTHER END FLANGED TO SUIT 80NB. FLANGES DRILLED TO SANS 1123-1600/3		1	
21	80NB FLANGED, PN 16, RSV; (TO JOHANNESBURG WATER SPECIFICATIONS)		1	
22	80mm VENT-O-MAT AIR VALVE : TYPE 060 RBX 1601		1	
23	300Ø DOUBLE FLANGED DISTANCE PIECE	200	2	
24	150Ø DOUBLE FLANGED DISTANCE PIECE	600	2	

GENERAL NOTES:

1. ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATERTIGHT CHAMBER. USE ENGINEERING BRICKS.
2. CONCRETE FOR THE BASE AND ROOF SLAB TO BE GRADE 25/19. COVER TO REINFORCEMENT = 30mm.
3. ALL FITTINGS TO BE PAINTED WITH COPON KSIR88 EPOXY PAINT. AFTER INSTALLATION 5mm BFGW REPAIR WRAP COATING.
4. ALL FLANGES TO TABLE 1600 OF SANS 1123.
5. PIPES TO BE WRAPPED WITH 6mm THICK MALTHOID WRAPPING THROUGH WALLS.
6. CHAMBER DIMENSION AND DEPTH ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE LOCATION AND DEPTH.
7. FITTINGS ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE MATERIALS.
8. EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE.
9. PEDESTALS TO BE PROVIDED AS DIRECTED BY THE ENGINEER AT SITE.
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11. DEPTH OF CHAMBERS 2m MAXIMUM HEIGHT OF BRICK CHAMBER.
12. ENGINEERING BRICKS WITH BRICK-FORCE EVERY 3rd COURSE FOR ALL CHAMBERS.
13. ROOF SLAB TO BE MADE OF PRECAST PANELS.
14. 230mm BRICK-WALL OF 1m HIGH FROM BASE SLAB.

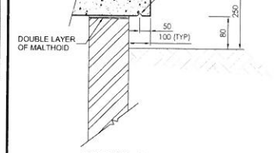
PRESSURE REDUCING VALVE(CLAYTON + ANTI CAVITATION RING)

ALL PRV SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

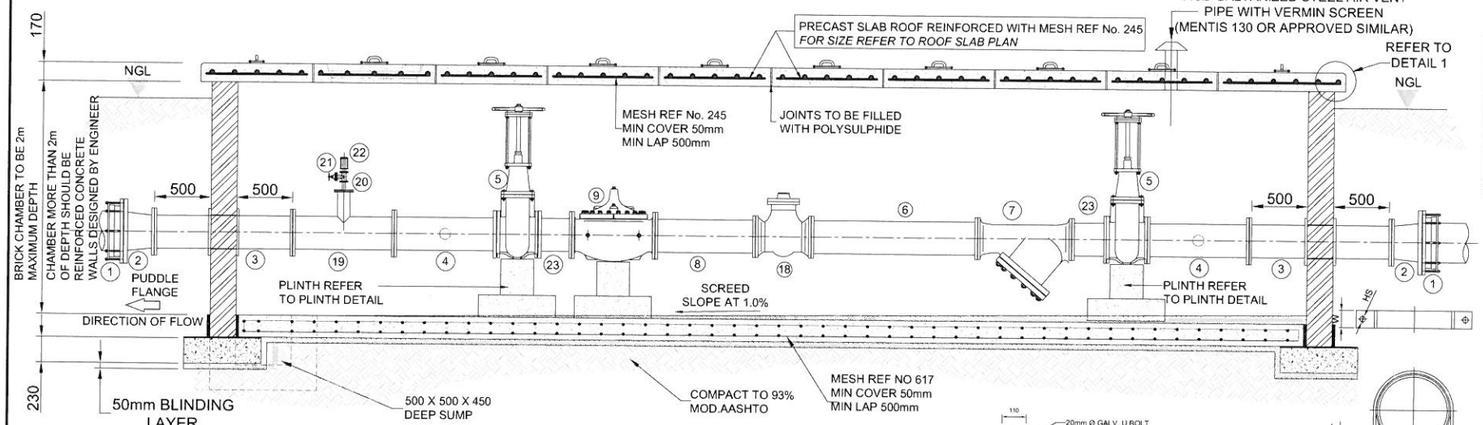
a. 690G-01ABECSI x101 PRESSURE REDUCING VALVES.
b. DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL TRIM.
c. FUSION BONDED EPOXY COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
d. COMPLETE WITH FULLY ADJUSTABLE CRD PRESSURE REDUCING PILOT VALVE. (ADJUSTABLE DOWNSTREAM BETWEEN 2.1 BARS AND 21 BARS).
e. WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND x101 VISION POSITION INDICATOR.
f. MUST BE FLANGED AND DRILLED TO SANS 1123 TABLE 1600, INCLUDING CUTTING OF PIPES,COUPLING etc.
g. MUST BE COMPLETE WITH H-TYPE STRAINER-DUCTILE IRON BODY AND COVER-STAINLESS STEEL REMOVABLE IN A DUCTILE IRON FUSION BONDED EPOXY COATED FRAME 2mm MESH-FUSION BONDED EPOXY INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250mm MICRON - PN 25 RATED FLANGED AND DRILLED TO SANS 1123 TABLE 1600.FACE TO FACE = 900mm
h. WALLS TO BE REINFORCEMENT CONCRETE.

PIPE POSITIONING ON PLINTHS

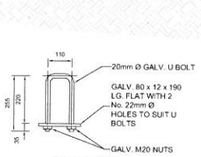
PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE 'B'	'C'	'D'
50	165	600	400	200
65	185	650	450	200
80	195	650	450	300
100	220	750	500	300
160	275	900	600	350
200	330	1060	700	400



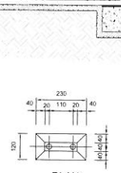
DETAIL 1
SCALE 1:10



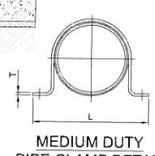
SECTION A-A
SCALE 1: 25



BOLT DETAIL
(SUPPLIED BY CONTRACTOR)



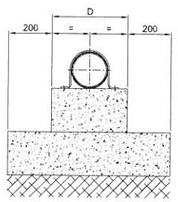
PLAN

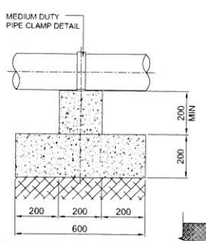


MEDIUM DUTY PIPE CLAMP DETAIL
SCALE 1:5

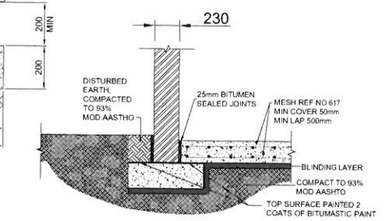
MEDIUM DUTY PIPE CLAMP SIZES

PIPE SIZE (NB)	L (mm)	W x T (mm)	HS (mm)
50	160	40 x 6	14
65	175	40 x 6	14
80	190	40 x 6	14
100	215	40 x 6	14
150	265	40 x 6	14
200	315	40 x 6	14

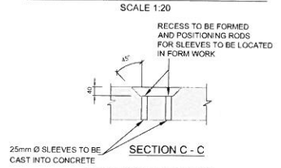




TYPICAL PLINTH DETAIL
SCALE 1:10



DETAIL OF BRICK COLUMN BASE
SCALE 1:20



DETAILS OF LIFTING EYE
SCALE 1:10
8 No. OFF
(SUPPLIED BY CONTRACTOR)

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017	
DRAWN	B.M.KHUMALO	MAY 2017	
CHECKED	J.GUMBO	DATE	19/7/17
		SIGNATURE	M be
		ECSA REG. No.	20137600 34
APPROVED BY:	T.MPANDAGUTA	DATE	
		SIGNATURE	Mpanda Peguta
		ECSA REG. No.	20/11/0178

Johannesburg Water

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STANDARD DETAIL

TYPICAL 300Ø PRESSURE REDUCING VALVE CHAMBER

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET10.5-W01

PROJECT No.

REV.

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ORIGINAL PAGE SIZE

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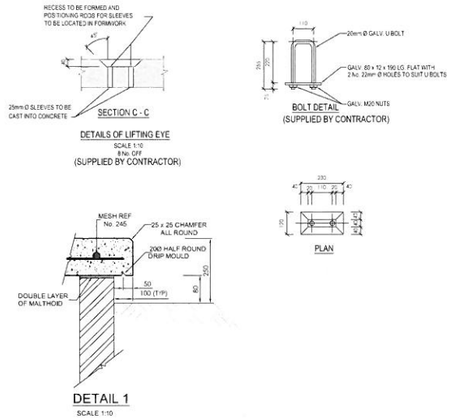
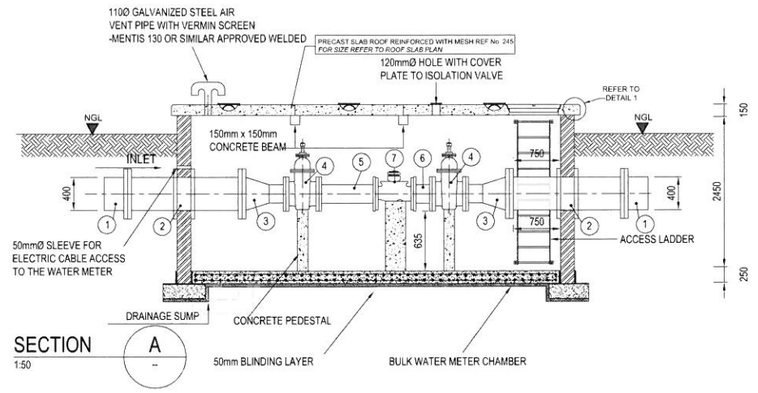
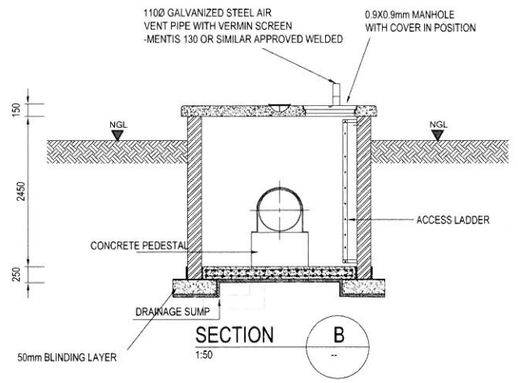
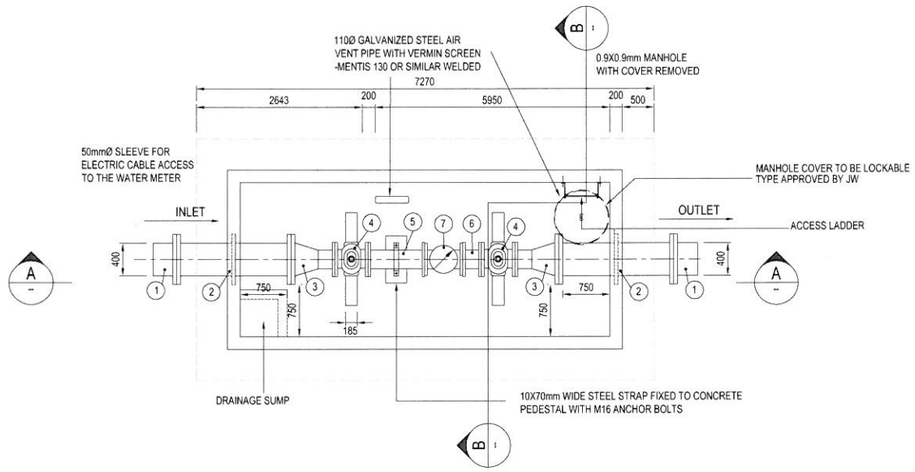




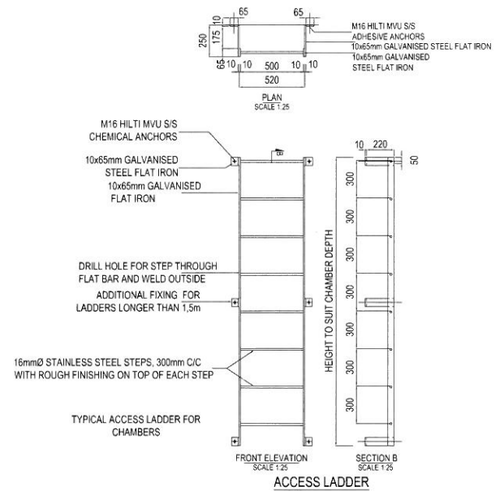


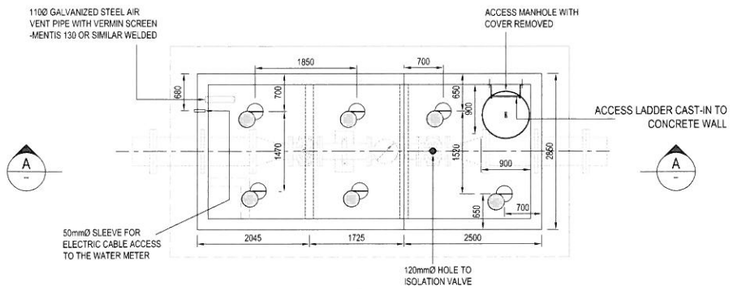


PLAN
400mm WATER FLOW METER AND CHAMBER
SCALE 1 : 50

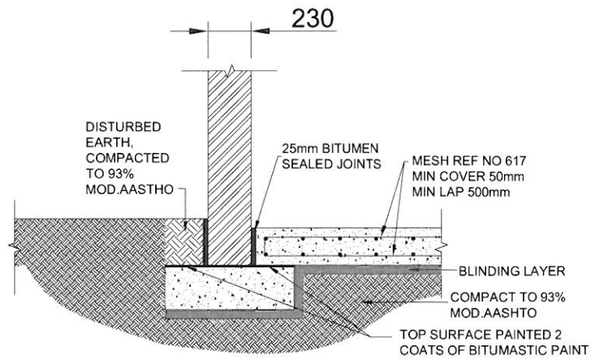
TYPICAL STEEL PIPE FITTINGS AND ITEM LIST
(400ND PIPE LINE WITH 2500kPa MAX. WORKING PRESSURE USED AS AN EXAMPLE)

ITEM NR.	DESCRIPTION	NO. OFF	DIMENSIONS
1	400Ø mm FLANGED PIPE. FLANGED TO SAB1123-1600/3.	2	
2	400Ø x 1500mm LONG STEEL PIPE WITH PUDDLE FLANGE. BOTH ENDS FLANGED SABS 1123 - 1600/3	2	
3	400Ø x 300Ø STEEL REDUCER. BOTH ENDS FLANGED SABS 1123 - 1600/3	2	
4	300Ø WEDGE TYPE GATE VALVE (PN16) WITH GEARBOX AND ANTI-CLOCKWISE CLOSING TO SABS 664. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	2	
5	3xØ STEEL STRAIGHT. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	1	
6	1xØ STEEL STRAIGHT. BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	1	
7	300mm ON A 400mm (WPO 400T25) SENSUS WP TURBINE METER FLANGED TO BS4504, TABLE 25, WITH PRESSURE RATING:2500kPa AND OPERATIONAL MAXIMUM TEMP OF 50 DEGREES CELSIUS	1	





PLAN
400mm Ø WATER FLOW METER CHAMBER CONCRETE DETAIL
SCALE 1 : 50



DETAIL OF BRICK COLUMN BASE
SCALE 1:20

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017	
DRAWN	B.M.KHUMALO	MAY 2017	
CHECKED	J.GUMBO	DATE: 8/7/17	
	SIGNATURE:		
	ECSA REG. No.: 20137004		
APPROVED BY:	T.MPANDAGUTA	DATE:	
	SIGNATURE:		
	ECSA REG. No.: 20170130		

Johannesburg Water

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FAX: (011) 688-1529

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STANDARD DETAIL
TYPICAL 400mm PIPELINE BULK FLOW METER DETAIL

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET11-W01

PROJECT No. | REV.

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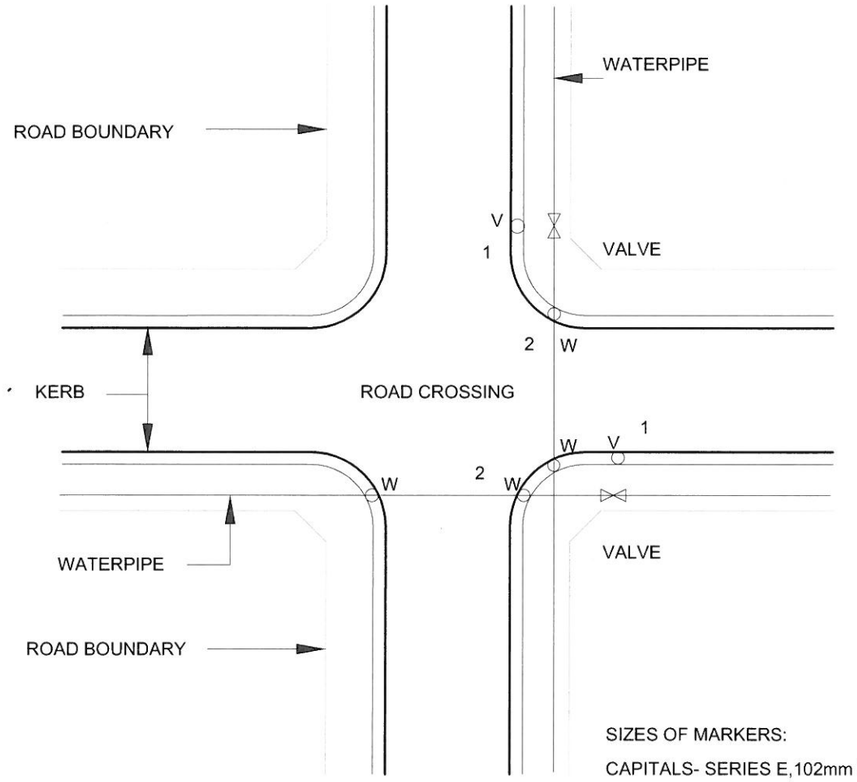
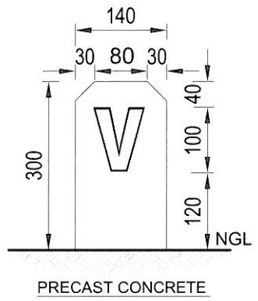
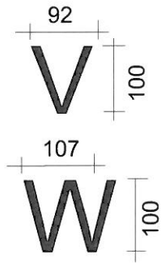




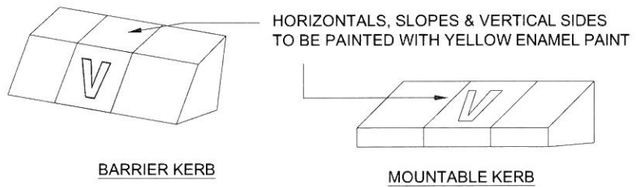


NOTE

1) TOP SURFACE OF COVERS TO BE PAINTED AS FOLLOWS:
   VALVES NORMALLY OPEN : BLUE
   VALVES NORMALLY CLOSED : SIGNAL RED
   SCOUR VALVES : GREEN
   AIR VALVES : BROWN

1 VALVE MARKER-"V" MUST BE PAINTED

2 WATER PIPE MARKER-"W"



BARRIER KERB

MOUNTABLE KERB

SIZES OF MARKERS:

CAPITALS- SERIES E,102mm IN SIZE ACCORDING TO THE S.A. BOOK OF ROAD SIGNS.

DETAILS OF SERVICE MARKERS

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M KHUMALO	MAY 2017	
DRAWN	B.M KHUMALO	MAY 2017	
CHECKED	J.GUMBO	DATE 16/7/17	
	SIGNATURE		
	ECSA REG. No.	20137021 44	
APPROVED BY:	T.MPANDAGUTA	DATE	
	SIGNATURE		
	ECSA REG. No.	20170150	

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STANDARD DETAIL
DETAILS OF SERVICE MARKERS

AMENDMENTS

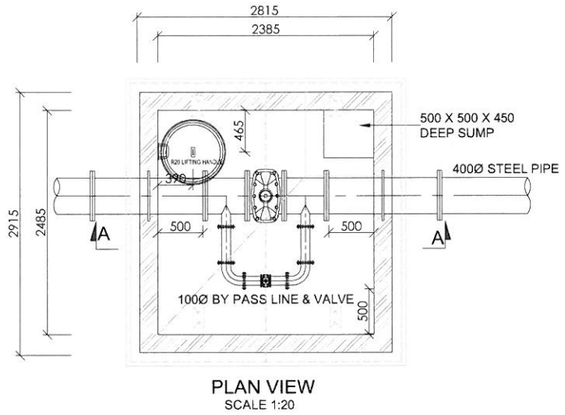
SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET12-W01

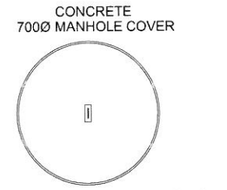
PROJECT No. | REV.

A3 ORIGINAL PAGE SIZE | SHEET 12 OF

FILE No.

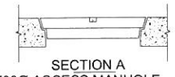


PLAN VIEW
SCALE 1:20

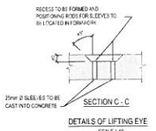


PLAN WITH COVER IN POSITION

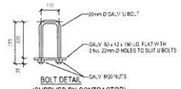
CONCRETE
700Ø MANHOLE COVER



SECTION A
700Ø ACCESS MANHOLE

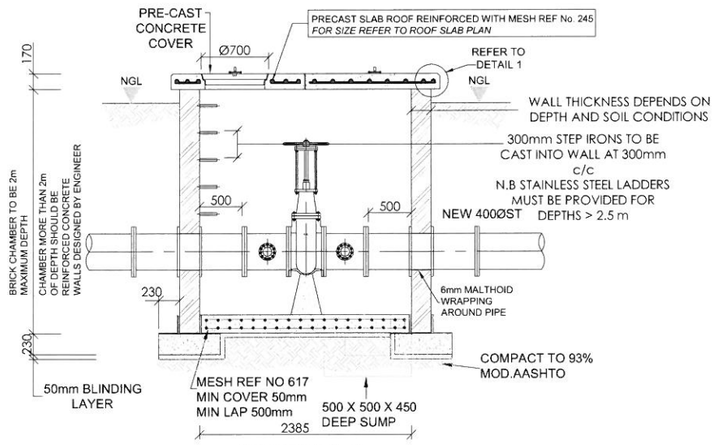


DETAILS OF LIFTING EYE
SCALE 1:10
(SUPPLIED BY CONTRACTOR)

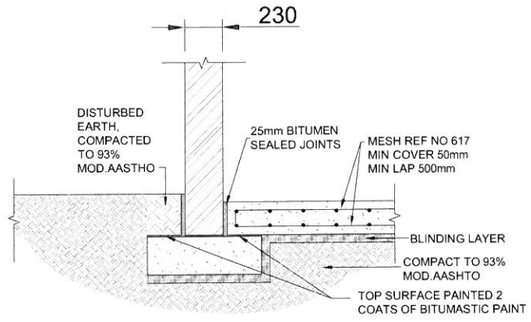


BOLT DETAIL
(SUPPLIED BY CONTRACTOR)

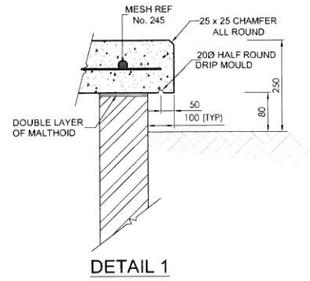
PLAN



SECTION A-A
SCALE 1:20



DETAIL OF BRICK COLUMN BASE



DETAIL 1

CONSULTING ENGINEERS CAPEX DESIGN SECTION SWISS HOUSE 7TH FLOOR	DESIGNED	B.M.KHUMALO	MAY 2017
	DRAWN	B.M.KHUMALO	MAY 2017
	CHECKED	J.GUMBO	DATE: 18/7/17
		SIGNATURE: to be	
		ECSA REG. No: 20137004	
	APPROVED BY:	T.MPANDAGUTA	DATE:
		SIGNATURE:	
		ECSA REG. No: 20117015	

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TYPICAL STANDARD DETAIL

TYPICAL VALVE BOXES FOR VALVES 400mm N.B. AND ABOVE

AMENDMENTS

SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET13-W01

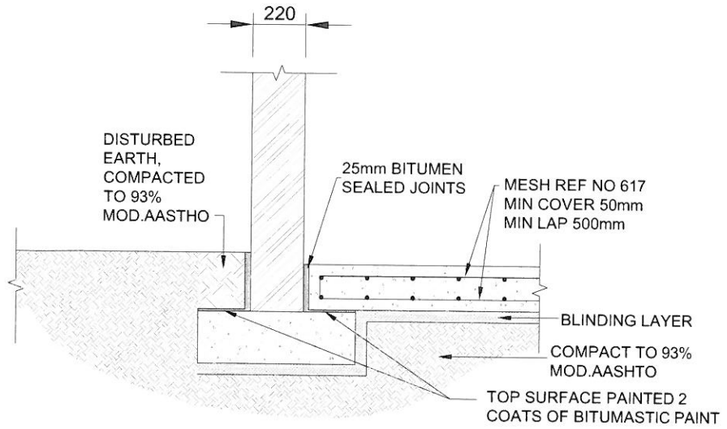
PROJECT No.

REV.

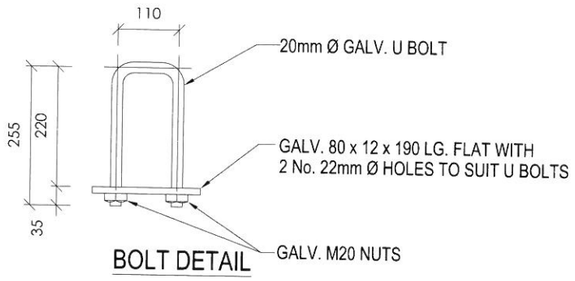
A3
ORIGINAL PAGE SIZE

SHEET 13 OF

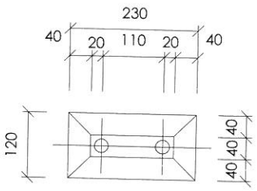
FILE No.



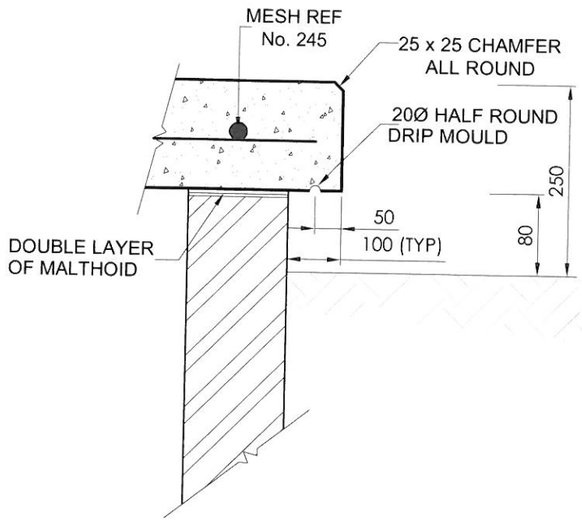
DETAIL OF BRICK COLUMN BASE



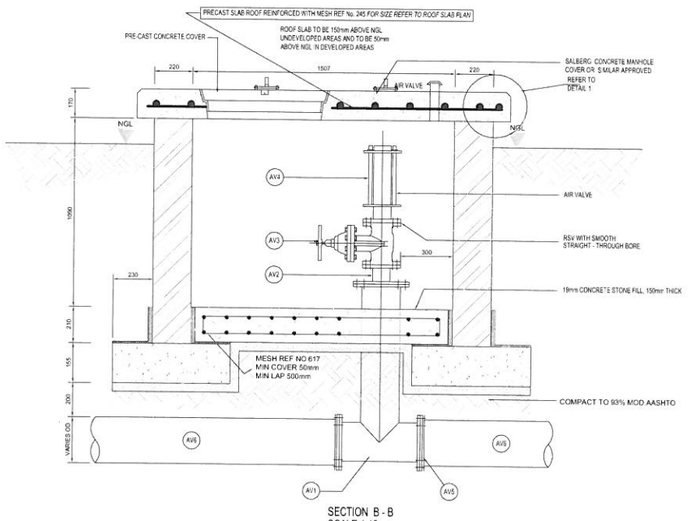
BOLT DETAIL
(SUPPLIED BY CONTRACTOR)



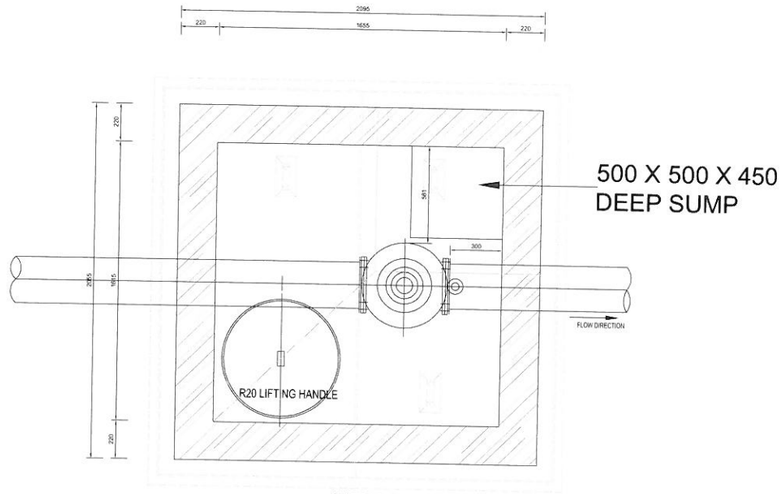
PLAN



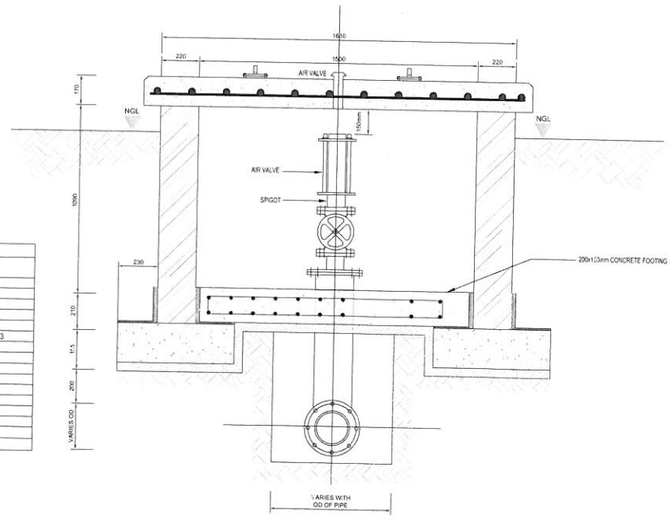
DETAIL 1



SECTION B - B
SCALE 1:15

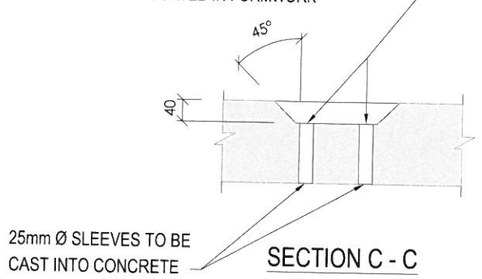


SECTION B - B
SCALE 1:15



SECTION A-A

RECESS TO BE FORMED AND POSITIONING RODS FOR SLEEVES TO BE LOCATED IN FORMWORK



SECTION C - C

DETAILS OF LIFTING EYE

SCALE 1:10
8 No. OFF
(SUPPLIED BY CONTRACTOR)

AIR VALVE DETAIL

MAIN PIPE	FITTING	TOTAL	DIA LEFT	DIA RIGHT	DIA BRANCH 1	END LEFT	END RIGHT	END BRANCH 1	FITTING MATERIAL	FITTING CLASS(BAR)	INTERNAL LINING SPEC.	EXTERNAL COATING SPEC.	DRILL TABLE	ANCILLARY DESCRIPTION
355Ø HDPE	AV1	1	355	355	355	FLANGED	FLANGED	FLANGED	STEEL / t = 4.5mm	16	FBE	FBE	1600/3	355x355mm FLANGED T -PIECE
	AV2	1	100	100		FLANGED	FLANGED		STEEL / t = 4.5mm	16	COPON EP2300	COPON EP2300	1600/3	300mm DIA BLANK FLANGE WITH 100mm DIA PIPE
	AV3	1	100	100		FLANGED	FLANGED		VARIES	16	COPON EP2300	COPON EP2300	1600/3	FLANGED FULL PORT BALL VALVE STINLESS STEEL PN16 SIZED TO SUIT
	AV4	1	100							16	COPON EP2300	COPON EP2300	1600/3	VENT - Q - MAT AIR VALVE
	AV5	1	355	355		WELDED	FLANGED		HDPE	-	-	-	1600/3	HDPE FLANGE PE100 PN16 WITH LOOSE STEEL FLANGE DRILLED TO 1600/3
	AV6	-	355	355		WELDED	FLANGED		HDPE	-	-	-		HDPE PIPE RETICULATION PE100 PN16
315Ø uPVC	AV1	1	300	300	300	FLANGED	FLANGED	FLANGED	STEEL / t = 4.5mm	16	FBE	FBE	1600/3	355x355mm FLANGED T - PIECE
	AV2	1	100	100		FLANGED	FLANGED		STEEL / t = 4.5mm	16	COPON EP2300	COPON EP2300	1600/3	300mm DIA BLANK FLANGE WITH 100mm DIA PIPE
	AV3	1	100	100		FLANGED	FLANGED		VARIES	16	COPON EP2300	COPON EP2300	1600/3	FLANGED FULL PORT BALL VALVE STINLESS STEEL PN16 SIZED TO SUIT
	AV4	1	100							16	COPON EP2300	COPON EP2300	1600/3	VENT - Q - MAT AIR VALVE
	AV5	1	300	300		SOCKED	FLANGED		STEEL	16	COPON EP2300	COPON EP2300	1600/3	VIKING JOHNSON FLANGE ADAPTO TO SUIT PIPE
	AV6	-	315	315		SPIGOT	SOCKET		uPVC	16	-	-		uPVC PIPE RETICULATION

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M.KHUMALO	MAY 2017
DRAWN	B.M.KHUMALO	MAY 2017
CHECKED	J.GUMBO	DATE: 18/7/17
	SIGNATURE:	
	ECSA REG. No. 2013 700 44	
APPROVED BY:	T.MPANDAGUTA	DATE:
	SIGNATURE:	
	ECSA REG. No. 2011 7010	

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TYPICAL STANDARD DETAIL
AIR VALVE CHAMBER AND LOCKING DEVICE DETAILS AT NODE LW1, LW6 AND LW15

AMENDMENTS

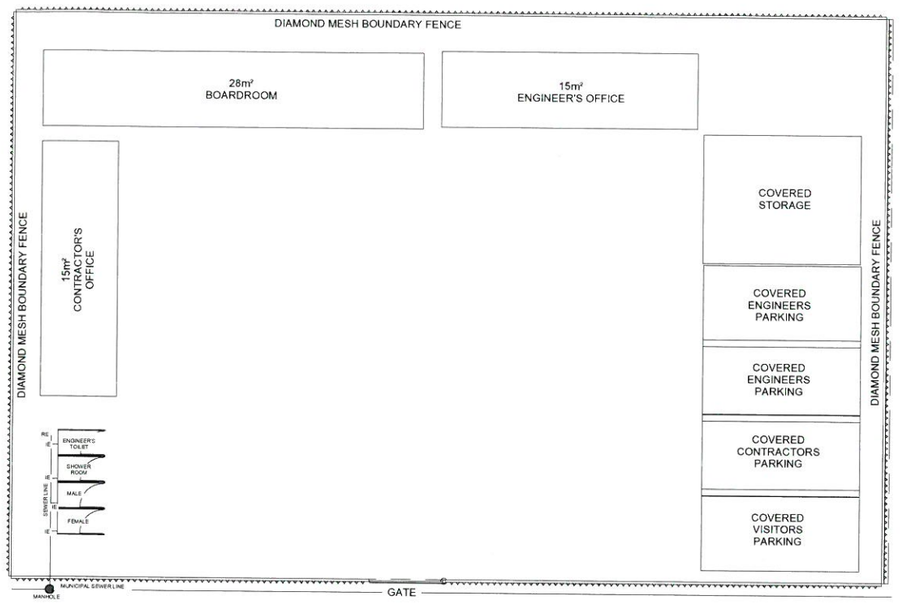
SCALE	REV:	DESCRIPTION	APPROVED	DATE:

DRAWING No.JW100-DET14-W01

PROJECT No. | REV.

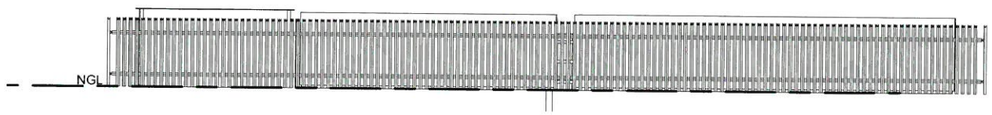
A3 ORIGINAL PAGE SIZE | SHEET 14a OF

F.I.L.E No.

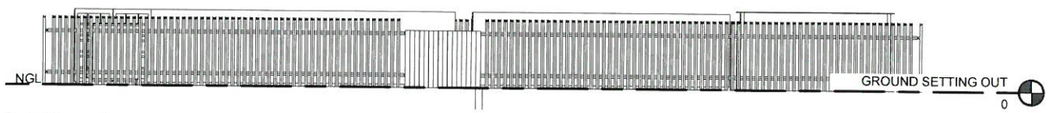


1 GROUND SETTING OUT
1 : 100

3 East Elevation
1 : 100

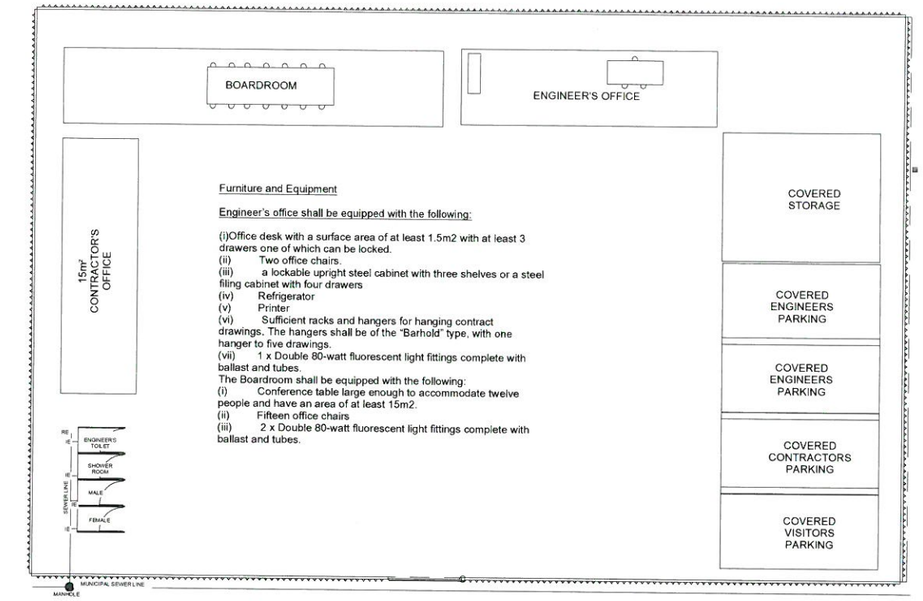


4 North Elevation
1 : 100



5 South Elevation
1 : 100

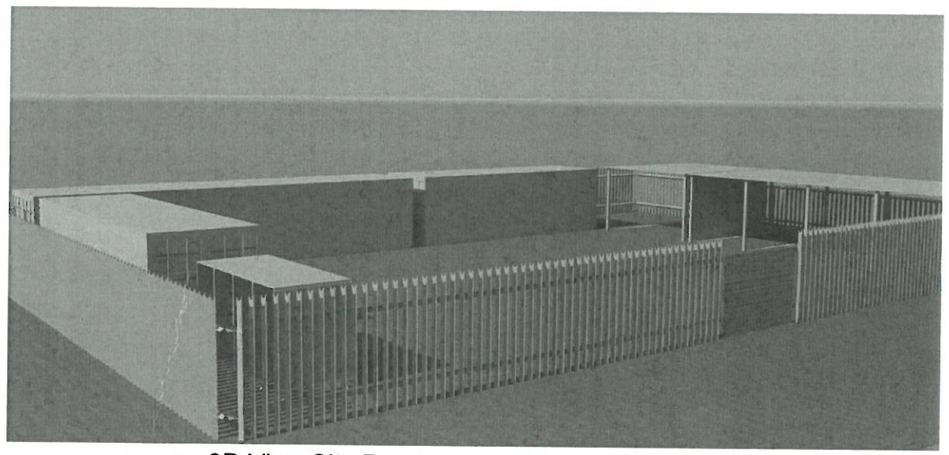
6 West Elevation
1 : 100



7 PROPOSED LAYOUT
1 : 100

SCHEDULE OF AREAS

Dimensions	Boardroom	Engineer's Office
Minimum floor area	28m²	15m²
Minimum window area	4.0m²	3.0m²
Minimum window area opening	2.4m²	1.5m²
Minimum clear height	2.5m	2.5m



2 3D View Site Render
1 : 1

GENERAL NOTES

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED BY:	T. Mpandaguta	Date:
DRAWN BY:	K. Kolberg	Date:
CHECKED BY:	T. Mpandaguta	Date: 15/2/17
	Signature:	
	ECSA REG. No: 20137844	
APPROVED BY:	F. Chakana	Date:
	Signature:	
	ECSA REG. No: 20117015O	

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STANDARD DETAIL FOR
SITE CAMP

SCALE: AS SHOWN

REVISON	DESCRIPTION	DATE:
	AMENEDMENTS	

DRAWING No.JW 100-DET01-SC01

PROJECT No. # | DISCIPLINARY # | REVISION #

ORIGINAL PAGE SIZE | SHEET # OF #