

C4.2: DRAWINGS

LIST OF DRAWINGS

DRAWING NUMBER	DESCRIPTION	PAPER SIZE
2111/RLMPS/SDP/0001	SITE DEVELOPMENT PLAN	A3
SANITATION		
2111/MMPS/S001	FEMALE EDUCATORS TOILET BLOCK (F5 +SD1)	A3
2111/ MMPS /S002	BOYS TOILET BLOCK (M2 +12UR + SD1)	A3
2111/ MMPS /S003	GIRLS TOILET BLOCK (F4+SD1)	A3
2111/ MMPS /S004	GRADE R BOYS TOILET BLOCK (GR3 +4UR +SD1)	A3
2111/ MMPS /S005	GRADE R GIRLS TOILET BLOCK (GR7 +SD1)	A3
WALKWAYS		
21111-EXT-SPF-001	TYPICAL WALKWAYS DRAWINGS	A3
21111-EXT-SPF-002	TYPICAL FENCING DRAWINGS	A3
WATER		
MVULA-010-01	SUBMERSIBLE PUMP DETAILS	A3
MVULA-010-02	LOCKABLE FABRICATED -STEEL-DET	A3
MVULA-010-03	SUBMERSIBLE PUMP DETAILS	A3
MVULA-010-04	LOCKABLE- FABRICATED -STEEL-DET	A3
MVULA-010-05	INFO -PLATE	A3
MVULA-010-06	LOCKABLE- CAGE	A3
MVULA-010-07	LOCKABLE- CAGE – ELEV - DET	A3
MVULA-010-08	GEN-TROLLEY - DET	A3
MVULA-010-09	3M-HIGH-ELEVATED-TANK-STAND -DET	A3
MVULA-010-10	3M-HIGH-ELEVATED-TANK-STAND -DET	A3
MVULA-010-11	3M-HIGH-ELEVATED-TANK-STAND -DET	A3
MVULA-010-12	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-13	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-14	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-15	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-16	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-17	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-18	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-19	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3
MVULA-010-20	3M-HIGH-ELEVATED-TANK-STAND - GEN- DET	A3

Oldham LUTLOCK CHIMNEYPIPE PEOPLE ROOF SLATING ●
17 CROWN INSULATION CO., NEWTON, S.A.
PREFABRICATED CONCRETE CHIMNEYS
PERMANENTLY ADAPTED TO SUIT THE
WORKER'S DETAIL AND SPECIFICATION



4. PLEASE DO NOT SCALE THE DRAWING

1. Use dimensions provided and do not scale drawing.
2. All work to comply with SANS, PM271 and SABS.
3. All dimensions, levels and positions to be verified on site prior to construction.
4. All concrete work to be as per Engineer's details and specifications.
5. All pits to face North.
6. All brickwork have brickforce at every 2nd course in pit lining and 3rd course in superstructure.

1. All stages of pit excavation to be inspected and approved by Engineer and signed off.
2. pit lining to be inspected by Enviroloo Services before slab casting.

- All ground surfaces receiving concrete floors / slab should be compacted to 150mm layers 93%% ModASHTO density before casting concrete.

2. 25 MPa strength concrete to be used throughout construction: Triol Concrete Mixes: Proportions Concrete Strength of 28 Days
25Mpa: 1 : 2 : 2 (mix proportion by volume) 1 bag cement : 0.09m³ Sand : 0.09m³ Stone (Volume/Bag) 385 kg cement : 820 kg sand : 960 kg stone (Mass/m³)

4. All concrete aprons to be 1000mm wide..
- MORTAR
- Mixed proportions to be:
- 1 cement : 3 sand
(i.e.1 bag cement : 3 wheelbarrows (37 litres) sand)

- BRICKWORK**
Sub-structure
1. All pit lining / foundation brickwork to be solid NFP clay brick.
 2. All internal surface of pit lining to be pointed with two coats black expoxy point installing Enviro-Loo units.

1. All external walls / partitions to be of clay face brick to SABS quality.
2. All cubic partition walls to be 3 course above door height.
3. All brickwork above door openings should have brickwork on every course of at least 3 courses.
4. Air bricks: Standard 230X152mm terra-cotta vermin proofed louvered air grating to be used above all window openings.

1. 0.6mm kilblock chromadek roof sheeting
2. All roof timbers to be machined SABS preservative.
3. Timber connections (Hurricane Clips) are required at all intersections between timber rafters and purlins.
4. Sisalation is to be applied interval under oil roof surfaces.

1. All metalwork should be primed before installation.
2. All steel window should have 6x20mm fl bar burglar proofing.

2. All waste troughs should be connected to the school's water supply system and the waste water should be piped to a soakaway.
3. The soakaway should be as per Engineering detail and position to be determined on site.
4. Only 20mm and galvanized pipework should be used as connection from wall to the discharge points.

1. All pointwork to comply with SABS and PW371 specification.
2. All steel window and door frames including doors and fascia / barge boards to be discharge points.

- PLEASE DO NOT SCALE THE DRAWING

[illegible]

FAX: (015) 287 8504



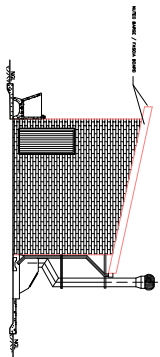
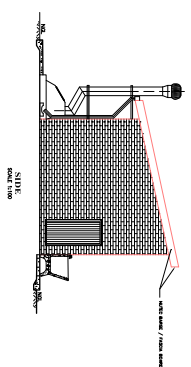
A leading developmental NGO

[illegible]

PROVINCE: LIMPOPO

9992205606	PUBLIC	2111 N. MAPLE ST. COO	T	00
------------	--------	-----------------------	---	----

0.6mm KLIPLOK CHEMOLOK PROFILE
12 ON ISOLATION ON 76x50mm S.A.
PINE PURLINS @ 900mm C/Cs ON
PREABRICATION TUBER BULGES TO
ENGINEER'S DETAIL AND SPECIFICATION



NOTE:
ENVIRO LOO INSTALLATION
AS PER MANUFACTURER'S
SPECIFICATION AND DETAILS



SPOT PRICING IS
AVAILABLE WITH A
PURCHASE OF APPROX.
\$100,000 COAT &
BETWEEN 60,000 &

UNIFORM COAT AND TROUSERS - COLOUR 73

224	NON-SOLUBLE INK : SECTION PRIMER
	1 COAT 2300 OZ/100 2 x COATS GROSS QUANTITY

1. Use dimensions provided and do not scale drawing.
2. All work to comply with SANS, PW371 and SABS.
3. All dimensions, levels and positions to be verified on site prior to construction.
4. All concrete work to be as per Engineer's details and specifications.
5. All pits to face North.
6. All brickwork have brickforce at every 2nd course in pit lining and 3rd course in superstructure.

1. All layers of pit excavation to be inspected and approved by Engineer and signed off.
2. pit lining to be inspected by Envirolooloo Service before slab casting.

1. All concrete to be as per Engineer's details and specifications.
 2. 25 Mpa strength concrete to be used throughout construction: Trial Concrete Mixes Proportions
- | Proportions | Concrete Strength at 28 Day |
|---|--|
| 1 : 2 : 2 (mix proportion by volume) | 1 bag cement : 0.08m ³ Sand : 0.09m ³ Stone (Volume/Bag) |
| 1 bag cement : 0.08m ³ Sand : 0.09m ³ Stone | 385 kg cement : 820 kg sand : 960 kg stone (Mass/m ³) |

- support under top slab of pit.
4. All concrete aprons to be 1000mm wide..
MORTAR
Mixed proportions to be:
1 cement : 3 sand
(i.e.1 bag cement : 3 wheelbarrows (37 litres) sand)

1. All pit lining / foundation brickwork to solid NFP clay brick.
2. All internal surface of pit lining to be pointed with two coats block expoxy paint installing Enviro-Loo units.

- Super-structure**
1. All external walls / partitions to be of clay face brick to SABS quality.
 2. All cubic partition walls to be 3 course above door height.
 3. All brickwork above door openings should be brickwork on every course at least 3 courses.
 4. All bricks: Standard 230X152mm terra-cotta vermilion painted fluted air grating to be used above all window openings.

- ROOF SHEETING**
1. 0.9mm kiln-dried chromadek roof sheeting.
- ROOF TIMBER / CEILING**
2. All roof timbers to be machined SABS treated wood with three coats of approved water preservative.
3. Timber connections (Hurricane Clips) or required all interconnections between timber rafters and purlins.
4. Slatting is to be applied interval under all roof surfaces.

1. All metalwork should be primed before installation.
2. All steel window should have 6x20mm reinforcement bar burglar proofing.

- ### PLUMBING
1. Double concrete wash trough to be used.
 2. All wash troughs should be connected to the school's water supply system and the waste water should be piped to a soakaway.
 3. The soakaway should be as per Engineer's detail and position to be determined on site.
 4. Only 20mm and galvanised pipework should be used as connection from wall to the discharge points.

- GLAZING
1. 6.28mm obscure safety glass

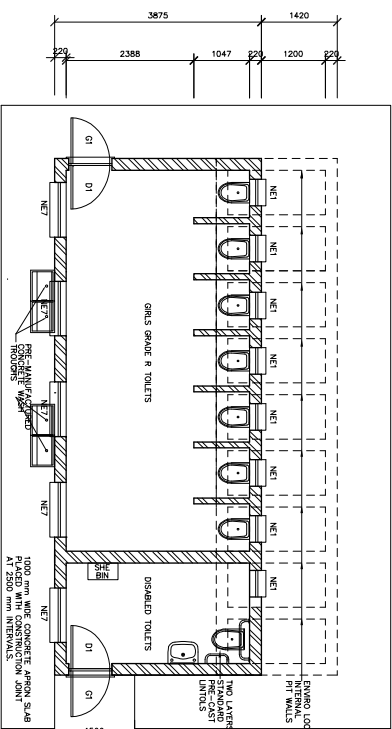
1. All paintwork to comply with SABS and PW371 specification.
2. All steel window and door frames including doors and fascia / barge boards to be discharge points.

- GENERAL NOTES:**
1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE NATIONAL BUILDING REGULATION AND SABS 0400 OF 1990
 2. CONTRACTOR TO MEAD ONLY FIGURED DIMENSION
 3. CONTRACTOR TO VERIFY ALL DIMENSION ON SITE BEFORE COMMENCING WITH ANY WORK.
 4. PLEASE DO NOT SCALE THE DRAWING

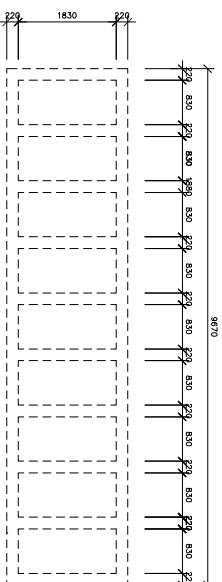
WAVE

• 100	• 14
-------	------

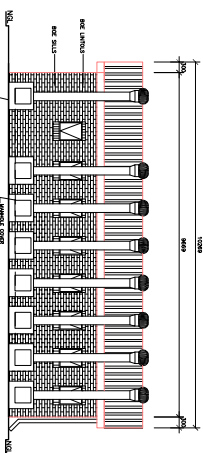
ESHA PRIMAR



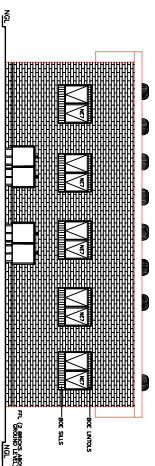
FLOOR LAYOUT : GR7+1SD
SCALE 1:75



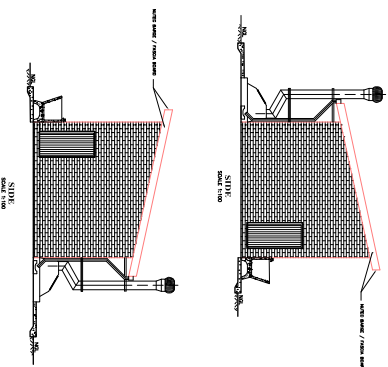
TANK PLAN
SCALE 1:50



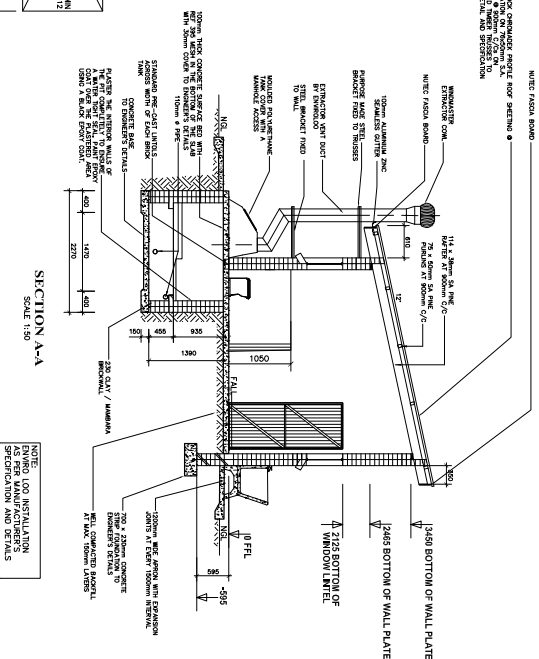
BAC
SCALE IN



FRONT
SCALE 1:100



SIDE



SECTION A-A
SCALE 1:50

WINDOW SCHEDULE	WINDOW SCHEDULE

[illegible][illegible]

BOLLARD DOOR																					
Type G																					
<table border="1"> <tr> <td>VERSION</td> <td>CRIMINAL, STREET DOOR</td> </tr> <tr> <td>DOOR TYPE</td> <td>DOOR WITH 2 LOCKS, 2000 X 1000 X 100</td> </tr> <tr> <td>DOOR WEIGHT</td> <td>2.5 TONNES (2500 KG)</td> </tr> <tr> <td>DOOR FINISH</td> <td>PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL</td> </tr> <tr> <td>FRAME</td> <td>STEEL FRAME, CRIMINAL, CRIMINAL, CRIMINAL</td> </tr> <tr> <td>FRAME WEIGHT</td> <td>1.5 TONNES (1500 KG)</td> </tr> <tr> <td>FRAME FINISH</td> <td>PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL</td> </tr> <tr> <td>DOOR</td> <td>STEEL, CRIMINAL, CRIMINAL, CRIMINAL</td> </tr> <tr> <td>DOOR WEIGHT</td> <td>2.5 TONNES (2500 KG)</td> </tr> <tr> <td>DOOR FINISH</td> <td>PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL</td> </tr> </table>	VERSION	CRIMINAL, STREET DOOR	DOOR TYPE	DOOR WITH 2 LOCKS, 2000 X 1000 X 100	DOOR WEIGHT	2.5 TONNES (2500 KG)	DOOR FINISH	PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL	FRAME	STEEL FRAME, CRIMINAL, CRIMINAL, CRIMINAL	FRAME WEIGHT	1.5 TONNES (1500 KG)	FRAME FINISH	PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL	DOOR	STEEL, CRIMINAL, CRIMINAL, CRIMINAL	DOOR WEIGHT	2.5 TONNES (2500 KG)	DOOR FINISH	PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL	2.0T
VERSION	CRIMINAL, STREET DOOR																				
DOOR TYPE	DOOR WITH 2 LOCKS, 2000 X 1000 X 100																				
DOOR WEIGHT	2.5 TONNES (2500 KG)																				
DOOR FINISH	PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL																				
FRAME	STEEL FRAME, CRIMINAL, CRIMINAL, CRIMINAL																				
FRAME WEIGHT	1.5 TONNES (1500 KG)																				
FRAME FINISH	PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL																				
DOOR	STEEL, CRIMINAL, CRIMINAL, CRIMINAL																				
DOOR WEIGHT	2.5 TONNES (2500 KG)																				
DOOR FINISH	PAINTED STEEL, CRIMINAL, CRIMINAL, CRIMINAL																				
<p>REMARKS: 1. DOOR IS NOT TO BE USED FOR OTHER PURPOSES. 2. DOOR IS NOT TO BE USED FOR OTHER PURPOSES. 3. DOOR IS NOT TO BE USED FOR OTHER PURPOSES.</p>																					
<p>REMARKS: 1. DOOR IS NOT TO BE USED FOR OTHER PURPOSES. 2. DOOR IS NOT TO BE USED FOR OTHER PURPOSES. 3. DOOR IS NOT TO BE USED FOR OTHER PURPOSES.</p>																					

1. Use dimensions provided and do not start drawing.
2. All work to comply with SANS, PM571 and SABS.
3. All dimensions, levels and positions to be verified on site prior to construction.
4. All concrete work to be as per Engineer's details and specifications.
5. All pits to face North.
6. All brickwork have brickforce at every 2nd course in pit lining and 3rd course in superstructure.

1. All stages of pit excavation to be inspected and approved by Engineer and signed off.
2. pit filling to be inspected by EnviroLo Services before slab casting.

1. All concrete to be as per Engineer's details and specifications.
2. 25 Mpa strength concrete to be used throughout construction: Trial Concrete Mixes: Proportions Concrete Strength at 28 Days

25Mpa:	1 : 2 : 2 (mix proportion by volume)	1 bag cement : 0.08m ³ Sand :	385 kg
0.09m ³ Stone (Volume/Bag)			
cement : 820 kg sand :		960 kg stone	

(Mass/m³)

4. All concrete aprons to be 1000mm wide..

MORTAR

Mixed proportions to be:

1 cement : 3 sand
(i.e.1 bag cement : 3 wheelbarrows (37 litres) sand)

1. All pit lining / foundation brickwork to be solid NFP clay brick.
2. All internal surface of pit lining to be painted with two coats black epoxy paint installing Enviro-Loo units.

1. All external walls / partitions to be of clay face to SABS quality.
2. All cubic partition walls to be 3 courses above door height.
3. All brickwork above door openings should have brickforce on every course of at least 3 courses.
4. Air bricks: Standard 2X0X152mm terra-cotta vermin proofed forged air grating to be fitted above all window openings.

1. 0.6mm KLECKING chromadek roof sheeting
2. ROOF TIMBER / CEILING
3. All roof timbers to be machined SABS treated wood with three coats of approved wood preservative.
4. Timber connections (Hurricane Clips) are required at all interconnections between timber rafters and purlins.
5. Slicolation is to be applied interval under all roof surfaces.

METALWORK

1. All metalwork should be primed before installation.
2. All steel window should have 6x20mm flat bar burglar proofing.

PLUMBING

1. Double concrete wash trough to be used.
2. All wash troughs should be connected to the school's water supply system and the waste water should be piped to a soakaway.
3. The soakaway should be as per Engineer's detail and position to be determined on site.
4. Only 20mm and galvanised pipework should be used as connection from wall to the discharge points.

GLAZING
1. 6.28mm obscure safety glass

1. All paintwork to comply with SABS and PW371 specification.
2. All steel window and door frames including doors and fascia / barge boards to be discharge points.

GENERAL NOTES:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE NATIONAL BUILDING REGULATION AND SABS 0400 OF 1990
2. CONTRACTOR TO READ ONLY FIGURED DIMENSION
3. CONTRACTOR TO VERIFY ALL DIMENSION ON SITE BEFORE COMMENCING WITH ANY WORK.
4. USE DIMENSIONS AS SHOWN
4. PLEASE DO NOT SCALE THE DRAWING

[illegible]

P.O. BOX 650
25 RHODESDRIFT STR.
RHODESDRIFT OFFICE PARK
POLOKWANE
0001
TEL: (015) 297 7207
FAX: (015) 297 8504

**THE
MVULA
TRUST**

A leading developmental NGO

TEL: (015) 291 2405
FAX: (015) 291 1270

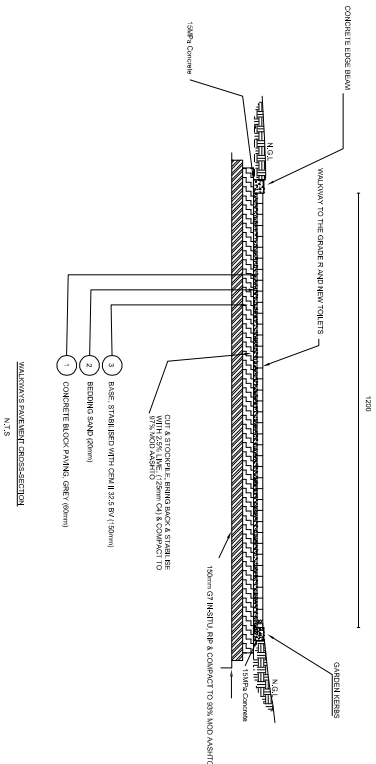
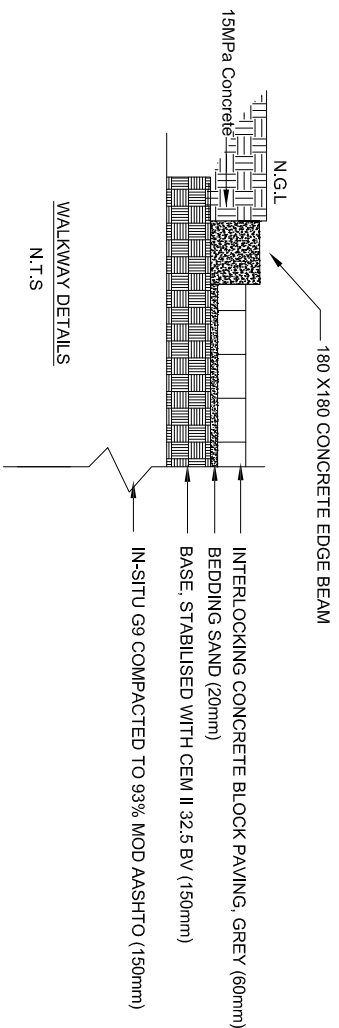


PROJECT
LPDE 2019/20 WATER AND
SANITATION PROJECT
DISTRICT: CAPRICORN CLUSTER 12
PROVINCE: LIMPOPO

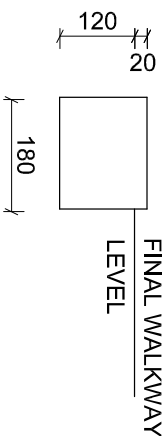
GRADE R GIRLS GR7 SD1 SEATS ENV/ROLOO
MODIFIED PROTOTYPE TOILET BLOCK
MMAMESHA PRIMARY SCHOOL

DRAWING TITLE			
GRADE 6 GIRLS GR7 SD1 SEATS ENVIRONMENTAL MODIFIED PROTOTYPE TOILET BLOCK MMAESHA PRIMARY SCHOOL.			
DR. NUMBER	REF. P. NO.	CHARGE NUMBER	DATE
09222056001	P.L. No. 1	271115000755003	T 00

WALKWAYS DETAILS



WALKWAYS MATERIAL REQUIREMENTS						
LAYER NO	DESCRIPTION	MATERIAL TYPE	DENSITY % MOD AASHTO	G.M.	P.I. (MAX)	C.B.R. (MIN)
						U.C.S. (MIN) (MAX)
1	CONCRETE BLOCK PAVING 60mm Grey, Type S-A(A) (UTG2) Interlocking					
2	BEDDING SAND 20mm					
3	BASE NATURAL GRAVEL STABILISED WITH CEM II 32.5 BV	C4	97	2.62GM21.2	6	0.5 1.0



CRETE EDGE BEAMS DETAILS / GARDEN KERBS

N.T.S

P.O. BOX 695
25 RHODESDRIFT STR
RHODESDRIFT OFFICE PARK
POLOKwane
0001

TEL: (015) 297 7207
FAX: (015) 297 8504

ARCHITECT

REVISION	DATE	SHEET NO
1	2018/01/01	A1

THE MUYULA TRUST
A leading developmental NGO

SPONSOR

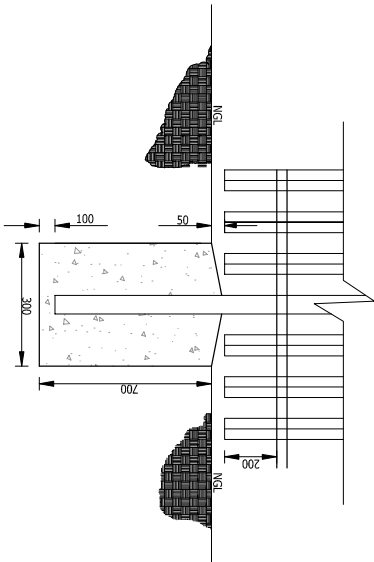


PROJECT
LPDPE 2018/20 WATER AND SANITATION
PROGRAMME TO SCHOOLS

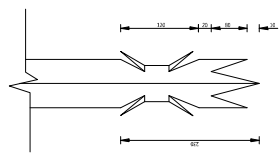
DRAWING TITLE
WALKWAYS DETAILS TO GRADE R
TOILETS AND NEW TOILETS BLOCKS

NO	DATE	REVISION	DRAWN
1	2018/01/01	0	SM

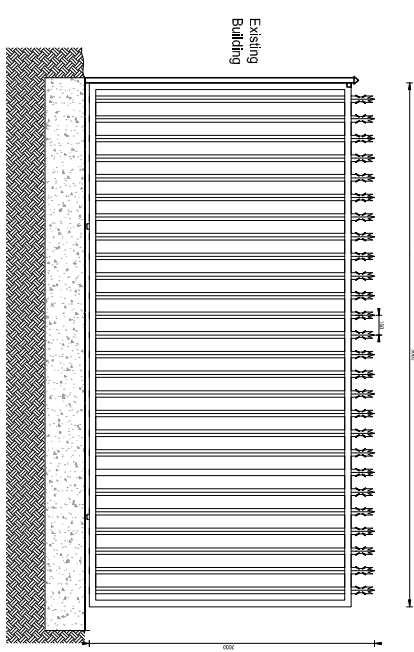
SCHOOLS PALISADE FENCE



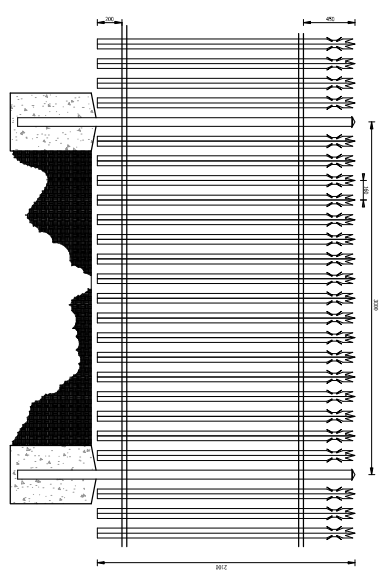
FOUNDATION DETAILS



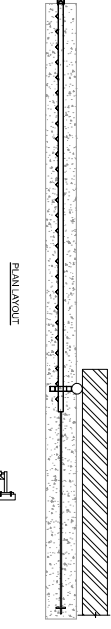
SPIKE DETAILS



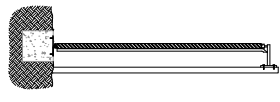
ENTRANCE GATE DETAILS FOR PALISADE FENCE



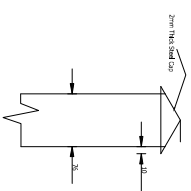
STEEL PALISADE FENCING DETAILS



PALISADE POST

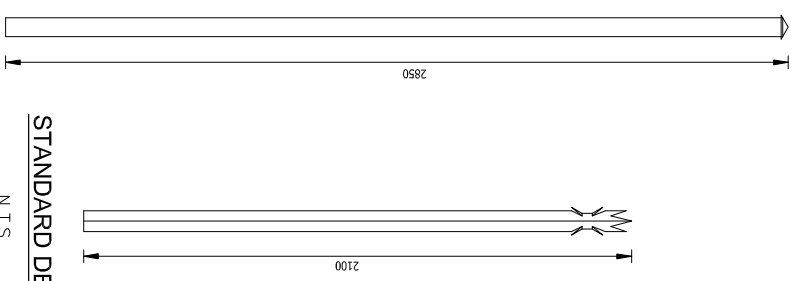


CONCRETE DETAILS



POST CAP DETAIL

- NOTES:**
- STEEL PALISADE:**
1. Posts - 76 x 76 x 2mm Thick Square Steel Tube Posts at 3m centre to centre.
 2. Standards - 40 x 40 x 2mm Thick Angle Irons Spaced at 160mm centre to centre.
 3. Pile - 40 x 3mm Thick Flat Steel Pile Welded to Standards and Posts.
 4. Colour of the paint for final coat to be determined by the Engineer on site.
- FOUNDATION:**
1. 300 x 300 x 700mm Deep Holes for the Steel Posts
 2. 20MPa Concrete Strength at 28 days.
 3. All excavations to be inspected and approved prior to casting of concrete.
 4. All concrete mixes to be approved by the Engineer prior to commencement of construction.



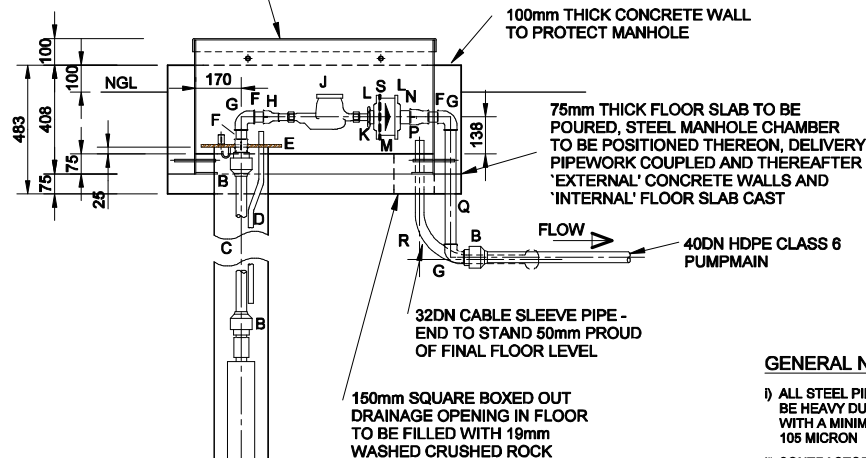
STANDARD DETAIL

POST DETAIL

NOTES:	CONSULTANTS	ARCHITECT	IMPLEMENTED BY	SPONSOR	PROJECT
STEEL PALISADE:	NYELETI	THE MUYU TRUST	THE MUYU TRUST	LIMPOPO	LPOE 2019/20 WATER AND SANITATION
FOUNDATION:	25 RHODESDRIFT STR	A leading developmental NGO	POLOKWANE	EDUCATION	PROGRAMME TO SCHOOLS
1. 300 x 300 x 700mm Deep Holes for the Steel Posts	0001	TEL: (015) 297 7207	POLOKWANE	EDUCATION	SCHOOLS STEEL PALISADE FENCE
2. 20MPa Concrete Strength at 28 days.		FAX: (015) 297 8504			
3. All excavations to be inspected and approved prior to casting of concrete.					
4. All concrete mixes to be approved by the Engineer prior to commencement of construction.					

SCHEDULE OF FITTINGS						
REF	NB	DESCRIPTION	WALL THK mm	FLANGE DRILLING	TREATMENT GALVA NISED EPOXY RESIN PAINT	QTY
A	40	'SUPER D' SUBMERSIBLE BOREHOLE PUMP WITH FRANKLIN MOTOR COMPLETE WITH IN-LINE NON-RETURN VALVE, PVC COOLING TUBE, LEAD-OUT CABLE AND 8 DN NYLON SUPPORT ROPE (AS SUPPLIED BY HOWDEN PUMPS)				1set
B	40	'PLASSON' MALE ADAPTOR				3no
C	40	HDPE TYPE IV CLASS 10 RISER COLUMN (LENGTH ACCORDING TO GEOLOGICAL CONSULTANTS SPECIFICATION) (PROVISIONAL)				30m
D	20	HDPE TYPE IV CLASS 10 DIPPER TUBE STRAPPED TO 40 DN RISER COLUMN AT 1,5 m CENTRES WITH CABLE TIES AND PROTRUDING 100 mm THROUGH BOREHOLE COVER PLATE INTO MANHOLE (PROVISIONAL)				30m
E		300 mm DIA x 10 mm THICK MILD STEEL BOREHOLE BASE PLATE HAVING 1 x 40 DN STEEL PARALLEL SOCKET WELDED CENTRALLY INTO CENTRE OF PLATE, 1 x 20 DN STEEL SOCKET WELDED OVER 20 DN HOLE IN PLATE FOR ELECTRIC CABLE (COMPLETE WITH CABLE GLAND) AND 1 x 20 DN HOLE IN PLATE FOR 20 DN DIP TUBE TO PASS THROUGH. 20 DN HOLES TO BE AT 180 DEGREES TO ONE ANOTHER AND ON A 50 mm RADIUS FROM THE CENTRE OF THE PLATE. A 20 mm DIA EYE FABRICATED FROM 6 mm M.S. ROD (FOR SECURING SUPPORT ROPE) IS TO BE WELDED TO THE UNDERSIDE OF THE BASE PLATE			*	1set
F	40	MGI BARREL NIPPLE			*	3no
G	40	90 DEGREE MGI FEMALE ELBOW			*	3no
H	40 x 25	40 x 25 DN MGI REDUCING SOCKET			*	1no
J	25	'INVENSY'S' TYPE M-N MULTIJET-FANWHEEL-METER, WET DIAL DOMESTIC WATER METER COMPLETE WITH 25 DN TAILS FITTED TO BOTH UPSTREAM AND DOWNSTREAM SIDES OF METER				1set
K	50 x 25	50 x 25 DN MGI REDUCING BUSH			*	1no
L	50	GALVANISED STEEL SCREWED BOSS FLANGE		SABS 10	*	2no
M	50	'CHECK-RITE' WAFFER PATTERN NON-RETURN VALVE SUITABLE FOR 1 000 kPa PRESSURE. NOTE: VALVE TO FIT BETWEEN SABS 1123 TABLE 1000/4 FLANGES		SABS 10	*	1no
N	50	MGI BARREL NIPPLE			*	1no
P	50 x 40	50 x 40 DN MGI REDUCING SOCKET			*	1no
Q	40	485 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS	4.5		*	1no
R	32	90 DEGREE uPVC LONG RADIUS BEND				1no
S	-	185mm DIA x 4.5 mm THICK 316 SS ORIFICE PLATE - ORIFICE DIA ACCORDING TO ENGINEERS INSTRUCTION		SABS 10		1no

LOCKABLE STEEL MANHOLE
AS DETAILED ON PLAN No.
0310A.20.1, TO BE CAST
INTO CONCRETE AS DETAILED



NOTE:- PUMP TO BE INSTALLED
AT A DEPTH AS SPECIFIED BY
THE GEOLOGICAL CONSULTANT

ELEVATION
SCALE 1:20

GENERAL NOTES

- ALL STEEL PIPES AND FITTINGS TO BE HEAVY DUTY HOT DIP GALVANISED WITH A MINIMUM ZINC COATING OF 105 MICRON
- CONTRACTOR TO NUMBER WIRES OF SUPPLY AND PUMP CABLES INSIDE CCG BOX TO ALLOW FOR QUICK REMOVAL AND REINSTALLATION OF PUMP
- ALL CONCRETE TO BE 25/19 MPa
- ALL EXPOSED CONCRETE EDGES TO HAVE A 20mm CHAMFER
- ALL HDPE TYPE IV CLASS 10 AND 6 PIPING TO BE IN ACCORDANCE WITH SABS ISO 4427 SPECIFICATIONS
- THIS PLAN TO BE READ IN CONJUNCTION WITH PLAN No 0310A.20.1

LOCKABLE STEEL MANHOLE
AS DETAILED ON PLAN No.
0310A.20.1, TO BE CAST
INTO CONCRETE AS DETAILED

BOREHOLE INFORMATION PLATE
TO BE POP RIVETED TO INSIDE
OF STEEL MANHOLE PRIOR TO
CONCRETE BEING PLACED

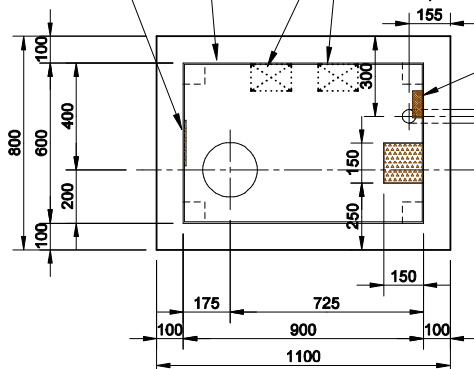
SUPERIMPOSED POSITION OF
BOREHOLE PUMP CONTROL
PANELS AS REQUIRED AND
SPECIFIED BY THE ELECTRICAL
ENGINEER, SUITABLY ATTACHED
TO THIS INSIDE WALL OF MANHOLE
EACH USING 2 x 6DN x 32mm LONG
SS BOLTS, NUTS AND WASHERS

NOTE:- ALL ELECTRICAL BOXES TO BE
FIXED TO INSIDE WALLS OF STEEL
MANHOLE PRIOR TO ANY CONCRETE
BEING PLACED

CCG BOX COMPLETE WITH WATERTIGHT
CABLE GLANDS WITH DOUBLE O-RINGS,
SHROUDS AND STRIP CONNECTOR - BOX
TO COMPLY WITH IP65 SPECIFICATION
AND FIXED TO INSIDE WALL OF MANHOLE
USING 2 x M6 x 20mm LONG SS BOLTS, NUTS
AND WASHERS. ADDITIONAL SEALING TO
BE MADE WITH AN APPROVED COMPOUND
WHEN CONNECTIONS ARE MADE

32DN CABLE SLEEVE PIPE
40DN HDPE CLASS 6
PUMPMAIN

NOTE:- ELECTRIC CABLE AND BARE COPPER
EARTH WIRE, AS DETAILED BY THE ELECTRICAL
ENGINEER, TO BE SUPPLIED AND INSTALLED IN
THE SAME TRENCH AS THE PUMPMAIN



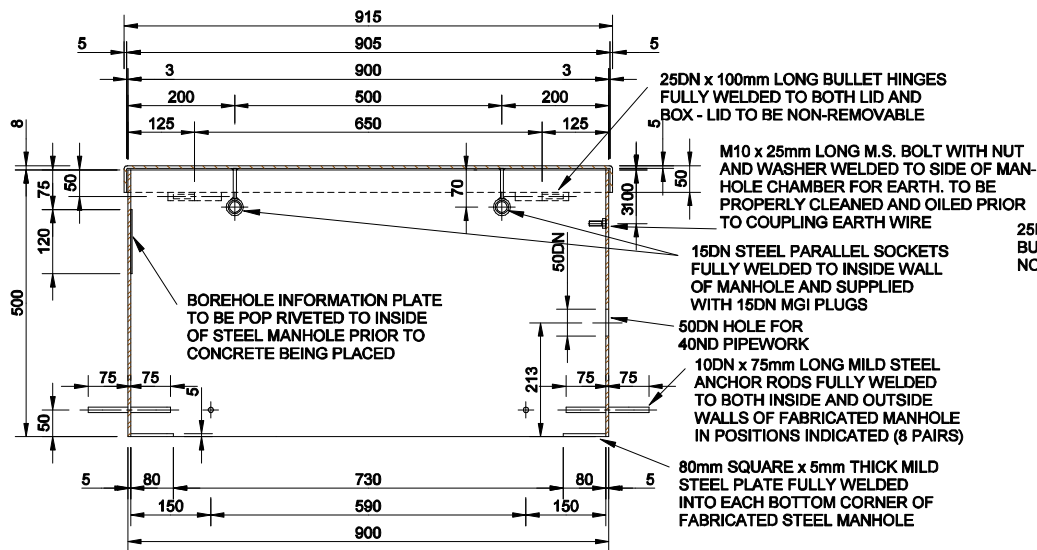
PLAN
SCALE 1:20

CORROSION PROTECTION:

- PAINTWORK IN WORKSHOP:
EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, POLYAMIDE CURED PIPE COATING. IT SHALL BE APPLIED IN THE WORKSHOP BY SPRAYING TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.
- PAINTWORK AFTER ERECTION:
a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.
b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE I SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.
- FINAL FINISHING LAYER:
A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED, TO A FINAL THICKNESS OF 25 MICRON (COLOUR TO BE DARK ADMIRALTY GREY)

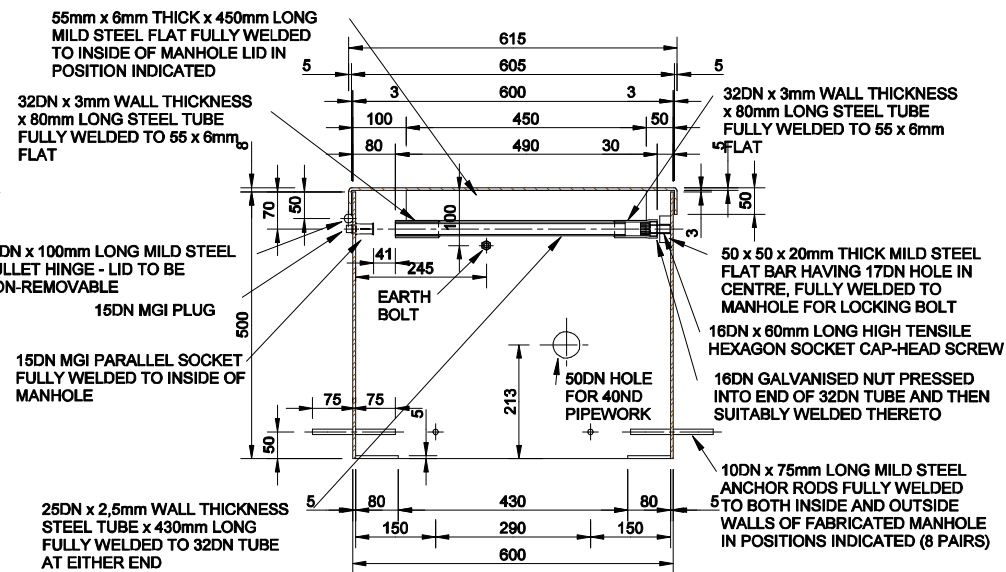
THIS PLAN TO BE READ IN CONJUNCTION
WITH SABS 0299 PART 5 OF 2002 AND
SABS 0299 PART 6 OF 1998

NO. NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROOS MARIE STR POLOKWANE 0699		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
LOCKABLE FABRICATED STEEL MANHOLE FOR SUBMERSIBLE PUMP DETAIL		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-01	
SCALE	SCALE	



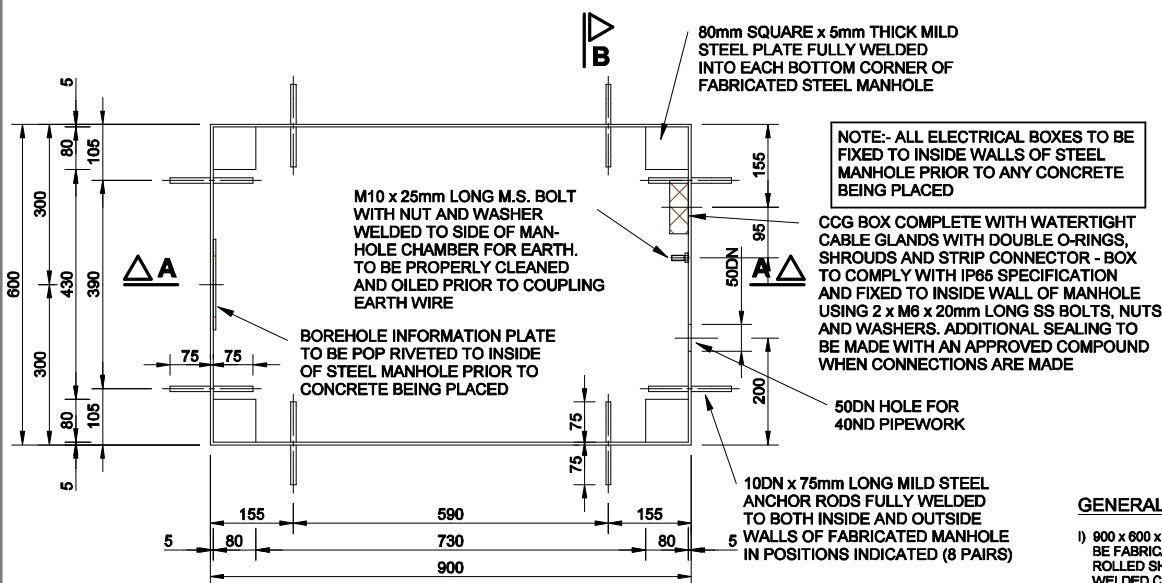
SECTION A-A

SCALE 1:10



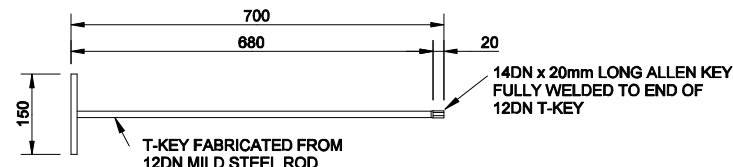
SECTION B-B

SCALE 1:10



PLAN

SCALE 1:10



LOCKING DEVICE KEY

SCALE 1:10

CORROSION PROTECTION:

i) PAINTWORK IN WORKSHOP:

EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, POLYAMIDE CURED PIPE COATING. IT SHALL BE APPLIED IN THE WORKSHOP BY SPRAYING TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.

ii) PAINTWORK AFTER ERECTION:

a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.

b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE I SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.

iii) FINAL FINISHING LAYER:

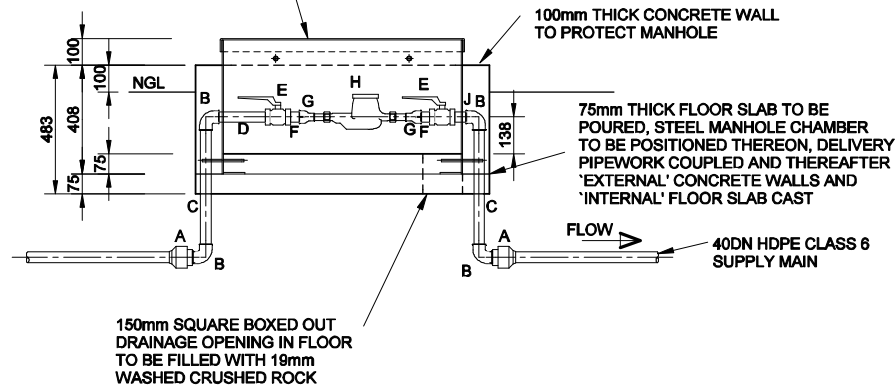
A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED, TO A FINAL THICKNESS OF 25 MICRON (COLOUR TO BE DARK ADMIRALTY GREY)

GENERAL NOTES

- 900 x 600 x 500mm DEEP MANHOLE TO BE FABRICATED FROM 5mm THICK HOT ROLLED SHEET METAL AND ALL WELDED CONSTRUCTION
- BULLET HINGES TO BE INSTALLED WITH COPPER GREASE AND TO BE FITTED IN OPPOSING DIRECTIONS SO THAT MANHOLE LID MAY NOT BE REMOVED
- THIS PLAN TO BE READ IN CONJUNCTION WITH PLAN No 0310A.20

MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE		
LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
MVULA TRUST 9A LANDROOS MARIE STR POLOKWANE 0699		
LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
LOCKABLE FABRICATED STEEL MANHOLE FOR SUBMERSIBLE PUMP		
DRAWN	DRAWING NO.	MVULA-410-42
CHECKED		
SCALE	SCALE	

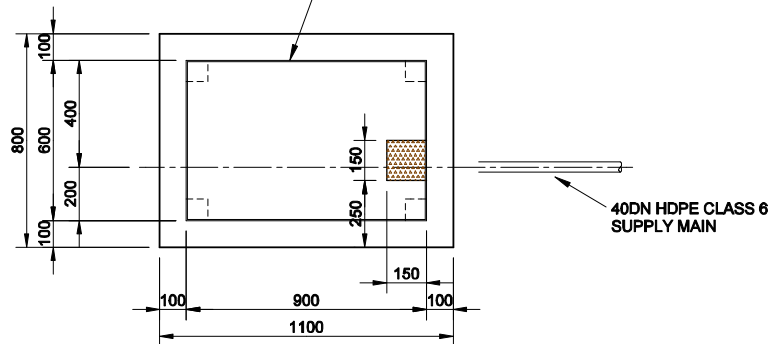
LOCKABLE STEEL MANHOLE
AS DETAILED ON PLAN No.
0310A.21.1, TO BE CAST
INTO CONCRETE AS DETAILED



ELEVATION

SCALE 1:20

LOCKABLE STEEL MANHOLE
AS DETAILED ON PLAN No.
0310A.21.1, TO BE CAST
INTO CONCRETE AS DETAILED



PLAN

SCALE 1:20

SCHEDULE OF FITTINGS

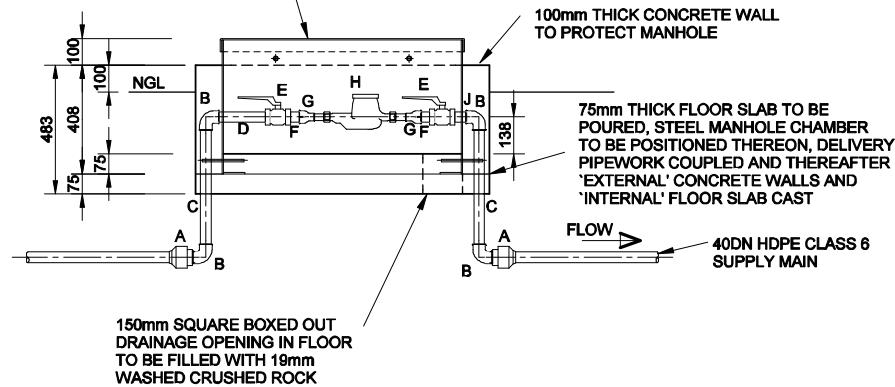
REF	NB	DESCRIPTION	WALL 't' mm	FLANGE DRILLING	TREATMENT		QTY
					GALVA NISED	EPOXY RESIN PAINT	
A	40	'PLASSON' MALE ADAPTOR					2no
B	40	90 DEGREE MGI FEMALE ELBOW			*		4no
C	40	485 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS	4.5		*		2no
D	40	210 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS	4.5		*		1no
E	40	FEMALE THREADED STAINLESS STEEL 'BALL-O-TOP' BALL VALVE COMPLETE WITH EPOXY COATED HANDLEVER					2no
F	40	MGI BARREL NIPPLE			*		2no
G	40 x 25	40 x 25 DN MGI REDUCING SOCKET			*		2no
H	25	'INVENSYS' TYPE M-N MULTIJET-FANWHEEL-METER, WET DIAL DOMESTIC WATER METER COMPLETE WITH 25 DN TAILS FITTED TO BOTH UPSTREAM AND DOWNSTREAM SIDES OF METER					1set
J	40	80 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS			*		1no

GENERAL NOTES

- ALL STEEL PIPES AND FITTINGS TO BE HEAVY DUTY HOT DIP GALVANISED WITH A MINIMUM ZINC COATING OF 105 MICRON
- ALL CONCRETE TO BE 25/19 MPa
- ALL EXPOSED CONCRETE EDGES TO HAVE A 20mm CHAMFER
- ALL HDPE TYPE IV CLASS 6 PIPING TO BE IN ACCORDANCE WITH SABS ISO 4427 SPECIFICATIONS
- THIS PLAN TO BE READ IN CONJUNCTION WITH PLAN No 0310A.21.1

MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 069		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
LOCKABLE MANHOLE AND WATER METER INSTALLATION - BULK SUPPLY		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-03	
SCALE	SCALE	

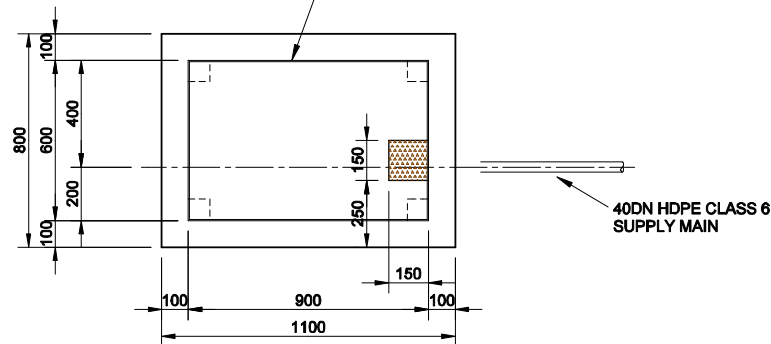
LOCKABLE STEEL MANHOLE
AS DETAILED ON PLAN No.
0310A.21.1, TO BE CAST
INTO CONCRETE AS DETAILED



ELEVATION

SCALE 1:20

LOCKABLE STEEL MANHOLE
AS DETAILED ON PLAN No.
0310A.21.1, TO BE CAST
INTO CONCRETE AS DETAILED



PLAN

SCALE 1:20

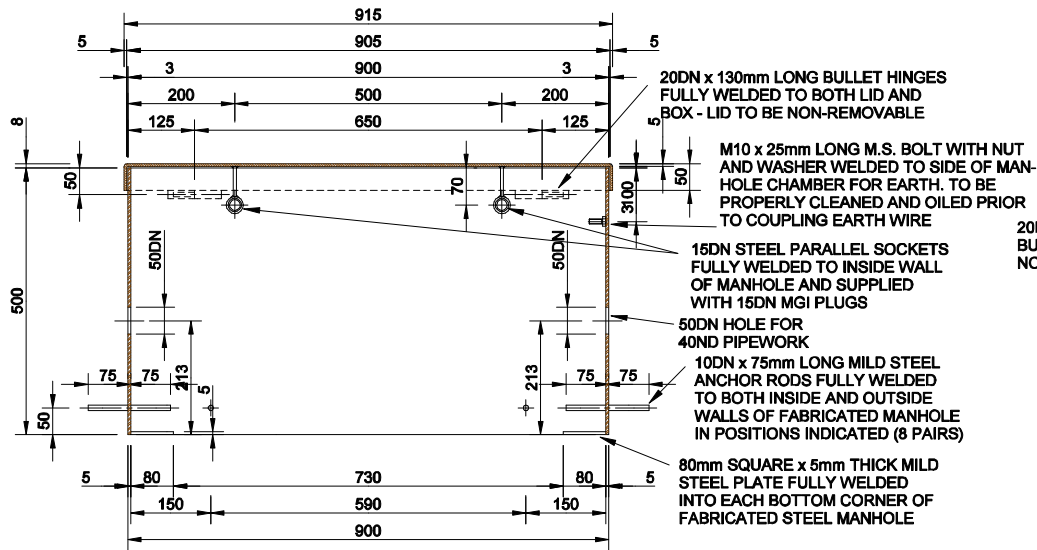
SCHEDULE OF FITTINGS

REF	NB	DESCRIPTION	WALL 't' mm	FLANGE DRILLING	TREATMENT		QTY
					GALVA NISED	EPOXY RESIN PAINT	
A	40	'PLASSON' MALE ADAPTOR					2no
B	40	90 DEGREE MGI FEMALE ELBOW			*		4no
C	40	485 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS	4.5		*		2no
D	40	210 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS	4.5		*		1no
E	40	FEMALE THREADED STAINLESS STEEL 'BALL-O-TOP' BALL VALVE COMPLETE WITH EPOXY COATED HANDLEVER					2no
F	40	MGI BARREL NIPPLE			*		2no
G	40 x 25	40 x 25 DN MGI REDUCING SOCKET			*		2no
H	25	'INVENSYS' TYPE M-N MULTIJET-FANWHEEL-METER, WET DIAL DOMESTIC WATER METER COMPLETE WITH 25 DN TAILS FITTED TO BOTH UPSTREAM AND DOWNSTREAM SIDES OF METER					1set
J	40	80 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS			*		1no

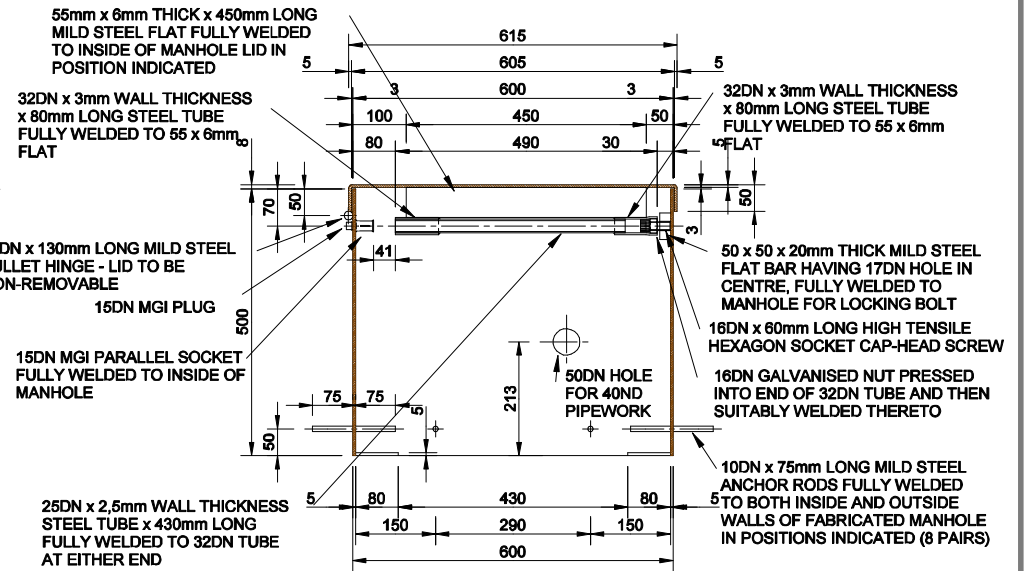
GENERAL NOTES

- ALL STEEL PIPES AND FITTINGS TO BE HEAVY DUTY HOT DIP GALVANISED WITH A MINIMUM ZINC COATING OF 105 MICRON
- ALL CONCRETE TO BE 25/19 MPa
- ALL EXPOSED CONCRETE EDGES TO HAVE A 20mm CHAMFER
- ALL HDPE TYPE IV CLASS 6 PIPING TO BE IN ACCORDANCE WITH SABS ISO 4427 SPECIFICATIONS
- THIS PLAN TO BE READ IN CONJUNCTION WITH PLAN No 0310A.21.1

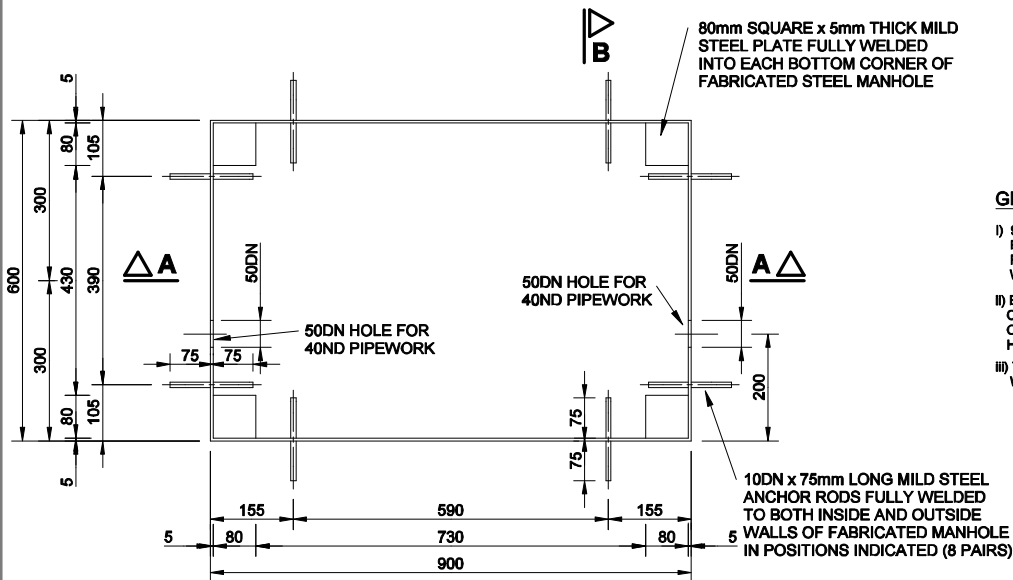
MOD NO.	REVISION	SIGNATURE & DATE
<p>SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE</p> <p>LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION</p>		
<p>MVULA TRUST</p> <p>9A LANDROS MARE STR POLOKWANE 069</p>		
<p>LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION</p>		
<p>LOCKABLE MANHOLE AND WATER METER INSTALLATION - BULK SUPPLY</p>		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-03	
SCALE	SCALE	



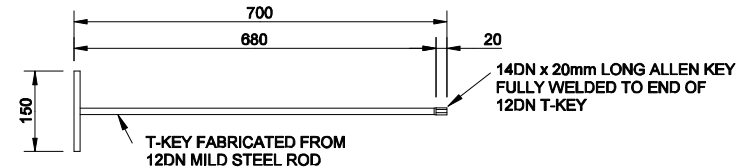
SECTION A-A
SCALE 1:10



SECTION B-B
SCALE 1:10



PLAN
SCALE 1:10



LOCKING DEVICE KEY
SCALE 1:10

GENERAL NOTES

- 900 x 600 x 500mm DEEP MANHOLE TO BE FABRICATED FROM 5mm THICK HOT ROLLED SHEET METAL AND ALL WELDED CONSTRUCTION
- BULLET HINGES TO BE INSTALLED WITH COPPER GREASE AND TO BE FITTED IN OPPOSING DIRECTIONS SO THAT MANHOLE LID MAY NOT BE REMOVED
- THIS PLAN TO BE READ IN CONJUNCTION WITH PLAN No 0310A.21

CORROSION PROTECTION:

- PAINTWORK IN WORKSHOP:
EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, POLYAMIDE CURED PIPE COATING. IT SHALL BE APPLIED IN THE WORKSHOP BY SPRAYING TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.
- PAINTWORK AFTER ERECTION:
a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.
b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE I SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.
- FINAL FINISHING LAYER:
A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED, TO A FINAL THICKNESS OF 25 MICRON (COLOUR TO BE DARK ADMIRALTY GREY)

MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
LOCKABLE FABRICATED STEEL MANHOLE FOR WATER METER - BULK SUPPLY		
DRAWN	DRAWING NO.	
CHECKED		
SCALE	SCALE	
		MVULA-0104

INFORMATION PLATE EX. 2mm
ALUMINIUM PLATE WITH
INFORMATION ENGRAVED
THEREON

10mm HIGH TEXT

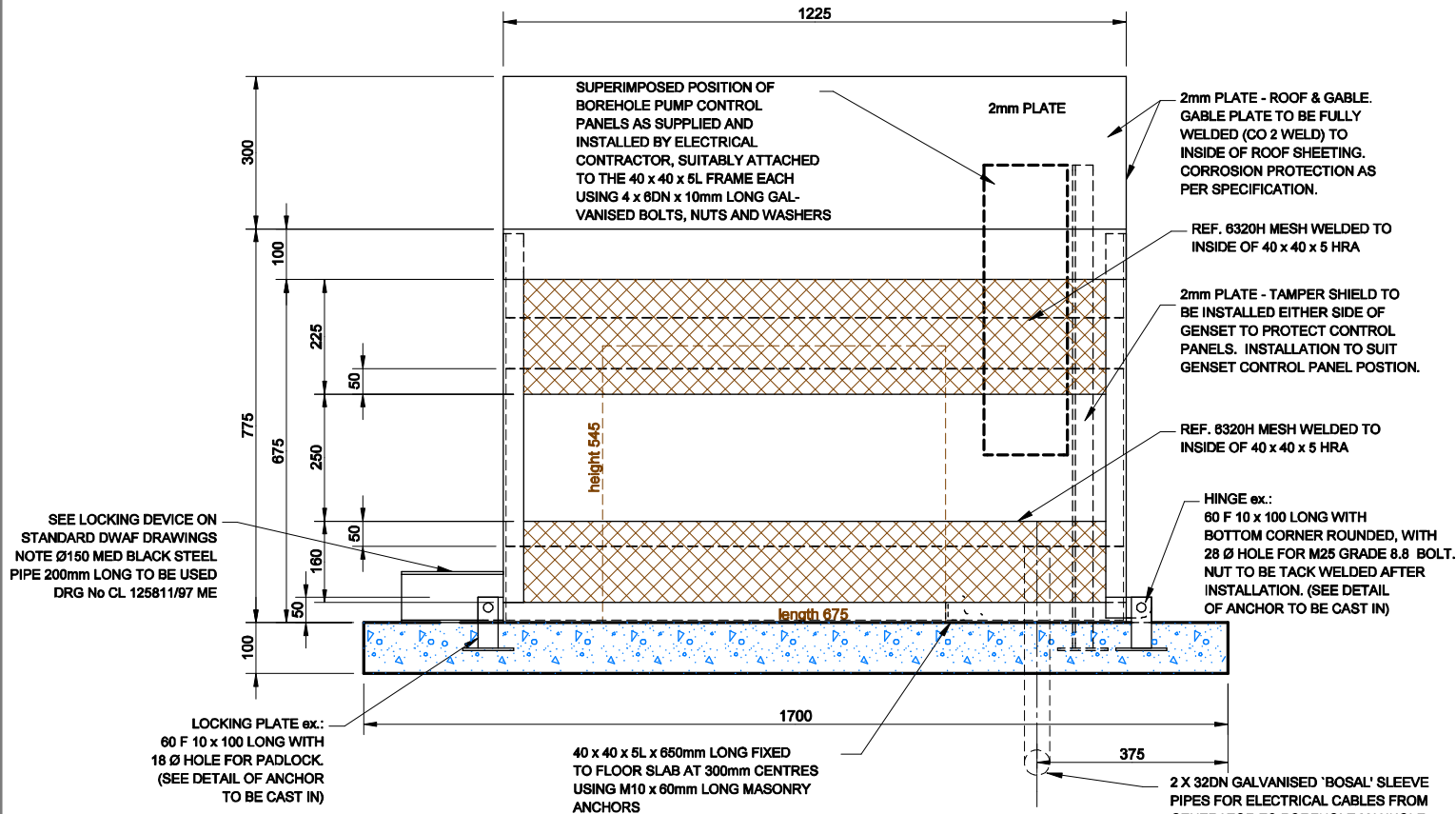
4,8mm DIAMETER HOLES
FOR 4mm DIAMETER POP
RIVETS

SCHOOL NAME	
BOREHOLE No	H_____
BOREHOLE DEPTH	_____ (m)
STATIC WATER LEVEL	_____ (m)
PUMP INST. DEPTH	_____ (m)
REC. PUMP YIELD	_____ (l/s)
REC. PUMPING TIME	_____ (hrs/Day)
PUMP MANUFACTURER	_____
PUMP MODEL No	_____
ELEC. MOTOR SIZE	_____ (kW)
MOTOR TYPE	_____
DATE INSTALLED	___ / ___ /20__

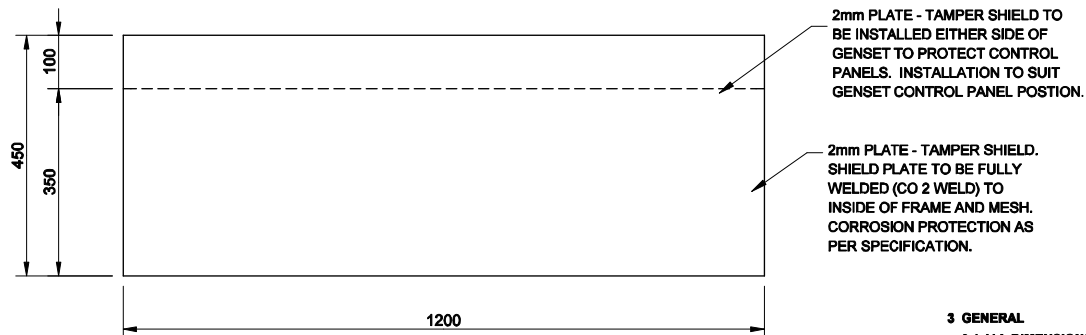
INFORMATION PLATE

SCALE 1:1

MOD. NO.		REVISION	SIGNATURE & DATE
<p>SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE</p> <p>LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION</p>			
		<p>MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699</p>	
		<p>LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION</p>	
<p>INFORMATION PLATE DETAIL</p>			
DRAWN		DRAWING NO.	
CHECKED			MVULA-010-05
SCALE		SCALE	



SIDE ELEVATION
1:10



TAMPER SHIELD DETAIL (2x)
1:10

NOTE:

- 1 CONCRETE:**
 - 1.1 PRESCRIBED MIX 20/10 IN FLOOR SLAB.
 - 1.2 ALL EXPOSED CONCRETE EDGES TO HAVE A 20mm CHAMFER
- 2 STRUCTURAL STEELWORK**
 - 2.1 ALL STRUCTURAL STEELWORK GRADE 300W ACCORDING TO SABS 1431.
 - 2.2 STEELWORK GENERALLY OF WELDED CONSTRUCTION WITH SITE CONNECTIONS BOLTED. UNLESS OTHERWISE SHOWN ARE :
 - ALL HOLES 18 DIA. FOR M16 BOLTS
 - ALL BOLTS GRADE 4.8
 - ALL GUSSETS 6mm PLATES
 - ALL WELDS 8mm FILLET
 - 2.3 ALL STEELWORK SHALL BE SUPPLIED, FABRICATED DELIVERED AND ERECTED IN ACCORDANCE WITH SABS-1200H AND SABS-0164 1984, AMENDED AS FOLLOWS:
 - 2.3.1 DELETE CLAUSE 5.1.3
 - 2.3.2 CLAUSE 5.1.2 SHALL BE APPLICABLE
 - 2.4 SITE WELDING OF STEELWORK SHALL NOT BE PERMITTED WITHOUT THE ENGINEERS APPROVAL.
 - 2.5 CUTTING OF STEELWORK SHALL ONLY BE DONE BY A MACHINE SAW-CUT PROCESS. THE USE OF OXY-ACETYLENE OR ANY OTHER HAND FLAME CUTTING PROCESS SHALL NOT BE PERMITTED. ALL EDGES OF CUT STEELWORK SHALL BE NEATLY "DRESSED" TO A CLEAN FINISH BY THE REMOVAL OF BURNS AND SHARP EDGES.
 - 2.6 FLAME CUTTING OF HOLES WILL NOT BE PERMITTED.

NOTE:
THIS PLAN TO BE READ
IN CONJUNCTION WITH:
MVULA-010-07
MVULA-010-08

2.7 CORROSION PROTECTION:

2.7.1 PAINTWORK IN WORKSHOP:

EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, POLYAMIDE CURED PIPE COATING. IT SHALL BE APPLIED IN THE WORKSHOP BY SPRAYING TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.

2.7.2 PAINTWORK AFTER ERECTION:

a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.

b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE I SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.

2.7.3 FINAL FINISHING LAYER:

A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED, TO A FINAL THICKNESS OF 25 MICRON (DARK ADMIRALTY GREY).

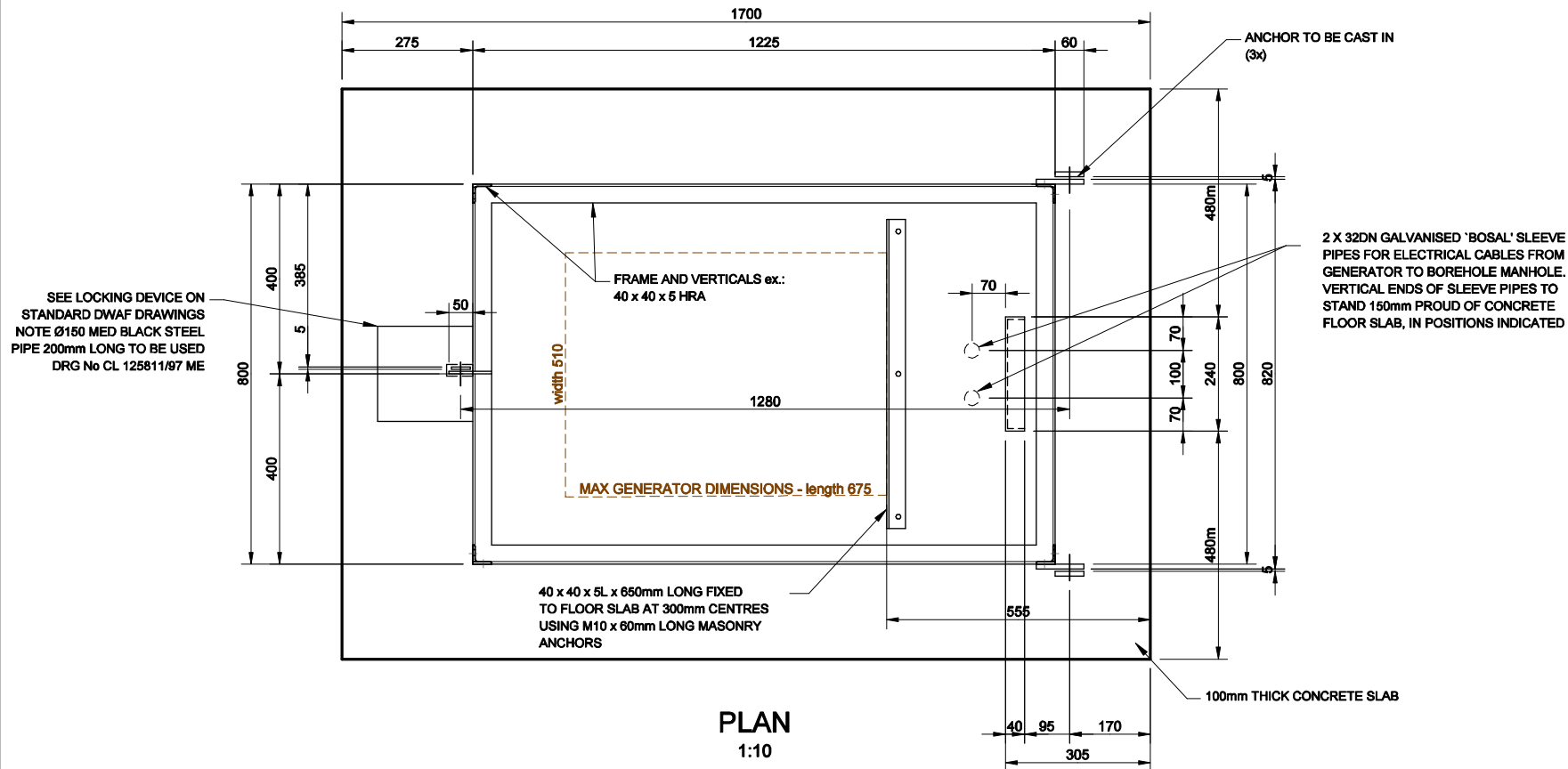
3 GENERAL

3.1 ALL DIMENSIONS IN MILLIMETERS.

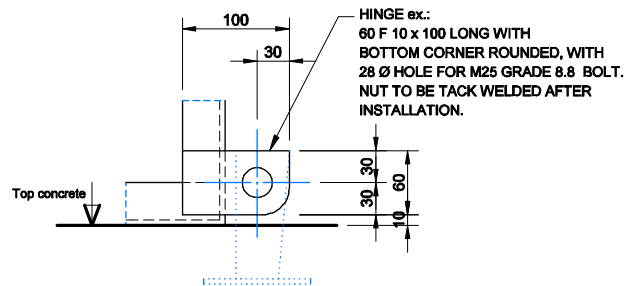
3.2 CAGE TO BE INSTALLED WITH 6-20mm GAP BETWEEN BOTTOM ANGLE IRON AND CONCRETE FLOOR.

3.3 230 x 230 ELECTRICAL JUNCTION BOX TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

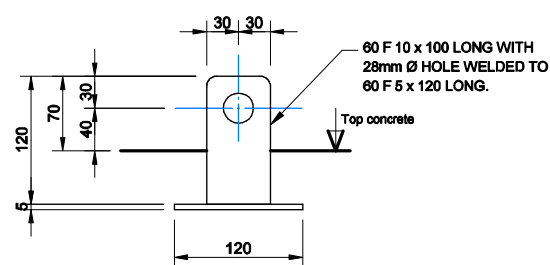
MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE		
LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699		
LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
LOCKABLE CAGE FOR PETROL DRIVEN GENSETS: PLAN		
DRAWN	CHECKED	DRAWING NO.
SCALE	SCALE	MVULA-010-06



NOTE:
THIS PLAN TO BE READ
IN CONJUNCTION WITH:
MVULA-010-06
MVULA-010-07

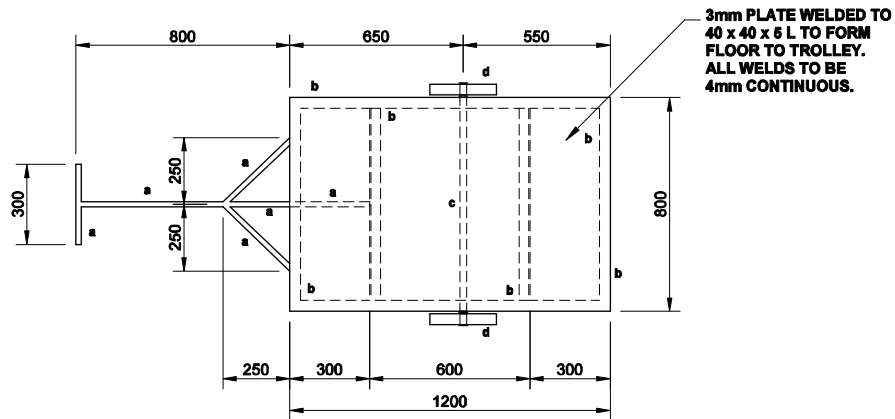


HINGE DETAIL (2x)
1:5

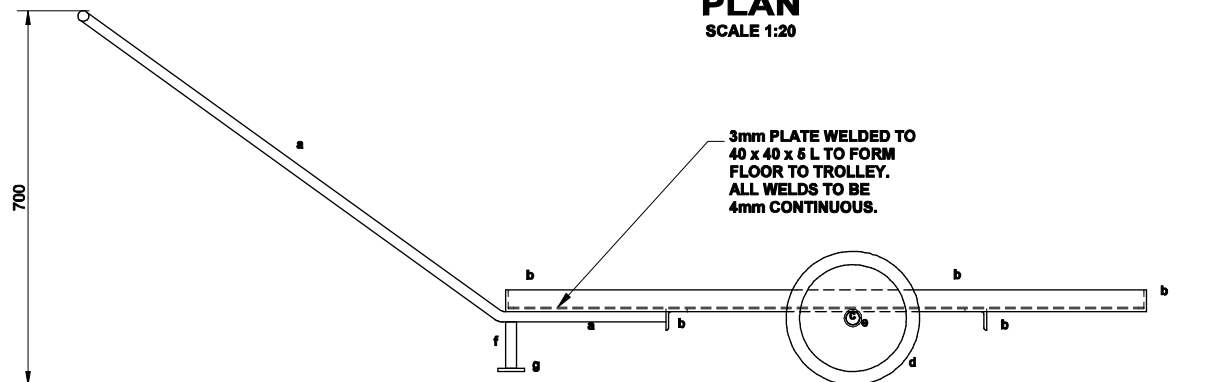


ANCHOR DETAIL (3x)
1:5

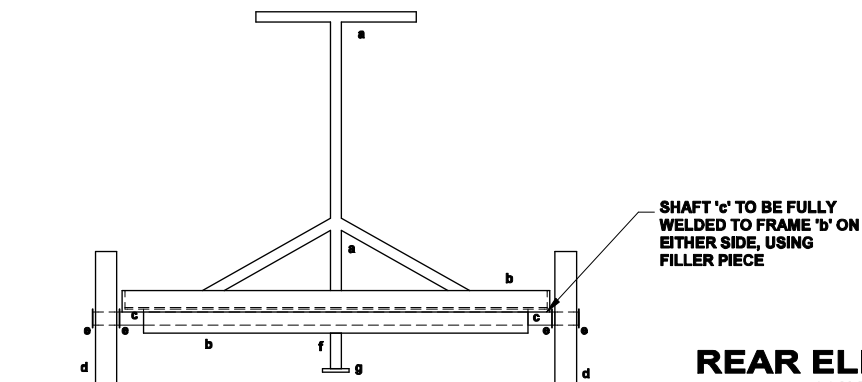
MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699		LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION
LOCKABLE CAGE FOR PETROL DRIVEN GENSETS: ELEVATION		
DRAWN	DRAWING NO.	
CHECKED		MVULA-010-07
SCALE	SCALE	



PLAN
SCALE 1:20



SIDE ELEVATION
SCALE 1:10



REAR ELEVATION
SCALE 1:10

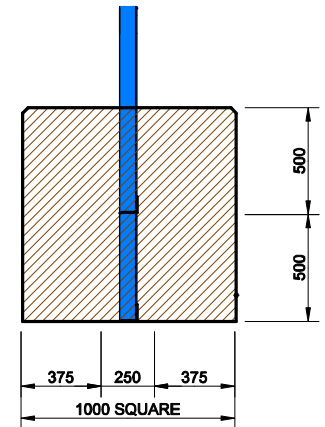
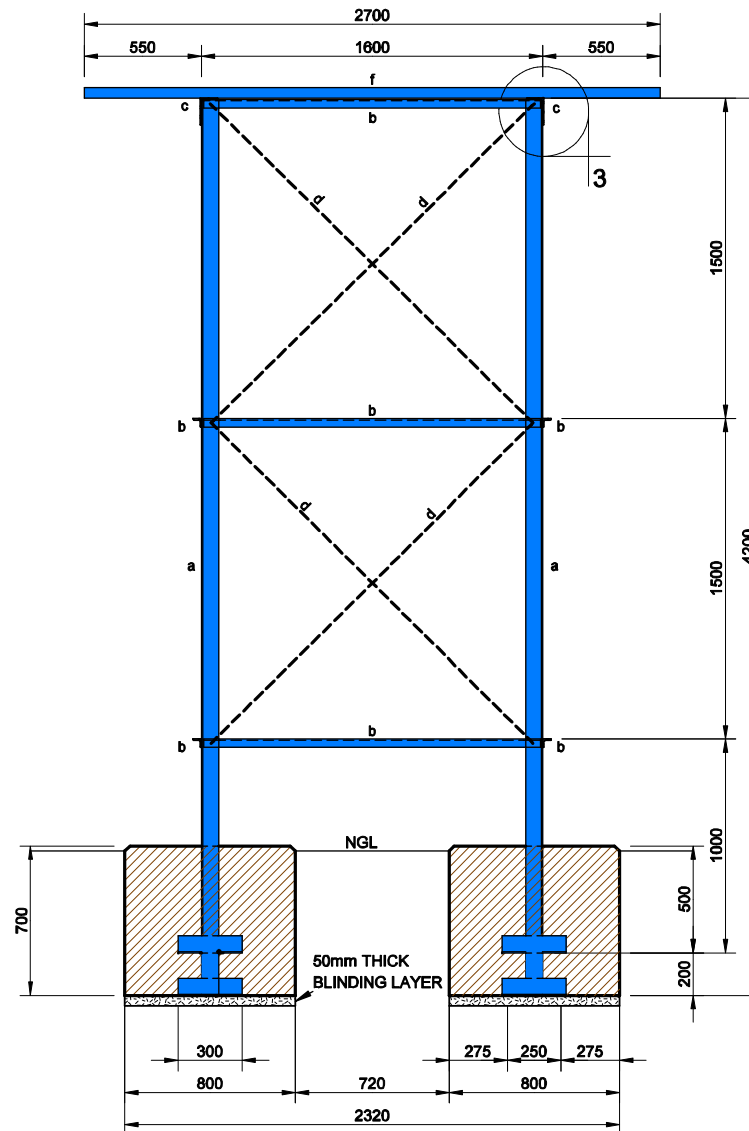
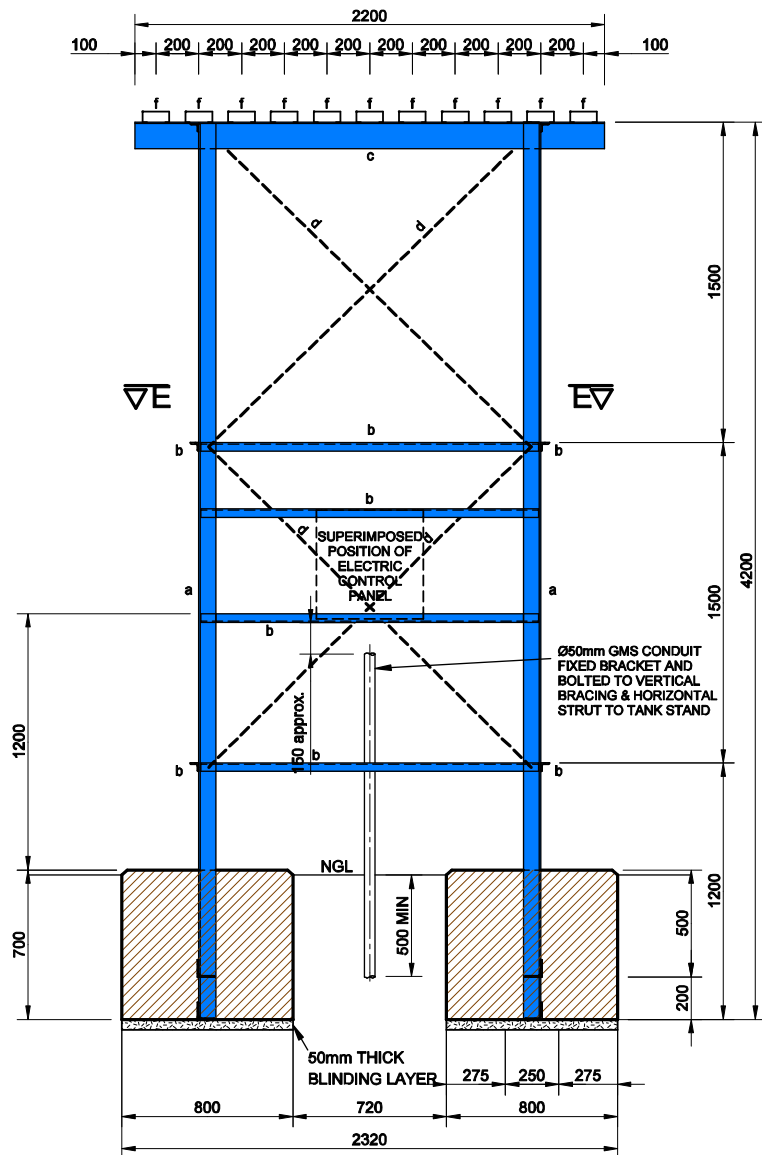
LEGEND:

- a - Ø20mm Round Bar
- b - 40 x 40 x 6 L
- c - Ø25mm Round Bar Shaft
- d - Ø250mm Wheel Barrow Wheel with Teflon Bush
- e - Ø 26 x 3mm Washer Welded to Shaft
- f - Ø20mm Round Bar 80mm Long
- g - 50 x 50 x 6mm Plate

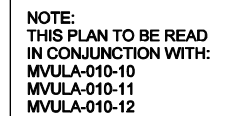
CORROSION PROTECTION:

1. PAINTWORK IN WORKSHOP:
EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, POLYAMIDE CURED PIPE COATING. IT SHALL BE APPLIED IN THE WORKSHOP BY SPRAYING TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.
2. PAINTWORK AFTER ERECTION:
a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.
b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE I SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.
3. FINAL FINISHING LAYER:
A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED, TO A FINAL THICKNESS OF 25 MICRON (DARK ADMIRALTY GREY).

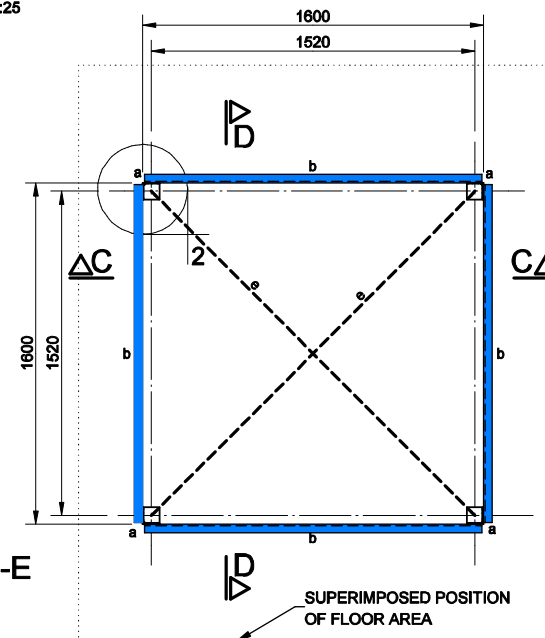
MOD NO.		REVISION		SIGNATURE & DATE	
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION					
MVULA TRUST		MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699			
LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION			
GENSET TROLLEY					
DRAWN		DRAWING NO.		MVULA-410-08	
CHECKED		SCALE			
SCALE		SCALE			



MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 069		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
3m HIGH ELEVATED TANK STAND: SECTIONS		
DRAWN	DRAWING NO.	
CHECKED	MVULA-10-0-1	
SCALE	SCALE	



1:25



1:25

MOD NO.	REVISION	SIGNATURE & DATE
<p align="center">SCHOOL SITUATION PROGRAM LIMPOPO PROVINCE</p> <p align="center">LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION</p>		



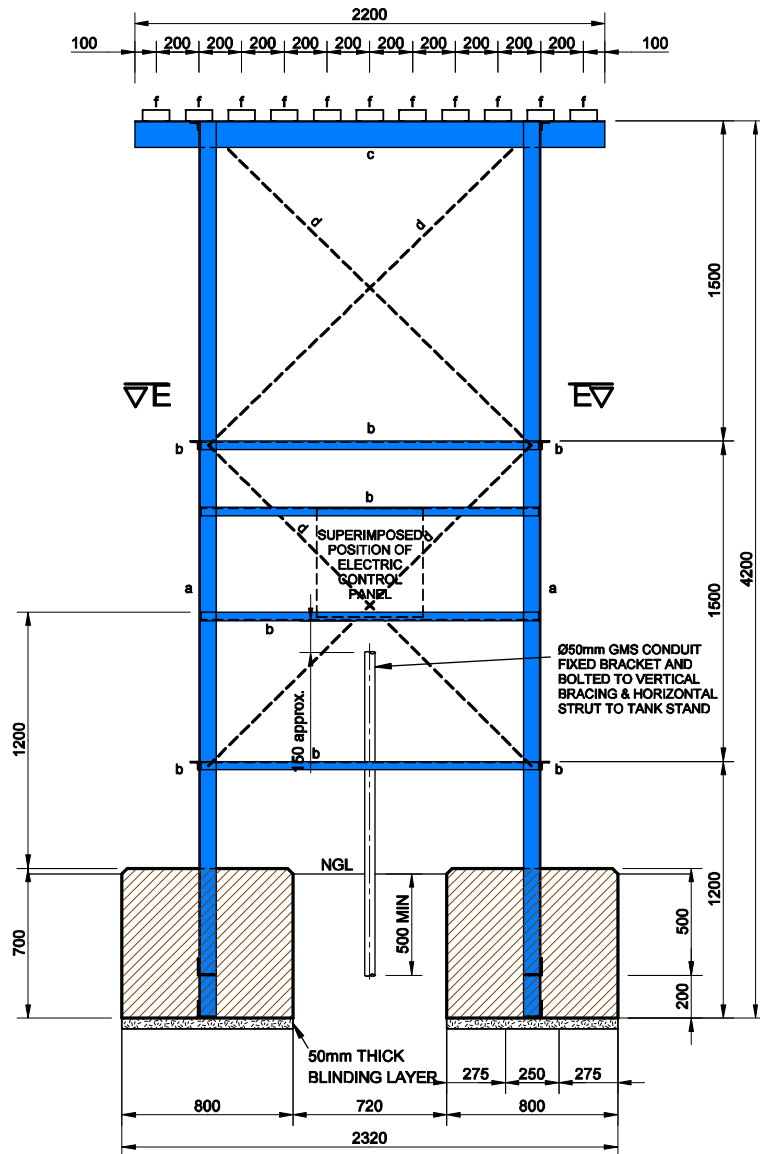
MVULA TRUST
9A LANDROSS MARK STR
POLOKWANE
0609

 <p>LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION</p>	
---	--

<h3>3rd HIGH ELEVATED TANK STAND:</h3> <h3>FOUNDATION, PLAN & FLOOR</h3>	
--	--

DRAWING NO.	
TRAPPI	
CHECKED	
SCALE	

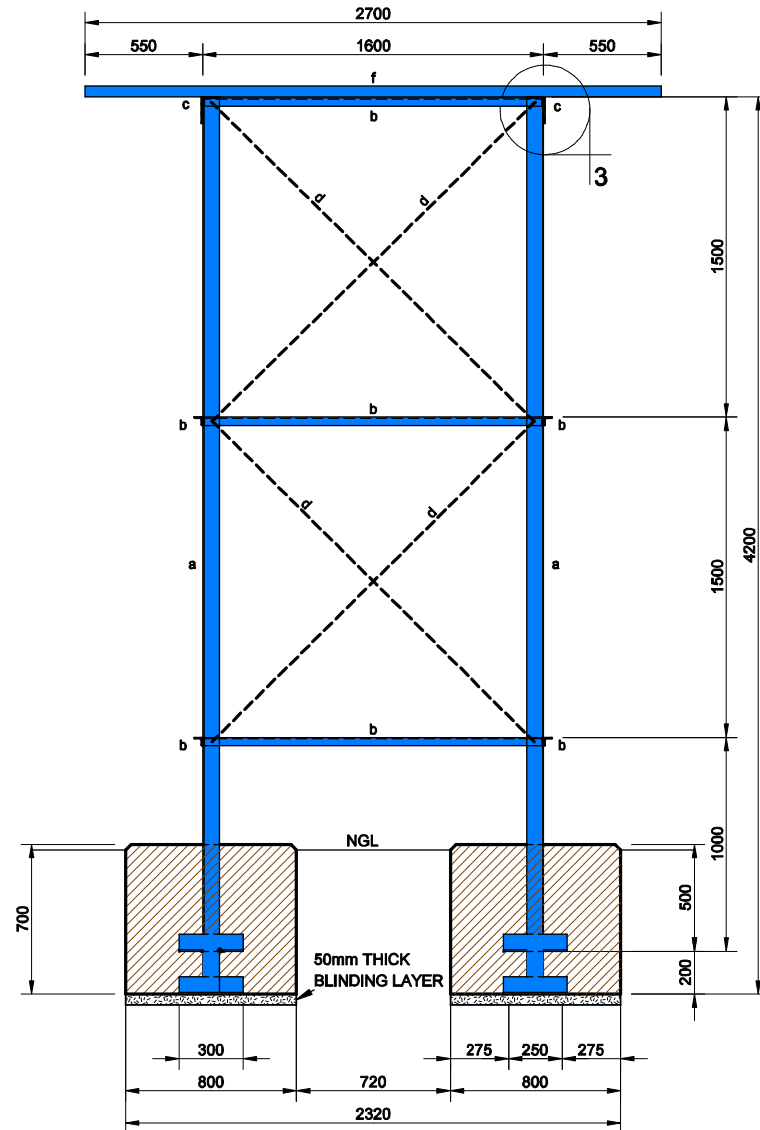
MVULA-110-09



SECTION C-C

1:25

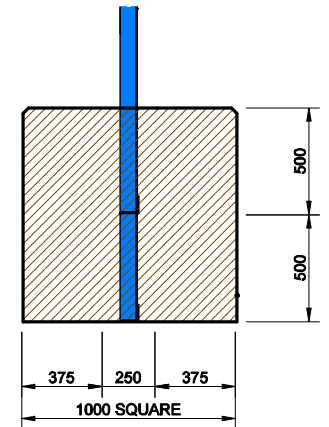
NOTE :
TANK STAND COLUMNS TO
REST ON TOP OF BLINDING
LAYER BEFORE THE FOOTINGS
ARE CAST.



SECTION D-D

1:25

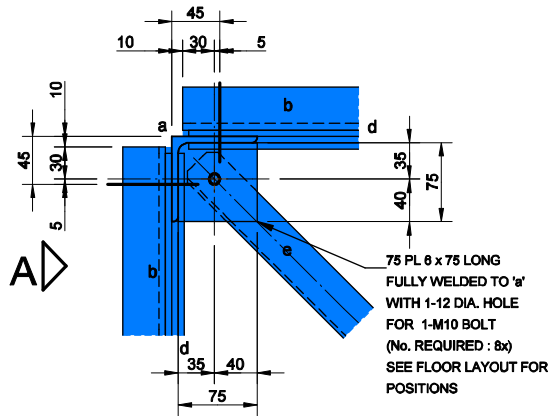
NOTE:
THIS PLAN TO BE READ
IN CONJUNCTION WITH:
MVULA-010-09
MVULA-010-11
MVULA-010-12



FOOTING DETAIL FOR
SANDY CONDITIONS

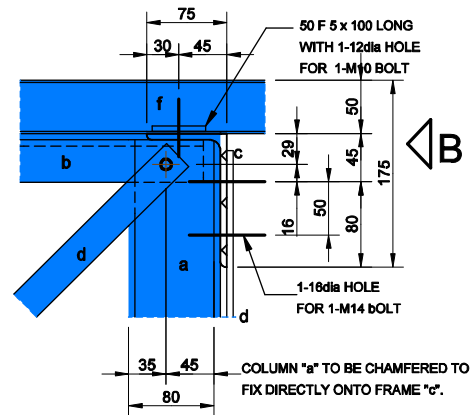
1:25

MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
3m HIGH ELEVATED TANK STAND: SECTIONS		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-10	
SCALE	SCALE	



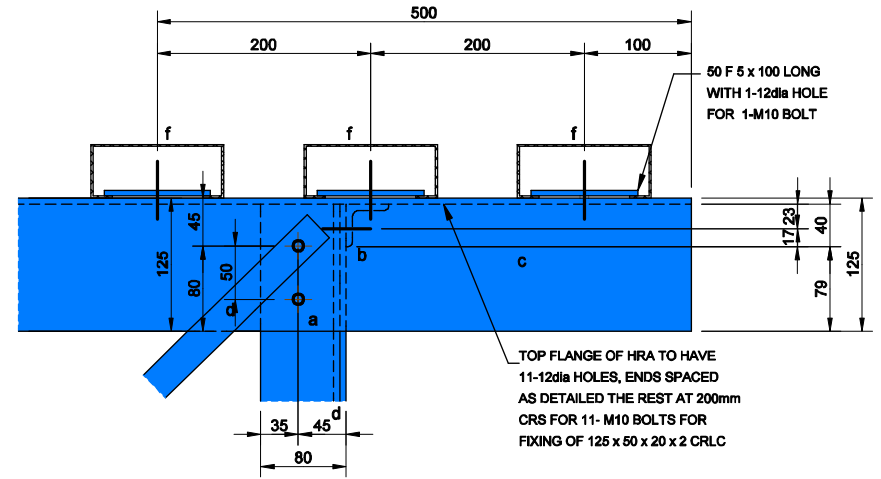
DETAIL 2

1:5



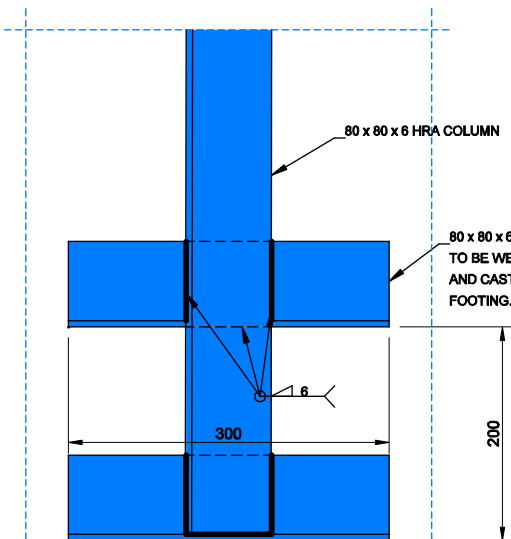
DETAIL 3

1:5



VIEW B

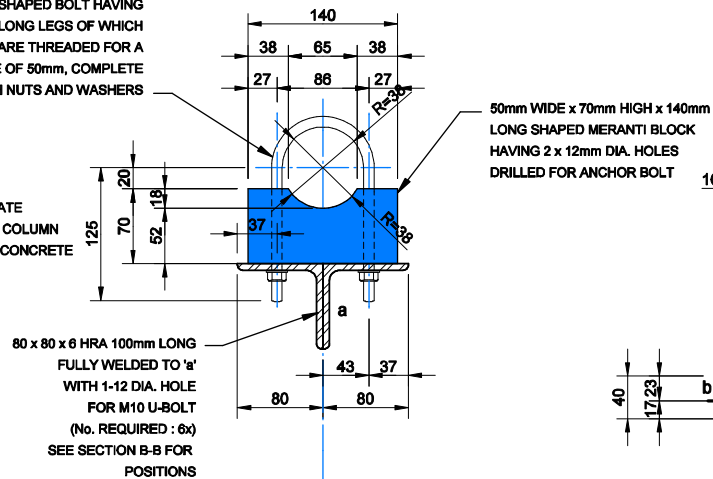
1:5



BASE PLATE DETAIL 1

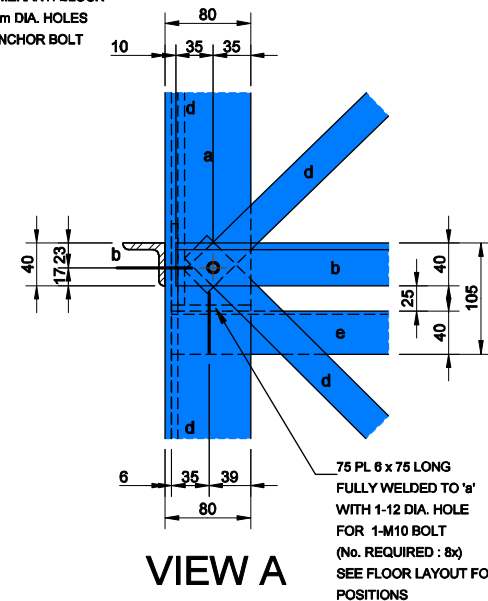
1:5 (4 OFF REQUIRED)

M10 U-SHAPED BOLT HAVING 125mm LONG LEGS OF WHICH THE ENDS ARE THREADED FOR A DISTANCE OF 50mm, COMPLETE WITH NUTS AND WASHERS



PIPE CLAMP DETAIL

1:5 (6 OFF REQUIRED)

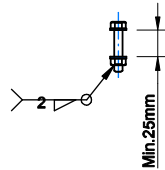


VIEW A

1:5

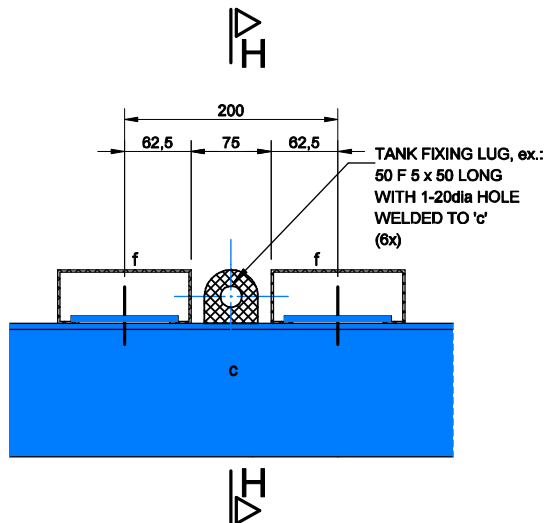
MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
3m HIGH ELEVATED TANK STAND: CONNECTION DETAILS		
DRAWN	DRAWING NO.	
CHECKED		MVULA-010-11
SCALE	SCALE	

AFTER ASSEMBLY OF FRAMEWORK
NUTS AND BOLTS TO BE WELDED
TOGETHER WITH 2mm FILLET WELD



BOLT DETAIL

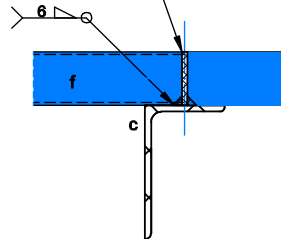
1:5



ELEVATION

1:5

TANK FIXING LUG, ex.:
50 F 5 x 50 LONG
WITH 1-20dia HOLE
WELDED TO 'c'
(6x)



SECTION H-H

1:5

TYPICAL LUG DETAIL (6x)

1:5

QUANTITIES FOR SINGLE TANK STAND				
ITEM	DESCRIPTION	LENGTH	No.	OFF
BASE PLATE	80 x 80 x 6 HRA	300mm	4	
COLUMN	80 x 80 x 6 HRA	4000mm	4	
STRUT	40 x 40 x 6 HRA	1580mm	10	
FLOOR BEAM	125 x 75 x 10 HRA	2250mm	2	
FLOOR MEMBER	125 x 50 x 2 CRLC	2700mm	11	
VERT.BRACING	30 x 6 F	2130mm	12	
VERT.BRACING	30 x 6 F	2150mm	4	
HORI.BRACING	40 x 40 x 3 HRA	2200mm	4	
PIPE CLAMP	80 x 80 x 6 HRA	100mm	6	
	M10 U-SHAPED BOLT	125mm	6	
	WOOD BLOCK	140mm	6	
FIXING PLATE	75 PL 6 75 LONG	75mm	3	
BOLTS	M10 ST/STL	55mm	64	

NOTE:

1 FOUNDATIONS:

1.1 DEPTHS OF ALL BASES SHALL BE DETERMINED AND APPROVED ON SITE BY THE ENGINEER PRIOR TO CONCRETING.

1.2 SAFE BEARING CAPACITY OF GROUND 200 kPa.

2 CONCRETE:

2.1 PRESCRIBED MIX 10/10 IN BLINDING LAYERS.

2.2 PRESCRIBED MIX 20/19 IN COLUMN BASES.

3 STRUCTURAL STEELWORK

3.1 ALL STRUCTURAL STEELWORK GRADE 300W ACCORDING TO SABS 1431.

3.2 STEELWORK GENERALLY OF WELDED CONSTRUCTION WITH SITE CONNECTIONS BOLTED.

UNLESS OTHERWISE SHOWN ARE :

ALL HOLES 12 DIA. FOR M10 BOLTS

ALL BOLTS GRADE 4.8

ALL GUSSETS 6mm PLATES

ALL WELDS 6mm FILLET

3.3 ALL STEELWORK SHALL BE SUPPLIED, FABRICATED DELIVERED AND ERECTED IN ACCORDANCE WITH SABS-1200H AND SABS-0184 1984.

3.4 SITE WELDING OF STEELWORK SHALL NOT BE PERMITTED WITHOUT THE ENGINEERS APPROVAL.

3.5 CORROSION PROTECTION:

3.5.1 PAINTWORK IN WORKSHOP:

EPOXY COATING SHALL BE AN APPROVED TWO COMPONENT, POLYAMIDE CURED PIPE COATING. IT SHALL BE APPLIED IN THE WORKSHOP BY SPRAYING TO A FINAL THICKNESS OF NOT LESS THAN 300 MICRON.

3.5.2 PAINTWORK AFTER ERECTION:

a) AFTER INSTALLATION ANY CHIPS OR SCRATCH MARKS SHALL BE MADE GOOD ON SITE WITH BRUSH APPLIED EPOXY PAINT.

b) AN INTERIM LAYER ACCORDING TO SABS 681 TYPE I SHALL BE APPLIED TO A FINAL THICKNESS OF 25 MICRON.

3.5.3 FINAL FINISHING LAYER:

A FINAL ENAMEL LAYER ACCORDING TO SABS 630 GRADE 1 SHALL BE APPLIED WITHIN 24 HOURS AFTER THE INTERIM LAYER HAS BEEN APPLIED, TO A FINAL THICKNESS OF 25 MICRON (DARK ADMIRALTY GREY).

LEGEND:

a : 80 x 80 x 6 HRA (45B/M \$)

b : 40 x 40 x 6 HRA (23B/M \$)

c : 125 x 75 x 10 HRA (45B/M \$)

d : 30 x 6 F (25B/M \$)

e : 40 x 40 x 3 HRA (23B/M \$)

f : 125 x 50 x 20 x 2,5 CRLC

NOTE:

HRA = HOT ROLLED ANGLE

F = FLAT BAR

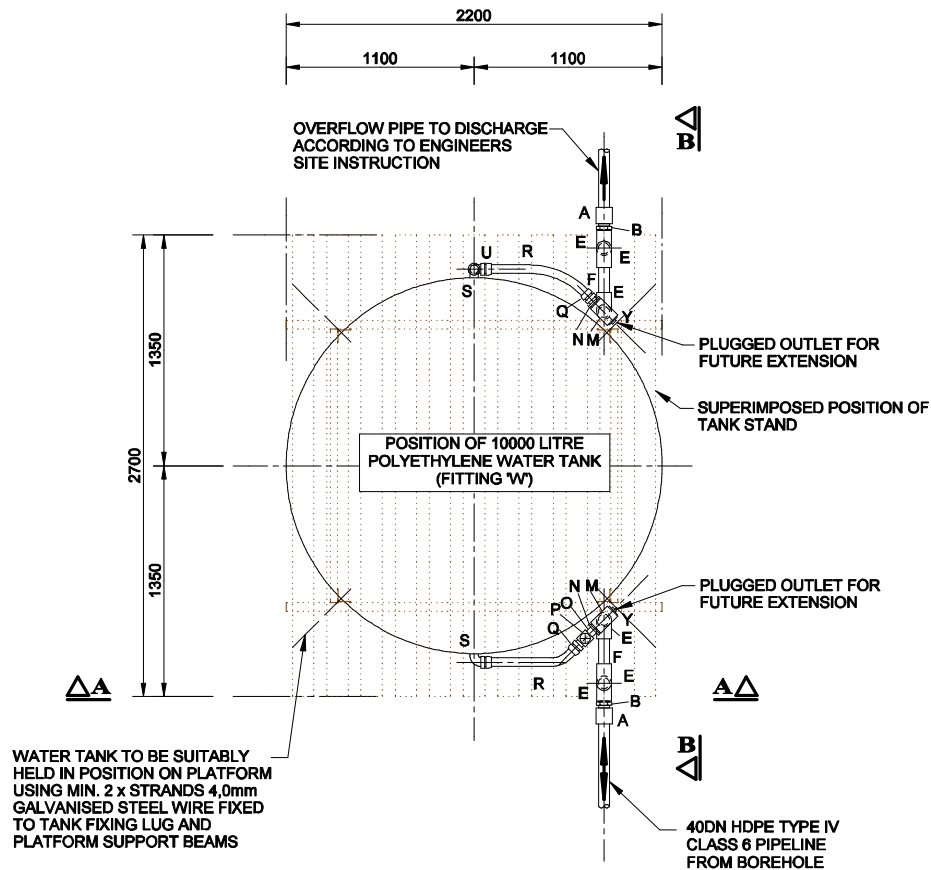
CRLC = COLD ROLLED LIPPED CHANNEL

B/B = BACK TO BACK (0 100-500)

B/M = BACKMARK

\$ = UNLESS OTHERWISE SHOWN

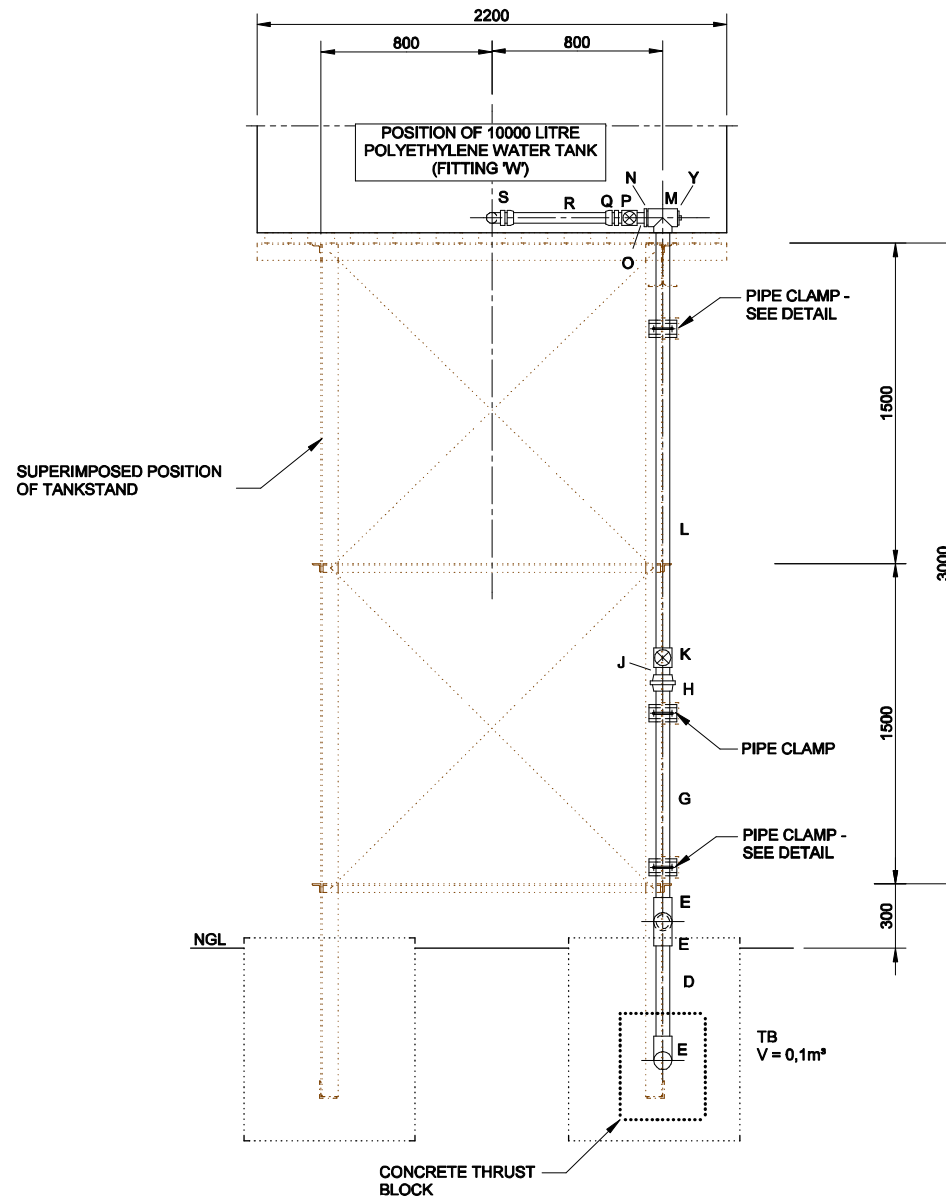
NO. NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
3m HIGH ELEVATED TANK STAND: GENERAL DETAILS		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-12	
SCALE	SCALE	



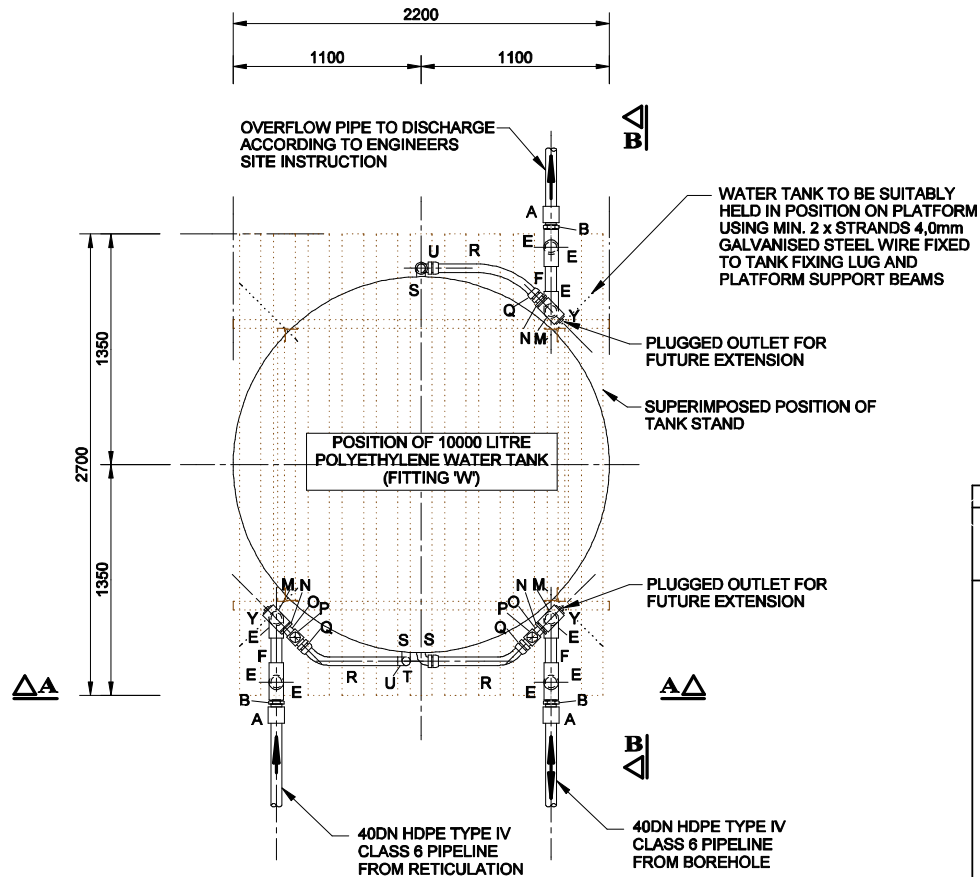
PLAN
NTS

SCHEDULE OF FITTINGS						
REF	NB	DESCRIPTION	WALL ' mm	FLANGE DRILLING	TREATMENT GALVA NISED	QTY
A	40	'PLASSON' MALE ADAPTOR COMPRESSION FITTING				2no
B	85x40	85 x 40 DN MGI REDUCING BUSH			*	2no
D	85	475mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*	2no
E	85	90 DEGREE MGI FEMALE BEND			*	8no
F	85	330mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*	2no
G	85	1020mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*	1no
H	85	MGI CONICAL SEAT UNION			*	1no
J	65	MGI BARREL NIPPLE			*	1no
K	85	BRASS FEMALE THREADED FULLWAY GATE VALVE			*	1no
L	65	2000mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*	1no
M	85	85x85x85ND MGI FEMALE EQUAL TEE			*	2no
N	85x50	85x50ND MGI REDUCING BUSH			*	2no
O	50	MGI BARREL NIPPLE			*	1no
P	50	BRASS FEMALE THREADED FULLWAY GATE VALVE			*	1no
Q	50	50NDx50BSP MALE ADAPTOR COMPRESSION FITTING			*	2no
R	50	600mm LONG HIGH DENSITY POLYETHYLENE TYPE IV CLASS 6 PIPE (TO SABS 533)			*	2no
S	50x40	50NDx40BSP MALE ELBOW COMPRESSION FITTING			*	2no
T	50	2800mm LONG HIGH DENSITY POLYETHYLENE TYPE IV CLASS 6 PIPE (TO SABS 533)			*	1no
U	50	90 DEGREE ELBOW COMPRESSION FITTING			*	1no
V	85	3150mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*	1no
W	-	10 000 LITRE POLYETHYLENE WATER TANK (3040mm HIGH x 2200mm DIAMETER). COMPLETE WITH 50x40ND NYLON REDUCING BUSHES SEALED INTO ALL INLETS AND OUTLETS. INCLUDING A 40ND MGI PLUG FITTED TO OPENING ABOVE INLET. TANK TO BE SUPPLIED COMPLETE WITH SUFFICIENT 4mm DIA GALVANISED STEEL WIRE FOR ANCHORING TO THE TANKSTAND PLATFORM AS DETAILED ON PLAN NO. 0310A.25.4			*	1set
X	40	HDPE TYPE IV CLASS 6 PIPING (PROVISIONAL)			*	12m
Y	85	MGI HOLLOW PLUG			*	2no
		MISCELLANEOUS FITTINGS 1) PIPE CLAMPS AS DETAILED ON PLAN NO. 0310.25.3			*	8no

SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION	
	MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699
	
ELEVATED TANK PLAN (SINGLE TANK)	
DRAWN	DRAWING NO.
CHECKED	MVULA-410-13
SCALE	SCALE



MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
		MVULA TRUST 9A LANDROS MARE STR POLOKWANE 069
		LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION
ELEVATED TANK SECTION (SINGLE TANK)		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-14	
SCALE	SCALE	

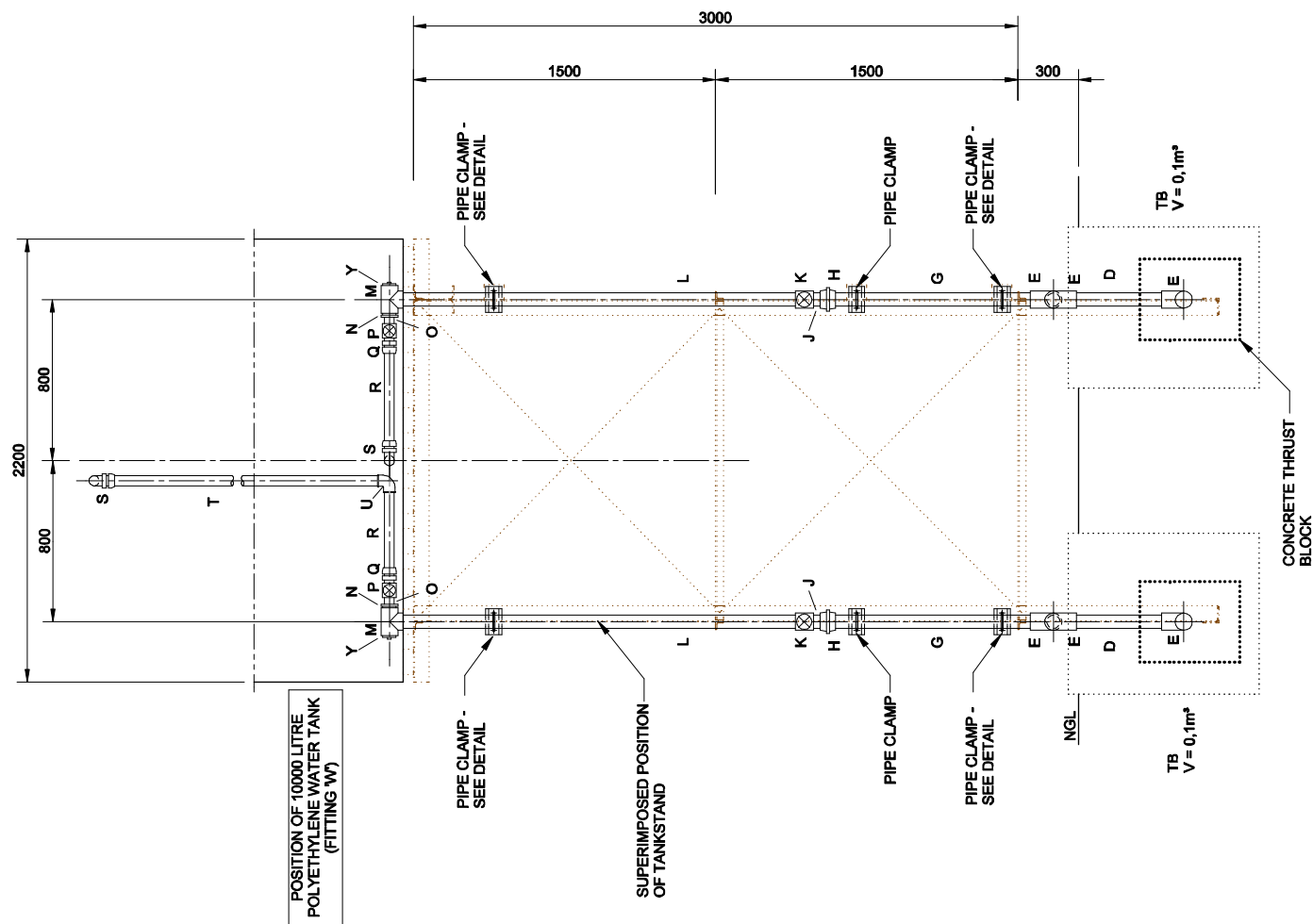


**PLAN
NTS**

SCHEDULE OF FITTINGS

REF	NB	DESCRIPTION	WALL T mm	FLANGE DRILLING	TREATMENT		QTY
					GALVA NISED	EPOXY RESIN PAINT	
A	40	'PLASSON' MALE ADAPTOR COMPRESSION FITTING					3no
B	65x40	65 x 40 DN MGI REDUCING BUSH			*		3no
D	65	475mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*		3no
E	65	90 DEGREE MGI FEMALE BEND			*		9no
F	65	330mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*		3no
G	65	1020mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*		2no
H	65	MGI CONICAL SEAT UNION			*		2no
J	65	MGI BARREL NIPPLE			*		2no
K	65	BRASS FEMALE THREADED FULLWAY GATE VALVE			*		2no
L	65	2000mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*		2no
M	65	65x65x65ND MGI FEMALE EQUAL TEE			*		3no
N	65x50	65x50ND MGI REDUCING BUSH			*		3no
O	50	MGI BARREL NIPPLE			*		2no
P	50	BRASS FEMALE THREADED FULLWAY GATE VALVE			*		2no
Q	50	50NDx50BSP MALE ADAPTOR COMPRESSION FITTING			*		3no
R	50	600mm LONG HIGH DENSITY POLYETHYLENE TYPE IV CLASS 6 PIPE (TO SABS 633)			*		3no
S	50x40	50NDx40BSP MALE ELBOW COMPRESSION FITTING			*		3no
T	50	2800mm LONG HIGH DENSITY POLYETHYLENE TYPE IV CLASS 6 PIPE (TO SABS 633)			*		2no
U	50	90 DEGREE ELBOW COMPRESSION FITTING			*		2no
V	65	3150mm LONG MGI PIPE PIECE THREADED BOTH ENDS	4.5		*		1no
W	-	10 000 LITRE POLYETHYLENE WATER TANK (3040mm HIGH x 2200mm DIAMETER). COMPLETE WITH 50x40ND NYLON REDUCING BUSHES SEALED INTO ALL INLETS AND OUTLETS. TANK TO BE SUPPLIED COMPLETE WITH SUFFICIENT 4mm DIA GALVANISED STEEL WIRE FOR ANCHORING TO THE TANK STAND PLATFORM AS DETAILED ON PLAN NO. 0310A.25.4					1set
X	40	HDPE TYPE IV CLASS 6 PIPING (PROVISIONAL)					12m
Y	65	MGI HOLLOW PLUG			*		3no
Z	40	100 mm LONG GALVANISED STEEL PIPE THREADED BOTH ENDS	4.5		*		1no
AA	40	90 DEGREE MGI MALE / FEMALE ELBOW			*		1no
AB	40	MGI CONICAL SEAT UNION			*		1no
AC	40	MGI BARREL NIPPLE			*		1no
AD	40	STAINLESS STEEL 'BALEM' FLOAT VALVE, MODEL BLBS 040 COMPLETE WITH FLOW INDUCTION TUBE			*		1set
		MISCELLANEOUS FITTINGS 1) PIPE CLAMPS AS DETAILED ON PLAN NO. 0310.25.3					9no

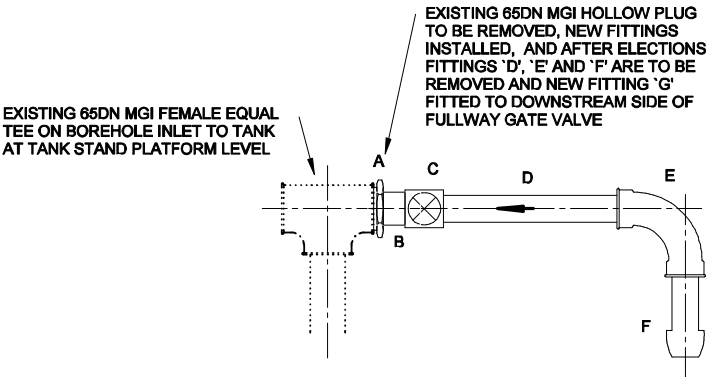
MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
 MVULA TRUST 9A LANDROS MARE STR POLOKWANE 069		
 LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
ELEVATED TANK (MULTIPLE INLET) : PLAN (SINGLE TANK)		
DRAWN	DRAWING NO.	
CHECKED	MVULA-010-16	
SCALE	SCALE	



SECTION A-A
SCALE 1:25

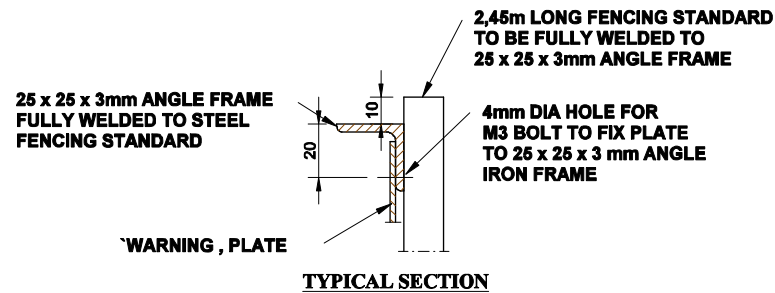
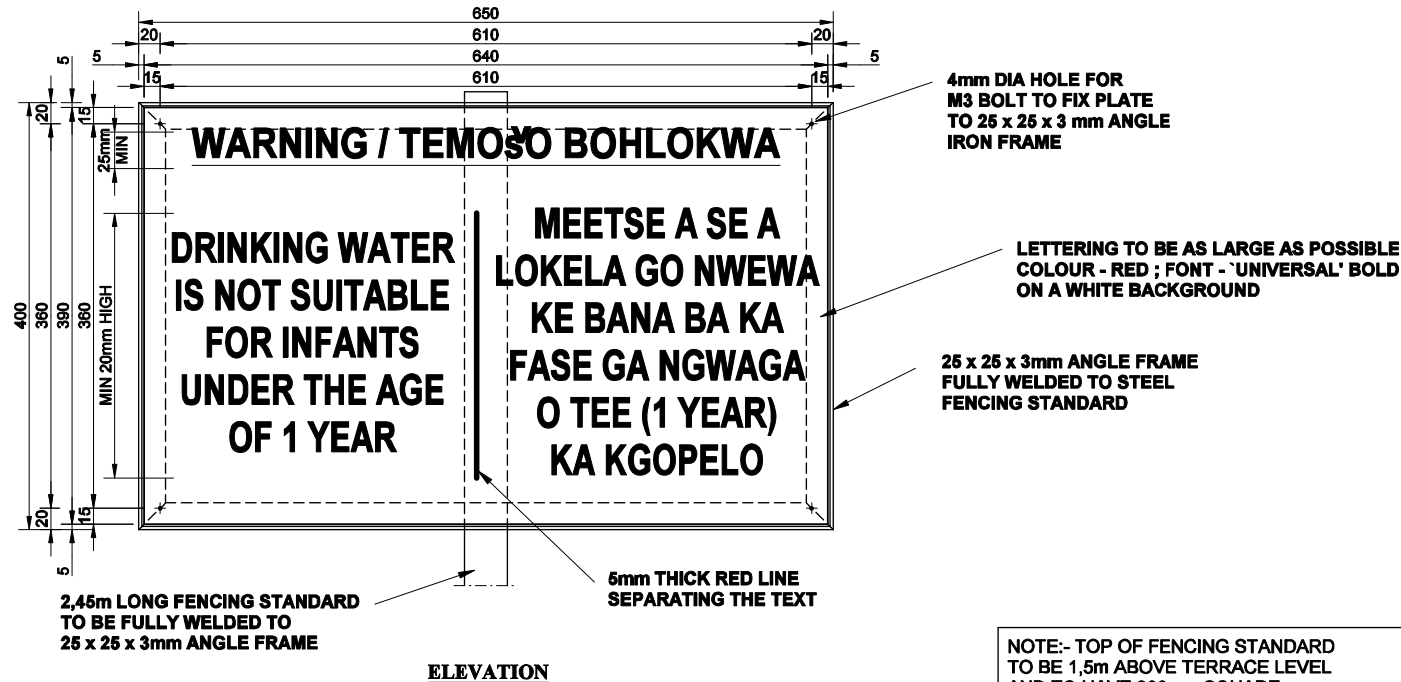
MOD. NO.		REVISION		SIGNATURE & DATE	
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION					
		MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699			
		LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION			
DRAWN		DRAWING NO.			
CHECKED		MVULA-410-17			
SCALE		SCALE			

SCHEDULE OF FITTINGS							
REF	NB	DESCRIPTION	WALL T mm	FLANGE DRILLING	TREATMENT GALVA NISED	EPOXY RESIN PAINT	QTY
A	65x50	65x50ND MGI REDUCING BUSH	4.5		*		1no
B	50	MGI BARREL NIPPLE			*		1no
C	50	BRASS FEMALE THREADED FULLWAY GATE VALVE			*		1no
D	50	350mm LONG MGI PIPE PIECE THREADED BOTH ENDS			*		1no
E	50	90 DEGREE MGI FEMALE BEND			*		1no
F	50	MALE QUICK COUPLING NIPPLE ADAPTOR			*		1no
G	50	MGI HOLLOW PLUG			*		1no



ELEVATION
SCALE 1:10

MOD NO.		REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION			
		MVULA TRUST 9A LANDROS MARE STR POLOKWANE 0699	
		LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION	
TEMPORARY ELEVATED TANK FILLING INSTALLATION			
DRAWN		DRAWING NO.	
CHECKED			MVULA-010-19
SCALE		SCALE	



MOD NO.	REVISION	SIGNATURE & DATE
SCHOOL SANITATION PROGRAM LIMPOPO PROVINCE		
LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION		
		MVULA TRUST 9A LANDROS MARE STR POLOKWANE 069
		LIMPOPO PROVINCIAL DEPARTMENT OF EDUCATION
WARNING NOTICE BOARD FOR DRINKING WATER		
DRAWN	DRAWING NO.	
CHECKED	MVULA-410-20	
SCALE	SCALE	