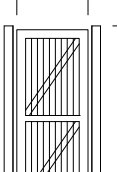




ENTRANCE DOOR	
FRAME TYPE	SINGLE REBATE STEEL FRAME TO FIT 220mm WALL (D1)
FRAME FINISH	PRIME AND PAINT UNDERCOAT AND ZINC FINISHING COATS IN GLOSS ENAMEL COLOUR TBC
DOOR LEAF	44mm FRAMED LEDGED AND BRACED DOOR SIZE 813x2032mm WITH INTEGRATED EXTERNAL WEATHER BAR
LEAF FINISH	UNDER COAT AND MINIMUM 2 COATS GLOSS ENAMEL – COLOUR TBC
LOCK	3 LEVER MORTICE LOCK SET
IRONMONGERY	100mm BRACE CABIN HOOK

CUBICLE DOOR	
	
FRAME TYPE	SINGLE REBATE STEEL DOOR FRAME – SIZE 83x53mm (FRAME UNDERCUT TO 150mm).
FRAME FINISH	PRIME AND PAINT UNDERCOAT AND 2 COATS- GLOSS ENAMEL – COLOUR TBC
DOOR LEAF	44mm FRAMED LEIGED EMBRACED DOOR SIZE 813x2032mm (DOOR RAISE BY 150mm TO TOP OF FRAME
LEAF FINISH	UNDER COAT AND MINIMUM 2 COATS GLOSS ENAMEL – COLOUR TBC
LOCK	TOILET INDICATOR LOCK
IRONMONGERY	100mm CHROME PLATED "D" TYPE HANDLE 3 BY SOLID BRASS HINGES

Technical drawing of a building facade showing a grid of windows and doors. The drawing includes dimensions in meters (m) and a scale of 1:50.

**Dimensions (m):**

- Overall width: 65.70
- Overall height: 10.00
- Window height: 2.80
- Door height: 2.00
- Window width: 3.00
- Door width: 1.00
- Window spacing: 0.50
- Door spacing: 0.50
- Window depth: 0.50
- Door depth: 0.50

**Scale:** 1:50

**Legend:**

- Window
- Door



## CONSULTANTS



**CLEAR WATER CONSULTING ENGINEERS (PTY) LTD**  
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	SIGNATURE	DATE	SHEET SIZE
DESIGNED	MR	03-11-2019	SCALE
DRAWN	MB	03-11-2019	
VERIFIED	MR	03-11-2019	STATUS LEGEND I = INFORMATION T = TENDER C = CONSTRUCTION APR-AS-BUILT
VALIDATED			

## IMPLEMENTED BY



**THE MVULA TRUST**  
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## SPONSOR

PROJECT NUMBER

NUMBER  
TMT-LPDE-2019/20- LPCL14C

## PROJECT

**LDPE 2019/20 SCHOOL WATER AND SANITATION  
PROGRAMME KGOLAKALELEME SECONDARY  
SCHOOL  
PROVINCE: LIMPOPO**

**DRAWING TITLE**

SD2

EMIS NUMBER	DISCIPLINE	DRAWING No.	STATUS	REVISION
	CIVIL ENGINEERING	FD2		



ENTRANCE DOOR	
FRAME TYPE	SINGLE REBATE STEEL FRAME TO FIT 220mm WALL (D1)
FRAME FINISH	PRIME AND PAINT UNDERCOAT AND 2no. FINISHING COATS IN GLOSS ENAMEL COLOUR TBC
DOOR LEAF	44mm FRAMED LEDGED AND BRACED DOOR SIZE 813x2035mm INCLUDING EXTERNAL WEATHER BAR
LEAF FINISH	UNDER COAT AND MINIMUM 2 COATS GLOSS ENAMEL - COLOUR TBC
LOCK	3 LEVER MORTICE LOCK SET
IRONMONGERY	100mm BRACE CABIN HOOK

**CUBICLE DOOR**

The diagram illustrates a cubicle door with the following dimensions and specifications:

- Width:** 813
- Height:** 1882
- Bottom Clearance:** 50
- Frame Type:** SINGLE REBATE STEEL DOOR FRAME – SIZE 813x53mm (FRAME UNDERCUT TO 150mm)
- Frame Finish:** PRIME AND PAINT UNDERCOAT AND 2 COATS-GLOSS ENAMEL – COLOUR TBC
- Door Leaf:** 44mm FRAMED LEDGED EMBRACED DOOR SIZE 813x2032mm (DOOR RAISE BY 150mm TO TOP OF FRAME)
- Leaf Finish:** UNDER COAT AND MINIMUM 2 COATS GLOSS ENAMEL – COLOUR TBC
- Lock:** TOILET INDICATOR LOCK
- Ironmongery:** 100mm CHROME PLATED "D" TYPE HANDLE 3 BY 50mm SOLID BRASS HINGES

Technical drawing of a rectangular floor plan. The overall dimensions are 65.70 (width) and 12.00 (height). The plan is divided into a grid of 6 columns and 2 rows of rectangular units. The column widths are 8.30, 2.70, 8.30, 2.70, 8.30, and 2.70. The row heights are 4.95 and 7.05. The drawing shows the layout of the units within the room, with a central corridor or open space.



## CONSULTANTS

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VERIFIED	MR	03-11-2019	
VALIDATED			STATUS LEGEND T = INFORMATION T = TENDER C = CONSTRUCTION AB= AS BUILT

**IMPLEMENTED BY**

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## SPONSOR

PROJECT NUMBER

TMT-LPDE-2019/20- LPCL14C

PROJECT

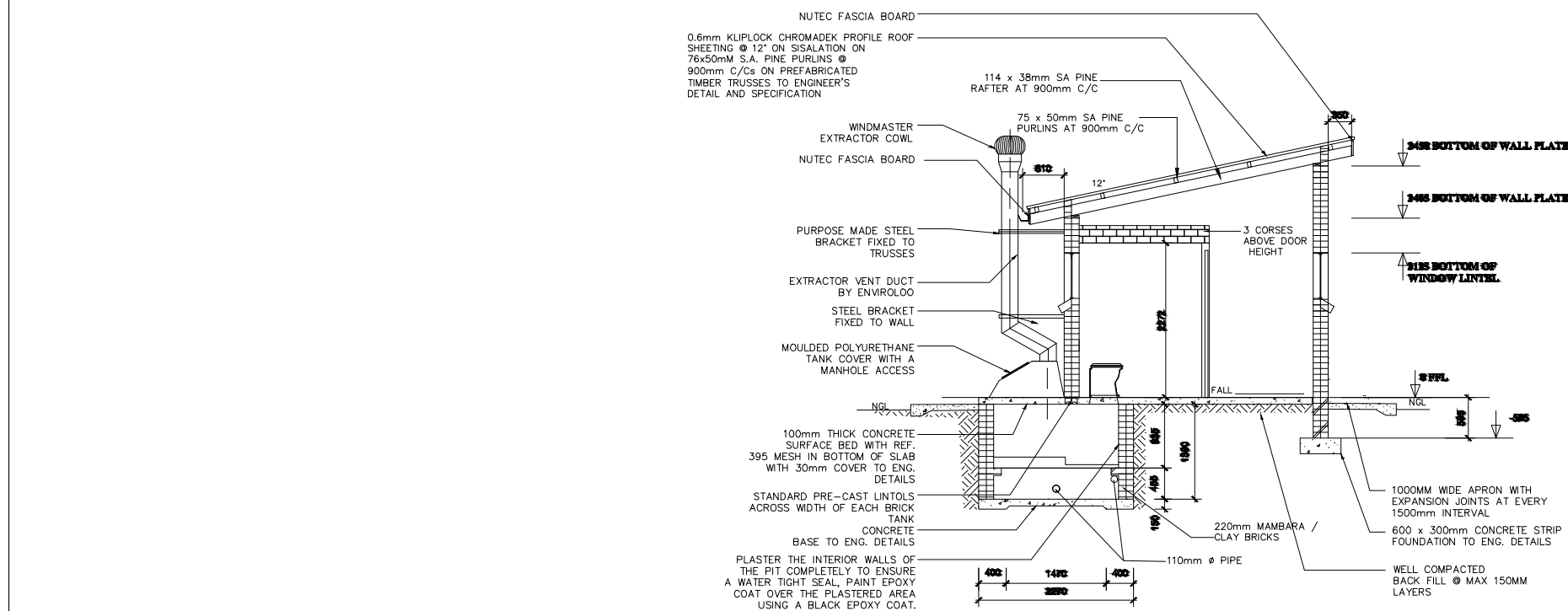
LDPE 2019/20 SCHOOL WATER AND SANITATION  
PROGRAMME KGOLAKALELEME SECONDARY  
SCHOOL

**DRAWING TITLE**

**SD4**

EMIS NUMBER	DISCIPLINE	DRAWING No.	STATUS	REVISION
	CIVIL ENGINEERING	SD 4		





**SECTION A-A**  
SCALE 1:150

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

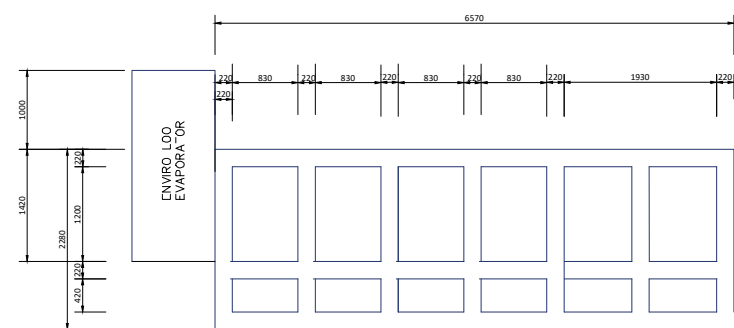
WINDOW SCHEDULE	
WINDOW NO.	N2
CATALOGUE	NE7
FRAME	1022 x 654mm HIGH STANDARD STEEL WINDOW FRAME
FRAME FINISH	SPOT PRINING DEFECTS IN PRE-PRIME SURFACE WITH ZINC CHROMATE PRIMER & APPLY ONE UNIVERSAL UNDER COAT & TWO COATS EPWP GOLDEN BROWN GLOSS ENAMEL PAINT ON STEEL
GLAZING	6.28mm OBSCURE SAFETY GLASS
NO. REQUIRED	5

ENTRANCE DOOR	
FRAME TYPE	SINGLE REBATE STEEL FRAME TO FIT 220mm WALL (D1)
FRAME FINISH	PRIME AND PAINT UNDERCOAT AND 2coats GLOSS ENAMEL - COLOUR TBC
DOOR LEAF	44mm FRAMED LEDGED AND BRACED DOOR SIZE 813x2032mm INCLUDING EXTERNAL WEATHER BAR
LEAF FINISH	UNDER COAT AND MINIMUM 2 COATS GLOSS ENAMEL - COLOUR TBC
LOCK	3 LEVER MORTICE LOCK SET
IRONMONGERY	100mm BRACE CABIN HOOK

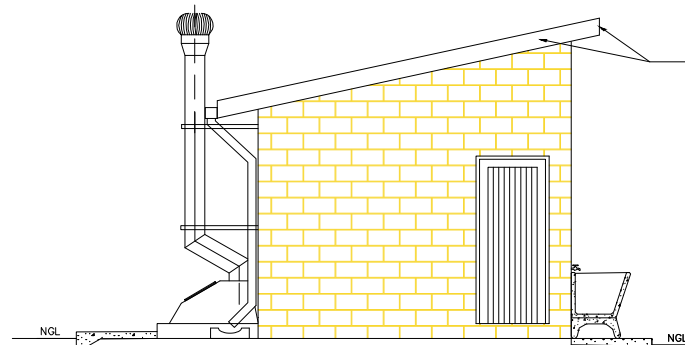
WINDOW SCHEDULE	
WINDOW NO.	N1
CATALOGUE	NE1
FRAME	533 x 654mm HIGH STANDARD STEEL WINDOW FRAME
FRAME FINISH	SPOT PRINING DEFECTS IN PRE-PRIME SURFACE WITH ZINC CHROMATE PRIMER & APPLY ONE UNIVERSAL UNDER COAT & TWO COATS EPWP GOLDEN BROWN GLOSS ENAMEL PAINT ON STEEL
GLAZING	6.28mm OBSCURE SAFETY GLASS
NO. REQUIRED	8

CUBICLE DOOR	
FRAME TYPE	SINGLE REBATE STEEL DOOR FRAME - SIZE 834x53mm (FRAME UNDERCUT TO 150mm)
FRAME FINISH	PRIME AND PAINT UNDERCOAT AND 2 COATS GLOSS ENAMEL - COLOUR TBC
DOOR LEAF	44mm FRAMED LEDGED EMBRACED DOOR SIZE 813x2032mm (DOOR RAISE BY 150mm TO TOP OF FRAME)
LEAF FINISH	UNDER COAT AND MINIMUM 2 COATS GLOSS ENAMEL - COLOUR TBC
LOCK	TOILET INDICATOR LOCK
IRONMONGERY	100mm CHROME PLATED "D" TYPE HANDLE 3 BY SOLID BRACE HINGES

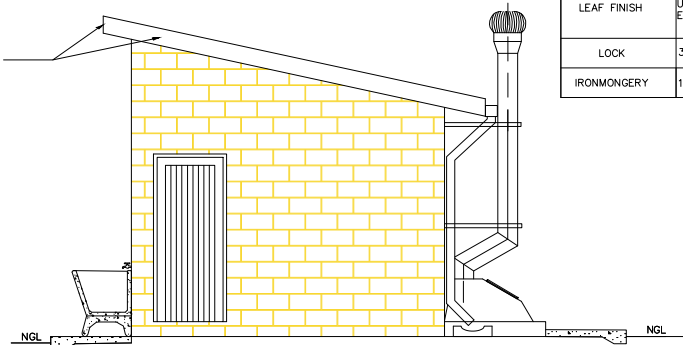
BUGLAR DOOR	
POSITION	EXTERNAL TOILET BLOCK
DOOR TYPE	PURPOSE MADE SQUARE HOLLOW SECTION MILD STEEL SECURITY GATE
DOOR FINISH	1xCOAT ZINC CHROMATE PRIMER MINIMUM 2 x COATS GLOSS ENAMEL (EXTERNAL QUALITY)
FRAME	50x38x1.6mm M.S. RECTANGULAR HOLLOW SECTION FRAME
FRAME FINISH	1xCOAT ZINC CHROMATE PRIMER MINIMUM 2 x COATS GLOSS ENAMEL (EXTERIOR QUALITY)
DOOR	38x28x1.2mm RECTANGULAR HOLLOW SECTION FRAME WITH 25x25x1.6 INTERMEDIATES AT 100mm CENTERS AT 4 45° ANGLE COLOUR TBC
IRONMONGERY	SECURITY DOUBLE THROW DEAD LOCK (NO LATCH)



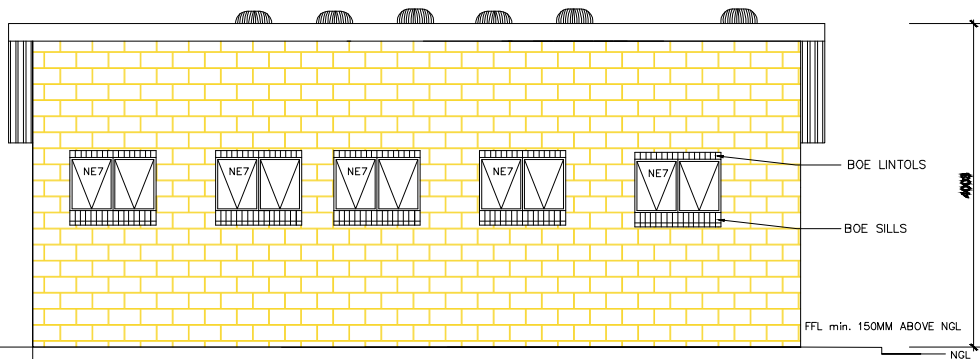
**FLOOR PLAN**  
SCALE 1:150



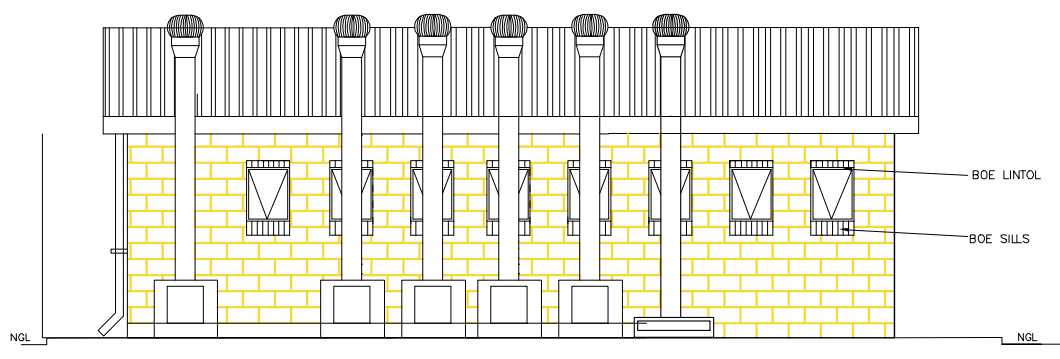
**SIDE ELEVATION**  
SCALE 1:150



**SIDE ELEVATION**  
SCALE 1:150



**FRONT ELEVATION**  
SCALE 1:150



**BACK ELEVATION**  
SCALE 1:150

NOTES AND SPECIFICATIONS:			
GENERAL			
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.			
PIT EXCAVATION			
1. All slopes of pit excavation to be inspected and approved by Engineer and signed off.			
2. All pit lining to be inspected by EnviroLoos Services before slab casting.			
COMPACTION OF SURFACES			
All ground surface receiving concrete floors / slab should be compacted to 150mm layers @3% Moisture/Density before casting concrete.			
CONCRETE WORKS			
1. All concrete to be as per Engineer's details and specifications.			
2. 25 MPa strength concrete to be used throughout construction.			
Concrete Mixes: Proportions			
Concrete Strength at 28 Day 25MPa			
1 : 2 : 2 (Dry Proportion by volume)			
1 bag cement : 1000kg sand : 1000kg 3 Stone (Volume/Bag)			
385 kg cement : 820 kg sand : 960 kg stone (Mass/m3)			
3. Pre-coat concrete lintels to be used as support under top slab of pit.			
4. All concrete spans to be 1000mm wide.			
MORTAR			
Mixed proportions to be			
1 cement : 3 sand			
(1:1 bag cement : 3 wheelbarrows (37 litres) sand)			
BROWNSON			
Sub-structure			
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.			
Super-structure			
1. All external walls / partitions to be of clay face brick to SABS quality.			
2. All cubicle partition walls to be 3 courses above door height.			
3. All brickwork above door openings should have brickforce on every course at least 3 courses.			
4. All brickwork Standard 230X115mm terra-cotta vermin proofed insulated air grating to be used above all window openings.			
ROOF SHEETING			
1. 0.6mm Kiplock chromadek roof sheeting.			
ROOF TIMBER / CEILING			
1. All roof timbers to be machined SABS treated wood with three coats of approved wood preservative.			
2. Timber connections (Hurricane Clips) are required all interconnections between timber rafters and purlins.			
3. Slatation is to be applied interval under all roof surfaces.			
METALWORK			
1. All metalwork should be primed before installation.			
2. All steel window should have 620mm 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			
2. Stainless steel mirrors size 350x450mm high.			
PAINTING			
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.			

## CONSULTANTS



	SIGNATURE	DATE	SHEET SIZE
DESIGNED	MR	03-11-2019	SCALE
DRAWN	MB	03-11-2019	
VERIFIED	MR	03-11-2019	STATUS LEGEND
VALIDATED			1. APPROVED 2. IN PROGRESS 3. NOT APPROVED 4. AS BUILT

## IMPLEMENTED BY



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## SPONSOR

## PROJECT NUMBER

TMT-LPDE-2019/20- LPCL14C

## PROJECT

LDPE 2019/20 SCHOOL WATER AND SANITATION  
PROGRAMME KGOLAKALEME SECONDARY  
SCHOOL

## PROVINCE: LIMPOPO

## DRAWING TITLE

MD4

EMIS NUMBER	DISCIPLINE	DRAWING No.	STATUS	REVISION
	CIVIL ENGINEERING	MD4		



EMIS NUMBER	DISCIPLINE	DRAWING No.	STATUS	REVISION
	CIVIL ENGINEERING	SD5		





### NOTES AND SPECIFICATIONS:

**GENERAL:**

- 1. Use dimensions *provided* and do not isolate drawing.
- 2. All work to comply with SANS, PN7371 and SABS.
- 3. All materials and methods of construction to be ascertained as site prior to construction.
- 4. All concrete work to be placed in accordance with the specifications.
- 5. All pits to be rectified.
- 6. All brickwork below foundations of every 2nd course in pit lining and 3rd course in superstructure.

**PIT EXCAVATION:**

- 1. All excavation to be inspected and approved by Engineer and signed off.
- 2. All pit lining to be executed by EnviroLose Services below casting.

**COMPACTION OF SURFACES**

- 1. All ground surfaces reaching concrete floor / slab should be compacted to 150mm layers. (SBS MSA102) densely before casting concrete.

**CONCRETE WORKS**

- 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 : 4 (Cement: Sand: Aggregate by volume)

bag cement : 0.02543 Sand : 0.05086 Stone (Volume/Bag)

kg/m<sup>3</sup> cement : 800 kg/m<sup>3</sup> Sand : 1600 kg/m<sup>3</sup> Stone (Mass/1m<sup>3</sup>)

Five-cast concrete trials to be used as support under top slab of pit.

- 1. All concrete pours to be 1000mm wide.

**MORTAR**

Mix proportions to be

1 cement : 3 sand

(1: bag cement : 3 wheelbarrow (37 litres) sand)

**BROCHURE**

**Sub-structure**

- 1. All pit lining / foundation bricks to be solid HPF clay bricks.
- 2. All steel window and pit lining to be painted with two coats black epoxy paint installing Enviro-Lose units.

**Super-structure**

- 1. All external walls / partitions to be of clay face brick to SABS quality.
- 2. All cubicle partition walls to be 3 courses above door height.
- 3. All brickwork above foundations should be brickwork on every course at least 3 courses.
- 4. All bricks: Standard 230x120x65mm terra-cotta worms produced under dry glazing to be used above all window openings.

**ROOF SHEETING**

- 1. 0.6mm Aluzinc chromadek roof sheeting.

**ROOF TIMBER / CEILING**

- 1. All roof timbers to be machined SABS treated wood with three coats of approved wood.
- 2. Timber connectors (hurricane clips) are required at interconnections between timber rafters and purlins.
- 3. Slatenails to be applied inline under roof surfaces.

**METALWORK**

- 1. All metalwork should be primed before installation.
- 2. All waste water metalwork to be piped to a soakaway.

**PLUMBING**

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

**GLAZING**

- 1. 6.325mm acoustic safety glass.
- 2. Stainless steel MSA102 35x40x50mm high.

**PAINTING**

- 1. All paintwork to comply with SABS and PN7371 specifications.
- 2. All external doors and frames including doors and frames / barge boards to be discharge points.

## CONSULTANTS

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Civil, Structural Engineers & Project Managers  
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**PROJECT**

**LDPE 2019/20 SCHOOL WATER AND SANITATION  
PROGRAMME KGOLAKALELEME SECONDARY  
SCHOOL**

PROVINCE: LIMPOPO

**DRAWING TITLE**

F10

EMIS NUMBER	DISCIPLINE	DRAWING No.	STATUS	REVISION
	CIVIL ENGINEERING	F10		

EMIS NUMBER	DISCIPLINE	DRAWING No.	STATUS	REVISION
	CIVIL ENGINEERING	FD8		