

| Bill 2: Madeira Park Home Electrical Reticulation | | | | | |
|--|--|------|-------|------|--------|
| Item | Description | Unit | Qty | Rate | Amount |
| 1 | Trenching and Concrete Installation Works | m | 639,3 | | |
| 1.1 | Perform Trenching including a Warning Tape | m | 500 | | |
| 1.2 | Reinstate Concrete & or paving | m2 | 152 | | |
| 2 | Supply, install and commissioning of low voltage Main Kiok | | | | |
| 2.1 | Supply, Service and Test The Main Distribution Board | | | | |
| 2.1.1 | Supply, Service and Test The Main Distribution Board | no | 4 | | |
| 2.1.2 | Supply, install and test Main Breaker 150A T/P | no | 4 | | |
| 2.1.3 | Install Earth Leakage 150A T/P | no | 4 | | |
| 2.1.4 | Install the cable in 50mm Bosal Pipe | m | 30 | | |
| 2.2 | Supply, Install and Commission The Low Voltage Distribution Board into each Park Homes Unit | | | | |
| 2.2.1 | 12 Way DB including load circuit breakers for each park home, surge arrestors, etc) | no | 12 | | |
| 2.2.2 | 40A Main Breaker T/P | no | 12 | | |
| 2.2.3 | 40A Air-Conditioners | no | 10 | | |
| 2.2.4 | 40A Earth Leakage Breaker | no | 12 | | |
| 2.2.5 | 15A Plugs Breaker T/P | no | 12 | | |
| 2.2.6 | 10A Lights Breaker T/P | no | 12 | | |
| 2.3 | Supply, Install and Test the SWA PVC Cables into various conduits, and units | | | | |
| 2.3.1 | Install the 25mm2 3 Core SWA PVC Cu Cable | m | 3000 | | |
| 2.3.2 | Install the 10mm2 BCEW | m | 3000 | | |
| 2.3.3 | Install the 2,5mm2 SWA PVC Cu Cable and its terminations for sockets | m | 529,3 | | |
| 2.3.4 | Install the 1,5mm2 SWA PVC Cu Cable and its terminations for lights | m | 529,3 | | |
| 2.3.5 | Install the 4mm2 SWA PVC Cu Cable and its terminations for lights for aircons | m | 529,3 | | |
| 2.3.6 | Install the 16mm2 SWA PVC Cu Cable and their terminations From Kiosk to Sub DBs | m | 45 | | |
| 2.3.7 | Supply and install a 185X50 Two Compartment Power Skirting /2M for power at top and bottom for data and telephone for all offices for this Park Home. | m | 200 | | |
| 2.3.8 | Install the 20mm dia conduits | No | 600 | | |
| 2.4 | Supply, Install and Test the isolators, sockets, switches | | | | |
| 2.4.1 | Install the 40A T/P Isolators for airconds | m | 529,3 | | |
| 2.4.2 | Supply, install and test the SABS approved switched and unswitched type flush and surface mounted type 16A SA/Euro combined socket outlet | No | 50 | | |
| 2.4.3 | Supply, install and test the SABS-approved switched and unswitched type flush and surface-mounted type 16 A 3-pin Crabtree double switch socket outlet installed on 2-tier power skirting. | No | 50 | | |
| 2.4.4 | Supply, install and test Data points | No | 60 | | |
| 2.4.5 | Supply, install and test telephone points | No | 60 | | |
| 3 | Supply, Install and Test the Lights | | | | |
| 3.1 | Supply, install and test the SABS approved Ceiling/wall mounted fittings and 15W LED bulkhead, Type A | No | 200 | | |
| 3.2 | Supply, install and install the 15W LED BEKA BULKHEAD SERIES 30 complete with LED lamps outside lighting of the Park Home. | No | 40 | | |
| 3.3 | 2 x 36W BEKA surface mounted triphosphor lamp with prismatic diffuser complete with electronic ballast and cool white lamps. | No | 200 | | |
| 4 | Safety compliance as per OHS act and specification, including DCP Fire extinguisher Cabinet and 9 kg dry powder fire extinguisher combo in the generator plant | No. | 1 | | |
| 5 | Test and commissioning Certificate of Compliance (COC) with regards to all electrical reticulation, connections, wiring of generator set | No. | 12 | | |
| 6 | Make Provisional Sum for to service and test the abluition park homes electrical installations, Any Short fall of TMS Scope of Work and Transport | no | 1 | | |
| Subtotal | | | | | |
| Total Carried forward to final Summary of Annexure A | | | | | |

101

| Bill 3: Servicing and Upgrade of Electrical Reticulation for Madeira Police Station | | | | | |
|---|---|------|-----|------|--------|
| Item | Description | Unit | Qty | Rate | Amount |
| 1 | Supply, Service and Commissioning The Electrical Reticulation Of The Main Police Station | | | | |
| 1.1 | Test and Service existing 3 x LV DBs and their Circuit Breakers | No | 3 | | |
| 1.2 | Test and commissioning ,Certificate of Compliance (COC) with regards to all electrical reticulation | No | 3 | | |
| 1.3 | Supply, Replace, Install and Commissioning all the current high energy consumption lights with the LED lights in the following areas | | | | |
| 1.3.1 | Passage: 1200x600 Recessed Fluorescent 60W LED LBR with one-hour backup, Type L3B | No | 20 | | |
| 1.3.2 | Kitchen and Ablution: 2 x 36W BEKA fluorescent open channel with electronic ballast and complete with cool white lamps | No | 20 | | |
| 1.3.3 | Outside: 15W LED BEKA BULKHEAD SERIES 30 complete with LED lamps | No | 20 | | |
| 1.3.4 | Strong Room: Emergency Red Alarm light complete with buzzer siren for safe storage. | No | 3 | | |
| 1.4 | Supply, Replace, Install and Commissioning all the following sockets and Isolators | | | | |
| 1.4.1 | 16 A 3-pin Crabtree double switch socket outlet installed on 2 tier power skirting Or Similar approved . | No | 20 | | |
| 1.4.2 | 30 A Crabtree Isolator switch complete for airconditioning units and extractor fans | No | 20 | | |
| 1.4.3 | 60 A Crabtree Isolator switch complete for stove | No | 4 | | |
| 1.5 | Supply, Replace and Test The Existing Existing Earthing and Lightning Protection | No | 1 | | |
| 1.6 | Eskom Capacity Increase from 100KVA to 300KVA | No | 1 | | |
| 1.5 | Test and commissioning ,Certificate of Compliance (COC) with regards to all electrical reticulation | No | 3 | | |
| 1.7 | Make Provisional Sum for to service and test the any shortfall of TMS Scope of Work and Transport | No | 1 | | |
| Subtotal | | | | | |
| | | | | | |
| Total Carried forward to finall Summary of Annexure A | | | | | |

| Bill 4: SAPS Madeira Park Home Parameter Lights | | | | | |
|--|--|------|-----|------|--------|
| Item | Description | Unit | Qty | Rate | Amount |
| 1 | Supply, Install and Commissioning Parameter For SAPS Madeira Park Home Complex | | | | |
| 1.1 | Supply, Install and Commissioning Parameter For SAPS Madeira Park Home Complex | | | | |
| 1.1.1 | ZELA 37 NW SYAV76BGR 1-37W COLOUR GREY WITHOUT POLE | no | | | |
| 1.1.2 | ZELA 43 NW SYAV76BLK 1-43W COLOUR BLUE WITHOUT POLE | no | | | |
| 1.1.3 | K187650 K200BUR S76D2DST -5.7M TOTAL LENGTH FIBRE GLASS POLE/COLOUR BLACK/ WITH BASE/GLAND/MCB | no | | | |
| 1.1.4 | 31 B/HEAD BLK NW17WLED | no | | | |
| 1.2 | Provisional Sum for Trenching & Transport | no | | | |
| Subtotal | | | | | |
| Total Carried forward to final Summary of Annexure A | | | | | |

| MADEIRA ELECTRICAL TOTAL COSTS (FINAL SUMMARY ANNEXTURE A) | |
|---|-------|
| DISCRIPTION | TOTAL |
| Bill 1 | |
| Bill 2 | |
| Bill 3 | |
| Bill 4 | |
| GRAND TOTAL CARRIED FORWARD TO FINAL SUMMARY OF THE MASTER BOQ (FINAL SUMMARY) | |

PAGE

104

MADEIRA SAPS REPAIRS AND UPGRADES

| ITEM | DESCRIPTION | UNIT | QTY | RATE | TOTAL AMOUNT |
|--|--|------|-----|------|--------------|
| | SECTION NO. 3 PROVISIONAL BILLS OF QUANTITIES ELECTRICAL WORKS BILL No 1 | | | | |
| 1 | <i>See Attached Annexure "A" for completing this electrical bill</i> (Record the total before VAT of Annexure A (Electrical Works)) | Sum | 1 | | R. _____ |
| SUB TOTAL CARRIED FORWARD TO FINAL SUMMARY | | | | | R. _____ |

NOTES (Specifications to be complied with)

1

105

ANNEXTURE B
MACHENICAL WORKS

MECHANICAL WORKS (ANNEXURE B).

6. BILL OF QUANTITIES

| Items | Description | Unit | Qty | Rate (R) | Amount (R) |
|--------------------------|--|------|-----|----------|------------|
| 1 | Supply and install fire extinguishers (4.5 kg DCP) for compliance with, SANS 10400 T fire protection in buildings, with all accessories such as the back plate and the labelling. | No | 7 | | |
| 2 | Supply and install fire extinguishers 5 kg Co2 for compliance with, SANS 10400 T fire protection in buildings, with all accessories such as the back plate and the labelling. | No | 2 | | |
| 3 | Maintenance and testing of the existing fire hose reels, fire gas sprinkler & fire hydrant for compliance with SANS 10400 T fire protection in buildings (if any). | No | 01 | | |
| 4 | Supply and install 15 litres above counter Hydroboil (Also incl. labour, certificate of compliance /transport). | No | 01 | | |
| 5 | Supply and install a 3.5 kW heat pump with a 100 litres water storage tank/geyser (Also incl. labour, certificate of compliance /transport). | No | 01 | | |
| 6 | Supply and install a 3.5 kW heat pump with a 150 litres water storage tank/geyser (Also incl. labour, certificate of compliance /transport). | No | 01 | | |
| 7 | The supply and installation of the gate motor (D10 Centurion). | No | 02 | | |
| 8 | Decommissioning of the old HVAC system (if any). Supply, install, and commission 9 000 BTU/hr. an air conditioner with Accessories such as trunking, piping, and brackets sets, Mid-wall Split unit (inverter type with heating and cooling). (Also incl. labour/transport) | No | 11 | | |
| 9 | Service for 1 year: 9000 BTU air cons (Also incl. labour/transport) | No | 11 | | |
| 10 | Decommissioning of the old HVAC system (if any). Supply, install and commission 12 000 BTU/hr. an air conditioner with Accessories such as trunking, piping and brackets sets, and a Mid-wall Split unit (inverter type with heating and cooling). (Also incl. labour/transport) | No | 15 | | |
| 11 | Service for 1 year (2 services, each service after 6 months): 12000 BTU air cons Including materials) | No | 15 | | |
| 12 | Testing and certification: Certification of Compliance (COC) on all electrical installation | No | 35 | | |
| 13 | Contingencies | No | 01 | | |
| Total Amount (excl. vat) | | | | | |

35

107

10/11/1

5m

MADEIRA SAPS REPAIRS AND UPGRADES

| ITEM | DESCRIPTION | UNIT | QTY | RATE | TOTAL AMOUNT |
|--|---|------|-----|------|--------------|
| | SECTION NO. 3 PROVISIONAL BILLS OF QUANTITIES MECHANICAL WORKS BILL No 2 | | | | |
| 1 | <i>See Attached Annexure "B" for completing this mechanical bill</i> (Record the total before VAT of Annexure B (Machanical Works)); | Sum | 1 | | R _____ |
| SUB TOTAL CARRIED FORWARD TO FINAL SUMMARY | | | | | R _____ |

NOTES (Specifications to be complied with)

1

108

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
|--|--|------|-----|------|--------|
| | <u>SECTION No 4</u> | | | | |
| | <u>PROVISIONAL BILLS OF QUANTITIES</u> | | | | |
| | <u>PROVISIONAL SUMS</u> | | | | |
| | <u>BILL No 1</u> | | | | |
| | All PC amounts cover supply of material and equipment and installation where applicable by firms of specialists. PC amounts are nett and do not include builder's discount (excluding settlement discount) and Value-Added Tax but the Tenderer may allow under "Profit" items any profit he considers necessary | | | | |
| | <u>SELECTED SUBCONTRACTORS</u> | | | | |
| | THE FOLLOWING PRIME COST AMOUNTS ARE FOR WORK TO BE EXECUTED BY SELECTED SUBCONTRACTORS | | | | |
| | <u>Signage</u> | | | | |
| 1 | Provisional Sum Allowance of R 50 000-00 (Fifty thousand Rand only) for signage as per the specifications provided by SAPS | Item | 1 | | |
| 2 | Allow for profit | Item | 1 | | |
| 3 | Allow for general attendance | Item | 1 | | |
| | <u>Repairs and Upgrades to Water Services and Sewer System</u> | | | | |
| 4 | Provisional Sum Allowance of R 250 000-00 (Two hundred and fifty thousand Rand only) for repairs and upgrades to water services and sewer system as per the specifications provided by SAPS | Item | 1 | | |
| 5 | Allow for profit @ 5% | Item | 1 | | |
| 6 | Allow for general attendance @5% | Item | 1 | | |
| | <u>Road Marking</u> | | | | |
| 7 | Provisional Sum Allowance of R 150 000-00 (One hundred and fifty thousand Rand only) for road marking as per the specifications provided by SAPS | Item | 1 | | |
| 8 | Allow for profit @ 5% | Item | 1 | | |
| 9 | Allow for general attendance @ 5% | Item | 1 | | |
| | <u>Appointment of a Civil & Structural Engineer</u> | | | | |
| 10 | Provisional Sum Allowance of R 90 000-00 (Ninety thousand Rand Only) for the appointment of a Civil & Structural Engineer to provide services as per ECSA. Not less than 5 years experience. | Item | 1 | | |
| | <u>Appointment of a Geo-Technical Engineer</u> | | | | |
| 11 | Provisional Sum Allowance of R 90 000-00 (Ninety thousand Rand Only) for the appointment of a Geo-Technical Engineer to provide services as per ECSA. Not less than 5 years experience. | Item | 1 | | |
| | <u>Appointment of a Land Surveyor</u> | | | | |
| 12 | Provisional Sum Allowance of R 90 000-00 (Ninety thousand Rand Only) for the appointment of a Land Surveyor to provide services. Not less than 5 years experience. | Item | 1 | | |
| | <u>Appointment of a Community Liaison Officer (CLO)</u> | | | | |
| 13 | Provisional Sum Allowance of R 54 000 (Fifty four thousand Rands Only) for the appointment of a CLO | Item | 1 | | |
| | <u>Project Steering Committee (PSC)</u> | | | | |
| 14 | Provisional Sum Allowance of R 21 600 (Twenty One thousand Six Hundred Rands Only) for the appointment of the PSC | Item | 1 | | |
| SUB TOTAL - Carried forward to final summary | | | | | |

109

| MADEIRA SAPS REPAIRS AND UPGRADES FINAL SUMMARY | | | | |
|--|------------|------------------------------------|--------|---|
| SECTION NO | BILL NO | DESCRIPTION | AMOUNT | |
| | | <u>FINAL SUMMARY</u> | | |
| 1 | 1 | Preliminaries and General | R | - |
| 2 | 1 | Repairs to the parkhomes | R | - |
| 2 | 2 | Concrete Retaining Wall | R | - |
| 2 | 3 | Boundary Wall | R | - |
| 2 | 4 | Gates, Mesh Fence, Bulustrades etc | R | - |
| 2 | 5 | Stormwater Management | R | - |
| 3 | 1 | Electrical Works (See Annexure A) | R | - |
| 3 | 2 | Mechanical Works (See Annexure B) | R | - |
| 4 | 1 | Provisional Sums | R | - |
| SUB TOTAL | | | R | - |
| ADD: 10 % CONTEGENCY | | | R | - |
| SUB TOTAL | | | R | - |
| ADD: 15% VAT | | | R | - |
| TOTAL CARRIED FORWARD TO TENDER FORM | | | R | - |

110

SOUTH AFRICAN POLICE SERVICE



PROJECT SPECIFICATION

MADEIRA EASTERN CAPE

SAPS PARK HOMES

ARCHITECTURAL SCOPE OF WORK

1. DESCRIPTION OF SERVICES (INTENT)

The prescribed works are to be completed as per drawings, annexures, and scope of work, specifications and some applicable legislative requirements. This project requires an experienced contractor to execute the prescribed work.

The Contractor shall supply all labour, materials tools, equipment, workshop, supervision and other related items required to complete the project - as per the scope of work, specifications and attached drawings.

Contractors are advised to visit the site and verify the existing site conditions to verify measurements and any related project information. **Where a specific product or brand name has been used a similar approved product consisting of the same product specification is deemed to have been considered. A sample of such a product will be presented to the architect/project manager for approval before procuring.**

It is important to note that this facility will remain operational during the execution of work. A comprehensive project execution plan must be done in consultation with the station commander to avert any project delays.

2. SCOPE OF WORKS

The general Architectural scope of work can be summarized as follows;

- Remove the existing Precast fence and diamond mesh fence.
- Construct new brick wall perimeter fence on the southern boundary.
- Repairing of existing retaining wall on the northern Boundary.
- Installation of a pedestrian access gate between Madeira Parkhomes and Madeira Police Station.
- Repairing of defects on existing Parkhomes on site.
- Construction of a reinforced concrete ramp
- Reinstate Balustrade tubing on existing ramps and walkways

3. PERIMETER FENCE

3.1 EXISTING NORTHERN WALL PERIMETER FENCE.

3.1.1 Demolish existing $\pm 2.2\text{m}$ high concrete block and masonry retaining brick wall

3.1.2 Replace with a new ($\pm 48\text{m}$ in length) 2465mm High brick wall with spikes, 2mm thick toughed steel 100mm electro-galvanized spikes and minimum 600mm high galvanized high tensile steel flat wrap razor wire on top 2465mm wall, total 3065mm high wall. (See attached Annexure 4)



3.2 EXISTING SOUTHERN WALL PERIMETER FENCE.

- 3.2.1 Demolish the existing 595mm high Masonry brick fence (± 13 m long brick fence)
- 3.2.2 Demolish existing 1800mm high diamond mesh wire fence (± 44 m long diamond mesh fence)
- 3.2.3 Replace the Southern wall fence with new 2465mm High brick wall with spikes, 2mm thick toughed steel 100mm electro-galvanized spikes and minimum 600mm high galvanized high tensile steel flat wrap razor wire on top 2465mm wall, total 3065mm high wall. (See attached Annexure 4)



114

SMH

SM

**3.3 EXISTING RETAINING WALL AND MESH FENCE BETWEEN MADEIRA SAPS
PARKHOMES AND MADEIRA SAPS POLICE STATION.**

- 3.3.1 Demolish existing $\pm 2200\text{mm}$ high retaining wall $\pm 1800\text{mm}$ high wire mesh fence and replace with *330mm thick 2200mm high reinforced concrete retaining* with weep holes (50mm \varnothing uPVC weep holes through wall spaced max 600mm c/c) to engineers' specification, with 1800mm high welded mesh fence (Double skin clamber proof fence with a maximum aperture of 12mm) fixed on top of the concrete retaining wall. (See *Detail D1 on Drawing Sheet A100*)



4. SECURITY ACCESS GATE

4.1 Access Gate Between Madeira SAPS Parkhomes Police Station

Supply and install a welded mesh gate fitted with an electronic magnetic locking system and an option of a manual heavy-duty padlock lock in case of emergencies. Gate to be fitted with a self-closing mechanism for optimal security

4.1.1 Access gate: indicated on Site Plan (See Detail D1 on Drawing Sheet A100)

Dimensions: 1800mm High x 1200mm Wide Quantity: (x1)

5. MOBILE OFFICES (BLOCK A)

5.1 Gutters and Down Pipes Block A

5.1.1 Replace damaged uPVC gutter and downpipes (125mm x 75mm) (**$\pm 15400\text{mm}$ in length, gutter dimension**) (**$\pm 2400\text{mm}$ high downpipe**) (x3)

5.2 Doors Block A

5.2.1 Supply and install door + security gate on offices (x4) to match existing prefab 2032mm x 813mm exterior door

5.3 Windows Block A

5.3.1 Replace damaged aluminum Windows(x10) 900mm x 1200mm and replace any broken window panes. (To be confirmed on site)

5.3.2 Windows to be:

- Natural anodized 25-micron aluminium frame;
- Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
- Standard sizes throughout 900mm x 1200mm and (Obscure);
- Burglar proofing over all opening windows;

6. MOBILE OFFICES (BLOCK B)

6.1 Gutters and Down Pipes Block B

- 6.1.1 Replace damaged uPVC gutter and downpipes (125mm x 75mm) (\pm 15400mm in length, gutter dimension) (\pm 2400mm high downpipe) (x3)

6.2 Doors Block B

- 6.2.1 Supply and install door + security gate on offices (x4) to match existing 2032mm x 813mm prefab exterior door

6.3 Windows Block B

- 6.3.1 Replace damaged aluminum Windows(x10) 1200mm x 1200mm and replace any broken window panes. (To be confirmed on site)
- 6.3.2 Windows to be:
- Natural anodized 25-micron aluminium frame;
 - Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
 - Standard sizes throughout 900mm x 1200mm and (Obscure);
 - Burglar proofing over all opening windows;

7. MOBILE OFFICES (BLOCK C)

7.1 Gutters and Down Pipes Block C

- 7.1.1 Replace damaged uPVC gutters and downpipes (125mm x 75mm) (\pm 15400mm in length, gutter dimension) (\pm 2400mm high downpipe) (x3)

7.2 Doors Block C

- 7.2.1 Supply and install door + security gate on offices (x4) to match existing 2032mm x 813mm prefab exterior door

117

SMH

SM

7.3 Windows Block C

- 7.3.1 Replace damaged aluminum Windows(x10) 900mm x 1200mm and replace any broken window panes. (To be confirmed on site)
- 7.3.2 Windows to be:
- Natural anodized 25-micron aluminium frame;
 - Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
 - Standard sizes throughout 900mm x 1200mm (Obscure);
 - Burglar proofing over all opening windows;

8. MOBILE OFFICES (BLOCK D)

8.1 Gutters and Down Pipes Block D

- 8.1.1 Replace damaged uPVC gutter and downpipes (125mm x 75) with fixing brackets ($\pm 15400\text{mm}$ in length, gutter dimension) ($\pm 2400\text{mm}$ high downpipe) (x3)

8.2 Doors Block D

- 8.2.1 Supply and install door + security gate on offices (x4) to match existing 2032mm x 813mm prefab exterior door

8.3 Windows Block D

- 8.3.1 Replace damaged aluminum Windows(x10), size: 900mm x 1200mm and replace any broken window panes. (To be confirmed on site)
- 8.3.2 Windows to be:
- Natural anodized 25-micron aluminium frame;
 - Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
 - Standard sizes throughout 900mm x 1200mm (Obscure);
 - Burglar proofing over all opening windows;

9. MOBILE OFFICES (BLOCK E)

9.1 Gutters and Down Pipes Block E

- 9.1.1 Replace damaged uPVC gutter (125mm x 75mm) with fixing brackets ($\pm 15400\text{mm}$ in length, gutter dimension)

9.2 Doors Block E

- 9.2.1 Supply and install door + security gate on offices (x3) to match existing 2032mm x 813mm solid exterior door

9.3 Windows Block E

- 9.3.1 No windows were damaged during site inspection. They must be cleaned and made good.

10. MOBILE OFFICES (BLOCK F)

10.1 Gutters and Down Pipes Block F

- 10.1.1 Replace damaged uPVC gutter and downpipes (125mm x 75mm) (x1) with fixing brackets ($\pm 15400\text{mm}$ in length, gutter dimension) ($\pm 2400\text{mm}$ high downpipe) (x3)

10.2 Doors Block F

- 10.2.1 Supply and install door + security gate on offices (x3) to match existing 2032mm x 813mm solid exterior door

10.3 Windows Block F

- 10.3.1 Replace existing damaged aluminum windows size (900mm x 1200mm)

10.3.2 Windows to be:

- Natural anodized 25-micron aluminium frame;
- Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
- Standard sizes throughout 900mm x 1200mm and (Obscure);
- Burglar proofing over all opening windows;

11. ABLUTIONS (BLOCK G)

11.1 Gutters and Down Pipes Block G

11.1.1 Clean uPVC gutter + downpipes (125mm x 75mm) with fixing brackets (\pm 15400mm in length, gutter dimension)

11.2 Doors Block G

11.2.1 All Doors were found intact during the site inspection

11.3 Windows Block G

11.3.1 Not Applicable, windows not damaged at the time of site inspection. They should be cleaned and made good.

12. MOBILE VFF (BLOCK H)

12.1 Gutters and Down Pipes Block H

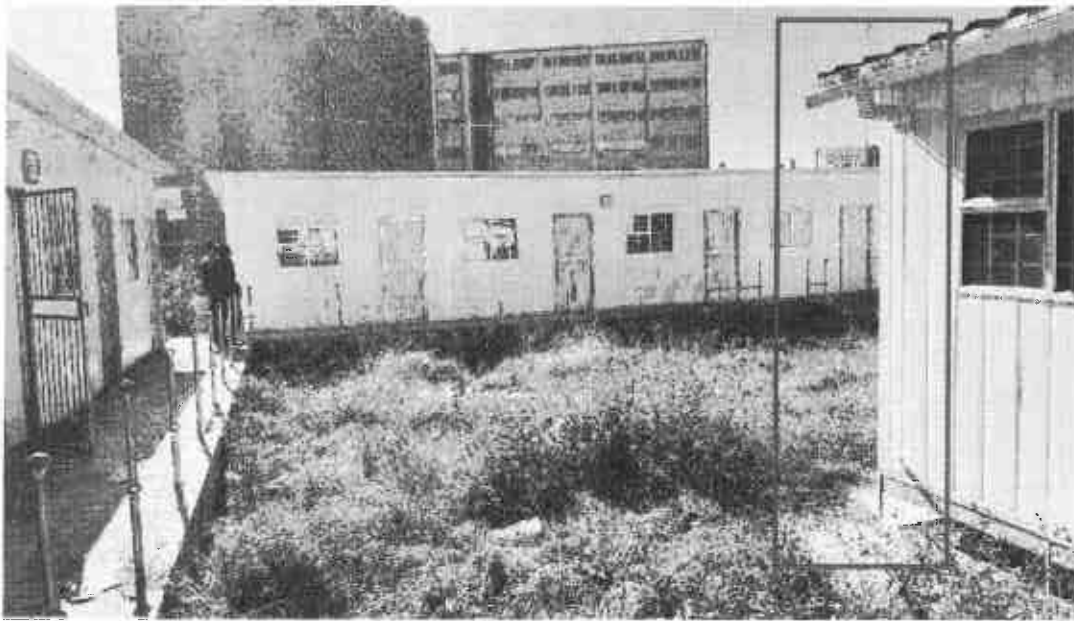
12.1.1 Replace damaged uPVC gutter (125mm x 75mm) with fixing brackets (\pm 12400mm in length, gutter dimension)

12.1.2 Replace missing uPVC downpipes (125mm x 75mm) with fixing brackets (\pm 12400mm in length, gutter dimension) (\pm 2400mm high downpipe) (x3)

120

July

5m



12.2 Doors Block H

11.3.2 No Replacement needed Door and security gate intact during site visit assessment. They should be cleaned and made good.

12.3 Windows Block H

12.3.1 Replace damaged aluminum Windows(x5), size: 900mm x 1200mm and replace any broken window panes. (To be confirmed on site)

12.3.2 Windows to be:

- Natural anodized 25-micron aluminium frame;
- Top hung frames fitted with 4mm clear float glass for all windows except in toilets and
- ablutions where obscure float glass is used;
- Standard sizes throughout 900mm x 1200mm (Obscure);
- Burglar proofing overall opening windows;

12.4 Ramp Wall to Block H

12.4.1 Repair existing ± 340 mm high ramp wall + 40mm thick screed (± 1000 mm wide ramp) and install a 1000mm high stainless-steel balustrade (± 3000 mm in length)

13. MOBILE OFFICES (BLOCK I)

13.1 Gutters and Down Pipes Block I

13.1.1 Replace damaged uPVC gutter(125mmx75mm) with fixing brackets to match existing ($\pm 15800\text{mm}$ in length, gutter dimension) ($\pm 2400\text{mm}$ high downpipe) (x6)

13.2 Doors Block I

13.2.1 Supply and install door + security gate on offices (x3) to match existing 2032mm x 813mm prefab exterior door

13.3 Windows Block I

13.3.1 Replace damaged aluminum Windows(x5), size 900mm x 1200mm to match and replace any broken window panes. (To be confirmed on site)

13.3.2 Windows to be:

- Natural anodized 25-micron aluminium frame;
- Top hung frames fitted with 4mm clear float glass for all windows except in toilets and
- ablutions where obscure float glass is used;
- Standard sizes throughout 900mm x 1200mm (Obscure);
- Burglar proofing over all opening windows;

14. MOBILE OFFICES (BLOCK J)

14.1 Gutters and Down Pipes Block J

14.1.1 Replace damaged uPVC gutter (125mmx75mm) with fixing brackets ($\pm 24400\text{mm}$ in length, gutter dimension) ($\pm 2400\text{mm}$ high downpipe) (x6)

14.2 Doors Block J

14.2.1 Supply and install door + security gate on offices (x3) to match existing prefab 2032mm x 813mm exterior door

122

Jmly
Sm

14.3 Windows Block J

14.3.1 Replace damaged aluminum Windows(x5), size: 900mm x 1200mm and replace any broken window panes. (To be confirmed on site)

14.3.2 Windows to be:

- Natural anodized 25-micron aluminium frame;
- Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
- Standard sizes throughout 900mm x 1200mm (Obscure);
- Burglar proofing over all opening windows;

15. ABLUTIONS (BLOCK K)

15.1 Gutters and Down Pipes K

15.1.1 Replace damaged uPVC gutter + downpipes (125mmx75mm) with fixing brackets to match existing (\pm 7900mm in length, gutter dimension)

15.2 Doors Block K

15.2.1 All doors intact during site inspection. They should be cleaned and made good.

15.3 Windows Block K

15.3.1 Not Applicable, windows not damaged at time of site inspection. They should be cleaned and made good.

16. EXISTING MASONRY STRUCTURE (BLOCK L)

16.1 Gutters and Down Pipes Block L

16.1.1 Not applicable (Concrete Roof)

16.2 Doors Block L

16.2.1 Replace existing damaged timber door with security gate

123

16.2.2 External Door

- Horizontal 15 Slat Door – Marine Ply – 813×2032
- Semi-Exterior Door (Class 2)
- Performance Class: Medium Duty / Semi-Solid
- Veneer Finish: Meranti
- External Lock to be 3 lever locks complete with stainless steel striker plate and two keys, Chrome plated handles or Equivalent



16.3 Windows Block L

16.3.1 No Replacement needed windows intact during site visit assessment

17. WINDOW - BURGLAR PROOFING

All windows at the parkhomes must be fitted with high-quality burglar proofing.

The burglar proofing is to be installed to the internal walls of the window opening, inside the opening of the window. **Note: Only windows missing burglar proofing.**

The burglar proofing is to consist of the following:

17.1 30 x 6mm Mild steel flat bar frame.

17.2 30 x 6mm Mild steel flat bar welded to frame in a vertical position spaced maximum 100mm c/c.

124

JMLW
5m

17.3 Vertical flat bars to be supported with 30 x 6mm mild steel flat bar welded to each flat bar and side of the frame. The support bar is to be welded to a flat bar using the face area of the flat bar. Provide horizontal support bar maximum every 1000mm in height. Space horizontal support equally.

17.4 Frame fixed to the inside of window opening with M10 bolts with tack welds on every bolt.

17.5 The vertical frame is to be fixed to a wall with bolts spaced a maximum of every 300mm c/c.

17.6 The horizontal frame is to be fixed to the wall with bolts spaced a maximum of every 350mm c/c.



18. REINSTATING OF STEEL STAIR BALUSTRADE IN WALKWAYS AND RAMPS (± 123000MM IN LENGTH)

18.1 1000mm High Stainless Steel Straight Tube Balustrade (Industrial Style Balustrade)

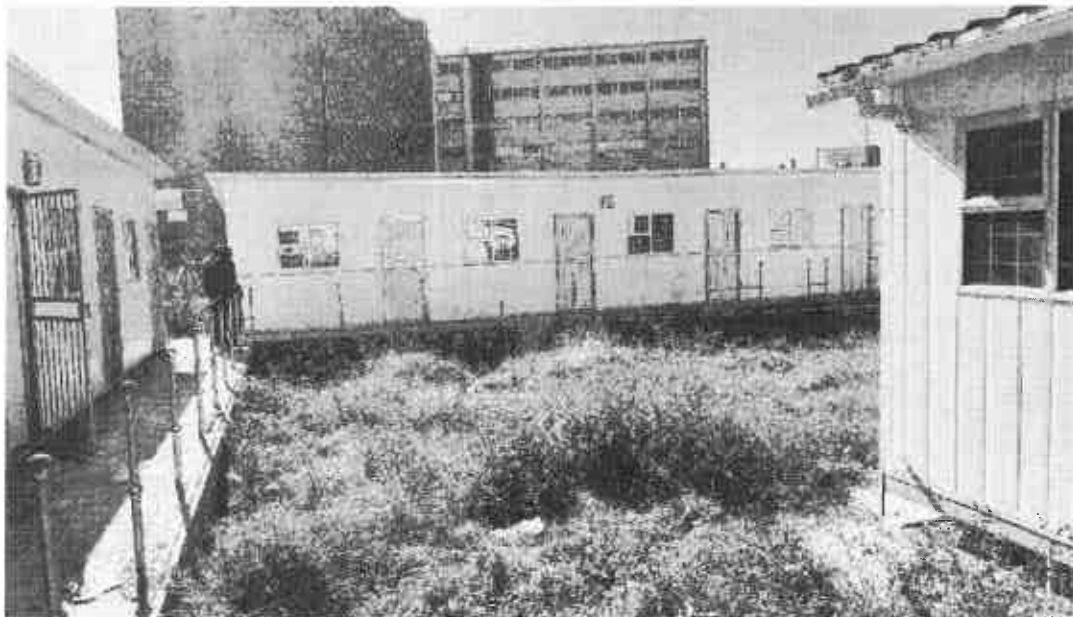
18.2 Accessories to be fabricated in stainless steel grade 316, 304 & 3 CR12/409

18.3 Pegs chemically anchored in concrete 100mm deep

125

JML/SM

- 18.4 Stanchions Composed of a 90° PM PEG Mount on the flat walkway and a 40°TMA Top Mount angel Base at ramps.
- 18.5 1000mm high stainless steel 3- Ball stanchion C/W 666 Closure and 38mm plastic end plugs.
- 18.6 Bends and Closures to be composed of a 90° sir bend SW Short Radius, 90° Closure SW and 40° Closure SW
- Refer to Drawing Sheet A301 + A302 for Balustrade specification and detailing*



19. RAMP ACCESS WAY

- 19.1.1 Ramp to consist of a 1500mm x1500mm Reinforced Concrete landing and 3500mm x 1500mm wide ramp run 170mm thick reinforced concrete run. Ramp to be measured from the center line, slope not to be more than 1:12, finished with wooden trough for rough finish
- 19.1.2 Balustrade to be 1000mm high with vertical bars 500mm apart, fixed to ramp run as per the manufactures spec. Balustrade to be according to NBR standards

126

jmh

5m

20. GENERAL PARKHOME UNITS SCOPE

Please note that the following applies to units that need remedial measures to achieve the original state only if missing or required

20.1.1 Floors: (only if Applicable)

Covering

Vinyl Sheeting;

-2mm beige - sandalwood;

-Slip Resistance – EN 13893 Class DS;

-Reaction to fire – EN 13501-1 Class Bfl-S1; ASTM E662 <450 (1,5,2,0mm); ASTM E648 class 1(1,5,2,0mm)

-Abrasion resistance – EN660-2 Group M;

-Indentation Residua – ASTM F970 (modified), static load 750psi;

-Electrical Behavior (Body Voltage) – EN 1815 s2kV, classified as 'antistatic'

20.1.2 Internal and External Walls: (Only if applicable)

Base Rails

-31 x 41 x 96mm down-stand;

-Galvanised pre-painted with QD Enamel;

-External walls - 1.6mm Thick galvanised Z-section base rail including mastic damp proof seal between chassis and base rail; Internal walls – 1.6mm Thick x 30mm girth with angle bottom rail;

Top Rails-

-External wall panels supported and joined at top with 31 x 41 x 170mm U-channel, 1.6mm Z275 Galvanised sheeting fixed to wall panel with aluminium rivets

Pre-painted galvanised sheets-

-AZ150 galvanised sheets – 0,5mm nominal thickness;

-Inside facing section of sheets finished with single backing coat – 8 microns dry film thickness

127

Wall Panels-

- 40mm thick panel comprising two 0.5mm rigidised pre-painted galvanized sheets;
- Pre-painted sheet to be rigidised to provide extra strength;
- Standard panel sizes, 1160mm wide x 2400 high;
- Insulation properties, 0.022W/mK;
- Foam density, 36kg/m³;
- Each blank panel is injected with high-density polyurethane covered with a temporary protective film;
- Thermal break provided on both male and female sides,
- Panel R-value = 1.81
- Panels have a vertical load-bearing capacity of 1.1 tons in the center and 2 tons on the seam between two panels
- Acoustic properties of 32db drop-through panel

Environmental (Wall Panels)-

- The product conforms 100% to the requirements of the Montreal protocol and contains no products harmful to the Ozone layer.

Fire Properties (Wall Panels)-

- The panel conforms to a DIN 4102 82 fire rating

Energy Performance (Wall Panels)-

- The building regulations for England and Wales now ensure that standards of thermal insulation in ALL buildings are at least as good as those which became mandatory for dwellings in 1976. Energy conservation is now an important factor in the statutory control of building designs

20.1.3 Cappings & Skirting: (Only if applicable)

- All trims manufactured from 0.5mm pre-painted galvanised sheets;
- 7mm x 45mm white PVC skirting secured to panels

20.1.4 Plumbing & Sanitary Wear (Only if applicable)

Potable water supply

- JG Speed Fit white polyethylene pipe certified in accordance to SANS 15875;
- 15mm and or 22mm;
- PEM twist and locPk range of fittings or equivalent;
- Plumbing system pressure tested to 10 bar;

128

JML 5m

Geysers (hot water heaters)

- Franke/Kwikot combi slim electric geysers or similar;
- Certified in accordance with IPX4 international standards;
- ISO 9001 and SABS SANS 151 Approved;
- Capacities are indicated on the floor plans;

Toilets

- Ceramic close couple cistern or equivalent;
- Cistern - SABS Certified Mark No: 1182/2512 SANS 821
- Capacity 9 liters with left or right-side inlet flush handle;
- Afsan low-level pan or equivalent;
- Toilet seat - B2 seat and cover Basins
- White porcelain, Amber wash hand basin with pedestal;

Taps

- Cobra Pillar taps or equivalent;
- In accordance with SANS 226 Type 2;

Waste water pipes

- 110mm white PVC or equivalent - black water;
- 50mm white PVC or equivalent - grey water;

Grease Shield

- Automatic Solids Transfer;
- Effectively removes oils and fats as well as food particles from kitchen wastewater into separate waste containers for recycling or disposal;
- Proactive grease trap to deal with emulsified and saturated animal fats and FOG's before they solidify;
- Removes entrained solids reducing loads and strain on wastewater stations and the environment
- Harvest a source of renewable energy, without the use of heating elements with highly economical operating costs;
- The need to apply special cleaning practices with the use of expensive chemicals to prevent blockages and odours is eliminated entirely with the use of this system

129

Imh
5m

20.1.4 Windows (Only If applicable)

- Natural anodized 25-micron aluminium frame;
- Top hung frames fitted with 4mm clear float glass for all windows except in toilets and ablutions where obscure float glass is used;
- Standard sizes throughout 900mm x 1200mm and (Obscure);
- Burglar proofing over all opening windows;
- Blinds and Flyscreens (provided as an optional when required)

20.1.5 Doors (Only If applicable)

External & Internal

- 40mm thick door panel cut from standard PU wall panel;
- Standard size of 2032mm x 813mm;
- Each door framed with 0.5mm pre-painted galvanized capping riveted to the door panel;
- Natural anodized aluminium rebated door frame including rubber buffers and heavy-duty aluminium hinges;
- Pre-painted galvanized drip rail to doors opening outwards;
- External locks are five lever Dorma locks complete with stainless steel striker plate and two keys; Chrome plated handles or Equivalent;

20.1.6 Fittings (Where and/or if applicable)

Mirrors

- 3mm silvered float copper-backed glass with exposed chromium-plated corner brackets fixed to panels; standard sizes - 300 x 300mm high

Air conditioners

- split type/window wall air conditioners or equivalent as per the sizes and type indicated on the floor plans;

Extractor fans

- Expelair GX6 or equivalent wall-mounted extractor fans suitable for 220 240 volts (50Hz) single-phase installation

130

5m

21. SITE CLEANLINESS

21.1.1 The Contractor shall clear away all debris and excess materials accumulated at the site and dispose of it away from the station premises, maintaining a neat site condition. On completion of the project, the contractor shall leave the site in a broom-clean condition.

22. WORKMANSHIP

22.1.1 Workers working on site shall be skilled in their job and have related job experience

23. MATERIAL AND EQUIPMENT DATASHEET

23.1.1 The contractor shall submit all material and equipment data sheets for the employer before works may commence.

24. SAFETY

24.1.1 The contractor is responsible and shall continue to manage and implement safety and health measures throughout the project.

24.1.2 The employer's representative and the Safety Officer representing the employer reserve the right to suspend work when and where the contractor's health and safety program is considered to be operating in a non-compliant manner.

24.1.3 The contractor shall supply all the Personal Protective Equipment (PPE) for the workers as per the site requirement and the OHS Act. The work will be stopped in case the proper protective equipment is not found with the workers and the time lapse shall be at the contractor's expense.

24.1.4 Contractor will not leave the work site in an unsafe condition or any other condition that might cause harm or injury to personnel, or damage to existing work, structures or equipment.

131

Imhl gm

24.1.5 Contractor will use all the safety gadgets, e.g., hard hats, cotton gloves, overalls and goggles to avoid accidents.

24.1.6 Any equipment or work considered dangerous shall be immediately discontinued.

25. WARRANTY

25.1.1 The contractor shall guarantee that all work performed will be free from all defects in workmanship and materials and that all installations will have the capacities and characteristics specified.

26. LEGISLATION AND APPROVALS:

It is recommended that the additions must be presented and discussed with the local authority (municipality) of the area to determine the legal requirements and approvals.

Please note that the project can be subject to municipal plan submission and approvals for the additions to the site. The contractor shall be responsible for any submission fees required by the local authority. The contractor is to make provision for such fees payable to the local authority.

The Contractor shall be responsible to appoint his/ her own Professional Registered Engineer to design and certify the additions related to the project. The contractor shall make an allowance for the appointment of the Civil and Structural Professional Engineer. The Professional Civil and Structural Engineer will be responsible for his/ her own liability insurance on the project.

The soil conditions are unknown as test holes will need to be done by a civil engineer in order to determine the condition. The design of the foundation will be in accordance with the outcome of the soil test.

The contractor shall be responsible to provide the client (SAPS) with a Certificate of Compliance (COC) issued by a Professional Civil and Structural Engineer upon final completion.

Where the Local Authority required approved plans, the contractor shall supply the client (SASP) with a copy of the approved plans upon final completion.

All building work to comply with the National Building Regulations and

NB:

ALL DIMENSIONS ARE TO BE CONFIRMED ON-SITE PRIOR TO THE COMMENCEMENT OF WORK.

THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND SCHEDULES, BoQ AND CONTRACTOR'S APPOINTMENT DOCUMENT.

ARCHITECTURAL DRAWINGS SUPERCEDE ANY DISCREPANCIES FROM THE SCOPE OF WORKS OR BoQ.

133

Handwritten signature/initials

Handwritten initials

SOUTH AFRICAN POLICE SERVICES

MADEIRA SAPS PARKHOMES



CIVIL AND STRUCTURAL ENGINEERING SCOPE AND SPECIFICATIONS

SAPS: Supply Chain Management

Private Bag x 254

Pretoria

0001

134

Jmh

AUGUST 2023

Contents

| | |
|---|----------|
| 1 DESCRIPTION OF WORKS | 3 |
| 2 SITE LOCATION | 3 |
| 3 SCOPE OF THE WORKS | 3 |
| 4 EXTENT OF THE WORKS | 4 |
| 4.1 GENERAL | 4 |
| 4.2 CONCRETE PAVING BLOCK | 4 |
| 4.3 CONSTRUCTION OF KERBING | 4 |
| 4.4 CONSTRUCTION OF CAST-IN-SITU REINFORCED CONCRETE V-DRAIN STORMWATER CHANNEL | 5 |
| 4.5 CONSTRUCTION OF PREFAB CONCRETE CUTOFF U-DRAIN STORMWATER CHANNEL (MAIN STATION BOUNDARY) | 5 |
| 4.6 PERIMETER FENCE | 5 |
| 5 ADDITIONAL ENGINEERING SERVICES | 7 |
| 6 SITE CLEANLINESS | 7 |
| 7 WORKMANSHIP | 7 |
| 8 MATERIAL AND EQUIPMENT DATA SHEET | 8 |
| 9 WARRANTY | 8 |
| 10 LEGISLATION AND APPROVALS: | 8 |

APPENDICES

A.1. Pavement layer works

A.2. Kerbing details

B.1. V-drain channel details

B.2. Precast u-drain channel details

135

J. M. M.

1 DESCRIPTION OF WORKS

Madeira SAPS is to undergo some repairs and upgrade. The proposed upgrade entails construction of concrete block pavement, kerbing, storm water channel, boundary fence, foundations and retaining wall at Madeira SAPS. The provision of the required upgrades shall comply with relevant standards (SANS 1200 -Standardized specification for civil engineering construction):

- SANS 1200 LE - Stormwater Drainage
- SANS 1200 DB - Earthworks (pipe trenches)
- SANS 1200 G - Concrete (structural)
- SANS 1200 LB - Bedding (pipes)
- SANS 1200 MK - Kerbing and channelling
- SANS 1200 MJ: Segmented Paving
- OW 371 - Specification of Materials and Methods to be used (Fourth edition, October 1993)

2 SITE LOCATION

The Madeira SAPS is situated at 26 Madeira St, Norwood, Mthatha, 5101, Eastern Cape Province.

3 SCOPE OF THE WORKS

The civil/structural scope for the repairs and upgrade at Madeira SAPS includes:

- Conducting topographical and land surveys of the entire station area
- Conducting geotechnical studies and foundation designs
- Conducting detailed designs and approvals submissions (Confirm proposed specifications listed in this document to adhere with relevant standards)
- Construction of concrete paving block.
- Construction of kerbing and channel.
- Construction of storm water channel and pipes connections to municipal lines.
- Construction of foundations and retaining wall to support new perimeter fence
- Construction of a new perimeter fence where required.

136
Jmhl

4 EXTENT OF THE WORKS

4.1 GENERAL

- The Contractor shall be required to comply with the Occupational Health and Safety Act 85 of 1993, Construction Regulations 2014 and Construction Health and Safety Specifications.
- Undertake the relevant and necessary risk assessment.
- Cordons off/barricade work area in a safe and effective manner, allowing normal operations to continue.
- Identify any existing services or equipment at risk of damage due to the construction activities and protect in a safe and effective manner.
- Clear site of any obstructions impeding the intended construction.

4.2 CONCRETE PAVING BLOCK

- Clear and grub all unwanted surface material to 150mm depth and maintain a gradient slope of 2% towards the stormwater channels
- Compact in-situ material to 93% Mod AASHTO maximum density to accommodate new foundation
- Place layer works material at 150mm layers as shown in Appendix A.1 of this document
- Set out required levels for 25mm sand for bedding and jointing shall be free from substances that may be deleterious to blocks.
- Supply and apply approved herbicide.
- Lay Class 25 SANS approved 80 mm interlocking brick (Grey).

4.3 CONSTRUCTION OF KERBING.

- Construct Semi Mountable Kerb Type as shown in Appendix A.2 of this document
- All kerbing works shall be done in accordance to with the relevant requirements of SANS 927.

137

JMW

4.4 CONSTRUCTION OF CAST-IN-SITU REINFORCED CONCRETE V-DRAIN STORMWATER CHANNEL

- Conduct survey, setting out points and required levels for foundation.
- Excavate and shape in situ materials for a V-drain concrete channel of 1000mm wide x 200 mm deep as shown in Appendix B.1 of this document
- Compact insitu material to 95% MOD AASHTO.
- Cast 15 MPa 50mm concrete blinding layer,
- Cast 30MPa 100mm thick concrete V-drain in panels of 3m each with soft board, reinforced with mesh wire 193.
- Construct 450mm concrete pipe to connect between v-drain discharging to the manholes as shown on the layout drawing
- Use an 18" Pipe-to-manhole connector to connect the 450mm concrete pipe to the manhole

4.5 CONSTRUCTION OF PREFAB CONCRETE CUTOFF U-DRAIN STORMWATER CHANNEL (MAIN STATION BOUNDARY)

- Conduct survey, setting out points and required levels for the U-drain.
- Excavate and shape in situ materials for a U-drain concrete channel of 600mm wide x 600mm deep as shown in Appendix B.2 of this document
- Compact insitu material to 95% MOD AASHTO.
- Cast 15 MPa 50mm concrete blinding layer.
- Place a U-Type steel grating trench drainage cover over the completed channel
- Construct a 250mm uPVC pipe to discharge stormwater from the U-drain to the 450mm concrete pipe as shown on the layout drawing.

4.6 PERIMETER FENCE

4.6.1. CONSTRUCTION OF NEW NORTHERN PERIMETER FENCE (BRICK WALL)

- Remove and discard existing wire and brick wall fence
- Set out points and required levels for the strip foundation.

138
JMH

- Excavate to required levels, 750mm below natural ground level (NGL), including compaction of in-situ material to accommodate new foundation.
- Cast 15MPa 50mm concrete blinding layer.
- Cast 25MPa 750mm x 250mm reinforced concrete strip foundation with 30mm reinforcement cover; reinforced with 3Y12 Top & Bottom and Y10@200 Links.
- Construct Brick wall as per architectural drawing A100. Maintain the prescribed height above natural ground level, stepping it where required.
- Drill into brickwork to accommodate 50mm diameter uPVC weep holes at a maximum spacing of 600mm c/c where applicable as shown on the architectural drawing
- Grade surrounding area to ensure effective drainage away from the boundary wall.

4.6.2 CONSTRUCTION OF ACCESS GATE

- Set out the fence set out points required for the sliding gate foundation
- Excavate to required levels, 600mm below natural ground level (NGL), including compaction of in-situ material to accommodate new foundation
- Cast 600mm x 600mm x 600mm unreinforced foundations to support Mild steel gateposts.
- Install access gate as per Architectural drawing

4.6.3. CONSTRUCTION OF CONCRETE RETAINING WALL AND FENCE

- Set out the fence set out points and required levels for the strip foundation.
- Excavate to required levels, 600mm below natural ground level (NGL), including compaction of in-situ material to accommodate new foundation.
- Cast 15MPa 50mm concrete blinding layer.
- Cast 25MPa 1400mm x 300mm reinforced concrete strip foundation with 30mm reinforcement cover for the 225mm thick RC retaining wall with variable heights.
- Construct concrete brick wall and double skin fencing panels to required heights as per architectural drawing A200. Maintain the prescribed height above natural ground level, stepping it where required.
- Drill into brickwork to accommodate 50mm diameter uPVC weep holes at a maximum spacing of 600mm c/c where applicable.
- Grade surrounding area to ensure effective drainage away from the boundary wall.

139 Jmk

- Cast 600mm x 600mm x 600mm unreinforced foundations to support Mild steel gateposts.

5 ADDITIONAL ENGINEERING SERVICES

- **Topographical and land survey:** to assess ground elevations and enable the engineer to take into consideration the natural ground level differences between the police station and neighbouring properties along the site boundary. The outcomes of the surveys shall be utilized for detailed design of the stormwater and retaining wall.
- **Geotechnical services:** to assess ground conditions and to determine founding conditions across the site including but not limited to ground stratigraphy, strength parameters for retaining wall design, ground water conditions and other ground characteristics required for detailed design. The outcomes of the geotechnical assessment shall be utilized for final detailed design of the stormwater, foundations and retaining wall.
- **Structural engineering services:** The contractor shall make allowance for a Professional civil and structural engineer to provide relevant all civil and structural engineering services for the duration of the project including but not limited to detailed designs and submission of drawings and reports for local authority approvals. The services shall be provided by a professional civil and structural engineer (PrEng) or a professional civil and structural engineering technologist (PrEngTech) with a minimum of 3 years' experience post registration

6 SITE CLEANLINESS

The Contractor shall clear away all debris and excess materials accumulated at the site and dispose of it away from the station premises, maintaining a neat site condition. On completion of the project, the contractor shall leave the site in a broom clean condition.

7 WORKMANSHIP

Workers working on site shall be skilled in their job and have related job experience.

140

JMK

8 MATERIAL AND EQUIPMENT DATA SHEET

The contractor shall submit all material and equipment data sheets for employer to accept before any works may commence.

9 WARRANTY

The contractor shall guarantee that all work performed will be free from all defects in workmanship and materials and that all installations will have the capacities and characteristics specified.

10 LEGISLATION AND APPROVALS:

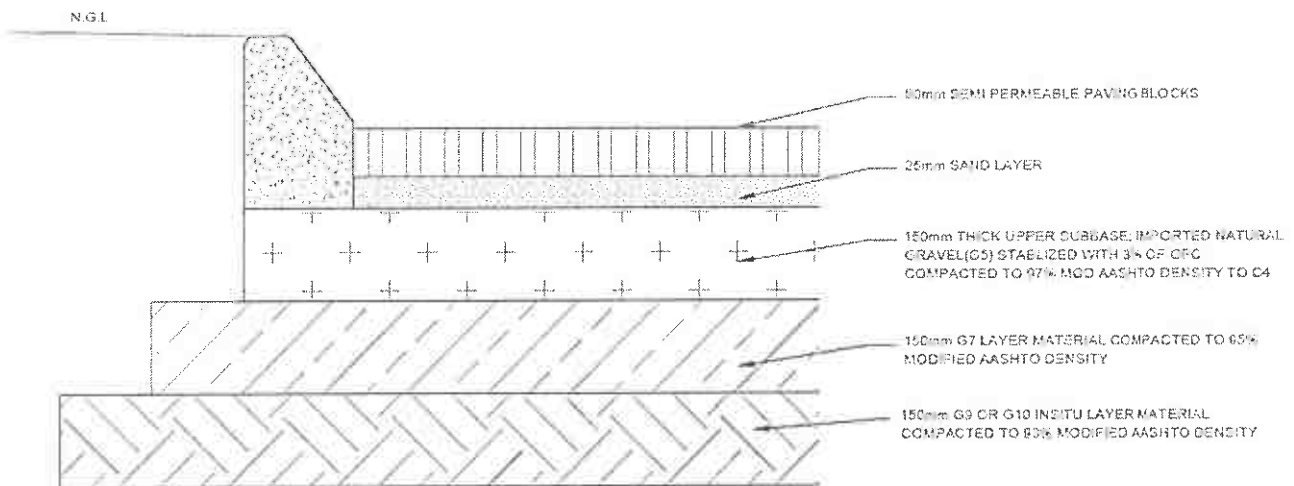
- It is recommended that the additions must be presented and discussed with the local authority (municipality) of the area to determine the legal requirements and approvals. Please note that the project can be subject to municipal plan submission and approvals for the additions to the site. The contractor shall be responsible for any submission fees required by the local authority. The contractor to make provision for such fees payable to the local authority.
- Where the Local Authority required approved plans, the contractor shall supply the client (SAPS) with a copy of the approved plans upon final completion.
- All building work to comply with the National Building Regulations and SANS10400 (2011).

141

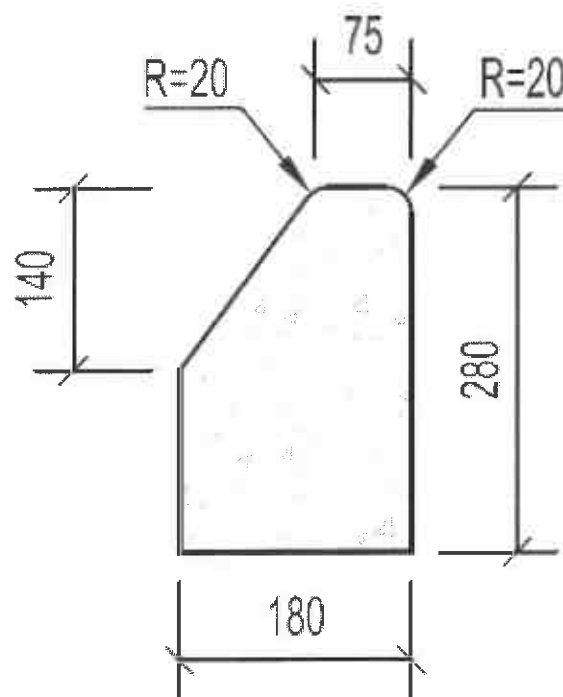
July

APPENDIX A – PAVEMENT AND KERBING

A.1. PAVEMENT LAYERWORKS



A.2. KERBING DETAILS (SEMI MOUNTABLE KERB)

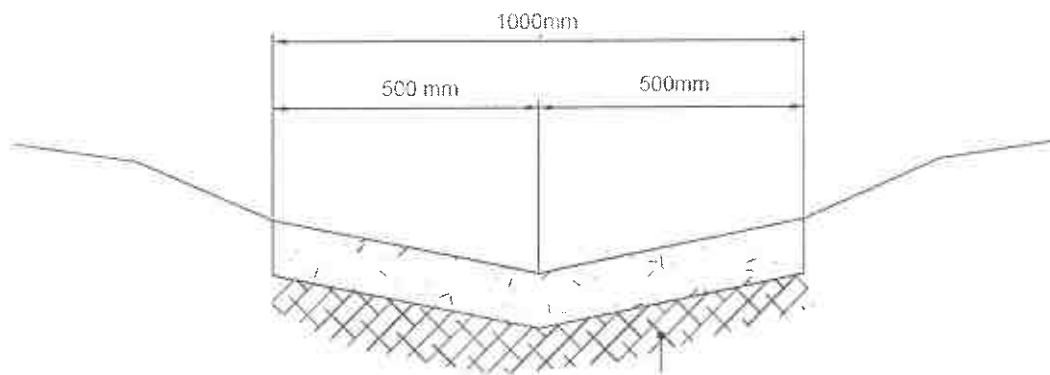


142

Smh1

APPENDIX B – STORMWATER MANAGEMENT DETAILS

B.1.V-DRAIN CHANNEL DETAILS

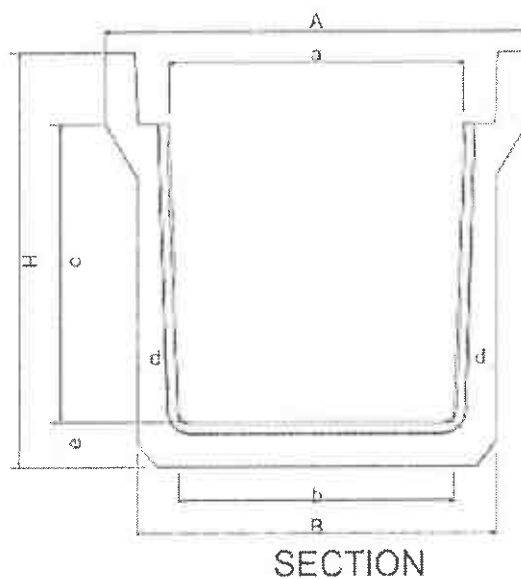


B.2. PRECAST U-DRAIN CHANNEL DETAILS

Size (a x b) = 600mmx600mm

Thickness = 50mm

Shape = U-Shape



143

with



**SOUTH AFRICAN POLICE SERVICE
SPECIFICATION FOR ELECTRICAL RETICULATION AND
ASSESSMENT**

MADEIRA POLICE STATION

EASTERN CAPE PROVINCE

Compiled By: SAPS, SCM, Facility Management

Colonel: D Mtsweni

Chief Electrical Engineer

Tel: 012 349 6058

E-Mail: MtsweniD@saps.gov.za

144



TABLE OF CONTENTS

| Chapter | Description | Page |
|---------|---|------|
| 1. | INTRODUCTION..... | 3 |
| 1.1. | Purpose | 3 |
| 1.2. | Regulations, Standards, and References | 3 |
| 2. | STATUS OF EXISTING ELECTRICAL INSTALLATIONS..... | 4 |
| 2.1. | Existing Buildings | 4 |
| 2.2. | The purpose of the review: | 4 |
| 2.3. | Site Assessment..... | 5 |
| 2.3.1. | Park Home Findings: | 5 |
| 2.3.2. | Madeira Police Stations Findings: | 5 |
| 3. | ASSUMPTIONS..... | 5 |
| 4. | ELECTRICAL INSTALLATION SCOPE OF WORKS..... | 6 |
| 4.1. | SCOPE OF WORK FOR THE MAIN STATION..... | 6 |
| 4.1.8. | Perimeter Scope of Work..... | 7 |
| 4.1. | Supply, Replace, and Install Electrical Reticulation for The Scope Of Work for..... | 8 |
| | Existing Mobile Park Homes. | 8 |
| 5. | SCHEDULE OF QUANTITIES..... | 11 |
| 5.1. | Schedule of Madeira Police Station | 11 |
| 5.2. | Mobile Park Homes: BLOCK A-F, I & J..... | 14 |
| 5.3. | Ablution for Park Homes | 17 |
| 5.4. | Lighting For Park Homes Complex | 18 |
| 6. | JOB CARD..... | 18 |

145



1. INTRODUCTION

The South African Police Service under Supply Chain Management Division has a requirement to conduct the assessment of the existing electrical infrastructure at Madeira Police Station and provide recommendations for the proposed electrical upgrade and alteration work.

Madeira Police Station is situated at 26 Madeira St, Norwood, Mthatha n Eastern Cape Province. The station falls under O.R Tambo Local Municipality, in Eastern Cape Province. The station forms part of the devolved police station.

1.1. Purpose

This electrical reticulation specification and assessment reset set out to describe in detail the condition of the existing electrical and electronic systems of the Police Station and following scope of work on how to upgrade the installation in line with regulations, standards, municipal by-laws, and good practice.

1.2. Regulations, Standards, and References

The existing systems should conform to the following:

- The South African National Standards Wiring Code - SANS 10142-1:2006;
- Occupational Health and Safety Act and Regulations (85 of 1993).
- Energy Code of Conduct for all Government Buildings.
- The Local Authority Fire Regulations.
- ICASA Regulations;
- National Building Regulations and the SABS 0400:1990 Code of Practice for the Application of the National Building Regulations;
- Advisory Service Policy Document for the design of Electrical Installations of, January 2006.



- Eastern Cape Department of Public Works Policy Document for the design of Electrical Installations.
- Information Communication Technology Infrastructure Specifications Manual.
- The South African Police Services Project Five Star; and
- O.R.Tambo Local Municipal By-Laws

2. STATUS OF EXISTING ELECTRICAL INSTALLATIONS

2.1. Existing Buildings

This design was based on the Architectural drawing layout **EC/PH/MTHATHA/MADEIRA /2021-2022**. The form only shows the area where the park homes units are currently positioned at the Madeira (Park homes) Police Station in Mthatha in Eastern Cape Province.

Madeira Police Station (Park homes) is a South African Police Service located in Eastern Cape Province in Mthatha Town. The park homes at the Police Station consist of the following mobile units;

- Seven (7) x units as a mobile office with 45 m² and one mobile office with 72 m²
- One (1) x unit as a mobile victim-friendly facility (VFF) with 72 m²
- Two (2) units as ablutions with 22.5 m²

The mechanical and electrical engineering sections were required to provide their respective technical design of the layout with reference EC/PH/Mthatha/2021-2022 for the purpose of providing the maintenance and ensuring that the Madeira (Park homes) Police Station is brought back into operation.

2.2. The purpose of the scope review

- To provide the recommendations which will enable the facility to comply with the building regulations act and standards.
- To provide the scope of work on electrical engineering services required for the Madeira (Park homes) to comply with all the building regulations act and standards.



- To provide the preliminary cost estimate for the electrical engineering services at the Madeira (Park homes) Police Station.

2.3. Site Assessment

2.3.1. Park Home Findings:

- The following Park Home Blocks Block F, E, D, C, and I, and the electrical installations from cables, boxes, switches, lights, and sockets.
- Park Homes A and H were never assessed. Since were locked during the site visit.
- Their main gate did not have any motor.
- The park home complex did not have perimeter lights.

2.3.2. Madeira Police Stations Findings:

- Their main gate did not have any motor.
- The park home complex did not have perimeter lights
- The Station did not have a standby generator
- Most of the sockets were reported to be not functioning.
- Most of the indoor fluorescent lights were flickering and not working.
- The red light or danger light was not working.
- Two DBs were not wired neatly and had old fuch's circuit breakers.
- Some of the perimeter lights installed were not working.

3. ASSUMPTIONS

It is assumed that the entire electrical installations at Madeira (park homes) Police Station are damaged and need to be replaced including the main cabling, distribution boards, and perimeter lights. It is proposed that the below engineering services for electrical be considered which will enable the Madeira (Park homes) Police station to comply with all building regulations and the relevant standards. The below scope of works is proposed.



4. ELECTRICAL INSTALLATION SCOPE OF WORKS

This scope of work provided below is based on the review conducted on the drawings of the Main Station Scope of Works:

4.1. Scope of Work for the main station

4.1.1. Excavation and Trenching Scope of Work

Supply the general trenching, excavating, and backfilling with the soft soil work for the 2x110m HDPE sleeves for power cables from the main distribution board to the gate motor and generator cable from the main distribution board to the change-over distribution board.

Note: The detailed scope of work shall be confirmed on-site by the contractor.

4.1.2. Cable and Data Sleeves Scope of Work

No work is required for this part of the project

4.1.3. Distribution Boards Scope of Work

Supply, and service the two DBs including their circuit breakers, and on the main breakers replace 63A with an upgrade with 2x250A and the same size of Earth Leakage breaker for 10A for Lights and 15A for sockets and 30A for Air-Conditioners and 40A for hydro-boiler, and 60A for electric stove.

4.1.4. Conduits, Conduit Boxes, and Outlet boxes Scope of Work

No work required-use the e existing conduits

4.1.5. PVC Wiring in conduits in Scope of Work



- Supply, service, and test all the existing electrical supplying cable installations :
 - 10mm² 3 Core PVC SWA Supply Cable for main power supply from Main DB to Sub DB.
 - 2.5mm² 3 Core PVC SWA Supply Cable for the sockets.
 - 4mm² 3 Core PVC SWA Supply power Cu Cable for the air-conditioners.
 - 1.5mm² 3 Core PVC SWA Supply Cu Cable for the lights

4.1.6. Light Switches, Socket Outlets, and Isolators Scope of Work

- Supply, Service, and test all the existing electrical installations especially all the sockets, switches, and isolators.
- Supply, Service, and Test all the existing electrical sockets and switches.
 - 16A 3-pin double socket outlets
 - 16A SA/Euro combined socket outlet

4.1.7. Light Fittings and Luminaires Scope of Work

- Supply, replace the old lights, and install the following lights:
 - **Passage:** 1200x600 Recessed Fluorescent 60W LED LBR with one-hour backup, Type L3B
 - **Kitchen and Ablution:** 2 x 36W BEKA fluorescent open channel with electronic ballast and complete with cool white lamps
 - **Outside:** 15W LED BEKA BULKHEAD SERIES 30 complete with LED lamps
 - **Strong Room:** Emergency Red Alarm light complete with buzzer siren for safe storage.

4.1.8. Perimeter Scope of Work

- Supply, install, and test the following installations and issue the certificate of compliance (C.O.C):