



TENDER NO.: SC 2168/2020

**REBUILD OF EXISTING DWELLING FOR NEW LAW-ENFORCEMENT OFFICES ON FARM PORTION 3 OF
FARM 585, HEMEL-EN-AARDE ROAD, HEMEL-EN-AARDE VALLEY**

SPECIFICATIONS

11.2 Details requirements (Technical specifications for execution of works) :

11.2.1 **Site and building:**

11.2.1.1 New Law Enforcement office on farm in Hemel-en-Aarde Valley given to Contractor as shown on site plan.

11.2.2 **General description of building:**

11.2.2.1 Concrete block and mortar building.

11.2.2.2 External skin plaster and painted.

11.2.2.3 Internal skin plaster and painted.

11.2.2.4 Floor – offices vinyl flooring, bathrooms tiles

11.2.2.5 New roof – 0.53mm IBR profile sheeting with AZ200 coating in accordance with SANS-9364. Continuous hot-dip Aluminium/Zinc coated steel sheeting equivalent and approved. (colour charcoal). Ceiling as specified

11.2.3 **Protection and security:**

11.2.3.1 The role players (The client and his Contractors) have to comply with the following:

- (a) Occupational Health & Safety Act No.85 of 1993 as amended by the Occupational Health & safety Amendment Act No.181 of 1993;
- (b) the Construction regulations No. R1010 of 18 July 2003;
- (c) General Administrative Regulations, 2003, No. R929 of 25 June 2003;
- (d) General Safety Regulations, 1986 No. R1031 of 30 May 1986; and
- (e) All other Regulations that might be applicable.

11.2.3.2 Provide security for new building works.

11.2.3.3 The responsibility of the building site lies with the Contractor.

11.2.4 **Detailed description of works (new Law Enforcement offices):**

11.2.4.1 General

11.2.4.2 New building work

11.2.4.3 New roof structure

11.2.4.4 New windows and doors

11.2.4.5 New floor finishes

11.2.4.6 New electrical work

11.2.4.7 New plumbing and sanitary ware

11.2.4.8 Painting of new structure

11.3 **Specifications of construction for building of new Law Enforcement offices:**

11.3.1 **GENERAL**

- a) all setting out works to be done strictly in accordance with approved site layout plan
- b) all Architectural drawings to be read in conjunction with relevant Structural Engineer's drawings and other consultant's drawings
- c) refer any discrepancies to Architect or Engineer in writing prior to commencement of work
- d) obtain written authorization from Architect or Engineer for all amendments prior to commencement of work
- e) no drawing to be scaled. Figured dimensions to be used at all times
- f) earthworks refer to Structural Engineer's specifications

- g) concrete, masonry walls and timber construction to Structural Engineer's specifications
- h) structural steelwork to Structural Engineer's specifications

11.3.2 NEW BUILDING WORK

i) FOUNDATIONS

- a) setting out work and excavation of trenches as per specifications
- b) compaction testing of excavated foundation trenches by Structural Engineer before casting of concrete foundation footings. Top of concrete foundation to be min depth as per Structural Engineer's detail (min 700mm)
- c) concrete strip foundations 800mmx300mm to Structural Engineer's specification. MPA of concrete refer to Structural Engineer's specifications. 4 x Y12 bars in foundations spaced 200mm apart in foundation trenches
- d) concrete footing for galvanized pillars for covered stoep 600mm x 600mm x 800mm deep mass concrete to Structural Engineer's detail and specifications.

ii) FOUNDATION WALLS

- a) Foundation walls built with 190mmx190mmx390mm concrete blocks with brick force as specified by Structural Engineer's specifications. Movement joints as per Structural Engineer's specification (wall joint detail)

iii) FILLING

- a) Approved selected cohesions less backfill compacted beneath surface beds, must be compacted in layers not exceeding 150mm. Compaction test to be carried out in accordance with SANS 3001 GR30b. All plumbing and electrical conduits to be installed in filling. No pipework allowed in surface beds

iv) CONCRETE SURFACE BEDS

- a) Concrete surface bed to be placed only after approval of compaction of filling by Structural Engineer. 100mm concrete surface bed on 250micron DPC as per detail. 10mm Jointex (or equivalent and approved) to be installed as per detail (typical isolation detail). Surface bed with Ref 193 mesh concrete
- b) Typical construction joint to 100mm surface bed as per Structural Engineer's detail (typical construction joint) with bond breaker and filler
- c) 25mm topping on floated concrete surface bed for floor finishes

v) MASONRY WALLS

- a) masonry walls constructed with 190mm x 190mm x 350mm concrete blocks and mortar class II to SANS10164-1
- b) masonry walls to be constructed in accordance with standards and tolerances of SANS2001-CM1, SANS1064-1 and SANS10145
- c) construction joint to Structural Engineer's detail (wall joints detail) with 600mm long galvanized hoop iron strap with concrete fill. Note detail with 10mm Jointex (or equivalent and approved) and polysulphide sealed to joints
- d) typical window and door detail to be used over door and window openings as per Structural Engineer and detail. Y-10 bar with 150mm overlap onto blockwork and filled with 15MPa concrete
- e) fixing of SAP roof trusses and beams to Structural Engineer's detail. Hoop iron built into concrete hollow block min 600mm and filled with 15MPa concrete. See 100 x 100 galvanized post detail for fixing in concrete
- f) walls to be plastered and painted internally and externally

vi) DRY WALLS

- a) see typical dry wall detail

- b) structural timber to comply with SANS 1783 and SANS 10149
- c) preventive treatment of timber to be in accordance with SANS 10005
- d) 38x114 SAP at 400mm c/c with horizontal 38x114mm braces at 400mm c/c
- e) 12,5mm Rhinoboard (or equivalent and approved) screwed to dry wall framework skimmed with cretestone (or equivalent and approved)
- f) Painted as per specification

11.3.3 NEW ROOF STRUCTURE

- a) Pre-manufactured SAP roof trusses fixed on 38x114mm wall plate
- b) SAP roof trusses and rafter beams to be fixed to masonry elements and 100x100x3,0 SHS galvanized post to Structural Engineer's detail and specs. See details of fixing on galvanized post
- c) New roof – 0.53mm IBR profile sheeting with AZ200 coating in accordance with SANS-9364. Continuous hot-dip Aluminium/Zinc coated steel sheeting (or equivalent and approved). Colour charcoal. Ceiling as specified
- d) Standard fibre cement fascias 220mm wide fixed to overhang with only brass screws 6 x 55mm to be used for fixing fascias
- e) Aluminium ogee seamless gutter 85mm to be fixed to fascias. Aluminium gutter colour – charcoal
- f) 7 x Aluminium downpipes as indicated on roof plan to be fixed to masonry wall
- g) Poly button closers to be installed at all roof ridges
- h) 100mm isotherm insulation blanket (R-value 2,174) (or equivalent and approved) installed on ceiling
- i) Ceiling – internal 9mm Rhinoboard (or equivalent and approved) ceiling fixed on 38x38mm SAP battens at 400mm c/c. Ceilings skimmed with cretestone (or equivalent and approved) and finished with 80mm polystyrene cornice fixed to wall and ceiling with recommended manufacturer's adhesive
- j) Ceiling – external 6mm nutec board (or equivalent and approved) fixed to 38x38mm SAP batten at 400mm c/c. Finished around edge with SAP quarter round

11.3.4 NEW WINDOWS AND DOORS

Internal doors and frames:

- a) New 90 x 55 meranti frames by Swartland (or equivalent and approved)
- b) New 813 x 2055mm plain Swartland Hollow Core hardboard door (or equivalent and approved)
- c) Brass hinges (2 per door)
- d) Yale 3-lever chrome handle and lock set (or equivalent and approved)

External windows and doors:

- a) Aluminium to door and window schedule – ANP 3055 matt charcoal powder coated aluminium
- b) Windows section – Nuklip top-hung casement cistern by HBS (Hullett Building System) aluminium (or equivalent and approved). Stainless steel friction stays and black casement handles
- c) Door section – Nuklip shopfront system as per HBS (Hullett Building System) aluminium (or equivalent and approved). Section 65mm door stiles with 85mm top, midrail and bottom stiles. Hardware to be 3 x 100mm sinkless hinges 1 x handle pack and ISEO 35mm back set latch lock (or equivalent and approved)
- d) Glazing – see window and door schedule
- e) Sealant around door and window opening. 10mm two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc.

11.3.5 NEW FLOOR FINISHES

- a) Offices – vinyl flooring on self-levelling screed on topping. Finished with 80mm SAP skirting painted. See specification. Provisional cost allowed for vinyl R470-00/m PC amount vinyl R85 000-00.

- Includes bathroom floors
- b) Bathroom 3 – tile only on shower floor and shower walls 2,0m high. See specification. Provisional cost allowed for tiles, paste and grouting R350-00/m PC amount tiles R3 500-00 (labour part of contract)
- c) Paving – charcoal cement paver 100 x 200 x 50mm, laid in stretcher course bond on compacted filling paving with header coarse around edges bedded in concrete – Paving total 13,67m².

11.3.6

NEW ELECTRICAL WORK

Allowances to be made by Electrical Contractor

- a) DB board in position as shown on electrical plan in reception area. DB board to have space for second phase extension
- b) Trunking as shown on plan for plug point as well as computer and telephone lines in future use (165x55mm twin compartment trunking)
- c) 16 x double/Euro (single plug with 2 prong pin socket as combination) plug points in trunking
 - 26 x ceiling light points
 - 5 x wall mounted lights
 - 1 x 4-lever switches
 - 8 x single light switches
 - 2 x double light switches
 - 2 x 3-lever switches
 - 5 x single plug points includes provision for under counter electrical geyser in storage cupboard
 - 1 x waterproofed plug outside for gas geyser
- d) PC amount light fittings R25 000-00 (labour part of contract)

11.3.7

NEW PLUMBING AND SANITARY WARE

- a) All new plumbing to be done with new piping only “Cobra” SABS piping (or equivalent and approved) to be used for water supply
- b) All new 110mm PVC drainage to min 1:100 fall with insert level check to new 10 000 litre conservancy tank
- c) Drainage run vented and highest point with changeover vent valve and rodding eyes at change in direction. See drainage layout
- d) Hot water supply:
 - i. Bathroom 3 and kitchen – approved 11 litre indoor/outdoor gas geyser. Install gas geyser with 2 x 9kg bottles with changeover valves. COC with completion of works on gas installation
 - ii. Gas geyser only to supply hot water to kitchen and bathroom 3 next door
 - iii. PC amount for gas geyser, gas bottle cage, under counter geyser = R30 000-00 (material only labour part of contract)
COC for gas installation on completion of work
 - iv. Kwikot – 5 litre (or equivalent and approved) under counter geyser in cupboard to supply hot water to wheelchair toilet and two adjacent toilets - WC1 and WC2
- e) Sanitary ware:
 - i. Disabled toilet: sanitary ware and fittings as specified (or equivalent and approved)
 - 1 X PARAPLEGIC WC COMPLETE LECICO (or equivalent and approved)
 - 1 X WHITE WOOD TOILET SEAT TSW1 (or equivalent and approved)
 - 1 X GRAB RAIL - DOGLEG DL2 RAILMAN (or equivalent and approved)
 - 1 X GRAB RAIL - GRC CISTERN RAIL 670MM (or equivalent and approved)
 - 1 X BASIN – WHITE HIBISCUS – V 2TH 510 (or equivalent and approved)
 - 1 X TRAP - 32MM PVC BASIN “P” TRAP

1 X BASIN WASTE - W/P BRASS 303-32 (or equivalent and approved)
 1 X BASIN FIXING BOLTS – BOLT SET FIXG: 8448Z0#1500212 (or equivalent and approved)
 1 X TAPS 503-21B – ELBOW PILLAR TAPS (or equivalent and approved)
 1 X PAIR ANGLE VALVES – BENKISER ½ G10 ANGLE VALVES (or equivalent and approved)
 1 X CONNECTING HOSE – FLEXIBLE CONNECTED BRADED
 1 X P/BUTTON SLOTTED BASIN WASTE (or equivalent and approved)

ii) WC1:

1 X BETA BASIN COURIER COMMERCIAL (or equivalent and approved)
 1 X ASPEN LIGHT BASIN MIXER F/TOP (or equivalent and approved)
 1 X P/BUTTON SLOTTED BASIN WASTE (or equivalent and approved)
 1 X BOLT SET FIXG.884820#1500212 (or equivalent and approved)
 1 X BETA ASTINA F/FLUSH BOX SUITE (or equivalent and approved)
 3 X FLEXIBLE CONNECTION HOSE BRAIDED
 3 X ANGLE VALLE BENKISER ½G10 (or equivalent and approved)
 1 X TRAP – 32MM PVC BASIN “P” TRAP

iii) WC2:

1 X BETA BASIN COURIER COMMERCIAL (or equivalent and approved)
 1 X ASPEN LIGHT BASIN MIXER F/TOP (or equivalent and approved)
 1 X P/BUTTON SLOTTED BASIN WASTE (or equivalent and approved)
 1 X BOLT SET FIXG.884820#1500212 (or equivalent and approved)
 1 X BETA ASTINA F/FLUSH BOX SUITE (or equivalent and approved)
 1 X FLEXIBLE CONNECTION HOSE BRAIDED
 1 X ANGLE VALLE BENKISER ½G10 (or equivalent and approved)
 1 X TRAP – 32MM PVC BASIN “P” TRAP

v) Bathroom 3:

1 X BETTA ASTINA F/FLUSH BOX SUITE (or equivalent and approved)
 3 X ANGLE VALVE BENKISER 1/2X1/2 GIO (or equivalent and approved)
 3 X FLEXIBLE CONNEC BRAIDED (or equivalent and approved)
 1 X BETA BASIN COURIER COMMERCIAL (or equivalent and approved)
 1 X PVC BASIN 'P' TRAP 32MM
 1 X P/P BUTTON SLOTTED WATER WASTE (or equivalent and approved)
 1 X BOLT SET FIXG: 8448ZO #1500212 (or equivalent and approved)
 1 X ASPEN LIGHT BASIN MIXER F/TOP (or equivalent and approved)
 1 X ASPEN LIGHT B/SHOWER MIX (or equivalent and approved)
 1 X S/TRAP PVC S/S GRID MARLEY (or equivalent and approved)
 1 X VORTEX S/ARM 400MM ROUND (or equivalent and approved)
 1 X F777 VICI SHOWER ROSE 200MM (or equivalent and approved)

vii) Kitchen:

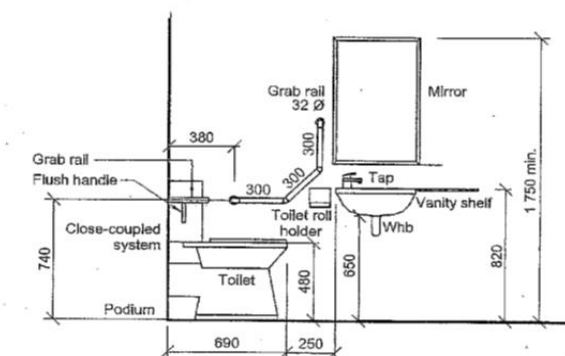
1 X SPARTA 1160X500 DEBSD1-1160DE (or equivalent and approved)
 1 X PVC D/BOWL SINK COMB W/TRAP (or equivalent and approved)
 1 X ASPIN LIGHT SINK MIXER (or equivalent and approved)
 2 X ANGLE VALVE BENKISER ½ X ½ G10 (or equivalent and approved)
 2 X FLEXIBLE CONNECTION HOSE BRAIDED

viii) Bathroom accessories:

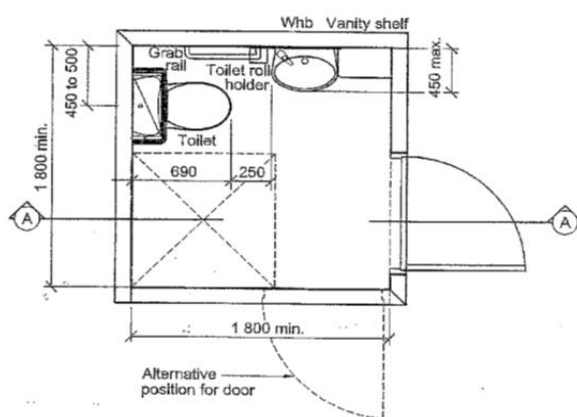
- 2 X SOAP DISPENSERS (or equivalent and approved)
- 4 X TOILET ROLL HOLDERS TR3 Stainless steel (or equivalent and approved)
- 3 X WASTE BIN RDX (or equivalent and approved)

iv) Mirrors:

- 4 units x 800x500x4mm mirror screw fixed to walls above HWB (or equivalent and approved)
- PC amount for sanitary ware R35 000-00 (material only labour part of contract)



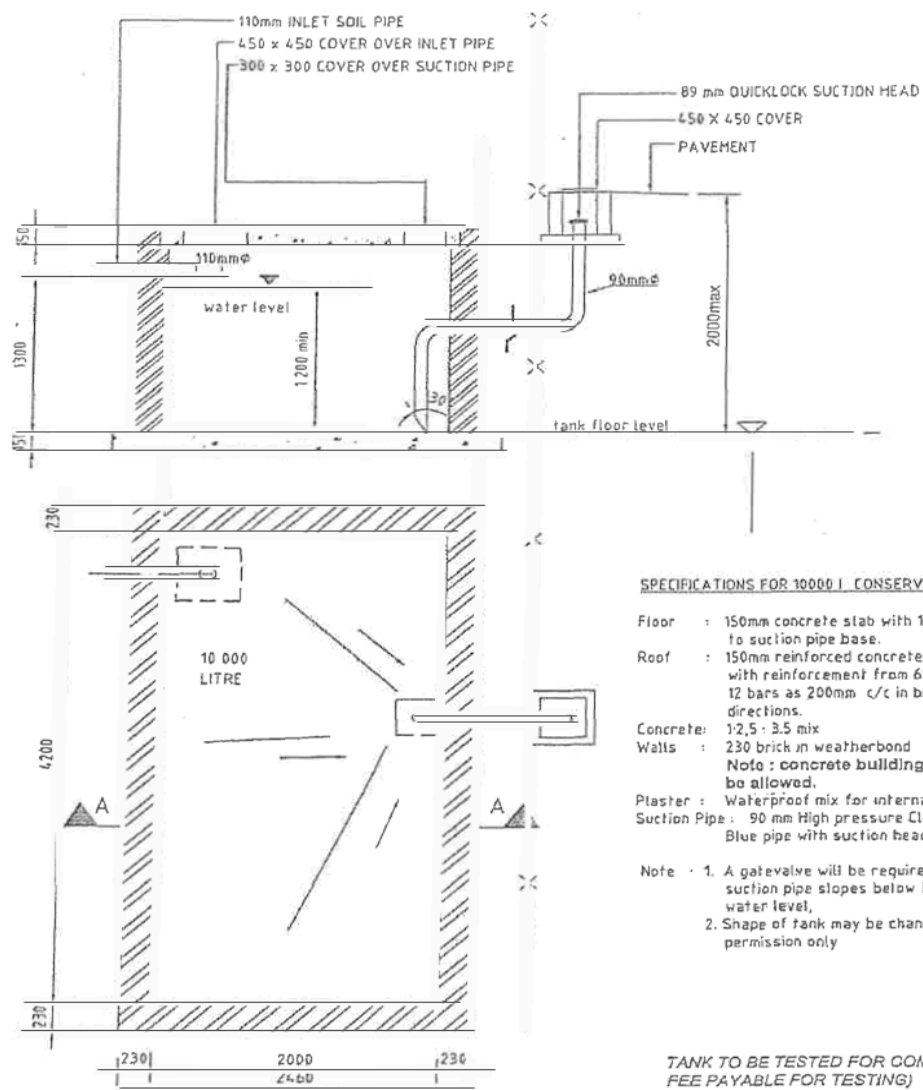
Elevation A-A



Plan view

Whb = wash hand basin

Plan and elevation of a typical facility with a close-coupled toilet system



DETAIL
10 000 litre CONSERVANCY TANK

Prepared By DH	Checked By DH	Reviewed By GC
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11.3.8 PAINTING OF NEW STRUCTURE

- a) New exterior plaster
 - i. 1 coat masonry primer
 - ii. 2 coats Plascon Wall & All (or equivalent and approved). Colour – white
- b) New plaster internal (brick and dry walls)
 - i. 1 coat masonry primer
 - ii. 2 coats double velvet (or equivalent and approved). Colour – white
- c) Ceilings and cornices
 - i. 1 coat ARP primer
 - ii. 2 coats acrylic PVA
- d) Wooden frames, doors, SAP skirtings
 - i. 2 coats universal primer
 - ii. 2 coats Plascon velvagio (or equivalent and approved) Colour – white
- e) Fascias
 - i. 2 coats ARP primer
 - ii. 2 coats poly acrylic PVA. Colour – white

11.3.9 BRAAI

- a) 1 galvanized turbo cowl to be supplied and fitted

11.3.10 FINAL INSPECTION

- a) On final completion an occupation certificate must be handed to the Building Control Officer of the Overstrand Municipality

11.3.11 CONTINGENCY ALLOWANCE

- a) Contractor to allow R100 000-00 contingency allowance excluding VAT