


Item No		Quantity	Rate	Amount
	<b><u>Steel brackets, bolts, etc.</u></b>			
13	100 x 3mm steel pipe 415mm high as bench support fixed to bench with 300mm Diameter x 6mm top flange and 6 x 40mm long wood screws, and fixed to floor with 300 x 300 x 6mm bottom flange and M12 expansion bolts (bench elsewhere measured)	No 10		
14	30mm Diameter stainless steel handcuff rail fixed to wall with 4 No. M10 fully threaded bolts chemically anchored into wall with and including 150 x 150 x 6mm stainless steel base plate	No 30		
	Tenderers are referred to Architect's drawings numbered K021 05 506 and K 021 05 511 attached to these bills of quantities for tender purposes.			
15	350 x 350mm steel bracket formed of 50 x 50mm square hollow tubes, one side fixed to wall and the other to underside of reception counter (counter elsewhere measured)	No 17		
16	Purpose-made steel housing unit fixed to wall and underside of glass counter (counter elsewhere measured)	No 10		
	<b><u>"Greenfield" or equal approved heavy duty benches</u></b>			
	Tenderers are referred to Architect's drawings numbered K021 05 505 attached to these bills of quantities for tender purposes.			
17	"Greenfield (WMS001)" or equal approved wall mounted heavy duty locker pedestal bench of custom made length formed of 50 x 50 x 1.2mm square tubing frame overall size 2761 x 800 x 400mm high welded and bolted to wall and floor with and including 10mm expansion bolts with and including "Greenfield WS008" wooden seat formed of 2 No. 150 x 70mm and 1 No. 44 x 70mm meranti strips 2761mm long screwed from under steel square tubing frame	No 1		
	<b>Carried to Collection</b>		R	
	SECTION NO. 2 - BUILDINGS Bill No. 10 Metalwork <b>NSUZE POLICE STATION</b>			

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Item No		Quantity	Rate	Amount
18	"Greenfield (WMS001)" or equal approved wall mounted heavy duty locker pedestal bench of custom made length formed of 50 x 50 x 1.2mm square tubing frame overall size 1790 x 400 x 400mm high welded and bolted to wall and floor with and including 10mm expansion bolts with and including "Greenfield WS008" wooden seat formed of 2 No. 150 x 70mm and 1 No. 44 x 70mm meranti strips 1790mm long screwed from under steel square tubing frame	No 3		
<b><u>GALVANISED WELDED SCREENS, GATES, ETC</u></b>				
<b><u>"Screenex" or equal approved galvanised steel mesh</u></b>				
Tenderers are referred to Architect's drawings numbered K021 05 600 and project 5 star drawings POL2012/G1 attached to these bills of quantities for tender purposes				
19	Galvanised steel mesh laid in 50 x 50 x 5mm angle iron frames (frame elsewhere measured)	m2 125		
20	50 x 50 x 5mm Angle welded onto steel brackets (brackets elsewhere measured)	m 415		
21	40 x 40 x 3mm Angle welded to mesh and main frame (mesh and main frame elsewhere measured)	m 415		
22	40 x 40 x 3mm T support welded to mesh (mesh elsewhere measured)	m 41		
23	90 x 90 x 6mm angle bracket 150mm long two times holed for and including 2 No. 110mm long M12 bolts and bolted to wall	No 58		
24	90 x 90 x 6mm angle bracket 150mm long two times holed for and including 2 No. 110mm long M16 bolts and bolted to wall	No 31		
25	90 x 90 x 6mm angle bracket 300mm long two times holed for and including 2 No. 110mm long M16 bolts and bolted to wall	No 70		
26	3mm steel plate 1250 x 1000mm once holed for 20mm Diameter weephole, welded to mesh (mesh elsewhere measured)	No 8		
Carried to Collection				R
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Item No		Quantity	Rate	Amount
	<b><u>Gates</u></b>			
	Tenderers are referred to Architect's drawings numbered K021 05 700 and project 5 star drawings POL2012/D6 attached to these bills of quantities for tender purposes			
27	Double vehicular gate overall size 4250 x 3000 high comprising two equal leaves each 2000 x 3000mm high and formed of 100 x 50 x 3mm rectangular tubing frame with 4 No. Flatex 345 mesh panels and 8 No. 2mm thick steel plated panels all welded between 12 x 12mm solid square bars, gate fixed to 100 x 100 x 5mm square tubing post with heavy duty type 4 cell hinges and including cell type bow handles, heavy duty steel barrel bolts, bases, etc. (G3)	No 1		
	Tenderers are referred to Architect's drawings numbered K021 05 520 attached to these bills of quantities for tender purposes			
28	Double gate overall size 1800 x 1800 high comprising two equal leaves each 797 x 1800mm high formed of 45 x 45 x 4mm galvanised angle iron gate frame with "Flatex 338/VEM 6311F" or equal approved gate infill, 45 x 6mm galvanised steel flat bar 160mm high welded to frame with 12mm Diameter round bars at 89mm centres, and including 6 No. heavy duty stainless steel bolt-on hinges and locking mechanism comprising 60 x 24mm galvanised shoot bolt guide with 12mm Diameter 154mm long shoot bolt, 40 x 6mm galvanised flat bar welded to frame to form lock box, 40 x 30 x 8mm thick galvanised flat bar welded to frame, 12mm Diameter 30mm long round bars welded to frame, 60 x 50 x 8mm galvanised flat bar with drill hole for pad-lock and 18x 210 x 3mm thick galvanised steel barrel bolt housing etc., all to Architects details and specifications (G10)	No 2		
	<b><u>BURGLAR BARS, ETC</u></b>			
	<b><u>"Xpanda Clear Vision Guards" or equal approved impact resistant and UV protected polycarbonate sheet burglar guards, etc.</u></b>			
29	Burglar guard overall size 900 x 1492mm high fixed to opening section of aluminium window (W1) with finishing screws and cover caps	No 1		
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Item No		Quantity	Rate	Amount
30	Burglar guard overall size 545 x 600mm high fixed to aluminium window (W2) with finishing screws and cover caps	No 3		
31	Burglar guard overall size 900 x 1140mm high fixed to opening section of aluminium window (W3) with finishing screws and cover caps	No 20		
32	Burglar guard overall size 900 x 1710mm high fixed to aluminium window (W3) with finishing screws and cover caps	No 1		
33	Burglar guard overall size 1098 x 892mm high fixed to aluminium window (W4) with finishing screws and cover caps	No 1		
34	Burglar guard overall size 600 x 600mm high fixed to opening section of aluminium window (W7) with finishing screws and cover caps	No 7		
<b><u>Hot dipped galvanised purpose made counter top burglar bars</u></b>				
Tenderers are referred to Architect's drawings numbered K021 05 780 attached to these bills of quantities for tender purposes				
35	Burglar screens U-shaped on plan overall girth 5700 x 2240mm high, comprising 210 x 50 x 10mm flat bars reinforced into concrete slab and grano counter (counter elsewhere measured) and welded to 50 x 50 x 3mm square tubing frame and surround with 12mm Diameter bars vertically welded at 90mm centres to 50 x 6mm horizontal flatbars, installed complete	No 1		
36	Burglar screens U-shaped on plan overall girth 6000 x 2240mm high, comprising 210 x 50 x 10mm flat bars reinforced into concrete slab and grano counter (counter elsewhere measured) and welded to 50 x 50 x 3mm square tubing frame and surround with 12mm Diameter bars vertically welded at 90mm centres to 50 x 6mm horizontal flatbars, installed complete	No 1		
<b>Carried to Collection</b>				R
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Item No		Quantity	Rate	Amount
<b><u>STEEL WINDOWS, DOORS, SHOPFRONTS, ETC</u></b>				
<b><u>Hot dipped galvanised mild steel windows and doors, etc</u></b>				
Tenderers are referred to Architect's drawings numbered K021 05 700 and project 5 star drawings POL2012/D1-D5 attached to these bills of quantities for tender purposes				
37	Metal grille gate overall size 1018 x 2020mm high including all hinges, mild steel lugs, cell-type lock, etc. (G2)	No 11		
38	Metal grille gate overall size 1208 x 2020mm high including all hinges, mild steel lugs, cell-type lock, etc. (G1)	No 4		
39	Metal door and grille combination overall size 1018 x 2020mm high including all hinges, mild steel lugs, cell-type lock, etc. (D2)	No 17		
40	Metal door and grille combination overall size 1208 x 2020mm high including all hinges, mild steel lugs, cell-type lock, etc. (D1)	No 4		
<b><u>Purpose made prison cell type windows</u></b>				
Tenderers are referred to Architect's drawings numbered K021 05 701 and project 5 star drawings POL2012/W1-W3 attached to these bills of quantities for tender purposes				
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Item No		Quantity	Rate	Amount
41	<p>Window 850 x 950mm high with 2 fixed and 2 openable sashes, comprising "PF7" window frame section with 3 No. 950mm long 60 x 3mm mild steel connection plate welded to frame, 6 No. 150mm long 30 x 16mm manganese steel bar built into wall, 4 No. 230mm long 1.6mm mild steel lugs built into wall and 2 No. purpose made handles 75mm long welded to opening section, including internal screen overall size 873 x 893mm high formed of 40 x 40 x 5mm mild steel angle iron welded to window frame, 40 x 5mm mild steel flatbar welded to angle iron frame and "Flatex 345" or similar approved hot dipped galvanised screen, and including external hinged screen overall size 920 x 1000mm high formed of 40 x 40 x 5mm mild steel angle iron welded to window frame, 40 x 5mm mild steel flatbar welded to angle iron frame and "Flatex 345" or similar approved hot dipped galvanised screen with 50 x 50 x 5mm mild steel angle iron bolted to wall with 6 No. M6 expansion bolts, 100 x 75 x 8mm mild steel angle &amp; cover plate and padlock (glazing elsewhere measured)</p> <p><b><u>Purpose made visitors counter type windows</u></b></p> <p>Tenderers are referred to Architect's drawings numbered K021 05 550 and project 5 star drawings POL2012/V1-V3 attached to these bills of quantities for tender purposes</p>	No	26	
42	<p>Window 1020 x 1217mm high, comprising 100 x 50 x 2.5mm steel open channel frame section fixed to wall with M8 expansion bolts, with 1000mm long 16mm Diameter mild steel bars at 80mm centres, including 2mm thick steel sheet on either side of glass profiled and welded to open channel frame with 4mm Diameter perforations at 8mm centres and secured with 8mm rivets at 150mm centres, and including neoprene gasket and timber spacers to hold glass in position (glazing elsewhere measured)</p> <p><b><u>Purpose made prison shopfront</u></b></p> <p>Tenderers are referred to Architect's drawings numbered K021 05 780 attached to these bills of quantities for tender purposes</p>	No	3	
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Item No		Quantity	Rate	Amount
43	<p>Holding cell shopfront overall size 3495 x 3230mm high, comprising 100 x 100 x 4mm square tube columns on both sides and above gate frame cast into concrete floor and roof and tied into walls with 200 x 25 x 2mm mild steel lugs welded to columns, 50 x 50 x 4mm square tube horizontals and verticals welded together to create security frame and fixed into concrete slab, 16mm Diameter mild steel vertical rods at 78mm centres welded to frame and installed through pre-drilled holes in 50 x 6mm flat bar horizontals (cell gate elsewhere measured)</p> <p><b><u>ALUMINIUM WINDOWS, DOORS AND SHOPFRONTS</u></b></p> <p><b><u>WORK GROUP 149</u></b></p> <p>All work shall comply with the recommended performance requirements as set out by AAMSA (Association of Architectural Aluminium Manufacturers of South Africa) in their latest edition of the "Selection Guide" and "Quality Standard Guide for Installed Architectural Windows, Doors and Shopfronts."</p> <p>All anodising to be minimum 25 microns. Epoxy powder coating shall be minimum 50 microns.</p> <p>All 6mm laminated safety glazing to be "PFG Shatterprufe Fadeban" or equal approved.</p> <p>All exposed surfaces of aluminium are to be protected by means of an approved low tack PVC tape. The Contractor shall satisfy the Architect that the tape he proposes to use can be easily stripped after long exposure to sunlight, and rates are to include for the final stripping of the protective tape and cleaning down to approval at completion.</p> <p>Further, all windows and doors are to be covered completely with plastic before delivery to site and prices are to include for same.</p> <p>All work is to be protected during the building operations against deterioration or discolouration by mortar droppings, wax, paint, etc. and all work so damaged is to be replaced at the Contractor's expense to the approval of the Architect.</p>	No	1	
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Item No		Quantity	Rate	Amount
	Tenderers are referred to Architect's drawings numbered K021 05 700 - 703 attached to these bills of quantities for tender purposes			
	<u>Epoxy powder coated black aluminium windows glazed with 4mm and 6mm clear laminated safety glass with 30 x 75mm Clip 44 Shopfront profiles to SABS 0400 and plugged to brickwork or concrete</u>			
44	Window size 1782 x 1492mm high (Type W1)	No 1		
45	Window size 545 x 600mm high (Type W2)	No 15		
46	Window size 900 x 1710mm high (Type W3)	No 28		
47	Window size 1098 x 892mm high (Type W4)	No 4		
48	Window size 600 x 1200mm high (Type W7)	No 1		
49	High level Trapezoid shaped window overall size 2745 x 921mm high (Type C1)	No 2		
50	High level Window size 7590 x 800mm high (Type C2)	No 1		
51	High level Window size 6964 x 800mm high (Type C5)	No 1		
52	High level Window size 6204 x 800mm high (Type C6)	No 1		
53	High level Window size 7592 x 800mm high (Type C7)	No 1		
54	High level Window size 1575 x 800mm high (Type C8)	No 1		
55	High level Window size 10193 x 800mm high (Type C9)	No 1		
56	High level Window size 7894 x 813mm high (Type C10)	No 2		
57	High level Window size 6973 x 815mm high (Type C11)	No 2		
58	High level Window size 6320 x 800mm high (Type C12)	No 2		
59	High level Window size 7183 x 800mm high (Type C13)	No 2		
60	High level Window size 4560 x 815mm high (Type C14)	No 1		
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Item No		Quantity	Rate	Amount
	<u>Epoxy powder coated black aluminium shopfront glazed with 10mm clear laminated safety glass and 5mm clear annealed glass with 30 x 75mm Clip 44 Shopfront profiles to SABS 0400 and plugged to brickwork or concrete</u>			
76	L-shaped window overall size 8078 x 3000mm high formed of two leaves, one 4170 x 3000mm high and the other 3908 x 3000mm high and butt jointed (Type SF 1 & SF 2)	No 2		
	<u>Epoxy powder coated black aluminium windows glazed with 10mm high impact laminated one-way safety glass with silver reflective coating with 30 x 75mm Clip 44 Shopfront profiles to SABS 0400 and plugged to brickwork or concrete</u>			
77	Window size 6000 x 1300mm high (Type W5)	No 2		
	<u>"Geze" or equal approved automatic sliding door glazed with 10mm laminated annealed safety glass</u>			
78	"Geze Power Drive (GCZ1091P)" or equal approved powder coated automatic bi-parting sliding door system, overall size 4000 x 3000mm high of 2 equal leaves, each 2000 x 3000mm high and including track profile, cover profile, end covers, motor, controller, toothed belt, brackets, floor guides, TPS program switch and 2 activation devices with safety curtains and including "Geze GCD001PW" electro mechanical lock (Type D9)	No 1		
	<b><u>SHOWER CUBICLE DOORS</u></b>			
	<u>"Crystal Tech" or equal approved frameless shower doors with brackets, hinges, glass shelves, etc in 8mm tempered glass fixed to tiled walls</u>			
79	"Crystal Tech" or equal approved single frameless glass door 900 x 1850mm high	No 2		
80	"Crystal Tech Bianca" or equal approved square frameless shower enclosure 900 x 900 x 2000mm high	No 2		
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Item No		Quantity	Rate	Amount
	<b><u>EPOXY POWDER COATED GALVANISED PRESSED STEEL ROLLERSHUTTER DOORS</u></b>			
	<b><u>"Barrier Angelucci" or equal approved epoxy powder coated roll up door fixed to brickwork or concrete with standard panels formed of galvanised pre painted pressed steel sheet 0.5mm thickness and supporting posts and guides are galvanised pressed steel sheet 1.0mm thickness</u></b>			
81	Rollershutter door manually operated, including overhead shutter box supplied and installed all in accordance with the manufacturer's instructions, overall size 2400 x 2100mm high	No 2		
	<b><u>STEEL STRONGROOM DOORS, VENTILATORS, ETC</u></b>			
	<b><u>"Fischer" or equal approved strongroom doors, etc suitable for 345mm concrete walls</u></b>			
82	"Fischer (DS50/2)" or equal approved SAB5 Category 2 light duty strong room door and frame 164mm thick and 480kg in weight to suit opening size 950 x 1965mm high including 2 No. 7 lever security key locks and 8 bolts of 40mm diameter (D6)	No 4		
	<b><u>"Fischer" or equal approved record room doors, etc suitable for 220mm concrete walls</u></b>			
83	"Fischer (DS1)" or equal approved SAB5 6mm record room door and frame 120mm thick and 240kg in weight to suit opening size 950 x 1975mm high including 7 lever security key locks and 8 bolts of 40mm diameter (D7)	No 1		
84	Single ended strongroom ventilator	No 4		
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**STEEL BENCHES, ETC**

**"Masakhane Seating (Pty) Ltd" or equal approved**

- 85 "Bonno" or equal approved 2 seater unit with 2.5mm thick perforated stainless steel contoured seat and backrest sections, complete with heavy duty laser cut support frames, mounted on a 50 x 50mm steel beam with 3mm wall thickness at 600mm centres, with solid steel leg structure on extreme ends of unit without armrests, fixed to floor. All mild steel components finished in epoxy powder colour grey and all fixing bolts of seat and backrest in stainless steel

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**BILL NO. 11**

**PLASTERING**

NOTE :

Tenderers are advised to study the Model Preambles for Trades 2008 Edition before pricing this bill

**GRANOLITHIC**

Method

The method to be used shall be either the monolithic method or the bonded method

Preparation

For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic

Mix

Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic

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Panels

Granolithic shall be laid in panels not exceeding 14m<sup>2</sup> for monolithic finishes, not exceeding 9,5m<sup>2</sup> for bonded finishes and not exceeding 6m<sup>2</sup> for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width

Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints

Laying

Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels

Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels

After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated

Curing, seasoning and protection

Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying

Colour

Coloured granolithic shall be tinted with an approved colouring pigment mixed into the granolithic in the recommended proportion of pigment per pocket of cement, of uniform appearance and consistent colour throughout

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Item No		Quantity	Rate	Amount
<b><u>CPAP WORK GROUP</u></b>				
Unless otherwise stated all items in this bill will be Work Group 142				
<b><u>SCREEDS</u></b>				
<b><u>Screeds wood floated on concrete</u></b>				
1	25mm Thick on floors and landings	m2	1 421	
2	25mm Thick on floors to falls	m2	324	
3	25mm Thick on treads and risers of stairs	m2	20	
4	50mm Thick on roof slabs to falls	m2	1 142	
<b><u>GRANOLITHIC</u></b>				
<b><u>Untinted granolithic on brickwork</u></b>				
5	15mm Thick on brick ledge	m2	2	
<b><u>Untinted granolithic on concrete</u></b>				
6	15mm Thick on benches	m2	14	
7	15mm Thick on vanity slabs	m2	10	
8	30mm Thick on floors and landings	m2	365	
9	30mm Thick on floors and landings to falls	m2	298	
10	Skirting 100mm high	m	293	
11	Skirting 250mm high with 30mm radius concave at bottom and raked to meet plaster at the top	m	162	
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Item No		Quantity	Rate	Amount
<b><u>SPECIALIST SCREEDS</u></b>				
<b><u>"Flowcrete" or equal approved heavy duty polyurethane screed on concrete floors</u></b>				
12	"Flowcrete Flowfresh SR Ultra" or equal approved 5-6mm heavy duty polyurethane screed including 2 coats "Flowcrete Flowseal Ultra" pigmented sealing coats, all laid in strict accordance with the manufacturer's instructions (Colour to be specified by Architect)	m2	190	
13	"Flowcrete Flowtex F1" or equal approved 25 x 75mm high coved skirting laid in strict accordance with the manufacturer's instructions (Colour to be specified by Architect)	m	133	
<b><u>INTERNAL PLASTER</u></b>				
<b><u>Cement plaster on brickwork and small part on concrete</u></b>				
14	On walls	m2	4 566	
15	On narrow widths	m2	113	
<b><u>Cement plaster on concrete</u></b>				
16	On walls	m2	188	
17	On soffits	m2	508	
18	On columns	m2	44	
<b><u>"Rhinolite" or equal approved gypsum skim coat plaster finish</u></b>				
19	On ceilings	m2	549	
<b><u>EXTERNAL PLASTER</u></b>				
<b><u>Cement plaster on brickwork and small part on concrete</u></b>				
20	On walls	m2	60	
21	On narrow widths	m2	104	
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Item No			Quantity	Rate	Amount
	<b><u>Cement plaster on concrete</u></b>				
22	On beams	m2	711		
23	On columns	m2	58		
	<b><u>CORNER PROTECTORS, DIVIDING STRIPS, ETC</u></b>				
24	"Genesis (ESA120)" or equal approved 12mm aluminium straight edge trim between different floor finishes	m	64		
25	"Genesis (MMA120)" or equal approved 12mm aluminium movement joint trim	m	86		
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**BILL NO. 12**

**TILING**

**SUPPLEMENTARY PREAMBLES**

NOTE :

Tenderers are advised to study the Model Preambles for  
Trades 2008 Edition before pricing this bill

**Patterns**

Unless otherwise described, tiles shall be laid with continuous  
joints in both directions

**Fixing**

Unless described as "fixed with adhesive to plaster (plaster  
elsewhere)" descriptions of tiling on brick or concrete walls,  
columns, etc shall be deemed to include 1:4 cement plaster  
backing and descriptions of tiling on concrete floors etc shall  
be deemed to include 1:3 plaster bedding

The contractor is to provide a rate breakdown for the rate of  
each Prime Cost amount under the related items.

**CPAP WORK GROUP**

Unless otherwise stated all items in this bill will be Work  
Group 144

**FLOOR TILING**

600 x 600mm "Union Porcelain Tiles Ivory (EPK60RC149)" or  
equal approved porcelain grade A floor tiles laid in strict  
accordance with manufacturers instructions and fixed with  
"Tal Goldstar 6" or equal approved adhesive to bedding  
(bedding elsewhere) with joints grouted with "Tal Wall &  
Floor Grout & Tal Bond" or equal approved grout

1 On floors and landings

m2

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Tiling

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Item No		Quantity	Rate	Amount
	<u>600 x 600mm "Union Porcelain Tiles Ivory (EPK60RC129)" or equal approved rough porcelain grade A floor tiles laid in strict accordance with manufacturers instructions and fixed with "Tal Goldstar 6" or equal approved adhesive to bedding (bedding elsewhere) with joints grouted with "Tal Wall &amp; Floor Grout &amp; Tal Bond" or equal approved grout</u>			
2	On floors and landings	m2	55	
3	On treads 250mm	m	47	
4	On risers 150mm	m	47	
5	On skirtings 100mm high	m2	12	
	<u>300 x 300mm "Union Venetian Mosaics Ivory (1VENPEBMOSI24)" or equal approved floor tiles laid in strict accordance with manufacturers instructions and fixed with "Tal Goldstar 6" or equal approved adhesive to bedding with 20mm joints grouted with "Tal Wall &amp; Floor Grout &amp; Tal Bond" or equal approved grout</u>			
6	On floors and landings	m2	269	
7	On skirtings 100mm high	m	240	
	<u>40 x 40 x 4mm anti-slip cermaic mosaic floor tiles (PC R 500-00/m2 excluding VAT delivered to site) laid in strict accordance with manufacturers instructions and fixed with "Tal Goldstar 6" or equal approved adhesive to bedding (bedding elsewhere) with joints grouted with "Tal Wall &amp; Floor Grout &amp; Tal Bond" or equal approved grout</u>			
8	On floors to falls	m2	5	
Carried to Collection				R
SECTION NO. 2 - BUILDINGS				
Bill No. 12				
Tiling				
NSUZE POLICE STATION				

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SECTION NO. 2 - BUILDINGS

Bill No. 12

Tiling

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SECTION NO. 2 - BUILDINGS

Bill No. 12

Tiling

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Item No		Quantity	Rate	Amount
	<p><u>Polypropylene pipes</u></p> <p>Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with heat welded thermoplastic or where so described compression fittings</p> <p>Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions</p> <p><u>Copper pipes</u></p> <p>Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Capillary solder fittings shall comply with ISO 2016</p> <p>Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition</p> <p><u>Reducing fittings</u></p> <p>Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained</p> <p><u>Paper wrapping to pipes</u></p> <p>Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings</p>			
	Carried to Collection		R	
	<p>SECTION NO. 2 - BUILDINGS</p> <p>Bill No. 13</p> <p>Plumbing (Provisional)</p> <p><b>NSUZE POLICE STATION</b></p>			183

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Item  
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Quantity

Rate

Amount

Disinfection of water pipework

Water pipework is to be disinfected at completion

Exposed concrete surfaces

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gully tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster

Excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling

"Soft rock" and "hard rock" shall be as defined in "Earthworks"

Laying, backfilling, bedding, etc. of pipes

Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:

SABS 1200 L : Medium-pressure pipelines

LD : Sewers

LE : Stormwater drainage

Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200

DB : Earthworks (Pipe trenches)

Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200

LB : Bedding (Pipes).

Unless otherwise described bedding of rigid pipes shall be class B bedding

The tenderer is to make provision in his rates for any imported selected material necessary below, around and above the pipe only and normal backfill material above the same as per the manufacturer's recommendations

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Plumbing (Provisional)

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Item No	Quantity	Rate	Amount
<p><u>Waste unions</u></p> <p>Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings</p> <p><u>General</u></p> <p>Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately)</p> <p>Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends</p> <p>Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 98% Mod AASHTO density and disposal of surplus material on site</p> <p>Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately)</p> <p>Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)</p> <p><u>As-built drawings</u></p> <p>Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)</p> <p><b><u>CPAP WORK GROUP</u></b></p> <p>Unless otherwise stated all items in this bill will be Work Group 148</p>			
<p style="text-align: right;"><b>Carried to Collection</b></p>			
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Item No		Quantity	Rate	Amount
<b><u>SANITARY FITTINGS</u></b>				
<b><u>"Franke" or equal approved stainless steel Grade 18/10</u></b>				
12	"Franke Anima (BS205)" or equal approved stainless steel single wash basin size 500 x 335 x 155mm deep with 90mm tap ledge, prewelded mounting brackets, soap dish, screws, dowels, plug waste (taps, traps elsewhere)	No 3		
13	"Franke S2 (353302)" or equal approved stainless steel catering sink overall size 1500 x 650mm with 150mm high with stainless steel integral splash back, 50 x 10mm turndown and stainless steel under shelf, anchor bolts, plug waste (taps, traps elsewhere)	No 1		
14	"Franke Quinline (QLX621-120) Inset Kitchen Sink" or equal approved stainless steel sink overall size 1200 x 500mm with plug waste (taps, traps elsewhere)	No 4		
15	"Franke P1 (350001)" or equal approved stainless steel pot sink overall size 900 x 650mm with 150mm high with stainless steel integral splash back, 50 x 10mm turndown, anchor bolts, plug waste (taps, traps elsewhere)	No 2		
16	"Franke HDSSB (325318)" or equal approved stainless steel heavy duty surround security type wash hand basin overall size 390 x 320 x 250mm deep with 150mm high with stainless steel integral splash back, 50mm Diameter 250mm long stainless steel outlet pipe, fixed to wall with 4 No. 8mm Diameter 250mm long galvanised mild steel threaded rods (taps, traps elsewhere)	No 2		
<b><u>"Vaal" or equal approved glazed ceramic fittings</u></b>				
17	"Vaal Sola 510 Medical Basin (703700)" or equal approved vitreous china basin, size 510 x 400mm semi rectangular medical basin, with 32mm chromium plated standing overflow tube and waste union, plug chain and stay fixed to wall with and including concealed wall brackets (813123) and 3 No. 10mm bolts (844820) (Taps, traps elsewhere)	No 1		
18	"Vaal Iceberg Vanity (703400)" or equal approved drop in vanity basin, size 420 x 420mm, with 32mm chromium plated waste union, plug chain and stay with anti theft plug (Vanity, taps, traps elsewhere)	No 1		
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Item No		Quantity	Rate	Amount
19	"Vaal Savoy Design (706700)" or equal approved surface mounted vanity basin, size 415 x 415 x 175mm, with 32mm chromium plated waste union, one tap hole, plug chain and stay (Vanity, taps, traps elsewhere)	No 4		
20	"Vaal Mini Weaver (706600)" or equal approved surface mounted vanity basin, size 335 x 290 x 115mm, with 32mm chromium plated waste union, one tap hole, plug chain and stay (Vanity, taps, traps elsewhere)	No 2		
21	"Vaal Hibiscus (702303)" or equal approved basin, size 510 x 405mm, with 32mm chromium plated waste union, with one tap hole, plug chain and stay supported on a floor mounted pedestal (715000) with integrated overflow and anti theft plug (Taps, traps elsewhere)	No 7		
22	"Vaal Hibiscus Elite (772401)" or equal approved white vitreous china WC close coupled suite complete with lid, fitments, top dual flush, and including "Jazz Thermoset (853120)" or equal approved toilet seat (flushvalve elsewhere)	No 15		
23	"Vaal Pearl Paraplegic (73005C)" or equal approved white vitreous china WC semi-close coupled suite complete with lid, fitments and purpose made side flush lever, and including purpose made thermoset seat and cover plate (flushvalve elsewhere)	No 1		
24	"Vaal Sweetpea (705027WH)" or equal approved white vitreous china wall hung urinal 310 x 275 x 565mm high, installed complete	No 3		
	<b><u>"Walcro" or equal approved sanitary fittings all as per the manufacturer's specifications</u></b>			
25	"Walcro (CIRS-HEXS)" or equal approved ceiling mounted shower rose with sleeve	No 4		
26	"Walcro (150 NHS)" or equal approved shower metering valve with vandal resistant sleeve and no hold feature and including 38mm diameter shower outlet, "Rada" connection and P-trap	No 4		
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Item No		Quantity	Rate	Amount
	<b><u>"Parker" or equal approved sanitaryware all as per the manufacturer's specifications</u></b>			
27	"Duranite" or equal approved 9 Litre low level cistern with "Kingfisher" siphonic valve	No 5		
	<b><u>"OVE Model" or equal approved stainless steel fittings all as per the manufacturer's specifications and Project 5 Star Specifications for prison type use</u></b>			
28	"OVE Model (OSB 1A/125)" or equal approved vandal proof wash hand basin overall size 340 x 350 x 125mm, fully welded and polished to a 180 grit No.4 satin finish, including 15mm pushbutton tap, with 38mm CP brass waste outlet, suitable for prison cells, with recessed back and built into wall with stainless steel straps	No 5		
29	"OVE Model (OSP A1)" or equal approved vandal proof WC pan overall size 490 x 390 x 440mm high, fully welded and polished to a 180 grit No.4 satin finish with pressed top, with circular flushing rim and bowl, full flow P-trap, 35mm wide fixing flange, seven times bolted to wall and floor	No 5		
	<b><u>Precast Concrete</u></b>			
30	"CCP Precast" or equal approved double precast concrete wash trough with 50mm waste pipe connection in each bay, overall size 1000 x 600 x 320mm high with and including 2 No. concrete stand legs 508mm high overall (waste, taps, traps elsewhere)	No 1		
	<b><u>TRAPS, ETC</u></b>			
	<b><u>Chromium plated</u></b>			
31	38mm "Cobra Watertech (345/40)" or equal approved bottle trap with detachable bowl	No 17		
32	"Cobra (340)" or equal approved re-seal bottle trap with telescopic basin connection pipe	No 1		
33	50mm "Cobra Watertech (345/50)" or equal approved bottle trap with detachable bowl	No 8		
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Item No		Quantity	Rate	Amount
34	"Cobra Waste (317-40)" or equal approved bath waste with plug	No 2		
	<b><u>TAPS, VALVES, ETC</u></b>			
	<b><u>Brass</u></b>			
35	15mm Stopcock	No 52		
36	22mm Stopcock	No 12		
37	15mm Ballstop valve	No 18		
38	22mm Non-return valve	No 4		
39	28mm Non-return valve	No 1		
40	35mm Non-return valve	No 2		
41	50mm Non-return valve	No 2		
42	76mm Non-return valve	No 3		
43	110mm Non-return valve	No 3		
44	22mm Pressure relief valve	No 4		
45	28mm Pressure relief valve	No 1		
46	15mm "Cobra" or equal approved Fullway gate valve FXF	No 68		
47	25mm "Cobra" or equal approved Fullway gate valve FXF	No 8		
48	32mm "Cobra" or equal approved Fullway gate valve FXF	No 2		
49	35mm "Cobra" or equal approved Fullway gate valve FXF	No 4		
50	40mm "Cobra" or equal approved Fullway gate valve FXF	No 2		
51	2" 220VAC normally closed solenoid valve	No 2		
	<b><u>316 Stainless Steel</u></b>			
52	3500mm level probe with 2 switch point	No 2		
	<b>Carried to Collection</b>			
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Item No		Quantity	Rate	Amount
<b><u>"Cobra Watertech" or equal approved</u></b>				
53	"Cobra Classic (206EXT-15)" or equal approved bib tap with hot and cold indices	No 6		
54	"Cobra Hose Bib Tap (208-15)" or equal approved brass bib tap	No 2		
55	"Cobra Metering Bib Tap (KM2-200)" or equal approved self-closing, non hold open bib tap	No 2		
56	"Cobra Medical Elbow Action (521-21)" or equal approved elbow action pillar type mixer with swivel outlet and male connection inlets	No 1		
57	"Cobra Tiari (TI-951)" or equal approved single level plain basin mixer with female connection inlets	No 15		
58	"Cobra Tucana (TC-970)" or equal approved single level sink mixer with swivel outlet and female connection inlets	No 8		
59	"Cobra Shower Set (431CA)" or equal approved shower set comprising 2 No. Carina stop taps, flanged shower arm and shower head	No 4		
60	"Cobra Watertech (PB1-10)" or equal approved vacuum breaker	No 4		
61	"Cobra Watertech (PA1-1)" or equal approved 400 kPa pressure control valve	No 4		
<b><u>SANITARY PLUMBING</u></b>				
<b><u>Soil, waste &amp; vent uPVC pipes</u></b>				
62	40mm Pipes to walls, columns, soffits, etc	m 45		
63	50mm Pipes to walls, columns, soffits, etc	m 130		
64	110mm Pipes to walls, columns, soffits, etc	m 140		
<b><u>Extra over uPVC pipes for fittings</u></b>				
65	40mm Bend	No 18		
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Item No		Quantity	Rate	Amount
66	40mm Access Bend	No 9		
67	40mm Junction	No 9		
68	50mm Bend	No 52		
69	50mm Access bend	No 26		
70	50mm Junction	No 26		
71	50mm Access junction	No 18		
72	110mm Bend	No 56		
73	110mm Access bend	No 28		
74	110mm Junction	No 28		
75	110mm Access junction	No 14		
76	110mm Pan connector	No 19		
77	110mm Bent pan connector	No 3		
78	110 x 50mm Reducing junction	No 22		
79	110 x 50mm Access reducing junction	No 12		
80	110mm Air vent cowl	No 16		
81	50mm "GI Two way" vent valve	No 12		
82	110mm "GI Two way" vent valve	No 12		
<b>TESTING</b>				
83	Testing the whole of the plumbing and sanitary plumbing system, etc including fittings	Item		
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Item No		Quantity	Rate	Amount
6	Panes exceeding 0,5m <sup>2</sup> and not exceeding 2m <sup>2</sup>	m2	4	
	<b><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></b>			
	<b><u>12mm Laminated safety glass with polished edges all round</u></b>			
	Tenderers are referred to Architect's drawing numbered K021 05 506 attached to these bills of quantities for tender purposes			
7	Counter top fixed with purpose-made steel bracket (bracket elsewhere measured)	m2	1	
8	Counter top circular on plan fixed with purpose-made steel bracket (bracket elsewhere measured)	m2	9	
	<b><u>6mm Polished float glass copper backed mirrors with 10mm bevelled and polished edges holed for and fixed with 4 No. brass mirror screws with chromium plated domes, felt washers with foam backing strip vertically laid in brickwork or concrete</u></b>			
9	Mirror 600 x 900mm high	No	7	
10	Mirror 700 x 1000mm high recessed and flush with tiling	No	2	
11	Mirror 1320 x 1000mm high recessed and flush with tiling	No	1	
12	Mirror 1520 x 1000mm high recessed and flush with tiling	No	2	
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Bill No. 14

Glazing

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Bill No. 14

Glazing

**NSUZE POLICE STATION**

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**BILL NO. 15**

**PAINTWORK**

**SUPPLEMENTARY PREAMBLES**

NOTE :

Tenderers are advised to study the Model Preambles for  
Trades 2008 Edition before pricing this bill

**SABS Specifications**

Alkali resistant plaster primer : SABS 1416

Matt or eggshell decorative paint for interior works : SABS  
515

High gloss enamel paint : SABS 630 Grade I

Oil gloss enamel paint : SABS 631

Primers for wood for external work : SABS 678 Type I

Primers for wood for internal work : SABS 678 Type III

Zink chromate primers for steel : SABS 679 Type I

Undercoats for paints (except emulsion paint) : SABS 681  
Type I

Aluminium paint : SABS 682 Grade II

Roof paints : SABS 683 Type B (Oil based)

Roof paints : SABS 940 (Emulsion based)

Structural steel paint : SABS 684 Type B

Wash primer (metal etch) : SABS 723

Varnish for interior use : SABS 887 Type I

**Carried to Collection**

SECTION NO. 2 - BUILDINGS

Bill No. 15

Paintwork

**NSUZE POLICE STATION**

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Item No		Quantity	Rate	Amount
	<u>One coat "Plascon (PP700)" or equal approved Professional Gypsum &amp; Plaster Primer, one undercoat and two coats "Plascon CAS" Cashmere or equal approved water based, premium washable, matt acrylic, stain resistant paint</u>			
5	On internal walls	m2	3 247	
	<u>One coat "Plascon (PP700)" or equal approved Professional Gypsum &amp; Plaster Primer, one undercoat and two coats "Plascon EPL" or equal approved Polvin Super Acrylic paint</u>			
6	On ceilings and beams	m2	353	
	<u>One coat "Plascon (PP700)" or equal approved Professional Gypsum &amp; Plaster Primer, one undercoat and two coats "Plascon VLO" Velvagio Satin or equal approved solvent based, premium non-drip satin enamel paint</u>			
7	On internal walls	m2	918	
8	On ceilings and beams	m2	155	
	<b><u>ON FIBRE CEMENT</u></b>			
	<u>One coat "Plascon (PP700)" or equal approved Professional Gypsum &amp; Plaster Primer, one undercoat and two coats "Plascon EPL" or equal approved Polvin Super Acrylic paint</u>			
9	On ceilings	m2	549	
	<u>One coat "Plascon (PP700)" or equal approved Professional Gypsum &amp; Plaster Primer, one undercoat and two coats "Plascon WAA" Wall &amp; All or equal approved water based, premium pure acrylic sheen paint</u>			
10	On fascias and barge boards	m2	122	
11	On eave soffits	m2	286	
	<b><u>ON METAL</u></b>			
	<u>Two coats calcium plumbate primer</u>			
12	On backs of frames, lining, etc. not exceeding 300mm wide	m	629	
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SECTION NO. 2 - BUILDINGS Bill No. 15 Paintwork NSUZE POLICE STATION				199 IM R.m. SM H RJ

Item No		Quantity	Rate	Amount
	<u>One coat "Plascon (GIP1)" or equal approved Galvanised Iron Primer, one undercoat and 2 coats "Plascon WWA" Wall &amp; All or equal approved water based, premium pure acrylic sheen paint</u>			
13	On roller shutter doors	m2	20	
	<u>One coat "Plascon (GIP1)" or equal approved Galvanised Iron Primer, one undercoat and 2 coats "Plascon VLO" Velvagio Satin or equal approved water based, premium non-drip satin enamel paint</u>			
14	On door frames	m2	125	
15	On doors, gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	352	
16	On mesh screens, etc (both sides measured over the full flat area)	m2	250	
17	On windows, etc (both sides measured over the full flat area)	m2	130	
	<u>One coat "Plascon (GIP1)" or equal approved Galvanised Iron Primer, one undercoat and 2 coats "Plascon" or equal approved gloss enamel paint</u>			
18	On door frames	m2	46	
	<b><u>OFF SITE PAINTING OF STRUCTURAL STEELWORK</u></b>			
	<u>Wire brush to Grade ST 2 specification in accordance with the Swedish Standard SIS 055900 of 1967 and apply one coat zinc chromate primer on steel</u>			
19	On columns and beams	m2	330	
	<b><u>ON SITE PAINTING OF STRUCTURAL STEELWORK</u></b>			
	<u>Spot prime defects in pre-primed surfaces with zinc chromate primer, one universal undercoat and two coats semi gloss paint on steel</u>			
20	On columns and beams	m2	330	
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Paintwork

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Paintwork

**NSUZE POLICE STATION**

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SECTION NO. 2 - BUILDINGS

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- 5 Roof Coverings
- 6 Carpentry & Joinery
- 7 Ceilings, Partitions & Access Flooring
- 8 Ironmongery
- 9 Structural Steelwork (Provisional)
- 10 Metalwork
- 11 Plastering
- 12 Tiling
- 13 Plumbing (Provisional)
- 14 Glazing
- 15 Paintwork

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**SECTION NO. 3**

**BILL NO. 1**

**GENERAL SITE WORKS**

**SUPPLEMENTARY PREAMBLES**

NOTE :

Tenderers are advised to study the Model Preambles for  
Trades 2008 Edition before pricing this bill

**EARTHWORKS (PROVISIONAL) (WORK GROUP  
104)**

**SITE CLEARANCE ETC**

**Site clearance**

- |   |   |    |       |
|---|---|----|-------|
| 1 | Digging up and removing rubbish, debris, vegetation, hedges,<br>shrubs and trees not exceeding 200mm girth, bush, etc | m2 | 6 724 |
| 2 | Stripping average 150mm thick layer of top soil and<br>stockpiling on site  | m2 | 6 724 |

**REMOVAL OF TREES ETC**

**Cutting down and removing, grubbing up roots and filling in  
holes**

- |   |  |    |   |
|---|--|----|---|
| 3 | Tree exceeding 200mm and not exceeding 500mm girth   | No | 2 |
| 4 | Tree exceeding 500mm and not exceeding 1000mm girth  | No | 2 |
| 5 | Tree exceeding 1000mm and not exceeding 1500mm girth | No | 2 |

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SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL)

Bill No. 1

General Site Works

**NSUZE POLICE STATION**

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Item No		Quantity	Rate	Amount
	<b><u>BULK EXCAVATION, FILLING, ETC</u></b>			
	<b><u>Open face excavation in earth</u></b>			
6	Open face excavation	m3	7 700	
	<b><u>Extra over bulk excavation in earth for excavation in</u></b>			
7	Soft rock	m3	2 136	
8	Hard rock	m3	650	
	<b><u>Extra over bulk excavation in earth for breaking up and removing</u></b>			
9	Brickwork	m3	10	
10	Mass concrete	m3	12	
11	Reinforced concrete	m3	8	
	<b><u>Extra over all excavations for carting away</u></b>			
12	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	2 900	
	<b><u>Keeping excavations free of water</u></b>			
13	Keeping excavations free of all water	Item		
	<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site including haulage approximately not exceeding 100m from perimeter of excavations or stock piles compacted to 93% Mod AASHTO density</u></b>			
14	Over site to form platforms	m3	4 800	
	<b><u>G9 filling supplied and carted onto site by the Contractor compacted in 150mm layers to 98% Mod AASHTO density</u></b>			
15	Over site to form platforms	m3	1 009	
	<b>Carried to Collection</b>		R	
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Item No		Quantity	Rate	Amount
	G7 filling supplied and carted onto site by the Contractor compacted in 150mm layers to 98% Mod AASHTO density			
16	Over site to form platforms	m <sup>3</sup>	1 009	
	Prescribed density tests on filling			
17	"Modified AASHTO Density" test	No	25	
	<b>LANDSCAPING (PROVISIONAL)</b>			
	<b>General plant material</b>			
	All plant material (plants, shrubs, trees, etc) shall be obtained from a registered nursery and shall be free from damaged parts, parasites, fungus, other plant diseases or insects. No container bound plants will be acceptable.			
	<b>Cultivation and preparation of planting areas</b>			
	All surface rocks and stones larger than 50mm shall be removed before commencing cultivating and preparation. The entire area shall be ripped and rotavated using approved machinery by breaking up the earth to a depth of 300 at 600mm centres in both directions, unless otherwise described, and then levelled. Where fertilizer or compost is specified, it shall be worked into the topsoil to a depth of 300mm and finished to final levels.			
	All fertilizer to areas to be grassed shall be strewn on the final layer before final finishing is commenced and worked mechanically into the top 150mm soil.			
	Before planting, all areas are to be raked free of stones and other superfluous matter and brought to a weed free fine tilth by harrowing			
	The full responsibility for maintaining the grassed areas shall rest with the Contractor until the end of the maintenance period and he must allow in his prices accordingly. The maintenance shall include watering where necessary re-grassing of unsatisfactory areas and any other work which is necessary to achieve full healthy and weed free grass cover before the end of the maintenance period			
	Carried to Collection		R	
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Item No		Quantity	Rate	Amount
<b><u>Compaction of surfaces</u></b>				
25	Compaction of ground surface under topsoil etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2	2 654	
<b><u>Soil insecticide</u></b>				
26	Weedkiller under topsoil	m2	2 654	
<b><u>Topsoil, compost, lime and fertilizer</u></b>				
27	Topsoil supplied by the contractor in plant beds, grassed areas and holes for trees, shrubs, etc	m3	354	
28	Compost in plant beds, holes for trees, shrubs, etc and cultivate	m3	44	
29	"Farmyard Organics" or equal approved potting soil in 30mm thick layers for grassed areas	m3	71	
30	"Farmyard Organics" or equal approved potting soil in 50mm thick layers for plants	m3	15	
31	"Atlantic Fertilisers" or equal approved bioganic fertiliser evenly at a rate of 100g per m2 to all grassed areas	kg	236	
32	"Atlantic Fertilisers" or equal approved bio rock fertiliser evenly at a rate of 0.5kg per tree	kg	15	
33	"Atlantic Fertilisers" or equal approved bio rock fertiliser at a rate of 150g per m2 broadcast over planted areas	kg	44	
<b><u>Trees</u></b>				
34	Barringtonia Racemosa in 40 litre bags with a minimum height of 2m, firmly rooted in bag with smooth straight stems	No	15	
35	Real Yellowwood in 40 litre bags with a minimum height of 2m, firmly rooted in bag with smooth straight stems	No	7	
36	Vachellia Xanthrophloea in 40 litre bags with a minimum height of 2m, firmly rooted in bag with smooth straight stems	No	7	
<b>Carried to Collection</b>				R
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Item No		Quantity	Rate	Amount
37	Stake each tree with a 2.4m Y Fencing standard driven into the soil immediately next to but not through the root ball of each planted tree and attach each stake to the tree with a plastic interlocking tree tie	No	29	
	<u>Shrubs, bulbs and plants</u>			
38	Delosperma Carolinense in 2 litre bags with a minimum height of 200mm from top of bag, planted at a rate of 30 per m2	No	930	
39	Gazania Rigens in 2 litre bags with a minimum height of 200mm from top of bag, planted at a rate of 20 per m2	No	1 040	
40	Lampranthus Aureus in 2 litre bags with a minimum height of 200mm from top of bag, planted at a rate of 40 per m2	No	760	
41	Aristida Junciforms in 2 litre bags with a minimum height of 200mm from top of bag, planted at a rate of 10 per m2	No	180	
42	Aloe Dorotheae in 2 litre bags with a minimum height of 200mm from top of bag, planted at a rate of 20 per m2	No	340	
43	Delosperma Patersoniae in 2 litre bags with a minimum height of 200mm from top of bag, planted at a rate of 5 per m2	No	795	
	<u>Grassing, ground covers, etc</u>			
44	Rotovate to a depth of 150mm and pulverise clods and rake smooth, mix in compost (elsewhere measured) and supply and lay instant Kikuyu lawn, butt jointing the sods within the line, staggering the joints in successive lines, forming a continuous covering of lawn. All areas to be rolled immediately as each section is complete with a suitable roller and thoroughly watered with a sprinkler on a drag line hose	m2	2 358	
	<u>Maintenance</u>			
45	Allow for maintaining the full extent of the works for a period of 6 months	Item		
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Item  
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**VERTICAL GARDEN**

46 "Living Green Walls" or equal approved indoor vertical garden system overall size 5000 x 2600mm high comprising "Vertipot System" with pot kits including 40 pots, bags and 9 No. rails including fixing points; 1 No. master tank; 14 No. secondary tanks; 1 No. "DC 40" pump kit; monitoring system and electronics including flow sensor kit; established plant material at 35 plants per m2; frame and fascia surround and growlights at 900mm spacings, all on wire mesh fixed to brick wall (frame colour to Architects approval) (wall elsewhere measured)

Item

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Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>PARKING AREAS &amp; CARPORTS</u></b>			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	NOTE :			
	Tenderers are advised to study the Model Preambles for Trades 2008 Edition before pricing this bill			
	<b><u>PARKING AREA &amp; DRIVEWAY (PROVISIONAL)</u></b>			
	<b><u>(WORK GROUP 154)</u></b>			
	<b><u>Excavation in earth not exceeding 2m deep</u></b>			
1	Reduced levels to driveway	m3	1 520	
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
2	Soft rock	m3	152	
3	Hard rock	m3	76	
	<b><u>Extra over all excavations for carting away</u></b>			
4	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	1 140	
	<b><u>Earth filling supplied by the contractor to driveways, parking areas, etc</u></b>			
5	Over site of G8 material in accordance with SABS 1200 DM compacted to 93% Mod AASHTO density	m3	380	
6	Over site of G6 material in accordance with SABS 1200 DM compacted to 93% Mod AASHTO density	m3	380	
7	Over site of C4 material in accordance with SABS 1200 DM compacted to 95% Mod AASHTO density	m3	380	
	<b>Carried to Collection</b>			
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Item No		Quantity	Rate	Amount
	<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 98% Mod AASHTO density</u></b>			
8	Under floors, steps, pavings, etc	m3	380	
	<b><u>Compaction of surfaces</u></b>			
9	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2	2 533	
	<b><u>Soil insecticide</u></b>			
10	Under floors, etc including forming and poisoning shallow furrows against foundation walls, etc and filling in furrows and ramming	m2	2 533	
	<b><u>Prescribed density tests on filling</u></b>			
11	"Modified AASHTO Density" test	No	15	
	<b><u>Bituminous premix road surfacing including prime coat and tack coat</u></b>			
12	30mm Layer of asphalt compacted to 90% Modified AASHTO density on well compacted base (base elsewhere measured)	m2	126	
	<b><u>"Corobrik" or equal approved interlocking clay paving blocks in approved colours in herringbone pattern laid with butt joints on 20mm thick river sand bed with sand swept into joints including preparation of ground, weedkiller etc.</u></b>			
13	Paving of 65mm thick blocks	m2	2 407	
	<b><u>Precast concrete finished smooth on exposed surfaces including bedding, jointing and pointing</u></b>			
14	Figure 6 kerb (SABS 927) 125 x 230mm high with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, bedded and jointed in 1:3 cement mortar and pointing with keyed joints including excavation, backfilling, etc	m	510	
15	Ditto but circular on plan not exceeding 4m radius formed with short lengths of straight kerb, ditto	m	60	
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Item No		Quantity	Rate	Amount
16	Ditto but circular on plan exceeding 4m radius formed with short lengths of straight kerb, ditto	m	30	
	<u>Approved white or yellow non-reflective road marking paint on brick paving</u>			
17	Line 100mm wide	m	250	
	<b><u>CARPORTS</u></b>			
	<b><u>EARTHWORKS (PROVISIONAL) (WORK GROUP 104)</u></b>			
	<b><u>Excavation in soft material not exceeding 2m deep</u></b>			
18	Trenches	m3	96	
19	Holes	m3	12	
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
20	Soft rock	m3	11	
21	Hard rock	m3	5	
	<b><u>Extra over all excavations for carting away</u></b>			
22	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	49	
	<b><u>Risk of collapse of excavations</u></b>			
23	Sides of trench and hole excavations not exceeding 1,5m deep	m2	348	
	<b><u>Keeping excavations free of water</u></b>			
24	Keeping excavations free of water other than subterranean water	Item		
	<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 95% Mod AASHTO density</u></b>			
25	Backfilling to trenches, holes, etc	m3	59	
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Item No		Quantity	Rate	Amount
<b><u>CONCRETE (WORK GROUP 110)</u></b>				
<b><u>Class 15/19 concrete</u></b>				
26	Surface blinding under footings, bases, etc	m3	4	
<b><u>Class 30/19 concrete</u></b>				
27	Strip footings	m3	19	
28	Bases	m3	5	
<b><u>CONCRETE TESTING</u></b>				
29	Allow for all necessary concrete test cubes size 150 x 150 x 150mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Engineer	No	5	
<b><u>FORMWORK (WORK GROUP 111)</u></b>				
<b><u>Rough formwork to sides</u></b>				
30	Strip footings	m2	48	
31	Bases	m2	43	
<b><u>REINFORCEMENT (PROVISIONAL) (WORK GROUP 114)</u></b>				
<b><u>Mild steel reinforcement to structural concrete work</u></b>				
32	10mm Diameter bars	t	3.61	
<b><u>MASONRY (WORK GROUP 116)</u></b>				
<b><u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar in foundations (Provisional)</u></b>				
33	Brick piers	m3	1	
34	One brick walls	m2	92	
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Item No		Quantity	Rate	Amount
<b><u>STRUCTURAL STEELWORK (PROVISIONAL) (WORK GROUP 134)</u></b>				
<b><u>Hot dipped galvanised and welded columns and beams spliced with end plates, connection plates and angle irons bolted to brickwork</u></b>				
42	100 x 100 x 3mm square hollow section columns	t	1.23	
43	75 x 50 x 20 x 2.5mm Lipped channel purlins	t	1.74	
44	150 x 50 x 20 x 3mm Lipped channel beams	t	1.74	
45	150 x 50 x 2.5mm Rectangular hollow section beams	t	0.87	
46	250 x 50 x 20 x 2.5mm Lipped channel fascias & beams	t	0.66	
47	275 x 50 x 20 x 2.5mm Lipped channel fascias & beams	t	1.17	
<b><u>Bolts to columns, beams, etc</u></b>				
48	300 x 300 x 6mm Thick flitch base plate set in concrete base (base elsewhere measured)	No	20	
<b><u>METALWORK (WORK GROUP 136)</u></b>				
<b><u>Gates</u></b>				
Tenderers are referred to Architect's drawings numbered K021 05-523 attached to these bills of quantities for tender purposes				
49	Double vehicular gate overall size 4279 x 1924 high comprising two equal leaves each 2001 x 1924mm high formed of 75 x 75 x 5mm galvanised square hollow section frame with 38 x 38 x 3mm galvanised square hollow sections fixed to frame at 45 degree angles and at 100mm centres, gate fixed to 2 No. 120 x 120 x 5mm galvanised square hollow section posts set in 600 x 600 x 300mm concrete bases with heavy duty type 4 cell hinges and including 40 x 30 x 6mm galvanised flat bars and 12mm Diameter 30mm long round bars welded to frame, with 2 No. 16 x 211 x 3mm thick galvanised steel barrel bolt housings welded to frame and 2 No. 12mm Diameter x 400mm long galvanised steel barrel bolts and 300 x 300 x 300mm concrete base, etc.	No	1	
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Item No		Quantity	Rate	Amount
	<b><u>PAINTWORK (WORK GROUP 152)</u></b>			
	<b><u>Wire brush to Grade ST 2 specification in accordance with the Swedish Standard SIS 055900 of 1967 and apply one coat zinc chromate primer on steel</u></b>			
50	On columns and beams	m2	526	
	<b><u>Spot prime defects in pre-primed surfaces with zinc chromate primer, one universal undercoat and two coats semi gloss paint on steel</u></b>			
51	On columns and beams	m2	526	
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Item  
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Amount

**BILL NO. 3**

**STORMWATER DRAINAGE (PROVISIONAL)**

**SUPPLEMENTARY PREAMBLES**

NOTE :

Tenderers are advised to study the Model Preambles for  
Trades 2008 Edition before pricing this bill

Stormwater channels

Descriptions of channels shall be deemed to include  
necessary excavation, surface preparation, compaction, etc,  
and disposal of surplus material on site

Sealing of edges

Outer edges of sinks, basins, baths, urinals, etc are to be  
sealed against adjacent surfaces with approved silicone

uPVC pipes and fittings

Sewer and drainage pipes and fittings shall be jointed and  
sealed with butyl rubber rings

Soil, waste and vent pipes and fittings shall be solvent weld  
jointed or sealed with butyl rubber rings

uPVC pressure pipes and fittings

Pipes of 50mm diameter and smaller shall be plain ended  
with solvent welded PVC-U loose sockets and fittings

Pipes of 63mm diameter and greater shall have sockets and  
spigots with push-in type integral rubber ring joints. Bends  
shall be PVC-U and all other fittings shall be cast iron, all with  
similar push-in type joints

High density polyethylene (HDPE) pipes and fittings

Pipes shall be type IV and of the class specified with  
compression fittings

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Item  
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Quantity

Rate

Amount

Polypropylene pipes

Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with heat welded thermoplastic or where so described compression fittings

Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Capillary solder fittings shall comply with ISO 2016

Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained

Paper wrapping to pipes

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

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Stormwater Drainage (Provisional)

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Item No		Quantity	Rate	Amount
<b><u>STORMWATER CHANNELS</u></b>				
Tenderers are referred to Engineers drawing numbered 1977-CL-03 attached to these bills of quantities for tender purposes.				
<b><u>Reinforced concrete 30MPa in-situ stormwater channels rendered smooth all round, including excavation, formwork etc.</u></b>				
1	U-shaped stormwater channel 525mm wide and 400mm deep formed of 150mm thick concrete with Mesh Ref 198 reinforcement, including excavation, 50mm thick blinding layer, formwork, etc.	m	70	
2	Extra over last for angles, intersections, ends etc	No	6	
<b><u>Gratings, covers, etc</u></b>				
3	40 x 40 x 4mm angle iron with fishtails fixed to concrete channel (channel elsewhere measured)	m	141	
4	"Vitagrid (VE40Z)" or equal approved grating cover 325mm wide	m	70	
<b><u>STORMWATER DRAINAGE</u></b>				
<b><u>"Durodrain" or equal approved normal duty Class 51 uPVC pipes</u></b>				
5	110mm Pipes laid in and including trenches not exceeding 1m deep	m	62	
6	160mm Pipes laid in and including trenches not exceeding 1m deep	m	109	
7	160mm Ditto exceeding 1m and not exceeding 2m deep	m	18	
8	200mm Pipes laid in and including trenches not exceeding 1m deep	m	54	
9	200mm Ditto exceeding 1m and not exceeding 2m deep	m	12	
10	250mm Pipes laid in and including trenches not exceeding 1m deep	m	34	
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Item No			Quantity	Rate	Amount
11	500mm Pipes laid in and including trenches not exceeding 1m deep	m	30		
	<b><u>"Durodrain" or equal approved heavy duty Class 34 uPVC pipes</u></b>				
12	110mm Pipes laid in and including trenches not exceeding 1m deep	m	42		
13	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	12		
14	160mm Pipes laid in and including trenches not exceeding 1m deep	m	32		
15	160mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	10		
16	200mm Pipes laid in and including trenches not exceeding 1m deep	m	42		
17	315mm Pipes laid in and including trenches not exceeding 1m deep	m	52		
18	315mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	14		
19	400mm Pipes laid in and including trenches not exceeding 1m deep	m	10		
	<b><u>Extra over normal duty uPVC pipes for fittings</u></b>				
20	110mm Bend	No	16		
21	110mm Access Bend	No	28		
22	110mm Junction	No	13		
23	110mm Access Junction	No	23		
24	160mm Bend	No	24		
25	160mm Access bend	No	34		
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Item No		Quantity	Rate	Amount
26	160mm Junction	No 18		
27	160mm Access junction	No 28		
28	200mm Bend	No 8		
29	200mm Access Bend	No 5		
30	200mm Junction	No 7		
31	200mm Access Junction	No 5		
32	250mm Bend	No 8		
33	250mm Access Bend	No 6		
34	250mm Junction	No 6		
35	250mm Access Junction	No 4		
36	500mm Bend	No 2		
37	500mm Junction	No 2		
38	160 x 110mm Reducer	No 12		
39	200 x 160mm Reducer	No 8		
40	250 x 160mm Reducer	No 4		
41	250 x 200mm Reducer	No 6		
<b><u>Extra over heavy duty uPVC pipes for fittings</u></b>				
42	110mm Bend	No 10		
43	110mm Access Bend	No 8		
44	110mm Junction	No 6		
45	110mm Access Junction	No 6		
46	160mm Bend	No 5		
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Item No			Quantity	Rate	Amount
47	160mm Access bend	No	4		
48	160mm Junction	No	6		
49	160mm Access junction	No	6		
50	200mm Bend	No	8		
51	200mm Access Bend	No	8		
52	200mm Junction	No	5		
53	200mm Access Junction	No	4		
54	315mm Bend	No	11		
55	315mm Access Bend	No	7		
56	315mm Junction	No	7		
57	315mm Access Junction	No	4		
58	400mm Bend	No	3		
59	400mm Access Bend	No	3		
60	400mm Junction	No	2		
61	400mm Access Junction	No	2		
62	160 x 110mm Reducer	No	10		
63	200 x 160mm Reducer	No	8		
64	315 x 160mm Reducer	No	6		
65	400 x 315mm Reducer	No	2		
<b><u>Brick sumps, catchpits and inspection chambers (covers, gratings and frames elsewhere)</u></b>					
66	Catchpit 450 x 450mm not exceeding 1m deep internally	No	16		
<b>Carried to Collection</b>					R
SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL)					
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Item No		Quantity	Rate	Amount
67	Catchpit 450 x 450mm exceeding 1m and not exceeding 1,25m deep internally	No 4		
68	Catchpit 450 x 450mm exceeding 1,25m and not exceeding 1,5m deep internally	No 4		
<b><u>Precast concrete circular inspection chambers (covers elsewhere)</u></b>				
69	Inspection chamber 1000mm diameter and not exceeding 750mm deep internally	No 3		
70	Inspection chamber 1000mm diameter exceeding 750mm and not exceeding 1m deep internally	No 10		
71	Inspection chamber 1000mm diameter exceeding 1000mm and not exceeding 1250mm deep internally	No 2		
72	Inspection chamber 1000mm Diameter exceeding 1250mm and not exceeding 1500mm deep internally	No 2		
<b><u>Gratings, covers, etc</u></b>				
73	1000mm Diameter x 150mm thick precast concrete cover slab	No 17		
74	450 x 450mm x 27,4kg Cast iron cover and frame	No 24		
<b><u>Gulleys</u></b>				
75	160mm Diameter uPVC gulley trap with 110mm diameter outlet and joint to uPVC drain pipe and three half brick sides 150mm high rendered on all exposed surfaces with 15mm cement and sand rendering (1:3) (grating elsewhere)	No 12		
76	190mm Diameter x 1,2kg cast iron gulley grating	No 12		
<b><u>Connection</u></b>				
77	Locate and cut into side of existing stormwater pipe for and connecting new 250mm pipe including inserting 250mm junction	No 1		
<b>Carried to Collection</b>				R
SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL) Bill No. 3 Stormwater Drainage (Provisional) <b>NSUZE POLICE STATION</b>				228 I.M.

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Item No		Quantity	Rate	Amount
78	Locate and cut into side of existing stormwater pipe for and connecting new 500mm pipe including inserting 500mm junction	No 1		
	<b><u>Sub-soil Drainage</u></b>			
79	110mm Slotted uPVC agricultural pipes including 12mm crushed stone encasing size 300 x 300mm and "Bidum U14" geofabric filter blanket wrapped around encasing with 150mm side and 300mm end laps including stitching	m 20		
80	Extra for 110mm bend	No 2		
81	Extra for 110mm junction	No 2		
	<b><u>The following in Attenuation Tanks:</u></b>			
82	Excavation in soft material not exceeding 2m deep	m3 51		
83	Extra over attenuation tank excavations for excavating soft rock material	m3 5		
84	Extra over attenuation tank excavations for excavating hard rock material	m3 3		
85	Cart away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 51		
86	Risk of collapse to sides of septic tank excavations exceeding 1,5m deep	m2 49		
87	Keeping excavations free of all water other than subterranean water	Item		
88	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2 17		
89	Soil poisoning under floors, etc	m2 17		
90	Surface blinding under footings, bases, etc	m3 1		
91	30MPa Concrete surface bed	m3 4		
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Item No		Quantity	Rate	Amount
92	30MPa Reinforced concrete cover slabs	m3	4	
93	Class U2 woodfloat finish to top surfaces	m2	35	
94	Class F1 formwork to edges, risers, ends and reveals not exceeding 300mm high or wide	m	36	
95	Class F1 formwork to soffits of slab	m2	17	
96	Steel reinforcement to structural concrete work consisting of 10mm Diameter bars	t	0.73	
97	Steel reinforcement to structural concrete work consisting of 12mm Diameter bars	t	0.80	
98	Type 888 mesh reinforcement in surface beds, slabs, etc.	m2	70	
99	One brick wall in English bond including wire ties	m2	4	
100	340mm Hollow walls of two half brick skins with cavities filled in with and including 15MPa/20mm concrete and wire ties	m2	40	
101	250 Micron green waterproof sheeting under surface beds	m2	17	
102	Two coats 'Brixeal' or equal approved bitumen emulsion waterproof coating to vertical surfaces	m2	88	
103	Plaster to vertical surfaces	m2	88	
104	550mm Diameter Type 2A cast iron single seal manhole cover and frame	No	1	
105	110mm Diameter uPVC pipe	m	1	
106	160mm Diameter uPVC pipe	m	2	
	<b><u>SUNDRIES TO ALL DRAINAGE</u></b>			
107	Extra over soft excavation for pipe trenches, chambers, etc for excavation in soft rock	m3	28	
108	Extra over soft excavation for pipe trenches, chambers, etc for excavation in hard rock	m3	19	
	<b>Carried to Collection</b>			
	SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL)			
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Item No		Quantity	Rate	Amount
109	Extra over for back excavation of vertical sides of excavation in earth for working space including backfilling compacted to 98% Mod AASHTO density exceeding 0.5m and not exceeding 1.5m deep	m2	50	
110	Extra over for back excavation of vertical sides of excavation in earth for working space including backfilling compacted to 98% Mod AASHTO density exceeding 1.5m and not exceeding 2.5m deep	m2	30	
111	Extra over soft excavation for risk of collapse to sides of trench and hole excavations not exceeding 1.5m deep	m2	86	
112	Extra over soft excavation for risk of collapse to sides of trench and hole excavations exceeding 1.5m deep	m2	70	
113	Extra over excavation for pipe trenches, chambers, etc for carting away surplus material to a dumping site to be located by the contractor	m3	30	
114	Extra over backfilling to drain trenches, chambers, etc for earth backfilling supplied by the contractor	m3	30	
115	Mass concrete Class 15/26 in encasing 100mm thick around 110mm diameter pipe including all necessary formwork	m	32	
116	Mass concrete Class 15/26 in encasing 100mm thick around 160mm diameter pipe including all necessary formwork	m	8	
<b>TESTING</b>				
117	Testing the whole of the stormwater drainage system, etc. including fittings	Item		
<b>Carried to Collection</b>				R
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Bill No. 3

Stormwater Drainage (Provisional)

**COLLECTION**

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Stormwater Drainage (Provisional)

**NSUZE POLICE STATION**

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Item  
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**BILL NO. 4**

**SOIL DRAINAGE (PROVISIONAL)**

**SUPPLEMENTARY PREAMBLES**

NOTE :

Tenderers are advised to study the Model Preambles for  
Trades 2008 Edition before pricing this bill

**Stormwater channels**

Descriptions of channels shall be deemed to include  
necessary excavation, surface preparation, compaction, etc,  
and disposal of surplus material on site

**Sealing of edges**

Outer edges of sinks, basins, baths, urinals, etc are to be  
sealed against adjacent surfaces with approved silicone

**uPVC pipes and fittings**

Sewer and drainage pipes and fittings shall be jointed and  
sealed with butyl rubber rings

Soil, waste and vent pipes and fittings shall be solvent weld  
jointed or sealed with butyl rubber rings

**uPVC pressure pipes and fittings**

Pipes of 50mm diameter and smaller shall be plain ended  
with solvent welded PVC-U loose sockets and fittings

Pipes of 63mm diameter and greater shall have sockets and  
spigots with push-in type integral rubber ring joints. Bends  
shall be PVC-U and all other fittings shall be cast iron, all with  
similar push-in type joints

**High density polyethylene (HDPE) pipes and fittings**

Pipes shall be type IV and of the class specified with  
compression fittings

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Bill No. 4

Soil Drainage (Provisional)

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Polypropylene pipes

Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with heat welded thermoplastic or where so described compression fittings

Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Capillary solder fittings shall comply with ISO 2016

Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained

Paper wrapping to pipes

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

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Disinfection of water pipework

Water pipework is to be disinfected at completion

Exposed concrete surfaces

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster

Excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling

"Soft rock" and "hard rock" shall be as defined in "Earthworks"

Laying, backfilling, bedding, etc. of pipes

Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:

SABS 1200 L : Medium-pressure pipelines

LD : Sewers

LE : Stormwater drainage

Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200

DB : Earthworks (Pipe trenches)

Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200

LB : Bedding (Pipes).

Unless otherwise described bedding of rigid pipes shall be class B bedding

The tenderer is to make provision in his rates for any imported selected material necessary below, around and above the pipe only and normal backfill material above the same as per the manufacturer's recommendations

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Item  
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Quantity

Rate

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Waste unions

Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings

General

Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately)

Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends

Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 98% Mod AASHTO density and disposal of surplus material on site

Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately)

Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)

As-built drawings

Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)

**CPAP WORK GROUP**

Unless otherwise stated all items in this bill will be Work Group 146

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Item No		Quantity	Rate	Amount
<b><u>SOIL DRAINAGE</u></b>				
<b><u>HDPE Class 16 high density polyethylene pipes with plastic compression fittings</u></b>				
1	110mm Pipes laid in and including trenches not exceeding 1m deep	m	56	
2	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	12	
3	160mm Pipes laid in and including trenches not exceeding 1m deep	m	222	
4	160mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	36	
<b><u>Extra over high density polyethylene pipes for Plasson compression fittings</u></b>				
5	110mm Elbow	No	22	
6	110mm Tee	No	12	
7	160mm Elbow	No	46	
8	160mm Tee	No	30	
9	160 x 110mm Reducing Elbow	No	14	
10	160 x 110mm Reducing Tee	No	12	
11	110mm Diameter rodding eye consisting of plain bend at bottom jointed to drain pipe, vertical piping not exceeding 1000mm long including all necessary slow bends, cast iron 'ABC' cover and frame, 200mm thick mass concrete grade 15/19 surround all round and including all necessary additional excavation, etc	No	2	
12	160mm Diameter rodding eye consisting of plain bend at bottom jointed to drain pipe, vertical piping not exceeding 1000mm long including all necessary slow bends, cast iron 'ABC' cover and frame, 200mm thick mass concrete grade 15/19 surround all round and including all necessary additional excavation, etc	No	6	
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Item No		Quantity	Rate	Amount
<b><u>Brick sumps, catchpits and inspection chambers (covers, gratings and frames are billed separately)</u></b>				
13	Precast concrete circular inspection chamber 1000mm Diameter not exceeding 1m deep internally	No 1		
14	Ditto but exceeding 1m and not exceeding 1,25m deep internally	No 1		
15	Ditto but exceeding 1,25m and not exceeding 1,5m deep internally	No 1		
16	Ditto but exceeding 1,5m and not exceeding 1,75m deep internally	No 1		
17	Ditto but exceeding 1,75m and not exceeding 2m deep internally	No 1		
18	Catchpit chamber size 600 x 600mm formed of 100mm thick concrete base 820 x 820mm with Derbigum SP4 waterproofing and 30mm thick screed, and 110mm brick walls not exceeding 1m deep internally (cover and frame elsewhere measured)	No 1		
<b><u>Gratings, covers, etc</u></b>				
19	1000mm Diameter x 150mm thick precast concrete cover slab with 450 x 450mm opening	No 5		
20	600 x 600mm x 82kg Type 9B cast iron single seal manhole cover and frame	No 1		
<b><u>Gulleys</u></b>				
21	160mm Diameter uPVC gulley trap with 110mm diameter outlet and joint to uPVC drain pipe and three half brick sides 150mm high rendered on all exposed surfaces with 15mm cement and sand rendering (1:3) (grating elsewhere)	No 6		
22	190mm Diameter x 1,2kg cast iron gulley grating	No 6		
<b><u>Connection</u></b>				
23	Locating and cutting into side of existing 160mm pipe for and connecting 160mm pipe including inserting 160mm junction	No 1		
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Item No		Quantity	Rate	Amount
<b><u>The following in Septic Tanks:</u></b>				
24	Soft excavation not exceeding 2m deep for holes	m3	257	
25	Extra over septic tank excavations for excavating soft rock material	m3	26	
26	Extra over septic tank excavations for excavating hard rock material	m3	13	
27	Cart away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	224	
28	Risk of collapse to sides of septic tank excavations exceeding 1,5m deep	m2	20	
29	Keeping excavations free of all water other than subterranean water	Item		
30	Earth filling obtained from the excavations and/or prescribed stock piles on site backfilled and compacted to 95% Mod AASHTO density	m3	33	
31	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density	m2	86	
32	Soil poisoning under floors, etc	m2	86	
33	30MPa Reinforced concrete surface bed	m3	10	
34	Thickening out edge of 120mm thick surface bed slab to 380mm thick x 360mm wide at top tapering along two edges to 300mm wide at bottom including additional formwork, excavation, etc.	m	24	
35	Thickening out edge of 120mm thick surface bed slab to 380mm thick x 1330mm wide at top tapering along one edge to 1300mm wide at bottom including additional formwork, excavation, etc.	m	35	
36	30MPa Reinforced concrete slabs, beams and inverted beams	m3	17	
37	Class U2 woodfloat finish to top surfaces	m2	171	
<b>Carried to Collection</b>				R
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Soil Drainage (Provisional)				
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Item No		Quantity	Rate	Amount
38	Class F1 formwork to edges, risers, ends and reveals not exceeding 300mm high or wide	m	98	
39	Class F1 formwork to soffits of slab	m2	86	
40	Two layers 3 ply Malthoid slip joints between horizontal concrete and brick surfaces including cement mortar bed not exceeding 300mm wide	m	66	
41	Steel reinforcement to structural concrete work consisting of 8mm Diameter bars	t	0.20	
42	Steel reinforcement to structural concrete work consisting of 12mm Diameter bars	t	0.40	
43	Steel reinforcement to structural concrete work consisting of 20mm Diameter bars	t	1.20	
44	Steel reinforcement to structural concrete work consisting of 25mm Diameter bars	t	4.53	
45	Type 395 mesh reinforcement in surface beds, slabs, etc.	m2	257	
46	One brick wall in English bond including wire ties	m2	61	
47	330mm Hollow walls of two half brick skins with cavities filled in with and including 15MPa/20mm concrete and wire ties	m2	90	
48	250 Micron green waterproof sheeting under surface beds	m2	86	
49	Two coats 'Brixeal' or equal approved bitumen emulsion waterproof coating to vertical surfaces	m2	298	
50	Plaster to vertical surfaces	m2	298	
51	300 x 300mm cast iron single seal manhole cover and frame	No	7	
52	450 x 600mm x 117kg heavy duty cast iron single seal manhole cover and frame	No	4	
53	160mm Diameter uPVC pipe	m	2	
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Item No		Quantity	Rate	Amount
<b><u>The following in Soak Pit:</u></b>				
54	Soft excavation not exceeding 2m deep for holes	m3	23	
55	Extra over soak pit excavations for excavation in soft rock	m3	2	
56	Extra over soak pit excavations for excavation in hard rock	m3	1	
57	Cart away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	20	
58	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	32	
59	Keeping excavations free of all water other than subterranean water	Item		
60	Earth filling obtained from the excavations and/or prescribed stock piles on site backfilled and compacted to 95% Mod AASHTO density	m3	3	
61	Clean stone filling with sizes 20-75mm	m3	20	
62	"Bidim (U14)" or equal approved geofabric filter blanket laid over selected rubble filling	m2	10	
63	110mm Slotted uPVC agricultural pipes laid in trenches	m	14	
<b><u>SUNDRIES TO ALL DRAINAGE</u></b>				
64	Extra over soft excavation for pipe trenches, chambers, etc for excavation in soft rock	m3	30	
65	Extra over soft excavation for pipe trenches, chambers, etc for excavation in hard rock	m3	15	
66	Extra over for backexcavation of vertical sides of excavation in earth for working space including backfilling compacted to 98% Mod AASHTO density exceeding 0.5m and not exceeding 1.5m deep	m2	60	
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<b>NSUZE POLICE STATION</b>				

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Item No		Quantity	Rate	Amount
67	Extra over for backexcavation of vertical sides of excavation in earth for working space including backfilling compacted to 98% Mod AASHTO density exceeding 1.5m and not exceeding 2.5m deep	m2	40	
68	Extra over soft excavation for risk of collapse to sides of trench and hole excavations not exceeding 1.5m deep	m2	92	
69	Extra over soft excavation for risk of collapse to sides of trench and hole excavations exceeding 1.5m deep	m2	80	
70	Extra over excavation for pipe trenches, chambers, etc for carting away surplus material to a dumping site to be located by the contractor	m3	32	
71	Extra over backfilling to drain trenches, chambers, etc for earth backfilling supplied by the contractor	m3	32	
72	Mass concrete Class 15/26 in encasing 100mm thick around 110mm diameter pipe including all necessary formwork	m	18	
73	Mass concrete Class 15/26 in encasing 100mm thick around 160mm diameter pipe including all necessary formwork	m	8	
<b>TESTING</b>				
74	Testing the whole of the soil drainage, etc including fittings	Item		
Carried to Collection				R
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Soil Drainage (Provisional)				
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Section No. 3

SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL)

Bill No. 4

Soil Drainage (Provisional)

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Bill No. 4

Soil Drainage (Provisional)

**NSUZE POLICE STATION**

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Item  
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**BILL NO. 5**

**WATER SUPPLY (PROVISIONAL)**

NOTE :

Tenderers are advised to study the Model Preambles for  
Trades 2008 Edition before pricing this bill

Stormwater channels

Descriptions of channels shall be deemed to include  
necessary excavation, surface preparation, compaction, etc,  
and disposal of surplus material on site

Sealing of edges

Outer edges of sinks, basins, baths, urinals, etc are to be  
sealed against adjacent surfaces with approved silicone

uPVC pipes and fittings

Sewer and drainage pipes and fittings shall be jointed and  
sealed with butyl rubber rings

Soil, waste and vent pipes and fittings shall be solvent weld  
jointed or sealed with butyl rubber rings

uPVC pressure pipes and fittings

Pipes of 50mm diameter and smaller shall be plain ended  
with solvent welded PVC-U loose sockets and fittings

Pipes of 63mm diameter and greater shall have sockets and  
spigots with push-in type integral rubber ring joints. Bends  
shall be PVC-U and all other fittings shall be cast iron, all with  
similar push-in type joints

High density polyethylene (HDPE) pipes and fittings

Pipes shall be type IV and of the class specified with  
compression fittings

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SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL)

Bill No. 5

Water Supply (Provisional)

NSUZE POLICE STATION

Quantity

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Item  
No

Quantity

Rate

Amount

Polypropylene pipes

Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with heat welded thermoplastic or where so described compression fittings

Pipes shall be firmly fixed to walls, etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Capillary solder fittings shall comply with ISO 2016

Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained

Paper wrapping to pipes

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

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Item No	Quantity	Rate	Amount
<u>Disinfection of water pipework</u>			
Water pipework is to be disinfected at completion			
<u>Exposed concrete surfaces</u>			
Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster			
<u>Excavations</u>			
No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling			
"Soft rock" and "hard rock" shall be as defined in "Earthworks"			
<u>Laying, backfilling, bedding, etc. of pipes</u>			
Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions			
Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding			
The tenderer is to make provision in his rates for any imported selected material necessary below, around and above the pipe only and normal backfill material above the same as per the manufacturer's recommendations			
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Item No		Quantity	Rate	Amount
	<p><u>Waste unions</u></p> <p>Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings</p> <p><u>General</u></p> <p>Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately)</p> <p>Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends</p> <p>Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 98% Mod AASHTO density and disposal of surplus material on site</p> <p>Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately)</p> <p>Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)</p> <p><u>As-built drawings</u></p> <p>Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)</p> <p><b><u>CPAP WORK GROUP</u></b></p> <p>Unless otherwise stated all items in this bill will be Work Group 148</p>			
	<p style="text-align: right;"><b>Carried to Collection</b></p> <p>SECTION NO. 3 - EXTERNAL WORKS (PROVISIONAL)</p> <p>Bill No. 5</p> <p>Water Supply (Provisional)</p> <p><b>NSUZE POLICE STATION</b></p>		R	247


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Item No		Quantity	Rate	Amount
<b><u>WATER SUPPLIES</u></b>				
<b><u>HDPE Class 16 high density polyethylene pipes with plastic compression fittings</u></b>				
1	50mm Pipes laid in and including trenches not exceeding 1m deep	m	70	
2	50mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	50	
<b><u>Class 2 copper pipes</u></b>				
3	42mm Pipes laid in and including trenches not exceeding 1m deep	m	70	
4	42mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	15	
5	54mm Pipes laid in and including trenches not exceeding 1m deep	m	15	
<b><u>Extra over high density polyethylene pipes for "Cobra" or equal approved compression fittings</u></b>				
6	50mm Elbow	No	20	
7	50mm Tee	No	16	
8	50 x 42mm Reducing elbow	No	4	
9	50 x 42mm Reducing tee	No	4	
<b><u>Extra over class 2 copper (hard drawn) pipes for "Cobra" or equal approved compression fittings</u></b>				
10	42mm Elbow	No	30	
11	42mm Tee	No	22	
12	54mm Elbow	No	6	
13	42 x 35mm Reducing Elbow	No	12	
14	42 x 35mm Reducing tee	No	10	
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Item No			Quantity	Rate	Amount
15	54 x 42mm Reducing elbow	No	12		
16	54 x 42mm Reducing tee	No	10		
<b><u>Class 2 copper (hard drawn) pipes</u></b>					
17	15mm Pipes to walls, etc	m	50		
18	15mm Pipes chased in	m	75		
19	22mm Pipes to walls, etc	m	57		
20	22mm Pipes chased in	m	103		
21	28mm Pipes to walls, etc	m	20		
22	28mm Pipes chased in	m	40		
23	35mm Pipes to walls, etc	m	28		
24	35mm Pipes chased in	m	60		
<b><u>Extra over class 2 copper (hard drawn) pipes for capillary fittings</u></b>					
25	15mm Fittings	No	90		
26	22mm Fittings	No	55		
27	28mm Fittings	No	56		
28	35mm Fittings	No	22		
<b><u>Extra over class 2 copper (hard drawn) pipes for "Cobra" or equal approved compression fittings</u></b>					
29	15mm Fittings	No	106		
30	22mm Fittings	No	36		
31	28mm Fittings	No	16		
32	35mm Elbow	No	14		
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Item No			Quantity	Rate	Amount
33	35mm Tee	No	8		
34	22 x 15mm Reducing Elbow	No	46		
35	22 x 15mm Reducing tee	No	35		
36	28 x 15mm Reducing Elbow	No	14		
37	28 x 15mm Reducing tee	No	12		
38	28 x 22mm Reducing Elbow	No	6		
39	28 x 22mm Reducing tee	No	5		
40	35 x 22mm Reducing Elbow	No	12		
41	35 x 22mm Reducing tee	No	16		
42	35 x 28mm Reducing Elbow	No	18		
43	35 x 28mm Reducing tee	No	14		
<b><u>Electric Water Heaters</u></b>					
44	200 Litre "Kwikot Superline 400 (DSG-200-5)" or equal approved horizontal ceiling mounted pressurised water heater (SABS 151) designed for a working pressure of 400 kPa complete with electrical element, thermostat (SABS 181) and temperature/pressure safety valve (SABS 198), fitted in position including connecting up to copper inlet and outlet pipes	No	5		
45	"Kwikot (HP-005)" or equal approved stainless steel powder coated 3.85kW heat pump split unit including wall bracket, combination valves, etc. installed complete including connecting up to 22mm copper inlet and outlet pipes (Electrical isolator measured elsewhere)	No	5		
46	"Kwikot (FPRX-10-UB)" or equal approved 10 litre under-counter point of use electric water heater overall size 340 x 291 x 347mm high with glasslined inner cylinder, fitted in position including connecting up to over-counter mixer	No	1		
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Item No		Quantity	Rate	Amount
	<u>Geyser Stand</u>			
47	"KwikTray" or equal approved polyethylene drip tray, size 1087 x 533mm	No 4		
	<u>STEEL WATER TANKS, ETC.</u>			
	<u>EARTHWORKS (WORK GROUP 104)</u>			
	<u>Excavation in soft material not exceeding 2m deep</u>			
48	Holes	m3 14		
	<u>Extra over trench and hole excavations in earth for excavation in</u>			
49	Soft rock	m3 1		
50	Hard rock	m3 1		
	<u>Extra over all excavations for carting away</u>			
51	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 14		
	<u>Risk of collapse of excavations</u>			
52	Sides of trench and hole excavations not exceeding 1,5m deep	m2 9		
	<u>Keeping excavations free of water</u>			
53	Keeping excavations free of water other than subterranean water	Item		
	<u>CONCRETE (WORK GROUP 110)</u>			
	<u>Class 15/19 concrete</u>			
54	Surface blinding under footings, bases, etc.	m3 2		
	<u>Class 30/19 concrete</u>			
55	Bases	m3 12		
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Item No		Quantity	Rate	Amount
56	Walls	m3 5		
	<b><u>CONCRETE TESTING</u></b>			
57	Allow for all necessary concrete test cubes size 150 x 150 x 150mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Engineer	No 10		
	<b><u>FORMWORK (WORK GROUP 111)</u></b>			
	<b><u>Rough formwork to sides</u></b>			
58	Bases	m2 8		
59	Walls	m2 31		
	<b><u>REINFORCEMENT (WORK GROUP 114)</u></b>			
	<b><u>Mild steel reinforcement to structural concrete work</u></b>			
60	8mm Diameter bars	t 1.03		
61	12mm Diameter bars	t 2.00		
	<b><u>High tensile steel reinforcement to structural concrete work</u></b>			
62	8mm Diameter bars	t 0.18		
63	12mm Diameter bars	t 1.00		
<b>Carried to Collection</b>				
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Item No		Quantity	Rate	Amount
<b><u>METALWORK (WORK GROUP 136)</u></b>				
<b><u>Steel water tank</u></b>				
64	"Abeco" or equal approved 58kL galvanised steel water tank overall size 4800 x 4880 x 2440mm deep including all stays, rubber gaskets, bolts, nuts, cover plates with 1 No. 450 x 450mm lockable access manhole, built-in screen vent and level indicator at each compartment, connection points and internal and external ladders, installed complete as per manufacturers specifications on concrete bases (Bases elsewhere measured)	No	1	
<b><u>PLUMBING (WORK GROUP 148)</u></b>				
<b><u>Grade 304 stainless steel pipes</u></b>				
65	100mm Pipes to walls, etc	m	28	
66	150mm Pipes to walls, etc	m	22	
<b><u>Extra over stainless steel pipes for stainless steel fittings</u></b>				
67	100mm Elbow	m	6	
68	100mm Tee	m	2	
69	150mm Elbow	m	4	
70	150mm Tee	m	2	
71	150 x 100mm Reducer	m	2	
<b><u>Class 2 copper (hard drawn) pipes</u></b>				
72	35mm Pipes to walls, etc	m	50	
<b><u>Extra over class 2 copper (hard drawn) pipes for "Cobra" or equal approved compression fittings</u></b>				
73	35mm Elbow	No	4	
74	35mm Tee	No	4	
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Item No		Quantity	Rate	Amount
	<b><u>Brass</u></b>			
75	2" 220VAC normally closed solenoid valve for 35mm inlet	No 2		
76	2" 220VAC normally closed solenoid valve set with weatherproof box & pressure regulator	No 2		
77	"Cobra" or equal approved 80mm isolating valve	No 1		
	<b><u>WATER SUPPLIES TO FIRE APPLIANCES</u></b>			
	<b><u>HDPE Class 16 high density polyethylene pipes with plastic compression fittings</u></b>			
78	100mm Pipes laid in and including trenches not exceeding 1m deep	m 54		
79	100mm Pipes laid in and including trenches exceeding 1m and not exceeding 1m deep	m 26		
	<b><u>Extra over high density polyethylene pipes for "Cobra" or equal approved compression fittings</u></b>			
80	100mm Elbows	No 3		
81	100mm Tees	No 4		
	<b><u>Mild steel medium class pipes</u></b>			
82	25mm Pipes to walls, etc.	m 35		
83	25mm Pipes chased in	m 25		
84	80mm Pipes to walls, etc.	m 15		
85	100mm Pipes to walls, etc.	m 65		
	<b><u>Extra over mild steel pipes for fittings</u></b>			
86	25mm Elbows	No 16		
87	25mm Tees	No 12		
88	80mm Elbows	No 8		
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Item No			Quantity	Rate	Amount
89	80mm Tees	No	6		
90	100mm Elbows	No	18		
91	100mm Tees	No	12		
	<b><u>LAGGING</u></b>				
92	"Derma Guard" or equal approved lagging with and including "Isover" or equal approved Snap-on insulation for 15mm diameter copper pipework	m	125		
93	"Derma Guard" or equal approved lagging with and including "Isover" or equal approved Snap-on insulation for 22mm diameter copper pipework	m	160		
94	"Derma Guard" or equal approved lagging with and including "Isover" or equal approved Snap-on insulation for 28mm diameter copper pipework	m	60		
95	"Derma Guard" or equal approved lagging with and including "Isover" or equal approved Snap-on insulation for 35mm diameter copper pipework	m	88		
96	"Isover Glasswool" or equal approved insulation blanket for 200 Litre geyser	No	2		
97	"Isover Glasswool" or equal approved insulation blanket for 250 Litre geyser	No	2		
	<b><u>FIRE SERVICE</u></b>				
98	"Everyway" or equal approved hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and wall bracket in weatherproof cabinet overall size 800 x 800 x 300mm	No	7		
99	4,5kg DCP fire extinguisher including meranti backing board	No	20		
100	5kg CO2 fire extinguisher including meranti backing board	No	2		
101	"Woodlands Engineering (WHS-80B)" or equal approved 80 x 65mm brass right angle hand wheel hydrant with single lug instantaneous outlet and 80mm male BSP inlet	No	3		
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Item No		Quantity	Rate	Amount
102	"Woodlands Engineering (WMB-100)" or equal approved 100mm two-port booster with 65mm brass booster connectors, pressure gauge and 100mm T/16 inlet	No 1		
	Tenderers are referred to Engineers drawing numbered NPS-FI-2201 attached to these bills of quantities for tender purposes.			
103	"Inergen" or equal approved fire suppression system (GS2-Server Room) comprising control panel, battery back-up, 2 No. optical smoke detectors, manual gas release, bell, beacon, signage, commissioning, testing and training	Item		
104	"Inergen" or equal approved fire suppression system (GS1-Archive and Docket Store) comprising control panel, battery back-up, 2 No. optical smoke detectors, manual gas release, bell, beacon, signage, commissioning, testing and training	Item		
	<b><u>Fire hydrant pedestals</u></b>			
105	Unreinforced concrete hydrant pedestal 900mm high cast around vertical pipe with bottom 300mm below ground, 300 x 300mm square at base and tapering to octagonal shaped top 200 x 200mm overall including necessary excavation, formwork and two coats of paint to exposed surfaces	No 3		
	<b><u>BOREHOLE &amp; WATER TREATMENT</u></b>			
	<b><u>HOUSING</u></b>			
	<b><u>EARTHWORKS (WORK GROUP 104)</u></b>			
	<b><u>Excavation in soft material not exceeding 2m deep</u></b>			
106	Trenches	m3 15		
107	Reduced levels under floors, aprons, etc	m3 5		
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
108	Soft rock	m3 2		
109	Hard rock	m3 1		
	<b>Carried to Collection</b>			
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Item No		Quantity	Rate	Amount
	<u>Extra over all excavations for carting away</u>			
110	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3 10		
	<u>Risk of collapse of excavations</u>			
111	Sides of trench and hole excavations not exceeding 1,5m deep	m2 36		
	<u>Keeping excavations free of water</u>			
112	Keeping excavations free of water other than subterranean water	Item		
	<u>Earth filling supplied by the contractor under surface beds, etc</u>			
113	Over site of G5 material in accordance with SABS 1200 DM compacted to 98% Mod AASHTO density	m3 2		
114	Over site of G7 material in accordance with SABS 1200 DM compacted to 98% Mod AASHTO density	m3 2		
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 95% Mod AASHTO density</u>			
115	Under floors, steps, pavings, etc	m3 2		
116	Backfilling to trenches, holes, etc	m3 8		
	<u>Compaction of surfaces</u>			
117	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2 11		
	<u>Soil insecticide</u>			
118	Under floors, etc including forming and poisoning shallow furrows against foundation walls, etc filling in furrows and ramming	m2 11		
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Item No		Quantity	Rate	Amount
<b><u>CONCRETE (WORK GROUP 110)</u></b>				
<b><u>Class 15/19 concrete</u></b>				
119	Surface blinding under footings, bases, etc (Provisional)	m3	0.5	
<b><u>Class 30/19 concrete</u></b>				
120	Strip footings	m3	3	
121	Surface beds on waterproofing	m3	1	
122	Steps	m3	0.1	
<b><u>CONCRETE TESTING</u></b>				
123	Allow for all necessary concrete test cubes size 150 x 150 x 150mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Engineer	No	5	
<b><u>Finishing top surfaces of concrete smooth with a wood float (Class U2)</u></b>				
124	Surface beds, slabs, etc.	m2	11	
<b><u>FORMWORK (WORK GROUP 111)</u></b>				
<b><u>Rough formwork to sides</u></b>				
125	Strip footings	m2	7	
126	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	2	
<b><u>REINFORCEMENT (WORK GROUP 114)</u></b>				
<b><u>Mild steel reinforcement to structural concrete work</u></b>				
127	10mm Diameter bars	t	0.44	
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Item No		Quantity	Rate	Amount
	<u>Welded high tensile steel fabric reinforcement</u>			
128	Type Ref. 193 fabric reinforcement in concrete surface beds, slabs, etc	m2	11	
	<u>MASONRY (WORK GROUP 116)</u>			
	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u>			
129	One brick walls	m2	14	
	<u>Brickwork of NFP bricks in class II mortar and Black quartzite stone in random bond blocks 90-100mm thick (Contact Rocksolid Cladding: 083 289 0921)</u>			
130	Half brick walls in beamfilling	m2	2	
131	One brick walls	m2	30	
	<u>Brickwork reinforcement</u>			
132	150mm Wide reinforcement built in horizontally	m	145	
	<u>Face bricks (PC R 11 000-00 per 1000 excluding VAT delivered to site) pointed with Concave (Bucket Handle) joints</u>			
133	Extra over brickwork for face brickwork	m2	33	
134	Extra over brickwork for brick-on-edge header course lintel	m	2	
	<u>Brick-on-edge header course copings, sills, etc of Face Brick (PC R 11 000-00 per 1000 excluding VAT delivered to site) face bricks pointed with concave (bucket handle) joints on all exposed faces</u>			
35	150mm Wide sill set sloping and slightly projecting	m	1	
	<u>WATERPROOFING (WORK GROUP 120)</u>			
	<u>One layer of 375 micron "Consol Plastics Brikgrip DPC" or equal approved embossed damp proof course</u>			
136	In walls	m2	6	
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