

CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
MPUMALANGA PROVINCE

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Brought Forward

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Supply, delivery, installation, testing and commissioning of a gas suppression system with all necessary accessories to make the installation complete and functioning

- 37 Fire Suppression Panel complete with all accessories No 1
- 38 7 Amp Battery 12V No 2
- 39 Conventional Smoke Detector complete with detector base No 6
- 40 Convention Sounder Strobe No 1
- 41 PH30 1mm fire resistant cable m 80
- 42 Gas discharge unit No 1
- 43 10L FM200 (HFC-227ea) Gas Cylinder complete with pressure gage, pressure regulator, pigtail pipe, change over device, etc... No 4

44 Sundries

SUM

Testing and Commissioning of all Fire Protection Installations

45 Testing and Commissioning of all Fire Protection Installations

SUM

Carried Forward to Summary of Section No. 4

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Section No. 4
MECHANICAL INSTALLATION
Bill No. 1
FIRE PROTECTION
Takgalang Consulting

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CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
MPUMALANGA PROVINCE

Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 4</u></p> <p><u>BILL NO. 2</u></p> <p><u>WET SERVICES - SUPPLY</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Mechanical Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 148 for CPAP formula purposes.</p>				
	<p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Defects liability period</u></p> <p>All mechanical installations (including equipment) are subject to 12 months defect liability period from the date of practical completion by the contractor</p>				
	<p><u>SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND TESTING OF NEW WATER SUPPLY AND WAST WATER DRAINAGE PIPING, COMPLETE CONNECTIONS AND FITTINGS</u></p>				
	<p>Carried Forward</p>			R	
	<p>Section No. 4 MECHANICAL INSTALLATION Bill No. 2 WATER SUPPLY Takgalang Consulting</p>				

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Brought Forward			R
<u>Supply, delivery, installation, commissioning and testing of Cold/Hot Water Supply system</u>			
1	Φ15mm 460/ Copper Piping for Connection of Hot Water Supply Piping complete with connections, reducers and fittings	m	100
2	Φ15mm Galvanised Piping for Connection of Cold Water Supply Piping complete with connections, reducers and fittings	m	100
3	Φ22mm 460/0 Copper Piping for Connection of Cold Water and Hot Water Supply Piping complete with connections, reducers and fittings	m	200
4	Φ40mm 460/0 Copper Piping for Connection of Cold Water Supply Piping complete with connections, reducers and fittings	m	50
5	Φ50mm PVC Sleeve for Concealing Cold Water Supply Piping complete with connections, reducers and fittings	m	120
6	Φ40mm 460/0 Copper Piping for Connection of Cold Water Supply Piping complete with connections, reducers and fittings	m	120
7	Φ50mm HDPE Piping for Connection of Cold Water Supply Piping complete with connections, reducers and fittings	m	120
8	SABS Approved Copper Adjustable Pressure Reducing Valves		SUM
9	Stop/Gate Valves		SUM
10	Pipe Supports at Dia. 15mm Galvanised Reticulation at a minimum interval of 2.4m, Reducing Valves, Fittings and Accessories (Braided Connectors, Elbows, Tees and etc.)		SUM
11	Pipe Supports at Dia. 15mm Copper Reticulation at a minimum interval of 1.8m, Reducing Valves, Fittings and Accessories (Braided Connectors, Elbows, Tees and etc.)		SUM
Carried Forward			R
Section No. 4 MECHANICAL INSTALLATION Bill No. 2 WATER SUPPLY Takgalang Consulting			

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	Brought Forward			
12	Pipe Supports at Dia. 22mm Copper Reticulation at a minimum interval of 2.4m, Reducing Valves, Fittings and Accessories (Braided Connectors, Elbows, Tees and etc.)			SUM
13	Pipe Supports at Dia. 40mm Galvanised Reticulation at a minimum interval of 2.4m, Reducing Valves, Fittings and Accessories (Braided Connectors, Elbows, Tees and etc.)			SUM
14	Pipe Supports at Dia. 50mm HDPE Reticulation at a minimum interval of 0.5m, Reducing Valves, Fittings and Accessories (Braided Connectors, Elbows, Tees and etc.)			SUM
	<u>Hot Water Solar Geysers</u>			
15	100L Indirect Solar Geyser with electric backup element	No	4	
16	200L Indirect Solar Geyser with electric backup element	No	2	
17	Hot Water Heat Pump for Geyser 5kW (up to 400L)	No	2	
18	Undersink Water Heater 2kW 10L	No	3	
19	Consumables with fittings and electrical accessories			SUM
20	Parts Kit			SUM
	<u>Testing and Commissioning</u>			
21	Testing and Commissioning of water pipe system			SUM
	Carried Forward to Summary of Section No. 4			R
	Section No. 4 MECHANICAL INSTALLATION Bill No. 2 WATER SUPPLY Takgalang Consulting			

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CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 4</u></p> <p><u>BILL NO. 3</u></p> <p><u>WET SERVICES - DRAINAGE</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Mechanical Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 146 for CPAP formula purposes.</p>				
	<p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Defects liability period</u></p> <p>All mechanical installations (including equipment) are subject to 12 months defect liability period from the date of practical completion by the contractor</p>				
	<p style="text-align: right;">Carried Forward</p> <p>Section No. 4 MECHANICAL INSTALLATION Bill No. 3 DRAINAGE Takgalang Consulting</p>			R	

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**SUPPLY, DELIVERY, INSTALLATION,
COMMISSIONING AND TESTING OF NEW
DRAINAGE PIPING, COMPLETE WITH
CONNECTIONS AND FITTINGS**

Supply, delivery, installation, commissioning and
testing of new drainage piping, complete with
connections and fittings

uPVC drain pipe or similar approved, to duct and
walls including brackets & support to manufacturers
specifications

1	110 mm pipe	m	250
2	50 mm Pipe	m	180
3	38 mm Pipe	m	181
4	40mm Pipe	m	150
<u>Extra over uPVC drainage pipe fittings</u>			
<u>Bends</u>			
5	110 mm Bend 22.50/87.50	No	30
6	110 mm Bend 450	No	30
7	110 mm Bend 450 Access Bend Left and Right Hand	No	10
8	50 mm Bend 22.50/8.50	No	30
9	50 mm Bend 450	No	30
10	50 mm Bend 450 Access Heel	No	30
11	50 mm Bend 22.50/87.50 Access Heel	No	30
12	40mm x 450 Bend	No	5
13	40mm x 87.50 Bend	No	5
14	40mm x 450 Bend Access Heel	No	5

Carried Forward

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Section No. 4
MECHANICAL INSTALLATION
Bill No. 3
DRAINAGE
Takgalang Consulting

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CONSTRUCTION OF MARITE POLICE STATION
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		Brought Forward			R
15	40mm x 87.50 Bend Heel	No	5		
	Junctions				
16	110 mm Junction 450 Ribbed Plain	No	20		
17	110 mm Junction 450 Ribbed Left Hand	No	10		
18	110 mm Junction 450 Ribbed Right Hand	No	10		
19	50mm x 45mm Single Junction Plain	No	20		
20	50mm x 45mm Single Junction Access Heel	No	20		
21	50mm x 50mm x 87.50 Double Junction Plain	No	10		
22	50mm x 50mm x 87.50 Double Junction Access Heel	No	10		
23	50mm x 87.50 Single Junction	No	10		
24	50mm x 87.50 Single Junction Access Heel	No	10		
25	110 mm Junction With Screw Type Access Eye	No	12		
	Ball Junction				
26	100 mm four way	No	8		
27	Reducing Junction 110 mm x 50mm x 450 Double Reducing Junction	No	30		
28	110 mm x 50mm x 87.50 Double Reducing Junction Access Heel	No	30		
29	110 mm x 40mm x 87.50mm Double Reducing Junction	No	5		
30	100 mm x 40mm x 87.50mm Single Reducing Junction	No	5		
31	110 mm x 40mm x 87.50mm Single Reducing Junction Access Heel	No	5		
32	100mm x 50mm x 450 Single Reducing Junction	No	30		
		Carried Forward			R
	Section No. 4 MECHANICAL INSTALLATION Bill No. 3 DRAINAGE Takgalang Consulting				

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		Brought Forward		R
33	100mm x 50mm x 450 Single Reducing Junction Access Heel	No	30	
34	100mm x 50mm x 87.50 Single Reducing Junction Access Heel	No	10	
35	100mm x 50mm x 87.50 Double Reducing Junction Access Heel	No	10	
36	50 mm Reducing junctions	No	10	
		<u>Electro-weld Couplings</u>		
37	110 mm Electro-weld couplings	No	20	
38	50 mm Electro-weld couplings	No	30	
39	40 mm Electro-weld couplings	No	5	
		<u>Expansion sockets</u>		
40	110mm Single Expansion Sockets	No	20	
41	110mm Double Expansion Socket	No	10	
42	50mm Single Expansion Socket	No	30	
43	50mm Double Expansion Socket	No	20	
44	40mm Single Expansion Socket	No	5	
45	40mm Double Expansion Socket	No	5	
		<u>Screwed End Caps</u>		
46	110 mm screw on caps	No	15	
47	50 mm Screwed end cap	No	20	
		<u>MI ADAPTORS</u>		
48	50 mm Adaptors	No	35	
		Carried Forward		R
Section No. 4 MECHANICAL INSTALLATION Bill No. 3 DRAINAGE Takgalang Consulting				

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FI ADAPTORS

49	50 mm adaptors	No	35
50	Overflow facility to detail 100 mm assembly to detail (junction+short pipe+cleaning eye)	No	15
51	100mm PVC Vent Valves 1 way	No	12
52	50mm PVC Vent Valves 1 way	No	10
53	100mm PVC Vent Valves 2 way	No	10

WASTE UNION

54	Coastal manufacturing GT700 or similar approved stainless steel grade 304 grease trap with a flow rate of 1.8 l/s . Provide unit and install above ground	No	3
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Testing and Commissioning

55	Testing and Commissioning of all Installations			SUM
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Carried Forward to Summary of Section No. 4

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Section No. 4
MECHANICAL INSTALLATION
Bill No. 3
DRAINAGE
Takgalang Consulting

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SOUTH AFRICAN POLICE SERVICES
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Item No	Unit	Quantity	Rate	Amount
<p><u>SECTION NO. 4</u></p>				
<p><u>BILL NO. 4</u></p>				
<p><u>HVAC</u></p>				
<p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p>				
<p>NOTE: The contractor is advised to study the Mechanical Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p>				
<p>NOTE: The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications.</p>				
<p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 170 for CPAP formula purposes.</p>				
<p><u>SUPPLEMENTARY PREAMBLES</u></p>				
<p><u>Defects liability period</u></p>				
<p>All mechanical installations (including equipment) are subject to 12 months defect liability period from the date of practical completion by the contractor</p>				
<p><u>VENTILATION</u></p>				
<p>Carried Forward</p>			R	
<p>Section No. 4 MECHANICAL INSTALLATION Bill No. 4 HVAC Takgalang Consulting</p>				

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CONSTRUCTION OF MARITE POLICE STATION
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Brought Forward			R
<u>Supply, delivery, installation, commissioning and testing of Fans, complete with sound attenuators, support bracket, including all accessories as required for a complete installation</u>			
1	EXF-01 Air flow 488.35L/s @350Pa Static Pressure	No	1
2	EXF-02 Air flow 744L/s @300Pa Static Pressure (For Extractor Hood)	No	1
3	FAF-01 Air flow 397.69L/s @350Pa Static Pressure	No	1
4	WMXF-01 Airflow 24.0L/s @50Pa Static Pressure	No	12
5	WMXF-02 Airflow 49.0L/s @50Pa Static Pressure	No	6
6	CMEF-01 Airflow 24.0L/s @50Pa Static Pressure	No	1
<u>Ducting</u>			
7	Ø350	m	30
8	Ø250	m	40
9	Ø200	m	50
10	Ø150	m	60
11	Ø150 Flexile duct	m	40
12	Ø200 Flexile duct	m	20
13	Elbows and Reducers		SUM
14	Couplers and Suspension Rings/Hangers		SUM
15	Extraction air disk	No	9
16	Supply air diffuser	No	9
17	spigots	No	9
18	Filter Box	No	1
Carried Forward			R

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MECHANICAL INSTALLATION
Bill No. 4
HVAC
Takgalang Consulting

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		Brought Forward		R
19	Ø350 Dispersion cowl	No	1	
20	Door Grilles Size: 400x200mm Door Grilles	No	40	
21	Test and commission			SUM
<u>AIR-CONDITIONING</u>				
<u>Supply, delivery, installation, commissioning and testing of 3.3 kW cooling Inverter Split Indoor unit (Inverter, R32) complete with outdoor unit, insulated refrigerant piping, condensate drains, trunking, electric wiring and connection, remote controls and top-up refrigerant</u>				
22	Split Indoor Unit, 3.3 kW cooling capacity complete with outdoor unit	No	1	
23	Wired Controller	No	1	
24	Chord for Wired Controller	m	10	
25	Interface Adapter for Wired Controller	No	1	
26	Decoration Panel	No	1	
27	Refrigerant piping	m	40	
28	Condensate Drain piping	m	40	
<u>Supply, delivery, installation, commissioning and testing of 6.0 kW cooling Inverter Split Indoor unit (Inverter, R32) complete with outdoor unit, insulated refrigerant piping, condensate drains, trunking, electric wiring and connection, remote controls and top-up refrigerant</u>				
29	Split Indoor Unit, 6.0 kW cooling capacity complete with outdoor unit	No	9	
30	Wired Controller	No	9	
31	Chord for Wired Controller	m	90	
		Carried Forward		R
Section No. 4 MECHANICAL INSTALLATION Bill No. 4 HVAC Takgalang Consulting				

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		Brought Forward		R
	<u>Supply, delivery, installation, commissioning and testing of 4.3 kW cooling capacity console unit (Console Inverter, R32) complete with insulated refrigerant piping, condensate drains, trunking, electric wiring and connection, remote controls and top-up refrigerant, etc.</u>			
44	Supply and install 4.3 kW cooling capacity console unit specified and detailed on the drawings; including all accessories as required for a complete installation	No	2	
	<u>Supply, delivery, installation, commissioning and testing of 583.33 L/s Air curtain unit with optional heating element</u>			
45	Supply and install 583.33 L/s air curtain unit as specified and detailed on the drawings; including all accessories as required for a complete installation	No	2	
	<u>Supply, delivery, installation, connection, testing and commissioning of Dehumidifier (inverter, R32 or R410A) complete with in-built condenser, insulated refrigerant piping, condensate drains, trunking, electric wiring and connection, remote controls, top-up refrigerant, support bracket, etc.</u> <u>All items mentioned to be included in the rate</u>			
46	Dehumidifier for drying down to around 50%RH and at temperature above 15 degrees Celsius	No	3	
47	Condensate drain piping	m	30	
	<u>Testing and Commissioning of all HVAC Installations</u>			
48	Testing and Commissioning of all HVAC Installations			SUM
	Carried Forward to Summary of Section No. 4			R
	Section No. 4 MECHANICAL INSTALLATION Bill No. 4 HVAC Takgalang Consulting			

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CONSTRUCTION OF MARITE POLICE STATION
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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 4</u></p> <p><u>BILL NO. 5</u></p> <p><u>FIRE DETECTION</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Mechanical Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 170 for CPAP formula purposes.</p>				
	<p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Defects liability period</u></p> <p>All mechanical installations (including equipment) are subject to 12 months defect liability period from the date of practical completion by the contractor</p>				
	<p><u>COMPLETE FIRE DETECTION TO COMPLY WITH SANS 10139 AND SANS 10400 T</u></p> <p><u>Supply, delivery, installation, commissioning and testing of fire detection system</u></p>				
1	Conventional Fire Panel 4 Zone	No	1		
	Carried Forward				R
	<p>Section No. 4 MECHANICAL INSTALLATION Bill No. 5 FIRE DETECTION Takgalang Consulting</p>				

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		Brought Forward		R
2	Battery 12 V 7.2 AH	No	2	
3	Optical Smoke Detector	No	70	
4	Thermal Heat Detector	No	10	
5	Detector base	No	80	
6	Remote Indicator	No	10	
7	Red Manual Call Point	No	20	
8	Sounder Beacon	No	12	
9	PH30 cable, 1 mm2, 2 core	m	800	
10	Sundries	No	1	
<u>Testing and Commissioning</u>				
11	Labour, Project Management, Commissioning and Travelling			SUM
Carried Forward to Summary of Section No. 4				R
Section No. 4 MECHANICAL INSTALLATION Bill No. 5 FIRE DETECTION Takgalang Consulting				

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CONSTRUCTION OF MARITE POLICE STATION
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Brought Forward				R
<p><u>Supply, delivery, installation, commissioning and testing of Kitchen Equipment complete with all necessaries accessories to make the installation complete and functioning. All Kitchen Equipment subject to Engineer and Architect approval</u></p>				
1	Three phase Industrial type stove, with solid plates without oven, type Vulcan RE-3, T or Bakers Price equipment or similar and approved. Data sheets to be submitted to Engineer for approval prior to procurement.	No	1	
2	1600x1150 Stainless steel against wall (wall mounted) extractor hood complete with removable inertia grease filters, supports, spigot, flexible connection, ducting and all accessories as required for a complete installation		Item	
<p>Carried Forward to Summary of Section No. 4</p>				R
<p>Section No. 4 MECHANICAL INSTALLATION Bill No. 6 KITCHEN EQUIPMENT Takgalang Consulting</p>				

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Bill No	Section No. 4 MECHANICAL INSTALLATION <u>SECTION SUMMARY - MECHANICAL INSTALLATION</u>	Page No	Amount
1	FIRE PROTECTION	165	-----
2	WATER SUPPLY	168	-----
3	DRAINAGE	173	-----
4	HVAC	178	-----
5	FIRE DETECTION	180	-----
6	KITCHEN EQUIPMENT	182	-----
Carried to Final Summary			R
Section No. 4 MECHANICAL INSTALLATION Takgalang Consulting			

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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 1</u></p> <p><u>SITE CLEARANCE</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No.104 for CPAP formula purposes.</p>				
1	<p><u>SITE CLEARANCE, SITE CLEARANCE, ETC</u></p> <p>Clear and grub</p>	m2	1,720		
	<p>Carried Forward to Summary of Section No. 5</p>			R	
	<p>Section No. 5 SITE WORKS Bill No. 1 SITE CLEARANCE Takgalang Consulting</p>				

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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 2</u></p> <p><u>EARTHWORKS (PIPE TRENCHES)</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No.104 for CPAP formula purposes.</p>				
	<p><u>EARTHWORKS (PIPE TRENCHES - WATER)</u></p> <p><u>EXCAVATION AND BACKFILLING</u></p> <p><u>Excavate in all materials, backfill and compact to 90% mod AASHTO density, and dispose of surplus and unsuitable materials within the free haul distance for trenches</u></p> <p><u>Up to 1m wide</u></p>				
1	Up to 1m deep	m3	235		
2	Over 1m and up to 2m deep	m3	41		
3	Over 2m and up to 3m deep	m3			Rate Only
	<p><u>EARTHWORKS (PIPE TRENCHES - SEWER)</u></p>				
	Carried Forward				R
	<p>Section No. 5 SITE WORKS Bill No. 2 EARTHWORKS (PIPE TRENCHES) Takgalang Consulting</p>				

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<p><u>Excavate in all materials, backfill and compact to 90% mod AASHTO density, and dispose of surplus and unsuitable materials within the free haul distance for trenches</u></p>			
<p><u>Up to 1m wide</u></p>			
4	Up to 1m deep	m3	232
5	Over 1m and up to 2m deep	m3	38
6	Over 2m and up to 3m deep	m3	Rate Only
7	Over 3m and up to 4m deep	m3	Rate Only
<p><u>EARTHWORKS (PIPE TRENCHES - STORMWATER)</u></p>			
<p><u>Excavate in all materials, backfill and compact to 90% mod AASHTO density, and dispose of surplus and unsuitable materials within the free haul distance for trenches</u></p>			
<p><u>Over 1m and up to 2m wide</u></p>			
8	Up to 1m deep	m3	260
9	Over 1m and up to 2m deep	m3	105
10	Over 2m and up to 3m deep	m3	Rate Only
<p><u>Extra over items for</u></p>			
11	Intermediate excavation	m3	225
12	Hard rock excavation	m3	90
Carried Forward to Summary of Section No. 5			R
<p>Section No. 5 SITE WORKS Bill No. 2 EARTHWORKS (PIPE TRENCHES) Takgalang Consulting</p>			

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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 3</u></p> <p><u>EARTHWORKS (ROADS, SUBGRADE)</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No.104 for CPAP formula purposes.</p>				
	<p><u>PREPARATION AND STRIPPING OF SITE</u></p> <p><u>Remove topsoil to a depth of 150mm and</u></p>				
1	Cut to spoil	m3	235		
	<p><u>TREATMENT OF ROADBED</u></p> <p><u>(a) Roadbed preparation and compaction of material to</u></p>				
2	Minimum of 93% mod AASHTO density	m3	593		
	<p><u>CUT TO SPOIL</u></p> <p><u>Cut to spoil (site identified by the Contractor)</u></p>				
3	Soft excavations	m3	1,897		
4	Intermediate excavation	m3	663.95		
5	Hard rock excavation	m3	284.55		
	Carried Forward			R	
	<p>Section No. 5 SITE WORKS Bill No. 3 EARTHWORKS (ROADS, SUBGRADE) Takgalang Consulting</p>				

CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
MPUMALANGA PROVINCE

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		Brought Forward		R
6	Boulder excavation class A		m3	Rate Only
7	Boulder excavation class B		m3	Rate Only
8	Extra over items for overhaul on material hauled in excess of 1,0 km		m3	2,845.50
<u>Selected layer from commercial source</u>				
<u>Compacted to 93% mod AASHTO density</u>				
9	150mm thick		m3	340
Carried Forward to Summary of Section No. 5				R
Section No. 5 SITE WORKS Bill No. 3 EARTHWORKS (ROADS, SUBGRADE) Takgalang Consulting				

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CONSTRUCTION OF MARITE POLICE STATION
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		Brought Forward		R	
<u>uPVC Class 16 pressure bends</u>					
5	75mm Diameter 11,25°	No	1		
6	75mm Diameter 22,50°	No	12		
7	75mm Diameter 45°	No	5		
8	75mm Diameter 90°	No	1		
<u>CI socket-ended tee's, including all adaptors, reducers, etc to SANS 546</u>					
9	75x75x75mm	No	3		
<u>CI socketed end caps</u>					
10	75mm dia	No	2		
11	110mm dia	No			Rate Only
<u>VALVES</u>					
<u>Extra over items 8.2.1 for supply, install, bed and test "cap top" line valve assembly as per SANS 664, including cutting of pipes, couplings, etc DWG 2</u>					
12	75mm Dia (75mm pipeline)	No	9		
<u>ANCILLARIES</u>					
<u>Anchor/thrust blocks and pedestals in strength concrete 25Mpa/19mm, including all formwork, reinforcement, etc</u>					
<u>Measured per m3</u>					
13	Thrust blocks	m3	3		
<u>CHAMBERS AND MANHOLES</u>					
<u>Valve and hydrant chambers</u>					
		Carried Forward		R	
Section No. 5 SITE WORKS Bill No. 4 MEDIUM PRESSUR PIPELINES Takgalang Consulting					

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CONSTRUCTION OF MARITE POLICE STATION
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		Brought Forward			R
	<u>Valve chambers</u>				
14	DWG 2	No	9		
	<u>WATER STORAGE TANKS ETC</u>				
	<u>Hot dip galvanised steel sectional water tanks etc</u>				
15	228 m3 Steel Panel Water Storage Tank (for domestic and fire) complete with accessories and fixtures - mounting plinths, strainers, non-return valves, ball valves, float valve and inlet and outlet manifolds	No	1		
Carried Forward to Summary of Section No. 5					R
Section No. 5 SITE WORKS Bill No. 4 MEDIUM PRESSUR PIPELINES Takgalang Consulting					

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CONSTRUCTION OF MARITE POLICE STATION
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Item No	Unit	Quantity	Rate	Amount
<u>SECTION NO. 5</u>				
<u>BILL NO. 3</u>				
<u>BEDDING (WATER PIPES)</u>				
NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill				
NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.				
NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No.104 for CPAP formula purposes.				
<u>BEDDING FROM COMMERCIAL SOURCES</u>				
<u>Provision of bedding material by importing from commercial sources selected by the Contractor</u>				
1	m3	320		
2	m3	85		
3	m3	30		
Carried Forward to Summary of Section No. 5			R	
Section No. 5 SITE WORKS Bill No. 5 BEDDING (WATER PIPES) Takgalang Consulting				

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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 6</u></p> <p><u>SEWERS</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 146 for CPAP formula purposes.</p>				
	<p><u>PIPEWORK</u></p> <p><u>Supply, lay, joint, bed (class B bedding) and test uPVC class 400 spigot and socket sewer pipes with moulded rubber rings to SANS 1601</u></p>				
1	110mm Diameter	m			Rate Only
2	160mm Diameter	m	310		
3	200mm Diameter	m			Rate Only
	Carried Forward			R	
	<p>Section No. 5 SITE WORKS Bill No. 6 SEWERS Takgalang Consulting</p>				

CONSTRUCTION OF MARITE POLICE STATION
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Brought Forward

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MANHOLES

Precast concrete manholes complete with precast concrete medium duty cover and frame Type 4A

Manholes 1000mm diameter (straight & angle) Dwg 0450-20-ZA-06 D001

4	Up to 1,0m deep	No	10
5	1,0 - 1,5m deep	No	15
6	1,5 - 2,0m deep	No	

Rate Only

PIPE ANCILLARIES

Soilcrete (5% OPC)

7	Backfilling around pipes	m3	10
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Markings and marker posts, etc

8	Concrete marker blocks complete as per dwg 1182.00.ZA.06.D001	No	128
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CONSERVANCY TANK

Excavation in earth for basement

9	Exceeding 2m and not exceeding 4m deep	m3	56
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Extra over trench and hole excavations in earth for excavation in

10	Soft rock	m3	6
11	Hard rock	m3	3

Carried Forward

R

Section No. 5
SITE WORKS
Bill No. 6
SEWERS
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CONSTRUCTION OF MARITE POLICE STATION
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Brought Forward			R
<u>25MPa/19mm Reinforced concrete</u>			
20	Surface beds on waterproofing	m3	4
21	Slabs	m3	4
<u>Test blocks</u>			
22	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	12
<u>Finishing top of surfaces of concrete smooth with wood float</u>			
23	Surface beds, slabs, etc	m2	42
<u>Rough formwork to sides</u>			
24	Formwork to edged of slabs not exceeding 300mm thick	m	22
<u>Rough formwork to soffits</u>			
25	Rough formwork to soffit of slabs propped up to a height exceeding 1.5m and not exceeding 3.5m high	m2	21
<u>Rough formwork to form</u>			
26	Opening not exceeding 1m girth through not exceeding 300mm slab	No	3
<u>High tensile steel reinforcement to structural concrete work</u>			
27	Various diameter bars	t	0.40
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u>			
28	One brick walls	m2	58
<u>Brickwork reinforcement</u>			
29	150mm Wide reinforcement built in horizontally	m	171
Carried Forward			R

Section No. 5
SITE WORKS
Bill No. 6
SEWERS
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		Brought Forward		R
	<u>One layer of 250 micron "Consol Plastics Gunplas USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u>			
30	Under surface beds	m2	21	
	<u>Bitumen Water proofing</u>			
31	To internal walls of septic tank	m2	60	
	<u>Screeds with compressive strength of 15 MPa steel trowelled on concrete</u>			
32	Average 100mm thick on floors to falls	m2	21	
	<u>One coat 3:1 cement plaster on brick walls</u>			
33	On walls	m2	60	
	<u>Heavy duty uPVC pipes Class 34 in Class B bedding including excavations, bedding, backfilling, compacting to 95% Mod AASHTO density, risk of collapse and dewatering of trenches:</u>			
34	110mm Pipe	m	6	
35	110mm pipe weep holes build into brick wall	m	2	
	<u>Extra over heavy duty uPVC pipes for fittings:</u>			
36	160mm Junction.	No	1	
	<u>GMS Galvanised Mild Steel Pipes</u>			
37	100mm vent pipe cast into concrete slab	m	6	
	<u>Extra over Galvanised Mild Steel pipes for square junction with pipe extension</u>			
38	100mm bend	No	3	
	<u>Manhole covers etc</u>			
39	Double seal cast iron manhole cover and frame type 8B-SABS 1973 for 1140 x 915mm opening	No	4	
		Carried Forward		R

Section No. 5
SITE WORKS
Bill No. 6
SEWERS
Takgalang Consulting

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CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
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Brought Forward

R

Steel Steps

40 Allow a provisional sum amount of R25 000.00 (Twenty Five Thousand Rand) for Supply and install of steel steps in conservancy tank according to civil engineers design.

Item

TESTING

41 Testing septic tank system

Item

Carried Forward to Summary of Section No. 5

R

Section No. 5
SITE WORKS
Bill No. 6
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Takgalang Consulting

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CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
MPUMALANGA PROVINCE

		Brought Forward		R
<u>KERB INLETS</u>				
<u>Kerb inlets</u>				
5	Complete as per dwg JRA-SD-M001-M005	m	2	
<u>STORMWATER ATTENUATION DAM</u>				
<u>Cut to fill</u>				
6	Excavation of attenuation dam and construction of embankment shaped and compacted to 93% mod AASHTO density	m3	100	
7	Forming earth berm 500mm high, shaped and compacted to 90% mod AASHTO density	m3	100	
<u>Cut to spoil</u>				
8	Cut to spoil (site to be identified by the contractor)	m3	250	
<u>Trimming of excavations and compaction to 93% mod AASHTO density in</u>				
9	Soft material	m2	25	
10	Precast concrete boundary walls 1,8m high	m	56	
<u>CONCRETE LINED OPEN DRAINS</u>				
<u>Trimming of excavations for concrete lined open drains and compaction to 93% mod AASHTO density in</u>				
11	Soft material	m2	3	
12	Intermediate Material	m2	1	
<u>Cast-in-situ strength concrete 25Mpa/19mm</u>				
13	Lining to open drains	m3	3	
14	Wood floated surface finish to concrete	m2	20	
		Carried Forward		R
Section No. 5 SITE WORKS Bill No. 7 STORMWATER DRAINAGE Takgalang Consulting				

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CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
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Brought Forward			R
<u>Smooth formwork to cast-in-situ concrete lined open drains</u>			
15	Edges and ends of slabs	m2	1.5
<u>Sealed joints to concrete lined open drains</u>			
16	Bitumen paint to vertical face of concrete, before adjoining panels are cast	m2	1.5
17	10mm Bitumen impregnated softboard expansion joint 150mm high between concrete faces, including formwork and raking out 10mm expansion joint material to a depth of 20mm, prime with approved primer and fill joint with 20mm, prime with approved primer and fill joint with	m	1.5
<u>Reinforcement</u>			
18	High tensile steel mesh reinforcement Ref. no. 193	m2	Rate Only
<u>GABIONS AND PITHING</u>			
<u>Surface preparation for bedding of gabions and mattresses</u>			
19	Cavities filled with approved excavated material or rock and compacted to 90% mod AASHTO density	m2	3
<u>GABIONS AND MATTRESSES</u>			
<u>Mattresses using galvanized wire of the following sizes</u>			
20	1,0 x 1,0 x 0,5m Mattress of 50mm mesh size	m2	3
<u>GEOTEXTILES</u>			
<u>Supply and lay geotextile fabric</u>			
21	Bidim U14 laid below gabions and mattresses	m2	3
<u>PITCHING</u>			
Carried Forward			R
Section No. 5 SITE WORKS Bill No. 7 STORMWATER DRAINAGE Takgalang Consulting			

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CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 8</u></p> <p><u>BOREHOLE</u></p> <p>NOTE: The contractor is advised to study the "Model Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Architect's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Items in this section shall be deemed to fall into relevant Work Groups for CPAP formula purposes, each as described previously herein.</p> <p>NOTE: Unless otherwise stated herein, all work in this trade shall be executed in accordance with the guidelines of the Expanded Public Works Programme third edition of June 2015.</p>				
	<p><u>BOREHOLE EQUIPMENT (PROVISIONAL)</u></p> <p><u>Site clearance</u></p>				
1	Clear vegetation and trees of girth up to 1m	m2	200		
2	Remove topsoil (150 mm depth)	m2	200		
	<p><u>Excavation in all materials for trenches for up to including 125 mm nominal diameter pipes and smaller. Rates include backfill, compact and disposal of surplus and unsuitable material.</u></p>				
3	Up to 1m deep	m	200		
	Carried Forward				R
	<p>Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting</p>				

CONSTRUCTION OF MARITE POLICE STATION
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Brought Forward

R

Pipes and cables to have a minimum cover of 800 mm Extra-over item for 2.1.2.1

4	Intermediate excavation (Prov.)	m3	50
5	Hard rock excavation (Prov.)	m3	11

BEDDING (Flexible pipes)
Supply only of bedding by importation
From other necessary excavations (Prov.)

6	(a) Selected granular material	m3	30
7	(b) Selected fill material	m3	9

From borrow pits (Prov.)

8	(a) Selected granular material	m3	30
9	(b) Selected fill material	m3	9

10	Overhaul of material for bedding cradle and selected fill blanket (Prov.)	m3	5
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HDPe PIPES AND FITTINGS

Supply, lay, bed and test the following HDPe type IV pipes (conforming to SABS 533 – Part 2: 1982 amended 1994), in the following diameters and class.

(a) 25 DN Class 6

11	(d) 40 DN Class 9	m	200
12	(b) 40 DN	No	6

Submersible pumpset and appurtenant fittings (refer to drawing LDE01 DW 03 101) Submit detail of supplier:

13	a.1) 40 DN 'Super D' model SS1516/75 complete with integral non-return valve, flow inducer (cooling) sleeve, 220V single phase motor of 0,75kW and lead out cable (or equivalent)	No	1
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Carried Forward

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Section No. 5
SITE WORKS
Bill No. 8
DRILLING OF BOREHOLE
Takgalang Consulting

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Brought Forward				R
14	a.2) 40 DN 'Super D' model 31605 complete with integral non-return valve, flow inducer (cooling) sleeve, 220V single phase or 380V three phase motor of 0,56Kw and lead out cable (or equivalent)	No	1	
15	b) 40 DN 'Plasson' compression male adapters	No	1	
16	c) 40mm Class 10 HDPE Type IV riser column	m	80	
17	d) 25mm Class 6 HDPE Type IV borehole	m	80	
18	dipper tube strapped to riser column at 1,5m centres with 280mm x 7,8mm cable ties and protruding 100mm through borehole cover plate with stop end			
	e) 40mm pressed steel base plate with 26mm diameter hole drilled for dipper tube	No	1	
19	f) 40 DN MGI barrel nipple	No	1	
20	g) 40 DN x 90° MGI female elbow	No	1	
21	h) 40 x 25 DN MGI reducing socket	No	1	
22	i) 25 DN 'Invensys' / 'Kent' domestic water meter (refer to plan HSD1001)	No	1	
23	j) 40 x 25 DN MGI reducing bush	No	1	
24	k) 40mm cobra brass Ball valve	No	1	
25	l) 40 DN x 600mm long galvanised steel pipe piece (threaded both ends)	No	1	
26	m) Orifice plate (3mm-6mm), manufactured from 304 stainless steel (to be sized on site to meet the required flow)	No	1	
27	o) 25mm Ø PLASSON STOP END FOR DIP TUBE	No	1	
28	n) (i) 4-core submersible electric cable size 4mm ² (incl. cable ends)	m	80	
Carried Forward				R
Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting				

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Brought Forward			R
29	(ii) 4mm ² 4-core armoured PVC SWA PVC 1000V cable (incl. cable ends) and 2.5mm ² bare copper earth wire complete with danger tape.	m	85
30	o) Pratley no.1 cable joint kit for submersible conditions	No	2
31	p) 7mm diameter Poly Propylene safety Rope	m	90
32	q) Watertight CCG box	No	1
33	r) Info plate as per data sheet installed in lockable manhole	No	1
34	s) Lockable steel manhole complete, cast into concrete, as detailed on plan LDE01_DW_03_101/103	No	1
35	Genset and appurtenant items. 5kVA continuous rated output model Honda EP 5000 CX compact frame mounted genset to deliver 220 Volt AC single phase 50 Hz current. Genset to be petrol driven, complete with hand start function, large fuel tank, electric control panel with automatic voltage regulator and AC circuit breaker, or similar approved. (incl. wheels and handle) (Or Eskom Connection)	No	1
36	Lockable steel cage for genset	No	1
37	50mm Brass "key-alike" lock with hardened shackle, complete with 2 keys per set for lockable manhole and lockable cage (thus 2 locks and 4 key-alike keys)		SUM
38	Supply deliver and install: 10 000 Litre polyethylene water tank (Jo Jo make or equivalent). (2980mm high x 2 200mm diameter). Tank complete with 50 x 40 DN nylon bushes sealed into all inlets and outlets. Include for anchorage onto tank stand platform with 4mm diameter galvanized steel wire (bloudraad). (2 Strands/Anchor)	No	1
39	Fabricated steel tank stand with 4,2m long legs, constructed complete as per details on drawing LDE01_DW_03_201, LDE01_DW_03_202 and LDE01_DW_03_203. (incl. excavations and concrete footings)		SUM
Carried Forward			R
Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting			

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SUM

Brought Forward			R
40	Tankstand Refurbishment including, modification to concrete foundations, pipe work, brackets, surface preparation and re-painting		SUM
41	Draw off point complete as per LDE01_DW_03_303	No 1	
42	ELECTRICAL PUMP CONTROL PANEL Single Phase Control Panel, 0 - 0,75 Kw Pump Control Panel (655mm high x 540mm wide x 250mm deep) Powder coated, not backed enamel	No 1	
43	Motor Scope 0 – 0,75Kw S/P UNO Panel	No 1	
44	Switch Gear: 60 Amp T/Pole Isolator ABB 5Ka	No 1	
45	60 Amp S/Pole Earth Leakage ABB 5Ka	No 1	
46	10 Amp S/Pole C/B ABB 5Ka	No 1	
47	25 Amp S/Pole C/B ABB 5Ka	No 1	
48	Surge arrestor ABB	No 1	
49	Wire and accessories:		SUM
50	Crimping Lugs Pin Lugs 4mm ² Yellow pack	No 1	
51	Pin Lugs 2,5mm ² Blue pack	No 1	
52	Pin Lugs 1,5mm ² Red pack	No 1	
53	Round Lugs 4mm ² Yellow pack	No 1	
54	Cradles	No 1	
55	Runlock Straps	No 1	
56	Terminals: Terminals 10mm Phunix pack	No 1	
Carried Forward			R
Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting			

**CONSTRUCTION OF MARITE POLICE STATION
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		Brought Forward		R
57	Terminals Ends Phunix	No	1	
58	Terminal Rail	No	1	
59	Terminal Stoppers	No	1	
60	Self Tapping Screws	No	1	
61	Labels: In case of emergency	No	1	
62	Mains	No	1	
63	Pump	No	1	
64	Earth Leakage	No	1	
65	Plug	No	1	
66	Surge Arrestor	No	1	
67	Glue	No	1	
68	Control gear: 1 x Float switch	No	1	
69	Plug 4 x 4 Socket outlet	No	1	
70	COC Certificate After commissioning			SUM
71	Connection to existing electrical main DB including necessary trunking, CB and hole through wall	No	1	
72	Note: Price to incl. for supply, installation, commissioning and wiring of CCG boxes. as well as the materials used and labour for the connection to existing DB or Kiosk. Establishment, plant set-up, inter-borehole moves and de-establishment Site Establishment	No	1	
73	Mobilisation and set up of plant to/at first borehole	No	1	
		Carried Forward		R
Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting				

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		Brought Forward		R
74	Inter-borehole moves for distances of up to 10 Km	No	2	
75	De-establishment from Site, of the given drilling batch	No	2	
<u>Drilling: unconsolidated and consolidated sediments and igneous and metamorphic rocks Rotary air percussion 152 mm diameter</u>				
76	165 mm diameter	m	195	
77	254 mm diameter	m	24	
<u>Casing, including supply, delivery and installation, but not including reaming Steel casing (plain)</u>				
78	165 mm (state wall thickness here as 3 mm)	m	12	
79	Steel casing (slotted) 165 mm (state wall thickness here as 4 mm)	m	6	
80	Concrete collar, complete per borehole	No	1	
81	Normal Sanitary seal, complete per borehole	m	1	
82	Borehole disinfection, complete per borehole	No	1	
83	Borehole marking, complete per borehole	No	2	
84	Site finishing, complete per borehole	No	2	
85	Data recording and reporting, complete per borehole	No	2	
86	De-Establishment			SUM
87	E. Installation of test pump equipment When testing less than 10 l/s	No	1,700	
88	Removal and Reinstallation of pump Monotoring	No	450	
		Carried Forward		R
Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting				

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		Brought Forward			R
89	G. Measurements- Before and After J. Steel borehole cover (sealing of boreholes) Per borehole	No	300		
90	K. Borehole marking Per borehole	No	330		
91	L. Site cleaning/ finishing Per borehole	No	350		
92	M. Reporting and data recording Per borehole	No	800		
93	Sampling for water quality testing	No	650		
Carried Forward to Summary of Section No. 5					R
Section No. 5 SITE WORKS Bill No. 8 DRILLING OF BOREHOLE Takgalang Consulting					

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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 9</u></p> <p><u>SUBBASE</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No.104 for CPAP formula purposes.</p>				
1	<p><u>CONSTRUCT LAYERWORKS WITH COMMERCIAL MATERIAL SOURCES</u></p> <p><u>Construct layerworks with material from commercial sources selected by the Contractor</u></p> <p><u>G6 Subbase compacted to 95% mod AASHTO density</u></p> <p>150mm Thick</p>	m3	1,970		
	<p>Carried Forward to Summary of Section No. 5</p> <p>Section No. 5 SITE WORKS Bill No. 9 SUBBASE Takgalang Consulting</p>			R	

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Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 10</u></p> <p><u>BASE</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No.104 for CPAP formula purposes.</p>				
	<p><u>CONSTRUCT LAYERWORKS WITH COMMERCIAL MATERIAL SOURCES</u></p> <p><u>Construct layerworks with material from commercial sources selected by the Contractor</u></p> <p><u>G6 Base compacted to 95% mod AASHTO density</u></p>				
1	150mm Thick	m3	1,970		
	<p><u>PROCESSING</u></p> <p><u>Process layerwork material by the following process</u></p>				
2	Stabilization	m3	1,970		
	Carried Forward				R
	<p>Section No. 5 SITE WORKS Bill No. 10 BASE Takgalang Consulting</p>				

X R. N.
J-M

CONSTRUCTION OF MARITE POLICE STATION
SOUTH AFRICAN POLICE SERVICES
MPUMALANGA PROVINCE

Brought Forward

R

STABILIZATION

Stabilizing agent

3

Portland cement

t

155.74

Carried Forward to Summary of Section No. 5

R

Section No. 5
SITE WORKS
Bill No. 10
BASE
Takgalang Consulting

299

*XJR - r.
J.M*

Item No		Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 11</u></p> <p><u>SEGMENTED PAVING</u></p> <p>NOTE: The contractor is advised to study the "General Preambles for Trades 2017" before pricing this bill</p> <p>NOTE: The contractor is advised to study the Civil Engineer's drawings before pricing this bill. In the case of any discrepancies between the bill and the drawings the contractor must notify the Principal Agent.</p> <p>NOTE: Items in this section shall be deemed to fall into relevant Work Groups for CPAP formula purposes, each as described previously herein.</p>				
	<p><u>SEGMENTED PAVING</u></p> <p><u>Grey interlocking precast concrete paving blocks type SA, including straight cutting of units to fit between edge restraints, laid on and including 20mm riversand bed, compacted and plaster sand broomed into joints on completion</u></p>				
1	60mm To sidewalks	m2	1,030		
2	80mm To roads	m2	1,950		
	<u>Cutting units to fit edge restraints (all sizes)</u>				
3	Raking cutting	m	300		
	Carried Forward			R	
	<p>Section No. 5 SITE WORKS Bill No. 11 SEGMENTED PAVING Takgalang Consulting</p>				