

No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 01</u> <u>BILL NO.1</u> <u>PRELIMINARY & GENERAL</u></p> <p><u>Fixed Charge Items</u> Contractual Requirements</p> <p><u>Establish Facilities on Site:</u> <u>Facilities for Engineer</u> a) Supply and erect name board on site</p> <p><u>Facilities for Contractor and Engineers</u> (a) Office and Storage Sheds (b) Workshops (c) Ablution & Latrine Facilities (d) Tools & Equipment (e) Water supply, electricity and communication (f) Dealing with Water on Site (g) Access to Site (h) Plant (i) Setting out of works (j) Laboratories and Testing</p> <p><u>Once off Contract costs</u> Site Establishment Healthy and Safety Requirements & Induction Environmental Requirements Guarantee and Retention The contractor shall make allowance within the tender cost providing traffic control, working in restricted space and barricading of the site for the duration of the contract. Insurance Protection of Works Proving and Relocation of Services Other Fixed Charge Obligations Operations Manual Testing, Pre-commissioning and Commission Removal of Site Establishment</p> <p><u>Time Related Items</u> a) Contractual Requirements</p> <p><u>Facilities for CONTRACTOR</u> Operate and maintain facilities on site for the duration of the site Supervision for duration of Construction Company & Head Office Overhead Costs</p> <p><u>MAINTENANCE AND SERVICE</u> Allow for a 12 months maintenance and service period, carried out in monthly inspections, on all plant and equipment under this contract.</p>				

The electrical Subcontractor are required to give a twelve (12) month guarantee to replace, free of charge, any portion of the electrical installation in which any manufacturing defects may develop during that period, such period to commence from the date of handover of the complete electrical installation.

The electrical Subcontractor shall in the course of the maintenance period repair or replace defective parts if required and shall use only genuine standard parts produced by the manufacturer of the original part.

Allow for a 12 months maintenance and service period, carried out in monthly inspections, on all plant and equipment under this contract.

The Mechanical Subcontractor are required to give a twelve (12) month guarantee to replace, free of charge, any portion of the electrical installation in which any manufacturing defects may develop during that period, such period to commence from the date of handover of the complete electrical installation.

The Mechanical Subcontractor shall in the course of the maintenance period repair or replace defective parts if required and shall use only genuine standard parts produced by the manufacturer of the original part.

OCCUPATIONAL HEALTH AND SAFETY

Without limiting the generality of the provisions of clause 7.0 of the Principal Building Agreement, the Contractors attention is drawn to the provisions of the Construction Regulations, 2003 issued in terms of Occupational Health and Safety Act, 1993 in which it is specifically stated and the Employer shall ensure that the Contractor has made provision for the cost of health and safety measures during the execution of the works. The contractor is referred to the occupational Health and Safety of Construction attached to this document and the contractor shall price for compliance with the Act and the regulations and the provisions of the aforementioned Health and Safety Specification.

The Legal requirements contemplated in Construction Regulation CR (1) (g) "A client must ensure that potential principal contractors submitting tenders, have made adequate provision for the cost of health and safety measures" And CR 5(1) (h) "A Client must ensure that the principal contractor to be appointed has the necessary competencies and resource to carry out the construction work safety" Shall apply and failure to price the Health and Safety items will result in the tender being deemed non - responsive The contractors attention is further drawn to Section 41 of the OCCUPATIONAL HEALTH AND SAFETY ACT NO.85 1993 :

THIS ACT NOT AFFECTED BY AGREEMENTS Subject to the provisions of section 10 (4) and 37 (2), a provision of this Act or a condition specified in any notice or direction issued there under or subjects to which exemption was granted to any person under section 40, shall not be affected to any condition of any agreement whether such agreement was Allow for the necessary Workman's Compensation Fund or FEM contributions for the duration of the project with and including renewals F:..... V:..... T:.....

Allow the preparation and approvals of the project - specific H & S and File (CR 7 (1) (a) F:.....
V:..... T:.....

Allow for the implementation and maintenance of project - specific H & S Plan and File (CR 7) F:.....
V:..... T:.....

Allow for the appointment of a Full -Time Qualified **Construction Health and Safety Officer** to assist in the control of all health and safety aspects on site as per CR8 (5) F:..... V:..... T:

Allow for provision of Basic Emergency preparedness and Response equipment and minimum Level 2 First Aider/s
F:..... V:..... T:.....

Provide, supply and maintain for each employee for the following SANS approved personal Protective equipment and clothing (Including Hard Hat) as per the site requirement - Specific risk assessment:

Security Access Control Cards

Overall/work suit (100% Cotton) F: V:.....
T:

High Visibility reflecting vest and /or bibs F
V:..... T:

Safety boot/shoes (Steel - toes) F: V:..... T:

Safety Gumboot (Steel - toes) F:.....
V:..... T:.....

Ear Plugs/Muffs F:..... V:.....
T:.....

Dust Masks (at least FF2 type) F:.....
V:..... T:.....

Respirators F:..... V:.....
T:.....

Safety goggles F:..... V:.....
T:.....

Temporary handrails, toe boards, etc. other than for access scaffoldings
F.....V.....T.....

Personal fall arrest and rescue equipment with and including life lines and associated equipment's
F.....V.....T.....

SANS approved safety netting (orange colour minimum 1,2 meter high)
F.....V.....T.....

Temporary warning signs and symbols
F.....V.....T.....

Road traffic signs in terms of the South African Road Traffic signs Manual
F.....V.....T.....

General Compliance with Environmental Management Plan

SECTION NO.01 TOTAL

R

EXTERNAL WORKS

No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 02</u> <u>EXTERNAL WORKS</u> <u>BILL NO. 1</u> <u>DEMOLITION</u></p> <p><u>(CPAP WORK GROUP NO. 102 UNLESS OTHERWISE STATED)</u></p> <p><u>PREAMBLES</u> The Tenderer is referred to the relevant clauses in the separate documents General Preambles for Trades (2017 Edition).</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Working at Heights:</u> Tenderers are to note that the work to be undertaken may require all necessary scaffolding, due to the heights of the structures to be constructed/ altered. Tenderers are to therefore price accordingly as rates will be deemed to include for same and No further claims in regard to all necessary scaffolding in the completion of the scope of works will be entertained.</p> <p><u>Labour Intensive</u> Tenderers are to note well that specific items within these Bills of Quantities have been designated as LABOUR INTENSIVE by the addition of the aforementioned words in uppercase at the end of the description for the said item. Where items have been designated as being LABOUR INTENSIVE as described, pricing shall be deemed to include for the carrying out to completion of said item on site by means and methods that rely predominantly on manual labour. As such, no claims shall be entertained regarding any additional time or monetary costs incurred by the use of LABOUR INTENSIVE methods. Further, the Contractor is to note that contravention of the above i.e. use of mechanised systems to carry out LABOUR INTENSIVE work as hereinafter designated, will viewed and dealt with in an extremely serious light by the Client, as it remains a national imperative to develop, employ and provide skills through the Extended Public Works Programme.</p> <p><u>Damages to existing finishes, etc</u> The Contractor will be held responsible for all damage however caused, to existing finishes and fittings etc. and he must make good all damage at his own expense to the approval of the Principal Agent.</p> <p>Breaking down, demolition and alteration activities and tasks, hacking off of existing plaster, etc. is to be executed with care so as to prevent damage to remaining floor and wall surfaces and finishes (where these are to be retained). Tenders will be deemed to include allowance for any necessary protection of existing surfaces and structures as may be necessary to effect the above, as the cost of repairing damage to</p>				

existing surfaces and structures will be solely for the Contractors account.

Responsibility for site

The Contractor is to note that upon possession of the site by himself, and extending until practical completion is achieved, he is solely responsible for the site, site security, general upkeep and cleaning of the site and all other responsibilities in maintaining a construction site in conformance with but not limited to, the Construction Regulations 2003, all local by-laws, all user client regulations, and all Client (National Department of Public Works) regulations and procedures. Bidders are therefore urged to study all available material and to investigate fully the site and areas contiguous to the site, in order to determine the range and extent of responsibility. No additional monetary and/or time claims will be entertained in respect of the above.

Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained

Explosives

No explosives whatsoever may be used for demolition purposes unless otherwise stated

General

The contractor shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to adjoining premises and their tenants. He shall provide proper protection and provide, erect and remove when directed, any temporary tarpaulins that may be necessary during the progress of the works, all to the satisfaction of the principal agent

Water supply pipes and other piping that may be encountered and found necessary to disconnect or cut, shall be effectually stopped off or grubbed up and removed, and any new connections that may be necessary shall be made with proper fittings, to the satisfaction of the principal agent

Prices for taking out of doors, windows, etc. shall include for removal of all beads, architraves, ironmongery, etc.

Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc. and making good floor and wall finishes to match existing.

Prices for breaking down and removal of brick walls is deemed to include for plaster and/or tile finishes and/or cladding of any type on walls. Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary.

With regard to building up of openings in existing walls, cement screeds and pavings, granolithic, tops of walls, etc., shall be levelled and prepared for raising of brickwork. Rates shall be deemed to be inclusive in this regard.

The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc.).

Prices for removal of existing fittings, rails, countertops, etc. from walls shall be deemed to include for taking out of existing wall plugs and filling holes with an approved filler.

Prices for removal of existing fittings, rails, countertops, etc. from facebrick walls shall be deemed to include for taking out of existing wall plugs and filling holes with an approved filler and making good with an approved brick paste.

The Contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, roof structure, etc.).

Tenderers are to note that the work to be undertaken may require all necessary scaffolding, due to the heights of the structures to be constructed/ altered. Tenderers are to therefore price accordingly as rates will be deemed to include for same and No further claims in regard to all necessary scaffolding in the completion of the scope of works will be entertained.

Tenderers are to note well that specific items within these Bills of Quantities have been designated as LABOUR INTENSIVE by the addition of the aforementioned words in uppercase at the end of the description for the said item. Where items have been designated as being LABOUR INTENSIVE as described, pricing shall be deemed to include for the carrying out to completion of said item on site by means and methods that rely predominantly on manual labour. As such, no claims shall be entertained regarding any additional time or monetary costs incurred by the use of LABOUR INTENSIVE methods. Further, the Contractor is to note that contravention of the above i.e. use of mechanised systems to carry out LABOUR INTENSIVE work as hereinafter designated, will viewed and dealt with in an extremely serious light by the Client, as it remains a national imperative to develop, employ and provide skills through the Extended Public Works Programme.

The Contractor will be held responsible for all damage however caused, to existing finishes and fittings etc. and he must make good all damage at his own expense to the approval of the Principal Agent.

Breaking down, demolition and alteration activities and

tasks, hacking off of existing plaster, etc. is to be executed with care so as to prevent damage to remaining floor and wall surfaces and finishes (where these are to be retained). Tenders will be deemed to include allowance for any necessary protection of existing surfaces and structures as may be necessary to effect the above, as the cost of repairing damage to existing surfaces and structures will be solely for the Contractors account.

The Contractor is to note that upon possession of the site by himself, and extending until practical completion is achieved, he is solely responsible for the site, site security, general upkeep and cleaning of the site and all other responsibilities in maintaining a construction site in conformance with but not limited to, the Construction Regulations 2003, all local by-laws, all user client regulations, and all Client (National Department of Public Works) regulations and procedures. Bidders are therefore urged to study all available material and to investigate fully the site and areas contiguous to the site, in order to determine the range and extent of responsibility. No additional monetary and/or time claims will be entertained in respect of the above.

Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained

No explosives whatsoever may be used for demolition purposes unless otherwise stated

Demolishing, removal and dispose

1,00	Identification and Decomissioning of existing bulk services	Sum	1,00
2,00	Demolition of existing retaining 0m to 5m high (varies)	m	690,00
3,00	Removal of existing reinforced v drains	m	680,00
4,00	Single storey building with pitched roof size overall approximately 42m x 7m on plan and approximately 3600mm high at eaves, comprising reinforced concrete surface bed one brick external walls, half brick and one brick internal walls	No	16,00
5,00	Certificied removal of Asbestos fibre sheeting by a specialist	m ²	3710,00
6,00	Certificied removal of Asbestos fibre rainwater goods by a specialist	m	650,00
7,00	AIA Tests for Asbestos by a specialist	Item	2,00

Carried to Collection

No.	Description	Unit	Quantity	Rate	Amount
	<u>SECTION NO.02 - CIVIL WORKS</u>				
	<u>BILL NO 2 (PROVISIONAL)</u>				
	<u>SANS 1200 C</u>				
	CPAP - Haylett Indices Work Group 154 to used.				
	<u>SITE CLEARANCE</u>				
	<u>Clear and grub</u>				
1,00	Areas	m2	12000,00		
2,00	Milling Existing Asphalt Surface	m³	5000,00		
3,00	Remove existing kerbing and dispose of kerbs off Site	m	2000,00		
4,00	Strips 2m wide	m	2000,00		
	<u>Remove and grub large trees and tree stumps of girth</u>				
5,00	Over 2m and up to and including 3m.	No	20,00		
	<u>Remove topsoil to nominal depth of 100mm and stockpile.</u>				
6,00	Remove topsoil to nominal depth of 100 mm and stockpile.	m3	3000,00		
	Carried to Collection				
	<u>SECTION NO 4 - CIVIL WORKS</u>				
	<u>BILL NO 3 (PROVISIONAL)</u>				
	<u>SANS 1200 D</u>				
	CPAP - Haylett Indices Work Group 154 to used.				
	<u>EARTHWORKS - SITE PREPARATION</u>				
	<u>Bulk excavation</u>				
	<u>Excavate in all materials and use for embankment or backfill as ordered from</u>				
1,00	Road and parking box-out	m3	2200,00		
2,00	Excavate in all materials and dispose	m3	712,00		
	<u>Extra over bulk excavation for:</u>				
3,00	Hard rock excavation.	m3	400,00		
	<u>Importing of materials:</u>				
4,00	Topsoiling (land scape areas)	m3	10000,00		
	<u>Grassing or other vegetation cover:</u>				

5,00	Hydro seeding (Land scape areas)	m2	10000,00	
6,00	Extra over for disposing of soil material on a site provided by the Contractor	m3	5200,00	
	Carried to Collection			
<u>SECTION NO 4 - CIVIL WORKS</u>				
<u>BILL NO 4 (PROVISIONAL)</u>				
<u>SANS 1200 DB</u>				
CPAP - Haylett Indices Work Group 154 to used.				
<u>EARTHWORKS (PIPE TRENCHES)</u>				
<u>TRENCHES FOR WATER PIPES</u>				
<u>Excavate in all materials for trenches, backfill, compact and dispose of surplus material:</u>				
<u>Pipes up to 125 mm dia for depths:</u>				
1,00	Up to 1m	m	1600,00	
<u>Extra over excavation for pipe trenches for:</u>				
2,00	Hard rock excavation	m3	160,00	
3,00	Backfill stabilized with 5% cement where directed by the Engineer	m3	200,00	
<u>Excavate and dispose of unsuitable material from trench bottom</u>				
4,00	Excavate and dispose of unsuitable material from trench bottom	m3	500,00	
<u>Particular items:</u>				
<u>Temporary works: Control water inflow from connection to water main</u>				
5,00	Provide equipment	SUM	1,00	
6,00	Operate and maintain	DAY	30,00	
7,00	Remove equipment	Item	1,00	
<u>TRENCHES FOR SEWER PIPES</u>				
<u>Excavate in all materials for trenches, backfill, compact and dispose of surplus material:</u>				
<u>Pipes up to 160 mm dia for depths:</u>				
8,00	Up to 1,0m	m	200	
9,00	Over 1,0 m up to 2,0 m	m	9000	
10,00	Over 2,0m up to 3,0m	m	3000	

11,00	Over 3,0m up to 4,0m	m	400	
	<u>Extra over excavation for sewer pipe trenches for:</u>			
12,00	Hard rock excavation	m3	410	
13,00	Backfill stabilized with 5% cement where directed by the Engineer	m3	750	
	<u>Excavate and dispose of unsuitable material from trench bottom</u>			
14,00	Excavate and dispose of unsuitable material from trench bottom	m3	750,00	
	<u>Particular items</u>			
15,00	Shore trench for excavations deeper than 1.5m	m	1200,00	
	<u>TRENCHES FOR STORMWATER PIPES</u>			
	<u>Excavate in all materials for trenches, backfill, compact and dispose of surplus material:</u>			
	<u>Pipes over 400 mm dia up to 900 mm dia for depths:</u>			
16,00	Up to 1,0m	m	200	
17,00	Over 1,0 m up to 2,0 m	m	1200	
18,00	Over 2,0m up to 3,0m	m	42	
19,00	Over 3,0m up to 4,0m	m	20	
	<u>Pipe over 900mm dia up to 2 000mm dia for depths:</u>			
20,00	Up to 1,0m	m		Rate Only
21,00	Over 1,0 m up to 2,0 m	m	600,00	
22,00	Over 2,0m up to 3,0m	m		Rate Only
23,00	Over 3,0m up to 4,0m	m		Rate Only
	<u>Portal culverts over 900mm up to 2 000mm for depths:</u>			
24,00	Up to 1,0m	m	210,00	Rate Only
25,00	Over 1,0 m up to 2,0 m	m	600,00	
26,00	Over 2,0m up to 3,0m	m	565,00	Rate Only
27,00	Over 3,0m up to 4,0m	m	780,00	Rate Only
	<u>Extra over excavation for stormwater pipe trenches for:</u>			
28,00	Hard rock excavation	m3	20	
	<u>Hand excavation where ordered by the Engineer</u>			
29,00	Soft material	m3	10	

30,00	Backfill stabilized with 5% cement where directed by the Engineer	m3	250	
31,00	Accommodation of traffic	SUM	1	
32,00	Excavate and dispose of unsuitable material from trench bottom	m3	600	
33,00	Excavate in all materials for stormwater inlet and outlet structures and for manholes, catchpits, valve chambers and the like, irrespective of depth, and backfill around structures.	m3	520	
34,00	Excavate open drains in all materials	m3	1100	
	<u>Extra over for excavating in</u>			
35,00	Hard rock material	m3	50	
	<u>Excavation ancillaries</u>			
36,00	Compaction in road crossings	m3	370	
	<u>Particular items</u>			
37,00	Shore trench excavations deeper than 1.5m	m	500	
	<u>Finishing</u>			
	<u>Reinstate road surfaces complete with all courses</u>			
38,00	By importation of Gravel material from commercial sources selected by the Contractor	m2	162	
39,00	Asphalt premix of thickness 30mm in roadway.	m2	162	
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 5 (PROVISIONAL)</u>			
	<u>SANS 1200 DK</u>			
	CPAP - Haylett Indices Work Group 154 to used.			
	<u>GABIONS AND PITCHING</u>			
	<u>Pitching</u>			
	<u>Grouted pitching:</u>			
1,00	Medium pitching	m2	350,00	
	<u>Gabions:</u>			
2,00	Refurbishment around existing Gabion Retaining Wall	Prov Sum	1,00	
	Gabion boxes of galvanized wire			
3,00	80mm x 100mm mesh, 2.7mm dia wire, 1mm x 5m x 0.5m boxes	m3		Rate Only

	Gabion boxes of galvanized wire:			
4,00	80mm x 100mm mesh, 2,7mm dia wire, 6m x 4m x 0,5m boxes	m3		Rate Only
	Geotextile:			
5,00	A4 Bidim or similar approved	m2		Rate Only
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 6 (PROVISIONAL)</u>			
	<u>SANS 1200 DM</u>			
	CPAP - Haylett Indices Work Group 154 to used.			
	<u>EARTHWORKS (ROADS, SUBGRADE)</u>			
	<u>Treatment of Road-Bed</u>			
	<u>Road-bed preparation and compaction of material to:</u>			
1,00	Minimum of 90% modified AASHTO maximum density	m3	3235	
	<u>Cut to fill</u>			
2,00	Compact to 90% Mod AASHTO density	m3	490	
	<u>Selected layer using material from excavations</u>			
3,00	G9 material compacted to 90% Mod AASHTO density	m3	350	
4,00	G7 material compacted to 93% Mod AASHTO density	m3	450	
5,00	Extra over for obtaining material from commercial sources	m3	2123	
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 10 (PROVISIONAL)</u>			
	<u>SANS 1200 G</u>			
	CPAP - Haylett Indices Work Group 146 to used.			
	<u>CONCRETE (STRUCTURE)</u>			
	<u>SCHEDULED FORMWORK ITEMS</u>			
	<u>Vertical formwork to</u>			
1,00	Stormwater outlet structure Drop Manhole	m2		Rate Only
	<u>SCHEDULED REINFORCEMENT ITEMS</u>			
	<u>High tensile steel bars in the following</u>			
2,00	All diameters	t		Rate Only

	<u>High Tensile Welded Mesh</u>			
3,00	All diameters	m2		Rate Only
	<u>SCHEDULED CONCRETE ITEMS</u>			
	<u>Blinding layer class 15MPa/19mm concrete</u>			
4,00	50mm Thickness	m2		Rate Only
	<u>Strength concrete class 30 MPa/19 mm concrete in:</u>			
5,00	Stormwater outlet structure, Drop Manhole and culvert foundation	m3		Rate Only
	<u>Unformed Surface Finishes</u>			
6,00	Stormwater outlet structure	m2		Rate Only
	Carried to Collection			R -
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 7 (PROVISIONAL)</u>			
	<u>SANS 1200 L</u>			
	CPAP - Haylett Indices Work Group 170 to used.			
	<u>MEDIUM-PRESSURE PIPELINES</u>			
	<u>Supply, lay, and bed on class B bedding, complete with couplings:</u>			
	<u>HDPE SABS 533 class 9 pipes</u>			
1,00	90 mm diameter	m	1600	
2,00	160 mm diameter	m	340	
	<u>Extra over for the supplying, laying and bedding of HDPE specials complete with couplings:</u>			
	<u>45° bends:</u>			
3,00	90 mm diameter	No	44	
	<u>90° bends:</u>			
4,00	90 mm diameter	No	30	
5,00	160 mm diameter	No	16	
	<u>Tees:</u>			
6,00	90 x 90 mm Diameter	No	70	
	<u>Reducers</u>			
7,00	90mm x 160mm Diameter	No	16	
	<u>Flanged adaptors</u>			

8,00	90mm Diameter	No	22	
9,00	160mm Diameter	No	14	
	<u>End caps</u>			
10,00	90mm Diameter	m	24	
	<u>Extra over for supplying, laying and bedding connections complete with couplings</u>			
	<u>Viking Johnson flange adaptor (16m static head)</u>			
11,00	90mm Diameter	No	12	
	<u>Viking couplings</u>			
12,00	65mm Diameter	No	10	
	<u>Extra over for supplying, fixing and bedding of flanged gate valves</u>			
13,00	90mm Diameter	No	10	
	<u>Extra over for supplying, fixing and bedding of non-return valves</u>			
14,00	90mm Diameter	No	6	
	<u>Extra over for supplying, fixing and bedding of fire hydrants including double flanged distance piece between hydrant and tee</u>			
15,00	80mm Diameter	No	8	
	<u>Concrete</u>			
16,00	Class 20MPa/19mm	m3	30	
	<u>Formwork</u>			
17,00	Rough	m2	34	
	<u>Valve and hydrant chambers etc.</u>			
18,00	Valve chamber	No	20	
19,00	Connection to existing main supply pipe	Item	1,00	
	<u>PROVISION OF WATER CONNECTION</u>			
20,00	Coonection application and fire hydrants supply and connection	Item	1,00	
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 8 (PROVISIONAL)</u>			
	<u>SANS 1200 LB</u>			

CPAP - Haylett Indices Work Group 104 to used.

BEDDING (PIPES)

Provision of Bedding from Trench Excavation

1,00 Selected granular material. m3 1400

2,00 Selected fill material. m3 480

Supply only of Bedding by Importation

From other necessary excavations

3,00 Selected granular material. m3 250

4,00 Selected fill material. m3 340

From commercial sources

5,00 Selected granular material. m3 226

6,00 Selected fill material. m3 226

7,00 Extra over for bedding stabilized with 5% cement m3 20

BEDDING FOR SEWER PIPES

Provision of Bedding from Trench Excavation

8,00 Selected granular material. m3 1200

9,00 Selected fill material. m3 1300

Supply only of Bedding by Importation

From other necessary excavations

10,00 Selected granular material. m3 45

11,00 Selected fill material. m3 45

From commercial sources

12,00 Selected granular material. m3 540

13,00 Selected fill material. m3 499

14,00 Extra over for bedding stabilized with 5% cement m3 81

BEDDING FOR STORMWATER PIPES

Provision of Bedding from Trench Excavation

15,00 Selected granular material. m3 1550

16,00 Selected fill material. m3 950

Supply only of Bedding by Importation

From other necessary excavations

17,00 Selected granular material. m3 6000

18,00	Selected fill material.	m3	6000	
	<u>From commercial sources</u>			
19,00	Selected granular material.	m3	550	
20,00	Selected fill material.	m3	750	
21,00	Extra over for bedding stabilized with 5% cement	m3	20	
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 9 (PROVISIONAL)</u>			
	<u>SANS 1200 LD</u>			
	CPAP - Haylett Indices Work Group 146 to used.			
	<u>SEWERS</u>			
	<u>Supply, lay, joint, bed on class B bedding and test pipeline:</u>			
	<u>uPVC pipes, Class 34:</u>			
1,00	110 mm diameter	m	950	
	<u>Pre-cast concrete manholes</u>			
	<u>With SABS 558 type 4 cover and frame for:</u>			
2,00	Depth 2,5 m up to 3,0 m	No	24	
3,00	Depth 3,0 m up to 3,5 m	No	4	
	<u>Inspection chambers, etc.</u>			
	<u>Cleaning eyes</u>			
4,00	Depth 0,5 m up to 1 m	No	18	
5,00	Depth 1 m up to 1,5 m	No	12	
6,00	Depth 1,5 m up to 2,0 m	No	8	
7,00	Depth 2,0 m up to 2,5 m	No	8	
8,00	Depth 3,0 m up to 3,5 m	No	6	
	<u>Erf connections.</u>			
	<u>uPVC</u>			
9,00	Type E	No	30	
	<u>Anchor Blocks</u>			
10,00	Class 20 MPa/19mm concrete	m3	32	
11,00	Connection to existing sewer	SUM	1	

Carried to Collection

SECTION NO 4 - CIVIL WORKS

BILL NO 10 (PROVISIONAL)

SANS 1200 LE

CPAP - Haylett Indices Work Group 146 to used.

STORMWATER DRAINAGE

Supply and Lay Concrete Pipe Culverts on class B bedding:

Type SC 100 -D-load pipes with ogee joints:

1,00	450 mm diameter	m	1400
2,00	600 mm diameter	m	240
3,00	900 mm diameter	m	260

Lay Portal and Rectangular culverts supplied by Employer, Without precast invert slabs:

4,00	Rocla 1200mm x 1200mm Class 175S Portal Culvert or similar approved	m	600
5,00	Typical Stormwater Headwall	No	1

Supply and install manholes including frames and the like:

6,00	Brickwork Manholes for manhole standard depth 1.0m - 2.5m	No	24,00
------	--	----	-------

Field inlets including step irons, rebar, brick and concrete work

7,00	Depth 1.5m - 2.0m	No	8,00
8,00	Depth 2.0m - 2.5m	No	2,00

Grid inlets including grid inlet and frame, rebar, concrete and brck work

9,00	Depth 1.5m - 2.0m	No	9,00
10,00	Depth 2.0m - 2.5m	No	4,00

Supply and install catchpits:

Kerb inlets:

11,00	Length 2,4m	No	5,00
-------	-------------	----	------

Lowering of existing manholes all types:

12,00	0m up to 0.5m	No	4,00
-------	---------------	----	------

	<u>Accessories</u>			
13,00	Stormwater Outlet erosion protection (Engineer's Instruction Carried to Collection)	Sum		1,00
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 11 (PROVISIONAL)</u>			
	<u>SANS 1200 LF</u>			
	CPAP - Haylett Indices Work Group 146 to used.			
	<u>ERF CONNECTIONS (WATER)</u>			
	<u>Supply and install meters complete with couplings</u>			
1,00	90mm Diameter Carried to Collection	No		5,00
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 12 (PROVISIONAL)</u>			
	<u>SANS 1200 ME</u>			
	CPAP - Haylett Indices Work Group 154 to used.			
	<u>ROADS - SUBBASE (Including Side walks)</u>			
	<u>Construct the subbase course/shoulder/gravel wearing course with material by importation from commercial sources</u>			
1,00	Import material and stockpile or place on the road for the subbase course/shoulder/gravel wearing course (G7 Material compacted to 95% Mod Aashto) Carried to Collection	m3		1200,00
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 12 (PROVISIONAL)</u>			
	<u>SANS 1200 MF</u>			
	CPAP - Haylett Indices Work Group 154 to used.			
	<u>ROADS - BASE (Including Side walks)</u>			
	<u>Construct base with material from importation from commercial sources or designated borrow areas and compact to 95%:</u>			
1,00	Gravel material (C4 material)	m3		1600
2,00	Gravel material (G7 material) (Side Walk)	m3		900
3,00	Gravel material (C2 material)	m3		550

	<u>Stabilizing Agent</u>			
4,00	Portland cement.	t	270	
5,00	Stabilization (processes, as relevant and use in base (applicable to items 1 and 3):	m3	1500	
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 12 (PROVISIONAL)</u>			
	<u>SANS 1200 MH</u>			
	CPAP - Haylett Indices Work Group 154 to used.			
	<u>ASPHALT BASE AND SURFACING</u>			
	<u>Prime Coat:</u>			
1,00	MC-30 cutback bitumen	m2	5500	
	<u>Tack Coat:</u>			
2,00	30% stable-grade emulsion	m2	5500	
	<u>Asphalt base 30mm thick:</u>			
3,00	Surface	m2	5500	
	Carried to Collection			
	<u>SECTION NO 4 - CIVIL WORKS</u>			
	<u>BILL NO 13 (PROVISIONAL)</u>			
	<u>SANS 1200 MJ</u>			
	CPAP - Haylett Indices Work Group 154 to used.			
	<u>ROADS - SEGMENTED PAVING</u>			
	<u>Provision of edge restraints</u>			
1,00	For straight edging	m	320	
	<u>Construction of Paving Complete with 20 mm Bedding Sand:</u>			
	<u>Type S-A blocks:</u>			
2,00	60mm Thick	m2	2250	
3,00	80 mm thick	m2		Rate Only
	<u>Cutting Units to Fit Edge Restraints:</u>			
4,00	Straight cutting.	m	320	
	Carried to Collection			

SECTION NO 4 - CIVIL WORKS

BILL NO 14 (PROVISIONAL)

SANS 1200 MK

CPAP - Haylett Indices Work Group 154 to used.

ROADS - KERBING AND CHANNELLING

Concrete Kerbing

SABS 927 fig 7 precast concrete kerbing:

1,00	Radius up to 4m	m	650
2,00	Radius over 4m up to 20m	m	3000
3,00	Radius over 20m an straight sections	m	320

SABS 927 fig 8 Precast Concrete kerbing

4,00	Radius up to 4m	m	2200
5,00	Radius over 20m and straight sections	m	1040

**Trimming of excavations for concrete lined open drains
in**

6,00	Intermediate material	m2	950
------	-----------------------	----	-----

Cast in-situ concrete lining to open drains

7,00	Grade 25 concrete, 100mm thick	m3	90
------	--------------------------------	----	----

**Formwork to cast-in-situ concrete lining of open drains
(smooth surface finish):**

8,00	To ends of slabs	m2	6,00
------	------------------	----	------

Steel reinforcement

9,00	High-tensile welded mesh ref 193	m2	400,00
------	----------------------------------	----	--------

Carried to Collection

SECTION NO 4 - CIVIL WORKS

BILL NO 15 (PROVISIONAL)

SANS 1200 MM

CPAP - Haylett Indices Work Group 154 to used.

ANCILLARY ROADWORKS

SCHEDULED ITEMS FOR PERMANENT ROAD SIGNS

**Sign Faces with Painted or Galvanised (as stated)
Background, with Painted Symbols, Characters, Legend
and Borders, and with Signboards Constructed from:**

<u>Galvanised sheet (2,0mm thick) of area:</u>		
1,00	R1 (Stop Sign)	m2 26
<u>Sign Supports</u>		
2,00	Steel tubing, 2100 mm High including protective treatment	No 26
<u>Excavation and backfilling and concreting for sign supports:</u>		
3,00	Excavation and backfilling and concreting for sign supports.	m3 52
<u>ROAD MARKINGS</u>		
<u>Non-reflector paint applied at nominal rate of 0.42 l/m2 (or proprietary brand road-marking material (nominal rate of application and particulars stated))</u>		
<u>White lines (broken or unbroken):</u>		
4,00	100mm Wide	KM 0,88
5,00	300mm Wide	KM 0,03
6,00	600mm Wide	KM 0,06
<u>Yellow lines (broken or unbroken):</u>		
7,00	100mm Wide	KM 0,13
8,00	300mm Wide	KM 0,01
<u>Yellow lines (broken or unbroken):</u>		
9,00	White characters and symbols.	m2 215
10,00	Yellow characters and symbols.	m2 20
11,00	Traffic island markings (all colours).	m2 15
12,00	Supply and erect reflective wind sock according to ICAO standards complete with all fittings and support	No 1
Carried to Collection		
<u>SECTION NO 4 - CIVIL WORKS</u>		
<u>BILL NO 15 (PROVISIONAL)</u>		
<u>SANS 1200 GE</u>		
"Loffelstein" Precast concrete interlocking planter blocks finished smooth on exposed surfaces. (Work Group No. 112)		
<u>RETAINING FACE WALL</u>		
<u>Patented Earth Retaining Systems</u>		
<u>Earthworks (CPAP Work Group 104)</u>		
<u>Excavations</u>		

1,00	Excavate in soft excavations and compacted fill material for surface trenches not exceeding 2m deep and deposit on the site	m3	40	
2,00	19mm stone filling around weep pipe	m3	150	
	Extra over bulk excavation in earth for excavation in			
3,00	Soft rock	m3	25	
4,00	Hard rock	m3	18	
5,00	Backfilling from excavations to trenches and holes compacted to 98% MOD AASHTO density.	m3	10	
	Risk of collapse of excavations			
6,00	Surplus material from stock piles on site to a dumping site to be located by the contractor	m3	380	
	Extra over all excavations for carting away			
7,00	Sides of trench and hole excavations not exceeding 1.5m deep	m2	800	
	Concrete (CPAP Work Group 110)- Unreinforced concrete 15MPa/19mm in :			
8,00	Blinding	m3		Rate Only
	Unreinforced concrete 25MPa/19mm in			
9,00	Strip footings	m3		Rate Only
	Terrace Blocks Precast Concrete Blocks:			
10,00	Retaining structure with stepped face and curves as required to suit slopes using type G400 interlocking planter blocks (or similar approved) laid with horizontal bed joints including backfilling with approved material	m2	3500	
11,00	Geotextile: A4 Bidim or similar approved	m2	3500	
12,00	Course river sand filling behind retaining wall compacted to 98% MOD AASHTO density	m3	760	
	Plumbing and Drainage (CPAP WORK GROUP NO. 148)			
13,00	Soil drainage: 75mm Diameter weep pipe approximately 450mm long between retaining blocks and sealing around with an approved sealing agent	No	220	
14,00	19mm stone filling around weep pipe	m3	220	
	Making Good of Surrounding:			
15,00	Clearance and Cleaning	m2	1130	
	Carried to Collection			

SECTION NO 4 - CIVIL WORKS

BILL NO 15 (PROVISIONAL)

SANS 1200 PA

CPAP - Haylett Indices (CPAP Work Group No.136 Unless
Otherwise Stated)

FENCING

Supply and erection of new fencing material:

1,00	Palisade Fencing (Inclusive of foundations)	m	950,00
	New Gates		
3,00	Double leaf gate supplied	No	1,00
4,00	Profit and attendance on item above	%	15,00

Carried to Collection

EXTERNAL WORKS**SUMMARY**

Bill No.		Page	Amount
1,00	Preliminaries and General		R
2,00	Demolition		R
3,00	SANS 1200 C - Site Clearance		R
4,00	SANS 1200 D - Earthworks		R
5,00	SANS 1200 DB - Earthworks (Pipe Trenches)		R -
6,00	SANS 1200 DK - Gabions and Pitching		R
7,00	SANS 1200 DM - Earthworks (Roads, Subgrade)		R
7,00	SANS 1200 G - Concrete (Structural)		R
8,00	SANS 1200 L - Medium Pressure Pipelines		R
9,00	SANS 1200 LB - Bedding Pipes		R
10,00	SANS 1200 LD - Sewers		R
11,00	SANS 1200 LE - Stormwater Drainage		R
12,00	SABS 1200 LF ERF Connections		R
12,00	SANS 1200 ME - Roads - Subbase		R
12,00	SANS 1200 MF - Roads - Base		R
13,00	SANS 1200 MH - Roads - Asphalt base and surfacing		R
14,00	SANS 1200 MJ - Roads - Segmental Paving		R
15,00	SANS 1200 MK - Roads - Kerbing and Channelling		R
15,00	SANS 1200 MM - Ancillary Roadworks		R
15,00	SANS 1200 GE - Retaining Fase wall		R
16,00	SANS 1200 PA - Fencing		R
SUB-TOTAL			R
VAT @ 15%			R
GRAND TOTAL			R