



Section 4 - Provisional Bills of Quantities



4.1 Bill No.1 - Preliminaries and General

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u> <u>PRELIMINARIES</u></p> <p><u>BUILDING AGREEMENT AND PRELIMINARIES</u></p> <p>The JBCC Principal Building Agreement (Edition 6.2 - May 2018) prepared by the Joint Building Contracts Committee shall be the applicable building agreement, amended as hereinafter described</p> <p>The JBCC Principal Building Agreement contract data form an integral part of this agreement</p> <p>The JBCC General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the JBCC Principal Building Agreement (Edition 6.2 - May 2018) shall be deemed to be incorporated in these bills of quantities, amended as hereinafter described</p> <p>The contractor is deemed to have referred to the abovementioned documents for the full intent and meaning of each clause</p> <p>The clauses in the abovementioned documents are hereinafter referred to by clause number and heading only</p> <p>Where any item is not relevant to this agreement such item is marked N/A signifying "not applicable"</p> <p>Where standard clauses or alternatives are not entirely applicable to this agreement such amendments, modifications, corrections or supplements as will apply are given under each relevant clause heading and such amendments, modifications, corrections or supplements shall take precedence notwithstanding anything to the contrary contained in the abovementioned documents</p> <p><u>PREAMBLES FOR TRADES</u></p>			
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User note

*The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors is designed to support and extend the abbreviated descriptions utilised in these bills of quantities by inter alia referring to SANS construction standards. **Where such preambles are not applicable** (eg where BS or Euro construction standards are applicable or the design consultants provide other preambles/specifications for insertion), users are to ensure that the abbreviated descriptions when read in conjunction with the Standard System of Measuring Building Work (seventh edition) for works within South Africa or the Standard Method of Measuring Building Work for Africa 2015 (first edition) for works elsewhere in Africa, represent the full description by extending the abbreviated bills of quantities descriptions and/or by inserting appropriate preambles or specifications*

Note that the text of the Standard System of Measuring Building Work (seventh edition) and that of the Standard Method of Measuring Building Work for Africa 2015 (first edition) is the same

The latest version of the General Preambles for Trades should be referred to should the General Preambles for Trades 2017 be revised in future

The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these **bills of quantities** and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained

Supplementary preambles and/or specifications are incorporated in these **bills of quantities** to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles

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The **contractor's** prices for all items throughout these **bills of quantities** shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications

STRUCTURE OF THIS PRELIMINARIES BILL

Section A : A recital of the headings of the individual clauses in the aforementioned **JBCC** Principal Building Agreement

Section B : A recital of the headings of the individual clauses in the aforementioned **JBCC** General Preliminaries

Section C : Any special clauses to meet the particular circumstances of the project

PRICING OF PRELIMINARIES

Should the **contractor** select Option A in the **contract data** for the adjustment of **preliminaries**, the amounts entered against the relevant items in these **preliminaries** are to be divided into one or more of the three categories provided namely fixed (F), value related (V) and time related (T)

SECTION A: PRINCIPAL BUILDING AGREEMENT

Interpretation (A1-A7)

1 Clause 1.0 - Definitions and interpretation

Pricing of bills of quantities

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The **contractor** is to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise stated, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting, labour, setting, fitting and fixing in position, cutting and waste (except where to be measured in accordance with the standard system of measurement), patterns, models and templates, plant, temporary works, returning of packaging, duties, taxes (other than Value Added Tax), imposts, establishment charges, overheads, profit and all other obligations arising out of this **agreement**. Value Added Tax (VAT) is to be separately stated on the summary page of these **bills of quantities**

Items left unpriced will be deemed to be covered in prices against other items throughout these **bills of quantities** and no claim for any extras arising out of the **contractor's** omission to price any item will be entertained

Prices for all **construction equipment**, temporary works, services and other items shall include for the supply, maintenance, operating cost and subsequent removal and making good as necessary

Abbreviated descriptions

The items in these **bills of quantities** utilise abbreviated descriptions. It is the intention that the abbreviated descriptions be fully described when read with the applicable measuring system and the relevant preambles and/or specifications. However, should the full intent and meaning of any description not be clear, the **contractor** shall, before submission of his tender, call for a written directive from the **principal agent**, failing which it shall be assumed that the **contractor** has allowed in his pricing for materials and workmanship in terms of international best practice

Legal status of contractor

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If the **contractor** constitutes a joint venture, consortium or other unincorporated grouping of two or more persons then:

1. These persons are deemed to be jointly and severally liable to the **employer** for the performance of this **agreement**
2. These persons shall notify the **employer** of their leader who has assigned authority to bind the **contractor** and each of these persons
3. The **contractor** shall not alter its composition or legal status without the prior written consent of the **employer**

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

2 **Clause 2.0 - Law, regulations and notices**

NHBRC levies

The **employer** shall allow for and pay any levies required by the National Home Builders Registration Council (NHBRC). The **contractor** warrants that he is registered and will maintain registration with the NHBRC for the duration of this **agreement** [2.1] - N/A

N/A

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T:.....

3 **Clause 3.0 - Offer and acceptance**

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4	<p>Clause 4.0 - Cession and assignment</p> <p>F:..... V:..... T:.....</p>	Item	
5	<p>Clause 5.0 - Documents</p> <p>Value Added Tax</p> <p>Provision is made in the summary page of these bills of quantities for the inclusion of Value Added Tax (VAT)</p> <p>Priced document as specification</p> <p>The priced document shall not be used as a specification of materials and goods or methods</p> <p>The principal agent shall decide which portion of the priced document may be used as a specification of materials and goods or methods, if any</p> <p>Electronic issue of drawings</p> <p>All drawings for this project will be issued either electronically or hard copy, depending on the preference by the architect/ consultants and the contractor and the contractor shall be deemed to have received such drawings on the date that such drawings have been dispatched electronically, or on the date reflected on the drawing transmittal document in the case of hard copy submission [5.6].</p> <p>F:..... V:..... T:.....</p>	Item	
6	<p>Clause 6.0 - Employer's agents</p> <p>Delegated authority</p>		
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The authority of the **principal agent** to issue **contract instructions** [17.1] and perform duties for specific aspects of the **works** is delegated to **agents** as per clause B 5.0 of the Contract Data [6.2]. This does not preclude the **principal agent** from issuing such **contract instructions**:

Note that the contract instructions hereinafter are selected from those listed in clause 17.1 of the JBCC PBA

1.1 Duties [6.2] :

The architect is responsible for the architectural design, functional design and quality inspection of the **works**

1.2 **Contract instructions** [6.2; 17.1] : The Principal Agent shall, in general, issue the instructions listed below, however, such authority may be delegated to the Architect from time to time as agreed by the Principal Agent, Architect and Employer.

- 1.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement
- 1.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**
- 1.2.3 The **site** [13.0]
- 1.2.4 Compliance with the **law**, regulations and bylaws [2.1]
- 1.2.5 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

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<p>1.2.6 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]</p> <p>1.2.7 Removal or re-execution of work</p> <p>1.2.8 Removal or substitution of any materials and goods</p> <p>1.2.9 Protection of the works</p> <p>1.2.10 Making good physical loss and repairing damage to the works [23.2.2]</p> <p>1.2.11 Rectification of defects [21.2]</p> <p>1.2.12 A list for practical completion specifying outstanding or defective work to be rectified to achieve practical completion, a list for completion and a list for final completion specifying outstanding or defective work to be rectified to achieve final completion</p> <p>1.2.13 Expenditure of budgetary allowances, prime cost amounts and provisional sums</p> <p>1.2.14 Appointment of a subcontractor [14.0; 15.0]</p> <p>1.2.15 Work by direct contractors [16.0]</p> <p>1.2.16 On suspension or termination, protection of the works, removal of construction equipment and surplus materials and goods [29.0]</p> <p>2. <u>Quantity surveyor</u></p>				
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2.1 Duties [6.2] :

The quantity surveyor is responsible for all measurements, valuations, financial assessments and all other quantity surveying and cost control functions of the **works**

2.2 **Contract instructions** [6.2; 17.1] :

2.2.1 No **contract instructions** delegated to the quantity surveyor

3. Civil and structural engineer

Note that the contract instructions hereinafter are selected from those listed in clause 17.1 of the JBCC PBA

3.1 Duties [6.2] :

The civil and structural engineer is responsible for all aspects of civil and structural engineering design and quality inspection of the **works**

3.2 **Contract instructions** [6.2; 17.1] :

3.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

3.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

3.2.3 The **site** [13.0]

3.2.4 Compliance with the **law**, regulations and bylaws [2.1]

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- 3.2.5 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**
- 3.2.6 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]
- 3.2.7 Removal or re-execution of work
- 3.2.8 Removal or substitution of any **materials and goods**
- 3.2.9 Protection of the **works**
- 3.2.10 Making good physical loss and repairing damage to the **works** [23.2.2]
- 3.2.11 Rectification of **defects** [21.2]
- 3.2.12 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**
- 3.2.13 Expenditure of **budgetary allowances, prime cost amounts** and **provisional sums where applicable**

4. Mechanical engineer

Note that the contract instructions hereinafter are selected from those listed in clause 17.1 of the JBCC PBA

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4.1 Duties [6.2] :

The mechanical engineer is responsible for all aspects of mechanical engineering design and quality inspection of the **works** and, where appointed by the **employer** for quantity surveying services in respect of the mechanical installations, for all measurements, valuations, financial assessments and all other quantity surveying and cost control functions

4.2 **Contract instructions** [6.2; 17.1] :

- 4.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement
- 4.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**
- 4.2.3 Compliance with the **law**, regulations and bylaws [2.1]
- 4.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**
- 4.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]
- 4.2.6 Removal or re-execution of work
- 4.2.7 Removal or substitution of any **materials and goods**
- 4.2.8 Protection of the **works**
- 4.2.9 Making good physical loss and repairing damage to the **works** [23.2.2]

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- 4.2.10 Rectification of **defects** [21.2]
- 4.2.11 A **list for practical completion** specifying outstanding or defective work to be rectified to achieve **practical completion**, a **list for completion** and a **list for final completion** specifying outstanding or defective work to be rectified to achieve **final completion**
- 4.2.12 Expenditure of **budgetary allowances, prime cost amounts** and **provisional sums**

5. Electrical engineer

Note that the contract instructions hereinafter are selected from those listed in clause 17.1 of the JBCC PBA

5.1 Duties [6.2] :

The electrical engineer is responsible for all aspects of electrical engineering design and quality inspection of the **works** and, where appointed by the **employer** for quantity surveying services in respect of the electrical installations, for all measurements, valuations, financial assessments and all other quantity surveying and cost control functions

5.2 **Contract instructions** [6.2; 17.1] :

- 5.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement
- 5.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**
- 5.2.3 Compliance with the **law**, regulations and bylaws [2.1]

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<p>5.2.4 Provision and testing of samples of materials and goods and/or of finishes and assemblies of elements of the works</p> <p>5.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]</p> <p>5.2.6 Removal or re-execution of work</p> <p>5.2.7 Removal or substitution of any materials and goods</p> <p>5.2.8 Protection of the works</p> <p>5.2.9 Making good physical loss and repairing damage to the works [23.2.2]</p> <p>5.2.10 Rectification of defects [21.2]</p> <p>5.2.11 A list for practical completion specifying outstanding or defective work to be rectified to achieve practical completion, a list for completion and a list for final completion specifying outstanding or defective work to be rectified to achieve final completion</p> <p>5.2.12 Expenditure of budgetary allowances, prime cost amounts and provisional sums</p> <p>6. <u>Wet services engineer - N/A</u></p> <p><i>Note that the contract instructions hereinafter are selected from those listed in clause 17.1 of the JBCC PBA</i></p> <p>6.1 Duties [6.2] :</p> <p>The wet services engineer is responsible for all aspects of wet services engineering design and quality inspection of the works</p>	
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<p>6.2 Contract instructions [6.2; 17.1] :</p> <p>6.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the agreement other than in the JBCC Principal Building Agreement</p> <p>6.2.2 Alteration to design, standards or quantity of the works provided that such contract instructions shall not substantially change the scope of the works</p> <p>6.2.3 Compliance with the law, regulations and bylaws [2.1]</p> <p>6.2.4 Provision and testing of samples of materials and goods and/or of finishes and assemblies of elements of the works</p> <p>6.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]</p> <p>6.2.6 Removal or re-execution of work</p> <p>6.2.7 Removal or substitution of any materials and goods</p> <p>6.2.8 Protection of the works</p> <p>6.2.9 Making good physical loss and repairing damage to the works [23.2.2]</p> <p>6.2.10 Rectification of defects [21.2]</p> <p>6.2.11 A list for practical completion specifying outstanding or defective work to be rectified to achieve practical completion, a list for completion and a list for final completion specifying outstanding or defective work to be rectified to achieve final completion</p> <p style="text-align: right;">Carried to Collection</p>	<p>R</p>
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6.2.12 Expenditure of **budgetary allowances, prime cost amounts** and **provisional sums**

7. Fire consultant - N/A

Note that the contract instructions hereinafter are selected from those listed in clause 17.1 of the JBCC PBA

7.1 Duties [6.2] :

The fire consultant is responsible for all aspects of rational fire design and quality inspection of the **works**

7.2 Contract instructions [6.2; 17.1] :

7.2.1 Rectification of discrepancies, errors in description or quantity or omission of items in the **agreement** other than in the **JBCC** Principal Building Agreement

7.2.2 Alteration to design, standards or quantity of the **works** provided that such **contract instructions** shall not substantially change the scope of the **works**

7.2.3 Compliance with the **law**, regulations and bylaws [2.1]

7.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**

7.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]

7.2.6 Removal or re-execution of work

7.2.7 Removal or substitution of any **materials and goods**

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<p>7.2.8 Protection of the works</p> <p>7.2.9 Making good physical loss and repairing damage to the works [23.2.2]</p> <p>7.2.10 Rectification of defects [21.2]</p> <p>7.2.11 A list for practical completion specifying outstanding or defective work to be rectified to achieve practical completion, a list for completion and a list for final completion specifying outstanding or defective work to be rectified to achieve final completion</p> <p>7.2.12 Expenditure of budgetary allowances, prime cost amounts and provisional sums</p> <p>8. <u>Health and safety consultant</u></p> <p>8.1 Duties [6.2] :</p> <p>The health and safety consultant is responsible for all aspects of health and safety of the works. Without derogating from the generality thereof, the health and safety consultant will perform the following specific functions and duties in respect of the health and safety aspects of the works. He shall:</p> <p>8.1.1 Act as the employer's agent in terms of the Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993 as amended</p> <p>8.1.2 Prepare and update the health and safety specification for the works</p> <p>8.1.3 Agree with the contractor the health and safety plan for the works</p> <p style="text-align: center;">Carried to Collection</p> <p>Section No. 1 Preliminaries Bill No. 1 Preliminaries and General Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>	<p>R</p>
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8.1.4 Carry out regular audits to ensure adherence to the safety plan and compliance with the act and regulations

8.1.5 Stop the execution of the **works** where the agreed specification or plan is not adhered to

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7 Clause 7.0 - Design responsibility

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

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Insurances and securities (A8-A11)

8 Clause 8.0 - **Works** risk

F:..... V:.....
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9 Clause 9.0 - Indemnities

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

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10 Clause 10.0 - Insurances

F:..... V:.....
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Item

11 Clause 11.0 - **Securities**

Guarantee for payment

The **employer** shall **NOT** provide to the **contractor** a **guarantee for payment** [11.5.1]. The **contractor** shall waive his lien or right of continuing possession of the **works** [11.10]

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Extension of waiver of lien

The **contractor** shall ensure that a waiver of lien is included in all subcontracts and that the **works** executed on the **site** are kept free of all liens and other encumbrances at all times [11.10]

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Execution (A12 - A17)

12 Clause 12.0 - Obligations of the **parties**

Office accommodation

The **contractor** shall provide, maintain and remove on **practical completion** air conditioned office accommodation with suitable tables and chairs for meetings to be held on the **site**. Such offices shall be kept clean and fit for use at all times [12.2.18]

Notice board

The **contractor** shall erect in a position approved by the **principal agent**, maintain and remove on **practical completion** a notice board recommended by the South African Institute of Architects and as approved by the **principal agent** listing the names and logos of the **employer**, the **contractor** and the professional consultants. No subcontractor or supplier notice boards may be erected unless permission is granted by the **principal agent** for such notice boards to be erected [12.2.18]

Statutory and other notices

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The **contractor** shall submit and/or comply with all statutory and other notices that may be required by any local or other authority in order not to cause any delay to the commencement of the **works** by the **contractor**. The **contractor** shall pay all deposits or fees in this regard

It is, however, specifically recorded that the **employer** shall be responsible for the timeous approval of building plans by any local or other authorities and the payment of any fees or charges related thereto

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13 Clause 13.0 - Setting out

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

14 Clause 14.0 - Nominated **subcontractors**

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

15 Clause 15.0 - Selected **subcontractors**

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

16 Clause 16.0 - **Direct contractors**

Attendance on direct contractors

In respect of **direct contractors** the **contractor** shall:

1. Designate an area for the **direct contractor** to establish a temporary office and workshop and storage of equipment and materials

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2.	Allow the use of personnel welfare facilities, where provided			
3.	Provide water, lighting and single phase electric power to a position within 50m of the place where the direct contract work is to be carried out, other than fuel or power for commissioning of any installation			
4.	Permit the direct contractor to use erected scaffolding, hoisting facilities, etc provided by the contractor , in common with others having the like right, while it remains erected on the site [16.1]			
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17	Clause 17.0 - Contract instructions Site instructions Instructions issued on site are to be recorded in a site instruction book which is to be supplied and maintained on site by the contractor			
	F:..... V:..... T:.....	Item		
18	Completion (A18 - A24) Clause 18.0 - Interim completion	N/A		
19	Clause 19.0 - Practical completion			
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20	Clause 20.0 - Completion in sections			
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21	<p>Clause 21.0 - Defects liability period and final completion</p> <p>F:..... V:..... T:.....</p>	Item			
22	<p>Clause 22.0 - Latent defects liability period</p> <p>F:..... V:..... T:.....</p>	Item			
23	<p>Clause 23.0 - Revision of the date for practical completion</p> <p>Substitution of materials and goods</p> <p>The removal or substitution of any materials and goods which do not conform to the specification or the contract drawings shall not constitute grounds for the extension of the construction period nor for the adjustment of the contract value [17.1.8; 23.1 & 2]</p> <p>F:..... V:..... T:.....</p>	Item			
24	<p>Clause 24.0 - Penalty for late or non-completion</p> <p>F:..... V:..... T:.....</p> <p>Payment (A25 - A27)</p>	Item			
25	<p>Clause 25.0 - Payment</p>				
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Prices submitted

Where prices are submitted by the **contractor** or **subcontractor** during the progress of the **works** in respect of **contract instructions** or in regard to a claim under the terms of this **agreement** and notwithstanding the fact that such prices may be used in an interim **payment certificate**, there is to be no presumption of acceptance. Should the **principal agent** wish to accept any such prices prior to the issue of the **certificate of final completion**, it shall be in writing

F:..... V:.....
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26 Clause 26.0 - Adjustment of the **contract value** and **final account**

Fluctuations in costs

All fluctuations in costs, with the exception of fluctuations in the rate of Value Added Tax, shall be for the account of the **contractor** [26.9.5]

Tenant installation/user requirements delayed

There is a possibility that certain works related to tenant installation/ user requirements may have to be delayed and may consequently not be executed prior to **practical completion**

Should the **contractor** be instructed to do so he shall execute this work under the conditions pertaining to this **agreement** on the basis that a separate amount for **preliminaries** appurtenant to this work (if applicable) is agreed to between the **contractor** and the **principal agent** and on condition that instruction to proceed with such work is given to him within a period of three (3) calendar months after the date of **practical completion** of the **works**

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The **employer** reserves the right to omit such work without compensation to the **contractor** for loss of profit or any other loss which the **contractor** may suffer as a result of such omission

Cost of claims

All costs incurred by the **contractor** in the preparation of claims shall be borne by the **contractor**. This provision shall not preclude an adjudicator or an arbitrator appointed in terms of this **agreement** [30.6 & 7] from making a determination on costs

Claims from subcontractors

The **contractor** shall review, assess and adjudicate any claims received by him from any **subcontractor** and thereafter submit same to the **principal agent** with a recommendation in order to assist the **principal agent** in adjudicating the claim [26.6]

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

27 Clause 27.0 - Recovery of expense and/or loss

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

Suspension and termination (A28 - A29)

28 Clause 28.0 - Suspension by the **contractor**

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

29 Clause 29.0 - Termination

F:..... V:.....
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30	<p><u>Dispute resolution (A30)</u></p> <p>Clause 30.0 - Dispute resolution</p> <p>F:..... V:..... T:.....</p>	Item	
31	<p><u>Agreement</u></p> <p>The required information of the parties and the amount of the contract sum shall be inserted in the agreement for signature of the agreement by the parties</p> <p>F:..... V:..... T:.....</p>	Item	
32	<p><u>Contract data</u></p> <p><u>User note</u></p> <p><i>Insert under the above heading, with suitable sub-headings, any amendments, modifications, corrections or supplements to the contract data</i></p> <p>Tenderer's selections</p> <p>Before submission of his tender the contractor is to complete the tenderer's selections in the contract data</p> <p>F:..... V:..... T:.....</p> <p><u>SECTION B: GENERAL PRELIMINARIES</u></p> <p><i>Should it be necessary to expand on any of the General Preliminaries clauses, the user should list the appropriate General Preliminary clause number and heading and insert the relevant provision under a suitable heading in bold as may be necessary</i></p>	Item	
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Definitions and interpretation (B1)

33 Clause 1.1 - Definitions
 F:..... V:.....
 T:.....

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34 Clause 1.2 - Interpretation
 F:..... V:.....
 T:.....

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Documents (B2)

35 Clause 2.1 - Checking of documents
 F:..... V:.....
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Item

36 Clause 2.2 - Provisional **bills of quantities**
 These **bills of quantities** are provisionally measured
 and all subsequent trades are **re-measurable**
 F:..... V:.....
 T:.....

Item

37 Clause 2.3 - Availability of **construction information**
 F:..... V:.....
 T:.....

Item

38 Clause 2.4 - Ordering of **materials and goods**
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	<u>Previous work and adjoining properties (B3)</u>			
39	Clause 3.1 - Previous work - dimensional accuracy F:..... V:..... T:.....	Item		
40	Clause 3.2 - Previous work - defects F:..... V:..... T:.....	Item		
41	Clause 3.3 - Inspection of adjoining properties F:..... V:..... T:.....	Item		
	<u>The site (B4)</u>			
42	Clause 4.1 - Handover of site in stages F:..... V:..... T:.....	Item		
43	Clause 4.2 - Enclosure of the works <i>It is not envisaged that additional special hoarding will be required, however, the contractor/ tenderer is to familiarise himself with the hoarding requirements prior to the submission of the tender as no additional claims for hoarding other than allowed in 4.2 above will be entertained</i> F:..... V:..... T:.....	Item		
44	Clause 4.3 - Geotechnical and other investigations F:..... V:..... T:.....	Item		
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45	Clause 4.4 - Encroachments F:..... V:..... T:.....	Item	
46	Clause 4.5 - Existing premises occupied F:..... V:..... T:.....	Item	
47	Clause 4.6 - Services - known F:..... V:..... T:.....	Item	
<u>Management of contract (B5)</u>			
48	Clause 5.1 - Management of the works F:..... V:..... T:.....	Item	
49	Clause 5.2 - Progress meetings F:..... V:..... T:.....	Item	
50	Clause 5.3 - Technical meetings F:..... V:..... T:.....	Item	
<u>Samples, shop drawings and manufacturer's instructions (B6)</u>			
51	Clause 6.1 - Samples of materials F:..... V:..... T:.....	Item	
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52	Clause 6.2 - Workmanship samples F:..... V:..... T:.....	Item	
53	Clause 6.3 - Shop drawings F:..... V:..... T:.....	Item	
54	Clause 6.4 - Compliance with manufacturer's instructions F:..... V:..... T:.....	Item	
<u>Deposits and fees (B7)</u>			
55	Clause 7.1 - Deposits and fees F:..... V:..... T:.....	Item	
<u>Temporary services (B8)</u>			
56	Clause 8.1 - Water F:..... V:..... T:.....	Item	
57	Clause 8.2 - Electricity F:..... V:..... T:.....	Item	
58	Clause 8.3 - Ablution and welfare facilities F:..... V:..... T:.....	Item	
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59	<p>Clause 8.4 - Communication facilities</p> <p>F:..... V:..... T:.....</p> <p><u>Prime cost amounts (B9)</u></p>	Item			
60	<p>Clause 9.1 - Responsibility for prime cost amounts</p> <p><i>Where details of materials for which prime cost amounts are to be allowed <u>are</u> readily available, the quantity surveyor may elect to insert the relevant prime cost amounts in measured items, which measured items shall contain sufficient detail for the contractor to price for fixing and installation, waste, etc</i></p> <p>F:..... V:..... T:.....</p> <p><u>Attendance on subcontractors (B10)</u></p>	Item			
61	<p>Clause 10.1 - General attendance</p> <p><i>General attendance is defined as being the duties of the contractor in terms of clause 12.2 of the JBCC n/s subcontract agreement</i></p> <p>F:..... V:..... T:.....</p>	Item			
62	<p>Clause 10.2 - Special attendance</p> <p><i>The contractor/ tenderer is to allow for the extended use of scaffolding or other hoisting equipment for as long as n/s subcontractors or other subcontractors might require usage thereof, at no additional cost to the employer</i></p> <p>F:..... V:..... T:.....</p>	Item			
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	General (B11)			
63	Clause 11.1 - Protection of the works F:..... V:..... T:.....	Item		
64	Clause 11.2 - Protection/isolation of existing works and works occupied in sections F:..... V:..... T:.....	Item		
65	Clause 11.3 - Security of the works F:..... V:..... T:.....	Item		
66	Clause 11.4 - Notice before covering work F:..... V:..... T:.....	Item		
67	Clause 11.5 - Disturbance Disturbance All work is to be carried out in such a manner as to cause no unacceptable or unreasonable dust, noise, vibrations, nuisance, inconvenience, annoyance and the like to the public, others, other properties and traffic in so far as they exceed the permissible limitations set by government legislation or by the local authority. Any delays, stoppages and the like arising from or in order to comply with the above will not constitute grounds for an adjustment to the construction period or contract value whatsoever F:..... V:..... T:.....	Item		
68	Clause 11.6 - Environmental disturbance			
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Controlling all forms of pollution

The **contractor** shall be responsible for and take all precautions in controlling by whatever means necessary all forms of pollution emanating from the **site** during the **construction period** due inter alia to noise, artificial light, wind-blown sand, dust, deposits of mud, etc

The **contractor** is to ensure that all roads which border the **site** and are used by the **contractor** during the execution of the **works** are kept clean and free of any dirt or debris caused by the execution of the **works**

Environmental management plan

The **employer** has prepared an environmental management plan (EMP) in this tender. The **contractor** shall price opposite this item for compliance with all the requirements of such EMP

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

69 Clause 11.7 - **Works** cleaning and clearing

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

70 Clause 11.8 - Vermin

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

71 Clause 11.9 - Overhand work

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

72 Clause 11.10 - Tenant installations

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73 Clause 11.11 - Advertising
 F:..... V:.....
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SECTION C: SPECIFIC PRELIMINARIES

74 Warranties for materials and workmanship

Where warranties for materials and/or workmanship are called for, the **contractor** shall obtain a written warranty, addressed to the **employer**, from the entity supplying the materials and/or executing the work and shall deliver same to the **principal agent** on **final completion** of the contract

The warranty shall state that workmanship, materials and installation are warranted for a specific period from the date of **practical completion** and that any **defects** that may arise during the specified period shall be made good at the expense of the entity supplying the materials and/or doing the work, upon written **notice** to do so

The warranty will not be enforced if the work is damaged by **defects** in the execution of the **works**, in which case the responsibility for replacement shall rest entirely with the **contractor**

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

75 Overtime

Should overtime be required to be worked for any reason whatsoever, the cost of such overtime is to be borne by the **contractor** unless the **principal agent** has specifically authorised, prior to execution thereof, that costs for such overtime are to be borne by the **employer**

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

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76 Cooperation of the **contractor** for cost management

It is specifically agreed that the **contractor** accepts the obligation of assisting the **principal agent** in implementing proper cost management. The **contractor** will be advised by the **principal agent** of all cost management procedures which will be implemented to ensure that the **contract value** does not exceed the budget

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

Item

77 Overloading

The **contractor** shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the **works** or temporary works eg scaffolding, etc. The **contractor** shall submit details of his proposed loading, storage, plant erection, etc to the **principal agent** for approval prior to proceeding with such loading, storing or erecting and shall comply with and pay for the **principal agent's** requirements in connection with the provision of temporary support work, etc. Any damage caused to the **works** by overloading shall be made good by the **contractor** at his sole expense

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

Item

78 Propping of floors below

The **contractor** is advised that propping of floors below may be required if he wishes to use any areas of completed suspended reinforced concrete slabs for vehicle access, storage of **materials and goods** and location of plant, scaffolding, etc. The location of these areas and any necessary propping shall be approved by the **principal agent** and the cost thereof shall be borne by the **contractor**

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

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79 Testing of flat roof waterproofing for watertightness

Flat roof waterproof areas shall be flooded and kept "ponded" for at least forty eight (48) hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing

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

80 Health and safety

Health and safety

Without limiting the generality of the provisions of clause 2.0, the **contractor's** attention is drawn to the provisions of the Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993 as amended. It is specifically stated that the **employer** shall prepare a documented health and safety specification for the **works** (a copy of the relevant specification has been annexed to this tender) and that 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** shall price opposite this item for compliance with the act and the regulations and the provisions of the aforementioned health and safety specification [2.1]

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The **contractor** shall:

1. Comply with the health and safety specification for the **works**
2. Prepare and agree with the health and safety consultant the health and safety plan for the **works**
3. Cooperate with the health and safety consultant in all respects
4. Manage the compliance of all subcontractors with the regulations and with the health and safety plan and specification
5. Conform to the conditions contained in the **employer's** health and safety specification

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

81 Green star building certification

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

82 Broad based black economic empowerment (BBBEE)

Tenders submitted will be evaluated taking into account their empowerment rating

The **employer** will be monitoring the broad based black economic empowerment (BBBEE) status of the **contractor** throughout the execution of the **works**

The **contractor** is to submit to the **principal agent** on an annual basis a schedule of spend, split into vendors engaged as **subcontractors** and suppliers indicating their BBBEE rating including proof of the said rating

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

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83 Advertising rights

The **employer** may elect to contract with advertising agencies for the erection of advertising hoardings, banners, wraps or the like for the duration of the contract. The **contractor** shall not prevent such an arrangement and will assist in the facilitation of same. The position and type of advertising structure to be agreed with the **principal agent** so as not to hinder the **contractor** in meeting his obligations under this **agreement**

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

Item

84 Confidentiality

The **contractor** undertakes to maintain in confidence any and all information regarding this project and shall obtain appropriate similar undertakings from all **subcontractors** and suppliers. Such information shall not be used in any way except in connection with the execution of the **works**

No information regarding this project shall be published or disclosed without the prior written consent of the **employer**

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

Item

85 Media releases

All rights of publication of articles in the media, together with any advertising relating thereto or in any way connected with this project, shall vest with the **employer**

The **contractor** together with his **subcontractors** shall not, without the prior written consent of the **employer**, cause any statement or advertisement connected with this project to be printed, screened or aired by the media

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

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Category : Value R.....

Category : Time R.....

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4.2 Bill No.2 - Building Works

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u></p> <p><u>ALTERATIONS</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>View site</u></p> <p>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</p> <p><u>Explosives</u></p> <p>No explosives whatsoever may be used for demolition purposes unless otherwise stated</p>			
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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

Doors, fanlights, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before refixing including taking off, easing and rehangng, cramping up, re-wedging as required and making good cramps, dowels, etc, and easing, oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately

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 taking out and removing sanitary fittings shall include the removal of the necessary fitting and making good floor/wall finishes to match existing

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	<p>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</p> <p>Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary</p> <p>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)</p>				
	<u>REMOVAL OF EXISTING WORK</u>				
	<u>Breaking up and removing unreinforced concrete</u>				
1	Steps and ramps	m3	1		
	<u>Breaking down and removing brickwork etc</u>				
2	Half brick walls	m2	26		
	<u>Taking out and removing doors, windows, etc from brickwork to be demolished</u>				
3	Timber single door and frame not exceeding 2,5m ²	No	3		
	<u>Taking out and removing doors, windows, etc, including thresholds, sills, etc (building up openings and making good finishes elsewhere)</u>				
4	Glazed steel window not exceeding 2,5m ²	No	5		
	<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>				
5	Gypsum plasterboard ceilings, including cornices, timber bandering, etc	m2	64		
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6	Insulation	m2	64		
	<u>Taking out and removing sundry joinery work, fittings, etc</u>				
7	Blinds size 1200mm x 2200mm high	No	3		
8	Meranti skirtings	m	169		
9	Timber floor cupboard 1500 x 600 x 900mm high	No	1		
10	Timber floor cupboard 10300 x 600 x 900mm high	No	1		
	<u>Taking up and removing wood block floor coverings, vinyl floor coverings, carpets, etc and preparing screeds for new floor coverings</u>				
11	Vinyl floor tiles	m2	254		
12	Carpet floor covering	m2	43		
	<u>Hacking up/off and removing ceramic tiles including removing mortar bed or adhesive from concrete or brickwork and preparing surfaces for new screed, plaster, tile finish, etc</u>				
13	Ceramic floor tiles	m2	20		
	<u>Hacking up/off and removing granolithic screeds, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc</u>				
14	25mm Screed from floors (Proposed HIP machine room)	m2	172		
15	25mm Screed from floors (allowance for all other screeds, to be guided by Architect during construction)	m2	145		
16	Plaster to soffits of slabs	m2	10		
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	<u>Hacking up/off and removing ceramic tiles including removing mortar bed or adhesive from concrete or brickwork and preparing surfaces for new screed, plaster, tile finish, etc</u>			
17	Tiles to walls	m2	42	
	<u>Taking out and removing ironmongery</u>			
18	Door lock	No	14	
19	Door stops	No	17	
	<u>Taking out and removing piping, sanitary fittings, etc, including cutting off as necessary, disconnecting piping from fittings and making good floor and wall finishes (making good tiling and paintwork elsewhere)</u>			
20	150L geyser	No	1	
21	Elbow taps	No	2	
22	Toilet roll holder	No	2	
23	Sanitary bin	No	2	
24	Paper towel dispenser	No	2	
25	Wash hand basin including plumbing complete	No	2	
26	Single kitchen sink including plumbing complete	No	2	
27	WC including plumbing complete	No	2	
28	Soap dispenser	No	2	
	<u>Taking out/off and removing glass and mirrors</u>			
29	Mirror	No	3	
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	<u>Taking out and removing existing light fittings including all accessories and making good any damages caused to existing ceiling (installation of new light fittings elsewhere measured)</u>				
30	Suspended fluorescent light fittings	No	24		
	<u>BUILDING UP OPENINGS</u>				
	<u>Brickwork in NFP bricks in class II mortar in building up openings, including bonding new to existing and making good cement plaster on both sides (making good paintwork elsewhere)</u>				
31	One brick walls	m2	9		
	<u>Sundries</u>				
32	Cutting toothings and bonding new brickwork to existing face brickwork	m2	27		
	<u>PREPARATORY WORK TO EXISTING SURFACES</u>				
33	Strip and clean down existing timber doors, etc to receive new paint	m2	223		
34	Chip away existing plaster including preparing existing plaster to receive wall tiles	m2	5		
	<u>MAKING GOOD OF FINISHES, ETC</u>				
	<u>Making good gypsum plasterboard ceilings and timber brandering</u>				
35	Plasterboard ceilings in patches	m2	37		
	<u>Making good internal cement plaster</u>				
36	Walls in patches	m2	126		
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37	Walls where half brick walls removed	m2	4		
38	Concrete ceilings in patches	m2	24		
	<u>OPENINGS THROUGH EXISTING WALLS ETC</u>				
	<u>Breaking out for and forming openings through brick walls for new doors and frames, including prestressed concrete lintels, making good cement plaster on both sides and into reveals and with 20 MPa concrete thresholds with steel trowelled finish (new doors and frames and making good paintwork elsewhere)</u>				
39	Opening for door with steel frame 813 x 2032mm high overall through one brick wall	No	1		
	<u>Breaking out for and forming plain openings through brick walls, including prestressed concrete lintels, making good cement plaster on both sides and into reveals and with 20 MPa concrete thresholds with steel trowelled finish (making good paintwork elsewhere)</u>				
40	Opening 1800 x 1200mm high through one brick wall	No	1		
	<u>Allowance for opening locked doors complete</u>				
41	Opening 5480 x 5790mm high double door	No	2		
42	Opening 813 x 2032mm high single door	No	2		
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	<p><u>BILL NO. 1</u></p> <p><u>EARTHWORKS</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Nature of ground</u></p> <p><u>The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "hard rock" or "soft rock".</u></p> <p><u>Excavation</u></p> <p><u>The prices for all excavation are to include for excavating in earth as described and for trimming sides levelling, stepping, grading, shaping and consolidating the beds of excavations. Where trenches needs to be stepped the steppings shall be the thickness specified for the concrete footings but shall be adjusted downwards to conform with an exact number of brick courses where necessary. Any excavations taken out too deep shall be made up to the correct level with 20MPa concrete at the contractor's expense. Backfilling and ramming is not acceptable.</u></p>			
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	Section No. 2 Building Works Bill No. 2 Earthworks (Provisional) Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

Excavation for working space in rock

Excavation for working space in rock will be measured in cubic metres to the extent executed and given as "extra over" bulk excavation or trench and hole excavation as the case may be

Carting away of excavated material

Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site

Filling

Prices for filling and backfilling shall include for all selection and any multiple handling of material

EXCAVATION, FILLING, ETC OTHER THAN BULK

EXCAVATIONS ETC

Excavation in earth or controlled gravel filling not exceeding 2m deep

1	Trenches	m3	6.60	
2	Holes	m3	9.00	

WORKING SPACE EXCAVATIONS

Extra over trench and hole excavations in earth for excavation in

3	Soft rock	m3	1.56	
4	Hard rock	m3	1.56	

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	<u>Extra over all excavations for carting away</u>				
5	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	8.00		
	<u>Risk of collapse of excavations</u>				
6	Sides of trench and hole excavations not exceeding 1,5m deep	m2	52.60		
	<u>Keeping excavations free of water</u>				
7	Keeping excavations free of water			Item	
	<u>FILLING ETC</u>				
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density</u>				
8	Backfilling to trenches, holes, etc	m3	9.24		
	<u>Filling of natural gravel material G5 in accordance with SABS 1200 supplied by the contractor compacted in layers not exceeding 150mm to 98% Mod AASHTO density</u>				
9	Under surface beds, etc	m3	12.83		
	<u>Filling of gravel-soil material G7 in accordance with SABS 1200 DM supplied by the contractor compacted in layers not exceeding 150mm to 93% Mod AASHTO density</u>				
10	G7 material under floors in 150mm layers compacted to 95% Mod AASHTO	m3	12.83		
	<u>Compaction of surfaces</u>				
11	Compaction to bottom of foundations	m2	15.60		
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12	Compaction of natural or excavated ground surface under floors etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m2	86		
	<u>SOIL POISONING</u>				
	<u>Soil insecticide</u>				
13	Under surface beds	m2	74.80		
14	To bottoms and sides of trenches etc	m2	61.60		
	<u>SUNDRIES</u>				
	<u>GEOTECHNICAL INVESTIGATION</u>				
	The following items have been identified by the civil engineer and are to be priced by the tenderer as a complete geotechnical investigation. In instances where items have been quantified as an item or sum, tenderers are to familiarise themselves with the site, procedure and general scope involved with such investigations, as no additional claims will be entertained during construction.				
	All tests, with exception to the DCP tests, have been quantified per test pit, regardless of the number of tests per pit required. Tenderers are to price as such.				
15	Test pits 3m deep or to point of refusal excavated using a TLB	No	2		
16	DCP test	No	3		
17	Soil Profiling of and classification of the material found in the test pits	No	2		
18	Groundwater table level in each test pit	No	2		
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19	Grading analysis of different soil layer in each test pit	No	2	
20	Atterberg Limit analysis of different soil layer in each test pit	No	2	
21	CBR analysis of different soil layer found in each test pit(MDD, OMC, CBR)	No	2	
22	Site classification and the suitability of materials, road building material and pipe bedding		Item	
23	Estimated safe allowable bearing capacity recommendation taking into account the proposed foundation sizes		Item	
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 2</u></p> <p><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Cost of tests</u></p> <p><u>The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the architect. The testing shall be undertaken by an independent firm or institution nominated by the contractor and to the approval of the architect. (Test cubes are measured separately)</u></p>			
	Carried to Collection		R	
	<p>Section No. 2 Building Works Bill No. 3 Concrete, Formwork and Reinforcement Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

Formwork

Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use. The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.

Formwork to soffits of (solid) slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described. Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks"

All formwork must be designed by the Contractor and the Contractor must submit fully detailed and dimensioned working drawings to the Principal Agent for checking purposes. Acceptance of the proposal shall not relieve the Contractor of the responsibility for the safety and stability of the formwork nor for loss or damage arising out of defective design, materials and/or workmanship.

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

15MPa/20mm concrete

1	Surface blinding under footings and bases	m3	0.78	
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<u>REINFORCED CONCRETE</u>			
<u>30MPa/19mm concrete</u>			
2	Surface beds on waterproofing	m3	11.94
3	Strip footings	m3	1.98
4	Bases	m3	3.60
5	Bund walls, etc	m3	0.71
6	Ramps	m3	2.68
<u>TEST CUBES</u>			
7	Making and testing 150 x 150 x 150mm concrete strength test cubes (Provisional)	No	6.00
<u>CONCRETE SUNDRIES</u>			
<u>Finishing top surfaces of concrete smooth with wood float finish</u>			
8	Surface beds, slabs, etc	m2	5.00
<u>Finishing top surfaces of concrete smooth with a power float</u>			
9	Surface beds, slabs, etc	m2	84.73
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>			
<u>Smooth formwork to sides</u>			
10	Edges not exceeding 300mm high	m	135.00
11	Sides of ramps, etc	m2	3
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MOVEMENT JOINTS ETC

"Sikaflex Pro 2HP" or similar approved high quality highplasticity polysulphide/polyurethane sealing compound including backing cord, bond breaker, primer etc

12	Silicon sealant	m	118.20
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REINFORCEMENT (PROVISIONAL)

Fabric reinforcement

13	Ref 395 fabric reinforcement in concrete surface beds, slabs, etc	m2	99.87
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Mild steel and high tensile steel reinforcing to structural concrete work.

14	Various diameter bars.	t	0.575
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 3</u></p> <p><u>MASONRY</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>BRICKWORK</u></p> <p><u>Sizes in descriptions</u></p> <p><u>Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick</u></p> <p><u>Linings to concrete</u></p> <p><u>Descriptions of linings to concrete, unless otherwise described, shall be deemed to include wire ties</u></p> <p><u>Hollow walls etc</u></p> <p><u>Descriptions of hollow walls shall be deemed to include wire ties and leaving every fifth perpend of the bottom course of the external skin open as a weep hole</u></p>			
	Carried to Collection			R
	<p>Section No. 2 Building Works Bill No. 4 Masonry Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

Reinforced brick lintels

Lintels shall bear at least 160mm onto adjacent walling. Where such bearing cannot be obtained due to the proximity of adjacent openings the lintel shall be continuous

Face bricks

Bricks shall be ordered timeously to obtain uniformity in size and colour

Pointing

Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc

SAMPLES

Samples of all masonry building units, shall consist of a minimum of 6 units

PAVINGS

Quarry tiles, precast concrete, cement, terrazzo and similar tiles

Tiles shall be of approved manufacture, well burnt or cured, and uniform and true in size, shape and colour

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Preparation of concrete floor beds, slabs, etc for pavings

Concrete surfaces shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. Surfaces shall then be wetted and kept damp for at least six hours before slushing with 1:2 cement/sand and while still wet, pavings, etc. shall be laid on a 1:4 cement mortar bed not exceeding 25mm thick. Sand shall be clean, sharp river sand

Jointing of pavings

Pavings, etc, shall, except for crazy paving, be laid with continuous joints in both directions

FOUNDATIONS

Brickwork of clay bricks (14 MPa nominal compressive strength) in class 1 mortar

1	One brick walls	m2	11.00		
2	Piers	m3	1		

SUPERSTRUCTURE

Brickwork of NFP bricks in class II mortar

3	Half brick walls	m2	44.98		
4	One brick walls	m2	26.00		
5	One brick walls in beamfilling	m2	2.78		
6	Piers	m3	1		

FACE BRICKWORK

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	<u>FBS Satin Grey (Platinum) face bricks pointed with recessed horizontal and vertical joints</u>			
7	Extra over brickwork for face brickwork	m2	9.00	
	<u>BRICKWORK SUNDRIES</u>			
	<u>Brickwork reinforcement</u>			
8	75mm Wide reinforcement built in horizontally	m	169.74	
9	150mm Wide reinforcement built in horizontally	m	247.64	
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 4</u></p> <p><u>WATERPROOFING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Waterproofing</u></p> <p><u>Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee by an approved applicator. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs</u></p> <p><u>DAMPPROOFING OF WALLS AND FLOORS</u></p> <p><u>One layer of 250 micron sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u></p>			
1	Under surface beds	m2	85.53	
	<p><u>One layer of 375 micron "Consol Plastics Brikgrip DPC" embossed damp proof course</u></p>			
2	In walls	m2	14.28	
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	<p>Section No. 2 Building Works Bill No. 5 Waterproofing Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

	<u>Primer and two coats heavy duty bitumen emulsion waterproofing coating</u>				
3	On brick walls	m2	50		
	<u>WATERSTOPS, SEALING STRIPS, JOINT SEALANTS, ETC</u>				
	<u>Two-part grey polysulphide sealing compound, including backing cord, bond breaker, primer, etc</u>				
4	6 x 10mm Around doors	m	124.58		
5	6 x 10mm Around windows	m	333.88		
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	Section No. 2 Building Works Bill No. 5 Waterproofing Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

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Waterproofing

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	<p><u>BILL NO. 6</u></p> <p><u>CARPENTRY AND JOINERY</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Joinery</u></p> <p><u>Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc</u></p> <p><u>Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes</u></p> <p><u>Fixing</u></p> <p><u>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete</u></p> <p><u>Decorative laminate finish</u></p> <p><u>Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish</u></p> <p><u>DOORS, ETC</u></p>			
	Carried to Collection		R	
	<p>Section No. 2 Building Works Bill No. 6 Carpentry and Joinery Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

	<u>Solid flush doors with veneer, hung to steel frames</u>				
	<u>Semi-solid flush doors with veneer, hung to steel frames</u>				
1	40mm Door 813 x 2032mm high	No	3.00		
2	Door size 900 x 2032mm	No	1		
	<u>FIRE ESCAPE DOORS</u>				
	<u>Class B fire door leaf including treated with Woodguard "Ruboult"</u>				
3	Door size 813 x 2032mm	No			
	<u>CUPBOARDS TO KITCHENS, BEDROOMS, ETC</u>				
	<u>SUPPLEMENTARY PREAMBLES</u>				
	<u>General</u>				
	The following cupboard fittings are given as complete units i.e. the components of the units have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, assembling, housing, notching, glueing, blocking, planting-on and screwing with countersunk screws, edge strips, thermosetting plastic laminate, glass, ironmongery, metalwork, paint or varnish finishes, etc				
	Prices are to include for all necessary filler pieces against walls etc				
	<u>References</u>				
	References given in descriptions refer to the respective types of fittings detailed on the architect's drawings annexed to these bills of quantities for tender purposes				
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	<u>32mm Rustenburg granite worktops and counters with polished finish mechanically fixed including any necessary mortar bedding, etc</u>				
4	600mm Wide counter top with two polished bullnosed edges	m	15		
5	1000mm Wide counter top with two polished bullnosed edges	m	2		
<p style="text-align: center;">Carried to Collection</p>					
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 7</u></p> <p><u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Descriptions</u></p> <p><u>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete</u></p> <p><u>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted", the bolts are measured elsewhere</u></p> <p><u>Proprietary suspended ceilings</u></p> <p><u>Electric light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance shall be made accordingly for their support, inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing shall take cognisance thereof)</u></p>			
	Carried to Collection		R	
	<p>Section No. 2 Building Works Bill No. 7 Ceilings, Partitions and Access Flooring Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

<u>Bulkheads</u>				
<u>Bulkheads are those areas of the ceiling which occur at a level or plane differing from the general ceiling level or plane. Bulkheads will only be measured as such when the horizontal or vertical dimensions do not exceed 1 200mm. Where the vertical or horizontal dimensions exceed 1 200mm the horizontal and vertical ceilings are included in the general ceiling measurements.</u>				
<u>CEILING TIMBERS, BEADS, INSULATION, ETC</u>				
<u>"Isotherm" polyester high density 7-10kg/m3 thermbonded insulation blanket</u>				
1	150mm Thick insulation fitted above ceilings	m2	64	
<u>NAILED-UP CEILINGS</u>				
<u>SUPPLEMENTARY PREAMBLES</u>				
<u>Openings</u>				
Prices for openings for light fittings, ventilation grilles, air conditioning diffusers, etc are to include for any necessary additional support, trimming around, etc.				
All prices for nailed-up ceilings to include for 1x coat 2.5mm thick Rhinolite or similar approved.				
<u>6.4mm Thick "Gyproc Rhinoboard or similar approved with rhinotape and all screw heads to be stopped and sanded level when dry including 1x coat 2.5mm thick Rhinolite or similar approved coating.</u>				
2	Ceilings including 38 x 38mm SA pine sawn softwood bandering at 760mm centres and cross bandering at 760mm centres	m2	64	
3	Extra over ceiling for 283mm2 opening for 600mm diameter round air conditioning dummy diffuser	No	9	
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4	Extra over ceiling for 600 x 600mm trap door of 38 x 114mm wrought softwood rebated framing with one cross brander, covered with ceiling board and fitted flush in opening, including necessary trimmers around <u>"Gyproc Rhinolite Quickcornice" cornices</u>	No	1		
5	Quickcornice No10 of similar approved covered cornices nailed at max 300mm centres	m	49		
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Item No		Quantity	Rate	Amount
	<p><u>BILL NO 9</u></p> <p><u>FLOOR COVERINGS, PLASTIC LININGS, ETC</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>NOTES: Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.</u></p> <p><u>FLOOR COVERINGS</u></p> <p><u>2mm thick Anti-static/ static dissipative vinyl floor sheeting code: SD 5110 laid on and including new self-levelling screed with screedbinder, and all other requisite consumables, welded joints, Polyflor approved adhesive, etc. as per the manufacturer's specification (Polyflor) - Floor finish FC-01</u></p>			
1	On floors	m2	101	
	<p><u>2mm thick Anti-static/ static dissipative covered vinyl floor skirting code: SD 5110 250mm wide including cove support and edge cap installed according to the manufacturer's specification (Polyflor) - Floor finish FC-01</u></p>			
2	Skirting	m	133	
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	<p>Section No. 2 Building Works Bill No. 8 Floor Coverings Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

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	<p><u>BILL NO. 8</u></p> <p><u>IRONMONGERY</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Proprietary items</u></p> <p>Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items</p> <p>Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc clarifying the features of the products/articles offered</p> <p>On request returnable samples are to be provided to the principal agent for consideration</p>			
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	<p>Section No. 2 Building Works Bill No. 9 Ironmongery Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

Finishes to ironmongery

Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list:

- BS Satin bronze lacquered
- CH Chromium plated
- SC Satin chromium plated
- SE Silver enamelled
- GE Grey enamelled
- AN Anodised natural
- AS Anodised silver
- AB Anodised bronze
- AG Anodised gold
- ABL Anodised black
- PB Polished brass
- PL Polished and lacquered
- PT Epoxy coated
- SD Sanded

NOTES: Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.

HINGES, BOLTS, ETC

"Union" or equal approved

1 Union rising butt hinges left hand/ right hand (X-SS194RSL3-SS)

No

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LOCKS

Keys

Unless otherwise described locks shall have two keys each

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	<u>"Union" or equal approved</u>				
2	3 Lever lockset	No	5		
3	2 Lever lockset	No	13		
4	Disabled toilet	No	1		
	<u>HANDLES</u>				
	<u>"Ironmongery Warehouse" or equal approved</u>				
5	"Calini - IW1051" lever handle on rose, stainless steel	Pairs	13		
6	"Calini - IWSBP4CYLSS" 170mm square cylinder back plate	Pairs	5		
7	Disabled	No	1		
	<u>PUSH PLATES AND KICK PLATES</u>				
	<u>"Ironmongery Warehouse" or equal approved</u>				
8	"IWKP3090/1.2SS" Kick plate	No	4		
9	Push plate	No	4		
	<u>DOOR CLOSERS</u>				
10	"TS68" Dorma EN2-4 Regular arm door closer	No	7		
	<u>SUNDRIES</u>				
	<u>"Ironmongery Warehouse" or equal approved</u>				
11	Rubber floor mounted door stop	No	19		
	<u>BATHROOM FITTINGS</u>				
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	<u>"Hygiene Systems" or equal approved</u>				
12	Stainless steel sanitary bin, wall mounted, complete (Code: Excel Femcare)	No	3		
	<u>"Eiger Hygiene" or equal approved</u>				
13	Eiger Hygiene 1L Stainless Steel Wall Mounted Auto Sanitizer Dispenser	No	2		
	<u>"Franke" or equal approved</u>				
14	"Rodan" double toilet roll holder with spindle system for wall mounting, stainless steel, surface satin finished, material thickness 0.8 mm, folded front cover, cylinder lock with Franke standard key, for 2 rolls with max. diameter 120 mm, second roll will be released after consumption of first roll, with spindles, reserve roll not visible, includes stainless steel screws and dowels. Size 144 x 301 x 138 mm (W x H x D), Code: RODX672 144 X 138 X 301 359987	No	3		
15	"Rodan" soap dispenser for wall mounting, stainless steel, surface satin finished, material thickness 0.8 mm, folded front cover, cylinder lock with Franke standard key, suitable for liquid soaps and lotions, 1 liter soap tank, push button on front, includes stainless steel screws and dowels. Dimensions 200 x 140 x 132 mm (WxHxD).	No	5		
16	"Rodan" stainless steel paper roll dispenser complete with wall mounted bin plugged and screwed to wall with stainless steel screws (Code: RODX630)	No	5		
17	750x260x32mm Diameter cistern and flush valve backrail manufactured from 18/10 stainless steel, satin finish to prevent slipping including screws and dowels. Code: CNTXBR 750X260MM 35992	No	1		
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18	618x95x256mmx31.8mm Diameter angle bar grabrail manufactured from 18/10 stainless steel, satin finish to prevent slipping including screws and dowels. Code: CNTX700A 618 X 95 X 256MM 35877	No	1	
<u>BLINDS (PROVISIONAL)</u>				
<u>Hunter Douglas SA supplying Luxaflex or equal approved manually operated 127mm 'Solar Bloc Grey' (code:240100), privacy and light control fabric vertical blinds complete with standard stacking flame retardant slats ,recess fixed to walls Contact no: (011) 624-1222/3/4</u>				
19	1200 x 2200mm high overall	No	3	
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	<p><u>BILL NO. 9</u></p> <p><u>STRUCTURAL STEELWORK</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Descriptions</u></p> <p>Descriptions of bolts shall be deemed to include nuts and washers</p> <p>Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete</p> <p>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete</p> <p><u>Supply, Fabrication, Delivery and erection of galvanised steelwork Grade 300WA to SABS 1431, including fabrication, shop detail drawings, cleats, base plates and end plates, cap plates, packs, stiffeners, gussets and the like, of welded and bolted sections.</u></p> <p><u>HOT DIP GALVANISED STRUCTURAL STEEL</u></p>			
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	<p>Section No. 2 Building Works Bill No. 10 Structural Steel Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

<u>Welded columns, beams, supports in single lengths with flat base, cap, bearer and connection plates, bolted to concrete or brick work</u>				
1	203x133x25 I Section, complete with all fasteners (i.e Gussut plate) and stop end plates, as detailed on the drawing AFR1145-STR-DET-001	t	0.29	
2	200x75 Parallel Flange Channels, complete with all fasteners and stop end plates, as detailed on the drawing AFR1145-STR-DET-001	t	0.38	
3	180x70 Parallel Flange Channels, complete with all fasteners and stop end plates, as detailed on the drawing AFR1145-STR-DET-001	t	0.57	
4	75x75x4.5 Square Hollow Sections, complete with all fasteners and stop end plates, as detailed on the drawing AFR1145-STR-DET-001	t	0.09	
5	60x60x6 Equal Leg Angles, complete, as detailed on the drawing AFR1145-STR-DET-001	t	0.10	
6	4.5mm thick, Vastrap Plate complete with all fasteners and stop end plates, as detailed on the drawing AFR1145-STR-DET-001	t	0.69	
7	180x10x300mm Plate as detailed on the drawing AFR1145-STR-DET-001	t	0.03	
8	150x12x150mm Long sole plate as detailed on the drawing AFR1145-STR-DET-001	t	0.01	
9	10mm Thick flat plate as detailed on the drawing AFR1145-STR-DET-001	t	0.01	
<u>HILTI CHEMICAL ANCHORS</u>				
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	<u>High tensile steel chemical anchor bolts drilled 60mm deep into existing brickwork or concrete to fasten structural steel work onto existing brickwork or concrete surfaces</u>				
10	16mm Diameter x 150mm long	No	50		
11	12mm Diameter x 200mm long	No	21		
12	20mm Diameter x 150mm long	No	24		
	<u>GALVANISED MILD STEEL BALUSTRADING, HANDRAILS, ETC</u>				
	<u>Welded mild steel</u>				
13	1100mm High horizontal balustrading including top rail, knee rail, stanchions and other vertical supports, base plates, bolts, bends, corners, ends etc. all welded and installed complete as per the Mentis Ball Type Handrail System as indicated on drawing AFR1145-STR-DET-001	m	14.090		
14	1100mm High raking balustrading including top rail, knee rail, stanchions and other vertical supports, base plates, bolts, bends, corners, ends etc. all welded and installed complete as per the Mentis Ball Type Handrail System as indicated on drawing AFR1145-STR-DET-001	m	5.100		
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Structural Steel

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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 10</u></p> <p><u>METALWORK</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Descriptions of bolts, anchors, etc</u></p> <p><u>Descriptions of bolts shall be deemed to include nuts and washers</u></p> <p><u>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete</u></p> <p><u>Items described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described</u></p> <p><u>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres</u></p> <p><u>ALUMINIUM WINDOWS, DOORS, ETC</u></p> <p>Refer to attached door and shopfront and window schedules for details of windows and doors</p> <p style="text-align: right;">Carried to Collection</p>			
	<p>Section No. 2 Building Works Bill No. 11 Metalwork Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>		R	

	<u>Aluminium window units (colour to architect's spec) complete with 75mm subframes as per specialist, standard friction hinges, aluminium catch with nylon guide, clear toughened safety glass to AAAMSA, SABS 0400 and NBRI code of practice - thermal warrantee to be obtained when installed, vinyl draught and sound seals according to specialist, and fixing to brickwork or concrete. All windows to include ironmongery as per manufacturer's specifications</u>								
1	Window size 1800 x 1200mm high single clear glazing	No		2					
	<u>ALUMINIUM SLIDING DOORS</u>								
	<u>Powder coated sliding doors complete with subframes, ironmongery, sealing, etc and fixing to brickwork or concrete</u>								
2	Purpose made door, 1800 x 2100mm high	No		1					
	<u>PRESSED STEEL DOOR FRAMES</u>								
	<u>1.6mm Double rebated frames suitable for half brick walls</u>								
3	Frame for door 813 x 2 032mm high	No		3.00					
	<u>1.6mm Double rebated frames suitable for half brick walls</u>								
4	Frame for door 900 x 2 032mm high	No		1.00					
	<u>SUNDRY STEELWORK</u>								
	<u>Steel Shelving</u>								
5	6 Tier steel shelving 2500 x 600 x 2700m high	No		1.00					
6	6 Tier steel shelving 2400 x 600 x 2700m high	No		1.00					
7	6 Tier steel shelving 3600 x 600 x 2700m high	No		1.00					
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Metalwork

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Metalwork

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Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 11</u></p> <p><u>PLASTERING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>GRANOLITHIC</u></p> <p><u>Method</u></p> <p><u>Where applicable, the method to be used shall be either the monolithic method or the bonded method</u></p> <p><u>Preparation</u></p> <p><u>Where applicable, 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</u></p>			
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Mix

Where applicable, 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

Panels

If applicable, granolithic shall be laid in panels not exceeding 14m² for monolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² 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

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

All applicable 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

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If applicable 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

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

Colour

Where applicable coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour

Structural Screeds

All structural screeds shall be laid to Class 1 accuracy as per SANS 2001-CC1:2007

SCREEDS

TAL Screedmaster self-levelling screed to be laid on dry clean surface including relevant primers and bonding agents all in accordance with the manufacturer's specification

1	On floors	m2	53	
	<u>Cement plaster screed wood floated on concrete</u>			
2	30mm Thick on surface beds	m2	335	
3	30mm Thick on slab	m2	75	

INTERNAL PLASTER

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4	<u>Two coat (1:4) cement plaster 15mm thick on brickwork finished to a smooth and even steel trowelled surface</u>	m2	89.00	
	<u>On walls</u>			
	<u>Cement plaster steel trowelled, on concrete</u>			
5	<u>On ceilings and beams</u>	m2	10	
<u>SPECIALISED FLOOR COATINGS</u>				
All specialised plaster type floor coatings are to be executed in strict accordance with the manufacturer's instructions				
<u>Hardwearing chemical, abrasion, impact, wear, graffiti and stain resistant self-smoothing epoxy resin floor topping with a 70 degrees C thermal resistance and a slip resistance (TRPL pendulum slip test) of 80 (dry) and 30 (wet) 5 to 10mm thick with a compressive strength of greater than 70N/mm2 and a gloss colour finish selected from the manufacturers standard colour range and installed in strict accordance with the manufacturer's instructions by a manufacturer approved installer. Sample and colour to be approved by architect prior to ordering - Floor finish FC-02</u>				
6	<u>On floors</u>	m2	172	
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	<p><u>BILL NO. 12</u></p> <p><u>TILING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Fixing</u></p> <p>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</p> <p>Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat</p> <p>Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts as recommended by the manufacturer of the tiles</p> <p><u>WALL TILING</u></p>			
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1	<p><u>Ceramic "Johnson" wall tile size 200x200mm, shiny finish, colour: white or per Architect's specification fixed to internal wall plaster backing (elsewhere measured) with and including TAL "Goldstar 6" tile adhesive or similar approved mixed with TAL bonding liquid in lieu of water with joints continuous in both directions grouted with TAL "High Traffic Grout" tile grout, Excess grout on the surface to be cleaned with water as the work progresses.</u></p> <p>On walls</p>	m2	82	
<u>FLOOR TILING</u>				
<u>User note</u>				
<i>Waterproof grout is normally used in showers, on balconies, etc. Epoxy grout is used in kitchens, butcheries, etc, where floors are frequently washed with detergents</i>				
<u>Full-bodied porcelain floor tile size 600x600, non-slip finish, fixed to wood floated 1:4 cement and sand screed (elsewhere measured) with and including TAL "Goldstar 6" tile adhesive or similar approved on concrete surfaces (elsewhere) with 3mm joints continuous in both directions grouted with TAL "high traffic grout" tile grout (colour Dove grey) with minimum 5mm expansion joints at perimeter, all structural expansion joints and construction joints at maximum 5m centres internally and at 3m centres externally, in both directions (Allow PC Amount of R400/m2) - Floor finish FC-03</u>				
2	On floors	m2	42	
3	On ramps	m2	13	
4	Skirting 100mm high	m	45	
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	<p><u>Full-bodied porcelain floor tile size 300x300, non-slip finish, fixed to wood floated 1:4 cement and sand screed (elsewhere measured) with and including TAL "Goldstar 6" tile adhesive or similar approved on concrete surfaces (elsewhere) with 3mm joints continuous in both directions grouted with TAL "high traffic grout" tile grout (colour Dove grey) with minimum 5mm expansion joints at perimeter, all structural expansion joints and construction joints at maximum 5m centres internally and at 3m centres externally, in both directions (Allow PC Amount of R400/m2) - Floor finish FC-04</u></p>				
5	On floors (ablutions)	m2	12		
	<p><u>M-Trim stainless steel straight edge (Kirk Marketing) Code: ASE120</u></p>				
6	12mm straight edge trim to suit 10-12mm thick tile	m	100		
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Tiling

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uPVC pressure pipes and fittings Pipes for water supply shall be of the class described. Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings Pipes of 50mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

"Polycop" polypropylene pipes Polypropylene pipes 54mm diameter and under shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes, as described 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 All pipe diameters arenominal external

Copper 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. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground

Where applicable Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with relevant overlaps for specific diameters of pipes Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, "Layflat" sheeting, securing of same, etc

Prices for wrapping of pipes shall include for all work as described to couplings in the length

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User note: Dependent on soil or environmental conditions laps may require to be increased to a maximum of 55% (which results in a double layer) and pipes may require a PVC outer wrap

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"

Excavations for sumps, catchpits, inspection chambers, junction boxes and the like shall be deemed to include for keeping free of water

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 1200L : 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

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

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Where applicable, general descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete. Descriptions of overflow pipes where measured number, shall be deemed to include joints to cisterns and splay cut ends. Descriptions of pipes laid in and including trenches shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 93% Modified AASHTO density and disposal of surplus material. Descriptions of copper service pipes and flexible connecting pipes shall include connections to taps, cisterns, etc and to steel pipes. Descriptions of wc pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors separately measured)

SANITARY FITTINGS

"Franke" or equal approved

1	"Projectline" stainless steel sink drop in type dimensions 1160 x 460mm double end bowl with 38mm diameter waste fitting and recessed drainage ledge	No	1
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"Vaal" or equal and approved

2	"Bantam" china 455 x 290mm wall hung basin with two tapholes, intergrated overflow and chain stay hole, bolted to wall using 10mm bolts including 2 x 15mm diameter CP regulator valve	No	2.00
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3	"Springbok" ceramic fireclay 550 x 400mm rectangular wall hung paraplegic basin with two tapholes, intergrated overflow and chain stay hole, bolted to wall using 10mm bolts including 2 x 15mm diameter CP regulator valve	No	1.00
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4	"Parktown" sanitary ware vitreous china close coupled WC suite 90 degree outlet top inlet (code: 431500) or back inlet (code: 431600) closed rim back-to-wall pan. Colour White	No	2.00
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5	"Pearl Paraplegic" sanitaryware vitreous china semi-close coupled 90 degree outlet open rim washdown pan and matching 9 Litre cistern complete with lid, fitments, and purpose made CP side flush lever (left or right) supplied with purpose made thermoset seat and cover plate.	No	1.00		
	<u>"Franke" or equal and approved grade 304 (18/10) stainless steel</u>				
6	1,2mm Grade 304 18/10 stainless steel CH slop hopper code: 351350) size 540 x 540 x 415mm deep, 100mm high intergral splashback, 110mm waste outlet with intergral flushing rim fitted with a 38 x 250mm long vertical flush pipe inlet in cobra FM with a hinged bucket grid fitted over funnel, fixed to wall with 2No. 40 x 40mm square stainless steel gallows brackets bolted with 4No. anchor bolts 600mm from finished level	No	2		
	<u>SANITARY PLUMBING</u>				
	<u>PVC-U soil and vent pipes</u>				
7	110mm Pipes chased into brickwork	m	2		
	<u>Extra over PVC-U soil and vent pipes for fittings</u>				
8	110mm End cap	No	1		
9	110mm Pan connector	No	3		
10	110mm Bend	No	2		
11	110mm Access bend	No	1		
12	110mm Air vent cowl	No	1		
	<u>WATER SUPPLY</u>				
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	<u>Class 1 copper pipes with brass compression couplings</u>				
13	15mm Pipes	m	8		
14	15mm Pipes chased into brickwork or concrete	m	16		
15	22mm Pipes	m	24		
	<u>Extra over Class 1 copper pipes for brass compression fittings</u>				
16	15mm Fittings	No	24		
17	22mm Fittings	No	24		
	<u>ELECTRIC WATER HEATERS</u>				
	<u>"Kwikot" or equal and approved</u>				
18	10 Litre "Prisma Classique" under counter electric water heater (code: FPRX-10-UB)	No	1		
19	150Litre "Megaflo" floor/wall mounted electric water heater	No	1		
	<u>"Zip " or equal approved</u>				
20	7,5 litre stainless steel hydroboil with 2 way tap complete, to be Installed per supplier, installed in accordance with the relevant SANS codes and manufacturers specifications with and including water piping, and all necessary fittings.	No	1.00		
	<u>WASTE UNIONS ETC</u>				
21	40mm CP Unslotted bath aquawaste (click-clack waste) 70mm diameter flange, 40mm long shank, 1 1/2" BSP male outlet connection (code: 318-40)	No	3.00		
22	38mm sink waste union	No	3		
	Carried to Collection				R
	Section No. 2 Building Works Bill No. 14 Plumbing and Drainage (Provisional) Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

<u>TRAPS ETC</u>					
	<u>PVC</u>				
23	38mm "P" or "S" trap <u>"Cobra Watertech" or equal approved</u>	No	2		
24	32mm Chromium Plated bottle trap including tailpipe and wall flange complete <u>"Rofo" floor drain</u>	No	3.00		
25	Floor drain installed in existing surface bed, including making good all finishes	No	1		
<u>TAPS, VALVES, ETC</u>					
	<u>"Cobra" or similar approved</u>				
26	Flushmaster exposed type, back entry toilet flushvalve with control stop and wall flange with bent flush pipe and pan connector, to SANS 1240 specification. Horizontal telescopic adjustment (control stop valve body) for easy installation (code: FM1-100)	No	2		
	<u>Brass</u>				
27	15mm Bolo stops <u>"Cobra Watertech" or equal and approved including joints to plastic piping</u>	No	13		
28	Medical sink mixer tap with swan neck aerated swivel outlet - chrome, including 2 x 15mm BSP male iron connection ends adjustable inlet connections with wall flanges	No	3.00		
29	'Medical Elbow Action' chrome pillar taps, including 1/4" turn ceramic disc head part, blue indice, 1/2" BSP male inlet, and flanged backnut (code:505-21B)	No	6		
Carried to Collection					
				R	
Section No. 2 Building Works Bill No. 14 Plumbing and Drainage (Provisional) Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

	<u>Flexible service pipes</u>	No	13	
30	15mm Service pipe 350mm girth			
Carried to Collection				R
Section No. 2 Building Works Bill No. 14 Plumbing and Drainage (Provisional) Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

Section No. 2

Bill No. 14

Plumbing and Drainage (Provisional)

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Section No. 2
 Building Works
 Bill No. 14
 Plumbing and Drainage (Provisional)
Bespoke Global Efficacy
Ramgoolam (Pty) Ltd

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 15</u></p> <p><u>GLAZING</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Float glass</u></p> <p>The term "float glass" is used for monolithic annealed glass</p> <p><u>Laminated glass</u></p> <p>Laminated glass to have polyvinyl butyral (PVB) interlayer(s)</p> <p><u>(CPAP WORK GROUP NO. 150) unless otherwise stated</u></p> <p><u>GLAZING TO STEEL WITH PUTTY</u></p> <p><u>6.4mm Laminated safety glass</u></p>			
1	Panes exceeding 0,1m ² and not exceeding 0,5m ²	m2		
2	Panes exceeding 0,5m ² and not exceeding 2m ²	m2		
	<p><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></p>			
	Carried to Collection		R	
	<p>Section No. 2 Building Works Bill No. 15 Glazing Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

3	<p><u>4mm Polished mirror with beveled edge, fixed wall with dome mirror screws</u></p> <p>Mirror 400 x 700mm high with four screws</p>	No	3		
Carried to Collection				R	
<p>Section No. 2 Building Works Bill No. 15 Glazing Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>					

Section No. 2

Bill No. 15

Glazing

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Section No. 2
 Building Works
 Bill No. 15
 Glazing

**Bespoke Global Efficacy
 Ramgoolam (Pty) Ltd**

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 14</u></p> <p><u>PAINTWORK</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>PAINT SPECIFICATIONS</u></p> <p>All paints shall be "Dulux" and done in accordance with "Dulux" specifications or equal approved</p> <p><u>All painting shall be done in accordance with "SABS" specifications unless otherwise described</u></p> <p><u>COLOURS</u></p> <p><u>Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091</u></p> <p><u>PAINTWORK, ETC TO NEW WORK ON</u></p> <p><u>ON INTERNAL FLOATED PLASTER SURFACES</u></p>			
	Carried to Collection		R	
	<p>Section No. 2 Building Works Bill No. 16 Paintwork Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

	<u>One coat "Dulux 1 Step prep Water Based Primer, Sealer and Undercoat" or similar approved, minimum 16hrs overcoating time, be be followed by two coats "Dulux Easy Care Washable and Tough PVA", or similar approved. Minimum 48 hrs drying time between successive coats. Paint on:</u>				
1	Internal walls	m2	89.00		
2	Ceilings and beams	m2	10.00		
	<u>ON PLASTERBOARD SURFACES</u>				
	<u>One coat "Dulux 1 Step prep Water Based Primer, Sealer and Undercoat" or similar approved, minimum 16hrs overcoating time, be be followed by two coats "Dulux Easy Care Washable and Tough PVA", or similar approved. Minimum 48 hrs drying time between successive coats. Paint on:</u>				
3	Ceilings and cornices including priming metal cover strips and nailheads	m2	64		
	<u>WOOD SURFACES WITH</u>				
	<u>One coat undercoat and two coats "Plascon" white Egg Sheel Enamel paint. Light sanding between coats.</u>				
4	Doors	m2	15.88		
	<u>METAL SURFACES WITH</u>				
	<u>One coat undercoat and two coats "Plascon" white Egg Sheel Enamel paint. Light sanding between coats.</u>				
5	Door frames	m2	6.15		
	<u>PAINTWORK, ETC TO PREVIOUSLY PAINTED WORK</u>				
	<u>ON INTERNAL FLOATED PLASTER SURFACES</u>				
	Carried to Collection			R	
	Section No. 2 Building Works Bill No. 16 Paintwork Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

	<u>One coat "Dulux 1 Step prep Water Based Primer, Sealer and Undercoat" or similar approved, minimum 16hrs overcoating time, be followed by two coats "Dulux Easy Care Washable and Tough PVA", or similar approved. Minimum 48 hrs drying time between successive coats. Paint on:</u>			
6	Internal walls	m2	738.00	
7	Ceilings and beams	m2	80	
	<u>ON PLASTERBOARD SURFACES</u>			
	<u>One coat "Dulux 1 Step prep Water Based Primer, Sealer and Undercoat" or similar approved, minimum 16hrs overcoating time, be followed by two coats "Dulux Easy Care Washable and Tough PVA", or similar approved. Minimum 48 hrs drying time between successive coats. Paint on:</u>			
8	Ceilings and cornices including priming metal cover strips and nailheads (Proposed Lab)	m2	205	
9	Trunking	m	56	
	<u>WOOD SURFACES WITH</u>			
	<u>One coat undercoat and two coats "Plascon" white Egg Sheel Enamel paint. Light sanding between coats.</u>			
10	Doors	m2	169.79	
	<u>Sand existing doors and seal with 1 x coat "Dulux Wood Primer" and 2 x coats "Dulux Exterior Double Life Timbavarnish Eggshell" varnish, or similar approved.</u>			
11	Doors	m2	53.52	
12	Door frames	m2	9.22	
	<u>METAL SURFACES WITH</u>			
	Carried to Collection			R
	Section No. 2 Building Works Bill No. 16 Paintwork Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

<u>One coat undercoat and two coats "Plascon" white Egg Sheel Enamel paint. Light sanding between coats.</u>					
13	Door frames	m2	25.56		
14	Rails, bars, pipes, etc not exceeding 300mm girth (Water pipes)	m	40		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 16 Paintwork Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

Section No. 2

Bill No. 16

Paintwork

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Section No. 2
 Building Works

Bill No. 16

Paintwork

**Bespoke Global Efficacy
 Ramgoolam (Pty) Ltd**

Bill No	<u>SECTION SUMMARY - Building Works</u>	Page No	Amount
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3	Concrete, Formwork and Reinforcement	59	
4	Masonry	64	
5	Waterproofing	67	
6	Carpentry and Joinery	71	
7	Ceilings, Partitions and Access Flooring	75	
8	Floor Coverings	76	
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11	Metalwork	89	
12	Plastering	94	
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14	Plumbing and Drainage (Provisional)	107	
15	Glazing	110	
16	Paintwork	115	
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	Section No. 2 Building Works Bespoke Global Efficacy Ramgoolam (Pty) Ltd		



4.3 Bill No.3 - Electrical Installation

Item No		Quantity	Rate	Amount
	<u>BILL NO.1</u>			
	<u>STANDBY GENERATOR</u>			
	<u>New 500kVA (400V, 3phase) genset complete with automatic change-over panel, fuel storage tank, fuel pump</u>			
1	Supply & delivery, off loading and placing in position on site a new 500kVA (400V, 3phase) genset complete with automatic change-over panel, fuel storage tank, fuel pump	No	1.00	
2	Factory test on fully completed generator (including 1 hour full load dummy test)		Item	
3	Site tests and commissioning of the entire generator installation		Item	
4	Servicing of Generator during 12 months maintenance project		Item	
5	1-Year (12 months) maintenance guarantee		Item	
6	On site training	Hrs	2.00	
	<u>Diesel supply (to allow 12hours standby time)</u>			
	Note: Refer to Summary Page (Section 5C) for pricing: Fuel Price to exclude VAT. Price to be inserted under summary Page (Section 5C)			
7	Compilation of Operations and Maintenance Manuals	No	1.00	
	<u>Generator Concrete Plinth, Earthworks & Foundations (CIVIL WORKS)</u>			
8	Clear & Grub of new generator position	m2	18.36	
	Carried to Collection			R
	Section No. 3 Electrical Installation Bill No. 1 Reticulation & Gen-set Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
Pretoria, Gauteng

9	Cut to spoil excavated material	m3	11.93		
10	In situ preparation rip and compact of 150mm thick layer to a minimum of 90% of modified AASHTO maximum density.	m3	2.75		
11	Import 150mm G6 from commercial sources and compacted to 93% MOD AASHTO to construct lower selected layer.	m3	2.75		
12	Import 150mm G6 from commercial sources and compacted to 95% MOD AASHTO to construct upper selected layer.	m3	2.37		
13	Import 150mm G5 from commercial sources and compacted to 95% MOD AASHTO to construct sub-base layer.	m3	2.02		
14	Import 200mm G5 from commercial sources, stabilise with 3% cement to construct C4 base layer compacted to 97% MOD AASHTO.	m3	1.69		
15	Construct, level & cure 50mm, 15 Mpa 19/15 concrete blinding layer as per project specifications (2.2m x 4.2m x 50mm)	m3	0.46		
16	Design, Supply and install concrete plinth in accordance with projects specifications and selected generator properties to ensure 200Kpa bearing capacity is achieved. The Contractor should have a professional Engineers Certificate for the plinth according to the selected generator.			Item	
<u>Maintenance Tools / Spares</u>					
17	Spare parts for 1000 Hrs			Item	
18	20mm diameter diesel hose	m	3.00		
19	1 pair, 10m2 battery jumper cable	No	1.00		
Carried to Collection				R	
Section No. 3 Electrical Installation Bill No. 1 Reticulation & Gen-set Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
Pretoria, Gauteng

20	Oil Funnel	No	1.00	
21	9Kg Fire extinguisher	No	1.00	
22	Manual diesel pump set	No	1.00	
23	24VDC electrical pump set	No	1.00	Rate Only
24	First aid kit		Item	
	<u>Trench</u>			
	<u>650 deep x 600 wide cable trench including backfilling and compaction. Installation to be in accordance with SANS10198. Coaxial spacing of cables to be 300mm.</u>			
25	(a) Pickable soil	m3	4.00	
26	(b) Soft rock	m3	3.00	
27	(c) Hard rock	m3	2.00	
	<u>Sleeve Installation</u>			
28	Supply and Install 110mm diameter Sleeve (For Low Voltage Cable)	m	30.00	
29	Supply and Install 50mm diameter Sleeve (For Data Cabinet)	m	5.00	
	<u>Low Voltage Cable Installation</u>			
	<u>Installation of new Low Voltage: 600/1000V PVC/ SWA / ECC/ PVC</u>			
	<u>Cu Cable</u>			
	<u>(a) 185mm² 4Core</u>			
30	(i) Supply and Deliver	m	88.00	
	Carried to Collection			R
	Section No. 3 Electrical Installation Bill No. 1 Reticulation & Gen-set Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

31	(ii) Install	m	88.00		
	<u>(b) 35mm² 4Core</u>				
32	(i) Supply and Deliver	m	37.00		
33	(ii) Install	m	37.00		
	<u>(c) 16mm² 4Core</u>				
34	(i) Supply and Deliver	m	17.00		
35	(ii) Install	m	17.00		
	<u>(d) 10mm² 4Core</u>				
36	(i) Supply and Deliver	m	17.00		
37	(ii) Install	m	17.00		
	<u>LV Cable Terminations</u>				
	<u>(a) 185mm² 4Core</u>				
38	(i) Supply and Deliver	No	4.00		
39	(ii) Install	No	4.00		
	<u>(b) 35mm² 4Core</u>				
40	(i) Supply and Deliver	No	2.00		
41	(ii) Install	No	2.00		
	<u>(c) 16mm² 4Core</u>				
42	(i) Supply and Deliver	No	2.00		
43	(ii) Install	No	2.00		
Carried to Collection				R	
Section No. 3 Electrical Installation Bill No. 1 Reticulation & Gen-set Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

	<u>(d) 10mm² 4Core</u>				
44	(i) Supply and Deliver	No	2.00		
45	(ii) Install	No	2.00		
	<u>Cable Warning Tape</u>				
46	(i) Supply and Deliver	m	15.00		
47	(ii) Install	m	15.00		
	<u>Heavy Duty Cable Ladder Including All Required Accessories</u>				
	<u>Supply and deliver to site and Install, complete with all accessories (a) 400mm wide heavy duty cable Ladder complete with fixing accessories, tees, end caps and elbows</u>				
48	(i) Supply	m	20.00		
49	(ii) Install	m	20.00		
50	Provisional Sum for Ground Penetrating Radar scanning of existing services in area where generator and external cable installation must take place			Item	30,000.00
	Carried to Collection				
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	Section No. 3 Electrical Installation Bill No. 1 Reticulation & Gen-set Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

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Bill No. 1

Reticulation & Gen-set

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Section No. 3

Electrical Installation

Bill No. 1

Reticulation & Gen-set

Bespoke Global Efficacy

Ramgoolam (Pty) Ltd

Item No		Quantity	Rate	Amount
	<u>BILL NO.2</u>			
	<u>MAIN BUILDINGS POWER, LIGHTING, TEL & DATA</u>			
	<u>LIGHTING INSTALLATION</u>			
	<u>Supply and deliver new light fittings complete with lamps</u>			
1	(a) Type A: 1 x 33W LED, 3956 Lumens, 600mm x 600mm x 30mm Panel, 99.9 efficiency recessed / surface mounted Luminaire, or equal, better or similar approved	No	28.00	
2	(b) Type A1: 1 x 33W LED, 3956 Lumens, 600mm x 600mm x 30mm Panel, 99.9 efficiency recessed / surface mounted Luminaire, with 1-hr battery back-up unit or equal, better or similar approved	No	19.00	
3	(c) Type D: LED 18W Downlight Luminaire - with battery back-up or equal, better or similar approved	No	8.00	
4	(d) Type B: 20W LED Series 21 with Prismatic Diffuser, Wall Surface Mounted Luminaire or equal, better or similar approved	No	2.00	
5	(e) Type E: 8W Single Sided Surface mounted emergency escape signage luminaire with 1-hr battery back-up unit or equal, better or similar approved	No	4.00	
6	(f) Type J: 55W 1050mA WIDE BEAM Bulkhead Surface Mounted or equal, better or similar approved	No	9.00	
7	(g) Type F: LED FLOOD 215W 700mA, 25661 Lumens, 600mm x 350mm x 100mm Panel, surface mounted Luminaire, Mounted at 5.0m Height or equal, better or similar approved	No	8.00	
	Carried to Collection			R
	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

<u>Install new light fittings</u>				
8	(a) Type A: 1 x 33W LED, 3956 Lumens, 600mm x 600mm x 30mm Panel, 99.9 efficiency recessed / surface mounted Luminaire, or equal, better or similar approved	No	28.00	
9	(b) Type A1: 1 x 33W LED, 3956 Lumens, 600mm x 600mm x 30mm Panel, 99.9 efficiency recessed / surface mounted Luminaire, with 1-hr battery back-up unit or equal, better or similar approved	No	19.00	
10	(c) Type D: LED 18W Downlight Luminaire - with battery back-up or equal, better or similar approved	No	8.00	
11	(d) Type B: 20W LED Series 21 with Prismatic Diffuser, Wall Surface Mounted Luminaire or equal, better or similar approved	No	2.00	
12	(e) Type E: 8W Single Sided Surface mounted emergency escape signage luminaire with 1-hr battery back-up unit or equal, better or similar approved	No	4.00	
13	(f) Type J: 55W 1050mA WIDE BEAM Bulkhead Surface Mounted or equal, better or similar approved	No	9.00	
14	(g) Type F: LED FLOOD 215W 700mA, 25661 Lumens, 600mm x 350mm x 100mm Panel, surface mounted Luminaire, Mounted at 5.0m Height or equal, better or similar approved	No	8.00	
<u>Supply and deliver new light switches</u>				
15	(a) 16A 1-lever 1-way light switch	No	5.00	
16	(b) 16A 2-lever 2x1-way light switch	No	1.00	Rate Only
17	(c) 16A 1-lever 3-way light switch	No	1.00	
18	(d) 16A 1-lever 1-way weatherproof rotary light switch	No	1.00	
Carried to Collection				R
Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

19	(e) LED Dimmer light switch	No	1.00	Rate Only
	<u>Install new light switches</u>			
20	(a) 16A 1-lever 1-way light switch	No	5.00	
21	(b) 16A 2-lever 2x1-way light switch	No	1.00	Rate Only
22	(c) 16A 1-lever 3-way light switch	No	1.00	
23	(d) 16A 1-lever 1-way weatherproof rotary light switch	No	1.00	
24	(e) LED Dimmer light switch	No	1.00	Rate Only
	<u>Supply and deliver new occupancy sensor</u>			
25	(a) 360° occupancy sensor	No	12.00	
26	(b) 180° occupancy sensor	No	1.00	Rate Only
27	(c) 90° occupancy sensor	No	1.00	Rate Only
	<u>Install new occupancy sensor</u>			
28	(a) 360° occupancy sensor	No	12.00	
29	(b) 180° occupancy sensor	No	1.00	Rate Only
30	(c) 90° occupancy sensor	No	1.00	Rate Only
	<u>Photocell in IP55 enclosure</u>			
31	(a) Supply and deliver	No	2.00	
32	(b) Install	No	2.00	
	<u>POWER INSTALLATION</u>			
	<u>Powerskirting</u>			
	Carried to Collection			R
	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

	<u>(a) 2-lid, 2-compartment mild steel power skirting complete with fixing accessories, tees, end caps and elbows</u>			
33	(i) Supply	m	25.00	
34	(ii) Install	m	25.00	
	<u>(b) P9000 for Lighting, Data & Tel, AC Units complete with fixing accessories, tees, end caps and elbows ((Installed in Ceiling Void)</u>			
35	(i) Supply	m	180.00	
36	(ii) Install	m	180.00	
	<u>(c) Rapid 45 GEK PVC power skirting complete with fixing accessories, tees, end caps and elbows</u>			
37	(i) Supply	m	1.00	Rate Only
38	(ii) Install	m	1.00	Rate Only
	<u>(d) Power skirting (mild steel power skirting) mounted 16A, normal SSO complete with frame and cover plate</u>			
39	(i) Supply	No	50.00	
40	(ii) Install	No	50.00	
	<u>(e) Power skirting (Rapid 45 GEK PVC) mounted 16A normal SSO, complete with frame and cover plate</u>			
41	(i) Supply	No	1.00	Rate Only
42	(ii) Install	No	1.00	Rate Only
	<u>(f) Power skirting mounted RJ11 telephone outlet complete with frame and cover plate</u>			
43	(i) Supply	No	1.00	Rate Only
	Carried to Collection			R
	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

44	(ii) Install	No	1.00		Rate Only
	<u>(g) Power skirting mounted RJ45 data outlet complete with 100 x 100 outlet box and cover plate</u>				
45	(i) Supply	No	20.00		
46	(ii) Install	No	20.00		
	<u>Socket Outlets</u>				
	<u>(a) 16A normal double switched socket outlet complete with 100 x 100 drawbox and cover plate</u>				
47	(i) Supply and deliver	No	8.00		
48	(ii) Install flush in existing wall	No	8.00		
49	(b) Remove existing single socket outlet from wall	No	20.00		Rate Only
	<u>Isolators</u>				
50	(a) Remove existing surface isolators	No	5.00		Rate Only
	<u>(b) Supply and deliver new isolators (20A 2-pole or 32A - 63A 3-Pole) complete with 100 x 100 drawbox and cover plate</u>				
51	(i) 20A Surfaced / Rescenced indoor isolator	No	9.00		
52	(ii) 30A Surfaced /Rescenced indoor isolator	No	1.00		
53	(iii) 20A Surfaced /Rescenced weatherproof isolator	No	12.00		
54	(iv) 32A Surfaced /Rescenced weatherproof isolator	No	8.00		
55	(v) 63A Surfaced /Rescenced weatherproof isolator	No	1.00		
	<u>(c) Install new isolators complete</u>				
56	(i) 20A Surfaced / Rescenced indoor isolator	No	9.00		
	Carried to Collection			R	
	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
Pretoria, Gauteng

57	(ii) 30A Surfaced /Rescenced indoor isolator	No	1.00		
58	(iii) 20A Surfaced /Rescenced weatherproof isolator	No	12.00		
59	(iv) 32A Surfaced /Rescenced weatherproof isolator	No	8.00		
60	(v) 63A Surfaced /Rescenced weatherproof isolator	No	1.00		
61	Supply & Install New Data Cabinet & Network switch		Item		35,000.00
	<u>New RJ45 data outlet complete with 100 x 100 outlet box and cover plate</u>				
62	(a) Supply and deliver	No	4.00		
63	(b) Install recessed 100 x 100 wall box	No	4.00		
	<u>New RJ11 telephone outlet complete with 100 x 100 cover plate</u>				
64	(a) Supply and deliver	No	1.00		Rate Only
65	(b) Install recessed 100 x 100 wall box	No	1.00		Rate Only
66	(c) Supply and deliver 3m telephone connection cord	No	1.00		Rate Only
	<u>Wiring and Wireways</u>				
	<u>Supply and deliver PVC insulated stranded copper conductors</u>				
67	(a) 6mm ² PVC	m	240.00		
68	(b) 4mm ² PVC	m	1,800.00		
69	(c) 2,5mm ² PVC	m	1,400.00		
	<u>Install PVC insulated stranded copper conductors</u>				
70	(a) 6mm ² PVC	m	240.00		
	Carried to Collection				R
	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

71	(b) 4mm ² PVC	m	1,800.00		
72	(c) 2,5mm ² PVC	m	1,400.00		
	<u>Supply and deliver earth conductors</u>				
73	(a) 4mm ² BCEW	m	400.00		
74	(b) 2,5mm ² BCEW	m	900.00		
75	(c) 2,5mm ² green PVC insulated	m	450.00		
	<u>Install earth conductors</u>				
76	(a) 4mm ² BCEW	m	200.00		
77	(b) 2,5mm ² BCEW	m	900.00		
78	(c) 2,5mm ² green PVC insulated	m	450.00		
	<u>20mm diameter PVC conduit including couplers, drawboxes, fasters, etc</u>				
79	(a) Supply	m	450.00		
80	(b) Install surface	m	280.00		
81	(c) Chased into existing wall	m	160.00		
	<u>25mm diameter PVC conduit including couplers, drawboxes, fasters, etc</u>				
82	(a) Supply	m	120.00		
83	(b) Install surface	m	120.00		
84	(c) Install in Ceiling Void	m	60.00		
	Carried to Collection				R
Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
Pretoria, Gauteng

	<u>20mm diameter Steel conduit including couplers, drawboxes, fasters, etc</u>			
85	(a) Supply	m	24.00	
86	(b) Install surface	m	12.00	
87	(c) Chased into existing wall	m	12.00	
	<u>20mm Galvanized steel sprague</u>			
88	(a) Supply	m	12.00	
89	(b) Install	m	12.00	
	<u>Heavy Duty Cable Ladder Including All Required Accessories (Supply and deliver to site and Install, complete with all accessories)</u>			
	<u>(a) 200mm wide heavy duty cable Ladder complete with fixing accessories, tees, end caps and elbows</u>			
90	(i) Supply	m	1.00	Rate Only
91	(ii) Install	m	1.00	Rate Only
	<u>(b) 400mm wide heavy duty cable Ladder complete with fixing accessories, tees, end caps and elbows</u>			
92	(i) Supply	m	20.00	
93	(ii) Install	m	20.00	
	<u>Distribution Boards</u>			
	<u>De-commission / Remove Existing Building 16 Main Distribution Board</u>			
94	(a) Existing DB - Main Distribution Board	No	1.00	
95	(b) Existing Sub-Boards (New HIP Building Floors)	No	3.00	
	Carried to Collection			R
	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

	<u>Supply and deliver new distribution board c/w swichgear, labels and factory wired as per single line diagrams</u>			
96	(a) DB - Main Distribution Board	No	1.00	
97	(b) DB-HIP Ground Floor	No	1.00	
98	(c) Sub-DB First Floor	No	1.00	
99	(d) Cooling Tower Sub DB	No	1.00	
	<u>Installation and commissioning of new distribution boards</u>			
100	(a) DB - Main Distribution Board	No	1.00	
101	(b) DB-HIP	No	1.00	
102	(c) Sub-DB First Floor	No	1.00	
103	(d) Cooling Tower Sub DB	No	1.00	
	<u>Distribution board switchgear</u>			
	<u>(a) Supply and deliver circuit breakers</u>			
104	(i) 20A, 6kA 1-Pole	No	2.00	
105	(i) 15A, 6kA 1-Pole	No	2.00	
	<u>(b) Install circuit breakers</u>			
106	(i) 20A, 6kA 1-Pole	No	2.00	
107	(i) 15A, 6kA 1-Pole	No	2.00	
	<u>(c) 60A, 2-Pole ELCB</u>			
108	(i) Supply and deliver	No	2.00	
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	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
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109	(ii) Install in existing distribution board	No	2.00		
	<u>Fire Detection System</u>				
110	Provisional Amount for the Fire Detection System (Supply and Installation)		Item		48,000.00
	<u>Instrumentation</u>				
	<u>Supply and deliver to site and Install, complete with all accessories</u>				
	<u>(a) oxygen sensors in the HIP room, as specified</u>				
111	(i) Supply	No	2.00		
112	(ii) Install	No	2.00		
	<u>(b) Wall mounted audible alarm with red strobe light, suitable for connection to oxygen sensor controller</u>				
113	(i) Supply	No	3.00		
114	(ii) Install	No	3.00		
	<u>(c) Controller, including 24V power supply, as specified</u>				
115	(i) Supply	No	1.00		
116	(ii) Install	No	1.00		
	<u>(d) 1mm² 3-core overall screened instrumentation cable, c/w terminations</u>				
117	(i) Supply	m	40.00		
118	(ii) Install	m	40.00		
	Carried to Collection				R
Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
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	<u>(d) 1-pair overall screened instrumentation cable, c/w terminations</u>				
119	(i) Supply	m	40.00		
120	(ii) Install	m	40.00		
	<u>Access Control</u>				
121	Provisional Amount for the Access Control (Supply and Installation)		Item		5,000.00
	<u>UPS</u>				
	<u>New 1 x 6kVA, 230V/230V 50Hz, 1-phase in, 1-phase out UPS unit, complete with 10-year maintenance free 30-minute battery back-up for 6kVA at 0.8pf, Batteries to be protected by DC fuses, manual and static by-pass and battery temperature sensor 1-year maintenance guarantee</u>				
122	(a) Supply unit complete with batteries	No	1.00		
123	(b) Delivery, offloading, installation, testing and commissioning of the UPS unit	No	1.00		
	<u>COC (Certificate of Compliance)</u>				
124	Provide Certificate of Compliance for the entire new installation (Main DB, DB-HIP, Sub DBs, UPS & Generator Installation, etc)		Item		6,000.00
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	Section No. 3 Electrical Installation Bill No. 2 Small Power & Lighting Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

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Bill No. 2

Small Power & Lighting

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Section No. 3

Electrical Installation

Bill No. 2

Small Power & Lighting

Bespoke Global Efficacy

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4.4 Bill No.4 - Mechanical Installation

Item No		Quantity	Rate	Amount
	<u>BILL NO.1</u>			
	<u>MECHANICAL INSTALLATION</u>			
	<u>COMPRESSED AIR SYSTEM</u>			
	<u>Supply, deliver, install, test, and commission to full operation the new compressor system to deliver 1 500 l/min at 10 Bar. The compressed air system shall be complete with with a new compressor, oil free air system (OFAS) dryer, water seperator, Class 02 air filters, valves, regulators, and necessary piping with supporting brackets.</u>			
1	Supply and install a new compressor with a delivery rate of 1500 l/min at 10 Bar	Item		
2	Supply and install a 360 litre space saving receiver to also allow for mounting the compressor.	Item		
3	Supply and install a compressor panel complete with electrical wiring and controls	Item		
4	Supply and install an OFAS dryer to provide a constant outlet dewpoint in accordance with ISO8573-1 classes 1, 2, or 3 for water vapour	Item		
5	Supply and install a dew point sensor and measuring chamber complete with electronic control with dew point display and energy saving technology for the dryer.	No	1.00	
6	Supply and install 25 mm diameter; schedule 40 stainless steel piping	m	100.00	
7	Supply and install high pressure fittings and mounting brackets to allow for the full installation of the compressed air piping network.			SUM
	Carried to Collection			R
	Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
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8	Supply and install a water separator to handle the specified 1500 l/min and Class 2 purity at the dryer		Item	
9	Supply and install in duty / standby configuration air filters to handle the specified 1500 l/min and Class 2 purity at the dryer and air consumption points inside the building complete with four ball valves with diameter 25mm diameter before and after each filter.		Item	
10	Supply and install an air regulator for each outlet point inside the building		Item	
11	Supply and install an automatic retracting coil air hose for each air outlet point inside the building		Item	
12	Supply and install an air regulator for each outlet point inside the building		Item	
13	Allow for painting on piping as per colour coding approved by the engineer			SUM
14	Allow for preparation of all necessary NDT testing and commissioning of compressed air piping as per OHS Act: Pressure Equipment regulations and SANS 347. Supply full operating and maintenance manuals for the compressed air system.			SUM
<u>ARGON INSTALLATION</u>				
15	Supply and install 25 mm diameter; schedule 40 stainless steel piping to operate at 200 bar	m	60.00	
16	Supply and install 54 mm diameter; schedule 80 stainless steel piping to operate at 200 bar	m	60.00	
17	Supply and install high pressure fittings and mounting brackets to allow for the full installation and operation of the compressed air piping network.			SUM
18	Supply and install a diameter 54mm bleed valve complete with necessary support brackets		Item	
Carried to Collection				R
Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

19	Supply and install a diameter 54 mm flexible reinforced braided hose to operate at 200 bar between the argon multi cylinder storage pack and the fixed pipe network. Piping to be fabricated and terminated with necessary fitting to suite the multi cylinder packs (for virgin and reclaimed argon storages). Each pipe piece to be at most 1m in length.		Item		
20	Supply and install shut off ball valves for each storage tank and supply network		Item		
21	Supply and install a pressure gauge to monitor up to 200 Bar argon pressure. Pressure gauge to read up to 220 Bar and appropriately marked with pressure high / low marks		Item		
22	Supply and install a pressure safety valve to monitor up to 200 Bar argon pressure and to protect the argon storage packs. Safety valves to be complete with statutory certifications.		Item		
23	Supply and install argon 2-1/2 inch exhaust pipe; appropriately supported and standing 2m above the roof complete with silencer. The silencer shall, beside reducing noise, blend the argon with outdoor air.		Item		
24	Allow for painting on piping as per colour coding approved by the engineer			SUM	
25	Allow for preparation of all necessary NDT testing and commissioning of high pressure argon piping as per OHS Act: Pressure Equipment regulations and SANS 347. Supply full operating and maintenance manuals for the argon system.			SUM	
<u>COOLING TOWER INSTALLATION</u>					
26	Supply and install a 2-inch stainless steel pipe line from the cooling tower to the press inside the building (about 25m apart). Piping to be to and from the cooling tower for supply and return.	m	70.00		
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Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

27	Supply and install a 2-inch manifold to connect the cooling tower to the supply and return piping. Cooling tower to be free issue from the client.			SUM	
28	Supply and install stainless fittings and mounting brackets to allow for the full installation and operation of the cooling tower water piping network.			SUM	
29	Supply and install all fittings			SUM	
30	Supply and install a 3.5 litre hydraulic accumulator on the water supply line feeding the press to accommodate water expansion. Accumulator to complete with necessary statutory certification.	No	1.00		
31	Allow for painting on piping as per colour coding approved by the engineer			SUM	
32	Allow for preparation of all necessary NDT testing and commissioning of water piping.			SUM	
<u>AIR CONDITIONING INSTALLATION</u>					
<u>METROLOGY LABORATORY</u>					
<u>Supply and install a ductable close control or precision cooling air-conditioning unit for vertical installation with heating by means of heating element, humidifier for precise temperature and humidity control. The unit shall have a noise rating of less than 47 dB(A). The unit shall be particularly suitable for precision air conditioning for metrology applications. The unit shall be complete with an inverter compressor to allow for the cooling capacity modulation according to the actual internal load. The unit shall be fitted with an electronic expansion valve and inverted fans for upflow air supply and frontal air return. The unit shall be complete with rubber mounting to avoid causing and propergrating undue vibration.</u>					
33	Supply downblow precision cooling unit with 17 kW Cooling, 8 kW heating, and 1 140 l/s air flow rate.		Item		
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Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd					

DRAFT BILLS OF QUANTITIES
Tender No:
Hot Isostatic Press (HIP) Facility
Pretoria, Gauteng

34	Supply return air plenum with frontal grille, sound absorber, and 50 mm deep washable filters to suite the plenum								
			Item						
35	Supply SABS approved Fire Damper with a 2 hour rating; interlock the damper to only open when the upblow unit is operational.								
			Item						
36	Supply NC45 Sound Attenuator in the supply air duct								
			Item						
37	Supply externally insulated ducting as shown on the drawings.							SUM	
38	Supply and install swirl air diffusers for 290 l/s								
			Item						
39	Carry out the complete unit testing and air balancing to full operation and environmental information condition logging to setup machine.								
								SUM	
	<u>NEW X-RAY LABORATORY STORE</u>								
	<u>Design, Supply, Install, and commissioning ducted hide away direct expansion units complete with drain pipes, drain pumps (where necessary), enclosing trunking painted to match the colour of the wall, mounting brackets, vibration absorbing material, completely as specified and as shown on the drawings.</u>								
40	Supply 7.0 kW Under Ceiling Unit	No		1.00					
41	Install Ducted Unit	No		1.00					
	<u>NEW OFFICE</u>								
	Carried to Collection								
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	Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd								

<u>Ablutions Area: Supply, Install, and commission inline duct exhaust air fan system complete with two sound attenuators (down stream & upstream to each fan), weather louvre painted to match the colour of the wall, uninsulated ducting, flexible ducting leading to exhaust terminals (not more than 1m in length), disc valves, interlock with light switch, completely as specified and as shown on the drawings.</u>			
42	Extract air fan for 100 l/s	No	5.00
43	Disk valves for 30 l/s	No	5.00
44	Sound attenuators for NC35	No	2.00
45	Ø100 spiral duct	m	20.00
<u>HIP MACHINE ROOM</u>			
<u>Supply and Install 560 l/s exhaust wall mounted axial fans as shown on the drawings. All fans to be powder coated to the colour recommended by the Architect. The fresh air supply fans shall be complete with primary filters and interlocked to light switch</u>			
46	Wall Mounted Extraction Fans	No	5.00
47	Wall Mounted Weather Cowls	No	5.00
48	Wall wiring and switchgear		SUM
<u>VENTILATION FANS - FOR EXTRACTION AIR SUPPLY</u>			
<u>Supply and Install 2 800 l/s exhaust wall mounted axial fans as shown on the drawings. All fans to be powder coated to the colour recommended by the Architect. The fresh air supply fans shall be complete with primary filters and interlocked to light switch</u>			
49	Wall Mounted Extraction Fan	No	1.00
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Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd			

50	Wall Mounted Weather Cowls	No	1.00		
51	Electrical wiring, VSD, and switchgear			SUM	
	<u>AS-BUILT DRAWINGS, MANUALS, ETC.</u>				
52	Allow for the preparation of up-to-date general arrangement drawings, shop drawings and/or any other required drawings, together with the O&M manuals, all to be submitted to the Mechanical Engineer for approval.			Item	
	<u>TESTING AND COMMISSIONING</u>				
53	Allow for the testing and commissioning of the entire Air conditioning and Ventilation system, ensuring that it is fully functional upon completion of the project, all as per the requirements of the Mechanical Engineer			Item	
	<u>TWELVE (12) MONTH MAINTENANCE</u>				
54	Allow for a 12 month Maintenance period of the entire system, as per the specification of the Mechanical Engineer			Item	
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	Section No. 4 Mechanical Installation Bill No. 1 Mechanical Installation Complete Bespoke Global Efficacy Ramgoolam (Pty) Ltd				

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Section No. 4

Mechanical Installation

Bill No. 1

Mechanical Installation Complete

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Ramgoolam (Pty) Ltd



4.5 Bill No.5 - Budgetary Allowances

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u></p> <p><u>BUDGETARY ALLOWANCES</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>General</u></p> <p>Prime cost amounts and provisional sums are net. Prime cost amounts include for delivery to site of all articles concerned</p> <p>Provisional sums are for material and equipment supplied and installed complete by firms of specialists</p> <p><u>Profit</u></p> <p>Where stated, the contractor may allow for profit if required</p> <p><u>General attendance on nominated/selected subcontractors</u></p> <p>The item "Attendance" which follows each provisional sum for nominated/selected subcontractors' work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the nominated/selected subcontractors, the following:</p>			
	Carried to Collection		R	
	<p>Section No. 5 Budgetary Allowances Bill No. 1 Budgetary Allowances Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

- 1 The services as set out in clause B10.1 of the Preliminaries
- 2 Making good in all trades and cleaning down and removal of rubbish on completion

EXTERNAL WORKS

- 1 Budgetary allowance of R 300,000.00 (Three Hundred Thousand Rand) for the external works - to be used at the discretion of the Architect

FIRE SIGNAGE

- 2 Budgetary allowance of R 20,000.00 (Twenty Thousand Rand) for the installation signage

Item

Item

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Section No. 5
 Budgetary Allowances
 Bill No. 1
 Budgetary Allowances
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Section No. 5

Bill No. 1

Budgetary Allowances

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Budgetary Allowances

Bill No. 1

Budgetary Allowances

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4.6 Bill No.6 - Provisional Sums

Item No		Quantity	Rate	Amount
	<p><u>BILL NO. 1</u></p> <p><u>PROVISIONAL SUMS</u></p> <p><u>PREAMBLES</u></p> <p>The contractor is referred to the relevant Clause in the document Model Preambles for Trades as published by the Association of South African Quantity Surveyors (2017 edition)</p> <hr/> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>General</u></p> <p>Prime cost amounts and provisional sums are net. Prime cost amounts include for delivery to site of all articles concerned</p> <p>Provisional sums are for material and equipment supplied and installed complete by firms of specialists</p> <p><u>Profit</u></p> <p>Where stated, the contractor may allow for profit if required</p> <p><u>General attendance on nominated/selected subcontractors</u></p> <p>The item "Attendance" which follows each provisional sum for nominated/selected subcontractors' work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the nominated/selected subcontractors, the following:</p>			
	Carried to Collection		R	
	<p>Section No. 6 Provisional Sums Bill No. 1 Provisional Sums Bespoke Global Efficacy Ramgoolam (Pty) Ltd</p>			

1	The services as set out in clause B10.1 of the Preliminaries			
2	Making good in all trades and cleaning down and removal of rubbish on completion			
<u>CARPENTRY AND JOINERY</u>				
1	Provide the sum of R 250,000 (Two Hundred and Fifty Thousand Rand) for the installation of joinery fittings for the metrology laboratory	Item		
2	Profit	Item		
3	Attendance	Item		
<u>OVERHEAD CRANE</u>				
4	Provide the sum of R 750,000 (Seven Hundred and Fifty Thousand Rand) for the installation of work (equipment, etc.) supplied by others including crane hire (5 ton), integration/ co-ordination with other specialists, etc.	Item		
5	Profit	Item		
6	Attendance	Item		
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Provisional Sums

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 Provisional Sums

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	Sub Total		R
	Contingency 10%		R
	Sub Total		R
	<u>Add:</u> Value Added Tax @ 15%		R
	Carried to Form of Tender		R
	Bespoke Global Efficacy Ramgoolam (Pty) Ltd		