

Item No	Quantity	Rate	Amount
<u>SECTION NO. 1</u>			
<u>BILL NO. 1</u>			
<u>PRELIMINARIES</u>			
<u>BILL NO. 1</u>			
<u>PRELIMINARIES</u>			
<u>BUILDING AGREEMENT AND PRELIMINARIES</u>			
<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 above mentioned documents for the full intent and meaning of each clause</p> <p>The clauses in the above mentioned 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 above mentioned documents</p>			
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PREAMBLES FOR TRADES

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

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

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Interpretation (A1-A7)

1 Clause 1.0 - Definitions and interpretation

Pricing of bills of quantities

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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<p>If the contractor constitutes a joint venture, consortium or other unincorporated grouping of two or more persons then:</p> <p>1. These persons are deemed to be jointly and severally liable to the employer for the performance of this agreement</p> <p>2. These persons shall notify the employer of their leader who has assigned authority to bind the contractor and each of these persons</p> <p>3. The contractor shall not alter its composition or legal status without the prior written consent of the employer</p> <p>F:..... V:..... T:.....</p> <p>Clause 2.0 - Law, regulations and notices</p> <p>Clause 3.0 - Offer and acceptance F:..... V:..... T:.....</p> <p><u>Amend clause 3.3 to read as follows:</u> This agreement shall come into force on the date as stated in Form of Offer and Acceptance effectively communicated and continue to be of force and effect until the end of the latent defects liability period (22.0) notwithstanding termination (29.0) or the certification of final completion (21.0) and final payment (25.0)</p> <p><u>Add new sub-clause 3.6 as follows:</u> The Form of Offer and Acceptance and schedule of Deviations shall form part of the contract document and constitutes the tender acceptance and agreement.</p> <p>Clause 4.0 - Cession and assignment F:..... V:..... T:.....</p> <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>Carried to Collection</p> <p>Section No. 1 SECTION 1: PRELIMINARIES Bill No. 1 Preliminaries KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>	Item		
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6	<p>Priced document as specification Clause 5.4 is deemed to be deleted</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 electronically and the contractor shall be deemed to have received such drawings on the date that such drawings have been dispatched electronically [5.6]</p> <p>F:..... V:..... T:.....</p> <p>Clause 6.0 - Employer's agents</p> <p>Delegated authority</p> <p>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 follows [6.2]. This does not preclude the principal agent from issuing such contract instructions:</p> <p>1. <u>Architect</u></p> <p>1.1 Duties [6.2] : The architect is responsible for the architectural design, functional design and quality inspection of the works</p> <p>1.2 Contract instructions [6.2; 17.1] :</p> <p>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</p> <p>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</p> <p>1.2.3 The site [13.0]</p> <p style="text-align: right;">Carried to Collection</p> <p>Section No. 1 SECTION 1: PRELIMINARIES Bill No. 1 Preliminaries KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>	Item		R
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1.2.4	Compliance with the law , regulations and by laws [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				
1.2.6	Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]				
1.2.7	Removal or re-execution of work				
1.2.8	Removal or substitution of any materials and goods				
1.2.9	Protection of the works				
1.2.10	Making good physical loss and repairing damage to the works [23.2.2]				
1.2.11	Rectification of defects [21.2]				
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				
1.2.13	Expenditure of budgetary allowances, prime cost amounts and provisional sums				
1.2.14	Appointment of a subcontractor [14.0; 15.0]				
1.2.15	Work by direct contractors [16.0]				
1.2.16	On suspension or termination, protection of the works , removal of construction equipment and surplus materials and goods [29.0]				
2.	<u>Quantity surveyor</u>				
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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

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 by laws [2.1]

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**

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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			
4.	<u>Mechanical engineer</u>			
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 by laws [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			
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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]			
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.	<u>Electrical engineer</u>			
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			
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5.2.3	Compliance with the law , regulations and by laws [2.1]				
5.2.4	Provision and testing of samples of materials and goods and/or of finishes and assemblies of elements of the works				
5.2.5	Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]				
5.2.6	Removal or re-execution of work				
5.2.7	Removal or substitution of any materials and goods				
5.2.8	Protection of the works				
5.2.9	Making good physical loss and repairing damage to the works [23.2.2]				
5.2.10	Rectification of defects [21.2]				
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				
5.2.12	Expenditure of budgetary allowances, prime cost amounts and provisional sums				
6.	<u>Wet services engineer</u>				
6.1	Duties [6.2] : The wet services engineer is responsible for all aspects of wet services engineering design and quality inspection of the works				
6.2	Contract instructions [6.2; 17.1] :				
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				
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- 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**
- 6.2.3 Compliance with the **law**, regulations and by laws [2.1]
- 6.2.4 Provision and testing of samples of **materials and goods** and/or of finishes and assemblies of elements of the **works**
- 6.2.5 Opening up of work for inspection, removal or re-execution [23.2.4; 26.4.2]
- 6.2.6 Removal or re-execution of work
- 6.2.7 Removal or substitution of any **materials and goods**
- 6.2.8 Protection of the **works**
- 6.2.9 Making good physical loss and repairing damage to the **works** [23.2.2]
- 6.2.10 Rectification of **defects** [21.2]
- 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**
- 6.2.12 Expenditure of **budgetary allowances, prime cost amounts** and **provisional sums**

7.1 Duties [6.2] :
The fire consultant is responsible for all aspects of rational fire design and quality inspection of the **works**

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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 by laws [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			
7.2.8	Protection of the works			
7.2.9	Making good physical loss and repairing damage to the works [23.2.2]			
7.2.10	Rectification of defects [21.2]			
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			
7.2.12	Expenditure of budgetary allowances, prime cost amounts and provisional sums			
8.	<u>Health and safety consultant</u>			
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	<p>8.1 Duties [6.2] : 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>8.1.4 Carry out regular audits to ensure adherence to the safety plan and compliance with the act and regulations</p> <p>8.1.5 Stop the execution of the works where the agreed specification or plan is not adhered to</p> <p>F:..... V:..... T:.....</p>			
7	<p>Clause 7.0 - Design responsibility F:..... V:..... T:.....</p>	Item		
	<p><u>Insurances and securities (A8-A11)</u></p>			
8	<p>Clause 8.0 - Works risk F:..... V:..... T:.....</p>	Item		
9	<p>Clause 9.0 - Indemnities F:..... V:..... T:..... Amend sub-clause 9.2.7 by adding the following to the end of the first sentence: '.....due to no fault of the contractor'</p>	Item		
	<p style="text-align: right;">Carried to Collection</p>		R	
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10	<p>Clause 10.0 - Insurances</p> <p>Add the following as clause 10.1.5.2</p> <p>The insurance for the project to expire on the date of practical completion or extended practical completion. Any costs to extend insurances must be for the contractor's account.</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
11	<p>Clause 11.0 - Securities</p> <p>Guarantee for payment</p> <p>The employer shall provide to the contractor a guarantee for payment in the amount ofN/A.....Rand (R.....) [11.5.1]. The contractor shall consequently waive his lien or right of continuing possession of the works [11.10]</p> <p>Extension of waiver of lien</p> <p>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] - N/A</p> <p>F:..... V:.....</p> <p>T:.....</p> <p>Execution (A12 - A17)</p>	Item		
12	<p>Clause 12.0 - Obligations of the parties</p> <p>Office accommodation</p> <p>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]</p>			
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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

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

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

Item

13 **Clause 13.0 - Setting out**

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

Item

14 **Clause 14.0 - Nominated subcontractors**

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

Item

15 **Clause 15.0 - Selected subcontractors**

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

Item

16 **Clause 16.0 - Direct contractors**

Attendance on direct contractors

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

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	<p>1. Designate an area for the direct contractor to establish a temporary office and workshop and storage of equipment and materials</p> <p>2. Allow the use of personnel welfare facilities, where provided</p> <p>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</p> <p>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]</p> <p>F:..... V:..... T:.....</p>				
17	<p>Clause 17.0 - Contract instructions</p> <p>Site instructions</p> <p>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</p> <p>F:..... V:..... T:.....</p> <p><u>Completion (A18 - A24)</u></p>	Item			
18	<p>Clause 18.0 - Interim completion</p>	N/A			
19	<p>Clause 19.0 - Practical completion</p> <p>F:..... V:..... T:.....</p>	Item			
20	<p>Clause 20.0 - Completion in sections</p> <p>F:..... V:..... T:.....</p>	Item			
21	<p>Clause 21.0 - Defects liability period and final completion</p>				
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	F:..... V:..... T:.....	Item		
22	Clause 22.0 - Latent defects liability period F:..... V:..... T:.....	Item		
23	Clause 23.0 - Revision of the date for practical completion Substitution of materials and goods 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] F:..... V:..... T:.....	Item		
24	Clause 24.0 - Penalty for late or non-completion F:..... V:..... T:.....	Item		
	<u>Payment (A25 - A27)</u>			
25	Clause 25.0 - Payment 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:..... T:.....	Item		
26	Clause 26.0 - Adjustment of the contract value and final account			
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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**

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:.....

Item

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Clause 27.0 - Recovery of expense and/or loss

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

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	<u>Suspension and termination (A28 - A29)</u>			
28	<p>Clause 28.0 - Suspension by the contractor</p> <p>F:..... V:..... T:.....</p>	Item		
29	<p>Clause 29.0 - Termination</p> <p>F:..... V:..... T:.....</p>	Item		
	<u>Dispute resolution (A30)</u>			
30	<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>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>	Item		
	<u>SECTION B: GENERAL PRELIMINARIES</u>			
	<u>Definitions and interpretation (B1)</u>			
33	<p>Clause 1.1 - Definitions</p> <p>F:..... V:..... T:.....</p>	Item		
34	<p>Clause 1.2 - Interpretation</p> <p>F:..... V:..... T:.....</p>	Item		
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<u>Documents (B2)</u>				
35	Clause 2.1 - Checking of documents F:..... V:..... T:.....	Item		
36	Clause 2.2 - Provisional bills of quantities Multiple procurement These bills of quantities are in multiple procurement format ie the "wet trades" - N/A 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 F:..... V:..... T:.....	Item		
<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	Item		
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	F:..... V:..... T:.....			
44	Clause 4.3 - Geo-technical and other investigations F:..... V:..... T:.....	Item		
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		
52	Clause 6.2 - Workmanship samples F:..... V:..... T:.....	Item		
53	Clause 6.3 - Shop drawings F:..... V:..... T:.....	Item		
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54	<p>Clause 6.4 - Compliance with manufacturer's instructions F:..... V:..... T:.....</p> <p><u>Deposits and fees (B7)</u></p>	Item		
55	<p>Clause 7.1 - Deposits and fees F:..... V:..... T:.....</p> <p><u>Temporary services (B8)</u></p>	Item		
56	<p>Clause 8.1 - Water F:..... V:..... T:.....</p>	Item		
57	<p>Clause 8.2 - Electricity F:..... V:..... T:.....</p>	Item		
58	<p>Clause 8.3 - Ablution and welfare facilities F:..... V:..... T:.....</p>	Item		
59	<p>Clause 8.4 - Communication facilities F:..... V:..... T:.....</p> <p><u>Prime cost amounts (B9)</u></p>	Item		
60	<p>Clause 9.1 - Responsibility for prime cost amounts F:..... V:..... T:.....</p> <p><u>Attendance on subcontractors (B10)</u></p>	Item		
61	<p>Clause 10.1 - General attendance F:..... V:..... T:.....</p>	Item		
62	<p>Clause 10.2 - Special attendance</p>			
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It is important to note that general attendance only requires the contractor to "permit the subcontractor 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" (refer to 12.2.13 of the JBCC n/s subcontract agreement). Many n/s subcontractors qualify their tenders to exclude scaffolding and/or hoisting facilities. Especially scaffolding could be an expensive item and it may be necessary in order to avoid claims to require the contractor to provide for the extended use of scaffolding for specific subcontracts within a description of "special attendance" in the applicable bill

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

Item

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

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	<p>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:.....</p>				
68	<p>Clause 11.6 - Environmental disturbance</p> <p>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</p> <p>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</p> <p>Environmental management plan The employer has prepared an environmental management plan (EMP) (refer to Annexure for a copy of the relevant plan). The contractor shall price opposite this item for compliance with all the requirements of such EMP F:..... V:..... T:.....</p>	Item			
69	<p>Clause 11.7 - Works cleaning and clearing F:..... V:..... T:.....</p>	Item			
70	<p>Clause 11.8 - Vermin F:..... V:..... T:.....</p>	Item			
71	<p>Clause 11.9 - Overhand work F:..... V:..... T:.....</p>	Item			
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72	<p>Clause 11.10 - Tenant installations F:..... V:..... T:.....</p>	Item		
73	<p>Clause 11.11 - Advertising F:..... V:..... T:.....</p>	Item		
<u>SECTION C: SPECIFIC PRELIMINARIES</u>				
74	<p>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</p> <p>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</p> <p>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:.....</p>	Item		
75	<p>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:.....</p>	Item		
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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:.....	Item		
79	Testing of flat roof waterproofing for water tightness Flat roof waterproof areas shall be flooded and kept "ponded" for at least forty eight (48) hours as a test to ensure the water tightness of the waterproofing and before any further construction work is carried out above the waterproofing F:..... V:.....T:.....	Item		
80	Health and safety			
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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** 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 reasonable provisions of the aforementioned health and safety specification [2.1]

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** (refer to Annexure for a copy of the relevant specification) 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]

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:.....

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Green star building certification

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

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82	<p>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</p> <p>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</p> <p>F:..... V:.....T:.....</p>	Item		
83	<p>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</p> <p>F:..... V:.....T:.....</p>	Item		
84	<p>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</p> <p>F:..... V:.....T:.....</p>	Item		
85	<p>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</p> <p>F:..... V:.....T:.....</p>	Item		
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SUMMARY OF CATEGORIES

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Category : Value R.....

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Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 1</u></p> <p><u>ALTERATIONS (PROVISIONAL)</u></p> <p><u>PREAMBLES</u></p> <p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p> <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> <p><u>General</u></p> <p>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</p>			
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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 rehanging, 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

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

Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary

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)

PROTECTION OF EXISTING WORK

General allowances

- | | |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Allow for watering the works by spraying to prevent any nuisance from dust, etc and supply, erect and remove at completion all temporary dust screens, etc required |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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2	Allow for protecting all existing work liable to suffer damage (ie. walls, finishes, floors, windows, etc) from damage during the building operations, alterations, etc and make good all work damaged with new material to match existing to the approval of the Principal Agent		Item	
<u>TEMPORARY BARRIERS, SCREENS, ETC</u>				
<u>Temporary barriers, screens, etc including removal</u>				
3	Dust screen 3000mm high formed of suitable timber framing with 375 micron polyethylene sheeting stapled on including corners, ends, etc	m	150	
<u>REMOVAL OF EXISTING WORK</u>				
<u>Breaking up and removing unreinforced concrete</u>				
4	100mm thick concrete apron	m2	124	
<u>Break up and remove reinforced concrete, including cutting off and removing reinforcement</u>				
5	100mm thick concrete ramp	m3	4	
<u>Taking out and removal of paving slabs</u>				
6	Paving slabs	m2	634	
<u>Carefully remove flagstone paving, and set aside for later re-laying (elsewhere measured)</u>				
7	Paving slabs	m2	374	
<u>Relaying of existing flagstone paving (removal and set aside elsewhere measured)</u>				
8	Paving slabs	m2	374	
<u>Taking out and removing steel gates</u>				
9	Steel gates size 813 x 2 032mm high	No	4	
10	Steel gates size 1 615 x 2 032mm high	No	2	
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	<u>Taking out and removing doors, windows, etc, including thresholds, sills, etc and building up openings in brick walls, including making good cement plaster on both sides (making good paintwork elsewhere)</u>				
11	Steel cell door and frame 1 081 x 2 020mm high overall from one brick wall	No	1		
	<u>Taking out and removing doors, windows, etc, including thresholds, sills, etc and building up openings in brick walls, including making good cement plaster on both sides (making good paintwork elsewhere)</u>				
12	Timber single door size 813 x 2 032mm high overall from one brick wall	No	6		
	<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>				
13	Gypsum plasterboard ceilings, including timber brandering, etc	m2	50		
	<u>Taking out and removing sundry joinery work, fittings, etc</u>				
14	Timber cornice	m	160		
	<u>Taking out and removing ironmongery</u>				
15	Mortice lockset from timber door	No	3		
	<u>Taking out/off and removing sundry metalwork</u>				
16	Eaves gutters and down pipes	m	34		
	<u>Taking up and removing waterproofing, etc and preparing screeds for new waterproofing</u>				
17	Waterproofing from screed	m2	59		
	<u>Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc</u>				
18	40mm screed from floors	m2	17		
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19	Internal plaster from walls	m2	369
	<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	Vitreous china wash hand basin, including short lengths of piping, etc	No	5
21	Vitreous china WC pan with cistern	No	7
22	Urinal including short lengths of piping, etc.	No	3
23	Stainless steel single bowl including short lengths of piping, etc	No	2
24	Basin tap	No	4
	<u>Taking out/off and removing glass and mirrors</u>		
25	Glass from steel windows, including cleaning out rebates and preparing for new glass	m2	1
	<u>REPAIR AND SERVICING OF EXISTING</u>		
	<u>Repair and servicing of existing timber doors and windows</u>		
26	Inspect and service timber window frame size 1 200 x 1 500mm high including sanding down, etc leave in good working order	No	8
27	Inspect and service timber window frame size 2 000 x 1 500mm high including sanding down, etc leave in good working order	No	5
28	Inspect and service timber double door and frame size 2 000 x 2 200mm high including sanding down, etc leave in good working order	No	2
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<u>Repair and servicing of existing windows</u>					
<u>Servicing of existing windows including thoroughly cleaning down of all dirt, scale and general contamination from all surfaces, pulleys, handles ,rods,openners,catches,etc.and servicing and lubricating all moving parts,carefully removing all paint,from and polishing all brassware and replacing of damaged or missing screws, nuts,etc (replacement of ironmongery ,removal of glass, etc else where measured)</u>					
29	Window size 500 x 600mm high	No	20		
30	Window size 1 000 x 600mm high	No	4		
<u>Supply and fit the following window ironmongery sundries</u>					
<u>Brass</u>					
31	Window handles	No	8		
32	Peg stays	No	8		
33	Sliding stays	No	8		
<u>Servicing of existing door frame including replacing striking plates</u>					
34	Door frame size 813 x 2 032mm high	No	8		
<u>Repair and servicing of existing sanitary fittings</u>					
<u>Repair leaking water supply pipe</u>					
35	Investigate as necessary to identify location and extent of leaks in plastered walls finish	No	3		
36	Hack into existing plastered wall finish to allow for repair including temporarily blanking off branch and reinstating ,all to match existing (pipe repair elsewhere measured)	No	3		
37	Cut into existing copper pipe not exceeding 30mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	3		
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<u>Repair to soil waste and vent pipes</u>				
38	Investigate as necessary to identify location and extent of leaks in plastered walls finish	No	3	
39	Hack into existing plastered wall finish to allow for repair including temporarily blanking off branch and reinstating ,all to match existing (pipe repair elsewhere measured)	No	3	
40	Cut into existing copper pipe not exceeding 30mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	3	
<u>Repair and servicing of existing services</u>				
41	Allow a sum of R350 000.00 (Three Hundred and Fifty Thousand Rands) for excavations, cart away, backfilling, inspections, repairs, fixing of existing sewer, water lines, storm water drainage by specialist			SUM
<u>CLEANING OF EXISTING SURFACES</u>				
<u>Preparation to existing vertical surfaces</u>				
42	Clean existing face brick walls using a water pressure cleaning system and steel brushes and remove all dirt and loose particles	m2	468	
<u>Existing ceramic floor tiling</u>				
43	Clean existing surfaces with a high pressure water spray to remove all debris and oil, inspect recessed joints and fill with mortar where necessary to achieve flush joints.	m2	433	
<u>Clean existing roof covering using a high pressure water cleaning system and steel brushes removing all loose paint, spawl and deleterious matter</u>				
44	Clay roof tiles	m2	374	
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<u>Sealing of existing roof</u>					
45	Carefully examine existing entire roof area, locate leaks with particular attention given to roof leaks where marks are visible on walls and ceilings, locate holes, replace defective screws using longer screws where necessary and leave in good order	m2	374		
<u>Repair roof tiles</u>					
46	Take out, remove and replace with new broken roof tiles to match with existing	m2	25		
<u>WATERPROOFING TO EXISTING EXTERNAL FACE BRICK WALLS, ETC</u>					
<u>Prepare existing face brick surfaces and apply two coat of Permaseal Facade Cream, Remmers Funcosil FC Microshield Ultra or equal approved</u>					
47	To walls	m2	232		
<u>CRACK REPAIRS</u>					
<u>Reaming and sealing of cracks</u>					
48	Clean existing surfaces with a high pressure water spray to remove all debris and oil ,inspect recessed joints and fill with mortar where necessary to achieve flush joints.	m2	45		
<u>Prepare and apply three coats Plascon Professional Waterproofing compound SAT520 ,or similar approved by brush or long pile synthetic roller at a spreading rate of not exceeding 1.2m2/litre (approx.WFT 700um) per coat to yield a total combined DFT of 1mm</u>					
49	To isolated walls areas, over repaired cracks	m2	45		
50	Repair cracks in external face brick walls by raking out joints and grouting solid in cement mortar	m	20		
51	Ream crack to a minimum of 10mm wide x 10mm deep, remove dust and debris, and fill with an approved masonry patching plaster	m	35		
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52	Ream crack to a minimum of 10mm wide x 10mm deep, remove dust and debris, and fill with Sikaflex Pro 2HB, or equal approved, painting flexible filler	m	40		
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<u>Testing</u>					
<i>Prices for filling are to include for all necessary density tests in accordance with SABS 1200D</i>					
<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>					
<u>EXCAVATIONS, ETC</u>					
<u>Excavate in earth not exceeding 2m deep</u>					
1	Trenches	m3	4		
<u>Extra over excavations in earth for excavation in:</u>					
2	Soft rock	m3	1		
3	Hard rock	m3	1		
<u>Extra over all excavations for carting away</u>					
4	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	2		
<u>Risk of collapse of excavations</u>					
5	Sides of trench and hole excavations not exceeding 1,5m deep	m2	4		
<u>Keeping excavations free of water</u>					
6	Keeping excavations free of all water other than subterranean water		Item		
<u>FILLING ETC</u>					
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 90% Mod AASHTO density</u>					
7	Backfilling to trenches, holes, etc	m3	2		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 2 Earthworks (Provisional) KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<u>Earth filling supplied by the Contractor, compacted to 90% Mod AASHTO density</u>				
8	Under floors, steps, pavings, etc	m3	2		
	<u>Compaction of surfaces</u>				
9	Compaction of ground surface under pavings, aprons, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2	8		
	<u>SOIL POISONING</u>				
	<u>Soil insecticide in accordance with SANS 5859</u>				
10	Under floors, etc including forming and poisoning shallow furrows against foundation walls, etc filling in furrows and ramming	m2	8		
11	To bottoms and sides of trenches, etc	m2	8		
Carried to Collection					R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 2 Earthworks (Provisional) KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 3</u>			
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
<u>PREAMBLES</u>			
<p>NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Cost of tests</u>			
<p>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 principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)</p>			
<u>Formwork</u>			
<p>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</p> <p>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</p>			
Carried to Collection			
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 3 Concrete, Formwork and Reinforcement KwaZulu Natal Botanical Gardens - Pietermaritzburg			R

Formwork to soffits of solid slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described

Formwork to soffits of slabs, beams, etc shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high 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"

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

25Mpa/19mm concrete

1	Aprons cast in panels	m3	8
2	Thickening down the edge of apron 150mm deep, 200mm top and tapering to 100mm at bottom including all excavations, formwork, backfilling, etc	m	80
3	Ramps	m3	7

TEST CUBES

4	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5
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35 MPa non-shrink grout

5	Bedding approximately 10mm thick under 200 x 200mm base plate including chamfered edges all round	No	17
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CONCRETE SUNDRIES

Finishing top surfaces of concrete smooth with a wood float

6	Aprons to falls	m2	80
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Carried to Collection

R

Section No. 2
SECTION 2: BUILDING WORKS
Bill No. 3
Concrete, Formwork and Reinforcement
KwaZulu Natal Botanical Gardens - Pietermaritzburg

ROUGH FORMWORK

Rough formwork to sides

7	Edges, risers, beams, ends and reveals not exceeding 300mm high or wide	m	4	
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REINFORCEMENT (PROVISIONAL)

Fabric reinforcement

8	Type 245 fabric reinforcement in surface beds, ramps, etc	m2	8	
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Carried to Collection

R

Section No. 2
SECTION 2: BUILDING WORKS
Bill No. 3
Concrete, Formwork and Reinforcement
KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 4</u>			
<u>MASONRY</u>			
<u>PREAMBLES</u>			
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>BRICKWORK</u>			
<u>Sizes in descriptions</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>Hollow walls</u>			
Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole			
<u>Face bricks</u>			
Bricks shall be ordered timeously to obtain uniformity in size and colour			
<u>Pointing</u>			
Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc			
<u>BRICKWORK</u>			
<u>FOUNDATIONS (PROVISIONAL)</u>			
Carried to Collection			R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 4 Masonry KwaZulu Natal Botanical Gardens - Pietermaritzburg			

	<u>Brickwork of NFP bricks (14 MPa nominal compressive strength) in class II mortar</u>				
1	One brick walls	m2	8		
	<u>SUPERSTRUCTURE</u>				
2	Half brick walls	m2	6		
3	One brick walls	m2	10		
	<u>BRICKWORK SUNDRIES</u>				
	<u>2,5mm Brickwork reinforcement</u>				
4	75mm Wide reinforcement built in horizontally	m	24		
5	150mm Wide reinforcement built in horizontally	m	72		
	<u>PRECAST CONCRETE</u>				
	<u>Precast Concrete Columns finished smooth on exposed surfaces including bedding, jointing and pointing</u>				
6	75 x 150mm high PCC unit 2 400mm long fixed on top of columns (Prime cost amount R500 excluding VAT delivered)	No	40		
7	Precast concrete cap on top of columns (Prime cost amount R500 excluding VAT delivered)	No	4		
	<u>FACE BRICKWORK</u>				
	<u>Corobrik Red Terracota satin FBS or equally approved face brick pointed with flush horizontal and vertical joints in stretcher bond</u>				
8	One brick wall in facings	m2	22		
9	Extra over brickwork for 220mm wide brick-on-edge coping	m	22		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 4 Masonry KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

[illegible]

Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 5</u>			
<u>WATERPROOFING</u>			
<u>PREAMBLES</u>			
NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Waterproofing</u>			
Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. 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>DAMPPROOFING OF WALLS AND FLOORS</u>			
<u>One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)</u>			
1	In walls	m2	3
<u>One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</u>			
2	Under surface beds	m2	8
<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u>			
Carried to Collection			R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 5 Waterproofing KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

<u>One layer Derbigum SP4 waterproofing membrane, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by: 'torchfusion' finished with two coats Roofcote grey: acry lic paint. Waterproofing to be installed by an Approved Derbigum Contractor under a ten year guarantee</u>						
3	On sloping roofs	m2	59			
4	Sealing to edges to brickwork or concrete	m	94			
5	Flashing strip 150mm girth at turn-ups including flashing strip 150mm girth and sealing top edge into groove with mastic	m	94			
6	Additional membrane 150mm girth at turn-ups including flashing strip 150mm girth and sealing top edge into groove with mastic	m	94			
7	Additional membrane around 100mm outside diameter pipe	No	2			
<u>Two coats bituminous aluminium paint</u>						
8	On waterproofing to roofs	m2	59			
<u>SEALING STRIPS, JOINT SEALANTS, ETC</u>						
<u>"Compriband" or equal approved bitumen impregnated foam plastic joint sealing strips</u>						
9	30 x 50mm in expansion joints	m	749			
<u>Silicone sealing compound</u>						
10	4 x 4mm at junction of timber fittings to wall tiling (Provisional)	m	80			
11	4 x 4mm around sanitary fittings (Provisional)	m	64			
Carried to Collection					R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 5 Waterproofing KwaZulu Natal Botanical Gardens - Pietermaritzburg						

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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	<u>Roof insulation to be Isoboard® high density 32-36kg/m3 rigid extruded polystyrene 100% closed cell insulation boards 40mm thick x 600mm wide with brown paper and polyethylene laminate slip sheet factory applied to upper surface, with tongue & groove joints fixed concurrent with roof covering over steel purlins at maximum 1 500mm centres with 5mm gap between boards butt-joined over purlins. Ridge vents are recommended to be allowed for in the roof covering (elsewhere specified) in order to prevent deflection due to heat build up above the boards.</u>				
4	Insulation laid taut over purlins (at approximately 1.80m centres) and fixed concurrent with roof covering, including taped laps and nylon straining wires	m2	430		
	<u>SHEET METAL FLASHINGS, LININGS, COPINGS, ETC</u>				
	<u>0.6mm Galvanised sheet iron</u>				
5	Linings to valleys with riveted and soldered joints 308mm girth	m	63		
Carried to Collection					R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 6 Roof coverings KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 7</u></p> <p><u>CARPENTRY AND JOINERY</u></p> <p><u>PREAMBLES</u></p> <p>NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Fixing</u></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete</p> <p>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given elsewhere</p> <p><u>Joinery</u></p> <p>Descriptions of frames shall be deemed to include frames, transomes, rails, etc</p> <p>Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts</p> <p><u>Decorative thermosetting plastic laminate covering</u></p> <p>Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish</p>			
<p style="text-align: right;">Carried to Collection</p>			R
<p>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 7 Carpentry and joinery KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<u>Wrought laminated Balu or equal approved</u> <u>(Architectural finish)</u>				
1	76 x 157mm Pergola beams	m	194		
2	76 x 228mm beams, pergola beams, etc bolted	m	35		
	<u>EAVES, VERGES, ETC</u>				
	<u>Medium density plain fibre-cement flat sheets</u>				
3	225 x 10mm Fascias and barge boards, including galvanised steel H-profile joiners	m	90		
	<u>DOORS ETC</u>				
	<u>Wrought meranti doors</u>				
4	40mm Framed, ledged and braced batten door 813 x 2032mm high of 44 x 104 mm top rail and stiles, 22 x 120mm middle ledge and braces and 22 x 142mm bottom rail filled in with 22mm V-jointed one side boarding and covered on other side with 6mm plywood with veneer to match door, let into and including rebates all round	No	2		
	<u>Semi-solid flush doors with masonite finish</u> <u>concealed hardwood edges to steel frames</u>				
5	40mm Door 813 x 2 032mm high	No	4		
6	40mm Door 1 600 x 2 032mm high	No	2		
	<u>FRAMED FRAMES, ETC</u>				
	<u>Wrought meranti</u>				
7	69 x 107mm rebated frames	m	20		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 7 Carpentry and joinery KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 8</u>			
	<u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u>			
	<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Fixing</u></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete</p> <p>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as "bolted", the bolts have been given elsewhere</p> <p><u>Ceilings</u></p> <p>Unless otherwise described ceilings shall be deemed to be horizontal</p> <p><u>SUSPENDED CEILINGS</u></p>			
	Carried to Collection			
	<p>Section No. 2</p> <p>SECTION 2: BUILDING WORKS</p> <p>Bill No. 8</p> <p>Ceilings, Partitions and Access Flooring</p> <p>KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>			
			R	

<p><u>Supply and install Pelican AMF Thermofon or equal approved sound absorption (EN ISO 354) ceiling tile with square edge laid on Pelican Econogrid or equal approved pre-painted white exposed tee grid system including fire safety punch outs. Suspended ceiling not exceeding 1 000mm below steel purlins with Daiken Excel-Tone MR 99% RH resistant New NDF square edge pre-painted White acoustic mineral fibre ceiling tiles, laid on CKM T38/15 15 x 38mm pre-painted white exposed grid system comprising main tees at 1 200mm centres and CKM T38/15 15 x 38mm cross tees at 600mm centres at right angles to main tees. Main tees suspended by means of 19 x 0.55mm diameter straightened galvanised wires at 1 200mm centres using wire. Ceilings to be installed by an approved specialist and in accordance with the manufacturer's recommendations.</u></p>				
1	Ceiling suspended not exceeding 1 000mm below steel structure at approximately 1 000mm centres	m2	430	
<p><u>Pelican or equal approved shadow line cornices to suspended ceilings</u></p>				
2	PS 1 (20 x 20) or equal approved shadow line trim wall trim, fixed at 450mm centres using wall anchors.	m	356	
<p><u>CEILING BAFFLES</u></p> <p><u>Pelican or equal approved NRC 0.79 fabric Acoustic Baffles mounted to suspended ceiling attached using small gauge steel cables installed by an approved specialist and in accordance with the manufacturer's recommendations.</u></p>				
3	Ceiling baffles fixed below suspended ceilings	m2	430	
<p><u>NAIL UP CEILING</u></p>				
Carried to Collection				R
<p>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 8 Ceilings, Partitions and Access Flooring KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>				

	<u>Everite Nutec or equal approved 4mm thick plain ceiling boards, manufactured in accordance with SANS 9001 :2000 carrying SANS 803:2005 mark, fixed to existing battens using 32 x 2,5mm serrated ceiling nails at 150mm centres, minimum of 12mm from edge of board. All joints to be covered using H-profile white PVC jointing strips, all in accordance with the manufacturer's recommendations</u>				
4	Ceilings including 38 x 38mm sawn softwood brandering at 450mm centres in one direction	m2	40		
	<u>Rhino gypsum plasterboard cornices</u>				
5	19 x 76 mm Cornices, plugged	m	80		
	<u>DRY WALL PARTITIONS, ETC</u>				
	<u>Supply and install Pelican System JUMBO Acoustic wall or equal approved wall 102/120/S56 with overall thickness of 162mm, with 102 x 35mm JUMBO studs at 600mm centres friction fitted into head track and floor track and clad on both sides with a double layer of 15mm thick Fire Resistant JUMBO plasterboard fixed at 220mm centres using 25mm JUMBO screws on the base layer and 42mm JUMBO screws on the face layer, all plastered joints must overlap. All exterior joints to be covered with JUMBO Tape and finished with two layers of JUMBO jointing plaster applied and lightly sanded down, leaving wall surface prepared for painting, all in accordance with the supplier's recommendations. A 102mm Cavity Batt 14/kg3 density insulation to be installed in the cavity. Partition cladding to be installed by approved specialist and in accordance with the manufacturer's recommendations.</u>				
6	Partition cladding size 3 070mm high with bottom and top and top tracks plugged.	m	94		
	<u>Supply and install Acoustic or equal approved wall cladding panels on dry walling</u>				
7	20mm thick high sound absorbent Formaldehyde or equal approved free moisture resistant Warping, maximum recommended plank in rectangular sizes of 2 400mm x 1 200mm (NRC 0.50), Acoustic wall cladding panels on dry walling with 200mm spaces all fixed in accordance with manufacturer's specifications	m2	289		
Carried to Collection					R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 8 Ceilings, Partitions and Access Flooring KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 9</u>			
<u>IRONMONGERY</u>			
<u>PREAMBLES</u>			
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Proprietary items</u>			
<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>			
Carried to Collection			
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 9 Ironmongery KwaZulu Natal Botanical Gardens - Pietermaritzburg			R

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

The following Ironmongery by door Type
Dormakaba or equally approved

1	Dormakaba Lever handle on rose with Cylinder escutcheons Code TH125 Cyl S.S	No	8
2	Dormakaba Cylinder Sash Lock. Case dimensions (mm) 116.5H x 78D. Forend dimensions (mm) 168H x 22W. BackNo 57mm. Centres 61mm.Code D036S SS	No	8
3	Dormakaba 66mm five pin Euro-profile Double Cylinder Grand Master Keyed Code DDC106601 GMK (66mm)	No	8
4	Dormakaba Lever handle on rose with Cylinder escutcheons Code TH125 Cyl S.S	No	8
5	Dormakaba Floor Mounted Door stop Code DDS-NP-018	No	24
6	Dormakaba hat and coat hook Code DDS-NP-019	No	4
7	Dormakaba 50mm Padlock - Grand Master Keyed. Code DPL1000 GMK	No	1
8	Dormakaba EN 3/4 Cam action slide channel NON HOLD OPEN Door Closer - Hydraulic Speed Control. Pull Side - leaf or transom fixing; Push Side - leaf or transom fixing. EN3 850-950, EN4 950-1100 Code TS90 - SL	No	3

Carried to Collection

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Section No. 2
 SECTION 2: BUILDING WORKS
 Bill No. 9
 Ironmongery
KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
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Supply and fit the following window ironmongery sundries

Brass

9	Window handles	No	40
10	Peg stays	No	31
11	Sliding stays	No	31

BATHROOM FITTINGS, ETC

Franke stainless steel or other equal approved

12	STRX672 stainless steel soap dispenser, plugged	No	7
13	STRDX618 paper towel dispenser, plugged	No	7
14	STRX605 stainless steel waste bin	No	7
15	STRX672 vandal proof toilet roll holder, plugged	No	16

Dorma or other approved

16	DGR-SS-152 stainless steel side grab rail, plugged	No	3
17	DGR-SS-150 stainless steel cistern back rail, plugged	No	3

LETTERS, NAMEPLATES, ETC

DCLSA or equal approved

18	160 x 160mm EO151560E/M/F anodised aluminium plate with male or female engraving	No	14
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Dorma or equal approved

19	DSS-131 stainless steel 150 x 150mm FEMALE sign	No	3
20	DSS-130 stainless steel 150 x 150mm MALE signs	No	3
21	DSS-133 stainless steel 150 x 150mm DISABLED PERSON sign	No	3

Carried to Collection

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Section No. 2
SECTION 2: BUILDING WORKS
Bill No. 9
Ironmongery
KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 10</u>			
<u>STRUCTURAL STEELWORK</u>			
<u>PREAMBLES</u>			
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Descriptions</u>			
<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>			
<u>STEEL COLUMNS AND BEAMS</u>			
<u>Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete</u>			
1	100 x 100 x 4mm SHS (column)	t 4.40	
<u>Welded beams in single lengths with angle section cleats bolted to brickwork</u>			
2	150 x 100 x 3mm RHS (beam)	t 5.60	
<u>STEEL PURLINS, GIRTS, BRACING, ETC</u>			
Carried to Collection			R
<p>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 10 Structural Steel KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 11</u>			
	<u>METALWORK</u>			
	<u>PREAMBLES</u>			
	NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Descriptions of bolts, anchors, etc</u>			
	Descriptions of bolts shall be deemed to include nuts and washers			
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete			
	Items described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described			
	Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres			
	<u>GALVANISED MILD STEEL HANDRAILS, BALUSTRADE, ETC.</u>			
	<u>Contractors to refer to Drawing D 14-001-WD-800-00 at the back of this document for general requirements, scope and construction details of the work to be carried out under this heading. The reference numbers shown in brackets are taken from the drawings</u>			
1	16mm diameter rods	m	140	
	Carried to Collection		R	
	Section No. 2 SECTION 2: BUILDING WORKS Bill No. 11 Metalwork KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

2	25mm diameter top rail and bottom rail	m	40		
3	50mm diameter hand rail	m	20		
4	Extra for closed end	No	11		
5	60 x 8mm thick stanchions	m	33		
6	60 x 30 x 8mm thick baseplate	No	36		
7	M8 x 70mm expansion bolt	No	73		
8	Hole through 10mm steel for 8mm diameter bolt (elsewhere)	No	73		
<u>HOT DIPPED GALVANISED BOLTS, FASTENERS, BRACKETS, ETC</u>					
<u>Welded and bolted brackets to timber pergolas (timber pergolas elsewhere measured)</u>					
9	Angled brackets	kg	545		
10	U shaped brackets	kg	90		
11	T shaped brackets	kg	90		
12	Base plates	kg	126		
13	Bolts and nuts	kg	39		
14	Expansion bolts, bolted into concrete	kg	19		
15	Hole through steel brackets for bolts	No	588		
<u>STEEL GATES, SCREENS, ETC</u>					
<u>Welded screen and gates</u>					
16	Single gate 840 x 2 032mm high of 50 x 50 x 2mm square hollow section frame and middle rail, filled in with 16mm diameter hollow section vertical paling at 150mm centres and fitted with a pair of suitable hinges welded to post and with locking bolt welded on steel frame	No	3		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 11 Metalwork KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<p><u>Burglar proofing</u></p>			
17	<p>Allow a sum of R200 000.00 (Two Hundred Thousand Rands) for burglar proofing to selected openings and to be deducted if not utilised and/or required.</p>		SUM	
	<p style="text-align: right;">Carried to Collection</p>		R	
	<p>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 11 Metalwork KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>			

ALUMINIUM WINDOWS, DOORS, ETC.

Aluminium custom designed polyester mix powder coated (50 - 100mm thick) aluminium window glazed with bullet resistant GSA smartglass 6,3mm GSA Smartglass or equal approved armourplate E range low E toughened safe glass, with glazing beads and vinyl gaskets with neoprene seals and plugged to brickwork or concrete complete including silicone seal and all ironmongery, stays, latches, etc

Contractors are to refer to drawings O14-001/300H/WD/00 at the back of this document for general requirements, scope and construction details of the work to be carried out under this heading. The reference numbers shown in brackets are taken from the drawings

Windows

18	Window type A, size 600 x 1 200mm high	No	2
19	Window type D, size 1 200 x 1 200mm high	No	2
20	Window type C, size 1 800 x 1 050mm high	No	1
21	Window type B, size 1 800 x 1 500mm high	No	4

Doors

22	Special doors type E size 1 800 x 2 400mm high	No	1
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Aluminium custom designed polyester mixer powder coated (50 - 100mm thick) aluminium window glazed with bullet resistant GSA smart glass 6,3mm GSA Smartglass or equal approved armour late E range low E toughened safety: glass, with glazing beads and vinyl gaskets with seals and lugged to brickwork or concrete including silicone seal and all ironmongery, stays, latches, etc

Contractors are to refer to drawings D14-001/501/WD/02 at the back of this document for general requirements, scope and construction details of the work to be carried out under this heading. The reference numbers shown in brackets are taken from the drawings

Carried to Collection

R

Section No. 2

SECTION 2: BUILDING WORKS

Bill No. 11

Metalwork

KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<u>Windows</u>				
23	Window type A size 1 800 x 2 000mm high	No	4		
24	Window type 8 size 2 700 x 2 000mm high	No	2		
	<u>Shopfronts</u>				
25	Shop front type F size 14 440 x 1 150mm high tapering to 400mm high	No	1		
26	Shop front type G size 14 440 x 1 150mm high tapering to 400mm high	No	1		
27	Shop front type H size 26 270 x 1 150mm high	No	1		
	<u>Doors</u>				
28	Special doors type C size 1 600 x 2 470mm high	No	2		
29	Special doors type E sliding folding size 2 950 x 2 470mm high	No	3		
30	Special doors type D sliding folding size 3 050 x 2 470mm high	No	2		
31	Purpose made sliding folding door size 14 720 x 3 070mm high complete with rails, ironmongery, etc by specialist	No	1		
Carried to Collection					R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 11 Metalwork KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
<u>SECTION NO. 2</u>				
<u>BILL NO. 12</u>				
<u>PLASTERING</u>				
<u>PREAMBLES</u>				
NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill				
<u>FLOOR SCREEDS</u>				
<u>1 : 4 wooden float screed to floor</u>				
1	30mm Thick on floors and landings	m2	687	
<u>INTERNAL PLASTER</u>				
<u>Cement plaster steel trowelled, on brickwork</u>				
2	On walls	m2	454	
<u>EXTERNAL PLASTER</u>				
<u>Cement plaster steel trowelled, on brickwork</u>				
3	On walls	m2	60	
<u>INTERNAL PLASTER WITH CHICKEN MESH</u>				
<u>Cement plaster with mesh</u>				
4	200mm Wide strip galvanised chicken mesh centrally over joints before plastering, brickwork to be moistened thoroughly before plastering	m	24	
<u>Cement plaster wood floated, on concrete</u>				
5	On ceilings	m2	6	
Carried to Collection				R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 12 Plastering KwaZulu Natal Botanical Gardens - Pietermaritzburg				

**CORNER PROTECTORS, DIVIDING STRIPS,
ETC**

6 50 x 5mm Flat section brass dividing strips between
differing floor finishes

m

10

Carried to Collection

R

Section No. 2
SECTION 2: BUILDING WORKS
Bill No. 12
Plastering
KwaZulu Natal Botanical Gardens - Pietermaritzburg

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 13</u>			
	<u>TILING</u>			
	<u>PREAMBLES</u>			
	<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Fixing</u>			
	<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 from the range of products as recommended by the manufacturer of the tiles</p>			
	<u>WALL TILING</u>			
	<u>250 x 250 x 10mm glazed walls tiles fixed with adhesive to plaster (plaster elsewhere) and flush pointed with tinted grout</u>			
1	On walls	m2	60	
	<u>FLOOR TILING</u>			
	Carried to Collection			R
	<p>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 13 Tiling KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

[illegible]

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 14</u>			
	<u>PLUMBING AND DRAINAGE (PROVISIONAL)</u>			
	<u>PREAMBLES</u>			
	NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Wire gratings</u>			
	Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings			
	<u>Stormwater channels</u>			
	Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc, and disposal of surplus material on site			
	<u>Stainless steel basins, sinks, wash troughs, urinals, etc</u>			
	Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0)			
	Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be Type 304 (18/8)			
	Stainless steel for laboratory sinks, photographic equipment, etc shall be Type 316 (18/8)			
	Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable			
	Carried to Collection			
	Section No. 2			
	SECTION 2: BUILDING WORKS			
	Bill No. 14			
	Plumbing and Drainage (Provisional)			
	KwaZulu Natal Botanical Gardens - Pietermaritzburg			
			R	

Sealing of edges

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

uPVC pipes and fittings

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

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

uPVC pressure pipes and fittings

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

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

High density polyethylene (HDPE) pipes and fittings

Pipes shall be type IV and of the class specified with "Plasson" or "Alprene" compression fittings

"Polycop" polypropylene pipes

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

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

Carried to Collection

Section No. 2

SECTION 2: BUILDING WORKS

Bill No. 14

Plumbing and Drainage (Provisional)

KwaZulu Natal Botanical Gardens - Pietermaritzburg

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Copper pipes

Pipes shall be hard drawn and half-hard "Maksal" 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-siphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016

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

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing" and 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

Fixing of pipes

Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls, etc, casting in, building in or suspending not exceeding 1m below suspension level

Laying, backfilling, bedding, etc of pipes

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

Carried to Collection

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Section No. 2
SECTION 2: BUILDING WORKS
 Bill No. 14
 Plumbing and Drainage (Provisional)
KwaZulu Natal Botanical Gardens - Pietermaritzburg

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

SABS 1200LD : Sewers

SABS 1200LE: Stormwater drainage

Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200DB :
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 1200LB : Bedding
(Pipes)

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

General

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

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

Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 93% Mod AASHTO density and disposal of surplus material on site

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

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

Carried to Collection

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SECTION 2: BUILDING WORKS

Bill No. 14

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<u>As-built drawings</u>					
Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)					
<u>RAINWATER DISPOSAL</u>					
<u>"Ogee" or equal approved aluminium gutter and downpipes complete with, outlets plinths offsets, bends and shoes</u>					
1	125mm Half round eaves gutters	m	103		
2	Extra over gutter for stopped end	No	30		
3	Extra over gutter for angle	No	10		
4	Extra over gutter for outlet for 100 x 75 mm pipe	No	87		
5	75mm Rainwater pipes	m	185		
6	Extra over rainwater pipe for shoe	No	77		
7	Extra over rainwater pipe for bend	No	77		
8	Extra over rainwater pipe for offset plinth	No	10		
<u>SANITARY FITTINGS</u>					
<u>12mm Stainless steel type 304 (grade 18/10) or equal approved</u>					
9	Service and repair single bowl wash trough and leave in working order	No	1		
<u>White glazed 'Vaal' or equal approved</u>					
10	"Orchid" or equal approved top inlet wall hung washdown pan with cradle bracket and legs (flush valve elsewhere)	No	6		
11	"Hibiscus" or equal approved 540 x 45 rounded basin with single tap hole product code 702303	No	2		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 14 Plumbing and Drainage (Provisional) KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

12	"Weaver' or equal approved 575 x 455 rectangular basin with single tap hole product code 704103	No	5		
13	"Daisy" or equal approved semi-closed couple wash down suite including heavy duty plastic seat 772403	No	9		
14	"Lavatera" or equal approved wall hung urinal product code 705243	No	1		
15	'Protea Paraplegic' or equal approved white vitreous china floor mounted paraplegic washdown suite (product code 7502) comprising 90° outlet pan (product code 7502) and matching 9 litre cistern (product code 710539) including lid, fitments, etc. with purpose made chromium plated side mounted flush lever, bedded in 4:1 cement mortar on concrete floors.	No	2		
<u>Cobra Watertech or other approved</u>					
16	Le Mans or equal approved back inlet urinal size 325 x 320 x 575mm high with waste outlet, fixed on and including wall brackets and female collar to the waste pipe	No	4		
<u>WASTE UNIONS, ETC.</u>					
17	32 mm Chromium plated basin waste union	No	7		
<u>TRAPS, ETC.</u>					
18	40 x 50mm Rubber butyl deep seal "P" or "S" trap	No	7		
19	32 x 50 mm Chromium plated bottle trap	No	3		
20	40 x 50mm Chromium plated bottle trap	No	2		
<u>TAPS, VALVES, ETC.</u>					
<u>"Cobra Watertech" or other equal approved</u>					
21	15mm 832/350F or equal approved angle valve with 350mm flexible hose connector	No	29		
22	15mm 181CP "Star" or equal approved exposed wall type shower mixer with wall flanges, 020CP riser pipe, C-033CP adjustable pipe holder and 070CP shower head	No	2		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 14 Plumbing and Drainage (Provisional) KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

23	15mm 181CP "Tudor" or equal approved exposed basin mixer, TD-294	No	4	
24	15mm 181CP "Tudor" or equal approved pillar tap, TD-212-15CP	No	4	
25	15mm 065CP or equal approved shower head	No	1	
26	32mm FM1 .1 OOCF or equal approved "Flush master" exposed back entry toilet flush valve	No	5	
27	15mm 108RB or equal approved Hose bibtap with hose union	No	3	
	<u>"Walcro" or other equal approved</u>			
28	15mm self-closing metering tap fitted on top of the unit plugged.	No	1	
	<u>SANITARY PLUMBING</u>			
	<u>uPVC soil and vent pipes</u>			
29	50mm Pipes	m	100	
30	110 mm Pipes	m	25	
31	110 mm Pipes laid in and including trenches not exceeding 1m deep under surface beds	m	65	
	<u>Extra over 50 mm uPVC pipes for fittings</u>			
32	BSP adaptor	No	5	
33	Bend	No	5	
34	Junction	No	5	
35	Access bend	No	4	
36	Access junction	No	5	
37	Two-way vent valve	No	7	
	Carried to Collection			R
	Section No. 2 SECTION 2: BUILDING WORKS Bill No. 14 Plumbing and Drainage (Provisional) KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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WATER SUPPLIES TO FIRE APPLIANCES

Galvanised mild steel

52	22mm Pipes	m	12
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53	28mm Pipes	m	8
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Extra over galvanised mild steel pipes for fittings

54	22mm Fittings	No	2
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55	28mm Fittings	No	2
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Sundries

56	Testing fire water pipe system	Item	
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Carried to Collection

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Section No. 2
SECTION 2: BUILDING WORKS
Bill No. 14
Plumbing and Drainage (Provisional)
KwaZulu Natal Botanical Gardens - Pietermaritzburg

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KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
<u>SECTION NO. 2</u>				
<u>BILL NO. 15</u>				
<u>GLAZING</u>				
<u>PREAMBLES</u>				
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>				
<u>GLAZING TO STEEL WITH PUTTY</u>				
<u>6.38mm clear safety glass</u>				
1	Panes exceeding 0,1m ² and not exceeding 0,5m ²	m2	5	
<u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u>				
<p><u>6mm Silvered float glass copper backed mirrors with polished edges, holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u></p>				
2	Mirror size 450 x 600mm high	No	7	
<p>Carried Forward to Summary of Section No. 2</p> <p>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 15 Glazing KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>				<p>R</p>

Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BILL NO. 16</u>			
<u>PAINTWORK</u>			
<u>PREAMBLES</u>			
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>PREPARATORY WORK TO EXISTING WORK</u>			
<u>Previously painted plastered surfaces</u>			
Surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth			
<u>Previously painted metal surfaces</u>			
Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal			
<u>Previously painted wood surfaces</u>			
Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth			
<u>PAINT SPECIFICATIONS</u>			
All painting shall be done in accordance with "SANS" specifications unless otherwise described			
Carried to Collection			
			R
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 16 Paintwork KwaZulu Natal Botanical Gardens - Pietermaritzburg			

COLOURS

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

PAINTWORK ETC, TO NEW WORK

ON INTERNAL FLOATED PLASTER SURFACES

One coat alkali resistant primer, one coat undercoat and two coats "Eggshell enamel" paint

1	Internal walls	m2	320		
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One coat alkali resistant primer, one coat undercoat and two coats "Eggshell enamel" paint

2	External walls	m2	60		
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One coat alkali resistant primer, one coat undercoat and two coats "Eggshell enamel" paint

3	External PCC units	m	54		
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ON EXTERNAL FLOATED PLASTER SURFACES

One coat alkali resistant primer and two coats superior quality acrylic emulsion paint for interior and exterior use

4	Ceilings	m2	6		
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ON PLASTERBOARD SURFACES

One coat alkali resistant primer and two coats PVA emulsion paint for interior use

5	Ceilings and cornices	m2	586		
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ON FIBRE CEMENT BOARD SURFACES

One coat alkali resistant primer and two coats PVA emulsion paint for exterior use

6	Fascias and barge boards, including priming metal jointing strips	m	90		
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Carried to Collection

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Section No. 2

SECTION 2: BUILDING WORKS

Bill No. 16

Paintwork

KwaZulu Natal Botanical Gardens - Pietermaritzburg

<u>ON METAL SURFACES</u>					
<u>Prepare ,etc as specified and apply two coats of bitumen based paint inside the gutter</u>					
7	Inside eaves gutter	m2	37		
<u>One coat alkyd based zinc phosphate primer, one coat alkyd based universal undercoat and two coats premium quality polyurethane enamel paint, on steel</u>					
8	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	15		
9	Rails, bars, pipes, etc exceeding 300mm girth (Provisional)	m2	288		
10	Structural steel	t	6.00		
<u>ON WOOD SURFACES</u>					
<u>Spot priming defects with alkyd based universal undercoat and two coats gloss enamel paint on</u>					
11	On roof timbers	m2	110		
12	On timber shelves	m2	53		
13	Skirtings	m2	28		
<u>PAINTWORK ETC, TO PREVIOUSLY PAINTED WORK</u>					
<u>ON INTERNAL FLOATED PLASTER SURFACES</u>					
<u>One coat alkali resistant primer, one coat undercoat and two coats "Eggshell enamel" paint</u>					
14	Walls	m2	454		
<u>One coat alkali resistant primer, one coat undercoat and two coats "Eggshell enamel" paint</u>					
15	External PCC units	m	44		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 16 Paintwork KwaZulu Natal Botanical Gardens - Pietermaritzburg					

<u>ON SMOOTH CONCRETE SURFACES</u>					
<u>Two coats premium quality polyurethane enamel paint, on work in sound condition</u>					
16	Ceilings and beams	m2	107		
<u>ON PLASTERBOARD SURFACES</u>					
<u>One coat alkali resistant primer and two coats PVA emulsion paint for interior use</u>					
17	Ceilings and cornices	m2	803		
<u>ON FIBRE CEMENT BOARD SURFACES</u>					
<u>One coat alkali resistant primer and two coats PVA emulsion paint for exterior use</u>					
18	Fascias and barge boards, including priming metal jointing strips	m	124		
<u>ON METAL SURFACES</u>					
<u>Spot priming defects with alkyd based universal undercoat and two coats gloss enamel paint on</u>					
19	Door frames	m2	157		
20	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	7		
21	Rails, bars, pipes, etc not exceeding 300mm girth (Provisional)	m	10		
<u>One coat water based galvanised iron primer and two coats UV-resistant water based alkyd roof paint, roof tiles</u>					
22	Roof tiles	m2	733		
<u>ON WOOD SURFACES</u>					
<u>Spot priming defects with alkyd based universal undercoat and two coats gloss enamel paint on</u>					
23	Windows with burglar bars	m2	62		
Carried to Collection				R	
Section No. 2 SECTION 2: BUILDING WORKS Bill No. 16 Paintwork KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

24	Door frames	m2	19
25	Doors	m2	44
26	Eaves and verges	m2	43
<div>Carried to Collection</div> <div>R</div> <div>Section No. 2 SECTION 2: BUILDING WORKS Bill No. 16 Paintwork KwaZulu Natal Botanical Gardens - Pietermaritzburg</div>			

Upgrades, Refurbishment and Repairs to Buildings
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Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 3</u>			
<u>BILL NO: 1</u>			
<u>EXTERNAL WORKS (PROVISIONAL)</u>			
<u>PREAMBLES</u>			
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<p>All work must be executed strictly according to SANS 1200</p> <p>Supplementary preambles in previous bills or trades are equally applicable to this bill and the tenderer is referred to such previous bills for full descriptions which are equally applicable to all items and work in this bill, unless otherwise described</p>			
<u>MEASUREMENT AND PAYMENT</u>			
<p>Measurement and payment shall be in accordance with the "Standard System of Measuring Building Works", sixth edition, as well as the other documents referred to or contained in the Tender documents and not according to the SANS specifications.</p> <p>In addition to the "Standard System of Measuring Building Builder's work" the following item will also apply:</p>			
<p>1. Classification of materials</p>			
Carried to Collection			
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 1 General siteworks KwaZulu Natal Botanical Gardens - Pietermaritzburg			

"Hard rock" shall mean granite, quartziz sandstone or other rock of similar hardness which, in the Engineer's opinion, requires drilling, wedging and splitting or the use of explosives.

"Soft rock" shall mean hard material, the removal of which warrants, in the Engineer's opinion, the use of pneumatic tools and includes hard shale, fericite, compact ouklip and stone of similar hardness

"Earth" shall mean all ground other than that classified as 'hard rock" or "soft rock" and shall include made-up ground and any loose stones or pieces of concrete not exceeding 0.03m3 in volume.

Should the contractor consider that any of the excavations are more difficult in nature than excavations in "earth" he shall immediately notify the Quantity Surveyor in writing. Failing such notification the excavation shall deemed to be in "earth" and shall be measured and valued accordingly.

The contractor may use any method he chooses to excavate any class of material, but his chosen method of excavation shall not determine the classification of the excavation.

GENERAL SITE WORKS

SITE CLEARANCE ETC

Site clearance

1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	1 239
2	Stripping average 150mm thick layer of top soil and stockpiling on site	m2	1 239
<u>Break up/take down and remove existing work including carting off site by Contractor</u>			
3	Unreinforced concrete	m2	35

Carried to Collection

R

Section No. 3
SECTION 3: EXTERNAL WORKS (PROVISIONAL)
Bill No. 1
General siteworks
KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
<u>SECTION NO. 3</u>				
<u>BILL NO. 2</u>				
<u>STORMWATER DRAINAGE</u>				
<u>PREAMBLES</u>				
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>				
<u>STORMWATER DRAINAGE</u>				
<u>Check, service and investigate stormwater pipes</u>				
1	Investigate existing stormwater pipe and trace leaks	m	215	
2	Investigate as necessary to identify location and extent of leaks including excavations, cartaway, backfilling, etc	No	10	
3	Cut into existing pipe not exceeding 200mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	4	
4	Cut into existing pipe not exceeding 375mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	10	
<u>Stormwater channel</u>				
Carried to Collection				R
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 2 Stormwater drainage KwaZulu Natal Botanical Gardens - Pietermaritzburg				

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

<u>20MPa/19mm concrete</u>					
5	V-shaped channel 900mm wide x average 105mm thick reinforced with and including Type 193 fabric reinforcement, with rounded salient edges and finished on exposed surfaces with 2:1 cement mortar, laid to falls (1:200) in panels not exceeding 2000mm long with 12mm bitumen impregnated softboard movement joints with exposed edges raked out for a depth of 12mm and filled with two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc and including all necessary excavation, formwork, filling, etc	m	186		
6	Extra for angles, intersections, ends, dressing into sides of catchpits, etc	No	22		
7	Triangular shaped concrete spill basin size 900mm at head, 1500mm at base end and 1500mm long, formed of 200mm thick concrete base with concrete upstand size 100 x 100mm high along two sides including all excavations, formwork and backfilling, the top of the base inlaid with sixteen concrete bricks protruding 50mm above the surface of the concrete and loose stones of 100 to 150mm diameter at the base of the spill basin for a width of 500mm	No	2		
<u>Catchpit Inlets ,etc</u>					
8	Break top 500mm deep of catchpit size 450 x 450mm wide, re-instate (brickwork, plastering, etc) including building in grating frame (elsewhere measured) in 20MPa concrete beam.	No	3		
9	Break top 500mm deep of catchpit size 450 x 600mm wide, re-instate (brickwork, plastering, etc) including building in grating frame (elsewhere measured) in 20MPa concrete beam.	No	7		
10	Break top 500mm deep of catchpit size 600 x 900mm wide, re-instate (brickwork, plastering, etc) including building in grating frame (elsewhere measured) in 20MPa concrete beam.	No	2		
<u>Gratings, Covers etc</u>					
11	450 x 450mm x 27.4kg cast iron dished grating and frame	No	2		
Carried to Collection				R	
Section No. 3					
SECTION 3: EXTERNAL WORKS (PROVISIONAL)					
Bill No. 2					
Stormwater drainage					
KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

12	450 x 450mm x 71kg cast iron dished grating and frame	No	3		
13	450 x 600mm x 99.5kg cast iron dished grating and frame	No	7		
14	450 x 760mm x 109.5kg cast iron dished grating and frame	No	2		
<u>SUB-SOIL DRAINAGE</u>					
<u>Subsoil drains</u>					
15	Agriculture drain formed of 110mm PVC slotted pipe encased in 200 x 1000mm high 19mm stone encasement all wrapped in U14 geofabric with 300mm overlap and stitched.	m	60		
16	Kaytech Floordrain or equal approved 1 000mm high with 100mm slotted carrier pipe all wrapped in U14 geofabric and all held in position fixed to wall	m	30		
17	Extra over for 110mm bends	No	4		
18	Extra over for 110mm junction	No	4		
19	Extra over for 110mm stopped end	No	2		
<u>Perforated HDPE pipes</u>					
20	110mm dia pipes in trenches not exceeding 1000mm deep including excavations, cart away, backfilling, bedding, etc	m	20		
<u>Sundries</u>					
21	19mm stone in subsoil drainage	m3	25		
<u>Kaytech or equal approved</u>					
22	Sythetic fibre material - Kaytech Bidium A2 geotextile or equal approved.	m2	30		
<u>Testing</u>					
23	Testing sub-soil drainage system		Item		
Carried to Collection				R	
Section No. 3					
SECTION 3: EXTERNAL WORKS (PROVISIONAL)					
Bill No. 2					
Stormwater drainage					
KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 3</u>			
	<u>SEWER DRAINAGE</u>			
	<u>PREAMBLES</u>			
	NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
	<u>SEWER DRAINAGE</u>			
	<u>Repair to soil drainage</u>			
1	Investigate existing soil drainage pipe and trace leaks	m	178	
2	Investigate as necessary to identify location and extent of leaks including excavations, cartaway, backfilling, etc	No	10	
3	Cut into existing pipe not exceeding 110mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	5	
4	Cut into existing pipe not exceeding 160mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	10	
	<u>Catchpit, Inlets ,etc</u>			
5	Break top 500mm deep of catchpit size 1 000mm diameter, re-instate (brickwork, plastering, etc) including building in precast concrete cover (elsewhere measured)	No	8	
	Carried to Collection		R	
	Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 3 Sewer drainage KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

<u>Covers etc</u>					
6	1 000mm Diameter x 100mm thick precast concrete removable cover	No	8		
<u>Class 34 uPVC pipes</u>					
7	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	47		
8	160mm Pipes laid in and including trenches not exceeding 1m deep	m	105		
<u>Extra over uPVC sewer and drain pipes for fittings</u>					
9	110mm Bend	No	10		
10	160mm Bend	No	10		
<u>uPVC gulleys</u>					
11	110mm Dished gulley exceeding 750 mm and not exceeding 1000 mm deep	No	3		
<u>Sundries</u>					
12	Concrete encasing to 110mm horizontal pipes	m	5		
13	350 x 350 x 50mm Precast concrete inspection eye marker slab set in ground	No	3		
14	100 mm Cast iron "ABC" cleaning eye, including mortar bedding around	No	5		
15	150mm Diameter plastic grate cover	No	1		
16	300 x 300mm x 25kg Cast iron meter box over cleaning eye (cleaning eye elsewhere), including concrete encasing	No	1		
<u>Testing</u>					
17	Testing soil drainage system		Item		
Carried to Collection					
Section No. 3					
SECTION 3: EXTERNAL WORKS (PROVISIONAL)					
Bill No. 3					
Sewer drainage					
KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 4</u>			
	<u>WATER SUPPLIES</u>			
	<u>PREAMBLES</u>			
	NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
	<u>WATER SUPPLIES</u>			
	<u>Repair to water supply line</u>			
1	Investigate existing water pipe line and trace leaks	m	84	
2	Investigate as necessary to identify location and extent of leaks including excavations, cartaway, backfilling, etc	No	12	
3	Cut into existing pipe not exceeding 32mm diameter to remove damaged portion and reinstate, including testing (cutting into plaster and making good elsewhere measured)	No	12	
	<u>HDPE compression Class 16</u>			
4	50mm Pipes laid in and including trenches not exceeding 1m deep	m	100	
	<u>Extra over water pipes for fittings</u>			
5	50mm tee	No	8	
6	50mm bend	No	11	
	<u>Sundries</u>			
7	300 x 300mm x 25kg Cast iron meter box over cleaning eye (cleaning eye elsewhere), including concrete encasing	No	1	
	Carried to Collection			R
	Section No. 3			
	SECTION 3: EXTERNAL WORKS (PROVISIONAL)			
	Bill No. 4			
	Water supplies			
	KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<u>Testing</u>			
8	Testing soil drainage system	Item		
	<p style="text-align: right;">Carried to Collection</p> <p>Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 4 Water supplies KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>		R	

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 5</u>			
	<u>ROADWORK, PARKING AREAS AND PAVING</u>			
	<u>PREAMBLES</u>			
	<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Testing of material and filling</u>			
	<p>Descriptions of earth filling, compaction, etc shall be deemed to include for all necessary testing required in accordance with the SABS 1200 series</p>			
	<u>Precast concrete block road surfacing</u>			
	<p>Paving shall be laid in accordance with SABS 1200 MJ, SANS 1058 and the Concrete Masonry Association's specifications</p> <p>Paving shall be laid to herringbone pattern on 20mm thick (thickness after final compaction) clean river sand (preparation of ground or filling elsewhere)</p> <p>Clean sand shall be swept into joints between roadstones at completion</p>			
	<u>EARTHWORKS</u>			
	<u>Open face excavation in earth over sloping site</u>			
1	Open face excavation to form platforms under parking areas, roads, etc and dispose in prescribed stock piles on site	m3	554	
	Carried to Collection			
	Section No. 3			
	SECTION 3: EXTERNAL WORKS (PROVISIONAL)			
	Bill No. 5			
	Parking and paving			
	KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
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	<u>Extra over all excavations for carting away</u>			
2	Surplus material from stock piles on site to a dumping site to be located by the Contractor	m3	554	
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted as specified</u>			
3	Subbase course of G5 material in 150mm layer, compacted to 93% Mod AASHTO density	m3	402	
4	Base course of C4 material in 150mm layer, compacted to 97% Mod AASHTO density	m3	402	
5	Extra over subbase or base course of natural gravel material for stabilisation with lime (cement) at the rate of 2,5%)	m3	302	
	<u>Compaction of surfaces</u>			
6	Compaction of ground surface under pavings, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2	1 008	
	<u>Additional tests required by the engineer (Refer to Supplementary Preambles for contractor's tests: SABS 1200)</u>			
7	"Modified AASHTO Density" test	No	10	
8	"Natural California Bearing Ratio" test	No	10	
9	"Road Indicator" test	No	10	
10	"Field Density" test including "Optimum Moisture Content" (four readings per test)	No	10	
11	UCS test in accordance with method A14 of TMH1	No	10	
	Carried to Collection			R
	Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 5 Parking and paving KwaZulu Natal Botanical Gardens - Pietermaritzburg			

<u>PAVING</u>					
<u>Paving of type 60mm interlocking precast concrete paving blocks with butt joints including 50mm thick river sand bed with sand swept into joints, including preparation of ground or filling</u>					
12	Paving to parking areas, etc to falls, including necessary straight edge blocks	m2	1 508		
13	Circular cutting	m	671		
14	Filling of gaps with concrete against edge restraints	m	671		
<u>Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasiem 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/mg</u>					
15	Under paving, etc	m2	1 208		
<u>Soil insecticide in accordance with SANS 5859</u>					
16	Under paving, etc	m2	1 208		
<u>KERBS, etc</u>					
<u>Precast concrete finished smooth on exposed surfaces including bedding, jointing and pointing</u>					
17	125 x 230mm High channels (SANS 927 fig 6)	m	651		
18	125 x 230mm High channels (SANS 927 fig 6) circular on plan exceeding 4m radius formed with straight channels	m	35		
19	125 x 230mm High channels (SANS 927 fig 6) circular on plan not exceeding 4m radius formed with short lengths of straight	m	101		
<u>ROAD MARKINGS</u>					
<u>Road markings on bituminous premix in accordance with clause 5.3 of SANS 1200 MM</u>					
20	100mm Wide line	m	128		
Carried to Collection				R	
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 5 Parking and paving KwaZulu Natal Botanical Gardens - Pietermaritzburg					

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 3</u>			
<u>BILL NO. 6</u>			
<u>HEADWALL, ATTENUATION POND AND ATTENUATION TANKS</u>			
<u>PREAMBLES</u>			
NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
<u>EARTHWORKS</u>			
<u>Excavation in compacted building platform not exceeding 2m deep</u>			
1	Trenches	m3	8
2	Tanks	m3	89
<u>Extra over trench and hole excavations in earth for excavation in</u>			
3	Soft rock	m3	3
4	Hard rock	m3	1
<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	23
<u>Risk of collapse of excavations</u>			
6	Sides of trench excavations not exceeding 1 500m deep	m2	35
<u>Keeping excavations free of water</u>			
7	Keeping excavations free of water	Item	
Carried to Collection			R
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 6 Headwall, Attenuation Pond and Attenuation Tanks KwaZulu Natal Botanical Gardens - Pietermaritzburg			

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<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	74		
	<u>Earth filling supplied by the Contractor, compacted to 90% Mod AASHTO density</u>				
9	Under floors, steps, pavings, etc	m3	46		
	<u>Compaction of surfaces</u>				
10	Compaction of ground surface under pavings, aprons, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2	24		
	<u>SOIL POISONING</u>				
	<u>Soil insecticide in accordance with SANS 5859</u>				
11	To bottoms and sides of trenches, etc	m2	74		
	<u>Concrete, etc</u>				
	<u>15Mpa/19mm unreinforced concrete</u>				
12	Strip footings	m3	1		
	<u>Concrete, etc</u>				
	<u>25Mpa/19mm reinforced concrete</u>				
13	Strip footings	m3	5		
	<u>ROUGH FORMWAORK</u>				
	<u>Rough formwork to soffits</u>				
14	Slabs	m2	12		
15	Opening not exceeding 1 000mm girth through not exceeding 300mm slab	No	8		
Carried to Collection				R	
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 6 Headwall, Attenuation Pond and Attenuation Tanks KwaZulu Natal Botanical Gardens - Pietermaritzburg					

REINFORCEMENT

Mild tensile steel reinforcement to structural concrete work

16	Various diameter bars	t	1.91	
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REINFORCEMENT (PROVISIONAL)

Fabric reinforcement

17	Steeledale Mesh standard square fabric mesh, nominal mass 1,93 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (code 193), complying with SANS 1024/2006 requirements, in sheets 2,4 x 6m long.	m2	24	
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Masonry

Brickwork of NFP bricks in class II mortar

18	One brick walls	m2	43	
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2,5mm Brickwork reinforcement

19	150mm Wide reinforcement built in horizontally	m	142	
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One layer of 250 micron "Consol Plastic USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"

20	Under surface beds	m2	12	
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Screeds wood floated on concrete

21	Average 70mm thick on floors to falls and currents	m2	12	
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22	50 x 50mm Triangular fillets against upstands	m	29	
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Cement plaster class II on masonry

23	On walls	m2	42	
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Carried to Collection

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Section No. 3
SECTION 3: EXTERNAL WORKS (PROVISIONAL)
Bill No. 6
Headwall, Attenuation Pond and Attenuation Tanks
KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

	<u>Prepared surfaces and prime with SAILS 206 primer, two layers of glassfibre mat 300 gms.m2, impregnated with SAILS 206 E oxv tar resin and finished off with a glassfibre tissue laminated in the same resin "</u>				
24	On walls	m2	42		
	<u>Manhole covers, etc</u>				
25	1 500 x 1 900 x 100mm thick pit cover slab 25MPA with high tensile mesh Ref. 245 twice chamfered and four 12mm diameter x 650mm girth LI-shape hot dipped galvanised shaped lifting handles cast in position over pit	No	8		
	<u>Cast iron covers, etc</u>				
26	720mm Diameter 100mm thick precast concrete removable cover with and including two lifting lugs	No	8		
	<u>Paint to walls</u>				
27	Apply two coats of an approved bitumen sealer to internal plastered walls	m2	42		
	<u>Stone filling of 150mm gabion stone</u>				
28	In triangular shaped concrete spill basin	m3	76		
	<u>Stone filling of 19mm Crushed stone</u>				
29	In sub-soil drain trenches around pipes	m3	76		
	<u>FILTER FABRIC</u>				
	<u>"Bidim U24" or equal approved Non-woven continuous filament needle punch polyester filter fabric blanket with 200mm lapse</u>				
30	On triangular shaped concrete spill basin	m2	151		
Carried to Collection				R	
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 6 Headwall, Attenuation Pond and Attenuation Tanks KwaZulu Natal Botanical Gardens - Pietermaritzburg					

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Item No	Quantity	Rate	Amount
<u>SECTION NO. 3</u>			
<u>BILL NO. 7</u>			
<u>RETAINING WALLS</u>			
<u>PREAMBLES</u>			
NOTE: All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill			
<u>EARTHWORKS</u>			
<u>Excavation in compacted building platform not exceeding 2m deep</u>			
1	Trenches	m3	24
<u>Extra over excavations in earth for excavation in:</u>			
2	Soft rock	m3	1
3	Hard rock	m3	1
<u>Extra over all excavations for carting away</u>			
4	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	24
<u>Earth filling obtained from the excavations and / or prescribed stock piles on site compacted to 93% Mod AASHTO density</u>			
5	Backfilling to trenches, holes, etc	m3	25
<u>Concrete, etc</u>			
<u>25Mpa/19mm unreinforced concrete</u>			
6	Strip footings	m3	18
Carried to Collection			R
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 7 Retaining Walls KwaZulu Natal Botanical Gardens - Pietermaritzburg			

<u>REINFORCEMENT</u>					
<u>Mild tensile steel reinforcement to structural concrete work</u>					
7	Various diameter bars	t	2.20		
<u>Masonry</u>					
<u>Brickwork of NFP bricks in class II mortar</u>					
8	Piers	m3	2		
9	One brick walls in foundations	m2	106		
<u>2,5mm Brickwork reinforcement</u>					
10	150mm Wide reinforcement built in horizontally	m	351		
<u>Corobrik Red Terracota satin FBS or equally approved face brick pointed with flush horizontal and vertical joints in stretcher bond</u>					
11	Extra over brickwork for face brickwork	m2	60		
12	One brick walls in face brickwork	m2	65		
13	Extra over brickwork for 220mm wide brick-on-edge coping	m	30		
Carried to Collection					
Section No. 3 SECTION 3: EXTERNAL WORKS (PROVISIONAL) Bill No. 7 Retaining Walls KwaZulu Natal Botanical Gardens - Pietermaritzburg				R	

Upgrades, Refurbishment and Repairs to Buildings
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[illegible]

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

[illegible]

Item No	Quantity	Rate	Amount
<u>SECTION NO. 4</u>			
<u>BILL NO.1</u>			
<u>PROVISIONAL SUMS</u>			
<u>PREAMBLES</u>			
<p><u>NOTE:</u> All Tenderers are advised to study the "Construction Works: Specifications: General Specification (PW371-A) Edition 2.0" and "Construction Works: Specifications: Particular Specification (PW371-B) Edition 2.0" before pricing this bill</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<p>NOTE: Tenderers are referred to the definition of general attendance on nominated sub-contractors given in Clause 9 of the Preliminaries</p>			
<p>NOTE: Under no circumstances may any Prime Cost - Provisional Amount, etc be extended at an amount lower than the amount given in the Bill</p>			
<p>THE FOLLOWING PROVISIONAL SUMS ARE FOR WORK TO BE EXECUTED BY SELECTED SUBCONTRACTORS</p>			
<p>The following Provisional Sums are for specialists work to be executed by a selected Sub-contractor who upon appointment in terms of the Conditions of Contract shall be deemed to be a Domestic Sub-Contractor to the Contractor</p>			
<p>A Selected Sub-Contractor shall be a Sub-contractor executing work for which a sum of money is provided for in the Bills of Quantities or a Sub-contractor executing additional specialist work which arises as a result of an instruction by the Principal Agent/Engineer</p>			
Carried to Collection			R
<p>Section No. 4 SECTION 4: PROVISIONAL SUMS Bill No. 1 Provisional Sums KwaZulu Natal Botanical Gardens - Pietermaritzburg</p>			

Upgrades, Refurbishment and Repairs to Buildings
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Tender documents for such work shall be prepared by the Principal Agent/Engineer in consultation with and to the approval of the Contractor and such tender document shall be issued by the Principal Agent/Engineer to a list of tenderers agreed upon between the Principal Agent/Engineer and Contractor. Tenders shall be submitted to the Principal Agent/Engineer

Tender documents for such work shall be prepared by the Principal Agent/Engineer in consultation with and to the approval of the Contractor and such tender document shall be issued by the Principal Agent/Engineer to a list of tenderers agreed upon between the Principal Agent/Engineer and Contractor. Tenders shall be submitted to the Principal Agent/Engineer

The Selected Sub-contractor shall be chosen by the Principal Agent/Engineer and the Contractor, and the Contractor shall satisfy himself that such selected sub-contractor can meet the requirements of the Sub-Contract agreement and the Contractor shall inform the Principal Agent/Engineer accordingly

The procedure relating to the method of selection, obtaining of tenders, adjudication thereof and the appointment of the Selected Sub-contractor shall not create any contractual relationship between the Client and the Selected Sub-contractor

Curtains and blinds

- 1 Provide the amount of R450 000.00 (Four and Fifty Thousand Rands) for the supply and installation of curtains and blinds
- 2 Allow for profit on above
- 3 Allow for attendance on the above

Item

450 000.00

Item

Item

Carried to Collection

R

Section No. 4

SECTION 4: PROVISIONAL SUMS

Bill No. 1

Provisional Sums

KwaZulu Natal Botanical Gardens - Pietermaritzburg

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

[illegible]

Upgrades, Refurbishment and Repairs to Buildings
KwaZulu Natal National Botanical Garden - Pietermaritzburg

[illegible]

Upgrades, Refurbishment and Repairs to Buildings
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[illegible]

Section No	Page No	Amount
1	31	
2	103	
3	130	
4	134	
SUB - TOTAL		R
<u>ANNEXURE B: ELECTRICAL INSTALLATION</u>		
Electrical Installation (see separate document - Annexure B) (Value Added Tax Excluded)		Item
<u>ANNEXURE C: MECHANICAL INSTALLATION</u>		
Mechanical Installation (see separate document - Annexure C) (Value Added Tax Excluded)		Item
SUB - TOTAL		R
5	135	
SUB TOTAL		R
Provide 10% (TEN PERCENT) on Sub-total (A) as contingency to be deducted in whole or in part if not required		R
SUB TOTAL		R
ADD : VAT @ 15%		R
Carried to Form of Offer and Acceptance		R
KwaZulu Natal Botanical Gardens - Pietermaritzburg		