

BILL OF PROVISIONAL QUANTITIES

**THE RENOVATIONS AND CONSTRUCTION OF THE NATIONAL SEISMOLOGY
CENTRE INCLUDING ALL BUILDING WORKS, EXTERNAL WORKS AND
SPECIALIST SERVICE WORKS**

NATIONAL SEISMOLOGY CENTRE, 280 PRETORIA STREET, SILVERTON

REVISION 1

Prepared for:



Council for Geoscience



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BILL OF QUANTITIES

PRICING INSTRUCTIONS

1. Measuring System

- 1.1) The Bills of Quantities have been prepared in accordance with the **Standard System of Measuring Building Work** (Seventh Edition, 2015), as issued by the Association of South African Quantity Surveyors (ASAQS).
- 1.2) All quantities are provisional and subject to re-measurement upon completion of the works.
- 1.3) Contractors shall not use the stated quantities for material ordering or procurement without prior confirmation. Any discrepancies between the Bills of Quantities and the construction drawings must be immediately reported to the Quantity Surveyor.
- 1.4) Definitions of key terms, such as "Unit," "Quantity," "Rate," "Amount," and "Sum," align with the Standardised Specifications and the relevant project documentation.
- 1.5) Short descriptions of payment items are indicative only; full scope details are provided in the drawings and specifications.

2. General Pricing Notes

2.1) For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit : The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications

Quantity : The number of units of work for each item

Rate : The payment per unit of work at each which the Tenderer tenders to do the work

Amount : The quantity of an item multiplied by the tendered rate of the (same) item

Sum : An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

2.2) All units of measurements are in metric units. With standard abbreviations used (e.g., mm, m², m³, t).

mm	=	millimetre
m	=	metre
km	=	kilometre
m ²	=	square metre
ha	=	hectare
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
No.	=	number
Sum	=	lump Sum
l	=	litre
kW	=	kilowatt
kN	=	kilonewton
kg	=	kilogram
kPa	=	kilopascal
t	=	tonnne (1000kg)
%	=	percent
MN	=	meganewton
MN-m	=	meganewton-metre
MPa	=	megapascal
PC Sum	=	Prime Cost Sum (Cost of material supplied excluding vat, profit and labour, but including transport and delivery costs)
Prov Sum	=	Provisional Sum
CAND	=	Number of candidates
Month	=	Month
MEET	=	Number of meetings

2.3) The short descriptions of the items of payment given in the bill of quantities are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Scope.

2.4) Unless otherwise stated, items are measured net in accordance with the drawings and no allowance is made for waste.

2.5) The prices and rates to be inserted in the Bills of Quantities are to be the full inclusive for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out. This is a fixed price contract with no provisions to be made for contract and price escalation.

2.6) A price or rate is to be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities.

2.7) Except where rates only are required, insert all amounts to be included in the total tendered price in the "amount" column and show the corresponding total tendered price.

2.8) It will be assumed that prices included in the Bills of Quantities are based on Acts, Ordinances, Regulations, By laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).

2.9) The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The Bills of Quantities is not intended for the ordering of materials. Any ordering of materials, based on the Bills of Quantities, is at the Contractor's risk.

2.10) The quantities of work as measured and accepted and certified for payment in accordance with the conditions of contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by difference between the quantities in the Bill of Quantities and the quantities certified for payment. The Ordering of materials is not to be based on the Bill of Quantities, but only on information issued for construction purposes.

2.11) The contract sum must include for Value Added Tax (VAT). All rates, provisional sums, etc. in the Bills of Quantities are net (exclusive of VAT) with VAT calculated and added to the total value thereof in the Final Summary.

2.12) This is a **Fixed Rate Contract with re-measurable quantities** and no escalation will be considered

2.13) The descriptions provided trades must be read in conjunction with the Architect's and Engineer's Drawings, Details, Schedules and Specifications and the tenderer must price accordingly.

3. Structure and locations of Bills of Quantities

Section no. 1: Preliminaries

Section no. 2: Building works

Section no. 3: Site works & external works

Section no. 4: Provisional sums

Final summary - to be carried to form of offer and acceptance

4. Details of the Agreement

4.1) The agreement is based on The **JBCC** Principal Building Agreement (Edition 6.2 - May 2018). The additions, deletions and alterations to the JBCC Principal Building Agreement are stated in the contract Data.

4.2) The ASAQS Preliminaries published by the Association of South African Quantity Surveyors , August 2010, are forming part of the overall Preliminaries Bill of Quantities and the preliminaries specific variables are stated within the Preliminaries Bills of Quantities.

4.3) Where any item is not relevant to this specific contract, such item is marked N/A (signifying "not applicable")

5. General Preambles for Trades (2017)

5.1) Tenderers are referred to the General Preambles for Trades (2017 Edition as recommended and published by the Association of South African Quantity Surveyors) and to the Supplementary Preambles to all Trades.

The Tenderer must study the General Preambles and the Supplementary Preambles to all Trades before pricing this document and the tender sum shall cover all costs and charges that may be considered necessary by the tenderer for the carrying out and observance of the provisions of the General Preambles and the Supplementary Preambles to all Trades.

5.2) Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the "General Preambles for Trades 2017".

6. Drawings and Scope of Work

6.1) The drawings referenced in the Scope of Work for these Bills of Quantities are available for inspection at the Quantity Surveyor's office during working hours.

6.2) It is the Tenderer's responsibility to ensure their tender aligns with the Scope of Work and all referenced drawings.

6.3) The Tenderer must note that this is a fixed rate contract, and that the Tenderer is not entitled to adjust the rates/prices for escalation.

7. Tender Submission and Compliance

7.1) The Tenderer is deemed to have inspected the site and understood the conditions affecting the execution of works.

7.2) Submission of the tender indicates full acceptance of these Pricing Instructions and the associated contract documents.

8. Proprietary Names / Trade Names

8.1) Reference to any particular trademark, name, patent, design, type, specific origin or producer is purely to establish a standard for requirements. Products or articles of an equivalent standard may be substituted, subject to the Principal Agent's approval.

9. View site

9.1) Before submitting the tender, the Contractor shall be deemed to have visited the site and fully satisfied himself as to the nature, extent and execution of the Works, the condition of existing buildings, structures and services, and the value, condition and recoverability of all materials contained in the buildings or portions of buildings to be demolished

The Contractor shall be deemed to have allowed for all site conditions, constraints and limitations, including but not limited to access to the site, working hours, security requirements, protection of existing structures and services, restrictions on deliveries, off-loading and movement of materials, availability of storage space on site, and the need for temporary storage, protection and handling of materials

The Contractor shall allow for all risks associated with the delivery, off-loading, storage, protection, deterioration, loss or damage of materials and plant on site, whether temporary or permanent, until final completion

No claim for any variation of the Contract Sum shall be entertained in respect of the nature, extent or execution of the Works, site conditions, access restrictions, delivery or storage constraints, or in respect of inferior, damaged, lost or deteriorated materials, all of which shall be deemed to have been allowed for in the tender

10. Additional Instructions

10.1) Any ambiguities or contradictions in the Bills of Quantities must be resolved with the Quantity Surveyor before tender submission..

10.2) Prime Cost (PC) Sums and Provisional Sums included must be verified with the Employer for approval before commencement of the respective works.

11. Live Site Conditions, Noise, Dust and Disturbance Control

11.1) The Works are to be executed within a live and occupied site

Pricing Instruction

11.2) The Contractor shall be deemed to have allowed for all constraints, limitations and risks associated with working in an operational environment

11.3) The Contractor shall plan, programme and execute the Works so as to minimise noise, dust, vibration and general disturbance to occupants, users and ongoing operations. All noisy, dusty or disruptive activities shall be controlled, phased or restricted as directed by the Client or Principal Agent and shall comply with all applicable legislation, local authority by-laws and project-specific requirements

11.4) The Contractor shall provide all necessary temporary protection, screening, dust barriers, acoustic control measures, signage and housekeeping to maintain a safe, clean and orderly environment at all times

11.5) Access routes, emergency egress, services and operational areas shall be kept clear and functional at all times. The Contractor shall coordinate all activities with the Client and allow for working outside normal hours where required to reduce disruption

11.6) Rates shall include for all planning, supervision, protection, phasing, cleaning, compliance and making good arising from live site conditions. No claims shall arise from restrictions, delays or inefficiencies resulting from working in an occupied environment

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
	<u>SECTION NO. 1</u> <u>BILL NO. 1</u> <u>PRELIMINARIES</u> <u>BUILDING AGREEMENT AND PRELIMINARIES</u> 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 The JBCC Principal Building Agreement contract data form an integral part of this agreement 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 The contractor is deemed to have referred to the above mentioned documents for the full intent and meaning of each clause. In addition the contractor is deemed to have referred to the amendments to the general conditions of contract as well as the specific conditions of contract The clauses in the abovementioned documents are hereinafter referred to by clause number and heading only Where any item is not relevant to this agreement such item is marked N/A signifying "not applicable" Where standard clauses or alternatives are not entirely applicable to this agreement such amendments, modifications, corrections or supplements as will apply are given under each relevant clause heading and such amendments, modifications, corrections or supplements shall take precedence notwithstanding anything to the contrary contained in the abovementioned documents <u>PREAMBLES FOR TRADES</u> 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 <u>Carried to Collection</u> Section No 1 Bill No 1 Preliminaries (Section A)		
		R	

Item No		Quantity	Amount R
	<u>STRUCTURE OF THIS PRELIMINARIES BILL</u> 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 (refer to JBCC & Tender Document) Section C : A recital of the headings of the individual special clauses to meet the particular circumstances of the project (refer to Tender Document) <u>PRICING OF PRELIMINARIES</u> Option A in the contract data applies 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)		
1	<u>SECTION A: PRINCIPAL BUILDING AGREEMENT</u> <u>Interpretation (A1-A7)</u> 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 <u>Carried to Collection</u> Section No 1 Bill No 1 Preliminaries (Section A)		
		R	

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
	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 If the contractor constitutes a joint venture, consortium or other unincorporated grouping of two or more persons then: - These persons are deemed to be jointly and severally liable to the employer for the performance of this agreement - These persons shall notify the employer of their leader who has assigned authority to bind the contractor and each of these persons - The contractor shall not alter its composition or legal status without the prior written consent of the employer F:..... V:..... T:.....		
2	Clause 2.0 - Law, regulations and notices F:..... V:..... T:.....	Item	
3	Clause 3.0 - Offer and acceptance F:..... V:..... T:.....	Item	
4	Clause 4.0 - Cession and assignment F:..... V:..... T:.....	Item	
5	Clause 5.0 - Documents Value Added Tax Provision is made in the summary page of these bills of quantities for the inclusion of Value Added Tax (VAT) Priced document as specification Clause 5.4 is amended The principal agent shall decide which portion of the priced document may be used as a specification of materials and goods or methods or the construction programme, if any		
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 1 Preliminaries (Section A)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
	Electronic issue of drawings 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] F:..... V:..... T:.....	Item	
6	Clause 6.0 - Employer's agents Delegated authority The authority of the principal agent to issue contract instructions [17.1] and perform duties for specific aspects of the works may be delegated to agents and will be defined by the principal agent at site handover F:..... V:..... T:.....	Item	
7	Clause 7.0 - Design responsibility F:..... V:..... T:.....	Item	
	<u>Insurances and securities (A8-A11)</u>		
8	Clause 8.0 - Works risk F:..... V:..... T:.....	Item	
9	Clause 9.0 - Indemnities F:..... V:..... T:.....	Item	
10	Clause 10.0 - Insurances F:..... V:..... T:.....	Item	
11	Clause 11.0 - Securities F:..... V:..... T:.....	Item	
	<u>Execution (A12 - A17)</u>		
12	Clause 12.0 - Obligations of the parties Refer to the contract data, the Preliminaries document and "Section B : Preliminaries" of this Bill No. 1 with reference to the provisions of clauses 12.1.2 to 12.1.6 and 12.2.18 of the JBCC Principal Building Agreement		
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 1 Preliminaries (Section A)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
	Office accommodation The contractor shall provide and maintain until practical completion office accommodation with tables and chairs for meetings to be held on the site. The contractor shall also provide adequate office space for the CLO and resident engineer. Such offices shall be kept clean and fit for use at all times [12.2.18] Notice board The contractor shall erect in a position approved by the principal agent, maintain and remove on practical completion a notice board recommended by the South African Institute of Architects and as approved by the principal agent listing the names and logos of the employer, the contractor and the professional consultants. No subcontractor or supplier notice boards may be erected unless permission is granted by the principal agent for such notice boards to be erected [12.2.18] Statutory and other notices 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:.....		
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: - Designate an area for the direct contractor to establish a temporary office and workshop and storage of equipment and materials - Allow the use of personnel welfare facilities, where provided	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 1 Preliminaries (Section A)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
	3. Provide water, lighting and single phase electric power to a position within 50m of the place where the direct contract work is to be carried out, other than fuel or power for commissioning of any installation 4. Permit the direct contractor to use erected scaffolding, hoisting facilities, etc provided by the contractor, in common with others having the like right, while it remains erected on the site [16.1] F:..... V:..... T:.....	Item	
17	Clause 17.0 - Contract instructions Site instructions Instructions issued on site are to be recorded in a site instruction book (Numbered triplicate copy book) which is to be supplied and maintained on site by the contractor The contractors shall prepare, maintain and update weekly, an electronic summary of all site instruction issued for approval by the QS & PA F:..... V:..... T:.....	Item	
	<u>Completion (A18 - A24)</u>		
18	Clause 18.0 - Interim completion	N/A	
19	Clause 19.0 - Practical completion F:..... V:..... T:.....	Item	
20	Clause 20.0 - Completion in sections F:..... V:..... T:.....	Item	
21	Clause 21.0 - Defects liability period and final completion 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	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 1 Preliminaries (Section A)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
24	Clause 24.0 - Penalty for late or non-completion F:..... V:..... T:..... <u>Payment (A25 - A27)</u>	Item	
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 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] 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	
27	Clause 27.0 - Recovery of expense and/or loss F:..... V:..... T:..... <u>Suspension and termination (A28 - A29)</u>	Item	
28	Clause 28.0 - Suspension by the contractor F:..... V:..... T:.....	Item	
29	Clause 29.0 - Termination		
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 1 Preliminaries (Section A)		

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Item No		Quantity	Amount R
	F:..... V:..... T:..... <u>Dispute resolution (A30)</u>	Item	
30	Clause 30.0 - Dispute resolution F:..... V:..... T:..... <u>New Clauses</u>	Item	
31	Clause 31.0 - Small Contractor and Targeted Enterprises F:..... V:..... T:.....	Item	
32	Clause 32.0 - Progress reports and programme updates F:..... V:..... T:.....	Item	
33	<u>Agreement</u> 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 F:..... V:..... T:.....	Item	
34	<u>Contract data</u> Before submission of his tender the contractor is to complete the tenderer's selections in the contract data (Part C1.2). Contractor must refer to the contract data for changes made to the JBCC . F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 1 Preliminaries (Section A)		

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Section No 1 Preliminaries Bill No 1 Preliminaries (Section A) <u>COLLECTION</u> Total carried from page No		
	<u>Carried to Summary of Section No 1</u>	
Section No 1 Bill No 1 Preliminaries (Section A)		

Page No	Amount R
9	
10	
11	
12	
13	
14	
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16	

R

Item No		Quantity	Amount R
	<u>SECTION NO. 1</u>		
	<u>BILL NO. 2</u>		
	<u>SECTION B - JBCC PRELIMINARIES</u>		
	<u>Definitions and interpretation (B1)</u>		
1	Clause 1.1 - Definitions F:..... V:..... T:.....	Item	
2	Clause 1.2 - Interpretation F:..... V:..... T:.....	Item	
	<u>Documents (B2)</u>		
3	Clause 2.1 - Checking of documents F:..... V:..... T:.....	Item	
4	Clause 2.2 - Provisional bills of quantities These bills of quantities are provisionally measured. F:..... V:..... T:.....	Item	
5	Clause 2.3 - Availability of construction information		
6	The budgetary allowances and/or provisional sums allocated for subsequent trades included in this agreement will be separately procured, based on multiple procurement of subcontractors during the construction period F:..... V:..... T:.....	Item	
7	Clause 2.4 - Ordering of materials and goods F:..... V:..... T:.....	Item	
	<u>Previous work and adjoining properties (B3)</u>		
8	Clause 3.1 - Previous work - dimensional accuracy F:..... V:..... T:.....	Item	
9	Clause 3.2 - Previous work - defects F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 2 JBCC Preliminaries (Section B)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
10	Clause 3.3 - Inspection of adjoining properties F:..... V:..... T:..... <u>The site (B4)</u>	Item	
11	Clause 4.1 - Handover of site in stages F:..... V:..... T:.....	Item	
12	Clause 4.2 - Enclosure of the works F:..... V:..... T:.....	Item	
13	Clause 4.3 - Geotechnical and other investigations F:..... V:..... T:.....	Item	
14	Clause 4.4 - Encroachments F:..... V:..... T:.....	Item	
15	Clause 4.5 - Existing premises occupied F:..... V:..... T:.....	Item	
16	Clause 4.6 - Services - known F:..... V:..... T:..... <u>Management of contract (B5)</u>	Item	
17	Clause 5.1 - Management of the works F:..... V:..... T:.....	Item	
18	Clause 5.2 - Progress meetings F:..... V:..... T:.....	Item	
19	Clause 5.3 - Technical meetings F:..... V:..... T:..... <u>Samples, shop drawings and manufacturer's instructions (B6)</u>	Item	
20	Clause 6.1 - Samples of materials Contractor to provide costs of samples and sample panels at it's own cost. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 2 JBCC Preliminaries (Section B)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
21	Clause 6.2 - Workmanship samples F:..... V:..... T:.....	Item	
22	Clause 6.3 - Shop drawings F:..... V:..... T:.....	Item	
23	Clause 6.4 - Compliance with manufacturer's instructions F:..... V:..... T:.....	Item	
	<u>Deposits and fees (B7)</u>		
24	Clause 7.1 - Deposits and fees F:..... V:..... T:.....	Item	
	<u>Temporary services (B8)</u>		
25	Clause 8.1 - Water F:..... V:..... T:.....	Item	
26	Clause 8.2 - Electricity F:..... V:..... T:.....	Item	
27	Clause 8.3 - Ablution and welfare facilities F:..... V:..... T:.....	Item	
28	Clause 8.4 - Communication facilities F:..... V:..... T:.....	Item	
	<u>Prime cost amounts (B9)</u>		
29	Clause 9.1 - Responsibility for prime cost amounts F:..... V:..... T:.....	Item	
	<u>Attendance on subcontractors (B10)</u>		
30	Clause 10.1 - General attendance F:..... V:..... T:.....	Item	
31	Clause 10.2 - Special attendance F:..... V:..... T:.....		
	<u>Carried to Collection</u>	R	
	Section No 1		
	Bill No 2		
	JBCC Preliminaries (Section B)		

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PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
	General (B11)		
32	Clause 11.1 - Protection of the works The Contractor shall provide, erect, maintain and afterwards remove all tarpaulins, fans, weatherproof and dust proof screens and drop sheets or other methods of protection and provide any drains, trenches, etc., as directed or as may be necessary or as may be required by the Authorities to properly protect from damage to the Works, materials and property whether of the Employer, other owners or the general public, and to secure the safety and freedom from injury of all persons. F:..... V:..... T:.....	Item	
33	Clause 11.2 - Protection/isolation of existing works and works occupied in sections F:..... V:..... T:.....	Item	
34	Clause 11.3 - Security of the works Security to be provided by the contractor at his expense. F:..... V:..... T:.....	Item	
35	Clause 11.4 - Notice before covering work F:..... V:..... T:.....	Item	
36	Clause 11.5 - Disturbance Disturbance All work is to be carried out in such a manner as to cause no unacceptable or unreasonable dust, noise, vibrations, nuisance, inconvenience, annoyance and the like to the public, others, other properties and traffic in so far as they exceed the permissible limitations set by government legislation or by the local authority. Any delays, stoppages and the like arising from or in order to comply with the above will not constitute grounds for an adjustment to the construction period or contract value whatsoever By entering into a Contract with the Employer, the Contractor shall be deemed to have indemnified the Employer against and accepts entire responsibility for any claims, costs, damages and all other loss of whatsoever nature or delays which may arise on the above grounds. F:..... V:..... T:.....	Item	
37	Clause 11.6 - Environmental disturbance		
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 2 JBCC Preliminaries (Section B)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
	Controlling all forms of pollution The contractor shall be responsible for and take all precautions in controlling by whatever means necessary all forms of pollution emanating from the site during the construction period due inter alia to noise, artificial light, wind-blown sand, dust, deposits of mud, etc. The contractor is to ensure that all roads which border the site and are used by the contractor/subcontractors during the execution of the works are kept clean and free of any dirt or debris caused by the execution of the works		
38	Environmental management plan The contractor shall prepare and submit to the principal agent an environmental management plan and ensure compliance thereof. F:..... V:..... T:.....		
39	Clause 11.7 - Works cleaning and clearing F:..... V:..... T:.....	Item	
40	Clause 11.8 - Vermin F:..... V:..... T:.....	Item	
41	Clause 11.9 - Overhand work F:..... V:..... T:.....	Item	
42	Clause 11.10 - Tenant installations F:..... V:..... T:.....	Item	
43	Clause 11.11 - Advertising F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
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Section No 1 Preliminaries Bill No 2 JBCC Preliminaries (Section B) <u>COLLECTION</u> Total carried from page No		
	Page No	Amount R
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Section No 1 Bill No 2 JBCC Preliminaries (Section B)	<u>Carried to Summary of Section No 1</u>	R

Item No		Quantity	Amount R
	<u>SECTION NO. 1</u> <u>BILL NO. 3</u> <u>SECTION C - SPECIFIC PRELIMINARIES</u>		
1	Clause C1 - Contractor To Be Responsible The Contractor acknowledges that the principal objective of his appointment is his expert knowledge in the execution of the scope of work of this Contract. The Contractor shall therefore be solely responsible for all aspects of the construction of the Works including but not limited to management, resourcing, programming, co-ordination, etc., all as required for the type of project described within the time limits and quality standard specified. The Employer, Principal Agent and the other Consultants are in no way responsible for any act or omission on the part of the Contractor which may result in any patent or latent defects in materials or workmanship, breach or neglect of any Local Authority Regulations. The Contractor remains at all times responsible for any such neglect, deviation or wrong act, whether the same be discovered before or after the Final Certificate, or any other Certificate is approved. The Contractor shall also comply with all legal and labour regulations. F:..... V:..... T:.....	Item	
2	Clause C2 - Warranties Warranties shall be sought by the Principal Agent from all nominated or selected firms carrying out work or supplying goods. All warranties and guarantees issued by Subcontractors shall be underwritten by the Contractor. The Contractor shall obtain and hand over to the Principal Agent at practical completion, all relevant guarantees and maintenance instructions provided by manufacturers, suppliers or subcontractors, suitably filed together. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

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PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
3	Clause C3 - Indemnities Indemnities shall be sought by the Principal Agent from all Contractors undertaking any design responsibility. F:..... V:..... T:.....	Item	
4	Clause C4 - Work Or Installations By Direct Contractors Pursuant to Clause 22 the Employer and his Tenants shall have the right to employ other Contractors (hereinafter referred to as "Direct Contractors") to execute any special or other works or installation whether contained in this Contract or not, concurrently with the work being executed under this Contract. The Contractor shall not be entitled to any percentage, profit or discount on the value of any work executed by "Direct Contractors" other than attendance on specific items as specified elsewhere in these Bills of Quantities but shall nevertheless allow these Direct Contractors and the Employer's Tenants and employees to have access to the Works, allocate reasonable space in the building for the storage of their materials, tools and equipment, and relate the work of such Direct Contractors to the Contract Programme as necessary, all to the satisfaction of the Principal Agent. The Contractor shall also allow the Direct Contractors, etc. to use, free of charge, the latrine accommodation and water and power supply on the Site, and shall not in any way hinder or prevent the execution of their work. F:..... V:..... T:.....	Item	
5	Clause C5 - As-Built Drawings The Contractor shall be required to ensure that, at the end of the project, copies of the plumbing, drainage and fire services reticulation layouts showing the position of main pipe runs, the positions of stopcocks and all other salient information are submitted to the Principal Agent. All such as-built drawings are to be lodged prior to the issue of the certificate of works completion. F:..... V:..... T:.....	Item	
6	Clause C6 - Use Of Site The Contractor shall not use the site for any purpose other than carrying out the Works. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
7	Clause C7 - Interpretation Of Drawings, Specifications And Bills Of Quantities Should any part or parts of the Drawings, Specifications or Bills of Quantities not be clearly legible to the Contractor, or the material or articles to be used in the execution of the Works be considered insufficiently described or the manner in which the work is to be carried out not be clear, the Contractor must obtain from the Principal Agent the necessary information to clarify such Drawings, Specification, Bills of Quantities or instructions which request shall be in writing. The Contractor shall be held solely responsible for and shall, at his own expense, rectify any errors arising out of incorrect interpretation of the Drawings, Specifications, Bills of Quantities or instructions. F:..... V:..... T:.....	Item	
8	Clause C8 - Ownership and Care of Drawings and Documents All drawings and documents are to be considered the sole property of the Employer and are to be returned to them on completion of the Works. The drawings, etc., are to be used by the Contractor for the purpose of this Contract only. All drawings must be properly cared for, protected and kept in good condition. F:..... V:..... T:.....	Item	
9	Clause C9 - Checking of Drawings and Specifications Upon receipt of detail drawings for any work, the Contractor shall, before putting that work in hand, ascertain that the dimensions given on the detail drawings correspond with the dimensions of any work already built and which governs the sizes of any work for which details are now issued. In the event of the detail drawings not agreeing with the works already built, the discrepancy shall be brought to the Principal Agent's attention timeously and the detail drawings shall be returned at once for alterations. F:..... V:..... T:.....	Item	
10	Clause C10 - Scale of Dimensions All dimensions will be figured on the drawings or may be calculated from figured dimensions and are always to be followed. No dimensions shall be obtained by scaling. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
11	Clause C11 - Contract Instructions Instructions issued on Site shall be recorded in a Contract instruction book supplied by the Contractor. Only site instructions issued in such book shall be recognised. Site instructions to the Contractor and various Sub-contractors may be issued only by the Principal Agent and shall be issued via the Contractor. F:..... V:..... T:.....	Item	
12	Clause C12 - Encroachment by Contractor During the course of the building operations the Contractor shall be held entirely responsible for any encroachment onto any adjoining properties or servitudes as a result of his default and the cost of any remedial measures arising therefrom as required by the Principal Agent shall be borne by the Contractor. F:..... V:..... T:.....	Item	
13	Clause C13 - Security at Completion The Contractor shall account for and hand over to the Employer all keys, properly labelled with itemised schedule to be signed by the Employer as receipt. F:..... V:..... T:.....	Item	
14	Clause C14 - Condemned Work The Contractor shall remove from the site all materials condemned by the Principal Agent, whether incorporated in the Works or not. He shall replace and re-execute such work in accordance with the Contract and without expense to the Employer. The Contractor shall also bear the expense (including Professional Fees) of making good all other work destroyed or damaged by such removal or replacement. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
15	Clause C15 - Labour Record The Contractor shall provide to the Principal Agent, at intervals to be agreed to by the Principal Agent, a written daily record, in schedule form, showing the number and descriptions of tradesmen and labourers currently employed on the Works, including those employed on subcontracts. F:..... V:..... T:.....	Item	
16	Clause C16 - Plant Record The Contractor shall provide to the Principal Agent, at intervals to be agreed to by the Principal Agent, a written daily record, in schedule form, showing the number, type and capacity of all plant, excluding hand tools, currently employed on the Works. F:..... V:..... T:.....	Item	
17	Clause C17 - Costs of Claims All costs incurred by the Contractor in the preparation of claims to the satisfaction of the Principal Agent and/or Quantity Surveyor shall be borne by the Contractor. F:..... V:..... T:.....	Item	
18	Clause C18 - Declaration of Insurance A declaration of insurance shall be sought by the Principal Agent from the party responsible for affecting the applicable insurance cover. F:..... V:..... T:.....	Item	
19	Clause C19 - Insurances The Contractor warrants that he shall give all notices and shall observe all the terms and conditions and requirements of all insurances applicable to this Contract. Where the Contractor is responsible for the appointment of subcontractors then the Contractor shall: 1. Ensure that potential and appointed subcontractors are aware of the whole content of Clauses 10.0, 11.1 and 12.1. 2. Enforce the compliance of subcontractors with these Clauses where applicable. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
20	Clause C20 - Adjustment Of Attendance The amounts allowed by the Contractor against the respective attendance items will vary only in the following circumstances: 1. Where the actual subcontract amount, less any adjustments in terms of the Contract Price Adjustment Provisions, varies in excess of 15% of the Provisional Sum allowed, then the attendance amount will be varied pro-rata to the subcontract final amount less any adjustments in terms of Contract Price Adjustment Provisions. 2. Where the scope of the subcontract works increases or decreases, then the attendance amount allowed will be increased or decreased pro-rata to the cost of the variation in the scope of the subcontract works only. 3. No adjustment in the attendance amount will be made where the specification increases/decreases the subcontract amount. F:..... V:..... T:.....	Item	
21	Clause C21 - Overloading By The Contractor Or Subcontractor The Contractor shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the Works. The Contractor shall submit details of his proposed loading, storage, plant erection, etc., to the Principal Agents for their approval prior to proceeding with such loading, storing or erecting and shall comply with and pay for the Engineer's requirements in connection with the provision of temporary support work, etc. F:..... V:..... T:.....	Item	
22	Clause C22 - Quality Quality inspections will be carried out timeously prior to handover to ensure quality at an earliest stage. The Contractor is to provide a designated snagging team to do remedial work. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

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Item No		Quantity	Amount R
23	Clause C23 - Cleaning No claims for clearing or carting away any earth, rubbish or superfluous materials, including that of any Subcontractor, shall be accepted. All such materials must be cleared regularly at the end of each shift and in addition as and when directed by the Principal Agent. All electrical wiring must be protected from dust and water. Should the Contractor fail to carry out any or all of the above the Principal Agent will arrange for such clearing and cleaning as is necessary to be carried out by others and recover the cost as debits against Certificate Payments. F:..... V:..... T:.....	Item	
24	Clause C24 - Hazardous Material Survey The Contractor must undertake a comprehensive hazardous material survey on the project site, as defined by the South African Occupational Health and Safety Act (OH&S) and/or other relevant legislation; and whenever asbestos, lead or polychlorinated biphenyls (PCBs) were found, they have been removed in accordance with the standards listed under. F:..... V:..... T:.....	Item	
25	Clause C25 - Subcontracting The Contractor takes full responsibility of managing all appointed sub-contractors. The Contractor must also include any overhead costs for these appointed sub-contractors. F:..... V:..... T:.....	Item	
26	Clause C26 - Compliance With Permit To Work Documents as described in Part C1.2: Contract Data EC F:..... V:..... T:.....	Item	
27	Clause C27 - Accommodation of traffic for construction works Contractor to provide a traffic management plan Including barriers, temporary signage, flagman, traffic management plan, temporary road markings, etc. at the contractors costs F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

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Item No		Quantity	Amount R
28	Clause C28 - Trade Names Wherever a trade name for any product has been described in the bills of quantities / lump sum document, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders. If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for F:..... V:..... T:.....	Item	
29	Clause C29 - Temporary Protection Temporary protection, as per Engineers requirements of existing, roads, fencing, entrances, water, sewer, stormwater, telephone, electrical, etc. services to be affected by the works Protection of municipal roads until construction in vicinity is complete. F:..... V:..... T:.....	Item	
30	Clause C30 - Planning of Municipal Connections Planning and managing connections into existing sewer pipelines, aerator basin, clarifiers, manholes, etc. including liaison with relevant authorities F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
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Item No		Quantity	Amount R
31	Clause C31 - Dayworks Where in the opinion of the Principal Agent any extra work cannot properly be measured or valued, the Contractor will be allowed daywork prices therefore calculated upon the costs defined hereunder together with the stated percentages. The total thus arrived at shall be the total amount recoverable by the Contractor for performing such work. 1. The costs to the Contractor or sub-contractor of materials, being the net cost (at current market prices) actually paid for such materials after the deduction of cash discounts or if materials are supplied from the Contractor's or sub-contractor's stock then the cost of such materials shall be based upon the current market price plus the cost of delivery to Site; to which net cost 10% thereof shall be added. 2. The cost of labour to the Contractor or sub-contractor, being all items of direct cost of labour actually remunerated to the workmen concerned which shall include the cost of all allowances in terms of the industrial Conciliation Act (where applicable) or any other wage determination applying in the area where the daywork is executed: to which labour cost 10% shall be added. Hourly base rates for labour shall be the current market rates for labour based upon standard working hours and shall be applied in respect of the time spent by workers directly engaged on the particular day works including any operator's mechanical plant and transport and erecting and dismantling other plant. If a claim is made that individual workmen have been paid wages and allowances in excess of the minimum legalised rates, then proof must be furnished that such workmen had been so paid prior to the commencement of the daywork referred to. F:..... V:..... T:.....	Item	
32	Clause C32 - Environmental Management Plan The Contractor must compile and implement a comprehensive project-specific Environmental Management Plan (EMP) for the works in accordance with Section 3 of the New South Wales (Australia) Environmental Management System guidelines 2007. Documentation required before demolition starts: The contractor can provide their own EMP/ or client can consultant SEF to provide an EMP if it is not yet existing for the site or the attached template can be completed by the contractor F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
33	Clause C33 - Waste Management Plan The Contractor must compile and implement a comprehensive project-specific Waste Management Plan (WMP). Waste Management Plan must describe how all generated waste is monitored, which types of waste will be collected for recycling or for reuse, how recycling will occur, and who is responsible for the various aspects of the plan. The Contractor must retain all waste records and issues reports to the building owner. The Contractor is required to recycle or reuse all demolition and construction waste, excluding any waste that is not normally sent to landfill such as soil (from land clearing and excavation activities), land clearing debris, and waste that legally must be withheld from general construction waste (i.e. asbestos) The waste management plan should include instructions to crew and sub-contractors on recycling and reuse procedure. The waste management plan is to be developed prior to construction start, and is to be implemented for the entire construction duration F:..... V:..... T:.....	Item	
34	Clause C34 - Hours of Work The construction period is very stringent. All relevant legislatures must be complied with in terms of the hours worked for the day, week and month. All demolition, stripping of existing finishes, noisy work must be programmed. 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:.....	Item	
35	Clause C35 - After Hours Work The contractor must seek permission from the employer to work after hours and on weekends. After hours are from 6pm to 6am on weekdays and Saturdays and Sundays F:..... V:..... T:.....	Item	
36	Clause C36 - Site Security The Contractor's labour must be restricted to the immediate working areas or specified access thereto. Any workman found in any other part of the estate may be immediately removed from the premises by the management. The Contractor shall always strictly exclude all unauthorised persons from the Works and the Site and shall set up notice boards to that effect F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
37	Clause C37 - 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	
38	Clause C38 - Proprietary Branded Products The contractor shall take delivery of, handle, store, use apply and/or fix all proprietary branded products in strict accordance with the manufacturers' instruction after consultation with the manufacturer's authorised representative F:..... V:..... T:.....	Item	
39	Clause C39 - 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	
		R	
<u>Carried to Collection</u>			
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**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Quantity	Amount R
40	Clause C40 - Health and Safety, Dust Control and Site Establishment The Contractor shall be deemed to have included for all obligations associated with health and safety, environmental control, dust suppression, and site establishment as required by the Contract Data, the Occupational Health and Safety Act (Act 85 of 1993), the Construction Regulations, and all other applicable legislation. Without limiting the generality of the foregoing, the Contractor shall make provision for: • The appointment and maintenance of all competent Health and Safety personnel required for the duration of the Contract, including all statutory appointments and associated compliance documentation. • Preparation, implementation, monitoring and maintenance of the Health and Safety Plan, risk assessments, method statements, inductions, toolbox talks, inspections, audits, incident reporting and all associated statutory requirements. • Implementation of effective dust suppression and environmental control measures to minimise dust, airborne particles, noise and nuisance arising from the Works. Such measures shall include, where necessary, water spraying, dust screens, protective sheeting, cleaning of access routes, debris management and any other measures required to maintain a safe and acceptable working environment. • Provision, erection, maintenance, relocation (where necessary) and removal upon completion of all temporary site hoarding, fencing, barricading, warning signage, access control measures and other temporary works required to secure the Site and protect occupants, the public and adjoining properties. • Maintenance of all health and safety measures, environmental controls and site security throughout the Contract Period. The Contractor shall be deemed to have allowed for all costs associated with the above requirements, and no additional payment shall be made unless specifically instructed by the Principal Agent in terms of the Contract. F:..... V:..... T:.....	Item	
	<u>Carried to Collection</u>	R	
	Section No 1 Bill No 3 Special Preliminaries (Section C)		

Section No 1 Preliminaries Bill No 3 Special Preliminaries (Section C) <u>COLLECTION</u> Total carried from page No		
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**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 1</u> <u>ALTERATIONS</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Descriptions and preambles</u> Reference shall be made to other trades and preambles for preambles and full descriptions of items not fully described in this trade which shall apply equally to the work in this trade, unless otherwise described <u>General</u> 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. In taking down and removing existing work the utmost care shall be observed to prevent any structural or other damage to remaining portions of the building, and the contractor shall provide shoring, needling, strutting, etc to ensure the stability of structures during alteration works Special care shall be exercised during the progress of work to ensure that any electrical installations, water supply pipes, telephone and other services which may be encountered are not interfered with and notice shall be given to the Representative/Agent if any disconnection or alterations become necessary. 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 The Contractor shall take all precautions necessary to prevent any nuisance from dust whilst carrying out the work <u>Materials to match existing</u> Where practical all materials are to match existing, i.e remaining in size, quality and finish. <u>Carried to Collection</u> Section No 2 Bill No 1 Alterations				
				R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Remove</u> The term "remove" shall mean breaking out as required to remove the item described, disposal of all rubble and old materials, and making good all work disturbed to match existing. Remove walls or partitions shall mean breaking down complete to structure of walls, etc. and trimming up edges and disposal of rubble and all old materials from site (old material elsewhere described). Prices shall include for protecting adjacent surfaces against damage and repairing such damage should it occur. <u>Make good</u> The term "make good" includes for patching work disturbed or built up, etc., with materials to match existing and for making good to existing. All quantities given for making good are nett and the Contractor must allow in his prices for all extra patching, etc., to work disturbed beyond the nett size of opening etc., which is to be formed or bricked up. <u>Building up openings</u> All quantities for building up openings are nett and the Contractor must allow in his prices for extra labour and material in cutting and bonding new brickwork to existing including any hoop iron ties that may be required. <u>Old material that is set aside</u> Any old material that is described as "set aside" are to be carefully removed, stored, protected, overhauled, cleaned down as necessary and generally made good prior to re-building into the building. These materials are measured as at present fixed in the existing buildings, and the Contractor must allow in his prices for replacing with new any of these materials that may be damaged or rendered useless during the pulling down, etc., and for the making up with new any loss in quantity arising from the pulling down, storing, re fixing or rebuilding. <u>Old material becomes the property of the Contractor</u> Old material from the alterations except where described for re-use or handing over, will become the property of the Contractor for which Credit must be allowed <u>Carried to Collection</u> Section No 2 Bill No 1 Alterations				
					R

**NATIONAL SEISMOLOGY CENTRE
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Item No		Unit	Quantity	Rate	Amount R
	<u>Old material must be carted away</u> Old material from the alterations except where described for re-use or handing over, as well as all debris must regularly be carted away from site and not be accumulated on site <u>Old material may not be re-used</u> No old material may be re-used for new work except where it is specifically described as set aside for re-use <u>Rubble piling</u> Rubble on the existing floors can only be piled up to a maximum of 500mm high <u>Handing over of material</u> Where it is described that certain material or articles of the alterations must be handed over by the Contractor to the Representative/Agent, these material or articles must be properly stored by the Contractor until it is handed over. The Contractor must obtain official proof of the handing over which indicates the material or articles as well as the dates of handing over If the Contractor cannot provide proof on request it shall be deemed that the material or articles is still in his possession and will be held responsible to the Client for the full replacement value thereof, the relevant amount shall be deducted from any outstanding money owed to the Contractor <u>Pulling down</u> Pulling down walls shall include for dead shoring under existing concrete slabs, beams, roof members, etc. for pulling down face brick, tiled or plastered walls and concrete beams or lintols occurring in same, for removing skirtings, quadrants, cornices, etc. fixed to same for hacking up flooring in openings and making good as previously described to walls, floors, ceilings etc. unless otherwise described				
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 1 Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Existing and adjoining buildings, etc.</u> In taking down and removing existing work utmost care must be observed to avoid any structural or other damage to the remaining portions of the building or adjoining buildings, boundary walls, pavings, roadways, etc. and the Contractor shall provide all shoring, needling, strutting, etc.to ensure the stability of all structures during demolition or alteration work. the Contractor must cover up and protect from damage all work not removed and must make good at his own expenses any damage that may occur <u>Redecorations</u> Prices for preparation, and redecoration of all previously painted or decorated surfaces shall include cleaning and washing down and painting as described with similar materials to colours as directed including making good cracks, scratches, nail holes, bare patches, repaired areas etc. prior to commencement of redecoration Rates for Redecoration shall include for a small proportion of new work after repairs and renovations including all preparatory priming. Large areas of replastering and all new work are measured separately <u>Disposal of debris, redundant material, etc.</u> The Contractor shall be responsible for the removal from the site of all materials, debris and rubbish resulting from the alterations The Contractor shall obtain a Safe Disposal Certificate from a registered hazardous waste site as confirmation of the safe disposal of all fluorescent lamps identified as been redundant. The certificate shall indicate the waste type, volume and hazardous waste site used The Contractor shall make provision for the disconnection, removal, loading, transport and safe disposal of all redundant materials inclusive of distribution boards, switchgear, luminaries and electrical sundry materials in accordance with standard safe practices				
	<u>Carried to Collection</u>				
	Section No 2 Bill No 1 Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Damage to persons and property</u> All demolitions, pulling down, alterations etc., are to be carried out carefully and in the safest possible manner. The Contractor is to ascertain that all alterations are structurally practicable and safe and he will be held solely responsible for any damage to property or work adjoining the pulling down and must make good at his own expense <u>Programming of the works</u> The programming of demolitions and alterations will have to be co-ordinated with the Principal Agent <u>Care of utility services</u> Special care is to be exercised not to interfere with any drains, electrical supply, data, or telephone cables and fittings to same. Notice is to be given to the Principal Agent when any disconnections, removal of wires etc. are necessary and the Contractor is to afford every facility to the workmen carrying out this work. Permission must be obtained from the Principal Agent before any services are cut off at any time <u>Temporary shoring, etc.</u> Prices are to include for providing, fixing and maintaining in position generally as required all temporary shoring, needling, strutting etc., necessary for the proper execution of the alterations in this Contract and for removing same <u>Supervision</u> The demolition work is to be executed in a workmanlike, practical and safe manner under the continual supervision of a competent foremen <u>Cover and protect</u> Contractor to cover and protect areas not to be renovated with plywood and running boards during construction, but stairs must be safe to use. Damages to these areas will have to be rectified to the Principal Agent's satisfaction and at the Contractors cost				
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 1 Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Decanting and temporary storage of existing furniture, equipment and joinery</u> The Contractor shall allow for the careful decanting, dismantling and removal of all existing loose furniture, desks, computers, equipment and other items, as well as the careful removal of existing joinery fittings, as instructed All items shall be handled with due care to prevent damage, labelled where necessary and temporarily stored on site The Contractor shall be responsible for the safekeeping, protection and security of all items from removal until handover The Contractor shall move, stack and relocate items to the designated storage area when directed by the Client and shall allow for multiple handling where required. Rates shall include for all labour, supervision, protection, temporary storage, making safe of services, reinstatement where applicable and all incidental requirements. No claims shall arise from breakages, losses or additional handling (Provision for decanting and careful removal of joinery have been allowed for in the Alterations trade of the BOQ)				
	<u>Carried to Collection</u>				
	Section No 2 Bill No 1 Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>REMOVAL OF EXISTING WORK</u>				
	<u>TEMPORARY BARRIERS, SCREENS, ETC</u>				
	<u>Temporary barriers, screens, hoarding and the like, including erection, moving, replacement and reinstatement as required, together with removal on completion and making good to affected surfaces</u>				
1	Dust screens 2800mm high between concrete floor and ceiling formed of suitable timber framing with 250 micron polyethylene sheeting stapled on including corners, ends, etc to suit health and safety requirements		Item		
	<u>DECANTING</u>				
2	Carefully take out and hand over to Client all existing loose furniture, desks, computers, equipment and similar items from existing spaces and make good as necessary			SUM	
	<u>REMOVAL OF EXISTING WORK</u>				
	<u>MASONRY/CONCRETE</u>				
	<u>Break down and remove brickwork, concrete, etc. including cutting off and removing reinforcement</u>				
3	200mm Thick reinforced concrete ramp etc.	m ²	1		
4	200mm thick reinforced concrete paving	m ²	12		
5	Reinforced concrete surface bed approximately 150mm thick for new strip footings	m ²	5		
6	Saw cut joints in existing surface bed along edges in preparation for new strip footing	m	20		
7	Half brick wall	m ²	16		
8	One brick wall	m ²	58		
	<u>CARPENTRY</u>				
	<u>Carefully take out and remove doors, windows, shopfronts, etc. including thresholds, sills, etc. (building up openings elsewhere)</u>				
9	Timber single door and steel frame not exceeding 2.5m ² from half/one brick wall, including preparing area and making good to receive new door frame (frame elsewhere measured)	No	2		
	<u>Carried to Collection</u>			R	
	Section No 2				
	Bill No 1				
	Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
10	Timber double door and steel frame exceeding 2.5m2 but not exceeding 5m2 from half/one brick wall including preparing area and making good to receive new door frame (frame elsewhere measured)	No	1		
11	Glazed aluminium windows not exceeding 2.5m2 from half/one brick wall including preparing area and making good to receive new door frame (frame elsewhere measured)	No	2		
12	Glazed sliding door exceeding 2.5m2 but not exceeding 5m2 from half/one brick wall, including preparing area and making good to receive new door frame (frame elsewhere measured)	No	1		
	<u>Take out and remove skirting, etc.</u>				
13	Timber skirting, approximately 150mm high	m	46		
	<u>JOINERY</u>				
	<u>Carefully take out and hand over to Client joinery fittings, etc.</u>				
14	Existing heavy duty steel feature division wall, size approximately 4000 x 3000 x 100mm thick	No	1		
15	Workstation desks formed of timber substrate with wood-grain laminated finish, size approximately 760 x 900mm high, securely fixed to access flooring, including front privacy divider formed of matching laminated panels, approximately 300 x 1 200mm high, complete with all fixings and accessories	m	44		
	<u>Carefully alter existing joinery fittings, etc.</u>				
16	Cutting through existing granite kitchen countertop approximately 20mm thick, to create opening for sink size approximately 600 x 600mm	No	1		
	<u>CEILINGS</u>				
	<u>Carefully take down/out and remove ceilings including brandering, hangers, cornice, etc.</u>				
17	Flush plastered/Nailed-up ceilings including bulkheads, cornices, etc..	m²	636		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 1				
	Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>ACCESS FLOORING</u>				
	<u>Take out and remove access flooring</u>				
18	Raised flooring support structure including all posts, bracing, connections etc. (new raised floor support system measured elsewhere)	m ²	193		
	<u>ROOF COVERING</u>				
	<u>Carefully take down/out and remove roof sheeting including trusses, accessories etc.</u>				
19	Steel fascia boards, approximately 300mm wide/high	m	5		
	<u>Take out and remove rainwater goods</u>				
20	Steel rainwater gutters	m	5		
21	Steel rain water downpipes	m	5		
	<u>FLOOR COVERING</u>				
	<u>Take out and remove floor coverings</u>				
22	Carpet floor coverings	m ²	186		
	<u>IRONMONGERY</u>				
	<u>Carefully take out and remove wall mounted sundry fittings, etc.</u>				
23	All sundry fittings, i.e. soap dispenser, toilet roll holder, paper towel dispenser, mirrors etc.		Item		
24	All sundry wall fittings, signage, notice boards, white boards etc.		Item		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 1				
	Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>TILING</u>				
	<u>Hack up/off and remove tiled floor and wall finishes including removing mortar bed or backing and preparing concrete or brick surfaces for new screed, plaster or tile finishes</u>				
25	Tiles to floors	m ²	95		
26	Tiles to walls	m ²	23		
27	Tile skirting 150mm high	m	26		
	<u>PLASTERING</u>				
	<u>Hack up/off and remove granolithic, screeds, plaster, etc. from concrete or brickwork and preparing surfaces for new screeds, plaster, etc.</u>				
28	Screed, approximately 50mm thick	m ²	633		
29	Internal plaster from walls and columns, approximately 30-50mm thick	m ²	104		
	<u>PLUMBING & DRAINAGE</u>				
	<u>Take out and remove sanitary fittings, taps, wastes, water supply and waste pipes including cutting back, sealing, making safe, removing all redundant piping, etc.</u>				
30	Vitreous china wash hand basin	No	2		
31	Vitreous china WC pan with cistern/flush valve	No	2		
	<u>GLAZING</u>				
	<u>Take out and remove glass and mirrors</u>				
32	Mirrors with/without timber surrounds from walls, size approximately 1000 x 1000mm high	No	1		
	<u>SUNDRIES</u>				
33	Carefully take out blinds, handing over to client and making good surfaces by sealing/closing of holes/penetrations etc.	m ²	9		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 1				
	Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>OPENINGS THROUGH EXISTING WALLS</u>				
	<u>Break out for and form openings through brick walls for new windows/doors and frames including necessary precast concrete lintels and making good plaster on one/both sides and facebrick on the other side and into reveals (new windows/doors and frames and making good paintwork elsewhere measured)</u>				
34	One brick walls for new doors/windows	m ²	18		
	<u>BUILDING UP OPENINGS</u>				
	For building up existing openings, the existing surfaces all round shall be prepared as necessary, brickwork or blockwork properly toothed and bonded to existing, wedged up to underside of existing lintel and finishes shall be made good on both sides.				
	<u>Brickwork in NFP bricks (7 MPa nominal compressive strength) in class II mortar in building up openings</u>				
35	One brick wall where doors/windows were removed	m ²	4		
36	One brick wall where doors/windows were removed including extra over brickwork for facebrick finish to match existing	m ²	1		
	<u>Sundries</u>				
37	Cutting toothings and bonding new brickwork to existing	m ²	3		
	<u>PREPARATORY WORK (MAKING GOOD) TO EXISTING SURFACES</u>				
	<u>Making good floors, walls and ceilings</u>				
38	Preparing floor slabs for new finish/screed where existing floor finish and screeds have been removed	m ²	633		
39	Existing floors where brickwork was removed	m ²	4		
40	Walls in patches with plaster	m ²	104		
41	Facebrick walls where brick walls removed for openings	m	51		
42	Making good brickwork to face of wall where half brick cross wall removed	m	14		
	<u>Carried to Collection</u>				R
	Section No 2				
	Bill No 1				
	Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
43	Making good brickwork to face of wall where one brick cross wall removed	m	12		
	<u>REPAIRS/SERVICING</u>				
	<u>Clean, service and repair all hinges, stays, handles, latches including replacing all broken glazing etc.</u>				
	Windows				
44	Existing aluminium window ,size approximately 900 x 935mm high	No	5		
45	Existing aluminium window, size approximately 1500 x 905mm high	No	1		
46	Existing aluminium casement window, size approximately 1280 x 2120mm high	No	1		
47	Existing steel window, size approximately 600 x 600mm high	No	4		
48	Existing steel window, size approximately 900 x 905mm high	No	4		
	Doors				
49	Existing aluminium shopfront ,size approximately 1730 x 2687mm high	No	1		
50	Existing aluminium sliding door ,size approximately 1872 x 2084mm high	No	1		
51	Existing aluminium doors ,size approximately 1420 x 2230mm high	No	2		
52	Existing aluminium doors ,size approximately 1720 x 2080mm high	No	2		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
53	Allow the Budgetary Allowance of R20 000.00 (Twenty Thousand Rand) for maintenance and repair of existing steel and timber trusses		Item		20 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 1 Alterations				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

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**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

[illegible]

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 2</u> <u>EARTHWORKS</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Nature of material to be excavated</u> A Geo-technical investigation has not been carried out on site <u>Carting away of excavated material</u> Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site and disposing of same from site. <u>Subterranean water</u> No information regarding subterranean water is available. The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefore in his prices. <u>Carting away of excavated material</u> Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site <u>Filling and layer work materials</u> References such as "G1", "G2", etc and "C1", "C2", etc in descriptions of filling and layer work materials refer to corresponding references in the document "Guidelines for Road Construction Materials. TRH 14 : 1985" compiled by the Committee of State Road Authorities and the properties set out therein for each kind shall be applicable to the respective materials described hereinafter <u>Testing</u> Descriptions & prices for earth filling, compaction, etc. are deemed to include for all necessary density and other testing required in accordance with the SABS 1200 series and Engineer's specifications <u>Carried to Collection</u> Section No 2 Bill No 2 Earthworks				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u>				
	<u>Excavation in compacted earth fill not exceeding 2000mm deep</u>				
1	Reduced levels under floors	m ³	3		
2	Trenches	m ³	6		
	<u>Extra over excavation in earth for excavation in</u>				
3	Soft rock	m ³	1		
4	Hard rock	m ³	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	m ³	6		
	<u>Risk of collapse of excavations</u>				
6	Sides of trench and hole excavations not exceeding 1500mm deep	m ²	16		
	<u>FILLING ETC</u>				
	<u>Selected earth filling obtained from the excavations and/or prescribed stock piles on site (compacted to 98% Mod AASHTO density)</u>				
7	Backfilling to trenches, holes, etc.	m ³	2		
	<u>LAYER WORKS</u>				
	<u>G5 Earth filling supplied by the contractor compacted to 95% Mod AASHTO density</u>				
8	Under trenches and hole excavations	m ³	1		
9	Under floors, steps, ramps, paving, etc.	m ³	1		
	<u>G7 Earth filling supplied by the contractor compacted to 93% Mod AASHTO density</u>				
10	Under floors, steps, ramps, paving, etc.	m ³	1		
	<u>Carried to Collection</u>				R
	Section No 2				
	Bill No 2				
	Earthworks				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Compaction of surfaces</u>				
11	Compaction of ground surface in trenches, holes, etc including scarifying for a depth of 150mm, compacted to 93% Mod AASHTO density	m ²	7		
12	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, compacting to 95% Mod AASHTO density	m ²	12		
	<u>WEED KILLERS, INSECTICIDES, ETC</u>				
	Weed killer (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m²				
	Soil insecticide in accordance with SANS 5859				
	<u>Approved brand of anti-termite soil poison & weed killer applied by a Registered Company and guaranteed for ten years</u>				
13	To bottoms and sides of trenches, holes, etc.	m ²	22		
14	Under floors, paving, etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	10		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
15	Allow the Budgetary Allowance of R10 000.00 (Ten Thousand Rand) for tying in existing foundation to new still to be designed and will/may be carried out by the Contractor		Item		10 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 2 Earthworks				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

[illegible]

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 3</u> <u>CONCRETE, FORMWORK & REINFORCEMENT</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>General</u> All concrete, formwork and reinforcement to be done according to SABS 1200G. Components cast against excavated surfaces have not been measured or described separately and the Contractor is to ensure adequate allowance for casting against excavated surfaces are made within the relevant items. <u>Cost of tests</u> The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Representative/Agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the Representative/Agent. The Contractor's rates for concrete shall be deemed to include full allowance for all required concrete testing, including but not limited to sampling, cube making, curing, transportation, laboratory testing and reporting in accordance with the Engineer's and relevant SANS requirements. No separate measurement or payment shall be made for concrete testing, and no additional claims will be entertained in this regard <u>Formwork</u> 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 re-conditioning as necessary before re-use. <u>Carried to Collection</u> Section No 2 Bill No 3 Concrete, Formwork & Reinforcement				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself. Formwork to sides of strip footing, ground beams, etc will only be measured where it is prescribed by the Representative/Agent, 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". Where required by the Principal Agent or his representative, vibration of concrete shall be included in the rates. <u>Finishing</u> Finishing the surfaces of surface beds and slabs level and smooth to receive screed, grano or any other finish are deemed to be included in the rate for the surface bed or slab. <u>Mesh reinforcement</u> Mesh reinforcement is measured net, Contractor to take consideration of lapping <u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u> <u>Concrete 15 MPa/19mm</u>				
1	Blinding	m ³	0.3		
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u> <u>Concrete 30 MPa/19mm</u>				
2	Strip footings	m ³	2		
	<u>REINFORCED CONCRETE</u> <u>Concrete 30 MPa/19mm</u>				
3	Surface beds cast in panels on waterproofing	m ³	1		
4	Ramps and steps	m ³	0.2		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 3 Concrete, Formwork & Reinforcement				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>TEST BLOCKS</u>				
5	Making and testing 150 x 150 x 150mm concrete strength test cube (Set of 3)	No	3		
	<u>CONCRETE SUNDRIES</u>				
	<u>Finishing top surfaces of concrete smooth with a wood float</u>				
6	Surface beds, slabs, etc.	m ²	13		
	<u>25MPa non-shrink grout</u>				
7	Bedding approximately 25mm thick under base plates including chamfered edges all around	m ²	0.2		
	<u>FORMWORK</u>				
	<u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u>				
	<u>Rough formwork to sides of</u>				
8	Edges, risers, ends and reveals not exceeding 300mm wide	m	2		
	<u>MOVEMENT JOINTS, ETC.</u>				
	<u>Saw-cut joints</u>				
9	40mm Deep x 3mm wide saw cut joints in top of concrete including 15mm deep x 10mm wide silicon sealant	m	2		
	<u>Isolation joint between concrete and brick surfaces with 10mm lightweight, cross-linked, closed cell, expanded Polyethylene joint former with hinged temporary blocking piece including sealing with approved sealer</u>				
10	Joints not exceeding 300mm wide	m	32		
	<u>10mm Expansion joints formed of bitumen impregnated soft board</u>				
11	Between vertical concrete and brick surfaces not exceeding 300 mm high or wide	m	1		
	<u>Carried to Collection</u>				R
	Section No 2				
	Bill No 3				
	Concrete, Formwork & Reinforcement				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>REINFORCEMENT</u>				
	<u>High/medium tensile steel reinforcement to structural concrete work</u>				
12	Various diameter (6 - 40mm) bars	t	0.20		
	<u>Fabric reinforcement</u>				
13	Ref. 395 fabric reinforcement in concrete surface beds, ramps, etc.	m²	12		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
14	Allow the Budgetary Allowance of R15 000.00 (Fifteen Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor		Item		15 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 3 Concrete, Formwork & Reinforcement				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

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Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 4</u> <u>MASONRY</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>General</u> All masonry units shall comply with SANS 227:2007 and SANS 1 575:2007 Brickwork shall be in accordance with SANS 0164. Minimum crushing strength of all load bearing bricks shall be 14MPa. The nominal compressive strength for face bricks shall be not less than 17MPa <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>Wall ties</u> Descriptions of solid walls and cavity walls shall be deemed to include metal wall ties complying with SABS 28 and of the butterfly or of the modified PWD type, of the required length with each end built at least 75mm deep into brickwork, spaced at not more than 1m centres alternatively to every third course of brickwork. Descriptions of solid walls (except if built in English bond) and cavity walls shall be deemed to include metal wall ties complying with SABS 28 and of the butterfly or of the modified PWD type, of the required length with each end built at least 75mm deep into brickwork, spaced at not more than 1m centres alternatively to every third course of brickwork. <u>Face bricks</u> Bricks shall be ordered timeously to obtain uniformity in size and colour.				
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 4 Masonry				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	Excessive suction in clay bricks should be controlled by wetting the bricks before laying. Corners and other advanced work shall be raked back and not raised above the general level of the remaining masonry work by more than one metre at any one lift. Face bricks to be kept free from mortar droppings as the work continues. Reinforcing and brickforce to face brick lintels to have steel hangers to be built into brickwork above header course with R8 steel rod reinforcing for three brick courses above the lintel. All joints in the header course shall be solidly filled with mortar. <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>Strutting/shoring of brickwork</u> All cost for strutting/shoring of new brickwork while compacting under the ground floor slab shall be for the account of the contractor. <u>FOUNDATION BRICKWORK</u> Contractor shall support all foundation brickwork while compacting fill material under floors <u>Brickwork of NFX bricks in class II mortar</u>				
1	One brick wall in foundations including brick reinforcement every course	m ²	4		
	<u>SUPERSTRUCTURE</u> <u>Brickwork of NFP bricks in class II mortar</u>				
2	Half brick walls laid in stretcher bond including brick reinforcement every fourth course and hoop iron tie fixings to columns/brickwork as directed	m ²	19		
3	One brick walls laid in stretcher bond including brick reinforcement every fourth course and hoop iron tie fixings to columns/brickwork as directed	m ²	26		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 4 Masonry				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>BRICKWORK SUNDRIES</u>				
	<u>Prestressed fabricated concrete lintels including necessary temporary supports</u>				
4	100 x 70mm Lintels in lengths not exceeding 3000mm long	m	33		
	<u>Turning pieces</u>				
5	220mm Wide turning piece to lintels, etc.	m	27		
	<u>FACE BRICKWORK</u>				
	<u>External facebrick (FBX) (PC R8000/1000 delivered to site, excluding VAT) pointed with square recessed horizontal and vertical joints</u>				
6	Extra over brickwork for face brickwork all as per Architects detail and specification	m ²	20		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
7	Allow the Budgetary Allowance of R15 000.00 (Fifteen Thousand Rand) for granite coping to planter walls		Item		15 000.00
8	Allow the Budgetary Allowance of R10 000.00 (Ten Thousand Rand) for stub walls under partitions where required		Item		10 000.00
9	Allow the Budgetary Allowance of R20 000.00 (Twenty Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor		Item		20 000.00
	<u>Carried to Collection</u>			R	
	Section No 2				
	Bill No 4				
	Masonry				

Section No 2 Building Works Bill No 4 Masonry COLLECTION Total carried from page No				
		Page No		Amount R
		61		
		62		
		63		
Section No 2 Bill No 4 Masonry	Carried to Summary of Section No 2		R	

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 5</u> <u>WATERPROOFING</u> <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>Flexible cementitious waterproofing suitable for under wall and floor tile application, all applications applied in strict accordance with the manufacturers instruction</u>				
1	On walls	m ²	126		
2	On floors	m ²	19		
	<u>Horizontal & vertical damp-proof course to be of black polyethylene sheeting complying with SANS specifications 952 type B having embossed surface 0.38mm thick (375 microns) & manufactured in widths of less than 1000mm. Lapped minimum 150mm at all joints, & ensure similarly lapped over green under-floor damp proof membrane sufficiently</u>				
3	In walls	m ²	3		
	<u>One layer of 250 micron green Polyethylene sheeting to comply with SANS 952 Type C with minimum 150mm lap to DPM including sealing laps with approved tape</u>				
4	Under surface beds, bottoms and sides of column bases	m ²	65		
	<u>Carried to Collection</u>			R	
	Section No 2				
	Bill No 5				
	Waterproofing				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
5	<u>BUDGETARY ALLOWANCES</u> <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u> Allow the Budgetary Allowance of R20 000.00 (Twenty Thousand Rand) for waterproofing repairs to existing roof				
			Item		20 000.00
	<u>Carried to Collection</u> Section No 2 Bill No 5 Waterproofing			R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Section No 2 Building Works Bill No 5 Waterproofing <u>COLLECTION</u> Total carried from page No		Page No 65 66			
Section No 2 Bill No 5 Waterproofing					R

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 6</u> <u>CARPENTRY & JOINERY</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>CARPENTRY</u> <u>Particle board</u> Particle board shall comply with the following specifications: a) SABS 1300 Particle board: exterior and flooring type b) SABS 1301 Particle board: interior type <u>Fixing</u> Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete. 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 <u>Fire doors</u> Fire doors are to be in accordance with SANS 1253 <u>DOORS AND FRAMES</u> <u>Solid core hardwood flush panel door including sealants and preparation for door leaf installation as per Architects detail, specification and approval</u>				
1	Single leaf door type ND05 , size approximately 826 x 2100mm high	No	4		
2	Single leaf door type ND07, size approximately 877 x 2100mm high	No	2		
3	Single leaf door type ND08, size approximately 978 x 2100mm high	No	1		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 6 Carpentry & Joinery				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
4	<u>Class B fire rated solid core flush panel hardwood door and steel door frame</u> Single leaf door type ND06, size approximately 1094 x 2400mm high single leaf door <u>SKIRTINGS, NOSINGS, ETC</u> <u>"Promax Trendy Spruce" or similar approved timber skirting (FTSK10430) fixed to walls in areas with access flooring</u>	No	1		
5	Timber skirtings, 100mm high <u>JOINERY</u> General <u>All to fittings to manufacturer's and Architects' specifications on the Architects "Specification of works Finishes & Products" shedule</u> Counter tops - 30mm Quartz in colour black to specialist design and installation, all exposed edges with 45 degree mitred joint with 2-3mm bevel on surface edge, all joints filled with matching polyester resin glue, mould resistant silicon sealant against horizontal and vertical walls/surfaces, etc. Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes. <u>QUARTZ COUNTERTOPS & VANITIES</u> <u>Eating Area</u> 30mm Thick engineered stone top, approximately 600mm wide including silicon sealant, etc. and polishing all exposed edges with 45 degree mitred joint with 2-3mm bevel on surface edge complete fixed to walls with steel brackets at suitable centres using dabs of 100% clear silicone adhesive, with all joints filled with matching polyester resin glue, all in accordance with manufacturer's and architect's specifications	m	120		
6	Countertops, size approximately 600mm wide fixed horizontally <u>Bathroom</u>	m	6		
	<u>Carried to Collection</u> Section No 2 Bill No 6 Carpentry & Joinery			R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	30mm Thick engineered stone top, approximately 600mm wide including silicon sealant, etc. and polishing all exposed edges with 45 degree mitred joint with 2-3mm bevel on surface edge complete fixed to walls with steel brackets at suitable centres using dabs of 100% clear silicone adhesive, with all joints filled with matching polyester resin glue, all in accordance with manufacturer's and architect's specifications				
7	Vanity, size approximately 600mm wide fixed horizontally	m	3		
8	Extra over item for cutting out openings in vanity tops not exceeding 50mm diameter	No	4		
	<u>TIMBER COUNTERTOPS</u>				
	<u>Laboratory</u>				
	30mm Thick solid hardwood timber top, with clear epoxy resin finish, size approximately 600mm wide including silicon sealant, etc. and polishing all exposed edges with 45 degree mitred joint with 2-3mm bevel on surface edge complete fixed to walls with steel brackets at suitable centres using dabs of 100% clear silicone adhesive, with all joints filled with matching polyester resin glue, all in accordance with manufacturer's and architect's specifications				
9	Countertops, size approximately 600mm wide fixed horizontally	m	7		
10	Extra over item for cutting out openings for sink and tap	No	2		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
11	Allow the Budgetary Allowance of R10 000.00 (Ten Thousand Rand Rands) for new cills still to be designed and will/may be carried out by the contractor		Item		10 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 6 Carpentry & Joinery				

Section No 2 Building Works Bill No 6 Carpentry & Joinery COLLECTION Total carried from page No				
		Page No		Amount R
		68		
		69		
		70		
Carried to Summary of Section No 2			R	
Section No 2 Bill No 6 Carpentry & Joinery				

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 7</u> <u>CEILINGS</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Descriptions</u> Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete. Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted" the bolts have been given elsewhere. <u>Bulkheads</u> Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 1200mm. Where these dimensions are more than 1200mm such portions of ceilings have been included in the appropriate general items of ceilings Bulkheads to have a screwed up grid system to Architects approval Unless otherwise described bulkheads shall be deemed to be horizontal along the length <u>Ceilings</u> Ceilings and support framework are to comply with Part T of the national building regulations with tiles in compliance with Surface Fire Index Test: SANS 10177 Part 3 Class 1 and SANS 428 overall classification Class B/B1/2. Unless otherwise described ceilings shall be deemed to be horizontal Hangers, suspension grids, "lay-in" panels are to be in accordance with the manufacturers' recommendations <u>Carried to Collection</u> Section No 2 Bill No 7 Ceilings				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	Electric light fittings, diffusers, panels generally are "lay in" units of the same dimensions as the suspension grid described and allowance shall be made accordingly for their support, inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing shall take cognisance thereof) Rates are to include for small opening in ceiling boards for fire sprinklers, down lighters, etc. The grid shall be suspended by means of galvanised steel L-section hangers at suitable centres, securely shot-pinned or screwed to concrete, steel or wood <u>Steel components</u> All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121 <u>Openings</u> Prices for openings for light fittings, ventilation grilles, air-conditioning diffusers and similar services shall be deemed to be included in the rate of ceilings and shall include for setting out, cutting, forming and trimming of all openings, including any necessary additional support, framing, strengthening, making good and all incidental work complete <u>NAILED UP CEILINGS</u> <u>6.4 mm gypsum board flush-jointed suspended ceiling system laid on and including T37K galvanised steel main tees at 1200mm centres and T32K galvanised steel cross tees at 500mm centres, suspended from structural roof members using galvanised steel angles and 25 x 25mm hangers at 1200mm centres. 9.5mm plaster trim to be fixed to tees using steel pop rivets or 13mm wafer head Tek screws. All joints to be taped and 3mm skim coat plaster to to be applied to entire ceiling surface, finished smooth with rubber float and steel trowel, Ceilings to be installed complete with all fixings, trims and accessories in strict accordance with Manufacturers instructions</u>				
1	Ceilings suspended not exceeding 1000mm below roof structure	m ²	102		
2	Raked ceiling suspended not exceeding 1000mm below roof structure	m ²	161		
3	Vertical ceiling suitably fixed to walls/suspension grid	m ²	21		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 7 Ceilings				

**NATIONAL SEISMOLOGY CENTRE
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Item No		Unit	Quantity	Rate	Amount R
4	<u>9mm gypsum board flush-jointed suspended ceiling system fixed to steel sub frame (steel subframe elsewhere measured). All joints to be taped and 3mm skim coat plaster to be applied to entire ceiling surface, finished smooth with rubber float and steel trowel, Ceilings to be installed complete with all fixings, trims and accessories in strict accordance with Manufacturers instructions</u> Ceilings suspended not exceeding 1000mm below roof structure <u>SUSPENDED CEILINGS</u> <u>600 x 600 x 12.5mm "OWAdek" or similar approved vinyl-faced gypsum ceiling panels, face-covered with white embossed vinyl, laid on and including fire-rated "OWAconstruct S3" or similar approved exposed demountable butt-cut T24 suspension grid comprising galvanised steel main tees, cross tees and accessories, suspended from structure with galvanised hangers at centres not exceeding 1200mm, complete and installed in strict accordance with Manufacturer's instructions</u>	m²	18		
5	Ceilings suspended not exceeding 1000mm below soffits of slab, timber trusses and/or steel trusses <u>600 x 600 x 18.5mm "OWAcoustic Sinfonia Premium" or similar approved biologically absorbable mineral wool acoustic ceiling tiles, NRC 0.85, CAC 30 dB, fire classification A2-s1, d0, nominal weight 3.5 kg/m², square-edge with white painted finish, laid on and including fire-rated "OWAconstruct S9" or similar approved concealed demountable T24 suspension system comprising galvanised steel main tees and cross tees, with main tees suspended from structure using galvanised hangers at centres not exceeding 1200mm, complete and installed in strict accordance with Manufacturer's instructions</u>	m²	335		
6	Ceilings suspended not exceeding 1000mm below soffits of slab, timber trusses and/or steel trusses <u>Edge Trims</u>	m²	88		
7	"OWAconstruct" or similar approved pre-printed shadowline perimeter wall angle W-trim, fixed to perimeter walls with plugs and screws at 200 mm centres, installed in strict accordance with Manufacturer's instructions	m	470		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 7 Ceilings				

Item No		Unit	Quantity	Rate	Amount R
	SUSPENDED FEATURE PANELS Supply and installation of suspended octagonal gypsum board feature ceiling panels with recessed lighting as per Architects ceiling reception detail, including all framing, boards, lighting recesses, finishes, full setting out, coordination, making good to adjacent ceilings, protection of works, and final cleaning on completion <u>400mm side length octagonal ceiling feature panels formed using 12mm gypsum board to create a continuous vertical bulkhead 120mm high closed off with a 9mm gypsum board front face complete with a continuous perimeter light trough formed using 12mm gypsum vertical fascia boards 60 mm high including all necessary galvanised steel framing, metal corner beads, trims, joints, and accurately mitred corners to achieve true and neat octagonal geometry; all boards fully taped, jointed, skimmed, sanded, and prepared to receive paint finish (paintwork and electrical installations measured elsewhere), securely fixed. (all as per details drawing number :109)</u>				
8	On suspended ceilings	No	12		
	INSULATION <u>135mm Thick high quality non-combustible light weight glasswool thermal ceiling insulation blanket faced one side with reinforced foil, laid on top of suspended ceiling with minimum R-Value of 3.46 m2.K/W, installed in strict accordance with Manufacturer's instructions</u>				
9	Over ceilings	m²	526		
	<u>6mm thick "Alucushion FR" or similar approved (fire-retardant grade) double-sided foil insulation, (Code: 1983), with fire performance rating to Class B1, including all cutting, shaping and fixing of panels to designated surfaces using approved adhesives and/or mechanical fixings, ensuring continuous coverage with no visible gaps, complete, installed in strict accordance with the Manufacturer's instructions</u>				
10	Insulation under existing roof sheeting	m²	673		
	Carried to Collection			R	
	Section No 2				
	Bill No 7				
	Ceilings				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
11	<u>BUDGETARY ALLOWANCES</u> <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u> Allow the Budgetary Allowance of R40 000.00 (Forty Thousand Rand) for feature ceilings/bulkheads sundries still to be designed and will/may be carried out by the contractor				
			Item		40 000.00
	<u>Carried to Collection</u> Section No 2 Bill No 7 Ceilings			R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

[illegible]

**NATIONAL SEISMOLOGY CENTRE
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Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 8</u> <u>PARTITIONS</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Steel components</u> All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121 Below rates should cater for creating openings through drywalls for shopfronts (measured elsewhere), windows, panels and doors as per architects details, schedules and specifications. All exposed gaps to be properly sealed and pointing and sealing to be done around all door and window/shopfront frames Contractors to note extra over drywalls for doors and frames measured separately under relevant trades (carpentry and metalwork)				
	<u>Carried to Collection</u>				
	Section No 2 Bill No 8 Partitions				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

[illegible]

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
7	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u> Allow the Budgetary Allowance of R25 000.00 (Twenty Five Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor				
			Item		25 000.00
	<u>Carried to Collection</u> Section No 2 Bill No 8 Partitions			R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

[illegible]

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 9</u> <u>ACCESS FLOORING</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>General</u> Items deemed to be included - Setting out; levelling; adhesive beds; mechanical fixings where required; pedestals, heads and bases; all bolts, gaskets, and fasteners; cutting and fitting to walls; edge supports; minor service penetrations; workmanship, labour, and all sundry items normally included under General Preambles Contractor is to accommodate for vacuum cleaning the floor voids after installation of services <u>Panel</u> Panels to be supported on height-adjustable corrosion-resistant steel pedestals approximately 425mm high with 95 x 95mm head and base plates, closed-tube construction, fixed to the substrate with manufacturer-recommended adhesive. Provide heavy-duty steel bolt-on stringers approximately 570 x 32 x 11mm, fixed to each pedestal to form a structural grid, inclusive of noise- and air-leakage-reduction gaskets. Panels to be gravity-held within the grid. Include complete system installation, levelling, alignment, and provision of a vacuum tile lifter. <u>Floor pedestals</u> The height-adjustable steel pedestals are ideal to support the floor covering and ensure the necessary height and stability for raised access flooring systems. - Height: 425mm - Head & Base plates: 95 x 95 mm - High Load Capacity - Corrosion-resistant steel - Closed Tube Construction <u>Bolt-on stringers</u> Heavy-duty steel stringer provide excellent horizontal support to the gravity-held floor panels. They are fastened from the top with a bolt to the pedestals and the access panels nest inside the steel grid. - 570mm x 32mm x 11mm - High Load Capacity - Noise and Air Leakage Reduction Gasket <u>Carried to Collection</u> Section No 2 Bill No 9 Access Flooring				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Supply, deliver and install raised access floor system comprising AXIL800 Access floor panels with HPL finish, epoxy-coated unitised hollow steel shell with flat steel top sheet welded to formed dimpled steel bottom sheet, filled with lightweight cement mixture, manufactured to exacting tolerances. Complete with all necessary pedestals, stringers, fixings and accessories, installed in accordance with manufacturer's details and specifications</u>				
1	Access floor panelling	m²	35		
	<u>Supply, deliver and install raised access floor system comprising AXIL1000 Access floor panels with HPL finish, epoxy-coated unitised hollow steel shell with flat steel top sheet welded to formed dimpled steel bottom sheet, filled with lightweight cement mixture, manufactured to exacting tolerances. Complete with all necessary pedestals, stringers, fixings and accessories, installed in accordance with manufacturer's details and specifications</u>				
2	Access floor panelling	m²	162		
	SUNDRIES				
3	Extra pedestals	No	100		
4	Recess, plinth, tile cutting and edging, anti-static mat (Double door)	No	2		
5	Floor tile lifter (double suction cup)	No	1		
6	Floor brush grommets for cable entry - half - cut and fit	No	10		
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 9 Access Flooring				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Section No 2 Building Works Bill No 9 Access Flooring <u>COLLECTION</u> Total carried from page No		Page No 82 83	Amount R
Section No 2 Bill No 9 Access Flooring	Carried to Summary of Section No 2		R

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 10</u> <u>FLOOR COVERINGS</u> <u>SUPPLEMENTARY PREAMBLES</u> Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc. Rates below to include for all cutting, waste, laps, joints and setting out Note: Refer to Architects details and specifications <u>RECESSED ENTRANCE MAT</u> <u>"Duraway" or similar approved ready made entrance mats, DWR 1000, with PU1 heavy-duty mat surface incorporating black/grey ribbed inserts, complete with aluminium perimeter framing including corners, threshold strips, edge trims and all necessary fixings. Install recessed, level with adjacent floor finishes, including cutting to fit, infill trims, fixing clips and/or adhesives, and complete in strict accordance with the Manufacturer's instructions.</u> 1 Recessed mat, size approximately 1200 x 1000mm wide <u>SKIRTINGS, NOSINGS, ETC</u> <u>"Donn-Vanguard" or similar approved natural anodized aluminium skirting screw fixed to drywall at 600mm centres</u> 2 100mm High aluminium skirting <u>SUNDRIES</u> <u>"Kirk Marketing ASCT460" or similar approved heavy duty aluminium screw fix transition cover, fixed to substrate using manufacturer recommended fixings, including all cutting, jointing and making good to adjacent finishes, complete installed in strict accordance with the Manufacturer's instructions</u> 3 46 x 11mm transition strip <u>Carried to Collection</u> Section No 2 Bill No 10 Floor Coverings				
		No	1		
		m	150		
		m	10		
				R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	BUDGETARY ALLOWANCES <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
4	Allow the Budgetary Allowance of R20 000.00 (Twenty Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor		Item		20 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 10 Floor Coverings				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Section No 2 Building Works Bill No 10 Floor Coverings <u>COLLECTION</u> Total carried from page No		Page No 85 86			
Section No 2 Bill No 10 Floor Coverings					R

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 11</u> <u>IRONMONGERY</u> When ironmongery is referred to by a trade name or catalogue number, it may be replaced by another product of equal quality with the prior approval of the Representative/Agent. <u>SUPPLEMENTARY PREAMBLES</u> <u>Finishes to ironmongery</u> Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: SS Stainless Steel BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded Unless otherwise stated ironmongery is to be the manufacturer's standard corrosion resistant ironmongery for the particular product ranges. <u>Installed to Architects specification</u> Surface finishes should be restricted to polished chrome or satin chrome on all approved ironmongery for external and internal doors – unless otherwise stated. All locks to be provided with two keys per door with a master and grand master key operation set submitted to the Principal Agent Door closers to comply with SANS 1510 Padlocks to comply with SANS 1533 Fasteners to comply with SANS 1700 Fix all ironmongery with matching screws. Ease and adjust locks on completion. <u>Carried to Collection</u> Section No 2 Bill No 11 Ironmongery				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	Signs are to comply with SANS 1186-1 to 5 and to be to the approval of the local authority. Signs are to have anodised aluminium frames Prices are to include for fixing by approved methods. The use of double sided tape will not be permitted. Surface mounted signs are to be concealed fixed and ceiling mounted signs are to be hung with 2mm diameter stainless steel cables Single sided ceiling mounted signs are to have 2mm satin chrome anodised aluminium back panels Samples, specifications, literature, etc of materials and fabricated articles the tenderer proposes to use shall be submitted with the tender A ten year guarantee on materials and workmanship shall be submitted by the successful tenderer References at the end of the item descriptions are to the relative items on drawings annexed to (issued separately) these bills of quantities <u>TAKE DELIVERY OF AND INSTALLATION OF IRONMONGERY (SUPPLY ELSEWHERE)</u> <u>Take delivery of ironmongery supplied by others and fix to new/existing timber/aluminium doors including but not limited to locksets, pull rings, dust sockets, pull handles, door hinges, flush bolts, kick plates, push plates, door closers, door stops, robe hooks, panic sets, etc. all as per architects schedules, drawings and specifications</u>				
1	Installation of Ironmongery to timber doors (measured per door leaf) <u>HOOKS/HOLDERS</u>	No	8		
2	"Union" or similar approved silver anodized robe hook (Code: AL8723AS) complete with screws, etc.	No	16		
3	"Union" or similar approved silver anodized hat and coat hook (Code: AL8721AS) complete with screws, etc.	No	1		
4	"Union" or similar approved multi track silver anodized hat and coat hook in four hook configuration (Code: AL8104AS) complete with screws etc.	No	1		
	<u>Carried to Collection</u>				R
	Section No 2				
	Bill No 11				
	Ironmongery				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>PINNING BOARDS, WRITING BOARDS, PROJECTION SCREENS, ETC</u>				
5	"Vitrex model 2200" or similar approved wall mounted white board, overall size approximately 1200 x 900mm high, complete with aluminium pen rail, fixing components and suitably fixed to brickwork	No	16		
6	"Fern Flortime" or similar approved 9mm thick foam back roll decorative pin board, size 900 x 1200 mm high. Pin boards supplied complete with fixing components and secured to A5 plywood with adhesives evenly applied and suitably fixed to brickwork	No	1		
7	"Parrot" or similar approved pull down high gain projector screen (Code: SC 05750), size approximately 2000 x 2000mm high complete with adjustable set of 2 key stone brackets, fixing components, accessories fitted in strict accordance with manufacturers instructions	No	1		
	<u>BATHROOM FITTINGS</u>				
8	"Franke RODX619" (Code: 2120095) or similar approved stainless steel soap dispenser approximately 200 x 85 x 140mm high wall mounted complete with stainless steel screws	No	3		
9	"Franke RODX600" (Code: 2120099) or similar approved stainless steel paper towel dispenser approximately 275 x 112 x 355mm high, wall mounted complete with stainless steel screws	No	3		
10	"Franke RODX605" (Code: 2120097) or similar approved stainless steel waste bin approximately 355 x 168 x 460mm high, wall mounted complete with stainless steel screws	No	4		
11	"Franke RODX672" (Code:2120101) or similar approved stainless steel double toilet paper holder approximately 144 x 138 x 301mm high, wall mounted with spindle system complete with stainless steel screws	No	5		
12	Sanitary bin (PC amount R 5500 excluding VAT, delivered to site)	No	2		
13	Sanitary bag dispenser (PC amount R175.00/dispenser excluding VAT, delivered to site)	No	2		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 11				
	Ironmongery				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>MIRRORS</u>				
	Mirrors shall be of 6mm thick silvered GG quality polished float glass with rounded and polished edges and splayed corners				
	<u>6mm Silvered float glass mirror adhered to 22mm timber backing suitably fixed to brickwork</u>				
14	Mirror, size approximately 900 x 600mm high	No	1		
15	Mirror, size approximately 1200 x 900mm high	No	2		
	<u>PARAPLEGIC RAILS</u>				
	<u>Grade 304 18/10 stainless steel</u>				
16	Stainless steel straight grab rail 600 x 95mm deep (SKU: FW-CNTX600), plugged and screwed to the wall with fixation bolts	No	2		
17	"Lecico" or similar approved stainless steel paraplegic dog leg grab rail 640 X 640 x 106mm, plugged and screwed to the wall with fixation bolts	No	1		
18	750 x 245mm deep stainless steel cistern grab rail, plugged and screwed to the wall with fixation bolts	No	1		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
19	Allow the Budgetary Allowance of R20 000.00 (Twenty Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor		Item		20 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 11 Ironmongery				

Section No 2 Building Works Bill No 11 Ironmongery COLLECTION Total carried from page No				
Section No 2 Bill No 11 Ironmongery	Carried to Summary of Section No 2			R

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 12</u> <u>STRUCTURAL STEEL</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>1. Shop drawings</u> The Contractor will be required to prepare shop details for the work which must be submitted to the Engineer for approval before fabrication is started. Approval of shop details by the Engineer will include the following: a) Examination of member sizes for consistency with design requirements, b) Examination of all connections designed and/or detailed by the fabricator, for adequacy of load transference, c) Approval of leading dimensions which are taken to include such dimensions as may influence the design (eg, depth of trusses and girders) or which may grossly affect site programme (eg, truss spans and stanchion heights). Notwithstanding any approval of these details, the Contractor shall remain responsible for ensuring that the dimensions, details and workmanship result in the correct assembly of the work. <u>2. Material and workmanship</u> The whole of the fabrication and workmanship generally is to be in strict accordance with SANS 0162-1984 as amended. The material shall be of best quality throughout, free from loose rust or mill scale, true to thickness and profile throughout and of the section and mass specified subject to a 2% tolerance for rolling margin. Consideration will be given to any detail variation which the contractor may wish to make with the view to the simplification of either fabrication, delivery or erection. Substitutions must be made at the Contractor's own expense. The Contractor shall provide Works Test Certificates where so required by the Engineer.				
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 12 Structural steel				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>3. Testing</u> The Engineer shall be at liberty to select test pieces from steelwork in the workshop or on the site and to have them tested. The expense of such tests are to be borne by the Contractor if the steelwork does not comply with the standards laid down above. <u>4. Hold down bolts</u> Holding down bolts and other fixing devices which are to be embedded in concrete must be supplied by the Contractor on request together with the necessary information, identification and templates. 8mm Mild steel plate templates provided on a scale of one template for every five groups of bolts, suitably marked to ensure easy identification are to be supplied by the Contractor. Any costs incurred by subsequent repositioning of bolts, etc. resulting from the Contractor having failed to furnish adequate information, identification and templates will be for the Contractor's account. <u>5. Welding</u> Welding shall be in accordance with SABS 044 "Welding: Parts I, II and III", E70XX Welding shall be carried out in a manner which will prevent any distortion of the weld or the parent section. All welds shall have adequate root fusion and shall be free from cracks, porosity or other irregularities and any undercutting shall be made good by the deposition of additional runs of weld metal. Any completed welds showing cracks, cavities or other defects shall be cut out and made good at the Contractor's own expense. Mild steel electrodes shall comply with SABS 455 "Covered Electrodes for Manual Arc Welding of Mild Steel and Medium High Tensile Steel".				
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 12 Structural steel				

Item No		Unit	Quantity	Rate	Amount R
	<u>6. Bolts</u> Bolts shall have well-formed heads forged from the solid. Nuts shall closely fit the bolts so that they can only just be turned by hand and at least one clear thread shall project beyond the nut when fully tightened. All bolts shall have one washer under the nuts and shall be so tightened that the threaded portion does not bear on the members connected. Where bolt heads or nuts bear upon bevelled surfaces they shall be provided with tapered washers of 2,3mm mean thickness to provide a seating square with the axis of the bolt. Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete <u>7. Friction grip bolts</u> Connections specifying high strength friction grip bolts are to be in strict accordance with SABS 094 "Bolted Friction Grip Joints in Structural Steelwork" and the bolts used are to be in accordance with BS 3139 Part 1: 1959 "General Grade Bolts, High Strength Friction Grip Bolts for Structural Engineering". Notwithstanding the above, the following must be rigidly adhered to: a) Two-case hardened washers, one flat or bevelled under the head and the other flat or bevelled under the nut shall be used with each bolt. b) Contact surfaces shall not be painted and shall be thoroughly cleaned free of dirt, oil, loose scale, burrs and other defects which are liable to reduce friction resistance between surfaces. c) At all times the correct torques shall be applied to the different sizes of bolts.				
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 12 Structural steel				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>8. Erection</u> The steelwork generally is to be fabricated in the Contractor's workshop having due regard for transport and erection facilities. He must supply all erection tackle, temporary erection bracing, erect and plumb all steelwork and supply all steel wedges and tacks as required. Items may be detailed for delivery "piece small" or the Contractor may prefabricate if he is satisfied that suitable arrangements for transport can be made. Connections are to be designed for the forces indicated on the drawings or to the maximum capacity of the members. <u>9. Cleaning and painting</u> All structural steel is to be thoroughly degreased to remove all grease or oil and then wire-brushed, scraped or sand-papered to remove all rust, mill scale or surface contaminations and is to be immediately given one coat zinc chromate, allowed to dry overnight and given one coat of universal undercoat prior to delivery to site. All damaged paintwork is to be made good on site after erection is complete. (also refer to 12 below) All structural steel pricing is deemed to include for paint work. <u>10. Testing of welders</u> Tenderers must include in their rates for the testing of any welder used on the work who has not been tested within a period of six months immediately preceding his employment on this contract. <u>11. Painting/corrosion protection options</u> Painted steelwork All steelwork surfaces to be painted and must be free of mill scale, corrosion, grease or dust All steelwork to be cleaned with wire brush in accordance with SABS 1200HC prior to coating All structural steel shall be hot-dip galvanised to SANS 121/ISO 1461 (Heavy Duty Application) <u>Carried to Collection</u> Section No 2 Bill No 12 Structural steel				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>STEEL COLUMNS, BEAMS, POSTS, ETC. (PAINTED)</u>				
1	General steel arrangement drawings will be issued to the Contractor. Allow for preparing shop detail drawings for approval prior to commencing manufacturing <u>Galvanised welded beams/columns in single lengths with flat section bearer and connection plates bolted to beams and all necessary fittings, etc.</u>		Item		
2	100 x 100 x 3mm square hollow section columns	t	0.19		
3	100 x 100 x 3mm square hollow section beams	t	0.42		
4	40 x 40 x 3mm square hollow section bracing	t	0.07		
5	200 x 200 x 8mm thick Base plate	t	0.02		
6	M12 x 115mm long Hilti HST3 stud anchor bolts or similar approved with nuts and washers. 50 mm embedment anchor in concrete including drilling into brickwork/concrete as per Engineers design and specification	No	24		
	<u>Carried to Collection</u>			R	
	Section No 2				
	Bill No 12				
	Structural steel				

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PROVISIONAL BILLS OF QUANTITIES**

Section No 2 Building Works Bill No 12 Structural steel <u>COLLECTION</u> Total carried from page No		Page No	Amount R
		93	
		94	
		95	
		96	
		97	
Section No 2 Bill No 12 Structural steel	Carried to Summary of Section No 2		R

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 13</u> <u>METALWORK</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Descriptions of bolts, anchors, etc.</u> Descriptions of bolts shall be deemed to include nuts and washers Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres All glazed aluminium windows, sliding doors, doors, shopfronts, skylights, etc. shall be designed, manufactured, glazed, supplied and installed in strict compliance with the "Association of Architectural Aluminium Manufacturers of South Africa (AAAMSA), General Specification for Architectural Aluminium and Glass Products February 2005 Edition" and , SANS10400 Part B, N, XA, SANS 10137:2011 & SANS 1796. All glazing at a minimum to be safety glazing. All glazed aluminium windows, sliding doors, doors, shopfronts, skylights, etc. shall include for ironmongery as included for in architects /manufacturers specifications document and drawings The Contractor shall allow for and produce fully detailed workshop drawings (3 copies) including samples of all ironmongery within 14 working days of the Main Contractors request. The installation shall conform to the local authorities fire resistance standards. Window frames are to be sealed all round internally and externally against the building structure with approved silicone jointing compound to prevent water ingress. Door leaves are to be hung on one and a half pairs of 100 x 75mm butt hinges and fitted with one spring clip door holder. In addition double doors are to be fitted with one 150mm and one 200mm natural anodised flush lever bolt. Doors shall include all furniture, locks, handles, butt hinges, floor spring hinges, etc. <u>Carried to Collection</u> Section No 2 Bill No 13 Metalwork				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	All glazed aluminium windows, sliding doors, doors, shopfronts, skylights, etc. must include for all jointing, notching, cutting, etc. and for setting up and fixing in position complete with glass, glazing beads, external calls, ironmongery, fixing brackets, lugs, bolts, timber grounds, silicone sealant, templates, etc. all as detailed and scheduled on the drawings and as necessary for the satisfactory execution of the work. All aluminium must be protected against damage by covering with temporary casings (masking tape, plastic coatings, etc.) and against deterioration or discolouration caused by mortar, wax, paint, etc., all to the entire satisfaction of the Principal Agent. On completion all such protection shall be removed and work cleaned down and left in proper working order. Powder coating conforming to Class 2, 25-year guarantee, 60-80 µm dry-film thickness and SANS 1796 certified applicator. Window Sample to be provided. Any supplier / manufacturer / subcontractor shall be registered with AAAMSA (Association of Architectural Aluminium Manufacturers of South Africa) and supply the necessary SAFIERA & SANS 613 certification for all aluminium framed windows.				
	<u>Carried to Collection</u>				
	Section No 2 Bill No 13 Metalwork				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	The following certificates shall be provided prior to commencement of site work: 1. A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2. A Certificate of Conformance confirming that anodizing or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively 3. A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4. A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5. A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years <u>PRESSED STEEL DOOR FRAMES (SANS 1129)</u> <u>115mm Wide door frame 1,6mm thick with mitred top corners, joints seam welded supplied with corner stiffeners in the reveals on the inside. double rebate steel door frames, with backplate, frame primed and coated with two 2 coats dulux gloss enamel</u> 1 Frame for door size approximately 826 x 2100mm high No 4 <u>230mm Wide door frame 1,6mm thick with mitred top corners, joints seam welded supplied with corner stiffeners in the reveals on the inside. double rebate steel door frames, with backplate, frame primed and coated with two 2 coats dulux gloss enamel</u> 2 Frame for door size approximately 877 x 2100mm high No 2 3 Frame for door size approximately 978 x 2100mm high No 1 <u>ALUMINIUM WINDOWS, DOORS, ETC</u> Carried to Collection R				
	Section No 2 Bill No 13 Metalwork				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Purpose made aluminium door, window and shopfront system, powder coated (colour to be confirmed Architect), consisting of head and bottom rails, transoms and mullions complete with subframes, including ALL ironmongery (supplied and installed), and 6.38mm clear laminated safety glass including seals and fixing to brickwork/concrete. Glazing shall be executed in strict accordance with SANS 10400-N, SANS 613 & SANS10400-XA. All in strict accordance with manufacturer's and Architects' detail and specifications</u> <u>Aluminium Windows</u> 4 Window type NW01, size approximately 1400 x 1400mm high overall 5 Window type NW02, size approximately 875 x 600mm high overall 6 Window type NW03, size approximately 600 x 600mm high overall <u>GLAZED ALUMINIUM FRAMED PARTITIONS</u> <u>Supply and install full-height natural anodized aluminium-framed glazed partitioning, comprising natural anodized extruded aluminium framing sections and 6.38 mm clear laminated safety glass panels, complete with all necessary gaskets, fixings, sealants, trims, frames and accessories. Partition to be set out true to line and level, securely fixed to floors, walls and ceilings, and completed to a neat, uniform architectural finish in strict accordance with manufacturer's instructions</u> 7 Partitions, approximately 3000mm high with bottom and top tracks plugged <u>Extra over aluminium glazed partitions for aluminium doors including ALL ironmongery (supplied and installed) as per Architects schedules</u> 8 Door type NDO1 , size approximately 930 x 2180mm high 9 Door type ND02, size approximately 1000 x 2400mm high 10 Door type ND03, size approximately 2090 x 2400mm high <u>Carried to Collection</u> Section No 2 Bill No 13 Metalwork	No No No m² No No No	8 1 4 191 15 1 2		
				R	

**NATIONAL SEISMOLOGY CENTRE
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Item No		Unit	Quantity	Rate	Amount R
11	Door type ND04, size approximately 930 x 2180mm high SUNDRY METALWORK Corner Protectors	No	1		
12	50 x 50 x 1.6mm Thick 2000mm high grade 304 stainless steel corner protection plates with ± 30mm long stainless steel countersunk screws at 300mm centres fixed to brickwork or concrete in polished satin finish.	No	2		
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 13 Metalwork				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	BUDGETARY ALLOWANCES <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
13	Allow the Budgetary Allowance of R25 000.00 (Twenty Five Thousand Rand) for vinyls to glazing still to be designed and will/may be carried out by the contractor		Item		25 000.00
14	Allow the Budgetary Allowance of R25 000.00 (Twenty Five Thousand Rand) for additional general work still to be designed and will/may be carried out by the Contractor		Item		25 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 13 Metalwork				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Section No 2 Building Works Bill No 13 Metalwork <u>COLLECTION</u> Total carried from page No		Page No	Amount R
		99	
		100	
		101	
		102	
		103	
		104	
Section No 2 Bill No 13 Metalwork	Carried to Summary of Section No 2		R

Item No		Unit	Quantity	Rate	Amount R
1	<u>SECTION NO. 2</u> <u>BILL NO. 14</u> <u>PLASTERING</u> <u>SUPPLEMENTARY PREAMBLES</u> All floors/screeds to be laid according to SABS 0155 - 1980 Accuracy in Buildings and SABS 0155-1980. <u>Plastering to existing facebrick walls</u> Plastering to existing facebrick walls shall be deemed to include full assessment, preparation and treatment of all substrates All facebrick surfaces shall be thoroughly cleaned to remove dust, efflorescence, paint, oils and loose material. Joints shall be checked and raked where necessary to provide an adequate mechanical key. Smooth or sealed surfaces shall be mechanically roughened Cracks, voids and defective brickwork shall be repaired prior to plastering. Apply an approved proprietary plaster bonding agent or slurry dash coat to all surfaces in accordance with the Manufacturer's instructions and allow to cure before plaster application Where required, provide and fix galvanized steel expanded metal lathing or equivalent reinforcement Plaster shall be applied in suitable coats to achieve a sound, even, crack-free finish, true to line, level and plumb, and suitable to receive the specified finishes Rates shall include for all labour, materials, protection, curing, making good and compliance with SANS 2001-CM1 and relevant standards. No additional claims shall arise from substrate conditions <u>CEMENT SCREEDS TO CONCRETE</u> <u>Class I cement/sand screed (3:1) steel trowelled to a true, smooth and even surface as per Architects detail, specification and approval</u> 30mm Thick on floors and landings	m ²	825		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 14 Plastering				

Item No		Unit	Quantity	Rate	Amount R
	<u>INTERNAL PLASTER</u>				
	<u>15mm Thick steel floated sand/cement plaster, Class II mix, to surfaces that are dry, sound, clean and cured for a minimum of 14 days, with moisture content measured using a Doser hygrometer (or equivalent) not exceeding 8% on the BD2 scale. Apply one coat gypsum skim plaster with a minimum thickness of 3 mm and a maximum thickness of 6 mm and finish smooth with a steel trowel, complete in strict accordance with Manufacturer's instructions</u>				
2	On walls	m ²	14		
	<u>15mm Thick cement plaster on brickwork to receive tiling as per Architects detail, specification and approval</u>				
3	On walls to receive tiling	m ²	51		
4	On narrow widths to receive tiling	m ²	3		
	<u>INTERNAL PLASTER TO EXISTING WALLS</u>				
	<u>15mm Thick cement plaster on brickwork to receive tiling as per Architects detail, specification and approval</u>				
5	On walls to receive tiling	m ²	59		
	<u>20mm Thick cement plaster on brickwork to receive tiling as per Architects detail, specification and approval</u>				
6	On walls to receive tiling	m ²	6		
	<u>3 - 6mm Thick gypsum skim plaster finish to surfaces, including application of one coat of approved plaster bonding liquid applied by roller and allowed to dry, followed by a second bonding coat applied wet prior to plastering. Apply gypsum skim plaster and finish smooth with rubber float and steel trowel, complete and in accordance with Manufacturer's instructions</u>				
7	On internal walls	m ²	598		
8	On narrow widths	m ²	11		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 14				
	Plastering				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
9	<u>20mm Thick steel floated sand/cement plaster on Class II mix</u> On internal facebrick walls <u>BUDGETARY ALLOWANCES</u> <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>	m ²	50		
10	Allow the Budgetary Allowance of R25 000.00 (Twenty Five Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor		Item		25 000.00
	<u>Carried to Collection</u> Section No 2 Bill No 14 Plastering			R	

Section No 2 Building Works Bill No 14 Plastering COLLECTION Total carried from page No				
		Page No		Amount R
		106		
		107		
		108		
Section No 2 Bill No 14 Plastering	Carried to Summary of Section No 2		R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 15</u> <u>TILING</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Patterns</u> Unless otherwise described, tiles shall be laid with continuous joints in both directions <u>Fixing</u> 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 Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts as recommended by the Manufacturer of the tiles <u>WALL TILING</u> <u>600 x 600mm "Samca" or similar approved glazed ceramic tiles (colour: white) fixed to internal steel floated wall plaster with "TAL" tile adhesive mixed with "TAL" bonding liquid in lieu of water with 3mm joints continuous in both directions and grouted with "TAL" white anti-bacterial and chemical resistant epoxy tile grout, excess grout on the surface</u>				
1	On walls	m ²	113		
2	On walls to narrow widths	m ²	3		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 15 Tiling				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	600 x 600mm "Samca" or similar approved glazed ceramic tiles (colour: black) fixed to internal steel floated wall plaster with "TAL" tile adhesive mixed with "TAL" bonding liquid in lieu of water with 3mm joints continuous in both directions and grouted with "TAL" white anti-bacterial and chemical resistant epoxy tile grout, excess grout on the surface				
3	On walls	m ²	1		RATE ONLY
4	Tile strip patterns 300mm high (cut from tile)	m	1		RATE ONLY
	300 x 600mm Thick glazed Ceramic tiles (PC amount R450.00/m2, excluding VAT, delivered to site) (colour: white) fixed to internal steel floated wall plaster with "TAL" tile adhesive mixed with "TAL" bonding liquid in lieu of water with 3mm joints continuous in both directions and grouted with "TAL" white anti-bacterial and chemical resistant epoxy tile grout, excess grout on the surface				
5	Splashback to walls	m ²	4		
	<u>FLOOR TILING</u>				
	600 x 600 x 9mm Full bodied porcelain tile (PC amount R450.00/m2, excluding VAT, delivered to site) fixed to floor screed with "Tal Goldstar" tile adhesive mixed with bonding liquid in lieu of water, with 4mm joints continuous in one direction and half length staggered in the other direction and grouted with approved anti bacterial & chemical resistant epoxy tile grout				
6	On floors	m ²	340		
7	Skirting 150mm high (cut from tile)	m	50		
	600 x 600 x 9mm Non-slip full bodied porcelain tile (PC amount R450.00/m2, excluding VAT, delivered to site) fixed to floor screed with "Tal Goldstar" tile adhesive mixed with bonding liquid in lieu of water, with 4mm joints continuous in one direction and half length staggered in the other direction and grouted with approved anti bacterial & chemical resistant epoxy tile grout				
8	On floors	m ²	85		
9	Skirting 150mm high (cut from tile)	m	116		
	<u>Carried to Collection</u>				R
	Section No 2 Bill No 15 Tiling				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Expansion joints</u>				
10	Tiling movement joint approximately 6mm wide consisting of flexible, readily compressible closed-cell polyethylene backing cord with polyurethane joint sealant	m	101		
11	Satin anodized aluminium straight edge trim size approximately 10mm wide x thickness of tile to exposed wall tile edges, corners, tile skirting, etc.	m	401		
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 15 Tiling				

Section No 2 Building Works Bill No 15 Tiling COLLECTION Total carried from page No				
		Page No		Amount R
		110		
		111		
		112		
Section No 2 Bill No 15 Tiling	Carried to Summary of Section No 2		R	

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 16</u> <u>PLUMBING AND DRAINAGE</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Stainless steel basins, sinks, wash troughs and urinals</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 shall be Type 304 (18/8) Stainless steel for laboratory sinks, photographic equipment shall be Type 316 (18/8) Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable <u>Sealing of edges</u> Outer edges of sinks, basins, baths, urinals are to be sealed against adjacent surfaces with approved mould resistant silicone <u>Disinfection of water pipework</u> Water pipework is to be disinfected at completion in accordance with SABS 1200L (provision for disinfection elsewhere) <u>General</u> Descriptions of WC pans, slop hoppers shall be deemed to include for joints to soil pipes (pan connectors are separately measured) <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>Carried to Collection</u>				R
	Section No 2 Bill No 16 Plumbing and Drainage				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Minimum Warranties</u> 20 years taps & mixers, wastes, capillary and compression fittings 5 years showerheads 2 years electronic mixers components and valves 2 years valves (geyser and toilet) 10 years on all baths, shower trays and vanities 10 years on all sanitaryware 6 months on all toilet seats <u>NOTE:</u> The internal plumbing and drainage are measured as part of the Mechanical Installation BOQ				
	<u>Carried to Collection</u> Section No 2 Bill No 16 Plumbing and Drainage			R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>RAINWATER DISPOSAL</u> Rates for gutters and downpipes shall include all brackets, clips, holder bats, internal & external corners, etc. unless specifically measured - Gutter brackets to be fixed through fibre cement fascia into purlin. If this is not achieved, brackets to be gutter bolted to fascia. - Downpipes to be fixed to walls or steel columns with rectangular holder bats every 1m. - Gutters and downpipes to be installed by an approved rainwater goods installer. - Rainwater goods installer to confirm all sizes of gutters and downpipes in relation to roof area served prior to manufacture and installation. <u>Continuous extruded powder coated galvanised steel iron beaded edge gutters and downpipes 0.6mm thick with metallic coating Z200 (minimum 200g/m² coating mass), Grade G550 (minimum yield strength 550 MPa), super polyester paint system, 25um on topside and 10um on reverse side to match colour of roof sheeting installed all in accordance with manufacturer's recommendations</u>				
1	150 x 100mm deep roof gutters with iron beaded front edge	m	8		
2	75 x 75mm Rainwater downpipes	m	5		
3	Extra over 150 x 100mm gutter outlet for 75 x 75mm downpipe	No	2		
4	Extra over 150 x 100mm for stopped end	No	2		
5	Extra over 75 x 75mm rainwater downpipe for offset	No	2		
6	Extra over downpipe for shoe	No	2		
	<u>Carried to Collection</u>				
	Section No 2 Bill No 16 Plumbing and Drainage				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SANITARY FITTINGS</u>				
	<u>All fittings to Manufacturer's and Architects' specifications and details</u>				
	WHB - MALE & FEMALE				
7	"Vaal Concorde" or similar approved rectangular drop-in basin (code: 702704WH), size approximately 510 x 580mm, in standard white, complete with three semi-punched tap holes, fitted into vanity opening and sealed with silicone sealant at basin rim to vanity top junction, installed complete in strict accordance with the Manufacturer's instructions	No	4		
8	"Hansgrohe Focus" or similar approved chrome-plated single-lever basin mixer with swivel spout (code: 31513000), 100 LowFlow type, complete with pop-up waste, lever handle for intuitive operation, ceramic cartridge with adjustable temperature limitation, maximum flow rate 5 L/min at 3 bar, suitable for continuous-flow water heaters, with G ½ connections, installed complete in strict accordance with the Manufacturer's instructions	No	4		
9	"Cobra" or similar approved chrome-plated slotted basin waste (code: COB/Z1VA-0030-32-303), 32 mm (1 1/4') with spindle (code: 30932/N), complete with washer and anti-theft basin waste plug, installed complete in strict accordance with the Manufacturer's instructions	No	4		
10	"Viega" or similar approved chrome-plated basin P-trap outlet, size 32 mm x 1 1/4' (code: VIE/005-005-0-305611), complete with all necessary washers, seals and connections, installed complete in strict accordance with the Manufacturer's instructions	No	4		
	WHB - PARAPLEGIC				
11	"Vaal Hibiscus" or similar approved round wall-hung basin (code: VAA/000-00-0510HIB-A), in white colour, overall size approximately 510 x 405mm, complete with three semi-punched tap holes, integrated overflow and chain-stay hole through centre semi-punched tap hole, including proprietary basin fixation set (code: ASW/001-000-471400), installed complete in strict accordance with the Manufacturer's instructions	No	1		
	<u>Carried to Collection</u>				R
	Section No 2				
	Bill No 16				
	Plumbing and Drainage				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
12	"Cobra" or similar approved chrome-plated slotted basin waste (code: COB/Z1VA-0030-32-303), 32 mm (1 1/4") with spindle (code: 30932/N), complete with washer and anti-theft basin waste plug, installed complete in strict accordance with the Manufacturer's instructions	No	1		
13	"Viega" or similar approved chrome-plated basin P-trap outlet, size 32 mm x 1 1/4" (code: VIE/005-005-0-305611), complete with all necessary washers, seals and connections, installed complete in strict accordance with the Manufacturer's instructions	No	1		
14	"Cobra" medical pillar tap with blue indice (code: COB/ELAC010-00050521), square type, 1/4 turn ceramic disc, 1/2" BSP, MI SANS 226 compliant, complete with all fixings and connections, installed complete in strict accordance with Manufacturer's instructions	No	1		
15	Waste for basin (PC amount R200.00/waste, excluding VAT, delivered to site)	No	1		
WC - MALE & FEMALE					
16	"Duravit" or similar approved ceramic close-coupled vitreous china water closet suite (code: 012809..00), White Alpin (colour 00), with "WonderGliss" surface finish and hygiene glaze, complete with 6L flush, EWL Class 2, suitable for horizontal or vertical outlet with "Vario" connector set adjustable 70 - 200mm, including "Vario" connecting bend for vertical outlet 160 - 200 mm, and toilet seat and cover with stainless steel hinges (without automatic closure), installed complete in strict accordance with Manufacturer's instructions	No	4		
WC - PARAPLEGIC					
17	"Lecico Atlas" or similar approved paraplegic low-level side flush raised height WC, including "Lecico MDF" standard toilet seat in white, suitable for wheelchair users, installed complete in strict accordance with Manufacturer's instructions	No	1		
<u>Carried to Collection</u>					R
Section No 2 Bill No 16 Plumbing and Drainage					

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	URINAL				
18	"Duravit Katja" or similar approved vitreous china wall-hung urinal, size approximately 330 x 350mm high (code: 083232.00.00/DUR/A-KATJA88-082320), flatback with concealed back inlet and syphonic action, suitable for vertical or horizontal outlet, complete with water inlet mechanism (code: 6958000000) and basin fixation set (code: ASW/001-000-471400), installed complete in strict accordance with Manufacturer's instructions	No	1		
19	Wall mounted urinal divider (PC amount R2000.00/divider, excluding VAT, delivered to site) including connections and fittings all as per Architects specifications	No	1		
20	"Duravit" or similar approved universal trap set (code: 0051120000), white, concealed type horizontal outlet, installed complete in strict accordance with Manufacturer's instructions	No	1		
	KITCHEN SINK				
21	"Franke Quinline" or similar approved stainless steel satin-finish drop-in single bowl sink (code: QLX611-820000), approximately 900 x 500mm, manufactured from stainless steel, complete with 90mm waste outlet and 25-year warranty, installed complete in strict accordance with Manufacturer's instructions	No	1		
22	"ITD Piatto" or similar approved chrome-plated kitchen sink pillar tap, complete with all fixings and connections, installed complete in strict accordance with Manufacturer's instructions	No	1		
23	"Franke" or similar approved Spazio 1 trap set for sinks (code: FRA/105-01-000SPAZ01), complete with all washers, seals and connections, installed complete in strict accordance with Manufacturer's instructions	No	2		
24	Waste for sinks (PC amount R 300.00 / waste, excluding VAT, but including delivery)	No	1		
	LAB SINK				
25	"Vaal" or similar approved vitreous china rectangular laboratory sink, size approximately 450 x 335 x 210mm, complete with "Cobra" plastic overflow tube (code: 234501WH) and fixed with "Cobra" underslung adjustable brackets, installed complete in strict accordance with Manufacturer's instructions	No	2		
	<u>Carried to Collection</u>				R
	Section No 2				
	Bill No 16				
	Plumbing and Drainage				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
26	Trap for laboratory sink (PC amount R450.00 excluding VAT, delivered to site)	No	2		
27	Sink mixer/tap (PC amount R2500.00 excluding VAT, delivered to site)	No	2		
28	Waste for sinks (PC amount R300.00/waste, excluding VAT, delivered to site)	No	2		
	WASH TROUGH				
29	"Franke" or similar approved stainless steel single wash trough (code: ET101/320811), approximately 540 x 430 x 348mm deep, manufactured from Grade 304 (18/10) stainless steel, 0.9mm thick, complete with 40mm waste outlet and fitted with stainless steel hinged bucket grid constructed from 10mm stainless steel round bars on stainless steel eagle brackets. Sink to be securely fixed to wall at 600mm from top of front apron to finished floor level using 4 anchor bolts, including tap support bracket beneath tap to prevent bucket load transfer. Installed complete in strict accordance with Manufacturer's instructions	No	1		
30	"Sculte" or similar approved single-hole chrome-plated basin mixer, (code: 31015Z005010), complete with all fixings and connections, installed in strict accordance with Manufacturer's instructions	No	1		
31	"Franke" or similar approved chrome-plated, unslotted 40mm sink waste for washtrough (code:105-15-000302021), complete with all necessary washers and fittings, installed complete in strict accordance with Manufacturer's instructions	No	1		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 16				
	Plumbing and Drainage				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>TAPS, VALVES, ETC</u>				
	<u>Valves</u>				
32	"Schloesser" or similar approved angle valve (code SLA/000-000-00-07105), complete with extension and push rosette, secure brass-cone compression connection with length compensator, without self-sealing connection thread, including cover plate, installed complete in strict accordance with Manufacturer's instructions	No	10		
33	Chrome-plated angle regulating valve, (code: 832-10), complete with wall flange, flexible hose connector, 1/2' BSP male inlet and 1/2' BSP male outlet, including all fixings and connections, installed complete in strict accordance with Manufacturer's instructions	No	11		
	<u>uPVC fittings</u>				
34	110mm Pan connector	No	5		
35	Precast concrete gully, size approximately 445 x 430 x 165mm, with 125mm diameter opening and PVC grid cover, complete with underground 110mm PVC gully P-trap, depth exceeding 500mm but not exceeding 750mm, installed complete in strict accordance with Manufacturer's instructions	No	3		
	<u>ELECTRIC WATER HEATERS</u>				
36	7.5L Hydroboil hot water unit, (PC sum R10 750.00/per unit excluding VAT, delivered to site), installed complete in strict accordance with the Manufacturer's instructions	No	1		
	<u>TESTING</u>				
37	Allow for testing the whole of the sanitary plumbing installation to the approval of the Representative/Agent		Item		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 16				
	Plumbing and Drainage				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
38	<u>BUDGETARY ALLOWANCES</u> <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
	Allow the Budgetary Allowance of R25 000.00 (Twenty Five Thousand Rand) for additional general work still to be designed and will/may be carried out by the contractor		Item		25 000.00
	<u>Carried to Collection</u> Section No 2 Bill No 16 Plumbing and Drainage			R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

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Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 17</u> <u>PAINTWORK</u> All colours to be approved by Architect <u>SUPPLEMENTARY PREAMBLES</u> All surfaces to be thoroughly prepared according to Manufacturers' specifications. The quality of all preparation work and individual coats shall be to the satisfaction of the Architect (or his appointed representative) before any successive paintwork is undertaken. All paint to new and existing surfaces are to be painted with paint approved (by Architect) <u>Plastered surfaces, etc.</u> Plastered surfaces shall be thoroughly inspected and, if necessary, washed down and brushed in order to remove any traces of efflorescence and allowed to dry completely before any paint finish is applied. Before any paint is applied, holes, cracks and irregularities in plaster and other surfaces shall be filled with a suitable filler and finished smooth. Unfinished concrete surfaces shall have all projections rubbed off and shall be thoroughly cleaned with a spirits-of-salts solution (1 part concentrated spirits-of-salts to 4 parts water). Rates shall include for all surface preparation Rates shall also include for repairing all "Hair cracks (-0,2mm)", Medium plaster cracks (+0,2mm and -2mm) and larger cracks of 2mm All primers, undercoats and finishing coats, together with paint specifications, to be strictly according to specifications approved by Architect in writing All painting shall be done in accordance with SANS and Architect's specifications unless otherwise described Equal and/or approved paint brand names may be used as approved by the Architect. Rates should account for this <u>Carried to Collection</u> Section No 2 Bill No 17 Paintwork				
					R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>PAINTWORK TO PREVIOUSLY PAINTED WORKS</u> <u>ON SKIMMED/FLOATED PLASTER</u> <u>Prepare and clean surface, apply one coat of "Dulux" or similar approved alkali-resistant plaster primer to entire surface, followed by two coats of "Dulux Double Velvet PVA" or similar approved matt emulsion paint, all applied in compliance with SANS specifications and in strict accordance with Manufacturer's instructions</u>				
1	Paint on external walls	m ²	13		
	<u>ON PLASTERBOARD/FIBRE CEMENT</u> <u>Prepare and clean surface, apply one coat of approved "Dulux" or similar approved plaster primer, followed by one coat of "Dulux" or similar approved acrylic emulsion paint and two coats of "Dulux" or similar approved Super Acrylic emulsion paint in strict accordance with Manufacturer's instructions</u>				
2	On fibre cement cills	m ²	10		
	<u>ON METAL</u> <u>Prepare and clean surface, apply one coat of "Dulux" or similar approved primer for steel, followed by one coat of "Dulux" or similar approved Trade Universal Undercoat and finish with two coats of "Dulux" or similar approved "Pearglo" water-based paint in strict accordance with Manufacturer's instructions</u>				
3	On exposed steel trusses	m ²	161		
4	On existing steel gate	m ²	7		
5	On existing steel windows	m ²	9		
6	On existing steel burglar bars	m ²	5		
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 17 Paintwork				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>ON WOOD</u>				
	<u>Prepare and clean surface, apply one coat of "Dulux" or similar approved primer for wood, followed by one coat of "Dulux" or similar approved Trade Universal Undercoat, and finish with two coats of "Dulux" or similar approved "Pearglo" water-based paint in strict accordance with Manufacturer's instructions</u>				
7	On existing timber trusses	m ²	79		
8	On existing doors and frames	m ²	7		
	<u>PAINTWORK TO NEW WORKS</u>				
	<u>ON SKIMMED/FLOATED PLASTER</u>				
	<u>Prepare and clean surface, apply one coat of "Dulux" or similar approved alkali-resistant plaster primer to the entire surface, followed by two coats of "Dulux" or similar approved matt eggshell enamel, all applied in compliance with SANS specifications and installed in strict accordance with Manufacturer's instructions</u>				
9	On walls	m ²	399		
10	Ceilings & bulkheads	m ²	303		
11	On feature panels	m ²	9		
	<u>Prepare and clean surface, apply one coat of "Dulux" or similar approved alkali-resistant plaster primer to entire surface, followed by two coats of "Dulux Double Velvet PVA" or similar approved matt emulsion paint, all applied in compliance with SANS specifications and in strict accordance with Manufacturer's instructions</u>				
12	Walls	m ²	135		
13	On drywalls	m ²	612		
	<u>Carried to Collection</u>				
	Section No 2				
	Bill No 17				
	Paintwork				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>ON METAL</u> Prepare and clean surface, apply one coat of "Dulux" or similar approved primer for steel, followed by one coat of "Dulux" or similar approved Trade Universal Undercoat and finish with two coats of "Dulux" or similar approved "Pearglo" water-based paint in strict accordance with Manufacturer's instructions				
14	Doors frames	m ²	7		
	<u>ON STRUCTURAL STEEL</u> Prepare and clean surface, apply one coat of "Dulux" or similar approved primer for steel, followed by one coat of "Dulux" or similar approved Trade Universal Undercoat and finish with two coats of "Dulux" or similar approved "Pearglo" water-based paint in strict accordance with Manufacturer's instructions				
15	On ceiling sub frame structure	m ²	25		
	<u>ON WOOD</u> Prepare and clean surface, apply one coat of "Dulux" or similar approved primer for wood, followed by one coat of "Dulux" or similar approved Trade Universal Undercoat, and finish with two coats of "Dulux" or similar approved "Pearglo" water-based paint in strict accordance with Manufacturer's instructions				
16	On new doors and frames	m ²	33		
	<u>BUDGETARY ALLOWANCES</u> The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required				
17	Allow the Budgetary Allowance of R25 000.00 (Twenty Five Thousand Rand) for feature wall requirements still to be designed and will/may be carried out by the contractor		Item		25 000.00
	<u>Carried to Collection</u>			R	
	Section No 2 Bill No 17 Paintwork				

Section No 2 Building Works Bill No 17 Paintwork COLLECTION Total carried from page No				
		Page No		Amount R
		124		
		125		
		126		
		127		
Section No 2 Bill No 17 Paintwork				
	Carried to Summary of Section No 2			R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
1	<u>SECTION NO. 2</u> <u>BILL NO. 18</u> <u>PAPERHANGING</u> <u>SUPPLEMENTARY PREAMBLES</u> Plaster surfaces to be papered shall be dry, thoroughly cleaned down, filled with a suitable filler as necessary to obtain a smooth surface and painted thereafter with a single coat of emulsion paint. Wallpaper shall be hung in vertical long lengths. Vertical joints shall be close-fitted and plumb and the paper shall be tightly fitted to skirtings, ceilings, door frames, windows, etc. Horizontal joints will not be allowed. <u>PAPERHANGING</u> <u>2.5mm thick Superflex fully-flexible vinyl sheeting rolled in both directions on skimmed/plastered walls with acrylic adhesive spread using a notch trowel. Joins to be butted, grooved and heat welded all in accordance with manufactures requirements</u> On internal plaster primed walls	m ²	139		
	<u>Carried to Summary of Section No 2</u> Section No 2 Bill No 18 Paperhanging				R

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 2</u> <u>BILL NO. 19</u> <u>BLINDS</u> <u>"Luxaflex" or similar approved 127mm vertical fabric blinds comprising block-out fabric slats with ultrasonically sealed edges, colour Cascade (180270) or as selected by the Architect, complete with anodised aluminium headrail incorporating colour-coordinated insert, wheeled runners with individual clutch mechanisms, stainless steel linking chains and tilt operation by nylon ball chain with reduction gear housed in a fully enclosed cap. Face-fix blinds over window openings to wall or soffit using concealed fixing brackets, including all fixings, accessories, ultrasonic sealing to slats and making good, complete and installed in strict accordance with the Manufacturer's instructions</u> Openness Factor: 0% (full blackout) Weave: Basketweave 2x2 Composition: Woven polyester base with acrylic / PVC blackout coating (not basketweave) Nominal Thickness: ±0.45 – 0.60 mm Nominal Weight: ±300 – 380 gsm Light Fastness: <1% (Blockout performance) Fire Classification: AS1530 Part II, NFPA 701 or EN 13773 Class 1 Control: Nylon ball chain tilt with reduction gear, stainless steel bottom linking chains				
1	Fabric blind, size approximately 900 x 905mm high (EW02)	No	4		
2	Fabric blind, size approximately 900 x 935mm high (EW05)	No	5		
3	Fabric blind, size approximately 1400 x 1400mm high (NW01)	No	8		
	<u>Carried to Summary of Section No 2</u>				R
	Section No 2 Bill No 19 Blinds				

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Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 3</u> <u>BILL NO. 1</u> <u>WATER & FIRE WATER RETICULATION</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>uPVC pipes and fittings</u> <u>Laying, backfilling, bedding, etc. of pipes</u> Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with Manufacturers' instructions. Where no Manufacturer's instructions exist pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SABS 1200 L: Medium pressure pipelines LD: Sewers LE: Storm water drainage Pipe trenches, etc. shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB: Bedding (Pipes) Unless otherwise described bedding of rigid pipes shall be Class B bedding. Bedding must be selected granular material (specify SABS 1200 LB class B material) minimum 100mm thick on top and bottom of pipe compacted to 90% MOD AASHTO. Selected fill blanket according to SABS 1200LB; selected fill material shall be material that has a PI not exceeding 6 and that is free from vegetation and from lumps or stone of diameter exceeding 30mm. In 150mm layers compacted to 90% MOD AASHTO. Fill blanket is above the bedding and 200mm thickness. In 150mm layers compacted to 90% MOD AASHTO.				
	<u>Carried to Collection</u>				R
	Section No 3 Bill No 1 Water & Fire Water Reticulation				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>General</u> Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, selected backfilling material, risk of collapse, working space, compaction to a minimum of 95% Mod AASHTO density in layers of 150mm and disposal of surplus material on site Pipeline markers for the identification of underground pipelines should provide pipeline markers manufactured from durable, weather-resistant, UV-stable materials, clearly indicating the pipeline operator's name, product conveyed, hazard classification where required, and a 24-hour emergency contact number, in accordance with SANS 1186 and SANS 10208 <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 <u>WATER & FIRE RETICULATION</u> <u>HDPE pipes in trenches</u> 1 110mm HDPE class 12 water pipes (pipes complete with couplings, spigots, sockets, fittings, adapters, etc.) laid in trenches exceeding 1000mm not exceeding 1500mm deep including all sockets, fittings, adapters, excavation, bedding, backfilling and compaction and disposal of surplus material m 40 <u>Extra over HDPE Class 12 pipes for fittings</u> 2 110mm Bends No 47 3 110mm Tees No 17 4 110mm Reducer to 75mm No 6 5 110mm 90 degree bend No 12 <u>Connecting to existing pipelines</u> 6 Connecting new HDPE 110mm diameter to existing water pipes including all necessary fittings No 1 Carried to Collection Section No 3 Bill No 1 Water & Fire Water Reticulation				
				R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
7	<u>Testing</u> Provide all necessary testing apparatus, water, materials, etc. and allow for testing and chlorination of water reticulation system to the satisfaction of the Principal Agent/Client Representative. All defective work shall be taken out and replaced at the Contractor's expense and the whole re-tested until found perfect <u>BUDGETARY ALLOWANCES</u> <u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>		Item		
8	Provide the sum of R20 000.00 (Twenty Thousand Rand Rands) for general work still to be designed and will/may be carried out by the contractor		Item		20 000.00
	<u>Carried to Collection</u> Section No 3 Bill No 1 Water & Fire Water Reticulation			R	

Section No 3 Site Works & External Works Bill No 1 Water & Fire Water Reticulation COLLECTION Total carried from page No				
		Page No		Amount R
		132		
		133		
		134		
Section No 3 Bill No 1 Water & Fire Water Reticulation	Carried to Summary of Section No 3		R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 3</u> <u>BILL NO. 2</u> <u>SEWER RETICULATION</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>uPVC pipes and fittings</u> Soil, waste pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be PVC-U fittings all with similar push-in type joints <u>Nature of ground</u> A soils investigation has not been carried out on site All excavations are measured as being in "earth" and/or filling compacted to 95% modified AASHTO density Descriptions to excavations shall be deemed to include for setting aside surplus excavated material in spoil heaps for use as filling, or for depositing within 150m of the perimeter of the excavations and spreading and roughly levelling as directed, as well as for increase in bulk and multiple handling of excavated material caused by the Contractor's method of operation Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site and for bulking and to be carted away to a dump site located by the Contractor <u>Subterranean water</u> The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefore in his prices. <u>Laying, backfilling, bedding, etc. of pipes</u> Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with Manufacturers' instructions.				
	<u>Carried to Collection</u>				R
	Section No 3 Bill No 2 Sewer Reticulation				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	Where no Manufacturer's instructions exist pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following: SABS 1200 L: Medium pressure pipelines LD: Sewers LE: Storm water drainage Pipe trenches, etc. shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB: Bedding (Pipes) Unless otherwise described bedding of rigid pipes shall be Class B bedding. Bedding must be selected granular material (specify SABS 1200 LB class B material) minimum 100mm thick on top and bottom of pipe compacted to 90% MOD AASHTO. Selected fill blanket according to SABS 1200LB; selected fill material shall be material that has a PI not exceeding 6 and that is free from vegetation and from lumps or stone of diameter exceeding 30mm. In 150mm layers compacted to 90% MOD AASHTO. Fill blanket is above the bedding and 200mm thickness. In 150mm layers compacted to 90% MOD AASHTO. <u>General</u> Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc. shall be deemed to include excavation, bedding, selected backfilling material, risk of collapse, working space, compaction to a minimum of 95% Mod AASHTO density in layers of 150mm and disposal of surplus material on site <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				
	<u>Carried to Collection</u>				R
	Section No 3 Bill No 2 Sewer Reticulation				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>REMOVAL OF EXISTING WORK</u>				
	<u>Breaking down and removing brickwork, concrete, etc. including cutting off and removing reinforcement</u>				
1	200mm thick concrete paving including earth filling below (earth fill approximately 300mm deep)	m ²	94		
2	Saw cut joints in existing external concrete surface along edges in preparation for new sewer pipe approximately 300mm deep	m	156		
	<u>SOIL DRAINAGE</u>				
	<u>uPVC Class 400 pipes with socketed joints</u>				
3	110mm uPVC Class 400 sewer drainage pipes (pipes complete with couplings, spigots, sockets, fittings, adapters, etc.) laid in not trenches exceeding 1000mm not exceeding 2000mm including all sockets, fittings, adapters, excavation, bedding, backfilling and compaction and disposal of surplus material	m	40		
4	160mm uPVC Class 400 sewer drainage pipes (pipes complete with couplings, spigots, sockets, fittings, adapters, etc.) laid in trenches exceeding 1000mm not exceeding 2000mm including all sockets, fittings, adapters, excavation, bedding, backfilling and compaction and disposal of surplus material	m	53		
	<u>Extra over uPVC Class 400 pipes for fittings in trenches</u>				
5	160mm Rodding eye uPVC class 400 connected to 160mm uPVC class 400 sewer pipe with 45 degree plain junction and 45 degree long radius bend with end cap, not exceeding 1500mm deep including 25Mpa class 19 concrete base size approximately 525mm x 100mm thick and 100mm thick concrete encasing of pipe all round with 160mm diameter cast iron A.B.C rodding eye cover including all excavations, backfilling, compaction, working space, formwork, reinforcing, etc. all as per Engineers detail and specifications	No	13		
6	160mm Bend	No	3		
7	160mm Junction	No	2		
8	160 x 110mm Reducing junction	No	2		
	<u>Carried to Collection</u>				
	Section No 3				
	Bill No 2				
	Sewer Reticulation				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Excavate and build manholes</u>				
9	Excavate in compacted earth for and build pre-cast concrete manhole with Type 4 manhole cover and frame. Manhole with 1000mm internal diameter shaft with precast concrete wall spacer rings internally, 1500 x 1500 x minimum 150mm thick cast in-situ concrete slab 25MPa with reinforcement, HDPE steps 300c/c vertical and horizontal, 25MPa mass concrete benching to top of concrete base with 25mm thick sulphate resistant 1:5 cement concrete finished off smooth with a steel trowel, 25MPa concrete haunching 100mm wide, including leaving or forming opening in precast concrete wall for 160mm diameter outlets including all excavations, backfilling, compaction, working space, de-watering, risk of collapse, formwork, reinforcing, etc. not exceeding 1500mm deep.	No	1		
10	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m³	0.2		
	<u>Connecting to existing pipelines</u>				
11	Connecting new uPVC 160/110mm diameter to existing sewer pipes including all necessary fittings	No	1		
	<u>Sundries</u>				
12	Provide all necessary testing apparatus, water, materials, etc. and allow for testing of drainage system to the satisfaction of the Principal Agent/ Client Representative. All defective work shall be taken out and replaced at the Contractor's expense and the whole re-tested until found perfect		Item		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
13	Allow the Budgetary Allowance of R100 000.00 (One Hundred Thousand Rand) for Geotechnical and CCTV Investigations that still will/may be carried out by the contractor		Item		100 000.00
	<u>Carried to Collection</u>			R	
	Section No 3 Bill No 2 Sewer Reticulation				

Section No 3 Site Works & External Works Bill No 2 Sewer Reticulation COLLECTION Total carried from page No				
		Page No		Amount R
		136		
		137		
		138		
		139		
Section No 3 Bill No 2 Sewer Reticulation				
	Carried to Summary of Section No 3			R

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 3</u> <u>BILL NO. 3</u> <u>ROADWORKS, PAVING, APRONS, ETC.</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Nature of ground</u> A soils investigation has not been carried out on site All excavations are measured as being in "earth" and/or filling compacted to 95% modified AASHTO density Descriptions to excavations shall be deemed to include for setting aside surplus excavated material in spoil heaps for use as filling, or for depositing within 150m of the perimeter of the excavations and spreading and roughly levelling as directed, as well as for increase in bulk and multiple handling of excavated material caused by the Contractor's method of operation Descriptions of casting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site and for bulking and to be carted away to a dump site located by the Contractor <u>Carting away of excavated material</u> Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site and disposing of same from site <u>Subterranean water</u> The tenderer must acquaint himself of the presence and depth of subterranean water and allow therefore in his prices.				
	<u>Carried to Collection</u>				R
	Section No 3 Bill No 3 Roadworks, Paving, Aprons, etc.				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>Filling and layer work materials</u> References such as "G1", "G2", etc and "C1", "C2", etc in descriptions of filling and layer work materials refer to corresponding references in the document "Guidelines for Road Construction Materials. TRH 14 : 1985" compiled by the Committee of State Road Authorities and the properties set out therein for each kind shall be applicable to the respective materials described hereinafter <u>Testing</u> Prices for filling are to include for all necessary density and other tests <u>General</u> Where kerb-stones, blocks, etc are laid in ground descriptions shall be deemed to include necessary excavation, filling in and ramming <u>EXCAVATION, FILLING, ETC. OTHER THAN BULK</u> <u>Compaction of surfaces</u> 1 Compaction of ground surface under floors, et.c including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density <u>WEED KILLERS, INSECTICIDES, ETC</u> Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m² Soil insecticide in accordance with SANS 5859 <u>Approved brand of anti-termite soil poison and weedkiller to be applied by a Registered Company and guaranteed for ten years</u> 2 Under paving and concrete aprons <u>Carried to Collection</u> Section No 3 Bill No 3 Roadworks, Paving, Aprons, etc.				
		m ²	53		
		m ²	53		
				R	

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>CONCRETE</u>				
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	<u>Concrete 30 MPa/19mm</u>				
3	Slabs and thickenings	m ³	19		
	<u>CONCRETE SUNDRIES</u>				
	<u>Wire brushing of concrete slabs to expose aggregate</u>				
4	Wiring brushing to slabs	m ²	63		
	<u>REINFORCEMENT</u>				
	<u>Fabric reinforcement</u>				
5	Ref. 193 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	63		
	<u>BUDGETARY ALLOWANCES</u>				
	<u>The following Budgetary Allowances are for work to be executed by the Main Contractor or specialist suppliers and priced at Bill rates or rates to be agreed and to be used as directed by the Principal Agent and to be deducted in whole or in part if not required</u>				
6	Allow the Budgetary Allowance of R30 000.00 (Thirty Thousand Rand) for additional general work still to be designed and will/may be carried out by the Contractor		Item		30 000.00
	<u>Carried to Collection</u>			R	
	Section No 3 Bill No 3 Roadworks, Paving, Aprons, etc.				

Section No 3 Site Works & External Works Bill No 3 Roadworks, Paving, Aprons, etc. COLLECTION Total carried from page No				
		Page No		Amount R
		141		
		142		
		143		
Section No 3 Bill No 3 Roadworks, Paving, Aprons, etc.	Carried to Summary of Section No 3		R	

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**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SECTION NO. 4</u> <u>BILL NO. 1</u> <u>PROVISIONAL SUMS</u> The following Provisional Sums are all NET amounts and are for work to be executed complete by Nominated/Selected Sub-Contractors or by the Contractor himself. Provisional Sums may be omitted or reduced at the Employer's sole discretion and the contractor shall not be entitled to claim for any loss by way of reductions or omissions of any discount, or percentage relating to Provisional Sums or P.C. amounts or any loss of profit related thereto. The Employer shall also have the right to send onto the works and install any furniture, finishings or fitments, machinery, equipment, etc., and to supply and execute any other special works not contained in this contract during this contract, and the Contractor shall not be entitled to any percentage or discount thereon. The profit and attendance on the following items will only be paid to the Contractor should a Nominated/Selected Sub-contractor conduct the work. If the allowance is directed for work to be done by the Contractor the attendance amounts will not be paid to the Contractor N.B. Any builder's work that the Contractor may be called upon to do so in connection with any such special works or services will be measured and valued at schedule rates as executed				
	<u>Carried to Collection</u>				
	Section No 4 Bill No 1 Provisional Sums				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>SPECIALIST SUB-CONTRACTORS TO THE MAIN CONTRACTOR</u>				
	<u>INTERNAL LANDSCAPING</u>				
1	Provide the sum of R25 000.00 (Twenty Five Thousand Rand) NETT for the supply, delivery and installation of all components related to internal landscaping requirements including planter boxes to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		25 000.00
2	Allow for profit on above			%	
3	Allow for attendance on above			%	
	<u>SIGNAGE</u>				
4	Provide the sum of R50 000.00 (Fifty Thousand Rand) NETT for the supply, delivery and installation of signage to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		50 000.00
5	Allow for profit on above			%	
6	Allow for attendance on above			%	
	<u>IRONMONGERY</u>				
7	Provide the sum of R100 000.00 (One Hundred Thousand Rand) NETT for the supply and delivery of ironmongery to new and existing doors (installation measured elsewhere) to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		100 000.00
8	Allow for profit on above			%	
9	Allow for attendance on above			%	
	<u>INTERNAL PLANTER BOXES</u>				
10	Provide the sum of R112 000.00 (One Hundred and Twelve Thousand Rand) NETT for the supply, delivery and installation of planter boxes to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		112 000.00
11	Allow for profit on above			%	
12	Allow for attendance on above			%	
	<u>Carried to Collection</u>			R	
	Section No 4				
	Bill No 1				
	Provisional Sums				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

Item No		Unit	Quantity	Rate	Amount R
	<u>ALUMINIUM SCREEN WALL PARTITIONS & FEATURE WALL PANELS</u>				
13	Provide the sum of R252 000.00 (Two Hundred and Fifty Two Thousand Rand) NETT for the supply and delivery of aluminium screen walls and feature wall panels to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		252 000.00
14	Allow for profit on above			%	
15	Allow for attendance on above			%	
	<u>JOINERY</u>				
16	Provide the sum of R200 000.00 (Two Hundred Thousand Rand) NETT for the supply, delivery and installation of all joinery items (counter tops, work tops, reception desk etc.) to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		200 000.00
17	Allow for profit on above			%	
18	Allow for attendance on above			%	
	<u>ACCESS FLOORING SYSTEM</u>				
19	Provide the sum of R500 000.00 (Five Hundred Thousand Rand) NETT for the supply, delivery and installation of access flooring structure complete with all supports, connections etc. to be used at the discretion of the Principal Agent and deducted in whole or in part if not required		Item		500 000.00
20	Allow for profit on above			%	
21	Allow for attendance on above			%	
	<u>Carried to Collection</u>			R	
	Section No 4				
	Bill No 1				
	Provisional Sums				

**NATIONAL SEISMOLOGY CENTRE
PROVISIONAL BILLS OF QUANTITIES**

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ELECTRICAL INSTALLATION BOQ

<u>RENOVATIONS & REHABILITATION</u>						
<u>ELECTRICAL INSTALLATION</u>						
<u>PROVISIONAL BILLS OF QUANTITIES</u>						
<u>SECTION A</u>						
Item	Description		Unit	Qty	Rate	Amount
1	<u>Distribution Boards</u>					
	Special note, these rates includes DB accessories (e.g Circuit breakers), checking wiring.					
1.1	DB-1	Supply	No.	1		
		Install	No.	1		
2	<u>Ancillary Distribution Boards and Outlets</u>					
	Supply and installation of the following metal Ancillary Distribution Boards and coverplates for Data and Telephone outlets. (Conduit and Conduit boxes given elsewhere).					
2.1	Data Distribution Board (450mm x 450mm)	Supply	No.	1		
		Install	No.	1		
2.2	Telephone Distribution Board (450mm x 450mm)	Supply	No.	1		
		Install	No.	1		
2.3	Data, Telephone and Ancillary Coverplates	Supply	No.	61		
		Install	No.	61		
2.4	<u>Cables</u>					
	Supply, install of Fibre Optic cable (Fibrework/Krone or other Approved) in wire way & CAT6.	Supply	m	100		
		Install	m	100		
3	<u>Cables</u>					
	Note: The Supply cables are subjected to the final Load Calculations					
3.1	16mm ² 4C Cu Cable PVC Mains 600/1000V	Supply	m	100		
		Install	m	100		
Amount Carried to Next Page						

4	<u>Cable Terminations</u>					
	Note: The Supply cables terminations are subjected to the final Load Calculations					
4.1	16mm ² 4C Cu Cable PVC Mains 600/1000V	Supply	No.	2		
		Install	No.	2		
5	<u>Access Control System</u>					
	Installation of Access Control Sytem equipment and All Accessories					
5.1	Double Door Access Controller Panel	Supply	No.	5		
		Install	No.	5		
5.2	Fingerprint Keypad Reader-Standalone card reader for 50 Users	Supply	No.	5		
		Install	No.	5		
5.3	Magnetic Lock 544 KG Holding Force	Supply	No.	5		
		Install	No.	5		
5.4	Emergency Door Release Call Point (Breaker Glass)	Supply	No.	5		
		Install	No.	5		
6	<u>Ntework &Cables</u>					
	Supply, install of Fibre Optic cable (Fibrework/Krone or other Approved) in wire way & CAT6.					
6.1	Cat6 Network cable	Supply	m	55		
		Install	m	55		
6.2	Conduit	Supply	m	55		
		Install	m	55		
Total for Carried Forward to Summary Page						

Item	Description		Unit	Qty	Rate	
7	<u>Conduit</u>					
	Supply and installation of PVC conduit. Lengths given shall be taken as measured horizontal and vertical runs between conduit terminations. Rates quoted shall allow for wastage, offcuts, couplings, cuttings, bending, jointing socket and tees.					
7.1	25mm Conduit	Supply	m	750		
		Install	m	750		
8	<u>Conduit Boxes and Ends</u>					
	Terminate and connect one pair of conduit ends including supply and installation of 1, 2, 3 or 4 way box on surface or in brickwork. (excluding coverplates), including holes for conduit.					
8.1	25mm Conduit (75mm Ø) Round Box	Supply	No.	101		
		Install	No.	101		
8.2	25mm Conduit (50 × 100mm) Galvanized Box	Supply	No.	25		
		Install	No.	25		
8.3	25mm Conduit (100 x 100mm) Galvanized Box	Supply	No.	75		
		Install	No.	75		
9	<u>Conduit Ends</u>					
	Terminate and connect one pair of conduit ends including lock nuts, bushes, etc. connecting into board tray, wiring channel etc. including cutting holes for conduit entries, but excluding conduit box.					
9.1	25mm PVC Conduit	Supply	No.	25		
		Install	No.	25		
Total for Carried Forward to Summary Page						

Item	Description		Unit	Qty	Rate	Amount
10	Conductors					
	Supply and installation of PVC insulated copper conductors drawn into conduit or wiring channel in groups of 2, 3, 4, etc. with the required colour coding, but excluding any wiring connections.					
10.1	2,5 mm² PVC Conductors Red	Supply	m	150		
		Install	m	150		
	2,5 mm² PVC Conductors Black	Supply	m	200		
		Install	m	200		
	2,5 mm² PVC Conductors Blue	Supply	m	200		
		Install	m	200		
	2,5 mm² PVC Conductors Earth	Supply	m	200		
		Install	m	200		
10.2	4 mm² PVC Conductors Red	Supply	m	250		
		Install	m	250		
	4 mm² PVC Conductors Black	Supply	m	250		
		Install	m	250		
	4 mm² PVC Conductors Blue	Supply	m	250		
		Install	m	250		
	4 mm² PVC Conductors Earth	Supply	m	250		
		Install	m	250		
Total for Carried Forward to Summary Page						

Item	Description		Unit	Qty	Rate	Amount
11	<u>Light Switches</u>					
	Supply, fitting and electrical connection of a Legrand type flush or surface mounted 16A switch in 100 x 50 excluding box (for flush type) and conduit connections, but including cover plates.					
11.1	16A 1 Lever 1 Way	Supply	No.	22		
		Install	No.	22		
11.2	16A 2 Lever 1 Way	Supply	No.	3		
		Install	No.	3		
11.3	Ceiling Mount 360 Degree Occupancy Sensor	Supply	No.	18		
		Install	No.	18		
12	<u>Luminaires</u>					
	Mounting, fixing and electrically connecting the following luminaires, complete with lamps as specified.					
12.1	Type A1					
	22w Linear light, 4000k, 2950lm	Supply	No.	25		
		Install	No.	25		
12.2	Type B1					
	1200x600 LED Backlit Panel, 36w, 5500lm, 4000K, Flicker Free, Non Dimmable. Includes 3m 5 amp Cordset.	Supply	No.	48		
		Install	No.	48		
12.3	Type C1					
	12/24 volt 50w with 4000hr Dichroic reflector lamp.	Supply	No.	2		
		Install	No.	2		
12.4	Type J1					
	Round LED Bulkhead Light, 18 w, 220 → 240 V ac, IP54.	Supply	No.	21		
		Install	No.	21		
12.5	Type ST					
	LED light strip, White	Supply	m	44		
		Install	m	44		
13	<u>Daylight Switch</u>					
	Supply and installation of approved daylight switch.					
13.1	Daylight Switch	Supply	No.	1		
		Install	No.	1		
Total for Carried Forward to Summary Page						

Item	Description		Unit	Qty	Rate	Amount
14	Powerskirting	Supply	m	300		
		Install	m	300		
14.1	Elbows Internal/External	Supply	No.	20		
		Install	No.	20		
14.2	End Caps	Supply	No.	30		
		Install	No.	30		
14.3	Cover Joiner Clips	Supply	No.	20		
		Install	No.	20		
15	<u>Socket Outlets</u>					
	Supply, fitting and electrical connection of flush or surface mounted Legrand type switched socket in either 100 x 100, 100 x 50, round box or wiring channel, <u>excluding</u> box (for flush type) and conduit connections, but including cover plate.					
15.1	16A Normal Single SSO c/w Coverplate 200w Standard.	Supply	No.	3		
		Install	No.	3		
15.2	16A Normal Double SSO c/w Coverplate 400w Standard.	Supply	No.	79		
		Install	No.	79		
	Amount Carried to Next Page					

16	Isolators					
	Supply, fitting and electrical connection of flush or surface mounted Metal Clad Isolators in either 100 x 100, 100 x 50, round box or wiring channel, <u>excluding</u> box (for flush type) and conduit connections, but including cover plate. For more details please refer to the specific drawings					
16.1	30A Three Phase Isolator switch (CU1) for HVAC	Supply	No.	1		
		Install	No.	1		
16.2	30A Three Phase Isolator switch (FAF) for HVAC	Supply	No.	1		
		Install	No.	1		
16.3	20A Single Phase Isolator switch (AC1) for HVAC	Supply	No.	1		
		Install	No.	1		
16.4	20A Single Phase Isolator switch (AC2) for HVAC	Supply	No.	1		
		Install	No.	1		
16.5	20A Single Phase Isolator switch (AC3) for HVAC	Supply	No.	1		
		Install	No.	1		
16.6	20A Single Phase Isolator switch (AC4) for HVAC	Supply	No.	1		
		Install	No.	1		
16.7	20A Single Phase Isolator switch (AC5) for HVAC	Supply	No.	1		
		Install	No.	1		
16.8	20A Single Phase Isolator switch (AC6) for HVAC	Supply	No.	1		
		Install	No.	1		
16.9	20A Single Phase Isolator switch (AC7) for HVAC	Supply	No.	1		
		Install	No.	1		
16.10	20A Single Phase Isolator switch (AC8) for HVAC	Supply	No.	1		
		Install	No.	1		
16.11	20A Single Phase Isolator switch (AC9) for HVAC	Supply	No.	1		
		Install	No.	1		
16.12	20A Single Phase Isolator switch (AC10) for HVAC	Supply	No.	1		
		Install	No.	1		
16.13	20A Single Phase Isolator switch (AC11) for HVAC	Supply	No.	1		
		Install	No.	1		
16.14	20A Single Phase Isolator switch (AC12) for HVAC	Supply	No.	1		
		Install	No.	1		
16.15	20A Single Phase Isolator switch (AC13) for HVAC	Supply	No.	1		
		Install	No.	1		
16.16	20A Single Phase Isolator switch (AC14) for HVAC	Supply	No.	1		
		Install	No.	1		
16.17	20A Single Phase Isolator switch (AC15) for HVAC	Supply	No.	1		
		Install	No.	1		
Amount Carried to Next Page						

16.18	20A Single Phase Isolator switch (AC16) for HVAC	Supply	No.	1		
		Install	No.	1		
16.19	20A Single Phase Isolator switch (AC17) for HVAC	Supply	No.	1		
		Install	No.	1		
16.20	20A Single Phase Isolator switch (FP) for Fire Panel	Supply	No.	1		
		Install	No.	1		
16.21	32A Double Pole Used for Handdreyer (HD)	Supply	No.	2		
		Install	No.	2		
Total for Carried Forward to Summary Page						
Item	Description		Unit	Qty	Rate	Amount
17	<u>Electrical connection of appliances and installations.</u>					
17.1	Plant (Internal/External Units): Single and three phase connection	Connect	No.	24		
18	<u>Removal of Existing/Installed Items & Making Good</u>					
18.1	Allow for removal of the existing/installed items In order to lay cables & making Good.		Sum	1		
19	<u>CERTIFICATE OF COMPLIANCE</u>					
	Provision for the Certificate of Compliance to be issued on completion of the project.		Item	2		
Total for Carried Forward to Summary Page						
<u>RENOVATIONS & REHABILITATION</u>						
Amounts brought forward from:						
Page:	1.1					<u>Amounts (R)</u>
	1.2					
	1.3					
	1.4					
	1.5					
	1.6					
Total for Electrical Bill of Quantities						

<u>LIGHTNING PROTECTION</u>						
<u>VOLUME 2</u>						
<u>BILL OF QUANTITIES</u>						
Note: All rates for items contained in this Bill shall be computed excluding the applicable Value Added Tax.						
The Contractor shall include in the rates for any work or anything in the Conditions of Contract or						
Specification or shown on the Drawings not included elsewhere in the Bills of Quantities and for						
which he considers charges are required.						
Allowance for Complete Lightning Protection Installation of the building.						
The Lightning Protection installation is to be undertaken by a specialist and is required to						
provide two soil resistivity tests, one at the beginning of the project and one at completion.						
The first test is to be conducted within 14 days of the contractor being appointed. The						
Lightning Protection installer is to provide a Test Certificate in accordance with SANS 10313.						
The contractor to note that all conduit provisions for the Lightning Protection installation are to be recessed						
and provided by the Electrical Sub-Contractor.						
Item	Description		Unit	Qty	Rate	Amount
1	<u>Down Conductors</u>					
	Supply and fixing on surface in an approved manner of aluminium conductor including all fixing accessories, such as insulating sleeves and stand-off brackets, but not including terminations. Rates quoted shall allow for wastage, off-cuts and joints.					
1.1	50mm ² aluminium conductor	Supply	m	24		
		Install	m	24		
2	<u>Air Terminal Conductors</u>					
	Supply and fixing on surface in an approved manner of 50mm ² aluminium conductor including all fixing accessories, such as insulating sleeves and stand-off brackets, but not including terminations. Rates quoted shall allow for wastage, off-cuts and joints.	Supply	m	30		
		Install	m	30		
3	<u>Terminations of Down Conductors to Air Terminals</u>					
	Termination of aluminium conductor to metal roof as specified in Clause A1.4 including lugs and making off of the ends etc.					
3.1	50mm ² aluminium conductor to metal roof.	Supply	No	6		
		Install	No	6		
4	<u>Earthing Conductors</u>					
	Supply and laying in the ground and in conduits of copper earth wire as specified in Clause A1.5 excluding terminations. Rates quoted shall allow for wastage, off-cut and joints.					
4.1	50mm ² Green PVC insulated copper conductor	Supply	m	24		
		Install	m	24		
5	<u>Termination of Earthing Conductors to Down Conductors</u>					
	Termination of earth conductor to aluminium down conductor and earth electrodes including making off the ends, lugs, clamps, etc.					
Amount Carried to Next Page						

5.1	50mm ² Termination to 50mm ² conductor	Supply	No	6		
		Install	No	6		
Total for Bill No. 2 : Carried Forward to Summary Page						
Item	Description		Unit	Qty	Rate	Amount
6	Earth Electrodes					
	Supply and installation of earth electrodes generally as specified in Clause A1.3.3.					
6.1	1.8m x 16mm diameter copper earth electrodes driven into the ground	Supply	No.	6		
		Install	No.	6		
7	Termination of Earth Conductors to Earth					
	Termination of Earth Conductors to Earth Electrodes including making off of ends, lugs, clamps, etc.					
7.1	50mm ² Earth Conductor to Earth Electrode	Supply	m	24		
		Install	m	24		
8	York Box	Supply	No.	6		
		Install	No.	6		
9	20mm Conduit PVC/Bosal	Supply	m	24		
		Install	m	24		
10	General Earth Bonding					
10.1	Bonding of metal drainage down pipes and items.		Item	1		
11	Testing					
	Supply and testing apparatus and testing in accordance with SABS Code.					
11.1	Testing of Lightning Protection System		Item	1		
11.2	Soil Resistivity Test and Report		Item	1		
11.3	The contractor shall allow a sum for a soil resistivity test and report after a 12 month period from the date of Practical completion		Item	1		
11.4	Certificate of Compliance		Item	1		
Total for Bill No. 2 : Carried Forward to Summary Page						
LIGHTNING PROTECTION						
VOLUME 2						
BILL OF QUANTITIES						
SUMMARY PAGE						
Amounts brought forward from:				Amounts (R)		
Page	2.1				R	
	2.2				R	
Total for Bill No. 2 c/f to Final Summary						
					R	

<u>RENOVATIONS & REHABILITATION</u>						
<u>COMMISSIONING & TESTING</u>						
<u>BILLS OF QUANTITIES</u>						
<u>SECTION A</u>						
Item	Description		Qty	Unit	Rate	Amount
1.1	<u>ELECTRICAL WORK</u>					
<u>CPAP WORKGROUP NO 160 UNLESS OTHERWISE STATED</u>						
<u>PREAMBLES</u>						
Refer to the attached Specifications for the Electrical Installation. The Tenderer must at all times read the Bills of Quantities in conjunction with the specification and drawings prior to pricing this section.						
1.1.1	<u>General Earthing</u>		1	Item		
Earthing and bonding of cold and hot water pipes and all other metal to comply with regulations.						
1.2	<u>Commissioning and Testing</u>		1	Item		
Allow for testing, balancing and commissioning the whole of the electrical installation as laid down in the specification and for re-testing as may be required after the making good of all defective work to the satisfaction of the Department and the Engineer.						
1.3	<u>As Built Drawings</u>		1	Item		
Provision for the drawings showing all site cable routes, conduit routes, draw boxes and positions of outlets, etc.						
1.4	<u>Labelling and Marking</u>					
Allow for marking and labelling of all equipment, cables, plugs, light switches etc.			1	Item		
1.5	<u>Guarantee and Maintenance</u>					
Guarantee and maintenance for the complete installation of Electrical Installation including fittings, materials and workmanship for a period of TWELVE MONTHS after date of completion and handover.			1	Item		
Total for Bill No. 1 : Carried Forward to Summary Page						
<u>RENOVATIONS & REHABILITATION</u>						
<u>COMMISSIONING & TESTING</u>						
<u>BILLS OF QUANTITIES</u>						
<u>SECTION A</u>						
<u>SUMMARY PAGE</u>						
Amounts brought forward from:						<u>Amounts (R)</u>
Page:	1.1					
Total for Electrical Bill of Quantities						

ELECTRICAL INSTALLATION FOR RENOVATION & REHABILITATION		
SUMMARY PAGE		
		<u>Total Amount</u>
1	Electrical BOQ	
2	Lightning Protection	
3	Commissioning & Testing	
	Sub total	
	Add VAT @ 15%	

MECHANICAL INSTALLATION BOQ

TOTAL CARRIED FORWARD TO SUMMARY	
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Item No.	Description	Unit	Quantity	Rate	Amount
B	Ventilation				
B1	Supply and install:				
B2	<i>Fresh Air Supply</i>				
B3	600 x 350mm Weather Louver	No.	1		
B4	600 x 350mm Washable Panel Filter	No.	1		
B5	LUFT LDF450/3L - Centrifugal inline duct fan with two sound attenuators	No.	1		
B6	Fan ON/OFF switch	No.	1		
B7	Un-insulated Galvanised sheet metal ducting including support brackets (as per drawing)				
B7.1	Rectangular Duct: Flanged Radius Bend / Shoe Branch, 200x200	m	12		
B7.2	Rectangular Duct: Flanged Radius Bend / Shoe Branch, 250x200	m	17		
B7.3	Rectangular Duct: Flanged Radius Bend / Shoe Branch, 300x200	m	31		
B7.4	Rectangular Duct: Flanged Radius Bend / Shoe Branch, 350x200	m	21		
B7.5	Rectangular Duct: Flanged Radius Bend / Shoe Branch, 400x200	m	9		
B7.6	Rectangular Duct: Flanged Radius Bend / Shoe Branch, 400x350	m	2,60		
B7.7	Round Duct: Pressed Radius Bend / Shoe Branch, 150ø	m	6		
B7.8	Round Duct: Pressed Radius Bend / Shoe Branch, 400ø	m	0,15		
B7.9	Round Taper - Slip Joint: Standard, 400ø-355ø	No.	1		
B7.10	Round Taper - Slip Joint: Standard, 150ø-125ø	No.	16		
B7.11	Round Taper - Slip Joint: Standard, 150ø-100ø	No.	2		
B7.12	Round Shoe Branch - Slip Joint: Standard, 150ø-150ø	No.	18		
B7.13	Rectangular Shoe Branch - Flanged: Standard, 350x200-350x201	No.	1		
B7.14	Rectangular Medium Radius Bend - Flanged: Standard, 400x350-400x351	No.	1		
B7.15	Rectangular Medium Radius Bend - Flanged: Standard, 350x400-350x400	No.	3		
B7.16	Rectangular Medium Radius Bend - Flanged: Standard, 350x200-350x201	No.	1		
B7.17	Rectangular Medium Radius Bend - Flanged: Standard, 300x200-300x201	No.	1		
B7.18	Rectangular Medium Radius Bend - Flanged: Standard, 200x350-200x350	No.	2		
B7.19	Rectangular Concentric Taper - Flanged: Standard, 400x350-400x201	No.	1		
B7.20	Rectangular Concentric Taper - Flanged: Standard, 400x200-350x201	No.	1		
B7.21	Rectangular Concentric Taper - Flanged: Standard, 350x200-300x200	No.	2		
B7.22	Rectangular Concentric Taper - Flanged: Standard, 300x200-250x200	No.	2		
B7.23	Rectangular Concentric Taper - Flanged: Standard, 250x200-200x200	No.	2		
B7.24	Rectangular Blank End: Standard, 200x200	No.	2		
B7.25	Rectangular - Round Transformation - Flanged: Standard, 400x350-355ø	No.	1		
B8	Ø100 mm Flexible connections	m	25,0		
B9	Ø150 mm Balancing damper	No.	19		
B10	Ø125 mm Disk Valves	No.	16		
B11	Ø100 mm Disk Valves	No.	3		
B12	Ductwork support, HDG 40x3 mm steel strap, 10 mm HDG threaded steel rod, 304 S/S fastners and HDG clamps.	No.	24		
B13	Demolition				
B14	Removal of existing ceiling suspended split units	No.	2		
B15	Reuse ceiling suspended split units as indicated on the drawings	No.	2		
B16	Pressure test piping and charge both split units with refrigerant	sum	1		
B17	Removal of existing fire hose reel	No.	1		
B18	Reuse existing fire hose reel as indicated on the drawings	No.	1		
	carried forward				

Item No.		Unit	Quantity	Rate	Amount
	brought forward				
B19	Air-conditioning				
B20	Supply and install:				
B21	Indoor LG (or similar approved) ARNU07GSJN4, 2.2 kW cooling capacity midwall unit, 837 x 302 x 189 mm	No.	2		
B22	Indoor LG (or similar approved) ARNU09GSJN4, 2.8 kW cooling capacity midwall unit, 837 x 302 x 189 mm	No.	10		
B23	Indoor LG (or similar approved) ARNU12GSJN4, 3.6 kW cooling capacity midwall unit, 837 x 302 x 189 mm	No.	1		
B24	Indoor LG (or similar approved) ARNU15GSJN4, 4.2 kW cooling capacity midwall unit, 837 x 302 x 189 mm	No.	1		
B25	Indoor LG (or similar approved) ARNU24GTPC4, 7.1 kW cooling capacity 4 way ceiling cassette unit, 840 x 840 mm including supports.	No.	2		
B26	Indoor LG (or similar approved) ARNU36GTNC4, 10.6 kW cooling capacity 4 way ceiling cassette unit, 840 x 840 mm	No.	1		
B27	Outdoor LG (or similar approved) ARUM240LTE5, 67.2 kW cooling capacity condensing unit	No.	1		
B28	Outdoor and indoors mounting kit	No.	1		
B29	Ø 6.35 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	18		
B30	Ø 9.52 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	90		
B31	Ø 12.7 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	36		
B32	Ø 15.9 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	24		
B33	Ø 19.1 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	42		
B34	Ø 22.2 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	18		
B35	Ø 28.8 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	6		
B36	Ø 34.5 mm Straight copper piping include for 3/4" thick ARMAFLEX insulation, and all associated accessories	m	6		
B37	Ø 6.35 mm Bends 90°	No.	28		
B38	Ø 9.52 mm Bends 90°	No.	30		
B39	Ø 12.7 mm Bends 90°	No.	3		
B40	Ø 15.9 mm Bends 90°	No.	4		
B41	Ø 19.1 mm Bends 90°	No.	1		
B42	Ø 22.2 mm Bends 90°	No.	2		
B43	Ø 34.5 mm Bends 90°	No.	4		
B44	Ø 9.52 mm couplings	No.	4		
B45	Ø 12.7 mm couplings	No.	4		
B46	Ø 15.9 mm couplings	No.	2		
B47	Ø 19.1 mm couplings	No.	2		
B48	Ø 22.2 mm couplings	No.	1		
B49	Y-Branch Ø 9.52 mm	No.	12		
B50	Y-Branch Ø 12.7 mm	No.	6		
B51	Y-Branch Ø 15.9 mm	No.	2		
B52	Y-Branch Ø 19.1 mm	No.	7		
B53	Y-Branch Ø 22.2 mm	No.	1		
B54	Y-Branch Ø 28.8 mm	No.	1		
B55	Y-Branch Ø 34.5 mm	No.	1		
B56	Ø32mm Condensate piping and support brackets	m	95		
B57	Ø25mm Condensate piping and support brackets	m	42		
B58	Wired thermostat controller (LG or other approved)	No.	17		
B59	Cable Tray	No.	90		
B60	Galvanised Trunking	m	3		
	carried forward				

Item No.		Unit	Quantity	Rate	Amount
	brought forward				
B61	Fire Protection System				
B62	Supply and install:				
B63	<i>Fire Suppression System</i>				
B64	Supply, deliver and install the following fire protection system, complete with, piping, fittings and all related signage, brackets, supports and all necessary accessories, as per the, manufacturer's recommendations.				
B65	200x200 mm Fire equipment signage's and Photoluminescent emergency exit signage's as per fire drawings including all necessary fixing accessories.	No.	10		
B66	440x440 mm Emergency assembly point signage as per fire drawings including all necessary fixing accessories.	No.	1		
B67	Fire extinguishers (5 kg carbon dioxide) and timber backing board, supports and all necessary accessories, as per the, manufacturer's recommendations.	No.	3		
B68	Fire extinguishers (9 kg carbon dioxide) and timber backing board, supports and all necessary accessories, as per the, manufacturer's recommendations.	No.	4		
B69	30m x 19m Fire hose reel swing type, certified to SABS standards, maximum inlet pressure of 10000 kPa; Front and back plate shall be steel signal red; This heavy-duty reel features a 30-meter hose, durable nozzle, and hose guide, allowing for easy access and deployment. Support assembly shall be mild steel zinc plated; Nozzle shall be twisted action brass.	No.	2		
B70	Hose Reel Cabinet shall be galvanized mild steel signal red.	No.	2		
B71	DN25 Ball valve; assembly shall be zinc coated brass	No.	2		
B72	Pipe Lengths including supports				
B73	DN32: Galvanized mild steel pipe, painted red	m	48		
B74	DN25: Galvanized mild steel pipe, painted red	m	6		
B75	Coupling Fittings				
B76	DN32 - D32, Galvanized mild steel coupling	No.	5		
B77	Elbow Fittings				
B78	DN32, Galvanized mild steel elbow	No.	5		
B79	DN25, Galvanized mild steel elbow	No.	6		
B80	Equal Tee Fittings				
B81	DN32 x DN32 x DN32, Equal Tee	No.	2		
B82	Reducer Fittings				
B83	DN32 x DN25, Reducer	No.	2		
	carried forward				

Item No.		Unit	Quantity	Rate	Amount
	brought forward				
B84	<i>Fire Detection and Alarm System</i>				
B85	Supply and install Class A Addressable fire detection system, equipment, address labels, remote alarm indicators and cabling as per specifications. This includes for safety files, minimum 12 month warranty on equipment. Ceiling detectors to include for remote alarm indicators, relays for fire dampers, extractors, fire doors and automated doors (including user interface units). To allow for integration with electronic services specialist regarding automatic release for all doors and tripping of air conditioners/HVAC units in the event of the system being engaged. Fire Detection Specialist to include for CoC in book form in accordance to SANS 10139 (latest edition), Logbook, Mimic Diagrams in all foyers and entrances/exits. Programming of fire detection system to be included as well. Delivery of all fire detection equipment, commissioning of fire detection system, travel and sundries to be included.				
B86	PH60 cable, 1mm2, ISO9001 certified, IEEEC60502-1 Standard	m	150		
B87	Addressable Optical Heat Detector, polar white. Ziton or equal and approved.	No.	2		
B88	Addressable manual call point (MCP), red, flush mounted with EN54 marking. Ziton or equal and approved.	No.	3		
B89	Addressable sounder with visual indicator (RED). Ziton or equal and approved.	No.	2		
B90	Addressable Optical Smoke Detector, polar white. Ziton or equal and approved.	No.	21		
B91	2-Loop Addressable Fire Panel with 12V, 18Ah battery and RS485 Network Card. Ziton or equal and approved	No.	1		
B92	PVC Conduit	m	120		
B93	Sprague Tube	m	20		
B94	A3 Frame with Drawing	No.	1		
B95	Consumables	No.	1		
	carried forward				

Item No.		Unit	Quantity	Rate	Amount
	brought forward				
B96	Water Reticulation System Supply and install: For the supply, delivery, installation testing and commissioning of the water reticulation system including connection pipework, supports, pipe fittings and valves, as per the manufacturer's specification and recommendations.				
B97	Pipe Lengths - Class 1 Copper				
B98	Pipe, DN 22: copper pipe	m	11		
B99	Pipe, DN 15: copper pipe	m	27,5		
B100	Churrasco Braided Connector Flexi FXF (15 x 350mm)	No.	13		
B101	90 Degrees Fittings: Class 1 Copper				
B102	DN 22, 90 degree bends, copper	No.	2		
B103	DN 15, 90 degree bends, copper	No.	21		
B104	Tee Fittings: Class 1 Copper				
B105	DN 22 x DN 22 x DN 22 Equal Tee, copper	No.	1		
B106	DN 22 x DN 22 x DN 15 Reducing Tee, copper	No.	6		
B107	DN 15 x DN 15 x DN 15 Equal Tee, copper	No.	4		
B108	Reducer Fittings: Class 1 Copper				
B109	DN 22 x DN 15 Tee, copper	No.	2		
B110	Valves				
B111	Cast iron ball valve, DN 22	No.	1		
B112	Cast iron ball valve, DN 15	No.	1		
B113	Plumline mini ball valve and handle CXC DZR. DN 15	No.	13		
B114	PTFE water pipe tape	No.	3		
B115	Pipe steel saddles and masonry anchors	No.	15		
B116	HydroBoil White Epoxy Powder Coated ZIP HydroBoil 5 litre instant boiling water unit with White Epoxy Powder Coated outer case, and a two-way tap, complete with twin-chamber technology	No.	1		
TOTAL CARRIED FORWARD TO SUMMARY					

170.

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