

Item No	Quantity	Rate	Amount
<b><u>SECTION 1</u></b>			
<b><u>BILL NO.1</u></b>			
<b><u>PRELIMINARIES AND GENERAL</u></b>			
<p>1. The Principal Building Agreement shall be the JBCC Series Edition 4.1, March 2005 as recommended by the Joint Building Contract Committee and as amended by this Tender Enquiry.</p> <p>2. The Preliminaries shall be JBCC Series 2000, May 2005 for use with the Principal Building Agreement as recommended by the Joint Building Contracts Committee and as amended by this Tender Enquiry shall be deemed to be incorporated herein.</p> <p>3. Tenderers are referred to the abovementioned documents for the full intent and meaning of each clause thereof. These clauses are hereinafter referred to by clause number and heading only.</p> <p>4. Where standard clauses or alternatives are not entirely applicable to this contract, such modifications, corrections or additions as are necessary, are given as far as possible under each relevant clause heading. Additional Preliminary clauses are contained in Section C hereof.</p> <p>5. No claim whatsoever shall be entertained in respect of errors or omissions in pricing due to brevity of descriptions of items which are fully described when read in conjunction with the relevant clauses of the said Principal Building Agreement, Preliminaries and Preambles.</p>			
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6. The Tenderers shall allow opposite each of the clauses whatever costs and charges he may consider necessary for the carrying out, complying with and due observance of the provisions, conditions and requirements set out herein. Only priced items will be considered in respect of any adjustment of this Section. Any items left unpriced will be understood to be provided free of charge and no claim for any extras arising out of the Tenderer's omission to price any item will be entertained.

7. Where modifications or amendments as described are made, such modifications and/or amendments shall supercede any conflicting provisions in the relevant clauses of the Standard Preliminaries or the Principal Building Agreement and the Tenderer shall make due allowance for whatever costs and charges he may consider necessary for the carrying out and observance of the provisions of the clauses as modified and/or amended.

8. Where any item is not relevant to this specific contract, such item is marked N/A.

9. If Alternative A as set out in clause B10.3 hereinafter is to be used for the adjustment of the preliminaries, each item priced is to be allocated to one or more of the three categories by insertion of "F", "V", "T" as the case may be against the price in the "rate" column immediately preceding the "amount" column, where "F" denotes a fixed amount (amount not to be varied), "V" denotes an amount variable in proportion to value, and "T" denotes an amount proportionate to time.

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**SECTION A: PRINCIPAL BUILDING AGREEMENT**

**DEFINITIONS**

Definitions and interpretation (Clause 1).

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

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**OBJECTIVE AND PREPARATION**

Offer, acceptance and performance (Clause 2).

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

Item

Documents (Clause 3).

Clause 3.1 is deleted and substituted with: 'This tender is for a Government Contract. No Payment Guarantee will be provided.'

Clause 3.3 is deleted and substituted with:

The principal agent shall complete the schedule and arrange for formal signing of the agreement once the priced bill of quantities/lump sum document, security, insurances and waiver of lien, where acceptable, have been provided and effected'.

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

Item

Design responsibility (Clause 4).

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

Item

Employer's agents (Clause 5).

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

Item

Site representative (Clause 6).

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

Item

Compliance with regulations (Clause 7).

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

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	Works risk (Clause 8)			
8	F: ..... V: ..... T: .....  Indemnities (Clause 9).  Clause 9.1.1 is deleted and substituted with:  Claims from other parties consequent upon death of bodily injury or illness of any person or physical loss or damage to any property, other than the works, arising out or due to the execution of the works or occupation of the site by the contractor or his sub contractors'.	Item		
9	F: ..... V: ..... T: .....  Works insurances (Clause 10).	Item		
10	F: ..... V: ..... T: .....  Liability insurances (Clause 11).	Item		
11	F: ..... V: ..... T: .....  Effecting insurances (Clause 12).	Item		
12	F: ..... V: ..... T: .....  State Provisions (Clause 13).	Item		
13	F: ..... V: ..... T: .....  Security (Clause 14).	Item		
14	F: ..... V: ..... T: .....  <b><u>EXECUTION</u></b>  Preparation for and execution of the works (Clause 15).	Item		
15	F: ..... V: ..... T: .....  Access to the works (Clause 16).	Item		
16	F: ..... V: ..... T: .....	Item		
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	Contract instructions (Clause 17).			
17	F: ..... V: ..... T: .....  Setting out of the works (Clause 18.3).  The contractor shall notify the principal agent if any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc., exist in order that the necessary arrangements may be made for the rectification of any such encroachments. Should incorrect information be given to the contractor in terms of 18.1 and 18.2, which causes the incorrect setting out of the works, the contractor shall not be liable for such incorrect setting out.	Item		
18	F: ..... V: ..... T: .....  Assignment (Clause 19).	Item		
19	F: ..... V: ..... T: .....  Nominated subcontractors (Clause 20).	Item		
20	F: ..... V: ..... T: .....  Selected subcontractors (Clause 21).	Item		
21	F: ..... V: ..... T: .....  Employer's Direct contractors (Clause 22).	Item		
22	F: ..... V: ..... T: .....  Contractor's Domestic subcontractors (Clause 23).	Item		
23	F: ..... V: ..... T: .....  <b><u>COMPLETION</u></b>  Practical completion (Clause 24).	Item		
24	F: ..... V: ..... T: .....  Works completion (Clause 25).	Item		
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25	<p>F: ..... V: ..... T: .....</p> <p>Final completion (Clause 26).</p> <p>Latent defects liability period (Clause 27).</p> <p>Clause 27.0 is amended by the addition of the following clauses:</p> <p>"27.3 Any water leakage into the building, whether in the roof, external wall or other element of the building susceptible to water leakage shall, unless proven to be a design defect, or as a result of obvious storm damage, be classified as a latent defect in terms of clause 1.0 Definitions and Interpretations".</p> <p>"27.4 The Contractor shall attend to defects during the Defects Liability Period on a progressive basis, to the satisfaction of the Principal Agent and will not be permitted to wait until the end of the Defect Liability Period or until the amount of defects accumulates in order to attend to a comprehensive list of defects"</p>	Item		
26	<p>F: ..... V: ..... T: .....</p> <p>Sectional completion (Clause 28).</p>	Item		
27	<p>F: ..... V: ..... T: .....</p> <p>Revision of date for practical completion (Clause 29).</p>	Item		
28	<p>F: ..... V: ..... T: .....</p> <p>Penalty for non-completion (Clause 30).</p>	Item		
29	<p>F: ..... V: ..... T: .....</p> <p><b><u>PAYMENT</u></b></p> <p>Interim payment to the contractor (Clause 31).</p> <p>The inclusion of materials and goods stored off site in the amount authorised for payment in terms of clause 31.3 shall be at the sole discretion of the principal agent and such inclusion shall only be considered upon the provision, by the contractor, of an approved guarantee issued by a registered commercial bank.</p>	Item		
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Where prices are submitted by the contractor or nominated/selected sub contractor during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the contract 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 final certificate, it will be in writing.

Adjustment to the contract value (Clause 32).

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

Item

Recovery of expense and loss (Clause 33).

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

Item

Final account and final payment (Clause 34).

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

Item

Payment to other parties (Clause 35).

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

Item

### **CANCELLATION**

Cancellation by Employer - Contractor's default (Clause 36).

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

Item

Cancellation by Employer - Loss and damage (Clause 37).

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

Item

Cancellation by Contractor - Employer's default (Clause 38).

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

Item

Cancellation - Cessation of the works (Clause 39).

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

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**DISPUTE**

Dispute Settlement (Clause 40)

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

Item

**SUBSTITUTE PROVISIONS**

State Clauses (Clause 41)

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

Item

**CONTRACT VARIABLES**

The Schedule: Pre-Tender information (Clause 42).

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

Item

**CONTRACTING AND OTHER PARTIES (Clause 42.1)**

Employer: The Mvula Trust

Postal Address: 67 Devereux Avenue, Vincent, East London

Telephone: 043 726 2255

Facsimile: 043 726 5967

Physical address: 67 Devereux Avenue, Vincent, East London

Principal Agent: Greenfield Resources

Postal Address: 142 South Street, Falcon Crest Office Park, Centurion

Telephone: 012 643 0357

Facsimile: 012 643 0357

Physical address: 142 South Street, Falcon Crest Office

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**CONTRACT DETAILS (Clause 42.2)**

Clause 42.2.1

Works Description: Completion of Omitted scope in this Safe Program

Clause 42.2.2

Site Description: The site is the existing school.

Clause 42.2.3

Work or Installations by Others: NIL

Clause 42.2.4

This Agreement is for a State Contract :- Yes

Payment will be made for materials and goods:- Yes

Dispute resolution :- Mediation (in terms of clause 40) followed by litigation.

Arbitration rules as recommended by the Association of Arbitrators (SA) :- N/A

Clause 42.2.5

Date on which possession of the site is intended to be given on :-

To be advised.

Clause 42.2.6

Period for the commencement of the works after the contractor takes possession of the site :- 5 Working days.

Completion in Sections are required : NO

Clause 42.2.7

Intended date of practical completion and the penalty per calendar day for the works as a whole :-

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[illegible]

**DOCUMENTS (Clause 42.4)**

Clause 42.4.1

Waiver of the contractor's lien is required :- YES

Clause 42.4.2

Number of construction document copies to be supplied to the Contractor free of charge :- 1

Clause 42.4.3

Bills of Quantities drawn up in accordance with :-

Standard System of Measuring Building Work - Seventh Edition including all amendments

Clause 42.4.4

Number of days for submission of priced documents : 5 working days from the Letter of Appointment.

Clause 42.4.5

JBCC Engineering General Conditions are to be included in the documents :- No

Clause 42.4.6

The contract value is to be adjusted using CPAP:- NO

**SECTION B: PRELIMINARIES**

**DEFINITIONS AND INTERPRETATION (B1)**

Definitions and Interpretation (B1)

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

Item

**DOCUMENTS (B2)**

Checking of documents (B2.1)

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Notwithstanding the issue of the tender drawings, it will remain the responsibility of the Tenderer to study all available drawings at the offices of the Principal Agent during normal working hours in order to acquaint himself with all the cost implications of the design, programming, phasing, etc.

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

Item

Provisional Bills of Quantities (B2.2) YES

Prime Cost Amounts, Budgetary Allowances, Provisional Amounts, etc., contained herein may be omitted or reduced at the Principal Agent's sole discretion and the Contractor shall not be entitled to claim for any loss by way of reduction or omission of any discount, or percentage relating to Prime Cost Amounts, Budgetary Allowances, Provisional Amounts, Provisional Quantities, etc., or loss of profit related thereto.

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

Item

Availability of construction documentation (B2.3)

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

Item

Interests of Agents (B2.4)

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

Item

Priced documents (B2.5)

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

Item

Tender submission (B2.6)

Notwithstanding anything contained in this clause, Tenders shall be valid for a period of 20 (Twenty) weeks from the closing date of tenders.

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

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### **THE SITE (B3)**

Defined works area (B3.1)

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	<p>The area of the works to be occupied by the contractor, any restriction on the area and the limit of access or exit will be pointed out to the contractor by the principal agent on handing over of the site.</p> <p>Workmen employed on the site are to be restricted to the immediate area of the site and access thereto.</p> <p>The Tenderer shall make all necessary provision in all rates to take into account these requirements as no claims for extras arising from these matters will be subsequently entertained or admitted.</p>			
48	<p>F: ..... V: ..... T: .....</p> <p>Geotechnical investigation (B3.2)</p> <p>A desktop geotechnical report is available upon request.</p>	Item		
49	<p>F: ..... V: ..... T: .....</p> <p>Inspection of the Site (B3.3)</p>	Item		
50	<p>F: ..... V: ..... T: .....</p> <p>Existing premises occupied (B3.4)</p>	Item		
51	<p>F: ..... V: ..... T: .....</p> <p>Previous work - dimensional accuracy (B3.5)</p>	Item		
52	<p>F: ..... V: ..... T: .....</p> <p>Previous work - defects (B3.6)</p>	Item		
53	<p>F: ..... V: ..... T: .....</p> <p>Services - known (B3.7)</p>	Item		
54	<p>F: ..... V: ..... T: .....</p> <p>Services - unknown (B3.8)</p>	Item		
55	<p>F: ..... V: ..... T: .....</p>	Item		
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	Protection of trees (B3.9)			
56	F: ..... V: ..... T: .....	Item		
	Articles of value (B3.10)			
57	F: ..... V: ..... T: .....	Item		
	Inspection of adjoining properties (B3.11)			
58	F: ..... V: ..... T: .....	Item		
	<b><u>MANAGEMENT OF CONTRACT (B4)</u></b>			
	Management of the Works (B4.1)			
59	F: ..... V: ..... T: .....	Item		
	Programme for the Works (B4.2)			
60	F: ..... V: ..... T: .....	Item		
	Progress meetings (B4.3)			
61	F: ..... V: ..... T: .....	Item		
	Technical meetings (B4.4)			
62	F: ..... V: ..... T: .....	Item		
	<b><u>SAMPLES AND SHOP DRAWINGS (B5)</u></b>			
	Samples of materials (B5.1)			
63	F: ..... V: ..... T: .....	Item		
	Workmanship samples (B5.2)			
64	F: ..... V: ..... T: .....	Item		
	Shop drawings (B5.3)			
65	F: ..... V: ..... T: .....	Item		
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**TEMPORARY WORKS AND PLANT (B6)**

Deposits and fees (B6.1)

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

Item

Enclosure of the works (B6.2)

The contractor shall erect, maintain and remove at completion, hoardings, safety screens, barriers, access gates, covered gangways and the like as necessary for the enclosure of the works and elements thereof all for the protection of the public and others.

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

Item

Advertising (B6.3)

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

Item

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	Plant and equipment (B6.4)		
69	F: ..... V: ..... T: ..... Main notice board (B6.5) One notice board shall be provided by the Contractor	Item	
70	F: ..... V: ..... T: ..... Subcontractors notice board (B6.6) (N/A)	Item	
71	F: ..... V: ..... T: ..... <b><u>TEMPORARY SERVICES (B7)</u></b> Location (B7.1)	Item	
72	F: ..... V: ..... T: ..... Water (B7.2) The contractor shall provide water for the works in accordance with: Alternative A (i.e. to be provided for by the Contractor).	Item	
73	F: ..... V: ..... T: ..... Electricity (B7.3) The contractor shall provide electricity for the works in accordance with: Alternative A (i.e. to be provided for by the Contractor).	Item	
74	F: ..... V: ..... T: ..... Telecommunication equipment (B7.4) The contractor shall provide telephones on site for the works in accordance with: Alternative A (i.e. to be provided for by the Contractor).	Item	
75	F: ..... V: ..... T: .....  <b>Carried to Collection</b>	Item	
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	Ablution facilities (B7.5)			
	The contractor shall provide toilet facilities on site for the works in accordance with:			
	Alternative A (i.e. to be provided for by the Contractor).			
76	F: ..... V: ..... T: .....	Item		
	<b><u>PRIME COST AMOUNTS (B8)</u></b>			
	Responsibility for prime cost amounts (B8.1)			
77	F: ..... V: ..... T: .....	Item		
	<b><u>ATTENDANCE ON N/S SUBCONTRACTORS (B9)</u></b>			
	General Attendance (B9.1)			
78	F: ..... V: ..... T: .....	Item		
	Special Attendance (B9.2)			
79	F: ..... V: ..... T: .....	Item		
	Commissioning - fuel, water and power (B9.3)			
80	F: ..... V: ..... T: .....	Item		
	<b><u>FINANCIAL ASPECTS (B10)</u></b>			
	Statutory taxes, duties and levies (B10.1)			
	Provision is made in the Final Summary of these Bills of Quantities for the inclusion of Value Added Tax (VAT).			
81	F: ..... V: ..... T: .....	Item		
	Payment of Preliminaries (B10.2)			
82	F: ..... V: ..... T: .....	Item		
	Adjustment of Preliminaries (B10.3)			
83	F: ..... V: ..... T: .....	Item		
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	Payment certificate cash flow (B10.4)			
84	F: ..... V: ..... T: .....	Item		
	Contractor information supply (B10.5)			
85	F: ..... V: ..... T: .....	Item		
	<b><u>GENERAL (B11)</u></b>			
	Protection of the Works (B11.1)			
86	F: ..... V: ..... T: .....	Item		
	Protection/isolation of existing/sectionally occupied works (B11.2)			
87	F: ..... V: ..... T: .....	Item		
	Site security (B11.3)			
88	F: ..... V: ..... T: .....	Item		
	Notice before covering work (B11.4)			
89	F: ..... V: ..... T: .....	Item		
	Disturbance (B11.5)			
90	F: ..... V: ..... T: .....	Item		
	Works cleaning and clearing (B11.6)			
91	F: ..... V: ..... T: .....	Item		
	Vermin (B11.7)			
92	F: ..... V: ..... T: .....	Item		
	Overhand work (B11.8)			
93	F: ..... V: ..... T: .....	Item		
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## **SECTION C: SPECIFIC PRELIMINARIES**

### **Section C: Specific Preliminaries:**

#### **C1. 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 manufacturer's instructions after consultation with the manufacturer's authorised representative.

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

Item

#### **C2. Trade Names, etc.**

All materials, fittings, finishings, etc., specified hereinafter under a trade name, catalogue number or reference, must be exactly as described. The Architect's approval in writing must be obtained for the use of any alternative to the specification before the submission of tenders otherwise the specified materials, fittings, finishings, etc., will be assumed to have been allowed for in the tender.

The Contractor must take delivery of, handle, store, use, apply and/or fix all proprietary branded products in strict accordance with the manufacturer's instructions after consultation with the manufacturer's authorised representative.

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

Item

#### **C3. Contractors responsibility**

The Employer, the Principal Agent and the other professional consultants shall not be 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 regulations. The Contractor shall at all times be responsible for any such neglect, deviation or wrong act, whether the same is discovered before or after the final certificate, or any other Certificate, has been approved.

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

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<p>C4. Overtime</p> <p>Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the contractor unless the principal agent has specifically authorised in writing, prior to the execution thereof, that costs for such overtime are to be borne by the employer.</p>			
<p>97 F: ..... V: ..... T: .....</p> <p>C5. As built drawings</p> <p>The position of construction breaks and the extent of individual concrete pours are to be recorded by the contractor on the structural engineer's drawings and are to be submitted to the principal agent and the structural engineer for their records.</p> <p>Three full sets of as-built drawings shall be submitted to the Principal Agent no later than fourteen days after practical completion.</p>	Item		
<p>98 F: ..... V: ..... T: .....</p> <p>C6. Construction Instructions</p> <p>Contract instructions issued on site are to be recorded in triplicate in a site instruction book which is to be maintained on site by the Contractor. The Contractor shall supply and have available at the site of the works at all times, the following site books:</p> <p>a) Construction Instruction Book:</p> <p>Receiving and recording instructions in a suitable A4 size triplicate book kept on site. Instructions issued shall be recorded by the Architect or other Employer's Agents to whom the Architect has delegated authority to in the book.</p> <p>Only instructions issued in such book shall be recognised.</p> <p>b) Daily Record Book:</p>	Item		
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	<p>The Contractor shall record in triplicate in a suitable A4 size triplicate book kept at the site, a daily record of work done, all site visits by the Principal Agent and other professional personnel and all events affecting the Works, such as progress, issue of plans, breakdown of machinery, etc. The labour, plant and material on site shall be recorded as well as work performed. Entries must be made by the Contractor and must be signed and forwarded to the Principal Agent for his counter-signature on a daily basis. Copies of these records shall be for the Architect, Quantity Surveyor and Contractor.</p>			
99	<p>F: ..... V: ..... T: .....</p> <p>C7. Labour record</p> <p>At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number and description of tradesmen and labourers employed by him and all subcontractors on the works each day.</p>	Item		
100	<p>F: ..... V: ..... T: .....</p> <p>C8. Plant record</p> <p>At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools, currently used on the works.</p>	Item		
101	<p>F: ..... V: ..... T: .....</p> <p>C9. Encroachment</p> <p>During the course of the building operations, the Contractor shall be held entirely responsible for any encroachment onto any adjoining properties, buildings, etc., or servitudes and the cost of any remedial measures as required by the Principal Agent shall be borne by the Contractor.</p>	Item		
102	<p>F: ..... V: ..... T: .....</p> <p>C10. Method Statement</p>	Item		
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	<p>The Tenderer shall produce, when required to do so by the Principal Agent, a Method Statement outlining the methods of construction and labour and plant resources that he proposes to use in the execution of the Works. Any approval given or observation made by the Principal Agent shall not relieve the Contractor of his sole responsibility to adopt the methods of construction and to provide the labour and plant resources necessary for the due and proper timeous execution of the Works.</p>			
103	<p>F: ..... V: ..... T: .....</p> <p>C11. Unauthorised Persons/Workmen on Premises</p> <p>The Contractor shall at all times strictly exclude all unauthorised persons from the Works and the site and shall set up notice boards to that effect.</p> <p>No workmen or labourers (except security guards) are to be allowed under any circumstances to sleep or deposit any kit on the premises. The Contractor must provide any necessary independent shelter or shed required for any labour or watchmen on site, to the approval of the Employer.</p>	Item		
104	<p>F: ..... V: ..... T: .....</p> <p>C12. Mode of Procedure</p> <p>Notwithstanding anything to the contrary contained herein the Principal Agent at all times reserves the right to direct the order in which the various parts of the Contract are to be executed. The Contractor shall give priority to any individual section or portion of the Works that, in the opinion of the Principal Agent, requires to be expedited.</p> <p>Should it appear, in the Principal Agent's opinion, that work in any area is not being executed in accordance with the requirements of the Contract Programme, the Contractor shall provide additional manpower and resources and shall work additional overtime and do everything else required to bring the work back to programme to the satisfaction of the Principal Agent and to the Contractor's cost.</p>	Item		
105	<p>F: ..... V: ..... T: .....</p>	Item		
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	<p>C13. Location of Temporary Buildings and Temporary Services</p> <p>The Contractor shall provide all necessary temporary works, including temporary roads, tracks, crossings, hardstanding and services, hoardings, dust screens, tunnelling, etc., required for his own and sub-contractors use during the construction and maintenance period.</p> <p>There is no guarantee given or implied that Site conditions will be such that the Contractor will be able to erect such temporary works, roads, hardhats, offices, stores and temporary accommodation within the site boundaries and it shall be the Contractor's responsibility to adopt whatever measures he deems necessary in this regard and to obtain all necessary permission and pay all costs in connection therewith.</p>			
106	<p>F: ..... V: ..... T: .....</p> <p><b><u>C14. Office accommodation</u></b></p> <p>The contractor shall provide, maintain and remove on practical completion air conditioned office accommodation with suitable tables and chairs for meetings to be held on the site. Such offices shall be kept clean and fit for use at all times [12.2.18]</p>	Item		
107	<p>F: ..... V: ..... T: .....</p> <p><b><u>C15. Storage Facilities</u></b></p>	Item		
108	<p>The Contractor shall provide a Container for storage of materials.</p>	Item		
109	<p>F: ..... V: ..... T: .....</p> <p>C16. Removal and Making Good of Temporary Works, etc, on Completion</p> <p>The Contractor shall remove (except where specifically stated otherwise) all temporary works, roads, services and the like used for this contract and shall make good to the entire satisfaction of the Principal Agent any damage resulting therefrom.</p>	Item		
110	<p>F: ..... V: ..... T: .....</p>	Item		
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111 SUB - TOTAL: FIXED ITEMS

Item

112 SUB - TOTAL: VALUE - RELATED ITEMS

Item

113 SUB - TOTAL: TIME - RELATED ITEMS

Item

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	<b><u>SECTION 1</u></b>			
	<b><u>BILL NO. 2</u></b>			
	<b><u>HEALTH AND SAFETY</u></b>			
	<b><u>MODEL PREAMBLES</u></b>			
	The tenderer is referred to the "Model Preambles for Trades 2008" for supplementary and comprehensive expansion of descriptions, appropriate provision for which shall be deemed to have been included in all relevant rates.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	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.			
	Prior to pricing the principal contractor must familiarize him/herself with the Occupational Health and Safety Act No. 85 Of 1993, Construction Regulations 2014, other relevant Regulations and Standards as well as project specific Health & Safety specifications.			
	The items in this Bill do not contain quantities hence the Contractor must insert his own quantities based on his individual requirements to comply with the Health and Safety obligations and demands of the Occupational Health and Safety Act No. 85 of 1993, Construction Regulations 2014, other relevant Regulations and Standards as well as project specific Health & Safety Specifications.			
	<b>Carried to Collection</b>		R	
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The costs included herein must incorporate Community Liaison Officer (CLO).

### **OCCUPATIONAL HEALTH AND SAFETY**

#### **General:**

- |   |  |      |
|---|--|------|
| 1 | Preparation of Contractor's site specific Health and Safety Plan.  | Item |
| 2 | Submission of the Health and Safety File.  | Item |
| 3 | Principal Contractor's initial obligations in respect of the OHS Act and Construction Regulations.   | Item |
| 4 | Principal Contractor's time related obligations in respect of the OHS Act and Construction Regulations for the entire construction period.   | Item |
| 5 | Provision of full time Health and Safety Officer for the entire construction period.   | Item |
| 6 | Induction training of personnel.   | Item |
| 7 | Provision of first aid boxes.  | Item |
| 8 | SANS approved weld mesh type temporary barrier fencing 1,8m high covered with a green 80 shed net fixed to and including 100mm diameter gum poles set securely min 300mm deep in ground at max 3m spacing including excavation, backfilling, etc | Item |
| 9 | Extra over mesh fence for pedestrian gate size 1.8 x 1,8m high.  | Item |

#### **Provision for Personal Protective Equipment and Protective Clothing:**

- |    |                       |      |
|----|-----------------------|------|
| 10 | Reflective vests.     | Item |
| 11 | Hard hats.            | Item |
| 12 | Protective foot wear. | Item |
| 13 | Ear Plugs.            | Item |

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<b><u>SECTION 2</u></b>			
<b><u>BILL NO. 1</u></b>			
<b><u>ALTERATIONS</u></b>			
<b><u>GENERAL NOTES</u></b>			
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 all shoring, needling, strutting, etc. to ensure stability			
Any water supply and other piping that may be encountered and which is found necessary to disconnect or cut shall, after such disconnection or cutting has been authorised by the Representative/Agent, be effectively stopped off			
<b><u>EXISTING BUILDINGS</u></b>			
The existing buildings will be in use and occupied during the progress of the contract and the Contractor will be required to carry out the works in such a manner as will least interfere with the occupants and with the minimum of disturbance			
<b><u>SIZE PERTAINING TO EXISTING WORK</u></b>			
The Contractor is advised to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the correctness of sizes of all new work. All sizes given in relation to existing work are approximate.			
<b><u>MAKING GOOD DAMAGED WORK</u></b>			
The Contractor shall make good in all trades to existing work where damaged or disturbed through the alterations with all necessary new materials to match the existing			
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**FORMING NEW OPENINGS OR ALTERING OPENINGS IN EXISTING WALLS**

Descriptions of forming new openings or altering openings in existing walls shall be deemed to include breaking out for and forming new brick, in-situ concrete or prestressed concrete lintels, including all reinforcement, formwork, turning pieces, etc.

**BUILDING UP OPENINGS**

Descriptions of building up existing openings where given in number shall be deemed to include preparing existing surfaces all around, brickwork properly toothed and bonded to existing, wedging up and making good on both sides as described

**PAINTWORK**

Where plasterwork on walls, ceilings, etc. are required to be patched or made good, prices are to include for the appropriate priming coat and one coat undercoat to receive paint finishing coats which are measured elsewhere

The contractor must protect all work not removed such as walls, floors, doors, windows, fittings, etc. from damage during the progress of the work and provide all necessary materials for doing so.

**PROCEDURE OF WORK**

The Representative/Agent reserves the right to direct the order in which the contract will be executed, should circumstances necessitate such action.

**LOSS BY THEFT, FIRE OR OTHERWISE**

The risk of loss, theft, fire, storm, riot or otherwise of the buildings to be demolished and the materials therein shall rest entirely with the contractor immediately upon the handing over of the site.

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### **WATER AND OTHER PIPING**

Any water supply or other piping that may be met with and found necessary to disconnect or cut are to be effectually stopped off or grubbed up and removed and any new connections that may be necessary and are to be made with proper fittings

### **ELECTRICAL AND OTHER SERVICES**

Special care is to be exercised not to unnecessarily interfere with any electric light, bell, power, telephone or other wires and fittings that may be met with and due notice must be given to the Architect.

The contractor must protect all work not removed such as walls, floors, doors, windows, fittings, etc. from damage during the progress of the work and provide all necessary materials for doing so.

### **OCCUPATION OF EXISTING BUILDINGS**

Tenderers are advised that the existing buildings will be in occupation during the building operations and due allowance must be made for the work being carried out in such a manner as will least interfere with the general routine of the occupants.

### **NOISE PREVENTION**

The contractor shall take special care to minimise noisy operations during business hours. Such measures will include, inter alia, the use of silent compressors and strict control of workmen.

The contractor shall demolish the portions of existing structures or buildings with a minimum amount of damage to adjoining buildings, materials, pavings, etc. Any damage caused is to be made good at his own expense with materials to match the existing.

### **ALTERATIONS TO OPENINGS**

Where the Contractor is required to form openings, alter openings or brick up openings in existing walls all brickwork shall be made good at jambs including properly bonding to existing. Brickwork in bricking up openings shall be wedged and pinned up

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**MAKING GOOD, ETC**

Prices are to include for making good in all trades to existing work, where damaged or disturbed through alterations, with all necessary new materials to match existing and leave complete and perfect in every respect.

**REMOVAL OF EXISTING WORK**

**Existing pit toilets**

- |   |   |    |    |
|---|---|----|----|
| 1 | Pit toilet structure (with 1 x toilet seats) built with sloping roof, 1500mm x 2000mm on plan and 2700mm high overall, comprising reinforced concrete surface bed, plastered brick walls timber roof and surrounding concrete apron 100mm thick including filling in existing pit to make all surfaces flush with the existing and surrounding ground level; including all necessary chemical treatment of demolished and backfilled pits according to specialist and manufacturer's requirements | No | 10 |
| 2 | Remove existing VIP 200 sit   | No | 3  |

**Breaking out and removing existing walkways**

- |   |                           |    |    |
|---|---------------------------|----|----|
| 3 | Concrete 50mm thick layer | m2 | 77 |
|---|---------------------------|----|----|

**REPAIR WORKS TO EXISTING**

**Repair work to existing concrete walkways**

- |   |  |    |     |
|---|--|----|-----|
| 4 | 80mm thick floor screed to existing walkways | m2 | 153 |
|---|--|----|-----|

**SUNDRIES**

- |   |  |    |    |
|---|--|----|----|
| 5 | Clean out pit latrine by desludging including removal of all debris and waste including solid waste as per Health and Safety requirements and make good on completion including disposing of all debris and waste at an authorised municipal waste disposal facility. Contractor to price per seat | No | 14 |
|---|--|----|----|

**Temporary toilet structures**

- |   |  |      |  |
|---|--|------|--|
| 6 | Allow for hire of temporary toilets for the learners and staff (2 Staff, 4 Female, 4 Male) | Item |  |
|---|--|------|--|

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Item No		Quantity	Rate	Amount
<b><u>SECTION 2</u></b>				
<b><u>BILL NO. 2</u></b>				
<b><u>IRONMONGERY</u></b>				
<b><u>MODEL PREAMBLES</u></b>				
<u>The tenderer is referred to the "Model Preambles for Trades 2008" for supplementary and comprehensive expansion of descriptions, appropriate provision for which shall be deemed to have been included in all relevant rates</u>				
<b><u>Satin Grey Plastics or equal approved</u></b>				
1	"Satin plastic N-SBIN-12-SA SHE Bin size 463 x 140 x 480mm, floor standing loose.	No	11	
<b><u>BOLTS:</u></b>				
2	50mm Alu/Metal holder bat to hold vent pipes against brick wall	No	56	
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BUILDING WORKS				
Bill No. 2				
IRONMONGERY				

Item No		Quantity	Rate	Amount
	<b><u>SECTION 2</u></b>  <b><u>BILL NO. 3</u></b>  <b><u>METALWAORK</u></b>  <b><u>MODEL PREAMBLES</u></b>  <u>The tenderer is referred to the "Model Preambles for Trades 2008" for supplementary and comprehensive expansion of descriptions, appropriate provision for which shall be deemed to have been included in all relevant rates</u>  <b><u>SUPPLEMENTARY PREAMBLES</u></b>  <u>The Contractor is to check and verify on site that the item specified in the BoQ matches existing prior to placing orders. Additional costs will not be borne by the client for items that do not match existing and are not approved by the Principal Agent</u>  <b><u>STEEL BALUSTRADING</u></b>  <b><u>GALVANISED STEEL BALUSTRADING</u></b>  <b><u>Welded balustrading to walkways</u></b>			
1	Raking balustrading 1000mm high, complete with 50mm diameter handrail, fixed to detail	m	55	
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Item No	Quantity	Rate	Amount
<b><u>SECTION 2</u></b>			
<b><u>BILL NO. 5</u></b>			
<b><u>PAINTWORK</u></b>			
<b><u>MODEL PREAMBLES</u></b>			
The tenderer is referred to the "Model Preambles for Trades 2008" for supplementary and comprehensive expansion of descriptions, appropriate provision for which shall be deemed to have been included in all relevant rates			
<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
<b><u>Trade Names</u></b>			
Where trade names are specified it will read "or equal approved"			
<b><u>Epoxy paint</u></b>			
The product and its methodology for application must be approved by Principal Agent before it is used.			
Contractor must prepare a 1m x 1m sample in the presence of the Principal Agent. In this case, the Contractor must give at least 48 hours notice prior to the date when the application of the epoxy paint is intended to be done.			
Contractor to provide a Letter of Compliance confirming that epoxy paint has been applied as per Manufacturer's instructions and data sheet. Proof of payment for the epoxy paint must be provided to the Principal Agent once approval has been granted.			
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PAINTWORK			



**PAINTWORK ETC TO NEW WORK**

**ON METAL SURFACES**

**One coat alkyd based zinc phosphate primer and two coats premium quality polyurethane enamel paint, on steel**

1	To steel balustrades (both sides measured)	m2	111
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 PAINTWORK

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PAINTWORK

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Item No		Quantity	Rate	Amount
	<b><u>SECTION 3</u></b>			
	<b><u>BILL NO. 1</u></b>			
	<b><u>WALKWAYS, RAMPS, ETC.</u></b>			
	<b><u>EXCAVATIONS</u></b>			
	<b><u>Excavation not exceeding 2m deep</u></b>			
1	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	34	
	<b><u>EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER</u></b>			
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
2	Soft rock (LI)	m3	8	
3	Hard rock (LI)	m3	4	
	<b><u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u></b>			
4	Off site to a dumping site to be found by the Contractor.	m3	34	
	<b><u>Risk of collapse of excavations</u></b>			
5	Sides of trench and hole excavations not exceeding 1,5m deep (LI)	m2	50	
	<b><u>Keeping excavations free of water</u></b>			
6	Keeping excavations free of water	Item		
	<b>Carried to Collection</b>			R
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	EXTERNAL WORKS (PROVISIONAL)			

	<b><u>Selected earth supplied by the Contractor including haulage (material to comply with Pi &lt; 10 GM = 1.2)</u></b>				
7	Over site of Selected Subgrade G7 material in accordance with SABS 1200 DM in layers not exceeding 150mm thick and compacted to 95% Mod AASHTO density.	m3	19		
	<b><u>Rip and Re - compact insitu material on site compacted to 93% Mod. AASHTO density:</u></b>				
8	Under floors, etc.	m2	77		
	<b><u>Approved brand of anti-termite soil poison applied by a Registered Pest Control Company and guaranteed against termite infestation for ten years:</u></b>				
9	Treat filling under paving with 'Chlordane Heptachlor Aldrin' or equal approved.	m2	77		
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>				
	<b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>				
	<b><u>25 Mpa/19mm Concrete</u></b>				
10	Walkway	m3	8		
	<b><u>Reinforcement (Provisional)</u></b>				
11	REF. 395 fabric reinforcement in concrete infill, strip footings.	m2	77		
	<b><u>Test blocks:</u></b>				
12	Making and testing of 150x150x150mm concrete strength test cubes (Provisional).	No	1		
	<b><u>Expansion joints with bitumen impregnated softboard between vertical concrete or brick surfaces:</u></b>				
13	12mm Joints not exceeding 300mm high.	m	17		
	<b>Carried to Collection</b>			R	
	EXTERNAL WORKS				
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	EXTERNAL WORKS (PROVISIONAL)				

	<b><u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u></b>				
14	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	17		
	<b><u>Waterproofing under Surface beds</u></b>				
15	350 Micron USB orange polyethylene dampproof membrane in accordance with SABS 952 Type C laid on sand bed (elsewhere measured).	m2	77		
	<b><u>ONE BRICK WALL (GARDEN WALL)</u></b>				
	<b><u>EXCAVATIONS</u></b>				
	<b><u>Excavation in earth not exceeding 2m deep:</u></b>				
16	Trenches.	m3	52		
	<b><u>EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER</u></b>				
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>				
17	Soft rock (LI)	m3	5		
18	Hard rock (LI)	m3	3		
	<b><u>Extra over all excavations for carting away:</u></b>				
19	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	10		
	<b><u>Risk of collapse of excavations:</u></b>				
20	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	206		
	<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u></b>				
21	Backfilling to trenches, holes, etc.	m3	15		
	<b>Carried to Collection</b>			R	
	EXTERNAL WORKS				
	Bill No. 1				
	EXTERNAL WORKS (PROVISIONAL)				

	<u>Earth filling (G7 material) supplied by the contractor in layers not exceeding 150mm thick and compacted to 98% Mod AASHTO density:</u>			
22	Under floors	m3	22	
	<u>Compaction of surfaces</u>			
23	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density.	m2	38	
	<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>25 Mpa/19mm Concrete</u>			
24	Strip footings.	m3	17	
	<u>Reinforcement (Provisional)</u>			
25	REF. 395 fabric reinforcement in concrete infill, strip footings.	m2	38	
	<u>MASONRY</u>			
	<u>BRICKWORK IN FOUNDATIONS.</u>			
	<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class I mortar:</u>			
26	One brick walls.	m2	52	
	<u>BRICKWORK IN SUPERSTRUCTURE</u>			
	<u>FACE BRICK</u>			
	<b>Carried to Collection</b>			R
	EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS (PROVISIONAL)			

	<b><u>"Rustgold FBS" clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones</u></b> <b><u>1-2:</u></b>				
27	One brickwall faced on both sides.	m2	86		
	<b><u>Brick-on-edge header course copings, sills, etc. of "Rustgold FBS" or equal approved face bricks pointed with recessed joints on all exposed faces, 220mm wide sill set sloping and slightly projecting:</u></b>				
28	230mm wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	172		
	<b><u>Brickwork reinforcement:</u></b>				
29	230mm Wide reinforcement built in horizontally.	m	506		
30	Ditto but in foundations.	m	304		
	<b><u>RETAINING WALLS, ETC.</u></b>				
	<b><u>EXCAVATIONS</u></b>				
	<b><u>Excavation in earth not exceeding 2m deep</u></b>				
31	Trenches.	m3	23		
	<b><u>EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER</u></b>				
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>				
32	Soft rock (LI)	m3	2		
33	Hard rock (LI)	m3	1		
	<b><u>Extra over all excavations for carting away:</u></b>				
34	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	23		
	<b>Carried to Collection</b>			R	
	EXTERNAL WORKS				
	Bill No. 1				
	EXTERNAL WORKS (PROVISIONAL)				



	<b><u>Risk of collapse of excavations:</u></b>				
35	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	77		
	<b><u>Keeping excavations free of water:</u></b>				
36	Keeping excavations free of all water other than subterranean water.		Item		
	<b><u>Filling with approved clean, hard, dry, decomposed dolerite filling supplied and carted onto site by the Contractor, compacted to a density of at least 9% Mod. AASHTO maximum density:</u></b>				
37	Behind walls with selected backfilling supplied by the Contractor compacted to 98% Mod ASSHTO density	m3	13		
	<b><u>Compaction of surfaces</u></b>				
38	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density.	m2	38		
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>				
	<b><u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>				
	<b><u>15Mpa/19mm Concrete</u></b>				
39	Surface blinding under footings and bases	m3	2		
	<b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>				
	<b><u>30Mpa/19mm Concrete</u></b>				
40	Strip footings.	m3	10		
	<b>Carried to Collection</b>			R	
	EXTERNAL WORKS				
	Bill No. 1				
	EXTERNAL WORKS (PROVISIONAL)				

<b><u>Test blocks:</u></b>				
41	Making and testing set of three 150 x 150 x 150mm concrete strength test cubes	No	2	
<b><u>Fabric reinforcement:</u></b>				
42	REF. 395 fabric reinforcement in concrete infill, strip footings.	m2	38	
<b><u>MASONRY</u></b>				
<b><u>BRICKWORK IN FOUNDATIONS.</u></b>				
<b><u>Brickwork of NFX bricks (14 Mpa nominal compressive strength) in Class I mortar:</u></b>				
43	One brick walls.	m2	19	
<b><u>BRICKWORK IN SUPERSTRUCTURE</u></b>				
<b><u>FACE BRICK</u></b>				
<b><u>"Rustgold FBS/Qunu Travertine" clay face brick or equal approved, size 222 x 106 x 73mm, bedded and jointed in Class II mortar and pointed with recessed vertical and recessed horizontal joints, suitable for exposure zones 1-2:</u></b>				
44	One brickwall faced on both sides.	m2	32	
<b><u>Brick-on-edge header course copings, sills, etc, of "Rustgold FBS/Qunu Travertine" or equal Architect approved clay face brick size 222 x 106 x 73mm, pointed with recessed joints on all exposed faces:</u></b>				
45	220mm Wide header course to top of one brick wall bedded and jointed in cement mortar and pointed on top and both sides as described.	m	64	
<b><u>Brickwork reinforcement:</u></b>				
46	230mm wide reinforcement built in horizontally.	m	188	
47	Ditto but in foundations.	m	113	
<b>Carried to Collection</b>				R
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EXTERNAL WORKS (PROVISIONAL)				

## **STORMWATER APRONS**

### **EXCAVATIONS**

#### **Excavation in earth not exceeding 2m deep**

48	In Aprons	m3	18
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#### **Extra over all excavations for carting away:**

49	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	18
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#### **Filling supplied by the contractor under concrete pavement, etc**

50	G7 Base course material compacted to 98% Mod AASHTO density	m3	11
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#### **Coarse river sand filling supplied by the contractor:**

51	Under floors etc.	m3	4
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#### **Compaction of surfaces:**

52	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density.	m2	71
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#### **Reinforced 25Mpa/19mm Concrete:**

53	Surface beds cast in panels on waterproofing.	m3	6
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#### **Finishing top surfaces of concrete smooth with a wood float:**

54	Surface beds, slabs, etc to falls and currents.	m2	71
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#### **Test blocks:**

55	Making and testing set of three 150x150x150mm concrete strength test cubes.	No	1
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<b><u>Expansion joints with bitumen impregnated softboard between vertical concrete or brick surfaces:</u></b>			
56	12mm Joints not exceeding 300mm high.	m	17
<b><u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u></b>			
57	10 x 12mm In movement joints in floors or walls including raking out expansion joint filler as necessary.	m	17
<b><u>Fabric reinforcement:</u></b>			
58	REF. 395 fabric reinforcement in concrete surface beds, slabs, etc.	m2	71
<b><u>Waterproofing under Surface beds</u></b>			
59	350 Micron USB orange polyethylene dampproof membrane in accordance with SABS 952 Type C laid on sand bed (elsewhere measured).	m2	71
<b><u>STORMWATER CHANNELS</u></b>			
<b><u>Excavation not exceeding 2m deep</u></b>			
60	Reducing levels and depositing excavated material in prescribed stock piles on site.	m3	41
<b><u>Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):</u></b>			
61	Off site to a dumping site to be found by the Contractor.	m3	41
<b><u>Filling supplied by the contractor under channels</u></b>			
62	G7 Base course material compacted to 98% Mod AASHTO density	m3	16
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	<p><b><u>Cast in-situ Ref 395 mesh reinforced concrete (25MPa)</u></b>  <b><u>open stormwater channels having V-shaped waterway</u></b>  <b><u>formed in top, finished smooth on all exposed surfaces in 3:1 cement plaster trowelled smooth and with angles rounded, cast in suitable lengths not exceeding 1.8m, including all formwork, moulds, shallow excavation, filling and ramming, laying to falls, bedding and pointing in 3:1 cement mortar.</u></b>  <b><u>Concrete apron to be tinted, colour to be specified by the Engineer.</u></b></p>			
63	700 x 150mm V' channel 75mm deep in centre laid in position in ground in 1800mm sections including ramming, trimming, formwork, reinforcement, expansion joints, floating etc.	m	156	
64	Extra for 700mm angle	No	13	
	<b><u>SUB-SOIL DRAINAGE, ETC.</u></b>			
	<b><u>Site Clearance, ETC</u></b>			
65	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	116	
	<b><u>EXCAVATIONS</u></b>			
	<b><u>Excavation in earth not exceeding 2m deep:</u></b>			
66	Trenches.	m3	231	
	<b><u>EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER</u></b>			
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
67	Soft rock (LI)	m3	23	
68	Hard rock (LI)	m3	12	
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<b><u>Extra over all excavations for carting away:</u></b>			
69	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor.	m3	154
<b><u>Risk of collapse of excavations:</u></b>			
70	Sides of trench and hole excavations not exceeding 1,5m deep.	m2	308
<b><u>Filling supplied by the contractor under channels</u></b>			
71	G7 Base course material compacted to 98% Mod AASHTO density	m3	116
<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% MOD AASHTO density:</u></b>			
72	Backfilling to trenches, holes, etc.	m3	85
<b><u>Earth filling 300 x 300mm section of 20mm thick stone material surrounding 110mm uPVC pipe, supplied by the contractor compacted to 98% Mod AASHTO density:</u></b>			
73	20mm Stone.	m3	21
<b><u>Membrane</u></b>			
74	""Geofabric filter blanket wrapped around stone with 150mm side and 300mm end laps, including stitching.	m2	92
<b><u>Keeping excavations free of water:</u></b>			
75	Keeping excavations free from mud and all water including subterranean sources.		Item
<b><u>Compaction of surfaces</u></b>			
76	Compaction of ground surface under floors, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density.	m2	116
<b>Carried to Collection</b>			R
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**SOIL DRAINAGE**

**110mm Diameter slotted/perforated HDPE subsoil pipe surrounded with 300 x 300mm section of 20mm stone wrapped in A3 geotextile material.**

77	110mm slotted/perforated pipe.	m	77
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**Extra for:**

78	110mm Tee.	No	15
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79	110mm Y junction.	No	13
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**110mm Diameter solid wall HDPE subsoil pipe surrounded with 300 x 300mm section of 20mm stone wrapped in A3 geotextile material.**

80	110mm solid wall HDPE pipe.	m	75
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**Extra for:**

81	110mm Tee.	No	13
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82	110mm Y junction.	No	13
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**HEADWALLS**

**EXCAVATIONS**

**Excavation in earth not exceeding 2m deep:**

83	Excavation not exceeding 2m deep	m3	48
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**EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER**

**Extra over trench and hole excavations in earth for excavation in**

84	Soft rock (LI)	m3	5
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85	Hard rock (LI)	m3	2
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86	Risk of collapse not exceeding 1.5m deep	m2	269
87	Keeping excavations free from water		Item
88	Carting away surplus excavated material	m3	48
89	150mm layer of G7 material compacted to 95% MOD AASHTO under Concrete slab.	m3	32
90	25Mpa/19mm Reinforced concrete in bottom slabs and footings.	m3	41
91	Formwork to edges, risers, ends and reveals not exceeding 300mm wide or high.	m	338
92	Weld Mesh Ref 193 in Concrete bottom slab.	m2	107
93	One brick wall of 14 MPa NFX bricks.	m2	44
94	230mm Wide reinforcement built in horizontally.	m	229
95	Plaster on brick walls.	m2	88
96	Gabion and reno mattress (1000mm wide x 300mm deep) comprising of 20 to 30mm stones wrapped in A3 geotextile with voids filled with 1:3 cement/sand mortar.	m2	99

### **PERIMETER FENCING**

Installation of all fences shall be in accordance with the manufacturer's instructions. Any deviation from the recommended installation instructions shall be corrected at the contractor's cost

The installed fence shall include a minimum of 10-year warranty

#### **Site clearance**

97	Allow for clearing site for the width of 1 000 mm where fencing is to be erected including removing trees, shrubs etc. not exceeding 200 mm girth, grubbing up roots and roughly levelling.	m2	397
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### **EXCAVATIONS**

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	<b><u>Excavate for bases for fence poles depth not exceeding 1,5m</u></b>			
98	For bases	m3	11	
	<b><u>EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER</u></b>			
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>			
99	Soft rock	m3	1	
100	Hard rock	m3	1	
	<b><u>Earth obtained from the excavations compacted to 95% MOD AASHTO density</u></b>			
101	Backfilling to trenches and holes compacted in 150 mm layers to 95% Mod AASHTO density	m3	11	
	<b><u>Extra over all excavations for carting away</u></b>			
102	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	11	
	<b><u>Risk of collapse of excavations</u></b>			
103	Sides of trench and hole excavations not exceeding 1,5m deep	m2	42	
	<b><u>Soil insecticide in accordance with SANS 5859</u></b>			
104	To bottoms and sides of trenches etc	m2	16	
	<b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>			
	<b><u>30MPa/19mm concrete</u></b>			
105	Bases	m3	11	
	<b><u>FENCES, GATES ETC</u></b>			
	<b>Carried to Collection</b>			R
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**Supply and install security fencing by specialist in accordance with the manufacturer's specification including posts; all fence and posts to be hot dipped galvanized and then powder coated as per the manufacturer's guidelines**

**Straining wires, fencing and razor wire:**

106	Four strands of 4mm Class'A' galvanised straining wires secured to fencing posts with doubled 2 mm galvanised wire inserted through hole in post and turned a minimum of four turns around straining wire and attached to straining frame at one end with not less than four turns at the other end to straining bolts (elsewhere measured).	m	265
107	3 Strands of galvanised barbed wire tied to standards, posts and eye bolts	m	265
108	Fencing formed of 50 x 50 x 2.0mm diameter galvanised fencing 1 800mm high and fixed to each straining wire with 8 guage binding wire at 500mm centres including Y12 pegs at 900mm c/c between posts (straining wires elsewhere measured).	m	265

**Posts for 1 800mm high security fence:**

109	60mm Diameter galvanised steel intermediate fencing post 1800mm long fitted with a pressed steel mushroom cap one end and 150 x 150 x 5 mm baseplate at bottom and embedded in and including 350 x 350 x 600 mm mass concrete (15 MPa) base.	No	22
110	100mm Ditto as corner post, fitted with two 50mm diameter galvanised steel stay set raking and with top end flattened and bolted through post, with post and stay both embedded in mass concrete (15 MPa) bases as last.	No	4
111	75mm Ditto as intermediate post - 1 dropper every 3000mm between standard posts	No	88
112	150mm Ditto as gate post 1 800mm long, fitted with two 50mm diameter galvanised steel stay set raking and with top end flattened and bolted through post, with post and stay both embedded in mass concrete (15 MPa) bases as last. (else where measured)	No	6

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3	EXTERNAL WORKS	60	
	Sub Total A	R	
	Allow a sum of R25 000.00 (Twenty Five Thousand Rands) for the Community Liaison Officer	Item	25 000.00
	Sub Total B	R	
	Add a Contingency sum of 5%	R	
	Sub Total C	R	
	Add Value Added Tax @ 15% of Subtotal 'C'	R	
	Carried to Cluster Summary	R	