

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 1</u></b></p> <p><b><u>PRELIMINARY AND GENERAL (Applicable to the whole of the Works)</u></b></p> <p><b><u>(CPAP WORK GROUP NO. 190 UNLESS OTHERWISE STATED)</u></b></p> <p><b><u>PRELIMINARIES NOTES</u></b></p> <p><b><u>BUILDING AGREEMENT AND PRELIMINARIES</u></b></p> <p>The JBCC Series 2000 Principal Building Agreement (March 2005 edition 4.1) prepared by the Joint Building Contract Committee shall be the applicable building agreement, amended as hereinafter described.</p> <p>The ASAQS Preliminaries (November 2007 edition) published by the Association of South African Quantity Surveyors for use with the said JBCC Principal Building Agreement shall be deemed to be incorporated in these bills of quantities.</p> <p>Contractors are referred to the above mentioned documents for the full intent and meaning of each clause thereof.</p> <p>These clauses are hereinafter referred to by clause number and heading only. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the above mentioned documents.</p> <p>Where any item is not relevant to this specific contract such item is marked N/A, signifying "not applicable".</p>			
	Carried Forward		R	
	Bill No. 1 Preliminaries			

Brought Forward

R

### **PREAMBLES FOR TRADES**

The Model Preambles for Trades (2008 Edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claim arising from brevity of description of items fully described in the said Model Preambles will be entertained

Supplementary preambles are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the said Model Preambles

The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any Supplementary Preambles.

### **PRICING OF PRELIMINARIES**

Pricing of Preliminaries:

Should the contractor select Option A in terms of clause 10.3 for the purpose of adjustment of these preliminaries, the amount entered in the amount column in these preliminaries is to be divided into one or more of the three categories provided namely Fixed (F), Value Related (V) and Time Related (T)

### **SECTION A - PRINCIPAL BUILDING AGREEMENT**

Carried Forward

R

Bill No. 1  
Preliminaries

**Brought Forward**

R

**Definitions**

1 Clause 1.0 - Definitions and interpretation

Clause 1.1 is amended as follows:

Replace the following definitions in **DEFINITIONS AND INTERPRETATIONS** with the following wording:

**CORRUPT PRACTICE** means the offering, giving, receiving and soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution

**FRAUDULENT PRACTICE** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer, and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition.

**INTEREST** means the interest rates applicable to this contract, whether specifically indicated in the relevant clauses or not, will be the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999).

**SECURITY** means the form of security provided by the **employer** or **contractor**, as stated in the **schedule**, from which the **contractor** or **employer** may recover expense or loss.

Clause 1.6 is amended as follows:

Any notice given may be delivered by hand, sent by prepaid registered post or telefax. Notice shall be presumed to have been duly given when:

Delete sub-clause 1.6.4

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

T:.....

Item

**Carried Forward**

R

Bill No. 1  
Preliminaries

Brought Forward		R
<b><u>Objective and preparations</u></b>		
2	<p>Clause 2.0 - Offer acceptance and performance obligations</p> <p>F:..... V:..... T:.....</p>	Item
3	<p>Clause 3.0 - Documents</p> <p>Clause 3.1 is hereby deleted and no payment guarantee will thus be provided by the employer.</p> <p>Delete sub-clause 3.5</p> <p>Delete sub-clause 3.6</p> <p>Add to end of clause 3.7</p> <p>The contractor shall supply and keep a copy of the JBCC Series 2000 Principal Building Agreement and Preliminaries applicable to this contract on the site, to which the employer, principal agent and agents shall have access at all times.</p> <p>Delete sub-clause 3.9</p> <p>Amend clause 3.9 as follows:</p> <p>Replace the second reference to "principal agent" with the word employer.</p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
Bill No. 1 Preliminaries		

Brought Forward		R
4	<p>Clause 4.0 - Design responsibility</p> <p>The following new sub clause is hereby added to this clause:</p> <p>4.4 Notwithstanding the provisions of 4.2 the contractor shall ensure that every such nominated or selected sub contractor shall simultaneously with the signing of the relevant nominated or selected sub contractor sign and deliver to the employer a design materials and workmanship warranty and undertaking in favour of the employer or a materials and workmanship warranty and undertaking strictly in accordance with the instructions or provisions contained in the tender documents for the nominated or selected subcontract work.</p> <p>F:..... V:..... T:.....</p>	Item
5	<p>Clause 5.0 - Employer's agents</p> <p>Clause 5.1 is amended as follows:</p> <p>The employer has retained its authority and has not given a mandate to the principal agent and in terms of which the employer shall sign all documents</p> <p>F:..... V:..... T:.....</p>	Item
6	<p>Clause 6.0 - Contractor's site representative</p> <p>F:..... V:..... T:.....</p>	Item
7	<p>Clause 7.0 - Compliance with laws and regulations</p> <p>F: ..... V:..... T:.....</p>	Item
Carried Forward		R
<p>Bill No. 1 Preliminaries</p>		

	<p style="text-align: center;"><b>Brought Forward</b></p> <p>Without limiting the generality of the provisions of clause 7.0, the contractor's attention is drawn to the provisions of the Construction Regulation 2014 issued in terms of the Occupational Health and Safety Act, 1993. It is specifically stated that the employer shall prepare a documented health and safety specification for the works and that the employer shall ensure that the contractor has made provision for the cost of health and safety measures during the execution of the works. The contractor shall price opposite this item for compliance with the act and the regulations and the reasonable provisions of the aforementioned health and safety specifications.</p> <p>8    Clause 8.0 - Works risk</p> <p>F:..... V:..... T:.....</p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">Item</p>	<p>R</p>	
--	--	---	----------	--

	Brought Forward		R
9	<p>Clause 9.0 - Indemnities</p> <p>Clause 90 is amended by adding Clause 9.1.4 as follows:</p> <p>The contractor indemnifies and holds harmless the employer against all liability, losses, claims, damages, penalties, actions, proceedings or judgements (collectively referred to as "Losses") arising from any infringement of letters, patent design, trademark, name, copyright or other protected rights in respect of any machine, plant, work, materials, thing, system or method of using, fixing, working or arrangement used or fixed or supplied by the contractor, but such indemnity shall not cover any use of the equipment of part thereof otherwise than in accordance with provisions of the specification. All payments and royalties payable in one sum or by instalments or otherwise shall be included by the contractor in the price and shall be paid by him to those to whom they may be payable. The contractor shall reimburse the employer for all legal and other costs and expenses, including without limitation attorneys fees on attorney-client scale incurred by the employer in connection with investigation, defending or settling any losses in connection with pending or threatening litigation in which the employer is a party.</p> <p>F:..... V:..... T:.....</p>	Item	
10	<p>Clause 10.0 - Work insurances</p> <p>Clause 10.0 is amended by adding Clause 10.5 as follows:</p> <p><b>Damage to the works</b></p> <p>a) Without any way limiting the contractors obligations in terms of the contract, the contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary.</p> <p>b) The contractor shall at all times proceed immediately</p>		
	Carried Forward		R
	<p>Bill No. 1 Preliminaries</p>		

<p style="text-align: center;"><b>Brought Forward</b></p> <p>to remove or dispose of any debris arising from damage or destruction of the works and to rebuild, restore, replace and/or repair the works.</p> <p>c) The employer shall carry the risk of damage to or destruction of the works and materials paid for by the employer that is the result of the expected risks as set out in 10.6</p> <p>d) Where the employer bears the risk in terms of this contract, the contractor shall, if requested to do so, reinstate any damage or destroyed portions of the works and the costs of such reinstatement shall be measured and valued in terms of 32.0 hereof.</p> <p>Add the following as 10.6</p> <p><b>Injury to Persons or loss of or damage to Properties</b></p> <p>a) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable.</p> <p>b) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding consequent upon loss or damage or to any moveable, or immoveable property or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person, arising out of or in the course of or by reason of the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable.</p> <p>c) The contractor shall upon receiving a contract instruction from the principal agent cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the employer shall be entitled to cause it to be made good and to recover the costs therefore from the contractor or to deduct the same from amounts due to the contractor.</p> <p>d) The contractor shall be responsible for the protection and safety of such portions of the premises placed</p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p>
	R



**Brought Forward**

under his control by the employer for the purpose of executing the works until the issue of the certificate of practical completion

e) Where the execution of the works involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the contractor shall obtain adequate insurance and will remain adequately insured or insured to the specific limit stated in the contract against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the works has been completed.

f) The contractor shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and / or repair such property and to execute the works.

Add the following as 10.7

**High Risk Insurance**

In the event of the project being executed in a geological area classified as a "High Risk Area" that is an area which is subject to highly unstable subsurface conditions which might result in catastrophic ground movement evident by sink hole or dolomite formation the following will apply:

**10.7.1 Damage to the works**

The contractor shall, from the commencement date of the works until the date of the certificate of practical completion, bear the full risk of and hereby indemnifies and hold harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary.

When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, replace and/or repair the works, at the contractors own costs.

**Carried Forward**

Bill No. 1  
Preliminaries

R

R

<p style="text-align: center;"><b>Brought Forward</b></p> <p><b>10.7.2 Injury to persons or loss of or damage to property</b></p> <p>The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above.</p> <p>The <b>contractor</b> shall be liable for and hereby indemnifies the <b>employer</b> against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable property or property contiguous to the <b>site</b>, whether belonging to or under the control of the <b>employer</b> or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of construction.</p> <p>10.7.3 It is the responsibility of the <b>contractor</b> to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the <b>contractor's</b> obligations in terms of the contract, the <b>contractor</b> shall, within twenty one (21) <b>calendar days</b> of the <b>commencement date</b> but before commencement of the <b>works</b> submit to the <b>employer</b> proof of such insurance policy, if requested to do so.</p> <p>10.7.4 The <b>employer</b> shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred subsequent upon the <b>contractor's</b> default of his obligations as set out in 10.7.1, 10.7.2 and 10.7.3. Such losses or damages may be recovered from the <b>contractor</b> or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the <b>employer</b> and the <b>contractor</b> and for this purpose all these contracts shall be considered one indivisible whole.</p> <p>F: ..... V: ..... T: .....</p>		R	
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	Item	R	

Brought Forward			R
11	<p>Clause 11.0 - Liability insurances</p> <p>F:..... V:..... T:.....</p>	Item	
12	<p>Clause 12.0 - Effecting insurances</p> <p>F:..... V:..... T:.....</p>	Item	
13	<p>Clause 13.0 - Assignment</p> <p>F:..... V:..... T:.....</p>	Item	
14	<p>Clause 14.0 - Security</p> <p>F:..... V:..... T:.....</p> <p><b>Execution</b></p> <p>Clause 15.0 - Preparation for and execution of the works</p> <p>Clause 15 is amended by adding clause 15.1.4 as follows:</p> <p>An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within fourteen (14) <b>calendar days</b> of date of acceptance of the tender.</p> <p>Amend clause 15.2.1 as follows:</p> <p>Give the <b>contractor</b> possession of the <b>site</b> within ten (10) <b>working days</b> of the <b>contractor</b> complying with the terms of 15.1</p> <p>F:..... V:..... T:.....</p>	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

Brought Forward		R
16	<p>Clause 16.0 - Site and access</p> <p>Clause 16.7 - <i>Known services</i></p> <p>Clause 16.8 - <i>Protection of trees</i></p> <p>F:..... V:..... T:.....</p>	Item
17	<p>Clause 17.0 - Contract instructions</p> <p>F:..... V:..... T:.....</p>	Item
18	<p>Clause 18.0 - Setting out of the works</p> <p>The following new sub clause is hereby added to this clause:</p> <p>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.</p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
<p>Bill No. 1 Preliminaries</p>		

	Brought Forward		R	
19	<p>Clause 19.0 - Temporary works and plant</p> <p>Sub-clause 19.1.1 - Enclosure of the works</p> <p>The contractor is to hoard of the working area of the site in such a manner with 18mm thick shutter ply on timber supports as to not allow access to the site and maintain there health and safety at all times.</p> <p>Sub-clause 19.1.2 - Office accommodation The following to be added to sub clause 19.1.2</p> <p>The Contractor shall provide, maintain and remove on the completion a complex of offices and other accommodation as listed hereunder:</p> <p>One number (1) Boardroom/Office to be electrified and air-conditioned to accommodate 20 people, including boardroom table and appropriate seating, pinning boards, adequate drawing racks / filling systems and a white board size 2.0 x 1.5m high. The boardroom / office to have adequate plug points as well as fax, photocopying, printing and e-mail facilities.</p> <p>Clause 19.2 - <i>Notice boards</i></p> <p>The following shall be added to sub clause 19.2</p> <p>Main Notice Board - One main notice boards shall be provided as per the SAIA standard details.</p> <p>F:..... V:..... T: .....</p>	Item		
	<p>Carried Forward</p> <p>Bill No. 1 Preliminaries</p>		R	

	<b>Brought Forward</b>		R	
20	<p>Clause 20.0 - Nominated subcontractors</p> <p>Clause 20 is amended as follows:</p> <p>Delete clause 20.1.3</p> <p>F:..... V:..... T:.....</p>	Item		
21	<p>Clause 21.0 - Selected subcontractors</p> <p>Clause 21 is amended as follows:</p> <p>Replace sub-clauses 21.1.2 to 21.1.4 and 21.2 to 21.6 with the following:</p> <p>The <b>contractor</b> and <b>principal agent</b> shall appoint a <b>selected subcontractor</b> in accordance with the provisions of the Scope of Work.</p> <p>F:..... V:..... T:.....</p>	Item		
22	<p>Clause 22.0 - Employer's direct contractors</p> <p>F:..... V:..... T:.....</p>	Item		
23	<p>Clause 23.0 - Contractor's domestic subcontractors</p> <p>F:..... V:..... T:.....</p>	Item		
	<b>Carried Forward</b>		R	
	<p>Bill No. 1 Preliminaries</p>			

Brought Forward		R
<b><u>Completion</u></b>		
24	<p>Clause 24.0 - Practical completion</p> <p>The contractor shall not receive any mark-up for overheads and profit on any omission of work by others directly appointed by the client. Claims of loss of profit shall not be entertained</p> <p>F:..... V:..... T:.....</p>	Item
25	<p>Clause 25.0 - Works completion</p> <p>F:..... V:..... T:.....</p>	Item
26	<p>Clause 26.0 - Final completion</p> <p>F:..... V:..... T:.....</p>	Item
27	<p>Clause 27.0 - Latent defects liability period</p> <p>F:..... V:..... T:.....</p>	Item
28	<p>Clause 28.0 - Sectional completion</p> <p>F:..... V:..... T:.....</p>	Item
29	<p>Clause 29.0 - Revision of date for practical completion</p> <p>Clause 29.0 is amended by as follows:</p> <p>Sub clause 29.1.1 is hereby deleted and substituted by the following:</p> <p>Exceptionally inclement weather, which shall only relate to weather with a degree of inclemency which is materially greater than or is materially beyond the average inclemency experienced in the past five years and / or recorded in terms of available records or otherwise, at or for the area in which the site is situated for the periods in question. Any revision of date for practical completion which may, in terms of this clause</p>	
Carried Forward		R
Bill No. 1 Preliminaries		

**Brought Forward**

be allowed for exceptionally inclement weather, shall be related only to those periods of exceptionally inclement weather by which the average periods of time, during which exceptionally inclement weather is experienced and/or recorded in the area in which the site is situated is exceeded. The contractor is therefore to make allowance for normal vagaries of the weather.

The removal and replacement of materials and/or workmanship which do not conform to specification or drawing shall not constitute grounds for the extension of the construction period nor for the adjustment of the contract value (Clause 29.3)

The addition of the following clauses:

Clause 29.9

"Revision to the date for **practical completion** shall only be considered when work on the critical path of the agreed programme for the works is delayed."

Clause 29.10 - Acceleration

Clause 29.10.1

Irrespective of whether or not the **principal agent** rules that the **contractor** is entitled to an extension of time or a revision of the date for **practical completion**, the **principal agent** shall nevertheless, at any time, be entitled to instruct the **contractor** in writing to accelerate the progress of the remaining **works** to ensure that the **works** are completed by the original date for **practical completion** or revised date as the case may be.

Clause 29.10.2

Upon receipt of such instruction, the **contractor** shall take all necessary steps to ensure that the **works** are completed timeously including the provision by him of additional resources, plant, manpower, etc and the working overtime or additional overtime beyond that contemplated at the time of tender (at all times adhering to the regulations and requirements of all authorities) and by all other adequate and proper means and methods. The **contractor** shall prove that such

**Carried Forward**

Bill No. 1  
Preliminaries

R

R



**Brought Forward**

steps are being taken if called upon to do so.

Clause 29.10.3

The **contractor's** entitlement to compensation arising out of or in respect of any revision to the date for **practical completion** that may have been granted by the **principal agent** or alternatively where the **principal agent** has instructed the **contractor** to accelerate, shall be adjudicated strictly in terms of clause 32.

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

Item

30 Clause 30.0 - Penalty for late or non-completion

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

Item

**Carried Forward**

Bill No. 1  
Preliminaries

R

R

Brought Forward		R
<b><u>Payment</u></b>		
31	<p>Clause 31.0 - Interim payment</p> <p>The inclusion of materials and goods stored off site in the amount authorised for payment in terms of clause 31.4 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. Clause 31.6.5 is therefore not applicable</p> <p>Materials and goods stored off site shall not be included in the amount authorised for payment, unless authorised by the Principal Agent.</p> <p>Sub clause 31.9 is hereby amended by the substitution of the words seven "(7) calender days" in the first line by the words "thirty (30) calender days".</p> <p>Sub clause 31.10 is hereby amended by the substitution of the words "practical completion" in the second and fourth lines by the words "final completion".</p> <p>Sub clause 31.12 Delete "Payment shall be subject to the employer giving the contractor a tax invoice for the amount due.</p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
Bill No. 1 Preliminaries		

Brought Forward		R
32	<p>Clause 32.0 - Adjustment to the contract value</p> <p>All fluctuations in costs, with the exception of fluctuations in the rate of Value Added Tax, shall be for the account of the contractor.</p> <p>The following new sub clauses 32.16 is added to this clause:</p> <p>Where prices are submitted by the contractor or n/s subcontractor 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 payment certificate, it shall be in writing.</p> <p>The following is to be added to clause 32.5.1 , 32.5.4 , 32.5.7</p> <p>".....due to no fault of the contractor"</p> <p>Delete sub-clause 32.12</p> <p>F:..... V:..... T:.....</p>	Item
33	<p>Clause 33.0 - Recovery of expense and loss</p> <p>F:..... V:..... T:.....</p>	Item
34	<p>Clause 34.0 - Final account and final payment</p> <p>Sub-clause 34.13 is amended as follows:</p> <p>Replace "seven (7) calender days" with "twenty one (21) calender days" and delete the words "subject to the employer giving the contractor a tax invoice for the amount due"</p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
<p>Bill No. 1 Preliminaries</p>		

	<b>Brought Forward</b>		R
35	<p>Clause 35.0 - Payment to other parties</p> <p>F:..... V:..... T:.....</p> <p><b><u>Termination</u></b></p>	Item	
36	<p>Clause 36.0 - Termination by employer - contractor's default</p> <p>Clause 36 is amended as follows:</p> <p>Replace reference to 36.3 at end of sentence with 36.0</p> <p>Add the following clauses 36.1.3 to 36.1.5 under 36.1 to read as follows:</p> <p>The <b>contractor's</b> refusal or neglect to comply strictly with any of the conditions of contract.</p> <p>The <b>contractor's</b> estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force with the Republic of South Africa.</p> <p>The <b>contractor</b>, in the judgement of the <b>employer</b>, has engaged in <b>corrupt</b> or <b>fraudulent practices</b> in competing for or in executing the contract.</p> <p>F:..... V:..... T:.....</p>	Item	
37	<p>Clause 37.0 - Termination by employer - loss and damage</p> <p>Sub-clause 37.3.5 is amended as follows:</p> <p>Replace "ninety (90)" with "one hundred and twenty (120)".</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Bill No. 1 Preliminaries</p>		

Brought Forward		R
38	<p>Clause 38.0 - Termination by contractor - employer's default</p> <p>F:..... V:..... T:.....</p>	Item
39	<p>Clause 39.0 - Termination - cessation of the works</p> <p>Sub-clause 37.3.5 is amended as follows:</p> <p>Add the following words at the end thereof: "within one hundred and twenty (120) <b>working days</b> of completion of such a report."</p> <p>F:..... V:..... T:.....</p> <p><b><u>Dispute</u></b></p>	Item
40	<p>Clause 40.0 - Settlement of disputes</p> <p>F:..... V:..... T:.....</p> <p><b><u>Substitute provisions</u></b></p>	Item
41	<p>Clause 41.0 - State clauses</p> <p><b><u>Contract variables</u></b></p>	Item
42	<p>Clause 42.0 - Pre-tender information</p> <p>Tenderers are referred to the document C1.2 Contract Data for variables pertaining to this contract</p>	Item
43	<p>Clause 42.0 - Post-tender information</p> <p>The required post-tender information shall be inserted in the agreement after consultation with the contractor</p> <p><b><u>Contract Data - Employer to Contractor</u></b></p> <p>Given hereunder are all variables referred to in the Principal Building Agreement and which are set out in "Contract Data EC", prepared and published by the Joint Building Contracts committee: Edition 5. Code 2101 - EC, July 2007.</p>	Item
Carried Forward		R
Bill No. 1 Preliminaries		

**Brought Forward**

R

**1.0 Contracting and Other Parties**

1.1 **Employer:** Development Bank of Southern Africa

Postal address:

1258 Lever Road  
Midrand  
South Africa  
Code 1682

Tel (011) 313 3911

Fax (011) 313 3911

Physical Address:

1258 Lever Road  
Midrand  
South Africa

1.2 **Principal Agent:**

Ukuza Consulting (Pty) Ltd.

Postal address:

48b Northway  
Kelvin  
Sandton

Code 2090

Tel (010) 021 5353

Fax (086) 208 0491

E-mail chris@ukuza.co.za

**2.0 Contract and Site Information**

2.1 The Law applicable to this agreement shall be that of:

**Republic of South Africa**

**Carried Forward**

R

Bill No. 1  
Preliminaries

<p style="text-align: center;"><b>Brought Forward</b></p> <p>2.2 Works Identification</p> <p>Repairs &amp; Renovations to Kgosi Shope Senior Secondary School.</p> <p>The work comprises of decanting and relocating of existing blocks, demolition of dilapidated structures and construction of various new blocks including external works</p> <p>2.3 Site Description</p> <p><b>Kgosi Shope Senior Secondary School</b></p> <p>2.4 Possession of the site to be given on</p> <p style="text-align: center;"><b>TBA</b></p> <p>2.5 Period of the commencement of the works after the contractor takes possession of the site</p> <p style="text-align: center;"><b>TBA</b></p> <p>2.6 Completion of the works in sections is required</p> <p style="text-align: center;"><b>YES</b></p> <p><b>Section 1 - Decanting process</b> <b>Section 2 - Demolitions, Refurbishment and Construction of new school infrastructure</b></p> <p>2.7 Waivers of the <b>contractors lien</b> or right of continuing possession is required</p> <p style="text-align: center;"><b>NO</b></p> <p>2.8 Defined restrictions to the site area. Where "yes" the specific requirements are described below: The contractor is to hoard of the site in such a manner as to not allow learners/staff access</p> <p style="text-align: center;"><b>YES</b></p> <p>Due to the facility being fully operational strict restrictions in terms of hoarding, setting out etc. will be provided to the contractor by the Principal Agent</p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p>
	R

<p style="text-align: center;"><b>Brought Forward</b></p> <p>2.9 Geo-technical investigation of the site has been undertaken. Where "yes" the results are included in the contract documents.</p> <p style="text-align: center;"><b>YES</b></p> <p>2.10 Existing premises will be occupied. Where "yes" the specific requirements are described.</p> <p style="text-align: center;"><b>YES</b></p> <p><b>School will be fully operational during construction. therefore the Health and Safety of the staff &amp; learners are of utmost importance</b></p> <p>2.11 Provision of temporary services is required. Where "yes" the specific requirements are detailed elsewhere in the contract documents (Refer to section B: Preliminaries)</p> <p>2.12 Protection of existing trees or shrubs is required. Where "yes" the specific requirements are described below:</p> <p style="text-align: center;"><b>NO</b></p> <p><b><u>3.0 Insurance and Securities</u></b></p> <p>3.1 Contract works insurance to be effected by:</p> <p><b>Contractor</b> For the sum of: 'Reference is made to Contract Data' With a deductible of: an amount to be payable by the contractor</p> <p>3.2 Supplementary / Special insurance to be effected by:</p> <p>'Reference is made to Contract Data for specific insurance'</p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p> <hr/> <p style="text-align: center;">R</p>
---	---



<p style="text-align: right;"><b>Brought Forward</b></p> <p>3.3 Public Liability Insurance to be effected by:</p> <p><b>Contractor</b> For the sum of: 'Reference is made to Contract Data' With a deductible of: an amount to be payable by the contractor</p> <p>3.4 Support insurance to be effected by:</p> <p>'Reference is made to Contract Data for specific insurance'</p> <p><b><u>4.0 Practical Completion Date and Penalties</u></b></p> <p>4.1 For the works as a whole</p> <p>The date of practical completion and the penalty per calender day</p> <p><u>Date:</u></p> <p><b>Section 1: TBA</b> <b>Section 2: TBA</b></p> <p><u>Penalty Amount</u></p> <p>'Reference is made to Contract Data' for breakdown of penalties for Section 1 &amp; 2 respectively</p> <p><b><u>5.0 Documents and General</u></b></p> <p>5.1 Construction document copies to be supplied to the contractor free of charge</p> <p style="text-align: right;"><b>3</b></p> <p>5.2 The price document may be used as specification of materials and goods and work methods</p> <p style="text-align: right;"><b>No</b></p> <p>5.3 The contractor shall provide a schedule of rates</p> <p style="text-align: right;"><b>Yes</b></p> <p style="text-align: right;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p>
	R

<p style="text-align: center;"><b>Brought Forward</b></p> <p>5.4 Changes made to the JBCC standard documents (Refer to clause 6.0 below)</p> <p style="text-align: center;"><b>Yes</b></p> <p>5.5 On acceptance of the tender, the priced document is to be submitted with the stated working days</p> <p style="text-align: center;"><b>Priced Bills of Quantities to be submitted at the Tender Closing</b></p> <p>5.6 Work to be undertaken by direct contractors as detailed below:</p> <p style="text-align: center;"><b>NO</b></p> <p>5.7 On achievement of practical completion the contractor is to hand over manuals, certificates etc. related to the works as listed below:</p> <ol style="list-style-type: none"> <li>1. Soil poisoning</li> <li>2. Glazing</li> <li>3. TR1 &amp; TR2</li> <li>4. Compaction tests</li> <li>5. Concrete cube tests</li> <li>6. Electrical COC</li> <li>7. Mechanical COC</li> <li>8. User Manuals</li> <li>9. Warranties</li> <li>10. Plumbing COC</li> <li>11. Various as requested by the Principal Agent</li> </ol> <p>5.8 Interim payment certificate to be issued by:</p> <p style="text-align: center;"><b>'As per Contract Data'</b></p> <p><b><u>6.0 Details of changes made to the Standard JBCC Document</u></b></p> <p><b>Section A: JBCC Principal Building Agreement</b></p> <p>Clause 1.1 is hereby amended Clause 1.6 is hereby amended Clause 3.1 is hereby deleted Clause 3.5 is hereby deleted Clause 3.6 is hereby deleted</p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p> <hr/> <p style="text-align: center;">R</p>
---	---

<p style="text-align: center;"><b>Brought Forward</b></p> <p>Clause 3.7 is hereby amended          Clause 3.9 is hereby deleted          New sub clause 4.4 is hereby added          Clause 5.1 is hereby amended          Sub Clause 9.1.4 is hereby added          Sub Clause 10.5 is hereby added          Sub Clause 10.6 is hereby added          Sub Clause 10.7 is hereby added          Sub Clause 10.7.1 is hereby added          Sub Clause 10.7.2 is hereby added          Sub Clause 10.7.3 is hereby added          Sub Clause 10.7.4 is hereby added          Sub Clause 15.1.3 is hereby added          Sub Clause 15.2.1 is hereby amended          Clause 16.7 is hereby amended          Clause 18.0 is hereby amended          New sub clause 19.1.1 is hereby added          Sub clause 19.1.2 is hereby amended          Sub clause 19.2 is hereby amended          Clause 21 is hereby amended          Sub clause 29.1.1 is hereby amended          New Sub Clause 29.9 is hereby added          New Sub Clause 29.10 is hereby added          New Sub Clause 29.10.1 is hereby added          New Sub Clause 29.10.2 is hereby added          New Sub Clause 29.10.3 is hereby added          Sub clause 31.9 is hereby amended          Sub clause 31.10 is hereby amended          Sub Clause 31.12 is hereby amended          New sub clause 32.16 is hereby added          Sub Clause 32.5.1 is hereby amended          Sub Clause 32.5.4 is hereby amended          Sub Clause 32.5.7 is hereby amended          Sub Clause 32.12. is hereby deleted          Sub Clause 34.13 is hereby amended          Sub Clause 36.3 is hereby amended          New Sub Clause 36.1.3 is hereby added          New Sub Clause 36.1.4 is hereby added          New Sub Clause 36.1.5 is hereby added          Sub Clause 37.3.5 is hereby amended          Sub clause 34.11 is hereby amended</p> <p><b>Section B: ASAQS Preliminaries</b></p> <p>Clause 4.1 is hereby amended          Clause 4.3 is hereby amended          Clause 9.3 is hereby amended          Clause 9.7 is hereby amended</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1          Preliminaries</p>	<p style="text-align: center;">R</p>

<b>Brought Forward</b>		R	
<b><u>7.0 Declaration by the Principal Agent</u></b>			
I the principal agent named in the above, declare that the information provided above is complete and accurate at the time of calling for tenders. Where necessary should any of the above information need to be varied, tenders will be forthwith thereof in writing.			
Principal Agent:.....			
Date:.....			
Note: To be formally signed as part of contract documents.			
<b><u>SECTION B - PRELIMINARIES</u></b>			
<b><u>Definitions and interpretation</u></b>			
44	Clause 1.0 - Definitions and interpretation.  F:..... V:..... T:.....	Item	
<b><u>Documents</u></b>			
45	Clause 2.1 - Checking of documents F:..... V:..... T:.....	Item	
46	Clause 2.2 - Bills of quantities  The quantities in the Bills of Quantities are an indication of the works to be executed and are subject to remeasurement.  F:..... V:..... T:.....	Item	
47	Clause 2.3 - Availability of construction documentation  F:..... V:..... T:.....	Item	
<b>Carried Forward</b>		R	
Bill No. 1 Preliminaries			

Brought Forward			R
48	<p>Clause 2.4 - Interest of agents</p> <p>F:..... V:..... T:.....</p>	Item	
49	<p>Clause 2.5 - Priced documents</p> <p>F:..... V:..... T:.....</p>	Item	
50	<p>Clause 2.6 - Tender submission</p> <p>F:..... V:..... T:.....</p> <p>Clause 2.6 is amended by replacing "JBCC Form of Tender" with "Form of Offer and Acceptance (C1.1)"</p> <p><b><u>The site</u></b></p>	Item	
51	<p>Clause 3.1 - Defined works area</p> <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>F:..... V:..... T:.....</p>	Item	
52	<p>Clause 3.2 - Geotechnical investigation</p> <p>A copy of the geotechnical investigation report is annexed to these bills of quantities</p> <p>F:..... V:..... T:.....</p>	Item	
53	<p>Clause 3.3 - Inspection of the site</p> <p>Tenderers shall complete the Site Inspection Certificate included in the tender documents and return the same with the tender submission</p> <p>F:..... V:..... T:.....</p>	Item	
Carried Forward			R
<p>Bill No. 1 Preliminaries</p>			

Brought Forward			R
54	Clause 3.4 - Existing premises occupied F:..... V:..... T:.....	Item	
55	Clause 3.5 - Previous work - dimensional accuracy F:..... V:..... T:.....	Item	
56	Clause 3.6 - Previous work - defects F:..... V:..... T:.....	Item	
57	Clause 3.7 - Services - known F:..... V:..... T:.....	Item	
58	Clause 3.8 - Services - unknown F:..... V:..... T:.....	Item	
59	Clause 3.9 - Protection of trees F:..... V:..... T:.....	Item	
60	Clause 3.10 - Articles of value F:..... V:..... T:.....	Item	
61	Clause 3.11 - Inspection of adjoining properties F:..... V:..... T:.....	Item	
<b><u>Management of contract</u></b>			
62	Clause 4.1 - Management of the works F:..... V:..... T:.....	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

Brought Forward			R
63	<p>Clause 4.2 - Programme for the works</p> <p>F:..... V:..... T:.....</p>	Item	
64	<p>Clause 4.3 - Progress meetings</p> <p>F:..... V:..... T:.....</p>	Item	
65	<p>Clause 4.4 - Technical meetings</p> <p>F:..... V:..... T:.....</p>	Item	
66	<p>Clause 4.5 - Labour and plant records</p> <p>F:..... V:..... T:.....</p> <p><b><u>Samples, shop drawings and manufacturer's instructions</u></b></p>	Item	
67	<p>Clause 5.1 - Samples of materials</p> <p>Clause 5.1 is hereby amended by the addition of the following:</p> <p>The principal agent may reject any materials or colour not corresponding with the approved samples. The approved samples shall be kept on site until completion of the works.</p> <p>Should any materials or items specified prove to be either unavailable, in poor supply or likely to cause delay to the works, the contractor shall notify the principal agent in sufficient time for suitable alternatives to be considered. Any claims for delays resulting from the contractor not confirming with the terms of this clause will not be entertained or allowed.</p> <p>F:..... V:..... T:.....</p>	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

	Brought Forward		R
68	<p>Clause 5.2 - Workmanship samples</p> <p>F:..... V:..... T:.....</p>	Item	
69	<p>Clause 5.3 - Shop drawings</p> <p>Clause 5.3 is hereby amended by the addition of the following:</p> <p><b>General Responsibilities</b></p> <p>The contractor shall provide a person or persons who shall be available immediately upon commencement of the contract, who responsibility will be:</p> <p>a) To familiarise himself with all drawings produced by the professional team, this will involve a clear understanding of services and element co-ordination performed by the architect, in order that sub-contractors can properly briefed.</p> <p>b) To provide the professional team with comprehensive lists of shop drawings to be prepared by the relevant sub-contractors.</p> <p>c) To check all shop drawings for sufficiency prior to submission to the relevant consultant in the professional team. It is expected that such checking will include all co-ordination and pro-active resolution of any conflicting services and elements.</p> <p>It is also noted that resolution of co-ordination problems will require attendance at services and element co-ordination meetings, called by the principal agent as and when necessary.</p> <p><b>Procedures</b></p> <p>The contractor shall, at his own expense, prepare and submit one reproducible print of shop drawings of all fabricated work, working or setting out drawings, shop details and schedules to the principal agent for approval by the relevant consultants/s and/or the employer as is appropriate and such work shall not be performed by the contractor until such approval has been given. The contractor shall cognisance of and adhere to the Project document numbering system, if any in use on this contract.</p>		
	Carried Forward		R
	<p>Bill No. 1 Preliminaries</p>		



**Brought Forward**

The contractor shall present a complete schedule showing the sequence of submission of shop drawing, including submission dates, for all trades and the schedule dates for approval of all drawings. This schedule shall take into account that the relevant consultant/s and the employer reserve a two week check period from date of the receipt of all shop drawings and/or catalogue data.

All submission shall be on dates as indicated in the above schedule and sufficiently in advance to permit the contractor to meet fabrication deadlines, no claim for extensions to the contract time will be granted to the contractor by reason of his failure in this respect.

The contractor shall submit four copies of catalogue and data approval. The contractor shall check submission for conformity with the contract drawings and specifications and correct any errors, omissions or deviations before their transmission to the principal agent.

All submissions shall bear the contractors dated stamp of approval as evidence that they have been so checked and corrected by the contractor. Any drawings, schedule or catalogue submitted without this stamp will not be considered by the principal agent and will be returned.

When the principal agent advises the contractor that shop drawings have been approved, he shall immediately submit to the principal agent the original transparencies of such drawings so that the principal agents stamp of approval may be appended thereto. Thereafter the contractor shall furnish to the principal agent four prints of approved shop drawings, setting out drawing and schedule. The contractor shall also furnish to the works as many prints of the approved shop drawings and/or catalogues as may be required. No works shall be performed from any shop drawings and/or catalogues not stamped with the principal agents approval.

The contractor shall be responsible for ensuring that all dimensions confirm to the dimension of built work.

The principal agents approval of any document or drawings shall not in any way vary his contractual or delicti obligations and liabilities to the employer or any other party, nor does it vary the contractual or delicti obligations and liabilities of the party submitting such document or drawing for approval.

**Carried Forward**

Bill No. 1  
Preliminaries

R

R

Brought Forward		R
	<p>If the submission differ from the requirements of the contract, the contractor shall make specific mention of each difference in his letter of transmission with a request for substitution, together with his reason for same, in that order, if acceptable, suitable action may be taken by the principal agent. Otherwise the contractor will not be relieved of responsibility for executing the work in accordance with the requirements of the contract.</p> <p>Corrections of shop drawings by the principal agent shall not change the scope of work. Should any such correction be considered to constitute a change of scope of work, the contractor shall notify the principal agent in writing within not more than seven calender days of such change and shall not proceed with the fabrication until so authorized by the principal agent. Claims for change of scope made after performance of the work constituting the claimed change of scope will not be considered.</p> <p>Unless otherwise agreed the principal agent, shop drawings shall be prepared to show all details of installation, including reticulation, fixing etc. of components and assemblies, or if the contractor desires to deviate from the design and these drawings shall be all to accordance with the above procedures and at the contractors expense.</p> <p>F:..... V:..... T:.....</p>	
70	<p>Clause 5.4 - Compliance with manufacturer's instructions</p> <p>F:..... V:..... T:.....</p> <p><b><u>Temporary works and plant</u></b></p>	Item
71	<p>Clause 6.1 - Deposits and fees</p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
	<p>Bill No. 1 Preliminaries</p>	

Brought Forward			R
72	Clause 6.2 - Enclosure of the works F:..... V:..... T:.....	Item	
73	Clause 6.3 - Advertising F:..... V:..... T:.....	Item	
74	Clause 6.4 - Plant, equipment, sheds and offices F:..... V:..... T:.....	Item	
75	Clause 6.5 - Main notice board F:..... V:..... T:.....	Item	
76	Clause 6.6 - Subcontractors' notice board F:..... V:..... T:.....	Item	
<b><u>Temporary services</u></b>			
77	Clause 7.1 - Location F:..... V:..... T:.....	Item	
78	Clause 7.2 - Water F:..... V:..... T:.....	Item	
79	Clause 7.3 - Electricity F:..... V:..... T:.....	Item	
80	Clause 7.4 - Telecommunication facilities F:..... V:..... T:.....	Item	
81	Clause 7.5 - Ablution facilities F:..... V:..... T:.....	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

Brought Forward		R
<b><u>Prime cost amounts</u></b>		
82	Clause 8.1 - Responsibility for prime cost amounts  F:..... V:..... T:.....	Item
<b><u>Special attendance on n/s subcontractors</u></b>		
83	Clause 9.1 - General attendance  F:..... V:..... T:.....	Item
84	Clause 9.2 - Special attendance  F:..... V:..... T:.....	Item
85	Clause 9.3 - Commissioning - fuel, water and electricity  F:..... V:..... T:.....	Item
<b><u>Financial aspects</u></b>		
86	Clause 10.1 - Statutory taxes, duties and levies  Provision is made in the summary of these bills of quantities for the inclusion of Value Added Tax (VAT)  F:..... V: ..... T:.....	Item
87	Clause 10.2 - Payment of preliminaries  F:..... V: ..... T:.....	Item
88	Clause 10.3 - Adjustment of preliminaries  F:..... V: ..... T:.....	Item
89	Clause 10.4 - Payment certificate cash flow  F:..... V:..... T:.....	Item
Carried Forward		R
Bill No. 1 Preliminaries		

Brought Forward		R
<b>General</b>		
90	<p>Clause 11.1 - Protection of the works</p> <p>F:..... V:..... T:.....</p>	Item
91	<p>Clause 11.2 - Protection/isolation of existing/sectionally occupied works</p> <p>The contractor is to allow for all external scaffolding to be protected on outer face with 80% shade cloth whilst is use or erected.</p> <p>F:..... V:..... T:.....</p>	Item
92	<p>Clause 11.3 - Security of the works</p> <p>Clause 11.3 is hereby amended by the addition of the following:</p> <p>The contractor shall provide and maintain twenty four hour security and loss control system all to the satisfaction of the principal agent. It is envisaged that these procedures will incorporate, inter alia, gate control for personnel and vehicles, individuals entry permits, regular security patrols and the like.</p> <p>F:..... V:..... T:.....</p>	Item
93	<p>Clause 11.4 - Notice before covering work</p> <p>F:..... V:..... T:.....</p>	Item
94	<p>Clause 11.5 - Disturbance</p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
Bill No. 1 Preliminaries		

Brought Forward			R
95	<p>Clause 11.6 - Environmental disturbance</p> <p>F:..... V:..... T:.....</p>	Item	
96	<p>Clause 11.7 - Works cleaning and clearing</p> <p>Clause 9.7 is hereby amended by the addition of the following:</p> <p>The contractor is to employ a specialized deep cleaning company to undertake all deep cleaning of all elements of the structure to the satisfaction of the principal agent.</p> <p>F:..... V:..... T:.....</p>	Item	
97	<p>Clause 11.8 - Vermin</p> <p>F:..... V:..... T:.....</p>	Item	
98	<p>Clause 11.9 - Overhand work</p> <p>F:..... V:..... T:.....</p>	Item	
99	<p>Clause 11.10 - Instruction manuals and guarantees</p> <p>F:..... V: ..... T:.....</p>	Item	
100	<p>Clause 11.11 - As built information</p> <p>F:..... V: ..... T:.....</p>	Item	
101	<p>Clause 11.12 - Tenant installations</p> <p>F:..... V: ..... T:.....</p>	Item	
Carried Forward			R
<p>Bill No. 1 Preliminaries</p>			

<p style="text-align: right;"><b>Brought Forward</b></p> <p><b><u>Schedule of variables</u></b></p> <p>Information necessary for elections and completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder. Where no information is given it shall mean that no specific requirements are expected or that the clause is not relevant to this specific contract</p> <p>12.1 - Pre-tender information</p> <p>Information necessary for elections and completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder. Where no information is given it shall mean that either specific requirements are not required or that the clause is not relevant to this specific contract</p> <p>12.1.1 - Provisional bills of quantities [clause 2.2]</p> <p>The quantities are provisional</p> <p style="text-align: right;"><b>Yes</b></p> <p>12.1.2 - Availability of construction documentation [clause 2.3]</p> <p>Construction documentation is complete</p> <p style="text-align: right;"><b>Yes</b></p> <p>12.1.3 - Interests of agents [clause 2.4]</p> <p style="text-align: right;"><b>NONE</b></p> <p>12.1.4 - Defined works area [clause 3.1]</p> <p style="text-align: right;"><b>YES</b></p> <p>The work area will be pointed out by the principal agent to the contractor who will sign written acknowledgement therefore before commencing operations</p> <p>12.1.5 - Geotechnical investigation [clause 3.2] -</p> <p style="text-align: right;"><b>YES</b></p> <p>A Geotechnical Investigation Report is included in this document</p> <p style="text-align: right;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p>
	<p style="text-align: center;">R</p>

<p style="text-align: center;"><b>Brought Forward</b></p> <p>12.1.6 - Existing premises occupied [clause 3.4] -</p> <p style="text-align: center;"><b>YES</b></p> <p>The school will be in full operation during the work and disruption, dust and noise are to be kept to a minimum. Works areas to be clearly demarcated and fenced off</p> <p>12.1.7 - Previous work - dimensional accuracy [clause 3.5]</p> <p>The contractor shall, within reasonable period after taking possession of the site, but not exceeding ten (10) percent of the construction period or twenty (20) working days whichever is the lesser, check existing levels, lines, profiles and the like affecting the works and satisfy himself as to the dimensional accuracy of work previously executed. The contractor shall forthwith notify the principal agent and request a contract instruction regarding any dimensional inaccuracy found in work previously executed</p> <p>12.1.8 - Previous work - defects [clause 3.6]</p> <p>The contractor on becoming aware of a defect in work previously executed shall forthwith notify the principal agent requesting a contract instruction regarding such defect</p> <p>12.1.9 - Services - known [clause 3.7]</p> <p>Existing services and points of connection are shown on the site plan or will be pointed out on the site by the principal agent</p> <p>12.1.10 - Protection of trees [clause 3.9]</p> <p>Only those trees and shrubs indicated as such on the drawings shall be removed or cut back. The remainder of the trees and shrubs shall be left undamaged</p> <p>12.1.11 - Inspection of adjoining properties [clause 3.11]</p> <p>The contractor shall make his own arrangements with the owners of adjoining properties in order to execute the works</p>	<p style="text-align: center;"><b>Carried Forward</b></p>
<p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;"><b>Carried Forward</b></p>



<p style="text-align: center;"><b>Brought Forward</b></p> <p>12.1.12 - Enclosure of the works [clause 6.2]</p> <p>The contractor shall erect, maintain and remove on completion, hoardings with gantries, fans, 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</p> <p>12.1.13 - Offices [clause 6.4.3]</p> <p>The contractor shall provide, maintain and remove on completion of the works an office for the exclusive use of the principal agent, minimum size 4 x 3 x 3m high internally, suitable insulated and ventilated, provided with electric lighting, and fitted with boarded floor, desk, chair, drawing stool, drawing board and lock-up drawers for drawings. The office shall be kept clean and fit for use at all times</p> <p>12.1.14 - Main noticeboard [clause 6.5]</p> <p>The contractor shall provide, erect where directed, maintain and remove on completion of the works a notice board size 3 x 3m as type Drawing GEN 063, constructed of suitable boarding with flat smooth surface and with edging bead 19mm thick round outer edges and projecting 12mm from face of boarding and rounded on front edge. The board shall be securely fixed to hoarding, where hoarding is provided, or fixed to and including a suitable supporting structure of timber or tubular posts and braces. The board is to be painted ivory white and the bead and 12mm wide dividing lines deep blue. All wording shall be inscribed in deep blue painted Helvetica medium lettering. As alternative the notice board as approved by the professional bodies will be allowed. No sub-contractor's individual boards will be allowed on the site</p> <p>12.1.15 - Subcontractors' noticeboard [clause 6.6]</p> <p>A noticeboard is required -</p> <p style="text-align: right;"><b>NO</b></p>	<p style="text-align: center;"><b>R</b></p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;"><b>R</b></p>

<p style="text-align: center;"><b>Brought Forward</b></p> <p>12.1.16 - Water [clause 7.2]</p> <p>Option A (by contractor) <b>NO</b>  Option B (by employer - free of charge) <b>NO</b>  Option C (by employer - metered) <b>YES</b></p> <p>12.1.17 - Electricity [clause 7.3]</p> <p>Option A (by contractor) <b>NO</b>  Option B (by employer - free of charge) <b>NO</b>  Option C (by employer - metered) <b>YES</b></p> <p>12.1.18 - Telecommunications [clause 7.4]</p> <p>Telephone <b>YES</b>  Facsimile <b>NO</b>  Option C (by employer - metered) <b>NO</b></p> <p>12.1.19 - Ablution facilities [clause 7.5]</p> <p>Option A (by contractor) <b>YES</b>  Option B (by employer - free of charge) <b>NO</b></p> <p>12.1.20 - Protection/isolation of existing/sectionally occupied works [clause 11.2]</p> <p>The contractor shall provide all reasonable temporary measures to protect/isolate the existing and/or section of the occupied works and remove such measures on completion</p> <p>12.1.21 - Special attendance [clause 9.2] -</p> <p style="text-align: right;"><b>NO</b></p> <p>12.1.22 - Protection of the works [clause 11.1] -</p> <p style="text-align: right;"><b>YES</b></p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">R</p>
	R

	<p style="text-align: center;"><b>Brought Forward</b></p> <p>12.1.23 - Disturbance [clause 11.5]</p> <p>The contractor shall keep the site, structures, etc well watered during operations to prevent dust and shall provide and erect and remove on completion of the works all necessary temporary dust screens all to the satisfaction of the principal agent</p> <p>The contractor shall execute the works with a minimum of disturbance to adjoining premises, any parts of the works already handed over and the occupants of those premises and/or parts</p> <p>12.1.24 - Environmental disturbance [clause 11.6] -</p> <p style="text-align: right;"><b>NO</b></p> <p>12.2 - Post-tender information</p> <p>The required post-tender information shall be inserted in the preliminaries after consultation with the contractor</p> <p><b><u>SECTION C - SPECIFIC PRELIMINARIES</u></b></p> <p>Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item</p> <p>The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed</p> <p>102 <b>Contract Drawings</b></p> <p>Should any part of the drawings not be clearly understood by the tenderer he shall, before submitting his tender, obtain clarification in writing from the principal agent</p> <p>F:..... V:..... T:.....</p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>	<p style="text-align: center;">Item</p>	<p style="text-align: center;">R</p>
--	--	---	--------------------------------------

	<b>Brought Forward</b>		R	
103	<b>Trade Names</b>  Wherever a trade name for any product has been described in the Priced 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		
104	<b>Proprietary Branded Products</b>  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		
105	<b>Confidentiality</b>  The contractor undertakes to maintain in confidence any and all information regarding this project and shall obtain appropriate similar undertakings from all subcontractors and suppliers. Such information shall not be used in any way except in connection with the execution of the works No information regarding this project shall be published or disclosed without the prior written consent of the employer	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

Brought Forward			R
106	<p><b>Overtime</b></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>F:..... V:..... T:.....</p>	Item	
107	<p><b>As Built Drawings</b></p> <p>The position of construction breaks and the extent of individual concrete pours are to be recorded by the contractor on the structural engineers drawings and are to be submitted to the principal agent and the structural engineer for their records.</p> <p>F:..... V:..... T:.....</p>	Item	
108	<p><b>Warranties for material and workmanship</b></p> <p>Where warranties for materials and/or workmanship are called for, the contractor shall obtain a written warranty, addressed to the employer, from the firm supplying the materials and/or doing the work and shall deliver same to the principal agent on the certified completion of the contract. The warranty shall state that workmanship, materials and installation are warranted for a specified period from the date of final completion and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work, upon written notice to do so. The warranty will not be enforced if the work is damaged by defects in the construction of the building in which case the responsibility for replacement shall rest entirely with the contractor.</p> <p>F:..... V:..... T:.....</p>	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

Brought Forward			R
109	<b>Site instructions</b>  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.  F:..... V:..... T:.....	Item	
110	<b>Non Cession of Monies</b>  The contractor shall not cede nor assign his rights or claims to any monies or to becomes due under this contract.  F:..... V:..... T:.....	Item	
111	<b>Imported Materials &amp; Equipment</b>  Where imported items are listed in the tender documents, the tenderer shall provide all the information called for, failing which the price of any such item, materials or equipment shall be excluded from currency fluctuations. (refer to Schedule for Imported Materials and Equipment WCTD-23 to be completed by tenderer)  Notwithstanding any provisions elsewhere regarding the adjustment of contract prices, the price of any item, material or equipment listed in terms of this clause shall be excluded from the Contract Price Adjustment Provisions (if applicable)	Item	
112	<b>Testing of flat roof waterproofing for water-tightness</b>  Flat roof waterproof areas shall be prepared with small sand dykes around them of a size and enclosing an area approved by the principal agent, flooded with water and kept "ponded" for at least 36 hours as a test to ensure the water-tightness of the waterproofing and before any further construction work is carried out above the waterproofing.  F:..... V:..... T:.....	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R
113	<b>Testing of windows for water tightness</b>  Each window shall be tested for water tightness with water sprayed on using adequate pressure. If in the opinion of the principal agent, the pressure proves to be inadequate, then the pressure shall be boosted by means of compressed air or other approved means.  F:..... V:..... T:.....	Item	
114	<b>Authorisation of Taking of Photographs</b>  The contractor shall obtain prior authorisation from the employer for the making of any sketches or the taking of any photographs of any site, installation, building or civil works belonging to the employer and shall ensure that all personnel, subcontractors and other persons entering the site shall comply with this requirement as well  F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
	Bill No. 1 Preliminaries		

	<b>Brought Forward</b>		R
115	<p><b>HIV/AIDS Awareness</b></p> <p>It is required of the contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the bills of quantities / lump sum document. Provision for pricing of HIV/AIDS awareness is made under the two items below hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained</p> <p>The contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of Clause A 31 of "Section 1: Preliminaries (Section A)" or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment</p> <p>F:..... V:..... T:.....</p>	Item	
116	<p><b>Awareness Champion</b></p> <p>Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Bill No. 1 Preliminaries</p>		



	<b>Brought Forward</b>		R	
117	<b>Awareness Workshop</b>  Selection and appointment of a competent Service Provider approved by the principal agent, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multi-media techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification  F:..... V:..... T:.....	Item		
118	<b>Posters, Videos, Booklets, Etc.</b>  Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the construction period, all in accordance with the HIV/AIDS Specification  F:..... V:..... T:.....	Item		
119	<b>Access to Condoms</b>  Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the construction period, all in accordance with the HIV/AIDS Specification  F:..... V:..... T:.....	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R	
120	<b>Co-Operation of Contractor for Cost Management</b>  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 final building cost does not exceed the budget . The principal agent undertakes to make available to the contractor all budgetary allowances and costs assessments/reports to enable the proper procedure to be implemented and the contractor shall attend all cost plan review and cost management meetings. The contractor undertakes to extend these procedures, as necessary, to all subcontractors.  F:..... V:..... T:.....	Item		
121	<b>Labour Record</b>  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 tradesman and labourers employed by him and all subcontractors on the works each day.  F:..... V:..... T:.....	Item		
122	<b>Monitoring</b>  Monitoring HIV/AIDS awareness of workers, providing the principal agent with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the construction period and close out, all in accordance with the HIV/AIDS Specification  F:..... V:..... T:.....	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R
123	<b>Reporting By Contractor</b>  The contractor is required to complete the attached Contractor's Monthly Report which is to be submitted together with the contractors payment claim. Payment of the contractor is conditional on this information being accurate and timeously provided  F:..... V:..... T:.....	Item	
124	<b>Plant Record</b>  At the end of each week the contractor shall provide the principal agent with the written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools, currently used on the works.  F:..... V:..... T:.....	Item	
125	<b>Local Labour and Local Suppliers</b>  Allow for monthly submission of proof of employment of local skilled and unskilled labour to the principal agent.  It is a general requirement of this contract that persons normally resident in the locality of the works (local labour) be given preference for employment on the contract. Should adequate and appropriate labour not be available within the locality, other labour may be subject to satisfactory proof being provided that every reasonable endeavour has been made to employ local labour. The contractor shall identify the local community leaders with the purpose of negotiating with them regarding the utilisation of local labour in the construction process. The contractor shall furthermore give preference, wherever possible to the employment of single heads of households, women and youth. The contractor shall, in general, maximise the involvement of the local community  The use of such materials shall not constitute grounds for any claim for increased cost in respect thereof  F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
	Bill No. 1 Preliminaries		

	<b>Brought Forward</b>		R
126	<b>Disposal Site-Solid Waste/Environmentally Sensitive Materials</b>  All disposal of solid waste shall be deposited at an approved disposal site to be located by the contractor. All handling of environmentally sensitive materials such as asbestos, etc., is to be carried out by a registered waste disposal specialist and all laws and by-laws are to be appropriate state body will be required and is to be to the principal agent's approval. Written confirmation of appropriate disposal is to be issued to the principal agent  F:..... V:..... T:.....	Item	
127	<b>Waiver of Lien</b>  The tenderers are notified that he/she shall sign "Waiver of Lien" together with the JBCC Principal Building Agreement Edition 4.1 Code 2101 March 2005  F:..... V:..... T:.....	Item	
128	<b>Occupational Health &amp; Safety</b>  The contractor shall comply with all the requirements set out in the Health and Safety Specification for Construction Work as contained within these tender documents and the Construction Regulation 2014 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993).  It is required of the contractor to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the bills of quantities.  The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The		
	<b>Carried Forward</b>		R
	Bill No. 1 Preliminaries		

	<p align="center"><b>Brought Forward</b></p> <p>contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.</p> <p>Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained.</p> <p>In addition but not limited to the contractor shall:</p> <ul style="list-style-type: none"> <li>• Comply with the health and safety specification for the works</li> <li>• Prepare and agree with the health and safety consultant the health and safety plan for the works</li> <li>• Co-operate with the health and safety consultant in all respects</li> <li>• Manage the compliance of all subcontractors with the regulations and with the health and safety plan and specification</li> <li>• Conform to the conditions contained in the employer's health and safety specification</li> </ul> <p>F:..... V:..... T:.....</p>			R
129	Profit		Item	
130	Attendance		Item	
	<b>Carried Forward</b>			R
	<p>Bill No. 1 Preliminaries</p>			

	<b>Brought Forward</b>		R
131	<p><b>Occupational Health &amp; Safety Code of Practice: Managing exposure to SARS-Cov-02 in the workplace.</b></p> <p>The contractor shall comply with all the requirements set out in the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) in particular Hazardous Biological Agents Regulations governing workplaces in relation to Coronavirus Disease 2019 cause by SARS-CoV-2 and the Code of Practice: Managing exposure to SARS-Cov-02 in the workplace.</p> <p>It is required of the contractor to thoroughly study the Code of Practice: Managing exposure to SARS-Cov-02 in the workplace Occupational Health and Safety Act, 1993 (Act No 85 of 1993) in particular Hazardous Biological Agents Regulations governing workplaces in relation to Code of Practice: Managing exposure to SARS-Cov-02 in the workplace that must be read together with and is deemed to be incorporated under this Section of the bills of quantities.</p> <p>The contractor must take note that compliance with the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) in particular Hazardous Biological Agents Regulations governing workplaces in relation to Coronavirus Disease 2019 cause by SARS-CoV-2 and the Code of Practice: Managing exposure to SARS-Cov-02 in the workplace is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.</p> <p>Provision of pricing for compliance of the Occupational Health and Safety Act, 85 of 1993 Edition 23, Hazardous Biological Agents Regulation and Code of Practice: Managing exposure to SARS-Cov-02 in the workplace requirement</p> <p>F:..... V:..... T:.....</p>		
132	Profit	Item	
		Item	
	<b>Carried Forward</b>		R
	<p>Bill No. 1 Preliminaries</p>		

	<b>Brought Forward</b>		R	
133	Attendance	Item		
134	<b>Guarantees and Maintenance Manuals</b>  <p>The contractor shall obtain and hand over to the principal agent on practical completion, all relevant guarantees, any operating and maintenance instruction manuals, data or instructions required by the principal agent or provided by manufacturers, suppliers or sub-contractors.</p> <p>The contractor shall ensure that all warranties and guarantees received are fully ceded to the Employer on final completion, failing which the release of the Construction Guarantee or Retention amount will be withheld until this is satisfactorily compiled with.</p> <p>Where warranties for materials and/or workmanship are called for, the contractor shall obtain a written warranty, addressed to the employer, from the firm supplying the materials and/or doing the work and shall deliver same to the principal agent on the certified completion of the contract. The warranty shall state that the workmanship, materials and installation are warranted for a specified period shall from date of final completion and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work, upon written notice to do so. The warranty will not be enforced if the work is damaged by defects in construction of the building in which case the responsibility of replacement shall rest entirely with the contractor.</p> <p>F:..... V:..... T:.....</p>	Item		
135	<b>Costs of Tender / Quotations / Claims, etc.</b>  <p>Any costs incurred for the preparation of tenders or quotations, claims, etc. to the satisfaction of principal agent shall be borne by the contractor.</p> <p>F:..... V:..... T:.....</p>	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R
136	<p><b>Overloading</b></p> <p>The Tenderer shall prior to submitting their tender determine from the structural engineer any constraints and limitations in respect of works to be executed over slabs, etc. which have load limitations.</p> <p>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 agent for their approval prior to proceeding with such loading, storing, erecting or executing work and shall comply with and pay for the engineers requirements in connection with the provision of temporary support work etc. Any damage caused by the works by overloading shall be made good by the contractor at his sole expense.</p> <p>Notwithstanding any approval given by the principal agent, the contractor shall entirely be responsible for damage to the works caused by overloading which damage shall be made good by the contractor at his sole expense.</p> <p>F:..... V:..... T:..... .</p>	Item	
137	<p><b>Removal and Making Good of Temporary Works, etc on Completion</b></p> <p>The contractor shall remove 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 there from.</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Bill No. 1 Preliminaries</p>		



	<b>Brought Forward</b>		R	
138	<b>Location of Temporary Building and Temporary Services</b>  <p>The Contractor shall provide all necessary temporary works, including temporary roads, tracks, crossings, Hard standing and services, etc. required for his own and subcontractor use during the construction and maintenance period.</p> <p>There is no guarantee given that or implied site conditions will be such that the contractor will be able to erect such temporary works, offices, stores and temporary accommodation within the site boundaries and it shall be the contractors responsibility to adopt whatever measures he deems necessary in this regard and obtain all necessary permission and pay all costs in connection therewith.</p> <p>F:..... V:..... T:.....</p>	Item		
139	<b>Standard Workmanship and Materials</b>  <p>In the absence of detailed specifications for any item or items, the National Building Regulations, the latest applicable South African National Standards Specification, or where such does not exist, then the latest applicable British Standard Specification shall apply.</p> <p>F:..... V:..... T:.....</p>	Item		
140	<b>Commodities To Be New</b>  <p>All commodities, goods, articles or materials to be used in the Works are to be new except where re-use of existing is specified and are to be handled, stored used and/or fixed with care to ensure that they are in perfect condition when incorporated in the works and thereafter properly protected so as to ensure that they are likewise in perfect condition when handed over at completion of the works.</p> <p>F:..... V:..... T:.....</p>	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R
141	<p><b>Mode of Procedures</b></p> <p>Notwithstanding anything to the contrary herein, the principal agent shall 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 contractors cost.</p> <p>F:..... V:..... T:.....</p>	Item	
142	<p><b>Unauthorised Persons/Workmen on Premises</b></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 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 principal agent.</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Bill No. 1 Preliminaries</p>		

	<b>Brought Forward</b>		R	
143	<b>Method Statement</b>  <p>The tenderer shall produce, where 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 proper and timeous execution of the works.</p> <p>F:..... V:..... T:.....</p>	Item		
144	<b>Encroachment</b>  <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> <p>F:..... V:..... T:.....</p>	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R
145	<p><b>Site Security Measures</b></p> <p>The following security measures are to be complied with and enforced by the Contractor:</p> <p>No unauthorized persons/workmen are to be allowed on site and notice boards in English and isiZulu shall be displayed at the site entrance to this effect.</p> <p>All personnel that are utilized on the project by the contractor and its sub-contractors, are at all times whilst on site, be clothed with clothing that clearly identifies each staff member together with an identification document which includes, but not limited to the following:</p> <ol style="list-style-type: none"> <li>1. A photograph of the personnel concerned;</li> <li>2. The Identification numbers of the personnel concerned; and,</li> <li>3. The Name of company concerned.</li> </ol> <p>In addition, to that stated above, the contractor shall adhere to the premises security rules and regulations.</p> <p>No personnel will be permitted to work on the project until this condition is adhered to.</p> <p>F:..... V:..... T:.....</p>	Item	
146	<p><b>Sample Room</b></p> <p>Sample room size approximately 6 x 3m. The samples are to be maintained and remain available for inspection until the final date of completion, after which it is to be stripped out and removed from site unless otherwise instructed. No samples may be installed in the new buildings as part of the new works unless otherwise instructed. The sample room is to be kept clean and secure at all times and to be made available for inspection to duly authorised persons only.</p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		R
	<p>Bill No. 1 Preliminaries</p>		

[illegible]

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>ALTERATIONS</u></b>			
	<b><u>(CPAP WORK GROUP NO. 102 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 2 Alterations			

**Brought Forward**

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

View site

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

General

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

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

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

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

**Carried Forward**

R

Bill No. 2  
Alterations

<p style="text-align: center;"><b>Brought Forward</b></p> <p>Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good floor and wall finishes to match existing</p> <p>With regard to building up of openings in existing walls, cement screeds and pavings, granolithic, tops of walls, etc, shall be levelled and prepared for raising of brickwork</p> <p>Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary</p> <p>The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)</p> <p>Asbestos work may only be performed subject to prior approval of the Provincial Director, Occupational Health and Safety, department of Labour in writing</p> <p>Proof of such notification must be applied to the Client prior to work proceeding. All employees must be informed and receive training on aspects such as the contents and scope of the Asbestos Regulations as published in Government Gazette 23108 dated 10 February 2002, the potential risks of exposure to asbestos, precautionary measures employees have to take and all other requirements deemed necessary to provide a safe and healthy environment for all employees as specified by the Asbestos Regulations as indicated above.</p> <p>Disposal shall be done under strict accordance of the act.</p> <p>Contractors will be held responsible for all damage, however caused, to ceilings, finishes, etc. inside rooms where the existing roof coverings have been removed and he must make good all damage at his own expense to the approval of the employer. Contractors are to Cover and maintain existing roofs in a perfectly watertight condition during alterations by means of heavy tarpaulins properly secured and maintained in position to the approval of the Employer and make good all work damaged or distributed after completion</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 2 Alterations</p>	<p style="text-align: center;">R</p>



**Brought Forward**

**Old Materials to become the Property of the Contractor :**

Old materials from alterations except where described to be re-used or handed over, become the property of the Contractor, who must allow credit for same against the appropriate item and a credit total where indicated in the Final Summary.

**Old Materials to be Carted Away :**

Old materials from alterations except where described to be re-used or handed over, as well as all rubbish, etc., must be regularly carted from the site and not be allowed to accumulate on or around the site.

**Old Materials not to be Re-Used :**

None of the old materials are to be used for new work except where specifically described as being set aside for re-use.

**REMOVAL OF EXISTING WORK**

**Temporary roof protection, etc. including removal:**

Contractors will be held responsible for all damages, however caused, to ceilings, finishes, etc. inside rooms where the existing roof coverings have been removed and he must make good all damages at his own expense to the approval of the Principal Agent

- 1 Cover and maintain existing roofs in a perfectly watertight condition during alterations by means of heavy tarpaulins properly secured and maintained in position to the approval of the Principal Agent and make good all work damaged or distributed after completion.

m2

231

A : 0      B : 0      C : 0      D : 0  
E : 0      F : 0      G : 0      H : 163  
J : 68      K : 0      L : 0      M : 0  
N : 0      O : 0      P : 0      Q : 0  
R : 0      S : 0      T : 0      U : 0  
V : 0

**Carried Forward**

Bill No. 2  
Alterations

R

R

Brought Forward				R
<b><u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u></b>				
2	Carefully take out metal roof sheeting covering including sislation, timber purlins, etc.	m2	377	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 259			
	J : 119      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
3	Carefully take down and remove damaged roof trusses	m2	368	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 249			
	J : 119      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
4	Disconnect and remove electrical cables including light fittings, etc.	m2	231	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 163			
	J : 68      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
5	Gypsum plasterboard ceilings, including cornices, timber brandering, etc	m2	207	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 146			
	J : 61      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 2 Alterations				

Brought Forward				R
6	Carefully take out and remove existing steel columns approximately 100 x 100mm 3000mm high and carted off site	No	6	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 4			
	J : 2      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
7	Carefully take out and remove existing timber beam approximate size 228 x 76mm fixed to timber column and cart away	m	32	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 22			
	J : 10      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
8	Existing fascia boards	m	64	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 44			
	J : 20      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
9	Existing barge boards	m	47	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 24			
	J : 24      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 2 Alterations				

Brought Forward			
<b><u>Breaking up and removing reinforced concrete, including cutting off and removing reinforcement</u></b>			
10	100mm Thick concrete surface bed	m2	81
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 57		
	J : 24      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
11	100mm Thick concrete aprons / v-drains	m2	76
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 44		
	J : 32      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>Breaking down and removing brickwork, etc</u></b>			
12	Half brick walls in beamfilling	m2	32
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 23		
	J : 9      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
13	One brick walls	m2	7
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 5		
	J : 2      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 2 Alterations			

R	
R	

Brought Forward			
<u>Take out and remove doors, windows, etc from brickwork to remain including making good cement plaster on both sides</u>			
14	Timber single door and frame size 900 x 2100mm high overall	No	1
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 1		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
15	Timber single door and frame size 900 x 2525mm high overall	No	4
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 3		
	J : 1      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
16	Steel gate size 900 x 2525mm high	No	4
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 3		
	J : 1      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
17	Steel window size 1445 x 680mm high	No	13
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 9		
	J : 4      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

Bill No. 2  
Alterations

R

Brought Forward			
18	Steel window size 1445 x 1275mm high	No	19
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 14		
	J : 5      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Carefully take out and remove gutters and downpipes etc.</u></b>		
19	Existing metal gutter	m	64
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 44		
	J : 20      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
20	Existing metal downpipes including outlet, bends & shoe	m	23
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 15		
	J : 8      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Taking out and removing ironmongery, lockers, blinds, etc.</u></b>		
21	Green writing board 4 800 x 1 140mm high consisting of two fixed panels each on either side 2 400 x 1 140mm high	No	3
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 2		
	J : 1      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 2 Alterations			

R	
R	

Brought Forward			
22	Pin board 4 800 x 1 140mm high consisting of two fixed panels each on either side 2 400 x 1 140mm high	No	3
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 2		
	J : 1      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc</u></b>		
23	30mm Screed from floors, including vinyl floor covering	m2	208
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 147		
	J : 61      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
24	Plaster from walls	m2	325
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 241		
	J : 84      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>BUILDING UP OPENINGS</u></b>		
	<b><u>Brickwork in NFP bricks in class II mortar in building up openings</u></b>		
25	One brick walls	m2	19
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 14		
	J : 5      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 2 Alterations			

R

R

		<b>Brought Forward</b>	
26	Extra over for Face brick to match existing	m2	19
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 14		
	J : 5      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>PREPARATORY WORK TO EXISTING SURFACES</u></b>		
	<b><u>Preparatory work</u></b>		
27	Making good to defects in concrete floors with "Sika" or other equally approved cementitious flooring compound	m2	104
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 74		
	J : 31      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>PREPARATORY WORK TO EXISTING SURFACES</u></b>		
28	Pressure clean down external facebrick walls using a water pressure cleaning system and steel brushes and remove all dirt and loose particles and seal with an approved sealer.	m2	256
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 152		
	J : 104      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
29	Making good to existing joints in face brick walls	m2	64
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 38		
	J : 26      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b>Carried Forward</b>		
	Bill No. 2		
	Alterations		

R	
R	



	Brought Forward		R
30	Remove damaged face bricks and replace with new in patches to match existing  A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 38 J : 26     K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0  <b>SPECIALIST WORK</b>  <b>SUPPLEMENTARY PREAMBLES</b>  Before any drilling of the surface bed can occur, the tenderer is to consult with the structural engineer.  Prior to pricing the tenderer is to take note of the following points below:	m2	64
	Carried Forward		R
	Bill No. 2 Alterations		

**Brought Forward**

R

**ROOF**

Fibre cement tiles on CCA treated SA Pine timbers

Evidence of *Cryptotermes brevis* (wood borer) infestation in min roof timbers. No structural damage caused by wood borer working. Some post construction rough SA pine timber pieces inserted to support ceilings. Ceilings sagging; mechanically damaged; damaged by water ingress. White PVC underlay installed in one section. Roof structure open to the elements in some areas; south side closure missing; tiles shifted or missing water ingress evident. There is no structural damaged caused by wood borer activity.

Open carport on south side; timbers on metal poles damaged by wood rot and water ingress.

**FLOORS**

Concrete slab on ground; some raw and painted concrete, largely covered with vinyl. Evidence of extensive Subterranean termite (white-ant) infestation in foundation flooring and cavity walls.

**JOINERY**

Painted and stained wood and steel; drywall partitions and aluminium frames. Evidence of extensive *Cryptotermes brevis* (wood borer) as well as Subterranean termite (White-ant) infestation and damage noted.

31 Methyl Bromide tent fumigation of entire structure to be made and held gas tight for a period of 24 hours and Methyl Bromide gas to be inserted at a rate of 48 grams per cubic meter free air space. (Area measured on flat)

m2

208

A : 0	B : 0	C : 0	D : 0
E : 0	F : 0	G : 0	H : 147
J : 61	K : 0	L : 0	M : 0
N : 0	O : 0	P : 0	Q : 0
R : 0	S : 0	T : 0	U : 0
V : 0			

**Carried Forward**

R

Bill No. 2  
Alterations

Brought Forward			R
32	Holes to be drilled through the foundation floors at approximately one meter intervals, around the inside perimeter of each room, as well as around the outside perimeter of the structure. Where this is not possible, holes are to be drilled horizontally from the outside into the cavity of the foundation walls. 5 litres of termiticide mixture is to be inserted into each hole before sealing the hole with cement. (Provisional)	No	15
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 10		
	J : 5      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>TEMPORARY EDUCATIONAL FACILITIES</u></b>			
33	Allow the sum of R 3,146, 000.00 for temporary prefabricated structures for educational facilities	Item	3,146,000.00
34	Add Profit upon above if required	Item	
35	Attend upon above if required	Item	
<b>Carried to Summary</b>			
Bill No. 2 Alterations			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 3</u></b>			
	<b><u>EARTHWORKS</u></b>			
	<b><u>(CPAP WORK GROUP NO. 104 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 3 Earthworks			

<p style="text-align: right;"><b>Brought Forward</b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Nature of ground</u></b></p> <p>Tenderers must acquaint themselves with the nature of the material to be excavated and also refer to the attached geotechnical investigation report annexed to the Bills of Quantities.</p> <p><b><u>Carting away of excavated material</u></b></p> <p>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</p> <p><b><u>Excavation for working space in rock</u></b></p> <p>Notwithstanding clause 11 page 8 of the Standard System of Measuring Building Work, excavation for working space in rock will be measured in cubic metres to the extent executed and given as "extra over"bulk excavation or trench and hole excavation as the case may be</p> <p><b><u>Filling</u></b></p> <p>Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material.</p> <p><b><u>Testing</u></b></p> <p>Prices for filling are to include for all necessary density tests in accordance with SABS 1200D</p> <p><b><u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u></b></p>	<p>R</p>
<p style="text-align: right;"><b>Carried Forward</b></p> <p>Bill No. 3 Earthworks</p>	<p>R</p>

Brought Forward					
<b><u>Excavation in earth not exceeding 2m deep</u></b>					
1	Reduced levels under floors		m3	1,192	
	A : 7      B : 187      C : 157      D : 211				
	E : 80      F : 148      G : 74      H : 19				
	J : 8      K : 111      L : 126      M : 64				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
2	Trenches		m3	1,655	
	A : 28      B : 324      C : 247      D : 218				
	E : 121      F : 199      G : 83      H : 0				
	J : 0      K : 135      L : 209      M : 91				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
3	Bases		m3	242	
	A : 5      B : 48      C : 21      D : 34				
	E : 14      F : 26      G : 14      H : 17				
	J : 10      K : 19      L : 21      M : 12				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
4	Edge thickening		m3	36	
	A : 1      B : 7      C : 4      D : 4				
	E : 2      F : 4      G : 2      H : 3				
	J : 1      K : 3      L : 3      M : 2				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
5	Pit		m3	439	
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 133      S : 168      T : 66      U : 72				
	V : 0				
Carried Forward					
Bill No. 3 Earthworks					

R	
R	

Brought Forward			
6	Trenches in pit	m3	38
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 13      S : 13      T : 6      U : 6		
	V : 0		
	<b><u>Excavation in earth exceeding 2m and not exceeding 4m deep</u></b>		
7	Trenches	m3	46
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 15      S : 10      T : 8      U : 13		
	V : 0		
	<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>		
8	Soft material	m3	54
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 16      S : 20      T : 8      U : 10		
	V : 0		
9	Intermediate material	m3	313
	A : 4      B : 56      C : 46      D : 46		
	E : 22      F : 37      G : 17      H : 17		
	J : 23      K : 22      L : 15      M : 8		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 3 Earthworks			

R	
R	

Brought Forward					
10	Hard material	m3	183		
	A : 2      B : 28      C : 23      D : 23				
	E : 11      F : 19      G : 9      H : 9				
	J : 11      K : 11      L : 7      M : 4				
	N : 0      O : 0      P : 0      Q : 0				
	R : 8      S : 10      T : 4      U : 5				
	V : 0				
	<b><u>Extra over all excavations for carting away</u></b>				
11	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	2,532		
	A : 31      B : 363      C : 254      D : 297				
	E : 180      F : 264      G : 96      H : 34				
	J : 16      K : 176      L : 246      M : 86				
	N : 0      O : 0      P : 0      Q : 0				
	R : 147      S : 184      T : 74      U : 83				
	V : 0				
	<b><u>Risk of collapse of excavations</u></b>				
12	Sides of trench and hole excavations not exceeding 1,5m deep	m2	3,788		
	A : 62      B : 686      C : 477      D : 482				
	E : 246      F : 412      G : 182      H : 51				
	J : 29      K : 284      L : 414      M : 189				
	N : 0      O : 0      P : 0      Q : 0				
	R : 86      S : 84      T : 43      U : 60				
	V : 0				
13	Sides of trench and pit excavations exceeding 1,5m deep	m2	296		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 94      S : 106      T : 47      U : 49				
	V : 0				
	<b><u>Keeping excavations free of water</u></b>				
14	Keeping excavations free of all water other than subterranean water	Item			
Carried Forward				R	
Bill No. 3 Earthworks					



Brought Forward			R
<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density.</u></b>			
15	Backfilling to trenches, holes, etc.	m3	1,138
	A : 18    B : 206    C : 156    D : 151		
	E : 85    F : 125    G : 54    H : 9		
	J : 5    K : 86    L : 128    M : 57		
	N : 0    O : 0    P : 0    Q : 0		
	R : 24    S : 8    T : 12    U : 13		
	V : 0		
16	Under floors, steps, paving etc,	m3	43
	A : 0    B : 0    C : 0    D : 0		
	E : 0    F : 0    G : 0    H : 0		
	J : 0    K : 0    L : 0    M : 0		
	N : 0    O : 0    P : 0    Q : 0		
	R : 10    S : 16    T : 5    U : 12		
	V : 0		
<b><u>Earth filling supplied by the contractor, compacted to 95% Mod. AASHTO density</u></b>			
17	Under surfaces bed of G5 material in accordance with SABS 1200 DM and compacted to 95% Mod. AASHTO density	m3	838
	A : 5    B : 131    C : 110    D : 148		
	E : 57    F : 104    G : 52    H : 14		
	J : 6    K : 78    L : 89    M : 45		
	N : 0    O : 0    P : 0    Q : 0		
	R : 0    S : 0    T : 0    U : 0		
	V : 0		
Carried Forward			R
Bill No. 3 Earthworks			

Brought Forward			R
<b><u>Earth filling supplied by the contractor, compacted to 93% Mod. AASHTO density</u></b>			
18	Under bases, etc. of G7 material in accordance with SABS 1200 DM and compacted to 95% Mod. AASHTO density	m3	103
	A : 2      B : 20      C : 9      D : 15		
	E : 6      F : 11      G : 6      H : 7		
	J : 4      K : 8      L : 9      M : 5		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
19	Under strip footings, etc. of G7 material in accordance with SABS 1200 DM and compacted to 95% Mod. AASHTO density	m3	704
	A : 12      B : 138      C : 105      D : 93		
	E : 51      F : 85      G : 35      H : 0		
	J : 0      K : 58      L : 89      M : 39		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>Compaction of surfaces</u></b>			
20	Compaction of ground surface under bases, etc. including grading, levelling and scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod. AASHTO density	m2	450
	A : 3      B : 34      C : 15      D : 24		
	E : 10      F : 19      G : 10      H : 12		
	J : 7      K : 14      L : 15      M : 8		
	N : 0      O : 0      P : 0      Q : 0		
	R : 85      S : 106      T : 42      U : 46		
	V : 0		
Carried Forward			R
Bill No. 3 Earthworks			

Brought Forward			
21	Compaction of ground surface under strip footings, etc. including grading, levelling and scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod. AASHTO density	m2	1,173
	A : 20      B : 230      C : 175      D : 154		
	E : 86      F : 141      G : 59      H : 0		
	J : 0      K : 96      L : 148      M : 65		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
22	Compaction of ground surface under floors, etc. including grading, levelling and scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod. AASHTO density	m2	2,794
	A : 15      B : 437      C : 368      D : 494		
	E : 189      F : 346      G : 173      H : 45		
	J : 19      K : 261      L : 297      M : 150		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Prescribed density tests on filling</u></b>		
23	Modified AASHTO Density tests	No	362
	A : 5      B : 65      C : 50      D : 54		
	E : 25      F : 44      G : 20      H : 4		
	J : 2      K : 31      L : 42      M : 20		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

**SOIL POISONING**

Carried Forward

Bill No. 3  
Earthworks

Brought Forward			
<u>brand of anti-termite soil poison applied by a registered Pest Control company and guaranteed against termite infestation for ten years</u>			
24	Under surfaces beds, etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming	m2	3,071
	A : 15      B : 437      C : 368      D : 494		
	E : 189      F : 346      G : 173      H : 45		
	J : 19      K : 261      L : 297      M : 150		
	N : 0      O : 0      P : 0      Q : 0		
	R : 84      S : 105      T : 42      U : 46		
	V : 0		
25	To bottoms and sides of trenches, etc.	m2	5,306
	A : 86      B : 950      C : 667      D : 661		
	E : 342      F : 572      G : 250      H : 63		
	J : 36      K : 394      L : 577      M : 262		
	N : 0      O : 0      P : 0      Q : 0		
	R : 130      S : 162      T : 65      U : 89		
	V : 0		

Carried to Summary

Bill No. 3  
Earthworks

R

R

[illegible]

<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>(CPAP WORK GROUP NO. 110 UNLESS OTHERWISE STATED)</u></b></p> <p><b><u>Note:</u></b></p> <p>A: Block A - Guard House</p> <p>B: Block B - New Admin Building</p> <p>C: Block C - New NPSP</p> <p>D: Block D - New Library and Computer Lab</p> <p>E: Block E - New Multi-Purpose Centre and HOD</p> <p>F: Block F - New Three Classrooms and Ablutions</p> <p>G: Block G - New Two Classrooms</p> <p>H: Block H - Existing Two Classrooms and HOD</p> <p>J: Block J - Existing One Classroom</p> <p>K: Block K - New Three Classrooms</p> <p>L: Block L - New Two Classrooms, HOD and Ablutions</p> <p>M: Block M - New Science Lab</p> <p>N: Electrical Installation</p> <p>O: Mechanical Installation</p> <p>P: External Works</p> <p>Q: Preliminaries</p> <p>R: Enviroloo - Boys Toilet</p> <p>S: Enviroloo - Girls Toilet</p> <p>T: Enviroloo - Staff Toilet - Male</p> <p>U: Enviroloo - Staff Toilet - Female</p>		R	
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 4 Concrete, Formwork &amp; Reinforcement</p>		R	

**Brought Forward**

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

### **Cost of tests**

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 Engineer. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the Engineer. (Test cubes are measured separately)

### **Breeze concrete**

Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated

### **Lightweight concrete**

Lightweight concrete shall have a density of 600kg/m<sup>3</sup> for the top 50mm and 400kg/m<sup>3</sup> for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm

### **Formwork**

Description of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use

**Carried Forward**

R

Bill No. 4  
Concrete, Formwork & Reinforcement

<p style="text-align: center;"><b>Brought Forward</b></p> <p>The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.</p> <p>Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks".</p> <p>Formwork to soffits of solid, etc. shall be deemed to be slabs not exceeding 250mm thick unless otherwise described and propping not exceeding 3,5m high unless otherwise stated. Formwork to walls and columns is not exceeding 3,5m high above bearing level unless otherwise stated.</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 4 Concrete, Formwork &amp; Reinforcement</p>	<p style="text-align: center;">R</p>



<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>Polished Concrete:</u></b></p> <p>It must be noted that where polished concrete finishes are required, the pouring and polishing of such concrete should be done by the same specialist contractor.</p> <p>The Contractor is to allow for sufficient and adequate protection of all concrete surfaces which are to have a polished finish surface.</p> <p>To achieve the optimum aesthetic finish to the floors, the casting and finishing of such concrete in connection with the laying process is of extreme importance, requiring a high degree of accuracy in placing. When grinding, the top surface of the concrete is exposed and any defects such as cracks, pores and 'gumboot marks' that originated during casting will become evident and will not be accepted and it will be required that such defects are corrected to the complete satisfaction of the Architect.</p> <p>Place concrete to a FM2 tolerance using a bull float. Separation of aggregate from walking in the green concrete is to be prevented and avoided.</p> <p>Saw cutting where required is to be done in squares to minimise the risk of shrinkage cracks and shall be done timeously within 12 hours of placing the concrete.</p> <p>During the grinding and polishing process all depressions and imperfections must be corrected and repaired to the satisfaction of the Architect.</p> <p>During grinding and polishing the required silicate densifier and stain resistant products shall be applied in accordance with the manufacturer's specifications.</p> <p>A sample panel of the polished finish is to be provided for the Architect's approval prior to any work commencing.</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 4 Concrete, Formwork &amp; Reinforcement</p>	<p style="text-align: center;">R</p>

Brought Forward				R
<b><u>Test blocks</u></b>				
1	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No	20	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 10      S : 0      T : 5      U : 5			
	V : 0			
<b><u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>				
<b><u>10MPa/19mm concrete</u></b>				
2	Surface blinding under footings and bases	m3	38	
	A : 1      B : 7      C : 5      D : 6			
	E : 3      F : 5      G : 2      H : 0			
	J : 0      K : 3      L : 5      M : 2			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>				
<b><u>25MPa/19mm concrete</u></b>				
3	Bases	m3	17	
	A : 0      B : 3      C : 1      D : 3			
	E : 1      F : 2      G : 1      H : 1			
	J : 1      K : 1      L : 1      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 4 Concrete, Formwork & Reinforcement				

Brought Forward					
4	Strip footings	m3	194		
	A : 3      B : 32      C : 25      D : 22				
	E : 13      F : 21      G : 9      H : 0				
	J : 0      K : 14      L : 22      M : 9				
	N : 0      O : 0      P : 0      Q : 0				
	R : 8      S : 5      T : 4      U : 6				
	V : 0				
5	Strip footing in pits	m3	19		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 8      S : 5      T : 3      U : 3				
	V : 0				
6	Surface beds on waterproofing	m3	372		
	A : 2      B : 58      C : 48      D : 64				
	E : 25      F : 45      G : 23      H : 7				
	J : 3      K : 34      L : 39      M : 20				
	N : 0      O : 0      P : 0      Q : 0				
	R : 1      S : 4      T : 1      U : 1				
	V : 0				
7	Surface bed in pits	m3	15		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 6      S : 3      T : 3      U : 3				
	V : 0				
8	in surface beds cast to falls	m3	9		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 2      S : 4      T : 1      U : 2				
	V : 0				
Carried Forward					
Bill No. 4					
Concrete, Formwork & Reinforcement					

R	
R	

Brought Forward			
9	In aprons/pavings/ramps cast in panels	m3	9
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 2      S : 4      T : 1      U : 2		
	V : 0		
10	Edge thickening	m3	46
	A : 1      B : 7      C : 4      D : 4		
	E : 2      F : 4      G : 2      H : 3		
	J : 1      K : 3      L : 3      M : 2		
	N : 0      O : 0      P : 0      Q : 0		
	R : 2      S : 4      T : 1      U : 3		
	V : 0		
11	Thickening down apron on edge 110 x 200 wide including all necessary excavations, backfilling and compacting	m	159
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 28      S : 112      T : 4      U : 15		
	V : 0		
12	Slabs	m3	12
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 3      T : 2      U : 3		
	V : 0		

**REINFORCED CONCRETE CAST AGAINST  
ON/IN FORMWORK**

Carried Forward

Bill No. 4  
Concrete, Formwork & Reinforcement

R

Brought Forward					
<b><u>30MPa/19mm concrete</u></b>					
13	Stub Columns			m3	5
	A : 0	B : 1	C : 1	D : 0	
	E : 0	F : 1	G : 0	H : 0	
	J : 0	K : 0	L : 1	M : 0	
	N : 0	O : 0	P : 0	Q : 0	
	R : 0	S : 0	T : 0	U : 0	
	V : 0				
14	Columns			m3	2
	A : 0	B : 2	C : 0	D : 0	
	E : 0	F : 0	G : 0	H : 0	
	J : 0	K : 0	L : 0	M : 0	
	N : 0	O : 0	P : 0	Q : 0	
	R : 0	S : 0	T : 0	U : 0	
	V : 0				
15	Ramps			m3	14
	A : 1	B : 1	C : 1	D : 1	
	E : 1	F : 1	G : 1	H : 1	
	J : 1	K : 1	L : 1	M : 1	
	N : 0	O : 0	P : 0	Q : 0	
	R : 0	S : 0	T : 0	U : 0	
	V : 0				
16	Walls			m3	10
	A : 0	B : 10	C : 0	D : 0	
	E : 0	F : 0	G : 0	H : 0	
	J : 0	K : 0	L : 0	M : 0	
	N : 0	O : 0	P : 0	Q : 0	
	R : 0	S : 0	T : 0	U : 0	
	V : 0				

Carried Forward

Bill No. 4  
Concrete, Formwork & Reinforcement

R	
R	

Brought Forward				
17	Slabs		m3	2
	A : 0	B : 2	C : 0	D : 0
	E : 0	F : 0	G : 0	H : 0
	J : 0	K : 0	L : 0	M : 0
	N : 0	O : 0	P : 0	Q : 0
	R : 0	S : 0	T : 0	U : 0
	V : 0			
18	Concrete infill in hollow columns		m3	24
	A : 0	B : 2	C : 2	D : 3
	E : 1	F : 2	G : 1	H : 0
	J : 0	K : 2	L : 9	M : 1
	N : 0	O : 0	P : 0	Q : 0
	R : 0	S : 0	T : 0	U : 0
	V : 0			
19	Extra over 30MPa concrete for 'Penetron' admixture to concrete (Note: This is to be added by the concrete supplier and not to be mixed on site)		m3	14
	A : 1	B : 1	C : 1	D : 1
	E : 1	F : 1	G : 1	H : 1
	J : 1	K : 1	L : 1	M : 1
	N : 0	O : 0	P : 0	Q : 0
	R : 0	S : 0	T : 0	U : 0
	V : 0			
	<b><u>TEST CUBES</u></b>			
20	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)		No	128
	A : 0	B : 0	C : 0	D : 0
	E : 0	F : 0	G : 0	H : 0
	J : 0	K : 0	L : 0	M : 0
	N : 0	O : 0	P : 107	Q : 0
	R : 5	S : 10	T : 0	U : 6
	V : 0			
	<b><u>CONCRETE SUNDRIES</u></b>			
	<b>Carried Forward</b>			
	Bill No. 4 Concrete, Formwork & Reinforcement			

<b>Brought Forward</b>				R
<b><u>Finishing top surfaces of concrete smooth with a wood float</u></b>				
21	Surface beds, slabs, etc.	m2	2,804	
	A : 15      B : 447      C : 368      D : 494			
	E : 189      F : 346      G : 173      H : 45			
	J : 19      K : 261      L : 297      M : 150			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
22	Aprons, pavings, ramps etc	m2	45	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 8      S : 16      T : 4      U : 17			
	V : 0			
23	Extra over wood float to falls, etc.	m2	554	
	A : 23      B : 111      C : 88      D : 68			
	E : 32      F : 61      G : 30      H : 44			
	J : 19      K : 45      L : 6      M : 26			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>Finishing top surfaces of concrete with steel trowel</u></b>				
24	Surface beds, slabs, etc.	m2	157	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 52      S : 51      T : 26      U : 28			
	V : 0			
<b>Carried Forward</b>				R
Bill No. 4 Concrete, Formwork & Reinforcement				

Brought Forward			
<b><u>Finishing top surfaces of concrete to an evenly ribbed non slip</u></b>			
25	Ramps	m2	72
	A : 6      B : 6      C : 6      D : 6		
	E : 6      F : 6      G : 6      H : 6		
	J : 6      K : 6      L : 6      M : 6		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>40Mpa Non-shrink grout:</u></b>			
26	Bedding approximately 5mm thick under base plate including chamfered edges all round.	m3	1
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>FORMWORK (CPAP Work Group No. 111)</u></b>			
<b><u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u></b>			
<b><u>Rough formwork to</u></b>			
27	Strip footings (Provisional)	m2	489
	A : 8      B : 96      C : 73      D : 64		
	E : 36      F : 59      G : 24      H : 0		
	J : 0      K : 40      L : 62      M : 27		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b>Carried Forward</b>			
Bill No. 4 Concrete, Formwork & Reinforcement			

R	
R	



Brought Forward			
28	Base (Provisional)	m2	84
	A : 2      B : 16      C : 7      D : 15		
	E : 5      F : 9      G : 5      H : 6		
	J : 3      K : 6      L : 7      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
29	Stub columns (Provisional)	m2	59
	A : 1      B : 13      C : 6      D : 0		
	E : 4      F : 7      G : 4      H : 5		
	J : 3      K : 5      L : 6      M : 3		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
30	Columns in foundations (Provisional)	m2	4
	A : 0      B : 4      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
31	Walls in foundations (Provisional)	m2	12
	A : 0      B : 12      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
32	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	422
	A : 6      B : 77      C : 34      D : 37		
	E : 21      F : 38      G : 21      H : 25		
	J : 11      K : 30      L : 34      M : 19		
	N : 0      O : 0      P : 0      Q : 0		
	R : 6      S : 56      T : 3      U : 5		
	V : 0		
Carried Forward			
Bill No. 4 Concrete, Formwork & Reinforcement			

R

R

Brought Forward				R
<b><u>Permanent formwork to soffits</u></b>				
33	Corrugated iron sheets as permanent formwork	m2	72	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 18      S : 28      T : 9      U : 17			
	V : 0			
34	Form 500mm diameter opening in floor slab	No	17	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 8      T : 2      U : 3			
	V : 0			
<b><u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u></b>				
<b><u>Smooth formwork to sides</u></b>				
35	Walls not exceeding 3.5m high	m2	73	
	A : 0      B : 73      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u></b>				
<b><u>Smooth formwork to sides</u></b>				
36	Columns	m2	21	
	A : 0      B : 21      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 4 Concrete, Formwork & Reinforcement				

Brought Forward			R
37	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	13
	A : 0      B : 13      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Smooth formwork to soffits</u></b>		
38	Slabs, propped up not exceeding 3.5m high	m2	10
	A : 0      B : 10      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Boxing in smooth formwork to form</u></b>		
39	25 x 25mm High horizontal chamfer to sides along top edges	m	115
	A : 3      B : 26      C : 12      D : 0		
	E : 8      F : 15      G : 8      H : 9		
	J : 5      K : 11      L : 12      M : 7		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
40	25 x 25mm High horizontal chamfer to sides along bottom edges	m	31
	A : 0      B : 31      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

R

Bill No. 4  
Concrete, Formwork & Reinforcement

		<b>Brought Forward</b>			R
41	25 x 25mm High vertical chamfer to sides	m	61		
	A : 0      B : 61      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b><u>MOVEMENT JOINTS ETC</u></b>				
	<b><u>Two sheets of tempered hardboard (smooth sides together) to form slip joint between abutting horizontal concrete and brickwork surfaces</u></b>				
42	Not exceeding 300mm wide	m	12		
	A : 0      B : 12      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b><u>Expansion joints with 12mm bitumen impregnated softboard between vertical concrete surfaces, including necessary formwork</u></b>				
43	12mm Joints not exceeding 300mm high	m	520		
	A : 7      B : 98      C : 59      D : 78				
	E : 37      F : 68      G : 34      H : 0				
	J : 0      K : 51      L : 58      M : 29				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b><u>Saw cut joints</u></b>				
44	3 x 30mm Saw cut joints in top of concrete	m	679		
	A : 3      B : 76      C : 80      D : 99				
	E : 26      F : 124      G : 72      H : 0				
	J : 0      K : 104      L : 61      M : 35				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b>Carried Forward</b>				R
	Bill No. 4				
	Concrete, Formwork & Reinforcement				

<b>Brought Forward</b>					
<b><u>Isolation joints with 12mm bitumen impregnated softboard between vertical concrete surfaces, including necessary formwork</u></b>					
45	12mm Joints not exceeding 300mm high	m	1,718		
	A : 14      B : 308      C : 293      D : 260				
	E : 92      F : 118      G : 128      H : 0				
	J : 0      K : 185      L : 214      M : 107				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
<b><u>REINFORCEMENT (PROVISIONAL) (CPAP WORK Group No. 114)</u></b>					
<b><u>High tensile steel reinforcement to structural concrete work</u></b>					
46	Bars of various diameters	t	29.14		
	A : 0.48      B : 6.89      C : 3.71      D : 3.54				
	E : 1.97      F : 3.29      G : 1.44      H : 0.50				
	J : 0.27      K : 2.31      L : 3.25      M : 1.49				
	N : 0.00      O : 0.00      P : 0.00      Q : 0.00				
	R : 0.00      S : 0.00      T : 0.00      U : 0.00				
	V : 0.00				
<b><u>Fabric reinforcement</u></b>					
47	Type ref. 193 fabric reinforcement in concrete surface beds, slabs, etc	m2	2,919		
	A : 15      B : 437      C : 368      D : 494				
	E : 189      F : 346      G : 173      H : 45				
	J : 19      K : 261      L : 297      M : 150				
	N : 0      O : 0      P : 0      Q : 0				
	R : 52      S : 28      T : 26      U : 19				
	V : 0				
<b>Carried to Summary</b>					
Bill No. 4					
Concrete, Formwork & Reinforcement					

R

R

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 5</u></b>			
	<b><u>MASONRY</u></b>			
	<b><u>(CPAP WORK GROUP NO. 116 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 5 Masonry			

Brought Forward

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

### **SAMPLES**

Samples of masonry building units to be provided before construction commences

### **SIZES IN DESCRIPTIONS**

Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick

### **HOLLOW WALLS**

Descriptions of hollow walls shall be deemed to include every fifth perpend of the bottom course of the external skin open as a weep hole

### **BAGGED AND SEALED WALLS**

User Note: The following preamble generally applies for works in hot and humid coastal areas.

Walls in two skins described as "bagged and sealed" shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating.

### **FACE BRICKS**

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

All facebrick work is to be protected from other finishing trades during the construction period.

All interior face brickwork is to receive two coats water based silicone sealant at completion including preparatory work as per manufacturer's instructions.

Carried Forward

R

Bill No. 5  
Masonry

Brought Forward				R
<b><u>POINTING</u></b>				
Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing etc.				
<b><u>FOUNDATIONS (PROVISIONAL)</u></b>				
<b><u>Brickwork of NFX bricks in class II mortar</u></b>				
1	Piers	m3	1	
	A : 0      B : 1      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
2	Half brick walls	m2	67	
	A : 2      B : 26      C : 17      D : 8			
	E : 4      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 8      M : 2			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
3	One brick walls	m2	578	
	A : 8      B : 86      C : 68      D : 69			
	E : 44      F : 75      G : 33      H : 0			
	J : 0      K : 53      L : 71      M : 31			
	N : 0      O : 0      P : 0      Q : 0			
	R : 21      S : 10      T : 10      U : 0			
	V : 0			
4	115mm Brick corbelling in pit	m	112	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 33      S : 45      T : 17      U : 17			
	V : 0			
Carried Forward				R
Bill No. 5 Masonry				



Brought Forward			
5	One brick walls in holes	m2	169
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 52      S : 65      T : 26      U : 26		
	V : 0		
<b><u>SUPERSTRUCTURE</u></b>			
<b><u>Brickwork of NFP bricks in class II mortar</u></b>			
6	Piers	m3	9
	A : 0      B : 1      C : 1      D : 1		
	E : 1      F : 1      G : 1      H : 0		
	J : 0      K : 1      L : 1      M : 1		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
7	Half brick walls	m2	565
	A : 8      B : 160      C : 98      D : 45		
	E : 20      F : 67      G : 0      H : 0		
	J : 0      K : 0      L : 73      M : 10		
	N : 0      O : 0      P : 0      Q : 0		
	R : 21      S : 40      T : 10      U : 15		
	V : 0		
8	Half brick walls in beamfilling	m2	100
	A : 1      B : 11      C : 10      D : 11		
	E : 6      F : 12      G : 6      H : 0		
	J : 0      K : 9      L : 10      M : 5		
	N : 0      O : 0      P : 0      Q : 0		
	R : 7      S : 6      T : 3      U : 4		
	V : 0		

Carried Forward

Bill No. 5  
Masonry

R

Brought Forward			
9	One brick walls in beamfilling	m2	194
	A : 0      B : 24      C : 23      D : 27		
	E : 28      F : 26      G : 13      H : 0		
	J : 0      K : 20      L : 22      M : 11		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
10	One brick walls	m2	2,935
	A : 49      B : 394      C : 419      D : 394		
	E : 191      F : 362      G : 185      H : 0		
	J : 0      K : 236      L : 345      M : 173		
	N : 0      O : 0      P : 0      Q : 0		
	R : 51      S : 78      T : 26      U : 32		
	V : 0		
11	Two brick walls	m2	114
	A : 0      B : 0      C : 0      D : 0		
	E : 29      F : 29      G : 0      H : 0		
	J : 0      K : 29      L : 29      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>BRICKWORK SUNDRIES</u></b>			
<b><u>2.5mm Galvanised brickwork reinforcement</u></b>			
12	75mm Wide reinforcement built in horizontally	m	4,181
	A : 41      B : 756      C : 480      D : 245		
	E : 114      F : 310      G : 24      H : 0		
	J : 0      K : 35      L : 352      M : 65		
	N : 0      O : 0      P : 0      Q : 0		
	R : 458      S : 789      T : 229      U : 284		
	V : 0		
Carried Forward			
Bill No. 5 Masonry			

R	
R	

Brought Forward			R
13	155mm Wide reinforcement built in horizontally	m	17,326
	A : 219      B : 1918      C : 1954      D : 1876		
	E : 1116      F : 1996      G : 885      H : 0		
	J : 0      K : 1289      L : 1669      M : 822		
	N : 0      O : 0      P : 0      Q : 0		
	R : 1115      S : 1295      T : 558      U : 613		
	V : 0		
	<b><u>Turning pieces</u></b>		
14	115mm Wide turning pieces to to lintels etc	m	51
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 12      S : 24      T : 6      U : 9		
	V : 0		
	<b><u>Bagging of 1:3 cement and sand mixture</u></b>		
15	On brick walls, piers, etc	m2	1,704
	A : 35      B : 209      C : 201      D : 262		
	E : 132      F : 252      G : 125      H : 0		
	J : 0      K : 168      L : 187      M : 134		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Joint forming material in movement joints</u></b>		
16	12mm Bitumen impregnated fibre board built in vertically between brick skins	m	1,248
	A : 19      B : 235      C : 196      D : 149		
	E : 89      F : 177      G : 57      H : 0		
	J : 0      K : 90      L : 176      M : 60		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			R
Bill No. 5 Masonry			

Brought Forward			
<b><u>Prestressed fabricated concrete lintels including necessary temporary supports</u></b>			
17	75 x 110mm Lintels in lengths not exceeding 3m	m	822
	A : 14      B : 102      C : 108      D : 91		
	E : 67      F : 122      G : 56      H : 0		
	J : 0      K : 85      L : 89      M : 51		
	N : 0      O : 0      P : 0      Q : 0		
	R : 6      S : 20      T : 3      U : 8		
	V : 0		
18	75 x 110mm Lintels in lengths exceeding 3m and exceeding 4.5m	m	58
	A : 0      B : 6      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 16      S : 20      T : 8      U : 8		
	V : 0		
<b><u>Galvanised wire ties etc.</u></b>			
19	4mm Diameter roof tie 2000mm girth bent double, with one end built into brickwork and the other end fixed to timber	No	564
	A : 7      B : 59      C : 55      D : 62		
	E : 35      F : 64      G : 32      H : 42		
	J : 20      K : 48      L : 55      M : 29		
	N : 0      O : 0      P : 0      Q : 0		
	R : 20      S : 14      T : 10      U : 12		
	V : 0		
<b><u>Galvanised hoop iron cramps, ties, etc</u></b>			
20	30 x 1,6mm Cramp 500mm long with one end shot pinned to concrete and other end built into brickwork	No	46
	A : 0      B : 46      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 5 Masonry			

R

R

Brought Forward			
<b><u>AIR BRICKS etc</u></b>			
21	229 x 152mm Clay vermin proof air brick	No	40
	A : 4      B : 4      C : 4      D : 4		
	E : 4      F : 4      G : 4      H : 0		
	J : 0      K : 4      L : 4      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>FACE BRICKWORK</u></b>			
<b><u>"Firelight Satin FBX" or other equally approved face bricks pointed with tinted recessed horizontal and vertical joints</u></b>			
22	Extra over brickwork for face brickwork in foundations (Provisional)	m2	270
	A : 2      B : 14      C : 13      D : 15		
	E : 9      F : 17      G : 8      H : 0		
	J : 0      K : 11      L : 13      M : 8		
	N : 0      O : 0      P : 0      Q : 0		
	R : 46      S : 62      T : 23      U : 28		
	V : 0		
<b><u>Facebricks pointed with recessed horizontal and vertical joints</u></b>			
23	Face brick piers	m3	2
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 1      S : 1      T : 0      U : 0		
	V : 0		
<b>Carried Forward</b>			
Bill No. 5 Masonry			

R	
R	

Brought Forward			
24	Half brick walls	m2	113
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 34      S : 43      T : 17      U : 19		
	V : 0		
25	Extra over ordinary brickwork for face brickwork	m2	147
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 42      S : 56      T : 21      U : 28		
	V : 0		
26	Fair raking cutting	m	94
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 22      S : 44      T : 11      U : 17		
	V : 0		
	<b><u>Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces</u></b>		
27	Extra over brickwork for brick-on-edge header course lintel pointed on face and 110mm soffit	m	14
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 3      S : 6      T : 2      U : 3		
	V : 0		
Carried Forward			
Bill No. 5 Masonry			

R	
R	

Brought Forward			
28	Extra over brickwork for brick-on-edge 100mm wide sill set sloping and slightly and projection	m	15
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 6      T : 2      U : 3		
	V : 0		
29	Extra over copings	m	15
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 6      T : 2      U : 3		
	V : 0		
	<b><u>"Titanium Satin FBX" or other equally approved face bricks pointed with tinted recessed horizontal and vertical joints</u></b>		
30	Extra over brickwork for face brickwork to columns	m2	49
	A : 0      B : 6      C : 6      D : 10		
	E : 4      F : 7      G : 4      H : 0		
	J : 0      K : 5      L : 6      M : 3		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
31	Extra over brickwork for face brickwork	m2	1,397
	A : 34      B : 209      C : 200      D : 164		
	E : 126      F : 195      G : 83      H : 0		
	J : 0      K : 112      L : 199      M : 74		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

Bill No. 5  
Masonry

R

	Brought Forward			
32	Extra over brickwork for face brickwork laid both sides of wall	m2	307	
	A : 0      B : 0      C : 0      D : 72			
	E : 18      F : 64      G : 49      H : 0			
	J : 0      K : 70      L : 34      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
33	110mm Wide sills set sloping and slightly projecting	m	240	
	A : 5      B : 30      C : 29      D : 29			
	E : 20      F : 37      G : 20      H : 0			
	J : 0      K : 30      L : 25      M : 17			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b><u>CILLS</u></b>			
	<b><u>High density window cills in single lengths with width not exceeding 300mm with galvanised fixing lugs embedded in epoxy cement mortar.</u></b>			
34	15 x 150mm Wide bullnosed edge sill set flat and projecting internally	m	251	
	A : 0      B : 30      C : 29      D : 29			
	E : 20      F : 37      G : 20      H : 0			
	J : 0      K : 30      L : 25      M : 17			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 7      T : 2      U : 3			
	V : 0			

Carried to Summary

Bill No. 5  
Masonry

R	
R	



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 6</u></b>			
	<b><u>WATERPROOFING</u></b>			
	<b><u>(CPAP WORK GROUP NO. 120 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 6 Waterproofing			

**Brought Forward**

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

**Waterproofing to SABS 021**

Waterproofing shall be laid under a 10 year written guarantee for site workmanship and watertightness and to be laid to even falls to outlets etc. Descriptions of sheet or membrane waterproofing shall be deemed to include for additional labour to turn-ups and turn downs

**DAMP-PROOFING OF WALLS AND FLOORS**

**One layer of 375 micron Brikgrit DPC embossed damp proof course as per approval**

1	In walls	m2	233																								
	<table> <tr> <td>A : 3</td><td>B : 29</td><td>C : 30</td><td>D : 28</td></tr> <tr> <td>E : 17</td><td>F : 27</td><td>G : 13</td><td>H : 0</td></tr> <tr> <td>J : 0</td><td>K : 16</td><td>L : 25</td><td>M : 12</td></tr> <tr> <td>N : 0</td><td>O : 0</td><td>P : 0</td><td>Q : 0</td></tr> <tr> <td>R : 9</td><td>S : 14</td><td>T : 4</td><td>U : 6</td></tr> <tr> <td>V : 0</td><td></td><td></td><td></td></tr> </table>	A : 3	B : 29	C : 30	D : 28	E : 17	F : 27	G : 13	H : 0	J : 0	K : 16	L : 25	M : 12	N : 0	O : 0	P : 0	Q : 0	R : 9	S : 14	T : 4	U : 6	V : 0					
A : 3	B : 29	C : 30	D : 28																								
E : 17	F : 27	G : 13	H : 0																								
J : 0	K : 16	L : 25	M : 12																								
N : 0	O : 0	P : 0	Q : 0																								
R : 9	S : 14	T : 4	U : 6																								
V : 0																											
2	Under cills	m2	77																								
	<table> <tr> <td>A : 1</td><td>B : 10</td><td>C : 9</td><td>D : 9</td></tr> <tr> <td>E : 6</td><td>F : 12</td><td>G : 6</td><td>H : 0</td></tr> <tr> <td>J : 0</td><td>K : 10</td><td>L : 8</td><td>M : 5</td></tr> <tr> <td>N : 0</td><td>O : 0</td><td>P : 0</td><td>Q : 0</td></tr> <tr> <td>R : 0</td><td>S : 0</td><td>T : 0</td><td>U : 0</td></tr> <tr> <td>V : 0</td><td></td><td></td><td></td></tr> </table>	A : 1	B : 10	C : 9	D : 9	E : 6	F : 12	G : 6	H : 0	J : 0	K : 10	L : 8	M : 5	N : 0	O : 0	P : 0	Q : 0	R : 0	S : 0	T : 0	U : 0	V : 0					
A : 1	B : 10	C : 9	D : 9																								
E : 6	F : 12	G : 6	H : 0																								
J : 0	K : 10	L : 8	M : 5																								
N : 0	O : 0	P : 0	Q : 0																								
R : 0	S : 0	T : 0	U : 0																								
V : 0																											

**Carried Forward**

R

Bill No. 6  
Waterproofing

Brought Forward					
	<b><u>One layer of 375 micron waterproof sheeting sealed at laps as per approval</u></b>				
3	Under surface beds	m2	2,794		
	A : 15      B : 437      C : 368      D : 494				
	E : 189      F : 346      G : 173      H : 45				
	J : 19      K : 261      L : 297      M : 150				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b><u>Polyolefin 0.25mm damp proof membrane sheeting complying with SABS 952, Type C in widest practicable widths with all joints lapped 200mm and sealed in accordance with the manufacturers instruction</u></b>				
4	Under surface beds	m2	195		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 43      S : 107      T : 21      U : 24				
	V : 0				
	<b><u>Two coats emulsion bitumen emulsion waterproof coating as per approval</u></b>				
5	On bagged brick walls	m2	1,704		
	A : 35      B : 209      C : 201      D : 262				
	E : 132      F : 252      G : 125      H : 0				
	J : 0      K : 168      L : 187      M : 134				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
Carried Forward					
Bill No. 6 Waterproofing					

R

R

	<b>Brought Forward</b>			R
	<u><b>Waterproofing slurry, with and including membrane applied as per manufacturers instructions and approval</b></u>			
6	On splash backs	m2	116	
	A : 3      B : 34      C : 26      D : 0			
	E : 0      F : 20      G : 0      H : 0			
	J : 0      K : 0      L : 28      M : 6			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<u><b>JOINT SEALANTS ETC</b></u>			
	<u><b>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc. as per approval</b></u>			
7	3 x 30mm Saw cut joints in top of concrete	m	679	
	A : 3      B : 76      C : 80      D : 99			
	E : 26      F : 124      G : 72      H : 0			
	J : 0      K : 104      L : 61      M : 35			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
8	12 x 12mm In horizontal expansion joints including raking out expansion joint filler as necessary	m	1,718	
	A : 14      B : 308      C : 293      D : 260			
	E : 92      F : 118      G : 128      H : 0			
	J : 0      K : 185      L : 214      M : 107			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
9	12 x 12mm In vertical expansion joints including raking out expansion joint filler as necessary	m	1,248	
	A : 19      B : 235      C : 196      D : 149			
	E : 89      F : 177      G : 57      H : 0			
	J : 0      K : 90      L : 176      M : 60			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b>Carried to Summary</b>			R
	Bill No. 6			
	Waterproofing			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 7</u></b>			
	<b><u>ROOF COVERINGS, ETC.</u></b>			
	<b><u>(CPAP WORK GROUP NO. 124 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 7 Roof Coverings etc			

**Brought Forward**

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

**SHEETING**

Roof pitch to be 15 degrees & 3 degrees. 0,8mm aluminium roof sheeting with pre-painted G4 colortech finish on both sides complete with fixings, ridge flashing and mastic sealant to all side laps supplied by roof manufacture. determine direction of wind before laying sheets. sheets to project a minimum of 50mm beyond purlins at eaves. sheets to be fixed to 76 x 50mm timber purlins at max. of 1250mm centers on prefabricated trusses by engineer at max. of 1250mm centers to be strapped to 114 x 38mm wallplate with 30 x 1.6 x 1600mm long galvanised hoop iron straps built into coursing. Sisalation "RF405" underlay over trusses and under purlins on straining wires. prefabricated cleated roof trusses 114 x 38mm rafters and ties, 114 x 38mm intermediate members as per details hurricane clips be used externally to secure purlins to trusses at eaves overhangs. double wound 2.5mm diameter galvanised wire to secure purlins internally. all exposed roof timber to be painted with 2 coats of approved paint, before fixing of roof sheets, fascias and bargeboards

**SAFETY**

The contractor shall exercise special care when handling long length sheeting, particularly in windy conditions. Should work be interrupted for any reason, all loose sheeting and incomplete sections must be adequately secured against possible movement by wind and gravity.

**INSTALLATION**

Every precaution shall be taken to prevent damage to roof sheets during all stages of construction. Duck boards should be used when necessary to protect the sheeting from damage. Sheeting which has become

**Carried Forward**

R

Bill No. 7  
Roof Coverings etc

<p style="text-align: center;"><b>Brought Forward</b></p> <p>deformed or damaged in any way, should be replaced. Care shall be taken to ensure that no sheeting or flashing will be cut with abrasive disc on roof surfaces in order to prevent steel particles from penetrating coated surfaces.</p> <p><b><u>HANDLING AND STORAGE</u></b></p> <p>The contractor shall ensure that all materials used on site for roofing/cladding, be transported, handled and stored in accordance with the manufacturer's recommendations. Material damaged shall be rejected and replaced with undamaged material at the contractor's expense. Repair of damaged material will not generally be permitted. Rates are to include for preventing damage and protecting sheets through all stages of construction.</p> <p><b><u>INSPECTION PRIOR TO INSTALLATION</u></b></p> <p>Before commencing installation, the contractor shall verify that the following items have been checked and accepted:</p> <ol style="list-style-type: none"> <li>a. The entire structure or the portion thereof to be sheeted has been correctly aligned, levelled and grouted.</li> <li>b. Purlins and girts are at the correct spacing and are within the specified tolerances.</li> <li>c. The corners of the roof are square and the wall framework is perpendicular or as specified.</li> <li>d. No protrusions such as bolt heads, splice plates, cleats, etc. appear on the face of the framework.</li> <li>e. All members to which roofing and cladding are to be fixed in aesthetically sensitive areas are true and square.</li> <li>f. Paint and any other materials that may be incompatible with the sheeting, have been painted over or, so dealt with that direct contact with the sheeting is avoided.</li> <li>g. The contact faces between the purlins or the girts and the cladding are in the</li> </ol> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 7 Roof Coverings etc</p>	<p style="text-align: center;">R</p>
	R

**Brought Forward**

same plane. Should the alignment be inadequate, the contractor shall request instructions from the engineer before proceeding with the fixing of the cladding.

**PROTRUSION THROUGH SHEETED SURFACES**

Protrusions such as pipes, ducts and the like, shall be adequately flashed where they pass through the sheeting surface. Where ribs have to be cut away to permit penetration, additional framing is to be installed as required to support the sheeting. Depending on the position of the penetration through the roof, special attention shall be given to back flashing the sheeting to the ridge or point of water entry. In all cases, all cutting and flashings shall be so arranged that adequate provision is made for the drainage of all troughs and corrugations.

**GUARANTEE**

The manufacturer shall comply with ISO 9001:2008 Quality Management System. Sheeting shall be laid in strict accordance with the manufacturer's specifications by a 'GRS' contractor. A written five year guarantee of water-tightness shall be issued after approval of roofs by the manufacturer.

**PROFILED METAL SHEETING AND ACCESSORIES**

**0.8mm spelter galvanised sheet steel and accessories with double interlocking concealed fix, fixed to timber purlins**

1	Roof covering with pitches not exceeding 25 degrees	m2	3,767																								
	<table> <tr> <td>A : 22</td><td>B : 455</td><td>C : 415</td><td>D : 513</td></tr> <tr> <td>E : 222</td><td>F : 407</td><td>G : 210</td><td>H : 210</td></tr> <tr> <td>J : 116</td><td>K : 310</td><td>L : 361</td><td>M : 187</td></tr> <tr> <td>N : 0</td><td>O : 0</td><td>P : 226</td><td>Q : 0</td></tr> <tr> <td>R : 33</td><td>S : 46</td><td>T : 16</td><td>U : 20</td></tr> <tr> <td>V : 0</td><td></td><td></td><td></td></tr> </table>	A : 22	B : 455	C : 415	D : 513	E : 222	F : 407	G : 210	H : 210	J : 116	K : 310	L : 361	M : 187	N : 0	O : 0	P : 226	Q : 0	R : 33	S : 46	T : 16	U : 20	V : 0					
A : 22	B : 455	C : 415	D : 513																								
E : 222	F : 407	G : 210	H : 210																								
J : 116	K : 310	L : 361	M : 187																								
N : 0	O : 0	P : 226	Q : 0																								
R : 33	S : 46	T : 16	U : 20																								
V : 0																											

**Carried Forward**

Bill No. 7  
Roof Coverings etc

R

R



Brought Forward				R
<b><u>Sundries</u></b>				
2	Ridge flashings 550mm girth	m	269	
	A : 0      B : 32      C : 30      D : 33			
	E : 19      F : 35      G : 18      H : 18			
	J : 10      K : 27      L : 31      M : 16			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>ROOF AND WALL INSULATION</u></b>				
<b><u>50mm thick Factorylite non-combustible flexible lightweight industrial roof insulation with metallized foil facing, nominal density 12kg/m3, fixed to underside of roof sheeting and purlins (Roof sheeting and purlins elsewhere measured). All in accordance with the Manufacturers recommendations</u></b>				
3	Insulation boarding in 1200mm widths with longitudinal flap joints, laid over purlins and fixed concurrent with roof covering, including holes through boards etc.	m2	2,881	
	A : 12      B : 319      C : 381      D : 439			
	E : 179      F : 339      G : 176      H : 204			
	J : 86      K : 256      L : 291      M : 146			
	N : 0      O : 0      P : 0      Q : 0			
	R : 14      S : 23      T : 7      U : 10			
	V : 0			
<b>Carried to Summary</b>				R
Bill No. 7				
Roof Coverings etc				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 8</u></b>			
	<b><u>CARPENTRY AND JOINERY</u></b>			
	<b><u>(CPAP WORK GROUP NO. 126 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 8 Carpentry & Joinery			

Brought Forward

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

Dimensions in descriptions of trusses are nominal and actual measurements are to be obtained from the Architect and/or taken on site before design or fabrication commences

## **PRE-TREATMENT OF TIMBER**

This service falls within the areas defined in the National Building Regulations for treatment of timber against insect infestation / insect pest affecting softwood fixed permanently in all buildings.

The regulations require that the timber be treated in terms of SABS 05 and to comply with SABS 457, 753, 754 or 1288 as relevant. Tenderer's are to make allowance in there rates.

## **PREFABRICATED ROOF TRUSSES**

All timber roof trusses including nail-plated trusses and bolted trusses with lapped members must comply with SABS 0243: The Design, manufacture and erection of timber trusses.

The tenderer is to allow in his rates for an Registered Engineer nominated by the Roof truss supplier to issue the TR1 and TR2 certificate for the design and installation of releated works to the Principle Agent.

Prices for the roof trusses are to include for all temporary bracing and supports and for all necessary top and bottom chord bracing, wind bracing and runners where required all over hanging ends to be wrot faced all round

## **PREFABRICATED ROOF TRUSSES, ETC.**

Carried Forward

R

Bill No. 8  
Carpentry & Joinery

Brought Forward				R
<b><u>Sawn softwood</u></b>				
The following is applicable in respect of timber roof trusses: Trusses are at approximately 800mm centres for metal roof sheets on 50 x 75mm purlins. Ceilings are plaster board or fibre cement sheeting on softwood brandering.				
1	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block A (GUARDHOUSE) with a pitch not exceeding 25 degree pitch, size 3 760 x 4 265mm overall on plan consisting of 5 (5) mono pitched trusses, each truss 3 760 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (GUARDHOUSE) annexed to these bills of quantities	No	1	
	A : 1      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
2	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block B (NEW ADMIN), with a pitch not exceeding 25 degree, size 32 485 x 13 970mm overall on plan consisting of thirty (30) double pitched trusses, each truss 13 970 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (ADMIN) annexed to these bills of quantities	No	1	
	A : 0      B : 1      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
3	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block C (NEW NPSP), with a pitch not exceeding 25 degree, size 30 540 x 13 660mm overall on plan consisting of Twenty Nine (29) double pitched trusses, each truss 13 660 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (NPSP) annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 1      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
4	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block D (NEW LIBRARY AND COMPUTER LAB), with a pitch not exceeding 25 degree, size 31 996 x 15 690mm overall on plan consisting of Nineteen (19) double pitched trusses, each truss 15 690 x 1 120mm high overall and thirteen (13) double pitched trusses, each truss 12 000 x 1 120mm with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (LIBRARY & COMPUTER LAB) annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 0      D : 1 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

	<b>Brought Forward</b>			R
5	<p>Design, manufacture and deliver to site, plate nailed roof truss construction to New Block E (NEW MULTI-PURPOSE CENTRE), with a pitch not exceeding 25 degree, size 19 400 x 11 010mm overall on plan consisting of Nineteen (19) double pitched trusses, each truss 11 010 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (MULTI-PURPOSE) annexed to these bills of quantities</p> <p style="margin-left: 40px;">A : 0      B : 0      C : 0      D : 0 E : 1      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	1	
6	<p>Design, manufacture and deliver to site, plate nailed roof truss construction to New Block F (NEW 3 CLASSROOMS AND ABLUTIONS), with a pitch not exceeding 25 degree, size 35 160 x 11 120mm overall on plan consisting of Thirty Three (33) double pitched trusses, each truss 11 120 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (3 CLASSROOMS &amp; ABLUTIONS) annexed to these bills of quantities</p> <p style="margin-left: 40px;">A : 0      B : 0      C : 0      D : 0 E : 0      F : 1      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	1	
	<b>Carried Forward</b>			R
	<p>Bill No. 8 Carpentry &amp; Joinery</p>			

Brought Forward				R	
7	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block G (NEW 2 CLASSROOMS), with a pitch not exceeding 25 degree, size 17 940 x 11 120mm overall on plan consisting of Eighteen (18) double pitched trusses, each truss 11 120 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (2 CLASSROOM) annexed to these bills of quantities	No	1		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 1      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
8	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block H (EX. 2 CLASSROOMS), with a pitch not exceeding 25 degree, size 21 770 x 11 120mm overall on plan consisting of Twenty One (21) double pitched trusses, each truss 11 120 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (EXISTING 2 CLASSROOM) annexed to these bills of quantities	No	1		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 1				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
Carried Forward				R	
Bill No. 8 Carpentry & Joinery					

Brought Forward				R
9	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block J (EX. 1 CLASSROOM), with a pitch not exceeding 25 degree, size 11 133 x 9 800mm overall on plan consisting of Ten (10) double pitched trusses, each truss 11 133 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (EXISTING 1 CLASSROOM) annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 1      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
10	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block K (NEW 3 CLASSROOMS), with a pitch not exceeding 25 degree, size 26 785 x 11 120mm overall on plan consisting of Twenty Six (26) double pitched trusses, each truss 11 120 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (3 CLASSROOM) annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 1      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				



Brought Forward				R
11	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block L (NEW 2 CLASSROOMS,HOD AND ABLUTIONS), with a pitch not exceeding 25 degree, size 30 315 x 11 120mm overall on plan consisting of Twenty Nine (29) double pitched trusses, each truss 11 120 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (2 CLASSROOMS, HOD & ABLUTIONS) annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 1      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
12	Design, manufacture and deliver to site, plate nailed roof truss construction to New Block M (NEW SCIENCE LAB), with a pitch not exceeding 25 degree, size 15 855 x 11 120mm overall on plan consisting of Sixteen (16) double pitched trusses, each truss 11 120 x 1 120mm high overall with 600mm eaves overhang projecting both sides, including all necessary battens, runners, bracing and cross bracing (wall plates elsewhere measured) tenderer's are referred to Architects drawing number: KGSH-A-3000-SECTIONS (SCIENCE LAB) annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
13	Roof construction over Enviro-loo toilet building approximate flat area, 20 m2 on plan complete including trusses, jackrafters, bracing and hoisting into position approximately 2,5m high above floor level all in accordance with the Architects drawings at the back of these bills of quantities.	No	2	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 2      S : 0      T : 0      U : 0 V : 0			
14	Roof construction over Enviro-loo toilet building approximate flat area, 32 m2 on plan complete including trusses, jackrafters, bracing and hoisting into position approximately 2,5m high above floor level all in accordance with the Architects drawings at the back of these bills of quantities.	No	1	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 1      T : 0      U : 0 V : 0			
15	Roof construction over Enviro-loo toilet building approximate flat area, 10 m2 on plan complete including trusses, jackrafters, bracing and hoisting into position approximately 2,5m high above floor level all in accordance with the Architects drawings at the back of these bills of quantities.	No	1	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 1      U : 0 V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
16	Roof construction over Enviro-loo toilet building approximate flat area, 14 m2 on plan complete including trusses, jackrafters, bracing and hoisting into position approximately 2,5m high above floor level all in accordance with the Architects drawings at the back of these bills of quantities.	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 1			
	V : 0			
	<b><u>Sawn softwood:</u></b>			
17	38 x 114mm Wall plates including bedding level in cement mortar	m	612	
	A : 16      B : 63      C : 59      D : 68			
	E : 39      F : 70      G : 22      H : 44			
	J : 20      K : 54      L : 61      M : 32			
	N : 0      O : 0      P : 0      Q : 0			
	R : 18      S : 28      T : 9      U : 12			
	V : 0			
	<b><u>Laminated Wrot Saligna</u></b>			
18	76 x 228mm Beams	m	294	
	A : 0      B : 63      C : 29      D : 32			
	E : 19      F : 35      G : 11      H : 22			
	J : 10      K : 27      L : 30      M : 16			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			

Carried Forward

R

Bill No. 8  
Carpentry & Joinery

Brought Forward			
<b><u>Sundries</u></b>			
19	Two coats creosole on sawn timbers	m2	78
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 26      S : 24      T : 13      U : 15		
	V : 0		
20	4mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	m	56
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 20      S : 14      T : 10      U : 12		
	V : 0		
<b><u>EAVES, VERGES ETC</u></b>			
<b><u>Approved fibre-cement fascias and barge boards</u></b>			
21	15 x 230mm Fascias, including galvanised steel H-profile joiners	m	113
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 35      S : 41      T : 17      U : 20		
	V : 0		
22	15 x 255mm Fascias, including galvanised steel H-profile joiners	m	546
	A : 9      B : 64      C : 60      D : 65		
	E : 38      F : 70      G : 36      H : 36		
	J : 20      K : 53      L : 62      M : 32		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b>Carried Forward</b>			
Bill No. 8 Carpentry & Joinery			

R	
R	

Brought Forward			R
23	80 x 275mm Angle section barge board, including galvanised steel H-profile joiners	m	294
	A : 10      B : 30      C : 28      D : 40		
	E : 23      F : 23      G : 23      H : 23		
	J : 23      K : 23      L : 23      M : 23		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>SKIRTINGS</u></b>			
<b><u>Wrot meranti</u></b>			
24	22 x 100mm Meranti skirting with 19mm meranti quarter round nailed to skirting rounded and ploughed at back skirting board plugged and screwed to walls with and including 19mm quadrant bead planted on. All nails to be punched, filled and sand down.	m	1,067
	A : 10      B : 175      C : 118      D : 153		
	E : 91      F : 93      G : 62      H : 89		
	J : 31      K : 93      L : 88      M : 64		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>PINNING BOARDS</u></b>			
<b><u>Tempered hardboard</u></b>			
25	3mm Backboard plugged and screwed to walls at edges with brass screws and cup washers at 450mm centres.	m2	48
	A : 1      B : 2      C : 0      D : 11		
	E : 3      F : 3      G : 4      H : 4		
	J : 2      K : 9      L : 4      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

R

Bill No. 8  
Carpentry & Joinery

	<b>Brought Forward</b>			R
	<b><u>"9mm Van Dyck" or other equally approved PFX Satin Shield staple wire</u></b>			
26	Pinning board fixed to walls with an adhesive (timber surround elsewhere measured)	m2	48	
	A : 1      B : 2      C : 0      D : 11 E : 3      F : 3      G : 4      H : 4 J : 2      K : 9      L : 4      M : 4 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
	<b><u>Wrot Meranti</u></b>			
27	19 x 69mm Once rebated and arris rounded pinning board surround with mitred corners, plugged and screwed to walls with counter sunk brass screws and cupped washers	m	271	
	A : 4      B : 8      C : 0      D : 36 E : 18      F : 18      G : 12      H : 12 J : 6      K : 18      L : 6      M : 132 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0			
	<b><u>CUPBOARDS TO KITCHENS, BEDROOMS, ETC</u></b>			
	Kitchen fittings shall be constructed of 16mm melamine faced chipboard V 313 boards bottoms, sides, divisions and shelves, waterproof plinths and spray painted backs. Tops are to be 32mm composition board post formed on leading edge with 1.2mm thick "Astral Graphite Crystal" Formica.			
	Doors shall be hung on rustproof concealed self-closing hinges and shall be fitted with magnetic catches and anodised aluminium bow handles.			
	Drawers to be hung to epoxy coated mild steel runners and guiders.			
	Prices shall include for the assembling and fixing complete in position, including all necessary cleats, cover fillets, drilling, screwing and nailing, etc and painting of exposed fillets to match.			
	<b>Carried Forward</b>			R
	Bill No. 8 Carpentry & Joinery			

Brought Forward				R
<b><u>Prefabricated factory finished kitchen cupboards</u></b>				
28	Kitchen sink unit cupboard 3544 x 584mm deep x 900mm high with 5 no. equal leaved doors and four drawers comprising of 16mm thick boardmatch melamine faced board with high impact edging, consisting of melamine impregnated decorative paper, fused under heat and pressure to both sides of a chip board substrate, 32mm thick post formed worktop manufactured in accordance with the Architects drawings annexed to these bills of quantities	No	1	
	A : 0      B : 0      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
29	L-Shaped Kitchen sink unit cupboard 5290 x 584mm deep x 900mm high with 8 no. equal leaved doors and four drawers comprising of 16mm thick boardmatch melamine faced board with high impact edging, consisting of melamine impregnated decorative paper, fused under heat and pressure to both sides of a chip board substrate, 32mm thick post formed worktop manufactured in accordance with the Architects drawings annexed to these bills of quantities	No	2	
	A : 0      B : 1      C : 0      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b>Carried Forward</b>				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
<b><u>Floor Cupboards, etc.</u></b>				
30	Floor mounted double bowl sink unit cupboard size 7940 x 600 x 870mm high with 14 no. equal leafed doors comprising of 16mm thick boardmatch melamine faced board in cherry finish with high impact edging, four sets of four drawers and open shelving consisting of melamine impregnated decorative paper, fused under heat and pressure to both sides of a chip board substrate, 32mm thick post formed top constructed in accordance with Architect's drawings annexed to these Bills of Quantities	No	2	
	A : 0      B : 0      C : 0      D : 0			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
31	L-Shaped Floor mounted cupboard overall size 4500 x 638 x 900mm high with 8 no. equal leaved doors, 19mm chipboard with hardwood veneer including 32mm thick saligna worktop, all in accordance with Architect's drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 0      C : 0      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b>Carried Forward</b>				R
Bill No. 8 Carpentry & Joinery				



Brought Forward				R
<b><u>Prefabricated factory finished reception desk and counter</u></b>				
32	Reception L-shaped desk overall size 3815 x 550 x 750mm high formed of laminated 22mm thick laminated Saligna. The outer component of the Shape with continuous lengths of 3815 x 550mm high including four drawers formed of 32mm thick laminated saligna top 550mm wide, all in accordance with the Architects specifications annexed to these Bills of Quantities	No	1	
	A : 0      B : 1      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
33	Work desk overall size 1200 x 800 x 1350mm high formed of laminated 22mm thick laminated Saligna with and including one cupboard and drawers on one side. The desk is to finished with three coats of matt acrylic varnish including all necessary preparatory work and filling, all in accordance with the Architects specifications annexed to these Bills of Quantities	No	1	
	A : 0      B : 0      C : 0      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

		<b>Brought Forward</b>				R
34	<p>L-shaped desk overall size 6500 x 600 x 1350mm high formed of laminated 22mm thick laminated Saligna. The outer component of the Shape with continuous lengths of 2000 x 1350mm high and 2000 x 1350mm high. The desk with one lower section 2000 x 550 x 870mm high and other lower section 2000 x 550 x 870mm high with and including one cupboard and drawers on each side 850 x 550 x 870mm high, neatly finished with lower counter of L-shaped desk formed of 32mm thick laminated saligna top 300mm wide. The desk is to finished with three coats of matt acrylic varnish including all necessary preparatory work and filling, all in accordance with the Architects specifications annexed to these Bills of Quantities</p>			No	1	
	A : 0	B : 0	C : 0	D : 1		
	E : 0	F : 0	G : 0	H : 0		
	J : 0	K : 0	L : 0	M : 0		
	N : 0	O : 0	P : 0	Q : 0		
	R : 0	S : 0	T : 0	U : 0		
	V : 0					
35	<p>Laboratory sink unit cupboard size 2350 x 820 x 900mm high with 5 drawers and two shelves constructed in accordance with Architect's drawings annexed to these Bills of Quantities</p>			No	2	
	A : 0	B : 0	C : 0	D : 1		
	E : 0	F : 0	G : 0	H : 0		
	J : 0	K : 0	L : 0	M : 1		
	N : 0	O : 0	P : 0	Q : 0		
	R : 0	S : 0	T : 0	U : 0		
	V : 0					
<b><u>THE FOLLOWING IN SHELVING</u></b>						
		<b>Carried Forward</b>				R
<p>Bill No. 8 Carpentry &amp; Joinery</p>						

	<b>Brought Forward</b>			R
	<b><u>Laminated pine fixed to metal brackets (Metal brackets elsewhere measured)</u></b>			
36	22 x 380mm Shelving including all brackets and fixing, all as detailed on Architects drawings annexed to these Bills of Quantities.	m	22	
	A : 0      B : 0      C : 0      D : 22			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
37	22 x 400mm Shelving including all brackets and fixing, as per Architects drawings annexed to these Bills of Quantities for the full description of the shelving.	m	332	
	A : 0      B : 38      C : 258      D : 0			
	E : 36      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
38	500mm wide Shelving formed of 32mm thick laminated saligna worktop fixed to 170x170x3mm mild steel gusset plate welded onto bracket and anchored to wall as per Architects drawings annexed to these Bills of Quantities.	m	24	
	A : 0      B : 0      C : 0      D : 24			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b>Carried Forward</b>			R
	Bill No. 8 Carpentry & Joinery			

Brought Forward				R
39	750mm wide Shelving formed of 32mm thick laminated saligna worktop fixed to 200x200x3mm mild steel gusset plate welded onto bracket and anchored to wall as per Architects drawings annexed to these Bills of Quantities.	m	6	
	A : 0      B : 0      C : 0      D : 6			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
40	Island shelving size 4000 x 600 x 1748mm high comprising of 16mm thick Boardmatch melamine faced board in cherry finish all as per Architects drawing.	No	2	
	A : 0      B : 0      C : 0      D : 2			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
41	Island shelving size 4380 x 600 x 1748mm high comprising of 16mm thick Boardmatch melamine faced board in cherry finish all as per Architects drawing.	No	1	
	A : 0      B : 1      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
42	300 x 1000 x 750mm high Display shelving formed of 18mm thick melamine shelf, 18 x 45mm melamine cleat including 6,5mm plate glass sliding doors and all necessary fittings as per Architects drawing .	No	3	
	A : 0      B : 0      C : 0      D : 3			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward

R

**TIMBER BENCHES**

**The following in selected wrot meranti timber benches fixed to steel angle supports (Steel angle supports elsewhere measured)**

43	38 x 42mm Twice arris edged slats counter sunk screwed to steel bracket with stainless steel tapping screws sunk and pelleted.	m	4
	A : 0      B : 4      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

44	22 x 42mm Bearer bolted to steel bracket.	m	4
	A : 0      B : 4      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

**WORKTOPS, COUNTERS, ETC**

**1.2mm Approved Formica decorative plastic laminate on 32mm waterproof chipboard**

45	600mm Wide worktop, postformed on leading edge, and with one edge fixed to 38 x 38mm bearers plugged to wall and supported by metal brackets (Metal brackets elsewhere measured)	m	72
	A : 3      B : 8      C : 9      D : 13		
	E : 15      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 24		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

R

Bill No. 8  
Carpentry & Joinery

Brought Forward				
46	750mm Wide Computer worktop, postformed on leading edge, and with one edge fixed to 38 x 38mm bearers plugged to wall and supported by metal brackets (Metal brackets elsewhere measured) including 16mm thick Boardmatch melamine tower cases as detailed on Architects drawing n	m	14	
	A : 0      B : 14      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b><u>32mm thick laminated saligna</u></b>			
47	600mm Wide computer worktop, post-formed of 60 x 40 x 3mm gms frame including shelving and all fixings etc. as detailed on Architects drawing annexed to these Bills of Quantities	m	52	
	A : 0      B : 0      C : 0      D : 52			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
48	600mm Wide laboratory worktop, with cut out for deep fire clay laboratory basin, post-formed of 32 x 32 x 1.6mm gms tubing including all fixings, brackets, ducts etc. constructed as detailed on Architects drawing	m	32	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 32			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b>FRAMED DOORS ETC</b>			

## FRAMED DOORS ETC

**Carried Forward**

Bill No. 8  
Carpentry & Joinery

Brought Forward				R
<b><u>Wrought meranti doors hung to wooden frames</u></b>				
49	40mm Framed, ledged and batten door 813 x 2032mm x 44mm ply backed hardwood door (D1). Tenderers are referred to Architect's drawings annexured to these Bills of Quantities for the full description of the door (DOE-A-8050-0).	No	26	
	A : 2      B : 0      C : 1      D : 1			
	E : 2      F : 5      G : 2      H : 3			
	J : 1      K : 3      L : 5      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
50	40mm Framed and ledged batten door 1626 x 2032mm high of 40 x 110mm wide top rail and stiles, 144 x 40mm middle ledge and 225 x 40mm bottom ledge and 20 x 110mm braces (B.D7). Tenderers are referred to Architect's drawings annexured to these Bills of Quantities Drawing number S7.201 Rev 01 for the full description of the door.	No	3	
	A : 0      B : 0      C : 2      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>FLUSH DOORS</u></b>				
<b><u>Semi-solid core with veneer on both sides suitable for painting</u></b>				
51	44mm Door 813 x 1050mm high hung to wooden frames. Tenderers are referred to Architects drawings annexed to these Bills of Quantities for the full description of the door.	No	1	
	A : 1      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
<b><u>Solid core timber door with sapele veneer with two concealed edges</u></b>				
52	44mm Door 813 x 1880mm high hung to steel frames. Tenderers are referred to Architects drawings annexed to these Bills of Quantities for the full description of the door.	No	13	
	A : 0      B : 4      C : 0      D : 0			
	E : 0      F : 6      G : 0      H : 3			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
53	44mm Door 813 x 2032mm high hung to steel frames. Tenderers are referred to Architects drawings annexed to these Bills of Quantities for the full description of the door.	No	25	
	A : 0      B : 12      C : 5      D : 5			
	E : 0      F : 0      G : 0      H : 1			
	J : 0      K : 0      L : 0      M : 2			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
54	44mm Door 813 x 2125mm high hung to steel frames. Tenderers are referred to Architects drawings annexed to these Bills of Quantities for the full description of the door.	No	5	
	A : 0      B : 0      C : 2      D : 0			
	E : 3      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 8 Carpentry & Joinery				



Brought Forward				R
55	44mm Door 915 x 2032mm high hung to steel frames, including aluminium louvre. Tenderers are referred to Architects drawings annexed to these Bills of Quantities for the full description of the door.	No	11	
	A : 0      B : 1      C : 1      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 8      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>FRAMED FRAMES ETC</u></b>				
<b><u>Wrought meranti</u></b>				
56	44 x 110mm Rebated linings, plugged for door size 813 x 2032mm high.	No	2	
	A : 2      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
57	44 x 110mm Rebated linings, plugged for door size 813 x 1 050mm high.	No	1	
	A : 1      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>DADO RAILS</u></b>				
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

	<b>Brought Forward</b>		
	<b><u>Wrought meranti</u></b>		
58	22mm thick x 75mm rounded meranti dado rail plugged and screwed to walls with counter sunk brass screws. (New paintwork elsewhere measured)	m	1,067
	A : 10      B : 175      C : 118      D : 153		
	E : 91      F : 93      G : 62      H : 89		
	J : 31      K : 93      L : 88      M : 64		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>FURNITURE</u></b>		
	Tenderer's are referred to The Department of Basic Education, School Furniture Specification Document, Annexed to these Bills of Quantities		
59	<b><u>Double Combination Primary Desk Grade 4-6</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2)	No	46
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 46		
60	<b><u>Single Combination Primary Desk Grade 4-6</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2)	No	44
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 44		
	<b>Carried Forward</b>		
	Bill No. 8 Carpentry & Joinery		

R

R

Brought Forward			
61	<b><u>Double Combination Primary Desk Grade 1-3</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44	No	44
62	<b><u>Single Combination Primary Desk Grade 1-3</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44	No	44
63	<b><u>Single Combination Secondary Desk Grade 7-12</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 45	No	45

Carried Forward

Bill No. 8  
Carpentry & Joinery

	<b>Brought Forward</b>		
64	<b><u>Double Combination Secondary Desk Grade 7-12</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44	No	44
65	<b><u>Single Primary Stackable Table Grade 1-3</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44	No	44
66	<b><u>Double Primary Stackable Table Grade 1-3</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 47	No	47

**Carried Forward**

Bill No. 8  
Carpentry & Joinery

Brought Forward			
67	<b><u>Single Secondary Stackable Table Grade 7-12</u></b> Manufactured from Laminated timber top (ref2.1.6) and epoxy coated steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44	No	44
68	<b><u>Double Secondary Stackable Table Grade 7-12</u></b> Manufactured from Laminated timber top (ref2.1.6) and epoxy coated steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44	No	44
69	<b><u>Double Primary Stackable Table Grade 4-6</u></b> Manufactured from Laminated timber top (ref2.1.6) and epoxy coated steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 46	No	46

Carried Forward

Bill No. 8  
Carpentry & Joinery

Brought Forward			
70	<b><u>Single Secondary Stackable Table Grade 4-6</u></b> Manufactured from Laminated timber top (ref2.1.6) and epoxy coated steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2)	No	44
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44		
71	<b><u>Stackable Kindergarten Table Grade R</u></b> Manufactured from Laminated timber top (ref2.1.6) and epoxy coated steel frame complete including two coats varnish as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)	No	44
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 44		
72	<b><u>Chair Dining and School Hall</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)	No	60
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 60		

Carried Forward

Bill No. 8  
Carpentry & Joinery

	<b>Brought Forward</b>			R
73	<b><u>Chair Grade R</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)	No	10	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 10			
74	<b><u>Chair Grade 1-3</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)	No	10	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 10			
75	<b><u>Chair Grade 4-6</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)	No	10	
	A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 10			
	<b>Carried Forward</b>			R
	Bill No. 8 Carpentry & Joinery			

Brought Forward				R
76	<b><u>Chair Lab Grade 7-12</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)  A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 20	No	20	
77	<b><u>Chair Lab Grade 4-6</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)  A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 21	No	21	
78	<b><u>Student Typist Chair w/o Wheels Grade 7-12</u></b> Injection Moulded Polypropylene Copolymer Seat fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS 660:2004 (Edition 3.2)  A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 3	No	3	
Carried Forward				R
Bill No. 8 Carpentry & Joinery				



Brought Forward			
79	<b><u>Teachers Chair</u></b> Seat and Back approved foam and upholstery fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS/SABS 1244:1979 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 21	No	21
80	<b><u>Teachers Office / Staff Room Desk</u></b> Table top manufactured from 21mm Solid Hardwood, Modesty Panel and drawer box carcass manufactured from 16mm substrate veneer board with powder coated steel frame complete including two coats varnish as per detailed specifications to comply with SABS 1528-2:1998 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 5	No	5
81	<b><u>Teachers Classroom Desk</u></b> Table top manufactured from 21mm Solid Hardwood, Drawer box carcass manufactured from 16mm substrate veneer board with powder coated steel frame complete including two coats varnish as per detailed specifications to comply with SABS 1528-2:1998 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 10	No	10

Carried Forward

Bill No. 8  
Carpentry & Joinery

	<b>Brought Forward</b>			R
82	<b><u>Stationary Cupboard 2-door/s-Shelves</u></b> Two door cupboard 1000mm wide x 1511mm high manufactured from 16mm melamine faced particle board complete as per detailed specifications to comply with SABS 1528-2:1998 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 7	No	7	
83	<b><u>Principal Chair High Back</u></b> Seat and Back approved foam and upholstery fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS/SABS 1244:1979 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 4	No	4	
84	<b><u>Administrator Chair Typist</u></b> Seat and Back approved foam and upholstery fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS/SABS 1244:1979 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 3	No	3	
	<b>Carried Forward</b>			R
	Bill No. 8 Carpentry & Joinery			

Brought Forward				R
85	<b><u>Steel Frame Single Bed</u></b> 1910 x 910 x 770mm Steel framed single bed to suit plastic foam sponge mattress size 1910 x 910 x 150mm complete as per detailed specifications A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 1	No	1	
86	<b><u>Filing Rack Pigeon Hole 30 Division</u></b> 890 x 400 x 1435mm high LP. Laminate : Double decor with 16mm substrate, 6.4mm shelves and 3.2mm back panel recessed into top and sides complete as per detailed specifications to comply with SABS 1528-2:1998 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 1	No	1	
87	<b><u>Principal Correspondence Rack</u></b> Carcass manufactured from double sided melamine faced (natural oak) 12mm particle board 771 x 353x 64mm high complete as per detailed specifications to comply with SABS 1528-3:1992 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 4	No	4	
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
88	<b>Principal Glass Bookcase</b> Carcass manufactured from 16mm substrate veneer board, door frame manufactured from 21mm Solid Saligna Hardwood (Eucalyptus Crendis) 1000 x 370 x 1435mm complete as per detailed specifications to comply with SABS 1528-3:1992 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 1	No	1	
89	<b>Library Bookshelf</b> 1000 x 370 x 1435mm high carcass manufactured 16mm substrate veneer board, door frame manufactured from 21mm Solid Saligna hardwood (Eucalyptus Crendis) complete as per detailed specifications to comply with SABS 1528-2:1998 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 16	No	16	
90	<b>Corner Piece</b> 912 x 712 x 1291mm top postedrewed decorative melamine (natural oak) laminated to particle board complete as per detailed specifications to comply with SABS 1528-2:1998 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 4	No	4	
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
91	<b><u>Principle Desk</u></b> Top postformed decorative melamine (natural oak) with balancing backer laminated on 32mm particle board with drawer box complete including two coats varnish as per detailed specifications to comply with SABS 1528-:1996 (Edition 1) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 4	No	4	
92	<b><u>Filing Cabinet Principal</u></b> Top melamine (natural oak) faced laminate with balancing backer laminated on 32mm particle board with drawer box complete including two coats varnish as per detailed specifications to comply with SABS 1528-:1996 (Edition 1) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 4	No	4	
93	<b><u>Credenza Sliding Doors - Principal Credenza</u></b> Top postformed decorative melamine (natural oak) faced laminate with balancing backer laminated on 32mm particle board with sliding doors including two coats varnish as per detailed specifications to comply with SABS 1528-:1996 (Edition 1) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 4	No	4	
Carried Forward				R
Bill No. 8 Carpentry & Joinery				

Brought Forward				R
94	<b><u>Upholstered Chair - Head of Department</u></b> Seat and Back approved foam and upholstery fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS/SABS 1244:1979 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 3	No	3	
95	<b><u>Upholstered Sick Room Chair</u></b> Seat and Back approved foam and upholstery fixed to epoxy coated steel frame complete as per detailed specifications to comply with SANS/SABS 1244:1979 A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 2	No	2	
96	<b><u>Library Circular Tables</u></b> Manufactured from 21mm Solid saligna Hardwood (Eucalyptus Grandis) and steel frame complete including two coats varnish as per detailed specifications to comply with SANS 880:2004 (Edition 3.2) A : 0      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 5	No	5	
Carried to Summary				R
Bill No. 8 Carpentry & Joinery				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 9</u></b>			
	<b><u>CEILINGS</u></b>			
	<b><u>(CPAP WORK GROUP NO. 129 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 9 Ceilings			

<p style="text-align: right;"><b>Brought Forward</b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>Openings in ceilings for light fittings etc. are to include for additional suspension as required</p> <p><b><u>Ceilings</u></b></p> <p>Unless otherwise described ceilings shall be deemed to be horizontal</p> <p><b><u>Insulation</u></b></p> <p>Insulation laid on the ceiling ensuring that it fits tightly between the tie beams.</p> <p>Insulation should be cut 50mm more than distance between the tie beams. Cut insulation out around down lights. Cut Insulation out around trap doors.</p> <p>Fix the cut section to the back of the trap door using a good quality contact adhesive. Wrap insulation around cold and hot water pipes ensuring that there is 10mm overlap. Secure the insulation using a cable tie at 300mm centres</p> <p><b><u>Steel components</u></b></p> <p>All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121</p> <p><b><u>Control Joints</u></b></p> <p>Gyproc or other equally approved Control Joints may be required in certain ceilings to relieve stresses induced by expansion and contraction of the structure. Tenderer's are to take into account control joints in there pricing.</p> <p><b><u>NAILED-UP CEILINGS</u></b></p>	<p>R</p>
<p style="text-align: right;"><b>Carried Forward</b></p> <p>Bill No. 9 Ceilings</p>	<p>R</p>



Brought Forward				R
<b><u>9mm plastered gypsum plasterboard with 63mm wide strips of mesh over joints and the whole finished with gypsum skimmed plaster trowelled to a smooth polished surface.</u></b>				
1	Ceilings including 38 x 38mm sawn softwood brandering at 400mm centres in one direction	m2	1,972	
	A : 9      B : 257      C : 229      D : 306			
	E : 126      F : 238      G : 122      H : 145			
	J : 61      K : 182      L : 195      M : 102			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
2	Extra over for trap door size 600 x 600mm	No	41	
	A : 1      B : 3      C : 6      D : 7			
	E : 5      F : 5      G : 2      H : 2			
	J : 1      K : 2      L : 4      M : 3			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
3	RhinoArt 75mm Cove (gypsum) fixed to wall using RhinoBed	m	1,238	
	A : 10      B : 214      C : 178      D : 91			
	E : 91      F : 160      G : 62      H : 89			
	J : 31      K : 93      L : 156      M : 64			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>NAILED UP CEILINGS</u></b>				
<b><u>6mm Thick pressed fibre cement ceiling boards with PVC H profile cover strips</u></b>				
4	Ceilings including 38 x 38mm sawn softwood brandering at 400mm centres in one direction	m2	494	
	A : 0      B : 111      C : 52      D : 68			
	E : 32      F : 61      G : 30      H : 44			
	J : 19      K : 45      L : 6      M : 26			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried to Summary				R
Bill No. 9				
Ceilings				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 10</u></b>			
	<b><u>FLOOR COVERINGS, WALL LININGS, ETC</u></b>			
	<b><u>(CPAP WORK GROUP NO. 130 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 10 Floor Coverings			

Brought Forward

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

Screed deviations are not to exceed 5mm over 3000mm

Thoroughly clean down with SABS 5825 compliant diluted natural detergent and thoroughly rinse, allow to dry and apply 3 coats water based floor dressing compliant with SABS 1042.

Remove all contaminates, clean down and apply TAL screedmaster, prime with TAL Floor Primer using pump method all by TAL contractor in accordance with the manufacturer's instructions

**EPOXY FLOORS**

**Approved 6mm heavy duty, chemical resistant antimicrobial treated polyurethane resin floor screed applied to concrete floors (Concrete floors elsewhere measured) including all necessary preparatory work to surfaces and including priming, all install as per manufacturers specifications**

1	On floors	m2	202
	A : 0      B : 0      C : 202      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
2	On coved skirting	m	119
	A : 0      B : 0      C : 119      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

**VINYL FLOOR COVERINGS**

Carried Forward

R

Bill No. 10  
Floor Coverings

	<b>Brought Forward</b>			R
	<b><u>300 x 300 x 2.5mm Approved Semi flexible tiles to be laid according to manufacturers specifications</u></b>			
3	On screeded floors	m2	1,627	
	<div> <div>A : 7</div> <div>B : 234</div> <div>C : 11</div> <div>D : 308</div> </div> <div> <div>E : 127</div> <div>F : 184</div> <div>G : 122</div> <div>H : 146</div> </div> <div> <div>J : 61</div> <div>K : 184</div> <div>L : 143</div> <div>M : 102</div> </div> <div> <div>N : 0</div> <div>O : 0</div> <div>P : 0</div> <div>Q : 0</div> </div> <div> <div>R : 0</div> <div>S : 0</div> <div>T : 0</div> <div>U : 0</div> </div> <div> <div>V : 0</div> </div>			
	<b><u>POLISH, SEALERS, ETC</u></b>			
	<b><u>Polish, Sealers, etc.</u></b>			
4	Two coats wax polish on vinyl flooring	m2	1,626	
	<div> <div>A : 7</div> <div>B : 234</div> <div>C : 11</div> <div>D : 308</div> </div> <div> <div>E : 127</div> <div>F : 184</div> <div>G : 122</div> <div>H : 146</div> </div> <div> <div>J : 61</div> <div>K : 183</div> <div>L : 143</div> <div>M : 102</div> </div> <div> <div>N : 0</div> <div>O : 0</div> <div>P : 0</div> <div>Q : 0</div> </div> <div> <div>R : 0</div> <div>S : 0</div> <div>T : 0</div> <div>U : 0</div> </div> <div> <div>V : 0</div> </div>			
	<b>Carried to Summary</b>			R
	Bill No. 10			
	Floor Coverings			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 11</u></b>			
	<b><u>IRONMONGERY</u></b>			
	<b><u>(CPAP WORK GROUP NO. 132 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 11 Ironmongery			

Brought Forward

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

### **Proprietary items**

Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items

Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc clarifying the features of the products/articles offered

On request returnable samples are to be provided to the principal agent for consideration

The following locks are to be suitable for master key operation

### **Finishes to ironmongery**

Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered: CH Chromium plated: SC Satin chromium plated: SE Silver enamelled: GE Grey enamelled: AS Anodised silver: AB Anodised bronze: AG Anodised gold: ABL Anodised black: PB Polished brass: PL Polished and lacquered: PT Epoxy coated

## **IRONMONGERY**

### **HINGES, BOLTS, ETC**

Carried Forward

R

Bill No. 11  
Ironmongery

Brought Forward			
<b><u>Manufactured by "Union" or other equally approved approved</u></b>			
1	JH-BB-STD-2-SS/2BB Butt hinge EN1935GRD13	No	47
	A : 9      B : 38      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>LOCKSETS, ETC</u></b>			
2	Grade 304 stainless steel indicator bolt with matching screws	No	28
	A : 2      B : 10      C : 3      D : 0		
	E : 0      F : 6      G : 0      H : 0		
	J : 0      K : 0      L : 7      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
3	LA952/4L Mazac Tarpon 4 lever lockset with chrome plated finish, chrome plated rebate conversion set,130-75 satin chrome lever flush bolt 120-150	No	65
	A : 0      B : 14      C : 13      D : 8		
	E : 5      F : 5      G : 2      H : 4		
	J : 1      K : 3      L : 7      M : 3		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
4	682-24-52 SC Three lever lockset	No	17
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 8      T : 2      U : 3		
	V : 0		

Carried Forward

Bill No. 11  
Ironmongery

R

R

Brought Forward				R
<b><u>HANDLES</u></b>				
5	DPH213 "D" Dorma stainless steel straight back to back pull handles size 350x32mm	No	165	
	A : 6      B : 38      C : 26      D : 16			
	E : 5      F : 22      G : 4      H : 8			
	J : 2      K : 6      L : 26      M : 6			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>PUSH PLATES AND KICK PLATES</u></b>				
<b><u>Manufactured by "Union" or other equally approved approved</u></b>				
6	SS5089-300W 800 x 300 x 2mm Thick kick plate with four holes pre drilled for stainless steel conter sunk screw fixings and polished edges	No	168	
	A : 0      B : 30      C : 22      D : 16			
	E : 10      F : 50      G : 4      H : 8			
	J : 2      K : 6      L : 14      M : 6			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>DOOR CLOSERS</u></b>				
<b><u>Manufactured by "Dormakaba" or other equally approved</u></b>				
7	NON HOLD OPEN Cam action slide channel door closer. Max door width 950mm. Closing Force EN 3. Hydraulic speed control. Pull-side door leaf fixing (Standard), Push-side transom fixing. Door closer compliant with EN 1154. Door closer is CERTI FIRE approved (Certificate No. CF 119) for door types ITT 120, MM/IMM 240. Certified manufacturer to ISO 9001 (TS91B - SL)	No	6	
	A : 0      B : 2      C : 2      D : 0			
	E : 0      F : 2      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 11 Ironmongery				



Brought Forward			
8	EN 2-4 Parallel Arm DELAYED ACTION Door Closer. Push Side Fixing (Parallel Arm Bracket Included) EN2 750-850, EN3 850-950, EN4 950-1100 (TS73V PA DC - PAB - SL)	No	2
	A : 0      B : 1      C : 1      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>LETTERS, NAMEPLATES, ETC</u></b>		
9	AL5066-06ASE10 Male indicator sign	No	12
	A : 0      B : 1      C : 1      D : 0		
	E : 0      F : 1      G : 0      H : 0		
	J : 0      K : 0      L : 1      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 0      T : 2      U : 2		
	V : 0		
10	AL5066-06ASE11 Female indicator sign	No	10
	A : 0      B : 1      C : 1      D : 0		
	E : 0      F : 1      G : 0      H : 0		
	J : 0      K : 0      L : 1      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 6      T : 0      U : 0		
	V : 0		
11	AL5066-06ASE14 Paraplegic toilet sign	No	6
	A : 0      B : 1      C : 1      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 1      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 2      T : 0      U : 1		
	V : 0		

Carried Forward

Bill No. 11  
Ironmongery

R

R

Brought Forward			
12	SS5066-06SSE01 Electric Shock sign	No	2
	A : 0      B : 1      C : 1      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>SIGNAGE</u></b>		
	<u>Statutory signage to be SABS and photo luminescent, external signage to be UV rated</u>		
	<b><u>Red and white single sided signage screwed fixed on to walls as per manufacturer's details</u></b>		
13	190 x 190mm Arrow sign	No	22
	A : 1      B : 4      C : 3      D : 2		
	E : 1      F : 2      G : 1      H : 2		
	J : 1      K : 2      L : 1      M : 2		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
14	190 x 190mm Fire extinguisher sign	No	21
	A : 1      B : 3      C : 3      D : 2		
	E : 1      F : 2      G : 1      H : 2		
	J : 1      K : 2      L : 1      M : 2		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
15	190 x 190mm Fire hose reel sign	No	5
	A : 0      B : 1      C : 0      D : 1		
	E : 0      F : 0      G : 0      H : 1		
	J : 0      K : 1      L : 0      M : 1		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

Bill No. 11  
Ironmongery

R

R

Brought Forward			
16	190 x 190mm Fire Hydrant	No	1
	A : 0      B : 1      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>SUNDRIES</u></b>		
17	87001SS Floor door stop stain SS	No	78
	A : 1      B : 14      C : 8      D : 8		
	E : 5      F : 6      G : 2      H : 4		
	J : 1      K : 3      L : 6      M : 3		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 8      T : 2      U : 3		
	V : 0		
18	8852SC Dust proof keep	No	19
	A : 1      B : 4      C : 2      D : 0		
	E : 0      F : 6      G : 0      H : 0		
	J : 0      K : 0      L : 6      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
19	SS8025SS Hat and coat hook buffer	No	19
	A : 1      B : 4      C : 2      D : 0		
	E : 0      F : 6      G : 0      H : 0		
	J : 0      K : 0      L : 6      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

Bill No. 11  
Ironmongery

R

Brought Forward			
<b><u>BATHROOM FITTINGS</u></b>			
20	"Franke" or other equally approved Rodan RODX672 0,8mm thick satin finished stainless steel double toilet roll holder with spindle system (Code: 2120101), size 144 x 138 x 301mm high for 2 rolls maximum 120mm diameter with cylinder lock with standard Franke Key, plugged and screwed to the wall with stainless steel screws.	No	21
	A : 1      B : 5      C : 3      D : 0 E : 0      F : 6      G : 0      H : 0 J : 0      K : 0      L : 6      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0		
21	"Franke" or other equally approved Rodan RODX619 soap dispenser wall mounted (Code: 2120095)	No	26
	A : 1      B : 3      C : 0      D : 0 E : 1      F : 6      G : 0      H : 0 J : 0      K : 0      L : 6      M : 2 N : 0      O : 0      P : 0      Q : 0 R : 2      S : 2      T : 1      U : 2 V : 0		
22	"Franke" or other equally approved Rodan RODX611 sanitary waste bin wall mounted (Code: 2120070)	No	5
	A : 0      B : 3      C : 0      D : 0 E : 1      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 1 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0		

Carried Forward

Bill No. 11  
Ironmongery

Brought Forward			
23	"Franke" or other equally approved Rodan RODX605 waste bins, stainless steel, wall mounted (Code: 2120097)	No	5
	A : 0      B : 3      C : 0      D : 0		
	E : 1      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 1		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
24	"Franke" or other equally approved Jetstream airtronic hands dryer, stainless steel, (Code: 2500002)	No	3
	A : 0      B : 3      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
25	"Franke" or equally approved toilet roll holder	No	17
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 8      T : 2      U : 3		
	V : 0		
26	"Franke" or equally approved paper towel dispenser plugged	No	7
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 2      S : 2      T : 1      U : 2		
	V : 0		

**PARAPLEGIC FITTINGS**

Carried Forward

Bill No. 11  
Ironmongery

R

R

<b>Brought Forward</b>				R
<b><u>Paraplegic Fittings - Supplied by Chairman Industries or other equally</u></b>				
27	32mm Serrated stainless steel rear grab rail fixed vertically next to seat (Code SR2)	No	5	
	A : 0      B : 1      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 2      T : 0      U : 1			
	V : 0			
28	32mmn Serrated stainless steel vertical wall grab rail at shower (Code SR1)	No	2	
	A : 0      B : 1      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
29	32mm Serrated 90 degree angled stainless steel dog leg side grab rail angled to suite (Code DL3)	No	5	
	A : 0      B : 1      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 2      T : 0      U : 1			
	V : 0			
<b><u>WRITING BOARDS, PINNING BOARDS, ETC</u></b>				
<b>Carried Forward</b>				R
Bill No. 11 Ironmongery				

Brought Forward				R
<b><u>"Vitrex" or other equally</u></b>				
30	System 2000 model 2100 standard vitreous enamel steel wall mounted chalkboard size 1200mm high x 2400mm wide reference 2109 supplied complete with integral anodised aluminum chalk rail supplied complete with all fixing components fixed to brickwork	No	13	
	A : 1      B : 0      C : 0      D : 0			
	E : 1      F : 3      G : 0      H : 2			
	J : 0      K : 3      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>"Vitrex" or other equally</u></b>				
31	System 2000 Model 2300-D standard wall mounted educational range pin board size 1200mm high x 2400mm wide reference (2309B). Pinning surface Belgotex or other color Atlantic. Pinning board supplied complete with all fixing components and secured to brickwork	No	12	
	A : 0      B : 0      C : 0      D : 0			
	E : 1      F : 3      G : 0      H : 2			
	J : 0      K : 3      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>THE FOLLOWING IN SMART BOARDS</u></b>				
32	Hard coated polyster surface interactive whiteboard e-board size 1695 x 1285mm high including commissioning and all software etc.	No	15	
	A : 0      B : 0      C : 0      D : 1			
	E : 1      F : 3      G : 2      H : 2			
	J : 0      K : 3      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 11 Ironmongery				

[illegible]



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 12</u></b>			
	<b><u>STRUCTURAL STEELWORK</u></b>			
	<b><u>(CPAP WORK GROUP NO. 134 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 12 Structural Steelwork			

Brought Forward

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

Descriptions of bolts shall be deemed to include nuts and washers.

Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete.

Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.

Structural steelwork shall comply with the requirements of SABS 1200H and the relevant project specifications.

Carried Forward

R

Bill No. 12  
 Structural Steelwork

<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>Corrosion Protection</u></b></p> <p>All steelwork</p> <p>a) Abrasive blast to Sa 2.5</p> <p>b) Galvanize to SABS 763 (Heavy Duty)</p> <p>c) Clean with Galvanized iron cleaner, treat galvanizing in such a way so that paint may be applied over it</p> <p>d) Apply 1 coat galvanizing primer - InterGuard 269 or equally</p> <p>e) Apply 2No. Coats recoatable polyurethane - Interthane 900 or equal . Colour to Architect's specification.</p> <p>All hot rolled steelwork shall be grade 350W, all hollow tube steelwork shall be grade 300W and all cold formed steelwork shall be SANS 10162 Part 1 with a minimum yield stress of 200Mpa and a minimum tensile stress of 365Mpa unless noted otherwise.</p> <p>All fixing bolts for structural steelwork shall be M20 grade 8.8 unless otherwise noted, and is deemed included. Only chemical anchor bolts are to be measured as a measurable item.</p> <p>All welds shall be 6mm continuous fillet welds unless noted otherwise.</p> <p>When steelwork connects to structures, the steelwork contractor shall check all site dimensions and levels before fabrication and erection.</p> <p>No flame cutting or site welding shall be carried out without the written approval of the engineer.</p> <p>Shop drawings shall be submitted in duplicate to the engineer for approval before commencing any fabrication.</p> <p><b><u>Traceability of steel</u></b></p> <p>All steel to be marked with manufacturer's test certificate number to ensure full traceability and to facilitate re-use of the steel members.</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 12 Structural Steelwork</p>	<p style="text-align: center;">R</p>

**Brought Forward**

R

**Marking steelwork**

Completed components shall be marked with a durable and distinguishing erection mark, section size, steel grade and manufacturer's test certificate number in such a way as not to damage the component. Marking shall be in a discrete location. Hardstamping may be used unless noted otherwise.

**Testing of welds**

10% of all fillet welds and 100% of butt welds to be subjected to non destructive testing.

Fabricate, supply, deliver and erect including shop and site painting as described.

**HOT DIPPED GALVANISED COLUMNS**

1	100 x 100 x 4mm SHS columns with and including base plate formed of 150 x 150 x 8mm thick plate welded to bottom end of post and chemically fixed to concrete surface and other end with welded closure piece to accommodate steel beam (Steel beam elsewhere measured)	t	0.70
	A : 0.00      B : 0.00      C : 0.00      D : 0.00		
	E : 0.00      F : 0.00      G : 0.00      H : 0.00		
	J : 0.00      K : 0.00      L : 0.00      M : 0.00		
	N : 0.00      O : 0.00      P : 0.70      Q : 0.00		
	R : 0.00      S : 0.00      T : 0.00      U : 0.00		
	V : 0.00		

**HOT DIPPED GALVANISED BEAMS**

2	150 x 100 x 3.0 RHS Beam with both ends fixed to steel columns (Steel Columns elsewhere measured), with and including all necessary welding, bolts, washers, etc	t	1.58
	A : 0.00      B : 0.00      C : 0.00      D : 0.00		
	E : 0.00      F : 0.00      G : 0.00      H : 0.00		
	J : 0.00      K : 0.00      L : 0.00      M : 0.00		
	N : 0.00      O : 0.00      P : 1.58      Q : 0.00		
	R : 0.00      S : 0.00      T : 0.00      U : 0.00		
	V : 0.00		

**Carried Forward**

R

Bill No. 12  
Structural Steelwork

	Brought Forward						R
3	50 x 50 x 5 L cross bracing				t	0.27	
	A : 0.00	B : 0.00	C : 0.00	D : 0.00			
	E : 0.00	F : 0.00	G : 0.00	H : 0.00			
	J : 0.00	K : 0.00	L : 0.00	M : 0.00			
	N : 0.00	O : 0.00	P : 0.27	Q : 0.00			
	R : 0.00	S : 0.00	T : 0.00	U : 0.00			
	V : 0.00						
	<b><u>HOT DIPPED GALVANISED PURLINS</u></b>						
4	150 x 75 x 20 x 3.5mm Cold rolled lipped channels				t	1.23	
	A : 0.00	B : 0.00	C : 0.00	D : 0.00			
	E : 0.00	F : 0.00	G : 0.00	H : 0.00			
	J : 0.00	K : 0.00	L : 0.00	M : 0.00			
	N : 0.00	O : 0.00	P : 1.23	Q : 0.00			
	R : 0.00	S : 0.00	T : 0.00	U : 0.00			
	V : 0.00						
	<b><u>SUNDRY STEELWORK</u></b>						
	<b><u>Sundry Steelwork</u></b>						
5	Cleats, plates, gussets, connectors, etc				t	0.19	
	A : 0.00	B : 0.00	C : 0.00	D : 0.00			
	E : 0.00	F : 0.00	G : 0.00	H : 0.00			
	J : 0.00	K : 0.00	L : 0.00	M : 0.00			
	N : 0.00	O : 0.00	P : 0.19	Q : 0.00			
	R : 0.00	S : 0.00	T : 0.00	U : 0.00			
	V : 0.00						
	<b><u>PAINTWORK</u></b>						

Brought Forward						R
<u>Remove all grease and oil by washing with a water emulsifiable solvent degreaser and rinsing with potable water, dry abrasive blast to rear white metal in accordance with Sa 2.5 of the International Standard ISO 850-1 to obtain a surface profile of 25 - 75 microns and apply one coat Interguard 269 galvanizing primer and two coats Interthane 990 recoatable polyurethane</u>						
6	On rafters, beams, purlins, etc			t	3.78	
	A : 0.00	B : 0.00	C : 0.00	D : 0.00		
	E : 0.00	F : 0.00	G : 0.00	H : 0.00		
	J : 0.00	K : 0.00	L : 0.00	M : 0.00		
	N : 0.00	O : 0.00	P : 3.78	Q : 0.00		
	R : 0.00	S : 0.00	T : 0.00	U : 0.00		
	V : 0.00					
Carried to Summary						R
Bill No. 12						
Structural Steelwork						

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 13</u></b>			
	<b><u>METALWORK</u></b>			
	<b><u>(CPAP WORK GROUP NO. 136 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 13 Metalwork			

**Brought Forward**

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

### **Descriptions of bolts, anchors, etc**

Descriptions of bolts shall be deemed to include nuts and washers.

Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.

Items described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described.

Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres

### **Aluminium doors, windows, etc**

Doors and windows shall comply with AAAMSA design criteria

Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed

The Contractor is advised that the design, supply and installation of the aluminium windows, doors and shopfronts are to be carried out in strict accordance with the Architect's specification and all aluminium profiles, manufacturing and fixing methods are to comply with AAMSA specifications and installation standards.

The Contractor to provide shop drawings for approval by the Architect. The Contractor shall submit shop drawings for approval by the Architect within two weeks of appointment. The Contractor shall only proceed with the works after written approval has been given by the Architect.

The Contractor is to allow for and calculate tolerances for expansion and contraction of all aluminium profiles.

**Carried Forward**

R

Bill No. 13  
Metalwork



<p style="text-align: center;"><b>Brought Forward</b></p> <p>The contractor is to provide a waterproofing guarantee for all shopfronts and windows.</p> <p>The Contractor is to confirm all window and shopfront sizes with the Architect.</p> <p>The following certificates shall be provided prior to commencement of work on site:</p> <ol style="list-style-type: none"> <li>1. A copy of the relevant AAAMSA performance test certificate from the manufacturer/contractor supplying the architectural aluminium product.</li> <li>2. A certificate of conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively.</li> <li>3. A powder gurantee 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.</li> <li>4. A certificate of conformance confirming that glazing has been installed in accordance with SANS 10137 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.</li> <li>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.</li> </ol>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 13 Metalwork</p>	<p style="text-align: center;">R</p>

**Brought Forward**

R

**Ironmongery**

All ironmongery to aluminium windows, doors, shopfronts, roller shutter doors etc is to be high quality adjustable stainless steel friction hinges with restrictors included with self tapper stainless steel screw fixing of plastic handle and lock piece supplied and fixed by the contractor. The Contractor is to provide for approval by the Architect samples of these ironmongery. All ironmongery shall be by the Architect prior to installation.

The Contractor to supply all relevant shopfronts with catches, handles, hinges, etc. to match shopfronts and doors, all to the Architects approval and as per Architect's drawing & schedules.

**Sliding gear**

All sliding gear to sliding doors and windows to be supplied by the contractor unless otherwise specified. The contractor to provide samples for approval by the Architect of these sliding gear. All sliding gear shall be by the Architect prior to installation.

**Joints and sealants**

All joints in frames shall be made by mechanical means.

An silicone sealant is to be provided for both sides of all internal and external shop fronts between the aluminium frames and brick wall or concrete column and between the aluminium frame and plaster finish

**GALVANISED STEEL GATES, SCREENS, ETC**

**Hot dipped galvanised steel gates**

- 1 Single gate 900 x 1615mm high formed of 50 x 50 x 2.5mm square tubing outer frame, with 30 x 30 x 2mm diagonal square tubing bars welded at 100mm centres maximum, complete with bullet hinges welded on, and locking mechanism suitable for and including padlock.

No

4

A : 0      B : 0      C : 0      D : 0  
E : 0      F : 0      G : 0      H : 0  
J : 0      K : 0      L : 0      M : 0  
N : 0      O : 0      P : 0      Q : 0  
R : 0      S : 4      T : 0      U : 0  
V : 0

**Carried Forward**

R

Bill No. 13  
Metalwork

Brought Forward				R
2	Single gate 900 x 2215mm high formed of 50 x 50 x 2.5mm square tubing outer frame, with 30 x 30 x 2mm diagonal square tubing bars welded at 100mm centres maximum, complete with bullet hinges welded on, and locking mechanism suitable for and including padlock.	No	8	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 0      T : 2      U : 2			
	V : 0			
3	Single gate size 1124 x 2230mm high with 40mm horizontal flat bars & 12mm diameter vertical rods evenly spaced @ 70mm welded to top, middle and bottom bars (SG1). Tenderers are referred to Architects drawings annexed to these Bills of Quantities Drawing number DOE-A-8050-0 for the full description of the gate	No	29	
	A : 1      B : 0      C : 0      D : 0			
	E : 4      F : 7      G : 2      H : 3			
	J : 1      K : 3      L : 7      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
4	Double gate size 2341 x 2230mm high with 40mm horizontal flat bars & 12mm diameter vertical rods evenly spaced @ 70mm welded to top, middle and bottom bars (SG1). Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 1      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward				R
5	Double gate size 2150 x 2217mm high with 40mm horizontal flat bars & 12mm diameter vertical rods evenly spaced @ 70mm welded to top, middle and bottom bars (G2). Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	5	
	A : 0      B : 0      C : 5      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
6	Double gate size 3180 x 2230mm high with 40mm horizontal flat bars & 12mm diameter vertical rods evenly spaced @ 70mm welded to top, middle and bottom bars (SG1). Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 1      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
7	Single gate size 1124 x 2230mm high with 40mm square mild steel tubes. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 0      C : 0      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward				R
8	Double gate size 1683 x 2230mm high with 40mm square mild steel tubes. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 0      C : 0      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b><u>APPROVED STEEL DOORS, ETC</u></b>			
	<b><u>0.88mm Zinc coated Combi standard steel door</u></b>			
9	Door size 900 x 2100mm high	No	14	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 6      T : 2      U : 2			
	V : 0			
10	Door size 1200 x 2100mm high	No	3	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 2      T : 0      U : 1			
	V : 0			
	<b><u>HOT DIPPED GALVANISED SUNDRY STEELWORK</u></b>			
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward				R
<b><u>Brackets etc. to roof timber, benches, shelving, etc.</u></b>				
11	<p>Wall support to counter tops formed with 50 x 50 x 5mm L-section framing to horizontal rail 600mm wide, vertical post 530mm high and raking stay 300mm long, all mitred and welded together with closed ends to horizontal rail and vertical post, the vertical post drilled for and bolted to wall with four No. (4) M12 expansion bolts</p> <p>A : 2      B : 2      C : 3      D : 12 E : 8      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 16 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	43	
12	<p>Wall support to shelving formed with 50 x 50 x 5mm L-section framing to horizontal rail 380mm wide, vertical post 430mm high and raking stay 300mm long, all mitred and welded together with closed ends to horizontal rail and vertical post, the vertical post drilled for and bolted to wall with four M8 expansion bolts</p> <p>A : 0      B : 20      C : 45      D : 64 E : 36      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	165	
<b><u>Posts etc.</u></b>				
13	<p>100 x 100 x 4mm Hollow section post 2750mm high with 200 x 200 x 10mm thick base plate welded to one end and the other end welded to and including purpose made U-shaped bracket to suit 76 x 222mm high timber beam (Timber beam elsewhere measured) with 6 No. M8 pre-drilled holes on bracket and 4 No. M10 pre-drilled holes on base plate to suit site conditions.</p> <p>A : 0      B : 20      C : 9      D : 11 E : 11      F : 11      G : 6      H : 7 J : 5      K : 8      L : 9      M : 5 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	102	
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward			
<b><u>Hilti' or other equally approved:</u></b>			
14	M10 Chemical anchors	No	408
	A : 0      B : 80      C : 36      D : 44		
	E : 44      F : 44      G : 24      H : 28		
	J : 20      K : 32      L : 36      M : 20		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>HOT DIPPED GALVANISED STEEL BURGLAR BARS</u></b>			
<b><u>20 x 5mm Hot dipped galvanised flat bar welded to window panels across glazing as per manufacturers instruction</u></b>			
15	Burglar bar size 533 x 654mm high (W5). Tenderers are referred to Architects drawings annexed to these Bills of Quantities. (Refer to drawing no. DOE-A-8100-0)	No	1
	A : 1      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
16	Burglar bar size 1 200 x 600mm high (W6). Tenderers are referred to Architects drawings annexed to these Bills of Quantities. (Refer to drawing no. DOE-A-8100-0)	No	2
	A : 2      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b>Carried Forward</b>			
Bill No. 13 Metalwork			

R

R

Brought Forward				R
17	<p>Burglar bar size 2 865 x 1 200mm high (W7). Tenderers are referred to Architects drawings annexed to these Bills of Quantities. (Refer to drawing no. DOE-A-8100-0)</p> <p>A : 1      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p> <p><b><u>ALUMINIUM WINDOWS, DOORS ETC</u></b></p> <p><b><u>'HBS' or other equally approved Nuklip aluminium windows, shopfronts and doors complete with subframes, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete complete with 'KoastGuard' or other equally approved approved Qualicoat class 2 powder coating, Interpon D2525, Jet Black code QN205P all in accordance with suppliers instruction</u></b></p> <p>KoastGuard application certificate and twenty five (25) year warranty</p>	No	1	
18	<p>Window size 533 x 654mm high overall top hung outward opening section with 6.38mm obscure glass to AAMSA performance criteria A2 (W5). Tenderers are referred to Architect's drawings annexed to these Bills of Quantities Drawing number DOE-A-8100-0</p> <p>A : 1      B : 0      C : 0      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	1	
Carried Forward				R
<p>Bill No. 13 Metalwork</p>				



Brought Forward				R
19	Window size 600 x 1 200mm high overall sliding window with 6.38mm clear laminated safety glass to AAMSA performance criteria A2 (W6). Tenderers are referred to Architect's drawings annexed to these Bills of Quantities Drawing number DOE-A-8100-0	No	2	
	A : 2      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
20	Window size 2 865 x 1 200mm high overall sliding window with 6.38mm clear laminated safety glass to AAMSA performance criteria A2 (W7). Tenderers are referred to Architect's drawings annexed to these Bills of Quantities Drawing number DOE-A-8100-0	No	1	
	A : 1      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
21	Window size 1600 x 1 025mm high overall sliding window with 6.38mm clear laminated safety glass to AAMSA performance criteria A2 (W7). Tenderers are referred to Architect's drawings annexed to these Bills of Quantities	No	3	
	A : 0      B : 3      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>STEEL ROLLER SHUTTERS, ETC</u></b>				
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward			
<b><u>'Seranda' or other equally approved Galvanised steel powder coated roller shutters fixed to brickwork or concrete</u></b>			
22	Galvanized mild steel manual operated roller shutter door suitable for opening size 2400 x 2125mm high and fixing to 40 x 40 x 5mm angle iron corner protection, complete with 85mm wide x 1.2mm thick interlocking slatted curtain, 75 x 30 x 3mm channel section guides and spring loaded roller mechanism with canopy. Installed complete with cushion rubber, bottom weather seal. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1
	A : 0      B : 0      C : 1      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>DOORS, WINDOWS, ETC</u></b>			
<b><u>'Durowin' Windows and Door Frames' or other equally approved hot dipped galvanised steel doors</u></b>			
23	Type DSDDAF1 internally glazed industrial door size 1 615 x 2 531mm high (D11) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1
	A : 0      B : 1      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b>Carried Forward</b>			
Bill No. 13 Metalwork			

R

R

Brought Forward				R
24	Type DSDDAF1 internally glazed industrial door size 2889 x 2 531mm high (D12) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 1      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
25	Type NE1 Window, 533 x 654mm high	No	23	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 6      S : 10      T : 3      U : 4			
	V : 0			
26	Type NE2 residential open out steel window frame size 533 x 654mm high (W4) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	25	
	A : 0      B : 6      C : 6      D : 0			
	E : 0      F : 6      G : 0      H : 0			
	J : 0      K : 0      L : 7      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
27	Type NE2 residential open out steel window frame size 1022 x 654mm high (W4) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	4	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 4      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward				R
28	Type NE4 internally glazed industrial steel window frame size 1511 x 654mm high (W4) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	7	
	A : 0      B : 0      C : 7      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
29	Type 14BH internally glazed industrial window frame size 987 x 987mm high (W1) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	96	
	A : 0      B : 3      C : 0      D : 14			
	E : 9      F : 15      G : 10      H : 9			
	J : 4      K : 15      L : 9      M : 8			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
30	Type 14BH internally glazed industrial window frame size 987 x 1445mm high with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	1	
	A : 0      B : 0      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
31	Type SS33 internally glazed industrial window frame size 987 x 1445mm high (W2) with burglar bars type b1. Tenderers are referred to Architects drawings annexed to these Bills of Quantities	No	133	
	A : 0      B : 19      C : 12      D : 15			
	E : 9      F : 15      G : 10      H : 12			
	J : 5      K : 15      L : 12      M : 9			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 13 Metalwork				

Brought Forward			
<b><u>STRONGROOM DOORS, ETC</u></b>			
<b><u>"Mutual Safes No DS2" or other equally approved strongroom doors, etc. suitable for one brick walls fixed to brickwork</u></b>			
32	Strong room door and frame 950 x 2100mm high overall with a mass of 210kg including a seven lever security lock, hinges etc. supplied by manufacturer	No	1
	A : 0      B : 1      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>GALVANISED PRESSED STEEL DOOR FRAMES</u></b>			
<b><u>1,2mm Double rebated frames suitable for half brick wall fitted with three hinges</u></b>			
33	Frame for door 813 x 2032mm high.	No	20
	A : 0      B : 8      C : 7      D : 1		
	E : 1      F : 0      G : 0      H : 1		
	J : 0      K : 0      L : 0      M : 2		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
34	Frame for door 915 x 2032mm high.	No	7
	A : 0      B : 1      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 6      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
35	Frame for door 813 x 2125mm high.	No	3
	A : 0      B : 0      C : 2      D : 0		
	E : 1      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 13 Metalwork			

R

R

Brought Forward			
36	Frame for door 813 x 1880mm high.	No	16
	A : 0      B : 4      C : 0      D : 0		
	E : 0      F : 6      G : 0      H : 0		
	J : 0      K : 0      L : 6      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
37	Frame for door 900 x 2100mm high	No	14
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 6      T : 2      U : 2		
	V : 0		
38	Frame for door 1200 x 2100mm high	No	3
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 2      T : 0      U : 1		
	V : 0		
	<b><u>1,2mm Double rebated frames suitable for one brick walls fitted with three hinges</u></b>		
39	Frame for door 813 x 2032mm high.	No	30
	A : 0      B : 4      C : 0      D : 4		
	E : 2      F : 5      G : 2      H : 3		
	J : 1      K : 3      L : 5      M : 1		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 13 Metalwork			

R	
R	

	Brought Forward			R
40	<p>Frame for door 918 x 2032mm high.</p> <p>A : 0      B : 0      C : 0      D : 1</p> <p>E : 0      F : 0      G : 0      H : 0</p> <p>J : 0      K : 0      L : 1      M : 0</p> <p>N : 0      O : 0      P : 0      Q : 0</p> <p>R : 0      S : 0      T : 0      U : 0</p> <p>V : 0</p>	No	2	
41	<p>Frame for door 1613 x 2032mm high.</p> <p>A : 0      B : 0      C : 2      D : 1</p> <p>E : 0      F : 0      G : 0      H : 0</p> <p>J : 0      K : 0      L : 0      M : 0</p> <p>N : 0      O : 0      P : 0      Q : 0</p> <p>R : 0      S : 0      T : 0      U : 0</p> <p>V : 0</p> <p><b><u>1,2mm Double rebated frames suitable for two brick walls fitted with three hinges</u></b></p>	No	3	
42	<p>Purpose made frame for door 813 x 2125mm high hot dipped galvanised steel frame manufactured using FX7 steel sections complete with straps for building in, 3 x hot dipped galvanised parliament hinges as per manufacturers details</p> <p>A : 0      B : 0      C : 0      D : 0</p> <p>E : 2      F : 0      G : 0      H : 0</p> <p>J : 0      K : 0      L : 0      M : 0</p> <p>N : 0      O : 0      P : 0      Q : 0</p> <p>R : 0      S : 0      T : 0      U : 0</p> <p>V : 0</p> <p><b><u>HEAVY DUTY INDUSTRIAL RACKING, SHELVING, ETC.</u></b></p>	No	2	
	Carried Forward			R
<p>Bill No. 13 Metalwork</p>				

Brought Forward				R
<b><u>"Dexion static industrial and commercial Shelving Systems" or other equally approved Epoxy powder coated galvanised 7 tier shelving system complete with shelves / decking, anchor bolted to concrete floor with stainless steel anchors, fixed strictly in accordance with the manufacturers specifications.</u></b>				
43	Shelving size 2400mm long x 2048mm high comprising slotted angle uprights at 914mm centres with 762mm x 914mm shelves assembled with bolts to adjustable heights	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
44	Shelving size 3656mm long x 2048mm high comprising slotted angle uprights at 914mm centres with 762mm x 914mm shelves assembled with bolts to adjustable heights	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
45	Lockable steel cabinet with two doors size 1800 x 900 x 450mm	No	14	
	A : 0      B : 0      C : 0      D : 0			
	E : 2      F : 3      G : 2      H : 2			
	J : 1      K : 3      L : 0      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>STEEL LOCKERS</u></b>				
Carried Forward				R
Bill No. 13 Metalwork				



Brought Forward				R
<b><u>"Greenfields" or other equally approved steel lockers with standard baked enamel finish</u></b>				
46	Bank of eight G22 lockers each 305 x 457 1752mm high bolted together	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
47	Bank of twelve G22 lockers each 305 x 457 1752mm high bolted together	No	1	
	A : 0      B : 0      C : 0      D : 0			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried to Summary				R
Bill No. 13 Metalwork				

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 14</u></b>			
	<b><u>PLASTERING</u></b>			
	<b><u>(CPAP WORK GROUP NO. 142 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 14 Plastering			

Brought Forward

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

### **Method**

The method to be used shall be either the monolithic method or the bonded method

### **Preparation**

For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.

### **Mix**

Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.

Carried Forward

R

Bill No. 14  
Plastering

<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>Panels</u></b></p> <p>Granolithic shall be laid in panels not exceeding 14m<sup>2</sup> for monolithic finishes, not exceeding 9.5m<sup>2</sup> for bonded finishes and not exceeding 6m<sup>2</sup> for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1.5 times its width.</p> <p>Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints</p> <p><b><u>Laying</u></b></p> <p>Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels.</p> <p>Bonded granolithic shall be applied to the slab after applying a 1:1 sand and cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels.</p> <p>After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated.</p> <p><b><u>Curing, seasoning and protection</u></b></p> <p>Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying</p> <p><b><u>Colour</u></b></p> <p>Coloured granolithic shall be tinted with an colouring pigment mixed into a true and even colour.</p> <p><b><u>SCREEDS</u></b></p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 14 Plastering</p>	<p style="text-align: center;">R</p>

Brought Forward				R
<b><u>Screeds wood floated, on concrete</u></b>				
1	30mm Thick on floors	m2	1,990	
	A : 9      B : 266      C : 231      D : 308			
	E : 127      F : 240      G : 122      H : 146			
	J : 61      K : 183      L : 196      M : 102			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>GRANOLITHIC</u></b>				
<b><u>Untinted granolithic, on concrete</u></b>				
2	30mm Thick on floors	m2	554	
	A : 23      B : 111      C : 88      D : 68			
	E : 32      F : 61      G : 30      H : 44			
	J : 19      K : 45      L : 6      M : 26			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
3	40mm Thick on floors and landing	m2	114	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 33      S : 45      T : 16      U : 20			
	V : 0			
4	75mm High skirting	m	468	
	A : 14      B : 42      C : 23      D : 48			
	E : 26      F : 46      G : 23      H : 28			
	J : 9      K : 34      L : 39      M : 19			
	N : 0      O : 0      P : 0      Q : 0			
	R : 32      S : 48      T : 16      U : 21			
	V : 0			
<b><u>INTERNAL PLASTER</u></b>				
Carried Forward				R
Bill No. 14 Plastering				

Brought Forward				R
<b><u>One coat cement plaster steel floated on brickwork</u></b>				
5	On walls	m2	4,225	
	A : 56      B : 825      C : 559      D : 406			
	E : 253      F : 483      G : 137      H : 242			
	J : 84      K : 207      L : 537      M : 114			
	N : 0      O : 0      P : 0      Q : 0			
	R : 81      S : 144      T : 41      U : 56			
	V : 0			
6	On walls in pit	m2	194	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 59      S : 77      T : 29      U : 29			
	V : 0			
7	On narrow widths	m2	195	
	A : 3      B : 41      C : 28      D : 20			
	E : 13      F : 24      G : 7      H : 12			
	J : 4      K : 10      L : 27      M : 6			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>FLOOR AND WALL SEALER</u></b>				
<b><u>Minimum two coats 'approved' black epoxy coat:</u></b>				
<b><u>Cement plaster on brickwork</u></b>				
8	On internal textured plaster walls	m2	192	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 58      S : 76      T : 29      U : 29			
	V : 0			
Carried Forward				R
Bill No. 14 Plastering				

Brought Forward			
<b><u>Cement plaster steel trowelled on concrete</u></b>			
9	To soffit of slab	m2	8
	A : 0      B : 0      C : 0      D : 8		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>EXTERNAL PLASTER</u></b>			
<b><u>One coat cement plaster wood floated on brickwork</u></b>			
10	On walls	m2	455
	A : 15      B : 35      C : 47      D : 88		
	E : 33      F : 53      G : 25      H : 0		
	J : 0      K : 32      L : 47      M : 23		
	N : 0      O : 0      P : 0      Q : 0		
	R : 16      S : 23      T : 8      U : 9		
	V : 0		
11	On narrow widths	m2	29
	A : 1      B : 4      C : 3      D : 3		
	E : 2      F : 4      G : 2      H : 0		
	J : 0      K : 4      L : 3      M : 2		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>CORNER PROTECTORS, DIVIDING STRIPS, ETC</u></b>			
<b><u>Dividing strips</u></b>			
12	3 x 40mm Flat section brass dividing strips between differing floor finishes	m	27
	A : 2      B : 1      C : 1      D : 1		
	E : 2      F : 5      G : 2      H : 3		
	J : 1      K : 3      L : 5      M : 1		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b>Carried to Summary</b>			
Bill No. 14 Plastering			

R	
R	

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 15</u></b>			
	<b><u>TILING</u></b>			
	<b><u>(CPAP WORK GROUP NO. 144 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 15 Tiling			



Brought Forward

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

**Fixing**

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 tiling key-coat.

Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional range of products as recommended by the manufacturer.

**WALL TILING**

**200 x 200 x 6mm Matt white "Samca MWC4" or other equally approved glazed ceramic tiles fixed with an adhesive to plastered walls (plaster elsewhere measured) and flush pointed with waterproofing jointing compound to match tile colour**

1	On walls	m2	530
	A : 21	B : 116	C : 95
	E : 0	F : 150	G : 0
	J : 0	K : 0	L : 147
	N : 0	O : 0	P : 0
	R : 0	S : 0	T : 0
	V : 0	U : 0	

Carried Forward

R

Bill No. 15  
Tiling

Brought Forward				R
2	On splash backs	m2	5	
	A : 0      B : 0      C : 3      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
3	On narrow widths	m2	26	
	A : 1      B : 6      C : 5      D : 0			
	E : 0      F : 8      G : 0      H : 0			
	J : 0      K : 0      L : 7      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
4	Fair exposed around pipe not exceeding 100mm internal diameter	No	27	
	A : 1      B : 5      C : 3      D : 0			
	E : 0      F : 8      G : 0      H : 0			
	J : 0      K : 0      L : 8      M : 2			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
5	Fair exposed cutting and fitting around pipe exceeding 100mm and not exceeding 150mm internal diameter	No	19	
	A : 1      B : 4      C : 2      D : 0			
	E : 0      F : 6      G : 0      H : 0			
	J : 0      K : 0      L : 6      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>FLOOR TILING</u></b>				
Carried Forward				R
Bill No. 15 Tiling				

Brought Forward			
<b><u>600 x 600mm tiles "Tile Africa" 'Olbia Grey Glazed Polished Porcelain' Code: T0028784 or other equally approved tile fixed with adhesive mixture for porcelain tiles to screed (screed elsewhere measured) and flush pointed with tinted grout</u></b>			
6	On floors	m2	161
	A : 2      B : 33      C : 17      D : 0 E : 0      F : 56      G : 0      H : 0 J : 0      K : 0      L : 53      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0		
<b><u>SUNDRIES</u></b>			
<b><u>"Genesis" or other equally approved edge trims:</u></b>			
7	21 x 10mm aluminium straight edge trim (Code: ESA 100.80)	m	38
	A : 1      B : 5      C : 10      D : 3 E : 1      F : 4      G : 2      H : 3 J : 1      K : 3      L : 5      M : 1 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0		
<b><u>Polysulphide soft joint or equally approved at 3.0m intervals both ways as per supplier instructions</u></b>			
8	5 x 10mm Joints in floor tiles	m	107
	A : 2      B : 22      C : 12      D : 0 E : 0      F : 37      G : 0      H : 0 J : 0      K : 0      L : 35      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0		
<b>Carried to Summary</b>			
Bill No. 15			
Tiling			

R	
R	

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 16</u></b>			
	<b><u>PLUMBING AND DRAINAGE</u></b>			
	<b><u>(CPAP WORK GROUP NO. 148 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 16 Plumbing & Drainage			

Brought Forward

R

## **PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

## **SUPPLEMENTARY PREAMBLES**

### **Sealing of edges**

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

### **uPVC pipes and fittings**

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

### **uPVC pressure pipes and fittings**

Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

### **High density polyethylene (HDPE) pipes and fittings**

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

### **Polycorp polypropylene pipes**

Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with Fast-Fuse heat welded thermoplastic or where so described Polylock compression fittings. Pipes shall be firmly fixed to walls, etc. with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions.

Carried Forward

R

Bill No. 16  
Plumbing & Drainage

**Brought Forward**

R

**Copper pipes**

Pipes shall be hard drawn and half-hard Maksal pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard) Class 2 (Half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-siphon pipes, capillary solder fittings and compression fittings shall be Cobra Watertech type. Capillary solder fittings shall comply with ISO 2016.

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

**Reducing fittings**

Where fittings have reducing ends or branches they are described as "reducing" and only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained.

**Fixing of pipes**

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

**Paper wrapping to pipes**

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

**Carried Forward**

R

Bill No. 16  
Plumbing & Drainage

<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>Densyl petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd</u></b></p> <p>Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with overlaps. Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, Layflat sheeting, securing of same etc.</p> <p>Prices for wrapping of pipes shall include for all work as described to couplings in the length.</p> <p><b><u>Excavations</u></b></p> <p>No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling</p> <p>"Intermediate material" and "hard material" shall be as defined in "Earthworks"</p> <p><b><u>Laying, backfilling, bedding, etc. of pipes</u></b></p> <p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions</p> <p>Where no manufacturers' 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 : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding</p> <p><b><u>Flush pans</u></b></p> <p>Flush pans shall have straight or side outlets and "P" or "S" traps as necessary</p> <p><b><u>Stainless steel basins, sinks, wash troughs, urinals, etc.</u></b></p> <p>Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 16 Plumbing &amp; Drainage</p>	<p style="text-align: center;">R</p>

<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>General</u></b></p> <p>Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc. are given separately) Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends</p> <p>Descriptions of pipes laid in and including trenches and inspection chambers, catchpits, etc. shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 95% Mod AASHTO density.</p> <p>Descriptions of service pipes and flexible connecting pipes shall be deemed to include connnections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc. are given separately).</p> <p>Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)</p> <p><b><u>As-built drawings</u></b></p> <p>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)</p> <p><b><u>RAINWATER DISPOSAL</u></b></p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 16 Plumbing &amp; Drainage</p>	<p style="text-align: center;">R</p>



Brought Forward					R
<u>"Ogee profile aluminium H3003h 14" or other equally approved seamless gutter in marble white colour with and including matching rivet fixed mitres and end caps internally sealed using "Sika" or other equally approved silicon mastic sealer. Gutters are to be hung with nailed fixed internal aluminium hangers at 600mm centres to fibre cement fascia boards (Fibre cement fascia boards elsewhere measured)</u>					
1	125 x 85 x 0.6mm Ogee profile gutter	m	611		
	A : 5      B : 71      C : 71      D : 73				
	E : 43      F : 77      G : 40      H : 48				
	J : 22      K : 59      L : 67      M : 35				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
2	Extra over gutter for outlet	No	51		
	A : 1      B : 5      C : 4      D : 5				
	E : 4      F : 6      G : 4      H : 4				
	J : 2      K : 6      L : 6      M : 4				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
3	Extra over gutter for stop end	No	54		
	A : 2      B : 6      C : 4      D : 10				
	E : 4      F : 4      G : 4      H : 4				
	J : 4      K : 4      L : 4      M : 4				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
Carried Forward					R
Bill No. 16 Plumbing & Drainage					

Brought Forward			
<b><u>0.7mm Baked enamel aluminium downpipe including holderbats</u></b>			
4	100 x 75mm rainwater pipe	m	208
	A : 4      B : 18      C : 16      D : 21		
	E : 17      F : 25      G : 17      H : 17		
	J : 8      K : 25      L : 25      M : 17		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
5	Extra over 100 x 75mm rainwater pipe for bend	No	204
	A : 4      B : 20      C : 16      D : 20		
	E : 16      F : 24      G : 16      H : 16		
	J : 8      K : 24      L : 24      M : 16		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
6	Extra over rainwater pipe for shoe	No	51
	A : 1      B : 5      C : 4      D : 5		
	E : 4      F : 6      G : 4      H : 4		
	J : 2      K : 6      L : 6      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>SOIL DRAINAGE</u></b>			
<b><u>uPVC pipes in class C bedding:</u></b>			
7	110mm Pipes vertically or ramped to cleaning eyes, etc. (no excavation)	m	48
	A : 2      B : 9      C : 9      D : 1		
	E : 1      F : 12      G : 0      H : 0		
	J : 0      K : 0      L : 10      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 16 Plumbing & Drainage			

R

Brought Forward			
8	110mm Pipes laid in and including trenches not exceeding 1m deep	m	97
	A : 4      B : 18      C : 18      D : 2		
	E : 2      F : 24      G : 0      H : 0		
	J : 0      K : 0      L : 20      M : 9		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Extra over uPVC pipes for fittings:</u></b>		
9	110mm Bend	No	48
	A : 2      B : 9      C : 9      D : 1		
	E : 1      F : 12      G : 0      H : 0		
	J : 0      K : 0      L : 10      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
10	110mm Access bend	No	4
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 2      G : 0      H : 0		
	J : 0      K : 0      L : 2      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
11	110mm Access junction	No	18
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 9      G : 0      H : 0		
	J : 0      K : 0      L : 9      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
Carried Forward			
Bill No. 16 Plumbing & Drainage			

R	
R	

Brought Forward					
12	110mm Rodding eye with cast iron cover and frame	No	4		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 2      G : 0      H : 0				
	J : 0      K : 0      L : 2      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b>Testing</b>				
13	Testing soil drainage pipe system		Item		
	A : 0.00      B : 0.00      C : 0.00      D : 0.00				
	E : 0.00      F : 0.00      G : 0.00      H : 0.00				
	J : 0.00      K : 0.00      L : 0.00      M : 0.00				
	N : 0.00      O : 0.00      P : 1.00      Q : 0.00				
	R : 0.00      S : 0.00      T : 0.00      U : 0.00				
	V : 0.00				
	<b>SUNDRIES</b>				
14	Excavate for and construct gulley comprising of 110mm uPVC gulley trap with 190mm diameter uPVC hopperhead with pvc grating, all set in mass concrete and not exceeding 500mm deep. The top of the gulley to be raised 75mm above surrounding ground level and internally dished down to hopper head with smoothened render and external of raised sides to be finished neatly.	No	20		
	A : 1      B : 4      C : 3      D : 1				
	E : 1      F : 4      G : 0      H : 0				
	J : 0      K : 0      L : 2      M : 4				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
	<b>SANITARY FITTINGS</b>				
Carried Forward				R	
Bill No. 16 Plumbing & Drainage					

Brought Forward				R
<b><u>Supply, fix, clean, wash and leave in a satisfactory condition the following items of sanitary ware:</u></b>				
15	"Builders" or other equally approved Miami close couple suite 150, white with P-trap pan, exposed universal Biboff cistern (6m3), front flush type (Code: XTMIF08A)	No	19	
	A : 1      B : 4      C : 2      D : 0			
	E : 0      F : 6      G : 0      H : 0			
	J : 0      K : 0      L : 6      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
16	"Vaal Sanitaryware" or other equally approved Protea paraplegic suite, white, outlet pan & matching 9 litre cistern, and purpose-made c.p. side-flush lever (left or right). Bottom inlet water supply must be on same side as flush lever (Code: VAA-750246WH)	No	3	
	A : 0      B : 1      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 1      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
17	"Cobra" or other equally approved Shelter round wall hung wash hand basin, size 495mm long x 430mm wide and including one pre-punched tap hole in the centre of the basin, overflow, expansion bolts, etc. (Code: CSHBAWH2-6DT01)	No	25	
	A : 1      B : 5      C : 3      D : 0			
	E : 0      F : 8      G : 0      H : 0			
	J : 0      K : 0      L : 8      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 16 Plumbing & Drainage				

Brought Forward			
18	"Cobra" or other equally approved snup ceramic urinal, white (Code: CSNURWH1-6DT01)	No	1
	A : 0      B : 0      C : 1      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
19	"Vaal" or other equally approved Iceberg drop-in vanity basin (Vanity elsewhere measured), size 420 x 420mm (Code: 703400WH)	No	12
	A : 0      B : 0      C : 0      D : 0		
	E : 2      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 10		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
20	450 x 290mm "Bantam" cloakroom hand basin complete with single punched tapholes fixed to wall with and including two number 10mm bolts	No	14
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 6      T : 2      U : 2		
	V : 0		
	<b>Enviroloo Unit</b>		
21	Erect "Enviroloo" set up and fixed complete as per manufacturers instruction - manufacturer to supply and delivery arrangements contact 011 762 1624 of Enviroloo Options.	No	17
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 8      T : 2      U : 3		
	V : 0		
Carried Forward			
Bill No. 16 Plumbing & Drainage			

R

		<b>Brought Forward</b>			R
22	Erect "Enviroloo" urinals complete as per manufacturers instruction - manufacturer to supply and delivery arrangements contact 011 762 1624 of Enviroloo Options.	No	6		
	<div> <div>A : 0</div> <div>B : 0</div> <div>C : 0</div> <div>D : 0</div> </div> <div> <div>E : 0</div> <div>F : 0</div> <div>G : 0</div> <div>H : 0</div> </div> <div> <div>J : 0</div> <div>K : 0</div> <div>L : 0</div> <div>M : 0</div> </div> <div> <div>N : 0</div> <div>O : 0</div> <div>P : 0</div> <div>Q : 0</div> </div> <div> <div>R : 4</div> <div>S : 0</div> <div>T : 2</div> <div>U : 0</div> </div> <div> <div>V : 0</div> </div>				
	<b><u>Stainless Steel</u></b>				
	<u>The following stainless steel units shall be manufactured in accordance with SABS 242</u>				
23	"Franke" or other equally approved Projectline Model PLN621 stainless steel double end bowl inset sink (Code: 821048), overall size 1160 x 460mm wide with two 340 x 370 x 152mm deep bowls, fitted onto cupboard (cupboard elsewhere measured) including clear silicon, 38mm waste fitting and PVC traps (traps elsewhere measured).	No	2		
	<div> <div>A : 0</div> <div>B : 1</div> <div>C : 0</div> <div>D : 1</div> </div> <div> <div>E : 0</div> <div>F : 0</div> <div>G : 0</div> <div>H : 0</div> </div> <div> <div>J : 0</div> <div>K : 0</div> <div>L : 0</div> <div>M : 0</div> </div> <div> <div>N : 0</div> <div>O : 0</div> <div>P : 0</div> <div>Q : 0</div> </div> <div> <div>R : 0</div> <div>S : 0</div> <div>T : 0</div> <div>U : 0</div> </div> <div> <div>V : 0</div> </div>				
	<b>Carried Forward</b>				R
	Bill No. 16 Plumbing & Drainage				

	Brought Forward			R
24	<p>"Franke" or other equally approved Model S2 double bowl catering sink, bowl positioned at the centre, size 1850 x 650 x 1050mm high, grade 304 stainless steel, 1,2mm thick with a 150mm high integral splash back, 50 x 10mm turn down with beaded edge on the remaining sides. 500 x 500 x 230mm deep bowls with 40mm waste outlets. Framework comprises of 30 x 30 x 3mm and galvanised mild steel backing sheeting, square legs fixed onto walls and floors, etc. (Code: S2-1850C)</p> <p>A : 0      B : 0      C : 3      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	3	
25	<p>"Franke" or other equally approved Model TU102 purpose made flat back wall mounted trough urinal, 1800mm length. Unit to be manufactured from Grade 304 (18/10) stainless steel, 0.9mm gauge. Urinal to be supplied with built-in tipping tank and a 12mm adjustable drip cock (inlet) with controls the automatic flushing of the urinal at regular intervals. Outlet to be situated on the left of the urinal with a recess for a 40mm chrome plated waste outlet. Urinal to include a tiling key to sides and rear walls. The back to be fully sound deadened with vermin proof bitumastic material (Code: 2540070)</p> <p>A : 0      B : 1      C : 0      D : 0 E : 0      F : 1      G : 0      H : 0 J : 0      K : 0      L : 1      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	3	
	Carried Forward			R
	Bill No. 16 Plumbing & Drainage			



Brought Forward					
<b><u>Drinking Water Fountains or other equally approved water fountain:</u></b>					
26	Water fountain comprising 300mm diameter x 1200mm high pre-cast concrete civic drinking water fountain supplied and installed complete with and including push-button tap, waste outlet, supply and drainage pipes, connections to supply and drainage system including 500 x 500 x 300mm 20Mpa/19mm mass concrete footings, including excavations, carting away, backfilling, etc.	No	6		
	A : 0      B : 0      C : 1      D : 0				
	E : 0      F : 1      G : 0      H : 0				
	J : 0      K : 2      L : 1      M : 1				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
<b><u>SANITARY PLUMBING</u></b>					
<b><u>HDPE pipes including all necessary butt welds, electrowelds and expansion sockets cast into concrete slabs, fixed to soffit and walls, or chased into walls, etc. in accordance with manufacturers specifications</u></b>					
27	50mm Pipes	m	105		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 30      S : 40      T : 15      U : 20				
	V : 0				
28	56mm Pipes	m	165		
	A : 2      B : 25      C : 32      D : 2				
	E : 8      F : 15      G : 0      H : 0				
	J : 0      K : 0      L : 19      M : 60				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				

Carried Forward

Bill No. 16  
Plumbing & Drainage

Brought Forward					
29	110mm Pipes	m	142		
	A : 5      B : 21      C : 23      D : 0				
	E : 0      F : 35      G : 0      H : 0				
	J : 0      K : 0      L : 28      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 20      S : 0      T : 10      U : 0				
	V : 0				
	<b><u>Extra over HDPE pipes for fittings</u></b>				
30	50mm Bend	No	20		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 8      S : 6      T : 4      U : 2				
	V : 0				
31	50mm Access reducing junction	m	20		
	A : 0      B : 0      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 8      S : 6      T : 4      U : 2				
	V : 0				
32	56mm Bend	No	182		
	A : 2      B : 18      C : 20      D : 2				
	E : 8      F : 30      G : 0      H : 0				
	J : 0      K : 0      L : 36      M : 66				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
33	56mm Access bend	No	52		
	A : 1      B : 6      C : 7      D : 1				
	E : 1      F : 10      G : 0      H : 0				
	J : 0      K : 0      L : 3      M : 23				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				

Carried Forward

Bill No. 16  
Plumbing & Drainage

R

R

Brought Forward			
34	50mm Junction	No	20
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 8      S : 6      T : 4      U : 2		
	V : 0		
35	50mm Access junction	No	20
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 8      S : 6      T : 4      U : 2		
	V : 0		
36	50mm Access bend	No	20
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 8      S : 6      T : 4      U : 2		
	V : 0		
37	56mm Access junction	No	26
	A : 0      B : 2      C : 3      D : 0		
	E : 1      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 8      M : 12		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
38	110mm Bend	No	52
	A : 2      B : 11      C : 7      D : 0		
	E : 0      F : 13      G : 0      H : 0		
	J : 0      K : 0      L : 13      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 0      T : 2      U : 0		
	V : 0		
Carried Forward			
Bill No. 16 Plumbing & Drainage			

R	
R	

Brought Forward				R
39	110mm Access bend	No	10	
	A : 1      B : 6      C : 3      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
40	110mm Access junction	No	13	
	A : 1      B : 3      C : 1      D : 0			
	E : 0      F : 1      G : 0      H : 0			
	J : 0      K : 0      L : 1      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 0      T : 2      U : 0			
	V : 0			
41	110mm Double access junction	No	2	
	A : 0      B : 1      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
42	110 x 56mm Access junction	No	8	
	A : 0      B : 1      C : 1      D : 0			
	E : 0      F : 3      G : 0      H : 0			
	J : 0      K : 0      L : 3      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
43	50mm "GI Two-way" vent valve	No	12	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 6      T : 4      U : 2			
	V : 0			
Carried Forward				R
Bill No. 16 Plumbing & Drainage				

Brought Forward				R
44	110mm "GI Two-way" vent valve	No	21	
	A : 1      B : 4      C : 2      D : 0			
	E : 0      F : 3      G : 0      H : 0			
	J : 0      K : 0      L : 3      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 8      S : 0      T : 0      U : 0			
	V : 0			
45	110mm Straight or bent pan connector	No	21	
	A : 1      B : 5      C : 3      D : 0			
	E : 0      F : 6      G : 0      H : 0			
	J : 0      K : 0      L : 6      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>Brass traps, waste unions, etc</u></b>				
46	"Franke" or other equally approved plumbing kits Spazi F/2 double bowl	No	5	
	A : 0      B : 1      C : 3      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
47	"Cobra" or other equally approved urinal bottle trap (Code: COB-360)	No	1	
	A : 0      B : 0      C : 1      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 16 Plumbing & Drainage				

Brought Forward				
48	"Cobra" or other equally approved basin bottle trap, 32 x 40mm, chrome (Code: COB-0617CH)	No	51	
	A : 1      B : 5      C : 3      D : 0			
	E : 2      F : 8      G : 0      H : 0			
	J : 0      K : 0      L : 8      M : 10			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 6      T : 2      U : 2			
	V : 0			
49	"Cobra" or other equally approved basin wastes - chrome (Code: COB-P-303)	No	51	
	A : 1      B : 5      C : 3      D : 0			
	E : 2      F : 8      G : 0      H : 0			
	J : 0      K : 0      L : 8      M : 10			
	N : 0      O : 0      P : 0      Q : 0			
	R : 4      S : 6      T : 2      U : 2			
	V : 0			
<b><u>Floor Drains</u></b>				
50	"Seaqual" or other equally approved floor drain size 250 x 250 x 75mm deep with grating to suite and with 100mm diameter outlet and set in position and installed as per manufacturer's instructions	No	3	
	A : 0      B : 0      C : 3      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>Testing</u></b>				
51	Testing waste pipe system			Item
	A : 0.00      B : 0.00      C : 0.00      D : 0.00			
	E : 0.00      F : 0.00      G : 0.00      H : 0.00			
	J : 0.00      K : 0.00      L : 0.00      M : 0.00			
	N : 0.00      O : 0.00      P : 1.00      Q : 0.00			
	R : 0.00      S : 0.00      T : 0.00      U : 0.00			
	V : 0.00			
<b><u>WATER SUPPLIES</u></b>				
<b>Carried Forward</b>				
Bill No. 16 Plumbing & Drainage				

Brought Forward				R
<b><u>HDPE class 12 pipes in ground</u></b>				
52	20mm Pipes laid in trenches (No excavations)	m	9	
	A : 1      B : 0      C : 1      D : 1			
	E : 1      F : 1      G : 0      H : 0			
	J : 0      K : 2      L : 1      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
53	32mm Pipes laid in trenches (No excavations)	m	9	
	A : 0      B : 2      C : 2      D : 0			
	E : 0      F : 2      G : 0      H : 0			
	J : 0      K : 0      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>Extra over HDPE pipes for fittings:</u></b>				
54	20mm Elbow	No	9	
	A : 1      B : 0      C : 1      D : 1			
	E : 1      F : 1      G : 0      H : 0			
	J : 0      K : 2      L : 1      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
55	32mm Elbow	No	9	
	A : 0      B : 2      C : 2      D : 0			
	E : 0      F : 2      G : 0      H : 0			
	J : 0      K : 0      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 16 Plumbing & Drainage				

Brought Forward				R
<p><b><u>Class 2 copper pipes fixed to soffit and walls, or chased into walls, etc. in accordance with manufacturers specifications:</u></b></p> <p>Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground</p> <p>All piping embedded into concrete or chased into walls to be twice wrapped in strong approved building paper.</p> <p>Rates for surface mounted copper pipe shall be deemed to include all fixtures and fittings for pipes fixed to walls, in chases, and in ceilings.</p>				
56	<p>15mm Pipes</p> <p>A : 5      B : 37      C : 41      D : 6</p> <p>E : 6      F : 32      G : 0      H : 0</p> <p>J : 0      K : 2      L : 37      M : 25</p> <p>N : 0      O : 0      P : 0      Q : 0</p> <p>R : 30      S : 40      T : 15      U : 20</p> <p>V : 0</p>	m	294	
57	<p>15mm Pipes chased in walls</p> <p>A : 0      B : 0      C : 0      D : 0</p> <p>E : 0      F : 0      G : 0      H : 0</p> <p>J : 0      K : 0      L : 0      M : 0</p> <p>N : 0      O : 0      P : 0      Q : 0</p> <p>R : 36      S : 44      T : 18      U : 26</p> <p>V : 0</p>	m	124	
58	<p>22mm Pipes</p> <p>A : 7      B : 77      C : 99      D : 3</p> <p>E : 9      F : 33      G : 0      H : 0</p> <p>J : 0      K : 0      L : 36      M : 68</p> <p>N : 0      O : 0      P : 0      Q : 0</p> <p>R : 30      S : 42      T : 15      U : 20</p> <p>V : 0</p>	m	439	
Carried Forward				R
<p>Bill No. 16 Plumbing &amp; Drainage</p>				



Brought Forward			
59	28mm Pipes	m	93
	A : 0      B : 19      C : 27      D : 0		
	E : 0      F : 16      G : 0      H : 0		
	J : 0      K : 0      L : 18      M : 12		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
<b><u>Extra over class 2 copper pipes for capillary fittings</u></b>			
60	15mm Elbow	No	160
	A : 3      B : 26      C : 29      D : 4		
	E : 4      F : 26      G : 0      H : 0		
	J : 0      K : 0      L : 26      M : 22		
	N : 0      O : 0      P : 0      Q : 0		
	R : 8      S : 6      T : 4      U : 2		
	V : 0		
61	22mm Elbow	No	136
	A : 3      B : 18      C : 31      D : 1		
	E : 1      F : 23      G : 0      H : 0		
	J : 0      K : 0      L : 26      M : 13		
	N : 0      O : 0      P : 0      Q : 0		
	R : 8      S : 6      T : 4      U : 2		
	V : 0		
62	22 x 15mm Elbow	No	38
	A : 1      B : 9      C : 13      D : 0		
	E : 1      F : 2      G : 0      H : 0		
	J : 0      K : 0      L : 2      M : 10		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
63	22mm Tee	No	22
	A : 1      B : 9      C : 4      D : 1		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 7		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

Bill No. 16  
Plumbing & Drainage

R

R

Brought Forward					R
64	22 x 15mm Tee	No	48		
	A : 0      B : 0      C : 7      D : 0				
	E : 1      F : 15      G : 0      H : 0				
	J : 0      K : 0      L : 15      M : 10				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
65	28mm Elbow	No	8		
	A : 0      B : 2      C : 2      D : 0				
	E : 0      F : 2      G : 0      H : 0				
	J : 0      K : 0      L : 2      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
66	28 x 22mm Elbow	No	2		
	A : 0      B : 2      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
67	28mm Tee	No	4		
	A : 0      B : 2      C : 0      D : 0				
	E : 0      F : 0      G : 0      H : 0				
	J : 0      K : 0      L : 0      M : 2				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
68	28 x 22mm Tee	No	59		
	A : 0      B : 15      C : 11      D : 0				
	E : 0      F : 15      G : 0      H : 0				
	J : 0      K : 0      L : 18      M : 0				
	N : 0      O : 0      P : 0      Q : 0				
	R : 0      S : 0      T : 0      U : 0				
	V : 0				
Carried Forward					R
Bill No. 16 Plumbing & Drainage					

Brought Forward			
69	28 x 22mm Reducer	No	12
	A : 0      B : 2      C : 2      D : 0		
	E : 0      F : 2      G : 0      H : 0		
	J : 0      K : 0      L : 2      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Copper overflow and service pipes</u></b>		
70	15mm Service pipe 350mm girth	No	29
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 12      S : 6      T : 6      U : 5		
	V : 0		
	<b><u>Extra over copper pipes for brass compression fittings:</u></b>		
71	15mm Wall plate elbow	No	92
	A : 2      B : 17      C : 17      D : 2		
	E : 2      F : 15      G : 0      H : 0		
	J : 0      K : 2      L : 16      M : 19		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
72	22mm Wall plate elbow	No	4
	A : 0      B : 1      C : 1      D : 0		
	E : 0      F : 1      G : 0      H : 0		
	J : 0      K : 0      L : 1      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

Bill No. 16  
Plumbing & Drainage

R

Brought Forward				R
73	22mm Coupling	No	3	
	A : 1      B : 0      C : 0      D : 1			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
74	32mm Coupling	No	9	
	A : 0      B : 2      C : 2      D : 0			
	E : 0      F : 2      G : 0      H : 0			
	J : 0      K : 0      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>TAPS, VALVES, ETC</u></b>				
<b><u>Taps, valves, etc. jointed to copper pipes are to include brass connectors, adaptors etc. Installation and fixings to be as per manufacturers specifications and SANS 1808-9 compliant.</u></b>				
75	15mm Flexible service pipe 300mm girth	No	91	
	A : 2      B : 17      C : 16      D : 2			
	E : 2      F : 15      G : 0      H : 0			
	J : 0      K : 2      L : 16      M : 19			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
76	15mm Angle valve	No	92	
	A : 2      B : 17      C : 16      D : 2			
	E : 2      F : 15      G : 0      H : 0			
	J : 0      K : 2      L : 16      M : 20			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 16 Plumbing & Drainage				

Brought Forward				R
77	22mm Ball-O-Stop valve	No	12	
	A : 1      B : 0      C : 2      D : 0			
	E : 1      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 8			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
78	28mm Ball-O-Stop valve	No	9	
	A : 0      B : 2      C : 2      D : 0			
	E : 0      F : 2      G : 0      H : 0			
	J : 0      K : 0      L : 2      M : 1			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
79	"Cobra" or other equally approved Stella Swivel sink mixer tap, chrome (Code: FSK2W2ST-0GT01)	No	5	
	A : 0      B : 1      C : 3      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
80	"Cobra" or other equally approved ledimo pillar tap, chrome (Code: FPT2A1LE-0GT01)	No	40	
	A : 1      B : 8      C : 4      D : 0			
	E : 2      F : 8      G : 0      H : 0			
	J : 0      K : 0      L : 7      M : 10			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 16 Plumbing & Drainage				

Brought Forward				R
81	<p>"Cobra" or other equally approved medical elbow action taps - chrome. Medical elbow-action pillar tap, chrome. Includes: 1/4 inch turn ceramic disc head part, blue indice, 1/2 inch BSP male inlet, and flanged back nut. Ideal for medical, kitchen and industrial installations. SANS 226 TYPE 2. (Code: COB-503-21B)</p> <p>A : 0      B : 1      C : 1      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 1      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	3	
82	<p>"Cobra" or other equally approved hose bib tap, brass including 3/4 hose union, etc. (Code: COB-208-20)</p> <p>A : 0      B : 0      C : 1      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	1	
83	<p>"Cobra" or other equally approved junior flush valves - chrome. Junior flush master exposed flush valve, chrome. Includes-3/4 Ball-O-Stop control inlet, wall flange, additional toilet piston screw, and non-hold open feature. SANS 1240, JASWIC listed. (Code: COB-FJ6-000)</p> <p>A : 0      B : 0      C : 1      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	No	1	
Carried Forward				R
<p>Bill No. 16 Plumbing &amp; Drainage</p>				

Brought Forward			
84	<p>"Cobra" or other equally approved urinal junior flush pipes – chrome. Offset urinal flush pipe, 215mm long x 15mm outlet with 27mm offset, chrome. For Junior Flush master urinal flush, including inlet adaptor for urinal flush valves (Code: COB-FJT5-5)</p> <p>A : 0      B : 0      C : 1      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p> <p><b><u>PIPE INSULATION</u></b></p> <p><b><u>Thermaflex snap on sectional pipe insulation, neatly cut around pipe as required</u></b></p>	No	1
85	<p>Insulation to 15mm diameter piping and couplings including working around fittings</p> <p>A : 0      B : 18      C : 18      D : 3 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	m	40
86	<p>Insulation to 22mm diameter piping and couplings including working around fittings</p> <p>A : 0      B : 29      C : 43      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	m	73
87	<p>Insulation to 28mm diameter piping and couplings including working around fittings</p> <p>A : 0      B : 10      C : 14      D : 0 E : 0      F : 0      G : 0      H : 0 J : 0      K : 0      L : 0      M : 0 N : 0      O : 0      P : 0      Q : 0 R : 0      S : 0      T : 0      U : 0 V : 0</p>	m	23

Carried Forward

Bill No. 16  
Plumbing & Drainage

R

R

Brought Forward				R
<b><u>ELECTRIC WATER HEATERS</u></b>				
<b><u>Water heaters and accessories:</u></b>				
88	10 Litre "Hydroboil" or other equally approved over sink electric water heater	No	2	
	A : 0      B : 1      C : 0      D : 1			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
<b><u>FIRE APPLIANCES ETC</u></b>				
<b><u>"Chubb"</u></b>				
89	4,5kg Carbon dioxide fire extinguisher	No	2	
	A : 0      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 2      U : 0			
	V : 0			
90	Allow an amount of R 2 000.00 (Two Thousand Rand) for Water pipes and fittings	Item		2,000.00
	A : 0.00      B : 0.00      C : 0.00      D : 0.00			
	E : 0.00      F : 0.00      G : 0.00      H : 0.00			
	J : 0.00      K : 0.00      L : 0.00      M : 0.00			
	N : 0.00      O : 0.00      P : 0.00      Q : 0.00			
	R : 0.00      S : 0.00      T : 1.00      U : 0.00			
	V : 0.00			
<b><u>Enviroloo Unit</u></b>				
<b><u>TESTING</u></b>				
Carried Forward				R
Bill No. 16 Plumbing & Drainage				



[illegible]

Item No	Quantity	Rate	Amount
<b><u>BILL NO. 17</u></b>			
<b><u>ELECTRICAL WORK</u></b>			
<b><u>(CPAP WORK GROUP NO. 160 UNLESS OTHERWISE STATED)</u></b>			
<b><u>PREAMBLES</u></b>			
The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013			
<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
All equipment, electrical materials or methods of installation shall comply fully with SANS 10142-1 as published December 2001			
Proprietary items or materials			
Proprietary items or materials where specified are to be of the brand specified - or other equally approved approved - by the Engineer			
<b><u>ELECTRICAL INSTALLATION</u></b>			
a) The overall completed electrical installation shall comply fully with SANS 10142-1 "The Wiring of Premises" and Telkom regulations where applicable. SANS 10142-1 takes preference over any local authority regulations pertaining to electrical installation			
b) The equipment supplied and installed shall comply in full with the requirements as set out in clause 4 "Compliance" of SANS 10142-1.			
<b>Carried Forward</b>		R	
Bill No. 17 Electrical Work			

**Brought Forward**

c) All work must be carried out under full time supervision of a Master Installation Electrician and the statutory Certificate of Compliance, as per clause 8.8 of SANS 10142-1, shall be issued after completion to the Department. Full particulars as requested under clauses 8.8.1 and 8.8.2 must be indicated on the Certificate of Compliance. The special Section 5- "Responsibility" of clause 8.8.1 must be completed in full and duly signed off by the responsible persons and the information required under 8.8.2 "Additional Certificate of Compliance for a Medical Location" must be completed in full

**CONDUITS**

The required solid conduit work shall comply fully with the below quoted standards

R

**Carried Forward**

Bill No. 17  
 Electrical Work

R

<p style="text-align: center;"><b>Brought Forward</b></p> <p>a) Screwed metallic conduit and accessories: SANS 162</p> <p>b) Plain ended metallic conduit and accessories: SANS 1007</p> <p>c) Non metallic conduit: SANS 950</p> <p>d) Non metallic conduit shall be installed in accordance with Appendix C of SANS 950 and shall not be installed or used under the following conditions</p> <p>i) Outside a building (unless protected, or sheltered under eaves)</p> <p>ii) For mechanical load bearing</p> <p>iii) Where they may be subjected to temperature below - 10 degree celsius or above 70 degree celsius for prolonged periods</p> <p>iv) As primary electrical insulation</p> <p>v) In areas where they may be subjected to mechanical damage</p> <p>vi) For applications other than for which they are designed for</p> <p>Only in very special circumstances and with prior approval may shorter lengths of circuit wiring be carried out in the approval un-armoured metal sheathed cables or in copper braided cables</p> <p><b><u>FIXING OF CONDUITS</u></b></p> <p>The fixing of conduits shall be as follows</p> <p>a) Build in conduits in wall chases with cement mortar and clamps</p> <p>b) Fix conduits in wall surfaces and in roof spaces with saddles</p> <p>c) Cast conduit in concrete surface beds or slabs</p> <p>d) Do surface fixing level, plumb, neatly and in straight line by means of standard spacer saddles.</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 17 Electrical Work</p>	<p style="text-align: center;">R</p>

**Brought Forward**

R

### **CHASING**

All chasing shall be carried out neatly. Do not chase walls constructed of hollow blocks, locate services in the block cavities. Chase solid walls not deeper than one third of the wall thickness vertically and not more than one sixth horizontally. Avoid horizontal chasing where possible. Ensure that chases, holes and recesses are so made as not to impair the strength or stability of the wall, or reduce the fire resistance properties of the wall. Fill chases with mortar once the conduits are in position

Chasing and making good have not been measured separately and shall be deemed to be included in the descriptions of conduiting

### **COPPER CONDUCTORS**

PVC insulated copper conductors shall conform with SANS 150

### **ELECTRICAL CABLES**

The PVC insulated 600/1000V grade cables shall be manufactured in accordance with SANS 1507 and shall be handled and installed in accordance with SANS 0198 - "The Selection, Handling and Installation of Electric Power Cables of rating not exceeding 33 kV"

### **LAYING OF ELECTRIC CABLES**

Excavate 600 mm below finished ground level

Encase the installed cable in river sand or sifted sand

Mark the cable route with concrete cable markers

**Carried Forward**

R

Bill No. 17  
Electrical Work

Brought Forward

R

## **NEW DISTRIBUTION BOARDS**

Under Annexure L of SANS 10142-1 it clearly states that allowance must be made for the supply and installation of Surge Protection Devices (SPDs) into low voltage systems

### **1. Distribution Kiosks**

The kiosks shall have a weatherproof construction complete with lockable doors and shall be of the foundation mounted or root planted types. These units shall be constructed from

1.1 Pre-painted mild steel

1.2 3CR 12 (within 50km of the coast and in corrosive industrial atmospheres)

1.3 Fibreglass (within 50km of the coast and in corrosive industrial atmospheres)

1.4 The required surge protection devices that need to be installed in a distribution kiosk shall either be for a Zone LPZ O (A) or LPZ O (B) with a peak current rating of 100ka

### **2. Distribution Boards**

The required pre painted 1.6 mm thick mild steel boards shall either be of the flush, semi flush or surface mounted types complete with lockable doors. Each board shall be fitted with circuit labelling and legend card installed in permanently fixed steel type legend card holders

The general construction shall comply fully with SANS 1180, Part 1 for flush type boards and Part 2 for the surface types

Carried Forward

R

Bill No. 17  
Electrical Work

<p style="text-align: center;"><b>Brought Forward</b></p> <p>The specified equipment shall comply with the following:</p> <p>Moulded case circuit breaker: SANS 156</p> <p>On load isolators: SANS 152</p> <p>Earth leakage relays: SANS 767</p> <p>Surge Protection Units: SANS 61312-1 IEC 61312-1</p> <p>Provision needs to be made for the required Zone LPZ1 equipment with a peak current rating of 40 kA</p> <p>If any sub-distribution boards are fed directly off any distribution board said sub-distribution board shall be fitted with the required Zone LPZ2 equipment with a rating of 10kA</p> <p>The internal power wiring shall comply fully with 600/1000V grade PVC insulated stranded annealed copper conductors to SANS 1507</p> <p>The final colour to the boards shall be determined by the architect on site at a later stage. The paint finishes shall be of a high quality paint applied according to the best available method. Baked, enamel, electro-statically applied powder coating or similar proven methods shall be used. Painted metal shall be corrosion resistant for a period of at least 168 hours when tested in accordance with SANS Methods 155.</p> <p>The connected load to the boards shall be balanced as equally as possible across multi-phase supplies</p> <p><b><u>DECANTING AREA TEMPORARY SUPPLY</u></b></p> <p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 17 Electrical Work</p>	<p style="text-align: center;">R</p>
	R

Brought Forward			R
<b><u>DISTRIBUTION BOARD</u></b>			
Supply, deliver and install LV (low voltage) sheetmetal electrical, 3CR12 distribution boards kiosks. The distribution boards shall comply to SANS 1765. The kiosks shall be weatherproof and shall be complete with base plinth			
The distribution boards shall be of the industrial / commerical type. The distribution boards shall be suitable for the environmental condition and existing space restraints where applicable			
The distribution boards shall be complete with front full sheet metal hinged door, functional chassis, interior kits for circuit breakers and modular products, full sized top and bottom gland plates, blank covers, lockable door, adjustable DIN rail depth facility/Samite, rear adjustment screws, earth/neutral terminals, necessary fittings, fixtures and accessories for the works			
1	DB - Metering Kiosk	No	1
2	DB - Kiosk 1	No	1
<b><u>LOW VOLTAGE CABLES</u></b>			
Supply, deliver and install low voltage(600/1000V) grade, PVC insulated, PVC bedded SWA, PVC sheated, ECC stranded copper conductor cables			
Checking of cable and underground conductor lengths. The Contractor shall check such lengths on site before ordering the cables as he will not be paid for excess cable after the completion of the service. Any allowance for off-cuts shall be made in the unit rates			
The final measurements shall be based on the net route length of cables and underground lines concerned, installed in accordance with the requirements. However, the onus is on the contractor to prove compliance with the specification. The cabling shall be installed either in excavations, cable trays, trunking, wireways, ground, sleeves, ducts, etc. (measured elsewhere) and shall include all necessary fittings, fixtures and accessories required for the works. The cables shall be as per Aberdare cables or other equally approved			
Carried Forward			R
Bill No. 17 Electrical Work			



Brought Forward				R
	<u>Two core armoured ecc/cu conductor</u>			
3	2.5mm2	m	50	
4	4mm2	m	50	
5	6mm2	m	5	
6	10mm2	m	100	
	<u>Two core 'ABC' aluminium conductor</u>			
7	10mm AIRDAC	m	150	
8	16mm2	m	50	
	<u>Four core armoured ecc/cu conductor</u>			
9	35mm2	m	20	
	<u>Four core 'ABC' aluminium conductor</u>			
10	35mm2	m	200	
	<b><u>Cable terminations complete including glands, shrouds, lugs, connections and commissioning</u></b>			
	<u>Two core</u>			
11	2.5mm2	m	2	
12	4mm2	m	2	
13	6mm2	m	2	
14	10mm2	m	30	
	<u>Four core</u>			
15	10mm2	m	2	
16	35mm2	m	2	
	<u>'ABC' hardware</u>			
17	Wooden 9m Treated Electrical Poles	No	12	
	<b>Carried Forward</b>			R
	Bill No. 17 Electrical Work			

Brought Forward			R
18	Wooden 7m Treated Electrical Poles (includingl Eskom approved pole top CDU box and 4 x 20A breakers per pole and including wiring)	No	10
19	ABC Conductor Accessories and stringing hardware		Item
<b><u>EXCAVATIONS</u></b>			
All prices below shall include the excavation of trenches and holes, separating of stones, ground and rock, levelling of trench bed, refill compacting and reparation of all surfaces to their original finish			
Trenching shall be calculated using the formula below: (1m3 = a trench of 600mm deep * 420mm wide * 4m length) ie.: (1m3 = 4m linear of trenching)			
20	Pickable material	m3	30
21	For soft rock	m3	1
22	For hard rock	m3	1
23	Bedding under and filling around cables comprising sifted sand	m3	10
<b><u>Cable markers</u></b>			
24	PVC warning marking tape	m	50
25	Concrete route markers	No	2
<b><u>PVC CABLE SLEEVES</u></b>			
<b><u>P.V.C. cable sleeves to be installed at walkway and ground for electrical distribution</u></b>			
26	110mm Sleeves	m	10
27	50mm Sleeves	m	30
<b><u>SITE LIGHTING</u></b>			
28	Light Fitting Type D: Regent Lighting: Istria Trunion: 35W LED, IP65 floodlight	No	4
Carried Forward			R
Bill No. 17 Electrical Work			

		Brought Forward		R
29	Wooden 9m Treated Electrical Poles	No	4	
30	Weatherproof York box with 10A SP circuit breaker for floodlight mounted on pole	No	4	
	<b><u>SITE WORKS</u></b>			
	<b><u>CABLE RETICULATION</u></b>			
	<b><u>LOW VOLTAGE CABLES</u></b>			
	Supply, deliver and install low voltage(600/1000V) grade, PVC insulated, PVC bedded SWA, PVC sheated, ECC stranded copper conductor cables			
	Checking of cable and underground conductor lengths. The Contractor shall check such lengths on site before ordering the cables as he will not be paid for excess cable after the completion of the service. Any allowance for off-cuts shall be made in the unit rates			
	The final measurements shall be based on the net route length of cables and underground lines concerned, installed in accordance with the requirements. However, the onus is on the contractor to prove compliance with the specification. The cabling shall be installed either in excavations, cable trays, trunking, wireways, ground, sleeves, ducts, etc. (measured elsewhere) and shall include all necessary fittings, fixtures and accessories required for the works. The cables shall be as per Aberdare cables or other equally approved			
	<u>Two core</u>			
31	2.5mm <sup>2</sup>	m	20	
32	4mm <sup>2</sup>	m	30	
33	6mm <sup>2</sup>	m	5	
34	10mm <sup>2</sup>	m	250	
	<u>Four core</u>			
35	2.5mm <sup>2</sup>	m	1	
36	4mm <sup>2</sup>	m	1	
		Carried Forward		R
	Bill No. 17 Electrical Work			

Brought Forward				R
37	6mm2	m	1	
38	10mm2	m	100	
39	16mm2	m	295	
40	25mm2	m	1	
41	35mm2	m	1	
42	70mm2	m	150	
<b><u>LOW VOLTAGE CABLE TERMINATION</u></b>				
Supply, deliver and install low voltage(600/1000V), PVC insulated, PVC bedded SWA, PVC sheated, ECC stranded copper conductor cable terminations. The terminations shall be for the referred cables specified and shall include for all shrouds, glands, lugs, connections, fittings, fixtures and accessories for the terminations in terms of the relevant SANS guidelines				
<u>Two core</u>				
43	2.5mm2	m	2	
44	4mm2	m	2	
45	6mm2	m	2	
46	10mm2	m	6	
<u>Four core</u>				
47	2.5mm2	m	2	
48	4mm2	m	2	
49	6mm2	m	2	
50	10mm2	m	18	
51	16mm2	m	8	
52	25mm2	m	2	
Carried Forward				R
Bill No. 17 Electrical Work				

Brought Forward				R
53	35mm2	m	1	
54	70mm2	m	2	
<b><u>EXCAVATIONS</u></b>				
All prices below shall include the excavation of trenches and holes, separating of stones, ground and rock, levelling of trench bed, refill compacting and reparation of all surfaces to their original finish				
Trenching shall be calculated using the formula below: (1m3 = a trench of 600mm deep * 420mm wide * 4m length) ie.: (1m3 = 4m linear of trenching)				
55	Pickable material	m3	100	
56	For soft rock	m3	1	
57	For hard rock	m3	1	
58	Bedding under and filling around cables comprising sifted sand	m3	10	
<b><u>Cable markers</u></b>				
59	Electrical buried danger tape in compliance with OSHA 1910.144 for marking physical hazards. The tape shall be lightweight and of high visibility safety yellow. The tape shall be 76mm wide and 0.102mm thick. above the cables in excavations	m	250	
60	Electrical concrete cable route marker with inscription as per engineers detail. Dimension: Height: 250mm, Width: 250mm, Depth: 250mm, engineers detail	No	8	
<b><u>High density polyethylene cable sleeves</u></b>				
Supply, deliver and install underground HDPE cable sleeves for low voltage(600/1000V), PVC/SWA/PVC copper cables. The sleeve shall carry the SANS certification mark in respect of South African National Standard SANS 61386-24 : 2005 (type N 450). The sleeves shall be complete with all necessary couplers, seals, plugs, rings, bell mouths, spacer modules, brushes, etc required to complete the works. The sleeve shall be as per Kabelflex or equal approved				
Carried Forward				R
Bill No. 17 Electrical Work				

Brought Forward				R
61	110mm Sleeves	m	300	
62	50mm Sleeves	m	400	
<b><u>Trunking and wiring duct</u></b>				
<b><u>Galvanised steel trunking</u></b>				
Supply and install galvanised steel trunking complete with PVC cover plates, tees, angles(internal, external and flat), bends, cover plates, tees, angles(internal, external and flat), bends, end caps, bolts, screws, anchors, threaded rods, hangards, anchors, suspension system and all necessary fittings, fixtures and accessories required to complete the works. accessories required to complete the works. The trunking shall be installed surface on brickwork, slab, concrete, walls, ceilings, etc as required. The trunking shall be as Cabstrut or equal approved				
63	P8000: 76mm x 76mm x 0.8mm	m	100	
<b><u>MANHOLES</u></b>				
Excavate and build brick manholes with bagged internal surfaces including drainage. Heavy duty cast iron access surfaces including drainage. Heavy duty cast iron access hatch and concrete lid for the following internal size manholes:				
Supply & install the following pre-cast concrete manholes formed of 1m internal diameter pre-cast concrete rings of Dolomite origin bedded & joined with Denso Sealostrip with joints between rings sealed on the external perimeter with approved adhesive tape. All manholes must be of the lockable type				
64	1200 x 1200 x 800mm	No	3	
65	600 x 600 x 600mm	No	7	
<b><u>Round manholes - Heavy duty - Pre-cast fibre cement complete with lids</u></b>				
66	600mm dia	No	7	
Carried Forward				R
Bill No. 17 Electrical Work				

Brought Forward			R
<b><u>SITE LIGHTING</u></b>			
67	Light Fitting Type D: Regent Lighting: Istria Trunion: 35W LED, IP65 floodlight	No	8
68	Galvanised steel pole, 9m mounting height with inspection box complete with circuit breaker	No	8
69	Light Fitting Type E: Regent Lighting: Argo: 38W LED, post top	No	6
70	Galvanised steel pole, 3.5m mounting height with inspection box complete with circuit breaker	No	6
<b><u>DISTRIBUTION BOARD</u></b>			
Supply, deliver and install LV (low voltage) sheetmetal electrical, 3CR12 distribution boards kiosks. The distribution boards shall comply to SANS 1765. The kiosks shall be weatherproof and shall be complete with base plinth			
The distribution boards shall be of the industrial / commercial type. The distribution boards shall be suitable for the environmental condition and existing space restraints where applicable			
The distribution boards shall be complete with front full sheet metal hinged door, functional chassis, interior kits for circuit breakers and modular products, full sized top and bottom gland plates, blank covers, lockable door, adjustable DIN rail depth facility/Samite, rear adjustment screws, earth/neutral terminals, necessary fittings, fixtures and accessories for the works			
71	DB - Kiosk 2	No	1
<b><u>INTERCOM / PUBLIC ADDRESS SYSTEM</u></b>			
For the complete supply (including delivery), installation (including testing, commissioning and handing over) of intercom/public address system, complete with panels, microphones, amplifier, speakers, wireways, cabling, peripheral devices, etc and all necessary fittings, fixtures and accessories in accordance with the requirements as set out in the specification and manufacturers requirements			
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward			R
<b><u>Master intercom panel</u></b>			
72	Intercom master station with call back function, catering for 25 speakers, with built-in high quality, heavy duty paging microphone, strong flexible 10" goose neck securely fixed to the aluminium die cast base ACM-66CH microphone, lightning protection unit LPM08, required power supplies, battery back up and connectors.(Micro-sound M20 - 40way including or approved equivalent)	No	1
<b><u>Master sub-cards</u></b>			
73	Master sub-cards with call back function(16 relays SLSISUBCB000 or approved equivalent) installed in reception, deputy principal and principals office in Admin building	No	1
<b><u>Master station unit</u></b>			
74	Table top master station with 10m of cable for connection to the master intercom panel (Micro-sound SLSIMSTLOP or other approved)	No	1
<b><u>Sub station units</u></b>			
75	Classroom tamperproof wall mounted speaker with call back button (Micro-sound RSPXCX190190-Substation or approved equivalent)	No	1
<b><u>Amplifier</u></b>			
76	Suitable amplifier to connect to the system for 5 x 15W horn speakers and incorporation of a wireless microphone to allow for announcements over the horn speakers	No	1
<b><u>Speakers</u></b>			
77	Horn speakers mounted to the external wall covering open areas (Micro-sound RSHORN15WTRF- Horn speaker or approved equivalent)	No	1
<b><u>Programmable timer switch</u></b>			
78	Programmable timer switch to activate the bell over the PA system (Micro-sound TS631- Programmable time switch or approved equivalent)	No	1
Carried Forward			R
Bill No. 17 Electrical Work			



Brought Forward			R
<b><u>Wireless Microphone</u></b>			
79	Suitable wireless microphone for connection to the intercom system and horn speakers. Allow equipment to allow for microphone to make announcements over the horn speakers with 20-30 meter range	No 1	
<b><u>Cabling</u></b>			
<u>Required telephone cabling as per manufacturers requirements</u>			
80	Multiple twisted pair (6 pair) Telkom wet underground cable with 0.5mm plain copper conductor, PVC insulated and PVC outer sheath	m 600	
81	Multiple twisted pair (10 pair) Telkom wet underground cable with 0.5mm plain copper conductor, PVC insulated and PVC outer sheath	m 200	
82	Multiple twisted pair (2 pair) Telkom wet underground cable with 0.5mm plain copper conductor, PVC insulated and PVC outer sheath	m 400	
83	All required consumables, Krone blocks, connectors and junction boxes	Item	
<b><u>UPS</u></b>			
84	1KVA UPS - True on line UPS for intercom system installation	No 1	
85	System testing and commissioning of the PA System installation	Item	
<b><u>INTERCOM SYSTEM</u></b>			
86	Two way video intercom with microphone and 7" colour TRFT IR LED LCD without radiation, high definition	No 1	
87	Two way tamper proof with at least an IP rating of 65 intercom with microphone, camera and push button for voice and video call	No 1	
<b><u>SCHOOL BELL</u></b>			
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward			R
<u>Siren</u>			
88	Motorised siren: Micro-sound SIR500S, Robust aluminium die-cast body and brush motor with roller bearing, 1000m range with sound frequency of 950 – 1200Hz, protection rating: IP65, duty cycle: continuous	No	2
89	Galvanised steel pole for motorised siren. The pole shall be 3.5m high and shall have a base plate. The pole shall also have a mounting bracket for siren mounting	No	2
90	20 Ampere 2P Fireman's Switch at Bells	No	1
<b><u>CONDUIT AND ACCESSORIES</u></b>			
<b><u>The supply and installation of PVC conduit, prices to include for couplings, saddles, adaptors, spacers, lids, conduit boxes and all bending, gluing and other necessary material. The conduit shall be installed in concrete, against trusses, etc and shall include for all necessary fittings, roof spaces, against trusses, etc and shall include for all walls, ground, brickwork, fixtures and accessories to complete the installation. The conduit shall comply to SANS 950, SANS 1065 Parts 1 &amp; 2</u></b>			
91	20mm	m	3,180
92	25mm	m	1,385
<b><u>Wall boxes as specified placed in position for casting into concrete, Building or chased into brickwork including locknuts and bushes</u></b>			
93	100 x 50 x 50mm	No	61
94	100 x 100 x 50mm	No	136
<b><u>Where cavity walls are encountered tenderers must allow to install Deep back to back open ended or one end closed wall boxes</u></b>			
<u>Blank covers</u>			
95	100 x 100mm	No	47
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward				R
<b><u>CONDUCTORS</u></b>				
All cable and conductor wiring rates shall include for off cuts, slack, wastage, etc. The cost shall include all consumables. The measurements shall be taken from point to point				
<b><u>Supply, deliver, install and terminate low voltage(600/1000V), PVC insulated, stranded copper conductors drawn into wireways, trunking, conduits, etc. Wiring channels measured elsewhere. The conductor shall be a low friction single core general purpose cable. The cable shall be manufactured to SANS 1507-2. The cables shall be as per Slipdac housewire, Abedare Cables or equal approved</u></b>				
96	2.5mm2	m	5,550	
97	4mm2	m	5,660	
<b><u>Insulated stranded copper earth conductors drawn into conduits</u></b>				
98	2.5mm2	m	3,675	
<b><u>Draw wire</u></b>				
99	Galvanised 1,6 mm draw wire	m	1,275	
<b><u>APPLIANCES</u></b>				
Appliances complete with cover plates fixed in flush boxes (boxes Elsewhere measured)				
Socket outlets				
Carried Forward				R
Bill No. 17 Electrical Work				

Brought Forward			R
<p><b><u>All switches shall be suitable for mounting in 100 x 100 x 50mm SANS mark. The switches shall be rated 16A, 250V. The switches shall be complete with a white switch/s on yoke, SS screws and coverplates (SANS 1084).The switch shall include all necessary accessories to complete the works. The switch shall be installed into galvanised steel boxes. The galvanised steel boxes are measured elsewhere. The switches shall be as per Crabtree, Classic Range or equal approved. All outlets shall include 6A EURO outlet</u></b></p>			
100	16 Ampere round 3-pin 250V grade switched socket outlet	No	80
101	16 Ampere round 3-pin 250V grade switched socket outlet	No	25
102	16 Ampere round 3-pin 250 V grade dedicated switched socket outlet	No	14
103	16 Ampere round 3-pin 250V grade switched socket outlet with data outlet for smart board	No	3
104	RJ45 Data outlet recessed	No	31
<p><b><u>POWER-SKIRTING, OUTLETS &amp; ACCESSORIES</u></b></p> <p>Supply, deliver and install power-skirting installed surface on wall surface, bricking, concrete, desktop, etc. The power-skirting shall be suitable for low voltage(600/1000V) conductors and 16A, 250V switched socket outlets well as for telecommunication, data and power points</p> <p>The power-skirting shall be supplied complete with all covers, necessary bends, elbows, corner pieces, tees, droppers, end required for the works</p> <p>All outlets(sso), telephone, data, power, etc shall also be installed complete with covers, cradles, yokes, etc to complete the works. All outlets shall also be of the same range or equal approved and compatible with the power-skirting</p>			
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward			R
<b><u>The power-skirting shall be of the Cabstrut, O-Line or other equally approved</u></b>			
105	Legrand 2 compartment 2 cover PVC white power-skirting	m	140
106	16 Ampere switched socket outlet power-skirting type	No	168
107	16 Ampere dedicated switched socket outlet power-skirting type	No	99
108	RJ11 Telephone outlet power-skirting type	No	48
109	RJ45 Data outlet power-skirting type	No	99
110	RJ45 Data outlet recessed	No	1
<b><u>LIGHT SWITCHES</u></b>			
<b><u>All switches shall be suitable for mounting in 100 x 50 x 50mm boxes and shall comply with SANS 1663 and shall bear the SANS mark. The light switches shall be rated 16A, 250V. The light switches shall be complete with a white switch/s on The light switch shall include all necessary accessories to complete the works. The light switch shall be installed into existing extension. The light switches shall be as per Crabtree, Classic Range or other equally approved. The light switches shall be complete with galvanised extension boxes</u></b>			
111	16 Ampere 250 V grade single lever one way	No	55
112	16 Ampere 250 V grade two lever one way	No	5
113	16 Ampere 250 V grade three lever one way	No	1
114	16 Ampere 250 V grade one lever two way	No	8
<b><u>Geyser isolator</u></b>			
115	Supply and install geyser isolator complete with isolator box and Indicator, 35 Amp 2 Pole	No	2
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward			R
<b><u>Stove isolator</u></b>			
116	Supply and install double pole isolator in metal enclosure	No 2	
<b><u>Flexible tubing</u></b>			
117	Supply and install 20 mm flexible PVC tubing	m 4	
118	Supply and install 20mm flexible PVC tubing connectors with locknuts	No 8	
<b><u>SWITCH DISCONNECTORS</u></b>			
<b><u>Supply, deliver and install switch disconnectors in accordance with IEC 60947-3. The switch disconnectors are to be surface mounted and shall and accessories required for the works. The switch disconnectors shall be as per Eaton: Rotary Type, IP65 rating</u></b>			
119	20A Double Pole Isolator	No 30	
120	32A Double Pole Isolator	No 4	
<b><u>Photo Cell</u></b>			
121	Major Tech: DNS25, 25A, 240V, 5-50lux adjustable, photo cell in an empty rectangular(length: 210mm, width: 110mm, height: 110mm) luminaire IP54 bulkhead, comprising of Polypropylene/PVC material. The bulkhead shall have a UV Stabilised polycarbonate lens	No 11	
<b><u>LUMINAIRES</u></b>			
The supply, delivery and installation of luminaires, complete with electronic control gear and ballasts, lamps, fittings, fixtures and accessories			
The luminaires shall be delivered to site in a protective cover. The lamps shall be delivered to site separately in a protective cover with the exception of the IP65 fittings which will be delivered pre lamped by the supplier/manufacturer			
Carried Forward			R
Bill No. 17 Electrical Work			

[illegible]

Brought Forward			R
<p><u>Supply, deliver and install LV (low voltage) sheetmetal electrical distribution boards. The distribution boards shall comply to SANS 1765</u></p> <p><u>The distribution boards shall be of the industrial / commercial free-standing, wall mounted or architrave boards type. The distribution boards shall be suitable for the environmental condition and existing space restraints where applicable</u></p> <p><u>The distribution boards shall be complete with front full sheet metal hinged door, functional chassis, interior kits for circuit breakers and modular products, full sized top and bottom gland plates, blank covers, lockable door, adjustable DIN rail depth facility/Samite, rear adjustment screws, earth/neutral terminals, necessary fittings, fixtures and accessories for the works</u></p>			
DB Administration block			
125	Supply	No	1
126	Install	No	1
DB Classroom Block A			
127	Supply	No	1
128	Install	No	1
DB Classroom Block B			
129	Supply	No	1
130	Install	No	1
DB Classroom Block C			
131	Supply	No	1
Carried Forward			R
Bill No. 17 Electrical Work			



	Brought Forward		R	
132	Install	No	1	
	DB Classroom Block D/E			
133	Supply	No	1	
134	Install	No	1	
	DB Classroom Block F			
135	Supply	No	1	
136	Install	No	1	
	DB Classroom Block MPC			
137	Supply	No	1	
138	Install	No	1	
	DB Classroom Block NSPN			
139	Supply	No	1	
140	Install	No	1	
	DB Classroom Block SCIE			
141	Supply	No	1	
142	Install	No	1	
	DB Library & computer			
143	Supply	No	1	
	Carried Forward			R
	Bill No. 17 Electrical Work			

Brought Forward			R
144	Install	No 1	
<b><u>TELEPHONE DISTRIBUTION BOARDS</u></b>			
145	Flush mounted telephone distribution board size 500 x 500 x 150 mm. Flush mounted complete with doors, frames, sub frames, fixtures and 20 mm thick soft board	No 10	
<b><u>INTERCOM AND BELL DISTRIBUTION BOARD</u></b>			
146	300 x 300 x 75mm including door as specified	No 10	
<b><u>TESTING AND COMMISSIONING</u></b>			
147	Test and commission of the complete electrical installation including COC'S for DB-Administration	Item	
148	Test and commission of the complete electrical installation including COC'S for DB-Classroom Block A	Item	
149	Test and commission of the complete electrical installation including COC'S for DB-Classroom Block B	Item	
150	Test and commission of the complete electrical installation including COC'S for DB-Classroom Block C	Item	
151	Test and commission of the complete electrical installation including COC'S for DB-Classroom Block D/E	Item	
152	Test and commission of the complete electrical installation including COC'S for DB-Classroom Block F	Item	
153	Test and commission of the complete electrical installation including COC'S for DB- Block MPC	Item	
154	Test and commission of the complete electrical installation including COC'S for DB- Block NSPN	Item	
155	Test and commission of the complete electrical installation including COC'S for DB- Block SCIE	Item	
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward			R
156	Test and commission of the complete electrical installation including COC'S for DB- Block Library & Computer	Item	
<b><u>LIGHTNING PROTECTION SYSTEM &amp; EARTHING</u></b>			
<b><u>Supply, design, deliver and install lightning protection system in accordance to SANS 10313: 2012 and/or other related SANS codes. The system shall include all air terminations, bonds, 70mm sq earth conductors, earth rods, test points, terminals, necessary fittings, fixtures and accessories to complete the works. This work is to be done by a specialist contractor. The contractor shall refer to the architectural layout and roofing detail of the building</u></b>			
157	Allow for visiting of the site and the carrying out of the required pre resistivity tests and the issuing of the test results to the Engineer prior to the works (earthing & lightning protection system)	Item	
158	Allow for the preparation of design workshop drawings of the earthing system and submission to the Engineer for comment	Item	
159	Complete termination arrangement of the bare conductor to the steel sheeting roof and down pipes. The work shall include all associated brackets, bolts, fittings, fixtures and accessories to complete the works	No 55	
160	Complete termination arrangement of the bare copper conductor to the installed electrodes. The work shall include all associated brackets, bolts, clamps, fittings, fixtures and accessories to complete the works	No 55	
161	Lightning protection points test in enclosed 100 x 100 box and engraved cover	No 55	
162	Complete termination arrangement of the bare conductor to the steel sheeting roof and down pipes	No 55	
163	Complete termination arrangement of the bare copper conductor to the installed electrodes	No 55	
Carried Forward			R
Bill No. 17 Electrical Work			

Brought Forward				R
164	70mm <sup>2</sup> aluminium conductors installed on surface and in 25mm PVC conduit	m	165	
165	70mm <sup>2</sup> PVC insulated stranded copper conductor laid in ground	m	110	
166	Sealing of all joints with Denso tapes		Item	
167	Excavate in earth for earth conductor not exceeding 1m deep	m3	55	
168	25mm diameter flush PVC conduit in the external walls from the ceiling space down to the ground	m	165	
169	1.5m long Cadweld type copper electrodes driven into the ground	No	55	
170	Allow for the breaking into the concrete and opening of suitable hole to attach terminal to vertical reinforcement steel in completed columns for d/c fixing	No	55	
171	Allow for the required resistivity tests of the completed system and the issue of the prescribed test certificate in terms of the SANS regulations prior to practical completion to the Engineer for approval		Item	
<b><u>GENERAL ELECTRICAL EARTHING</u></b>				
172	Allow for bonding of all extraneous conductive parts that does not form part of the electrical installation and is liable to introduce an electric potential example water pipes, HVAC systems, etc		Item	
173	Allow for the complete earthing and bonding as per SANS 10142:Wiring Code, latest revision and associated regulations for the complete electrical works		Item	
<b><u>TESTING AND COMMISSIONING</u></b>				
Carried Forward				R
Bill No. 17 Electrical Work				

Brought Forward		R	
<b><u>Allow for the tesing, commissioning and issuing of the Electrical Compliance Certificate in terms of SANS10142: Wiring Code, latest revision and to be completed by the recognised person in terms of the Wiring Code and Department of Labour</u></b>			
174	Allow for inspection, testing and commissioning of the complete installation and the issuing of all Certificates of Compliance at practical completion	Item	
175	Allow for three sets of "as-build" drawings, maintenance, operation manuals and handover file as specified in the electrical project specification at practical completion	Item	
176	Allow for twelve months service, maintenance and guarantee from practical completion	Item	
177	Allow for preparation of workshop drawings and printing	Item	
178	Allow for instructing the clients staff in the correct operation of the installation as per special project specification requirements before practical completion	Item	
179	Allow for supply and delivery of maintenance tools and equipment applicable to the installation	Item	
<b><u>MUNICIPAL CONNECTION</u></b>			
180	Provide the sum of R 250 000.00 for the municipal electricity connection of 3 phase x 250 A to site	Item	250,000.00
181	Add for liaising with the local municipality, completion of forms and necessary applications	Item	
182	Add for profit and attendance	Item	
<b><u>GENERATOR</u></b>			
183	Allow the sum of R 295 000.00 for supply, installation and commissioning of generator	Item	295,000.00
<b>Carried to Summary</b>		R	
Bill No. 17 Electrical Work			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 18</u></b>			
	<b><u>MECHANICAL WORK</u></b>			
	<b><u>(CPAP WORK GROUP NO. 170 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>PREAMBLES</u></b>			
	The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013			
	<b><u>AIR CONDITIONING AND VENTILATION</u></b>			
	All prices for equipment shall be for supply and final fixing in place.			
	This bill must be priced in conjunction with the drawing and specifications documents where provided.			
	Tenderers are referred to the specifications, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification and drawings			
	<b><u>Supply and delivery, Installation &amp; Commission of the following Direct Expansion, Inverter split type air conditioning system (York or other approved), complete with condensing and evaporator units, all with electrical connection to isolator, refrigeration- and drain piping, electrical control wiring, brackets, supports and all necessary accessories, as per the specification and manufacturer's recommendation. Condenser units to be installed with protective cage</u></b>			
1	AC1 - 3,5 kW Wall mounted type Set (York-Y5HUZH012BAM-AFY) COP: 3.61 EER: 3.23	No	4	
2	Diameter 6.35mm insulated refrigerant piping, installed inside trunking	m	48	
	<b>Carried Forward</b>			
	Bill No. 18 Mechanical Work		R	

Brought Forward			R
3	Diameter 9,52mm insulated refrigerant piping, installed inside trunking	m	48
4	Diameter 25mm uPVC condensate drain piping including P-traps, installed inside trunking	m	48
5	Hard wired remote controller	No	4
6	(100x40)mm uPVC Trunking	m	48
7	AC2 - 5,36 kW Wall mounted type Set (York-Y5HUZH018BAM-AFY) COP: 3.61 EER: 3.27	No	5
8	Diameter 6.35mm insulated refrigerant piping, installed inside trunking	m	60
9	Diameter 12.7mm insulated refrigerant piping, installed inside trunking	m	60
10	Diameter 25mm uPVC condensate drain piping including P-traps, installed inside trunking	m	60
11	Hard wired remote controller	No	5
12	(100x40)mm uPVC Trunking	m	60
13	AC3 - 7 kW Wall mounted type Set (York-Y5HUZH24BAM-AFY ) COP: 3.70 EER: 3.70	No	3
14	Diameter 9,52mm insulated refrigerant piping, installed inside trunking	m	36
15	Diameter 15,88mm insulated refrigerant piping, installed inside trunking	m	36
16	Diameter 32mm uPVC condensate drain piping including P-traps, installed inside trunking	m	36
17	Hard wired remote controller	No	3
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
18	(100x40)mm uPVC Trunking	m	36
19	AC4 - 8.6 kW Wall mounted type Set (York-Y5HUZH030BAM-AFY ) COP: 3.51 EER: 3.47	No	3
20	Diameter 9,52mm insulated refrigerant piping, installed inside trunking	m	36
21	Diameter 15,88mm insulated refrigerant piping, installed inside trunking	m	36
22	Diameter 32mm uPVC condensate drain piping including P-traps, installed inside trunking	m	36
23	Hard wired remote controller	No	3
24	(100x40)mm uPVC Trunking	m	36
<b><u>Original "Bluechem" treatement for the following equipment</u></b>			
25	AC1 - 3,5 kW Out Door Condensor Unit (York-Y5HUZH012BAM-AFY) complete with wall mounted bracket	No	4
26	AC2 - 5.3 kW Out Door Condensor Unit (York-Y5HUZH018BAM-AFY) complete with wall mounted bracket	No	5
27	AC3 - 7 kW Out Door Condensor Unit (York-Y5HUZH024BAM-AFY) complete with wall mounted bracket	No	3
28	AC4 - 8.6 kW Out Door Condensor Unit (York-Y5HUZH030BAM-AFY) complete with wall mounted bracket	No	3
<b><u>VENTILATION EQUIPMENT</u></b>			
Carried Forward			R
Bill No. 18 Mechanical Work			



Brought Forward			R
<b><u>Supply, deliver, install &amp; Commission the following ventilation fan complete with electrical connection to isolator or light circuit as specified, ducting, flexible connections, including hangers, supports, brackets, sound attenuators matching the fan capacities and all necessary accessories</u></b>			
29	F3 - LINEO INLINE 250VO at inline fan complete with speed controller at (120/140/160/190) l/s and (350/350/300/300) Pa, single phase/220V. Donkin or other approved	No	4
30	Matching Sound Attenuators	No	8
31	F4 - LINEO IN-LINE 315VO at (300/350 ) l/s and (350/300) Pa system pressure in-line fan complete with speed controller, single phase/220V. Donkin or other approved	No	5
32	Matching Sound Attenuators	No	10
33	WF1 - Vortice Vario 150/ 6 ARI LLS @ (50/ 70) l/s and 50Pa wall fan complete with speed controller, single phase /220V. Donkin or other approved	No	11
34	WF2 - Vortice Vario 230/ 9 ARI LLS @ 70 l/s and 50Pa wall fan complete with speed controller, single phase /220V. Donkin or other approved	No	1
35	CF1 - LCF 56 Ceiling Fan complete with 4 speed controller, single phase /220V. Luft or other Approved	No	52
<b><u>DUCTWORK AND FITTINGS</u></b>			
Supply, deliver and install LOW PRESSURE galvanized un-insulated ductwork as per the specification including fittings, reducers, radius bends, stop end, branches, tees and transformations all hangers, straps, supports, clamps and necessary accessories			
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward				R
<b><u>ROUND DUCTING</u></b>				
Complete with fittings including hangers, clamps, brackets, nuts and bolts, etc.				
Sheetmetal thickness for round ducting unless otherwise indicated:				
<ul style="list-style-type: none"> <li>• up to 300mm da. :0.5mm</li> <li>• 301mm dia. to 800 dia.: 0.6mm</li> <li>• 801mm dia. to 1000 dia.: 0.8mm</li> <li>• 1001mm dia. to 1200 dia.: 1.0mm</li> </ul>				
Jointing shall be beaded				
<b><u>STRAIGHT SECTIONS</u></b>				
36	Ø125	m	15	
37	Ø160	m	15	
38	Ø200	m	50	
39	Ø250	m	15	
40	Ø300	m	20	
41	Ø350	m	20	
<b><u>LOBSTER BENDS</u></b>				
42	Ø125	m	5	
43	Ø160	m	5	
44	Ø200	m	25	
45	Ø250	m	5	
<b><u>SPIGOT WITH DAMPER</u></b>				
46	Ø125	m	8	
47	Ø160	m	8	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward				R
48	Ø200	m	25	
	<b><u>STOP-END</u></b>			
49	Ø160	m	5	
50	Ø200	m	5	
51	Ø250	m	10	
52	Ø300	m	5	
53	Ø350	m	6	
	<b><u>UN-INSULATED FLEXIBLE DUCTING</u></b>			
54	Ø125	m	10	
55	Ø160	m	10	
56	Ø200	m	25	
	<b><u>TRANSFORMATION PIECE</u></b>			
57	Ø200 - Ø125	m	8	
58	Ø250 - Ø125	m	8	
59	Ø250 - Ø160	m	8	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward				R
60	Ø250 - Ø200	m	8	
61	Ø300 - Ø200	m	8	
62	Ø315 - Ø300	m	10	
63	Ø350 - Ø250	m	8	
64	Ø350 - Ø315	m	8	
<b><u>RECTANGULAR DUCTING</u></b>				
Rectangular galvanised mild steel sheetmetal ductwork installed as per specification complete with fittings including hangers, clamps, brackets, etc.				
The following sheetmetal thickness shall apply to the corresponding categories:				
<ul style="list-style-type: none"> <li>• Category One: 0.6mm</li> <li>• Category Two: 0.6mm</li> <li>• Category Three: 0.8mm</li> <li>• Category Four: 1.0mm</li> <li>• Category Five: 1.2mm</li> </ul>				
<u>Category One</u>				
65	Width or height not exceeding 750mm and the sum of the two adjacent sides not exceeding 1150mm	m2	10	
<u>Extra over for low pressure galvanised fittings (reducers, radius bends, transformations, spigots, tees and square-to-rounds)</u>				
66	Category one fittings other than stopends	No	15	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward			R
	<u>Stop ends</u>		
67	Category one Stop End fittings	No	2
	<u>Category Four</u>		
68	Width or height exceeding 750mm and not exceeding 1350mm	m	5
	<b><u>WEATHER LOUVRES</u></b>		
69	WL1 - (400 x 300)mm Weather Louvre (Trox AWG or equal and approved) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	1
70	WL2 - (450 x 300)mm Weather Louvre (Trox AWG or equal and approved) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	1
71	WL3 - (300x300)mm Weather Louvre (Trox AWG or equal and approved) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	2
72	WL4 - (800x300)mm Weather Louvre (Trox AWG or equal and approved) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	1
73	WL5 - (650x300)mm Weather Louvre (Trox AWG or equal and approved) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	2
74	WL6 - (750x400)mm Weather Louvre (Trox AWG or equal and approved) complete with wire mesh screen epoxy colour coated finish to Engineers detail	No	2
	<b><u>DAMPERS</u></b>		
75	Ø125 Circular Volume Control Damper, (manual) (Trox VFC or equal and approved)	No	8
76	Ø160 Circular Volume Control Damper, (manual) (Trox VFC or equal and approved)	No	8
	<b>Carried Forward</b>		R
	Bill No. 18 Mechanical Work		

Brought Forward			R
77	Ø200 Circular Volume Control Damper, (manual) (Trox VFC or equal and approved)	No	21
<b><u>DISC VALVES</u></b>			
78	SDV1 - diameter 125mm Ceiling mounted disc valve for supply air (Trox type Z-LVS or other approved) epoxy colour coated to architect's detail. Various air flow rate	No	8
79	SDV3 - diameter 200mm Ceiling mounted disc valve for supply air (Trox type Z-LVS or other approved) epoxy colour coated to architect's detail. Various air flow rate	No	5
80	EDV2 - diameter 160mm Ceiling mounted disc valve for extract air (Trox type LVS or other approved) epoxy colour coated to architect's detail. Various air flow rate	No	8
81	EDV3 - diameter 200mm Ceiling mounted disc valve for extract air (Trox type LVS or other approved) epoxy colour coated to architect's detail. Various air flow rate	No	16
<b><u>WASHABLE PLEATED FILTERS (PRIMARY)</u></b>			
82	PF1 - 295x295x50mm Washable primary pleated filters (Trox type WP-PS/ 295x295x50 or other approved) complete with filter box	No	4
<b><u>Fume Cupboard</u></b>			
83	For the complete supply, install and commission VA600S Fume Cupboard . The unit will be equipped with 3 off polycarbonate sides for easy viewing, a mild steel powder coated back section and a single fluorescent light and will be fitted with 3 x 15Amp plug sockets. Includes a water tap, drip cup and a stand complete with a storage cupboard below, manufactured from mild steel powder coated. This fume cupboard will be fitted with a suitably sized polypropylene fan with external motor connected to it and is capable of handling a face velocity of between 0, 5 and 0, 7 m/s across the fume cupboard. Commissioning will be done by velocity test in accordance with EN14175 standard and certification will be provided. All the necessary ducting, bends weather cowl and fittings to be included	No	1
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
84	Supply, deliver and install (250x100)mm galvanized trunking, with removable covers, including brackets, supports and all necessary accessories, to install refrigeration piping in (Provisional)	m	60
85	Supply, deliver and install (200x100)mm galvanized trunking, with removable covers, including brackets, supports and all necessary accessories, to install refrigeration piping in (Provisional)	m	60
86	Supply, deliver and install 100mm wide wire mesh cable basket (Cabstrut or other approved), including brackets, supports and all necessary accessories, to install refrigeration piping on (Provisional)	m	60
87	Supply, deliver and install 200mm wide wire mesh cable basket (Cabstrut or other approved), including brackets, supports and all necessary accessories, to install refrigeration piping on (Provisional)	m	60
88	Supply and install (41x41)mm Unistrut channel (Cabstrut or other approved) as brackets and supports for the air conditioning units, ducting and cable trays to the building roof and wall structure, complete with necessary fittings and accessories as per manufacturer's recommendation (Provisional)	m	40
<b><u>GENERAL ITEMS</u></b>			
89	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves	Item	
<b><u>Any additional, items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill</u></b>			
90	Allow for painting of ducting and insulation of the Air conditioning and Ventilation installation as specified to SANS 10173. The surfaces shall be cleaned, primed, under-coated and finished in high quality gloss paint	Item	
91	Allow for painting and labelling of equipment as specified	Item	
92	Allow for supply and installation of acrylic cloth and painting of foster seal over exposed refrigeration piping (200x80x400)mm	Item	
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
93	Allow for Commissioning and testing the complete installation as specified	Item	
94	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified	Item	
95	Allow for twelve months free maintenance and guarantee	Item	
96	Allow for instructing the clients staff in the correct operation of the installation	Item	
97	Allow for preparation of "as installed drawings" and printing (3 sets)	Item	
98	Allow for preparation of Workshop drawings and printing (3 sets)	Item	
99	Any items not specifically listed above but required to complete the installation as per the specification and drawings (list the items)	Item	
<b><u>LP GAS INSTALLATION</u></b>			
<b><u>Supply, deliver, install And commission an LP Gas Plant room, copper piping, complete with capillary joints, unions, bends, tees, running and reduced joints, supports and hangers, including all necessary fittings and accessories</u></b>			
100	Supply, deliver and install Gas Cylinder shelter, complete with square tubing frame, expanded metal covering, Galvanised roof sheeting, signage, hinges, lock including all necessary accessories	No 2	
101	48 kg LP gas cylinder including flexible connections to manifold	No 4	
102	Cylinder rack fixed to plant room wall including safety chain cylinder.	Item	
103	Automatic changeover manifold with pressure regulator supplied and installed complete	No 2	
Carried Forward			R
Bill No. 18 Mechanical Work			



Brought Forward			R
104	Pressure regulator with Manual change over regulator valve set, intermediate pressure (30cm water) including all necessary accessories. (240 000 kJ/hr minimum continuously)	No 2	
105	Main supply line ball type isolating valve to suit 15 mm diameter copper piping	No 4	
106	Main supply line ball type isolating valve to suit 15 mm diameter copper piping	No 2	
<b><u>Supply, deliver and install the following piping, complete with bends, T's, fittings, joints, brackets, brass saddles (with chromium plated screws), supports(not exceeding 500mm), including all necessary accessories.Copper piping to SANS 460 Class II</u></b>			
107	10 mm Diameter pipe partly through PVC sleeves and partly fixed to walls with copper saddles	m 20	
108	Extra over for 10 mm diameter fittings	No 20	
109	15 mm Diameter pipe partly through PVC sleeves and partly fixed to walls with copper saddles	m 15	
110	Extra over for 15 mm diameter fittings	No 15	
111	22mm Diameter pipe partly through PVC sleeves and partly fixed to walls with copper saddles	m 5	
112	Extra over for 22 mm diameter fittings	No 10	
113	Compression adaptor to open burner	No 4	
114	Supply, deliver and install flexi-hose and connection to catering equipment. Hose must of the braided metal type with a minimum length of 1,5 metres	No 4	
<b><u>GENERAL ITEMS</u></b>			
115	Allow for pressure testing the LP Gas installation	Item	
116	Allow for colour identification of all pipe work, including labelling and directional arrows all as specified	No 1	
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
117	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified	Item	
118	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves	Item	
119	Allow for painting of steel work, brackets and supports as specified	Item	
120	Allow for Commissioning and testing the complete installation as specified	Item	
121	Allow for twelve months free maintenance and guarantee	Item	
122	Allow for instructing the clients staff in the correct operation of the installation	Item	
123	Allow for preparation of "as installed drawings" and printing	No 3	
124	Allow for preparation of Workshop drawings and printing	No 3	
125	Allow for SABS Sinage No Open Fires No Smoking No Unauthorised Persons No Littering	No 4	
126	Any additional items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill	Item	
<b><u>KITCHEN EQUIPMENT INSTALLATION</u></b>			
<b><u>For the Complete supply, delivery, installation, testing and commissioning of the following Kitchen Equipment including all necessary fixtures &amp; fittings, Electrical Connections and any other item deemed necessary for the installation to be complete</u></b>			
127	ZIP Hydroboil - white epoxy coated finish. Capacity: 10 litre. Dimensions: 340x205x630mm high. Electrics: 2.4kw.	No 1	
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
128	Stainless Steel wall mounted Cyclovent Kitchen Extraction Canopy. Vulcan or other Approved Complete with axial Extraction & Make up fan. Size: 2000 x 1500mm Including Stainless Steel Cycloclean filters, grease cups and flush fitting vapour proof lights, ducting, Weather Louvers & all necessary fittings and fixtures to deem installation complete	No	2
129	VULCAN Model R-G4 four open burner with single oven gas Range having overall dimensions of 1000x850x915mm high. The front and two sides of the range shall have an external finish of 1,2mm Type 430 stainless steel and the back panel of 1,6mm aluminised steel. The cooking surface comprises four individually controlled openburners. The oven measures 610x700x340mm(145 litres). Maximum gas rating is 118 000 kJ/h.	No	1
130	JUST Model MPM 1140GAHH Double Sliding Door Upright Fridge. Capacity: 898 litre. Dimensions: 1130x728x2050mm high. 4x shelves per door. Wired 220 volt. Temperature Range : 3 - 5°C Refrigerant : R134A	No	2
131	STAYCOLD Model HD1140F Double Hinged Door Upright Freezer. Capacity: 797 litre. Dimensions: 1140x635x2020mm high. Wired 230 volt, 50 Hz. Refrigerant: R404a	No	2
<b><u>GENERAL ITEMS</u></b>			
<b><u>Any additional, items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill. Specify:</u></b>			
132	Allow for painting and labelling of equipment as specified.		Item
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward		R
133	Allow for supply and installation of acrylic cloth and painting of foster seal over exposed refrigeration piping (200x80x400)mm	Item
134	Allow for Commissioning and testing the complete installation as specified.	Item
135	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified.	Item
136	Allow for twelve months free maintenance and guarantee.	Item
137	Allow for instructing the clients staff in the correct operation of the installation.	Item
138	Allow for preparation of "as installed drawings" and printing (3 sets).	Item
139	Allow for preparation of Workshop drawings and printing (3 sets).	Item
140	Any items not specifically listed above but required to complete the installation as per the specification and drawings (list the items)	Item
<b><u>DOMESTIC WATER SUPPLIES, PUMPS, HEAT PUMS AND TANKS, ETC.</u></b>		
Carried Forward		R
Bill No. 18 Mechanical Work		

Brought Forward			R
<b><u>DOMESTIC PIPING SYSTEM</u></b>			
141	Supply, deliver and install F.T.T Model: VP10-4, 4 kW, 380v Vertical inline booster pumpset, consisting off 2 pumps (Duty/Assist/ Standby) mounted to a common m/s baseplate with panel stand, controlled via a D.O.L control box with pressure transmitter, suction/discharge valves, pressure gauge, float switch and 200lt pressure vessel, built as a plug and play unit pre-commissioned.(FTT Pumps or other approved) as specified with manufacturer recommendations. Including Electrical motor for each pump at 4 kW suitable for pump specified. Pump to be complete with discharge manifold, pressure switches, pressure gauges with multi function valve on duty pump discharge, lockable isolating valves, inspectable non-return valve on discharge side of duty pump, priming circuit connection, lockable isolating valves, separate pump inlets, flow meters, control panel in accordance with the specification. Including all connection fittings and any other accessories to deem the installation complete. Bedplate for pump and motor as specified. Including anchor bolts or equal and other approved.	No	1
<b><u>Domestic water booster pumps</u></b>			
<b><u>Water volume to be pumped: - 3.6 l /s</u></b>			
<b><u>Pump Static Head: - 55m</u></b>			
<b><u>Pump Max speed - 2900 rpm</u></b>			
<b><u>Motor size - 4 kW</u></b>			
142	3CR12 drip pan with drain piping as specified	No	1
143	Submission for approval to the Engineer equipment selected in accordance with the specification		Item
144	Preparation and submission for approval of construction drawings as specified		Item
145	Inspection, testing and commissioning of pump set as specified	No	1
146	Preparation and submission for approval of construction drawings as specified	No	1
<b>Carried Forward</b>			R
Bill No. 18 Mechanical Work			

Brought Forward			R
147	For the supply, delivery, installation and commissioning of hot water recirculating pumps. Grunfos UPS 25-60 180 or other approved	No	2
<b><u>Gauges and fittings</u></b>			
<b><u>For the supply, delivery and installation of the pressure gauges and fittings in accordance with the project specification and Standard specification for Mechanical Installation.</u></b>			
148	Domestic booster pumps (delivery side)	No	2
149	Domestic booster pumps (inlet side)	No	2
<b><u>Pressure transmitter devices</u></b>			
<b><u>For the supply, delivery and installation of the pressure transmitting devices in accordance with the specification. Including all wiring.</u></b>			
150	Domestic booster pumps	No	2
<b><u>Strainers</u></b>			
<b><u>For the supply, delivery and installation of the strainers in accordance with the project specification. Complete with connection flanges and fittings:</u></b>			
151	80mm diameter epoxy coated and lined strainer with element	No	2
<b><u>Relux (non-return) valves</u></b>			
<b><u>For the supply, delivery and installation of the relux valves (brass) in accordance with the project specification. Complete with connection flanges and fittings:</u></b>			
152	80mm diameter brass (SANS approved)	No	3
<b><u>Gate valves</u></b>			
Carried Forward			R
Bill No. 18 Mechanical Work			

	<b>Brought Forward</b>			R
	<u>For the supply, delivery and installation of the gate valves (brass) in accordance with the project specification. Complete with connection flanges and fittings:</u>			
153	80mm diameter (SANS approved)	No	6	
	<u>Pressure reducing valves</u>			
	<u>For the supply, delivery and installation of the gate valves (brass) in accordance with the project specification. Complete with connection flanges and fittings:</u>			
154	80mm diameter (SANS approved)	No	1	
	<u>Connecting valves</u>			
	<u>For the supply, delivery and installation of the Flange connections in accordance with the project specification. Complete with connection flanges connectors and fittings:</u>			
155	80mm diameter (SANS approved) set 2 off	No	4	
	<u>Galvanised piping</u>			
	<u>For the complete supply, delivery and installation of galvanised medium class piping (conform to SANS 10400) including all valves, fittings, hangers, brackets &amp; supports, pipe sleeves, insulation and cladding, wrapping in brown paper and necessary accessories as specified.</u>			
156	80mm diameter	m	20	
	<u>Galvanised fitting for piping</u>			
157	80mm Bend	No	10	
158	80mm Flange	No	4	
159	80mm Tee	No	10	
	<u>Electrical</u>			
	<b>Carried Forward</b>			R
	Bill No. 18 Mechanical Work			

Brought Forward				R
<b><u>For the supply, delivery and installation of all electrical requirements in accordance with the project specification and SANS 1042.</u></b>				
160	Cabling to connect from electrical isolator to fire booster pumps and MCC. Power and control cabling including cabling to pressure transducers.		Item	
161	Cabling to connect from electrical isolator to Domestic booster pumps set and MCC. Power and control cabling including cabling to pressure transducers.		Item	
162	Emergency stops with wiring at each pump	No	4	
163	Labelling of all equipment as specified		Item	
<b><u>External piping reticulation</u></b>				
<b><u>For the complete supply, delivery and installation of HDPE class 16 piping laid in and including trenches not exceeding 1m deep (conform to SANS 10400) including all valves, fittings, hangers, brackets &amp; supports, pipe sleeves, insulation and cladding, wrapping in brown paper and necessary accessories as specified.</u></b>				
164	25mm Pipes	m	130	
165	40mm Pipes	m	80	
166	63mm Pipes	m	500	
167	75mm Pipes	m	10	
<b><u>HDPE pipes for compression fittings</u></b>				
168	63mm Bends	No	20	
169	63mm Flange	No	5	
170	63mm Tee	No	3	
171	Reducing tee 63 x 63 x 20mm	No	15	
172	Reducing tee 63 x 63 x 25mm	No	5	
173	Reducing tee 63 x 63 x 32mm	No	5	
Carried Forward				R
Bill No. 18 Mechanical Work				



Brought Forward				R
174	Reducing tee 63 x 63 x 40mm	No	10	
<b><u>Copper site piping</u></b>				
<b><u>For the complete supply, delivery and installation of Copper class 3 piping laid in and including trenches not exceeding 1m deep (conform to SANS 10400) including all valves, fittings, hangers, brackets &amp; supports, pipe sleeves, insulation and cladding, wrapping in brown paper and necessary accessories as specified.</u></b>				
175	15mm Pipes	m	30	
176	22mm Pipes	m	10	
177	35mm Pipes	m	60	
178	42mm Pipes	m	35	
179	Extra over copper pipes for fittings	No	40	
<b><u>HOT WATER SYSTEM</u></b>				
<b><u>For the complete supply, delivery and installation of the hot water generating and circulating system, pipe work, cutting and making good hangers, supports, etc. valves, fittings, painting, etc. as specified on drawings.</u></b>				
180	For heat pumps. For the complete supply, delivery and installation of 20kW air to water R410 A heat pump type water heater, heating reservoir water to a temperature of between 55 - 60°C, including controller, all safety features, temperature sensor, tube in shell exchanger, High EER Scroll compressor, integral single circulating pump set with strainer, flow switch, complete with control panel, with maximum noise level of 65dB(A), fittings, copper pipework, insulation, cladding, bends, tees, and necessary accessories as specified. Airco AKRS 200 or other approved	No	1	
181	For the supply, delivery, installation and commissioning of hot water circulating pumps. Grunfos UPS 32-100 N 180 or other approved. Duty: 4.76 m³/h @ 68 Kpa	No	1	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward			R
182	For storage cylinders. For the complete supply, delivery and installation of 2100 litres hot water storage cylinder, 400 kPa with Blasted to ISO8501 SA3 & 2 coats Marathon Glass Flake, including insulation and cladding, pressure and temperature gauges 500mm diameter man hole, inlet and outlet flanged connections, drain and drain piping, all safety features, supports and all necessary accessories as specified. (1420mm diameter x 2150 high at 350 kg. Airco or other approved	No	1
183	Supply, deliver and install F.T.T Model: HCB22, 2.2kW, 220v Horizontal centrifugal booster pumpset, consisting off 2 pumps (Duty/Standby) mounted to a common baseplate, controlled via independent variable speed drives and pressure transducer, 19lt pressure vessel, pre-commissioned as a plug and play unit. Including Electrical motor for each pump at 2.2 kW suitable for pump specified. Pump to be complete with discharge manifold, pressure switches, pressure gauges with multi function valve on duty pump discharge, lockable isolating valves, inspectable non-return valve on discharge side of duty pump, priming circuit connection, lockable isolating valves, separate pump inlets, flow meters, control panel including all electrical & control wiring, cable trays, conduit, saddles, brackets, fittings and all necessary accessories in accordance to the specification and manufacturer's recommendations for the hot water plant installation. Including all connection fittings and any other accessories to deem the installation complete. Bedplate for pump and motor as specified. Including anchor bolts or equal and other approved.	No	1
<b><u>Domestic hot water booster pumps</u></b>			
<b><u>Water volume to be pumped: - 1.75 l/s</u></b>			
<b><u>Pump Static Head: - 35m</u></b>			
<b><u>Pump Max speed - 2900 rpm</u></b>			
<b><u>Motor size - 2.2 kW</u></b>			
184	3CR12 drip pan with drain piping as specified	No	1
185	Submission for approval to the Engineer equipment selected in accordance with the specification		Item
186	Preparation and submission for approval of construction drawings as specified		Item
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
187	Checking and setting of pump and motor alignment on site after installation as well as pump balancing	No	1
188	Inspection, testing and commissioning of pump set as specified	No	1
189	For the complete supply, delivery and installation of the thermometers, including all fittings and necessary accessories	No	12
190	For the complete supply, delivery and installation of the pressure gauges, including all fittings and necessary accessories	No	16
191	For the complete supply, delivery and installation of the safety release valves installed to pressure vessels, including all fittings and necessary accessories	No	8
<b><u>Gauges and fittings</u></b>			
<b><u>For the supply, delivery and installation of the pressure gauges and fittings in accordance with the project specification and Standard specification for Mechanical Installation.</u></b>			
192	Hot water booster pumps (delivery side)	No	2
193	Hot water booster pumps (inlet side)	No	2
<b><u>Pressure transmitter devices</u></b>			
<b><u>For the supply, delivery and installation of the pressure transmitting devices in accordance with the specification. Including all wiring.</u></b>			
194	Hot water booster pumps	No	2
<b><u>Strainers</u></b>			
<b><u>For the supply, delivery and installation of the strainers in accordance with the project specification. Complete with connection flanges and fittings:</u></b>			
195	63mm diameter epoxy coated and lined strainer with element	No	2
Carried Forward			R
Bill No. 18 Mechanical Work			

	<b>Brought Forward</b>			R
	<b><u>Relux (non-return) valves</u></b>			
	<b><u>For the supply, delivery and installation of the relux valves (brass) in accordance with the project specification. Complete with connection flanges and fittings:</u></b>			
196	63mm diameter brass (SANS approved)	No	3	
	<b><u>Gate valves</u></b>			
	<b><u>For the supply, delivery and installation of the gate valves (Geberit Mepla or other approved) in accordance with the project specification. Complete with connection flanges and fittings:</u></b>			
197	63mm diameter (SANS approved)	No	6	
	<b><u>Pressure reducing valves</u></b>			
	<b><u>For the supply, delivery and installation of the pressure reducing valves in accordance with the project specification. Complete with connection flanges and fittings:</u></b>			
198	63mm diameter (SANS approved)	No	1	
	<b><u>Connecting valves</u></b>			
	<b><u>For the supply, delivery and installation of the Flange connections in accordance with the project specification. Complete with connection flanges connectors and fittings:</u></b>			
199	63mm diameter (SANS approved) set 2 off	No	4	
	<b><u>Hot water piping</u></b>			
	<b><u>For the Supply, delivery, installation and commissioning of pipe (Geberit Mepla or other approved) including all necessary fixations and equal couplings in the running lengths fixed to soffit, walls, or chased into walls, etc.</u></b>			
200	20mm Pipes	m	250	
201	26mm Pipes	m	140	
	<b>Carried Forward</b>			R
	Bill No. 18 Mechanical Work			

Brought Forward				R
202	32mm Pipes	m	40	
203	40mm Pipes	m	30	
204	50mm Pipes	m	20	
205	63mm Pipes	m	20	
<b><u>Red lagged insulation for hot water piping specified to be Geberit Mepla, similar or other approved</u></b>				
206	20mm Pipes	m	70	
207	26mm Pipes	m	50	
<b><u>Insulation for hot water piping specified to be Thermaflex or other approved</u></b>				
208	32mm Pipes	m	20	
209	40mm Pipes	m	20	
210	50mm Pipes	m	20	
<b><u>For the Supply, delivery, installation and commissioning of Extra over pipe for fittings (Geberit Mepla Gunmetal or other approved) including all necessary crimps fixed to soffit, walls, or chased into walls, etc.</u></b>				
211	20mm Bend	No	250	
212	26mm Bend	No	30	
213	32mm Bend	No	20	
214	40mm Bend	No	15	
215	50mm Bend	No	10	
216	63mm Bend	No	5	
217	20mm Coupling	No	100	
218	26mm Coupling	No	50	
Carried Forward				R
Bill No. 18 Mechanical Work				

		Brought Forward		R
219	32mm Coupling	No	20	
220	40mm Coupling	No	20	
221	50mm Coupling	No	10	
222	63mm Coupling	No	10	
223	20mm Tee	No	20	
224	26mm Tee	No	20	
225	32mm Tee	No	15	
226	40mm Tee	No	5	
227	50mm Tee	No	5	
228	63mm Tee	No	5	
229	26 x 20 x 26mm Reducing tee	No	30	
230	26 x 26 x 20mm Reducing tee	No	40	
231	26 x 20 x 20mm Reducing tee	No	30	
232	32 x 20 x 26mm Reducing tee	No	5	
233	32 x 26 x 26mm Reducing tee	No	7	
234	32 x 20 x 32mm Reducing tee	No	10	
235	32 x 26 x 32mm Reducing tee	No	10	
236	40 x 20 x 40mm Reducing tee	No	10	
237	40 x 26 x 40mm Reducing tee	No	10	
238	40 x 32 x 40mm Reducing tee	No	10	
239	50 x 26 x 50mm Reducing tee	No	10	
240	50 x 40 x 40mm Reducing tee	No	5	
241	63 x 50 x 63mm Reducing tee	No	3	
		Carried Forward		R
	Bill No. 18			
	Mechanical Work			

Brought Forward				R
242	26 x 20mm Reducer	No	30	
243	32 x 20mm Reducer	No	20	
244	32 x 26mm Reducer	No	15	
245	40 x 20mm Reducer	No	10	
246	40 x 26mm Reducer	No	10	
247	40 x 32mm Reducer	No	10	
248	50 x 32mm Reducer	No	10	
249	63 x 50mm Reducer	No	10	
	<b><u>Isolating valves specified to be Geberit Mepla or other approved</u></b>			
250	20mm Bend	No	110	
251	26mm Bend	No	20	
252	32mm Bend	No	10	
253	40mm Bend	No	10	
254	50mm Bend	No	5	
	<b><u>Elbow tap connector specified to be Geberit Mepla or other approved</u></b>			
255	20mm Bend	No	80	
	<b><u>Adaptor specified to be Geberit Mepla or other approved</u></b>			
256	20mm Bend	No	50	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward			R
<b><u>WATER STORAGE TANK</u></b>			
257	For the complete supply, delivery, installation and commissioning of Domestic Water Tank (ABECO or other approved (6.1m x 4.88m x 3.66) 109 kL (Gross capacity) complete with the following: Fixed ladder assembly complete with ladders, platform cages, hand rails and access hatch, including internal partition, all connection fittings, valves, flow switches and any other accessories to deem the installation complete and commissioning on complete.	No 1	
<b><u>GENERAL ITEMS</u></b>			
258	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves	Item	
259	Allow for Commissioning and testing the complete installation as specified	Item	
260	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified	Item	
261	Allow for twelve months free maintenance and guarantee	Item	
262	Allow for instructing the clients staff in the correct operation of the installation	Item	
263	Allow for preparation of "as installed drawings" and printing (3 sets)	Item	
264	Allow for preparation of workshop drawings and printing (3 sets)	Item	
265	Allow for Hydraulic Calculations	Item	
266	Isolation, Disconnection & Removal of Redundant existing items. Complete removal of all existing units, fixtures, wiring, cabling, conduits, wire ways, equipment, accessories, etc. and shall include the inventory, repackaging, storage and handover to the Client	Item	
267	Any additional, items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill	Item	
Carried Forward			R
Bill No. 18 Mechanical Work			



	<p style="text-align: center;"><b>Brought Forward</b></p> <p><b><u>FIRE WATER SUPPLIES, PUMPS AND TANKS, ETC.</u></b></p> <p><b><u>FIRE PUMPING SYSTEM</u></b></p> <p>268 Supply, deliver and install (Grundfos or other approved) electrically driven Pressure Booster pump set (1 run and 1 standby).</p> <p>Model: Grundfos Hydro EN 50-200/219 S2- JS-ADL-U1, 1x Electrical Driven Duty Pump, 1x Electrical Driven Standby, 1x Jockey Automatic Fire Pump Set PN99843955 compromising off:</p> <p>i. Grundfos NKF 50-200/219 Single Stage Horizontal End Suction c/w 22kW 3x400v Electrical Driven Duty Pump Set and Standby Pump Set.</p> <p>ii. Grundfos CM3-10 A-R-I-E-AQQE- F-A-A-N 1.5 kW 3x400v D.O.L Jockey Electrical Driven Pump Set.</p> <p>iii. 3 x Combined Electrical Control Panels to suit above, duty control panels are standard factory equipped with Standard Modbus BMS module for monitoring.</p> <p>iv. Base Frames, Suction Kits, Discharge Kits, Expansion Joints, Lockable isolation valves, Inspectable Non Return Valves, Test Kit with readable flow-meter (pump test and maintenance), Pressure Switches and Gauges, 2x 24Liter Vertical Pressure Vessels all factory fitted.</p> <p>Pump to be complete with discharge manifold, pressure switches, pressure gauges with multi function valve on duty pump discharge, lockable isolating valves, inspectable non-return valve on discharge side of duty pump, priming circuit connection, lockable isolating valves, separate pump inlets, flow-meters, control panel in accordance with the specification. Including all connection fittings and any other accessories to deem the installation complete.</p> <p>Bedplate for pumping system and motor as specified Including anchor bolts or equal and other approved.</p> <p style="text-align: right;">No</p>	<p style="text-align: center;">1</p>	<p style="text-align: center;">R</p>
	<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 18 Mechanical Work</p>		<p style="text-align: center;">R</p>

	<b>Brought Forward</b>			R	
	<b><u>FIRE WATER BOOSTER PUMPS</u></b>				
	<b><u>Water volume to be pumped: - 21,5 l/s</u></b>				
	<b><u>Pump Static Head: - 57m</u></b>				
	<b><u>Pump Max speed - 2950 rpm</u></b>				
	<b><u>Motor size - 22kW</u></b>				
269	3CR12 drip pan with drain piping as specified	No	1		
270	Submission for approval to the Engineer equipment selected in accordance with the specification			SUM	
271	Preparation and submission for approval of construction drawings as specified			SUM	
272	Checking and setting of pump and motor alignment on site after installation as well as pump balancing	No	1		
273	Inspection, testing and commissioning of pump set as specified	No	1		
	<b><u>Gauges and fittings</u></b>				
	<b><u>For the supply, delivery and installation of the pressure gauges and fittings in accordance with the project specification and Standard specification for Mechanical Installation</u></b>				
274	Fire booster pumps (delivery side)	No	2		
275	Fire booster pumps (inlet side)	No	2		
	<b><u>Pressure transmitter devices</u></b>				
	<b><u>For the supply, delivery and installation of the pressure transmitting devices in accordance with the specification. Including all wiring</u></b>				
276	Fire booster pumps	No	2		
	<b><u>Strainers</u></b>				
	<b>Carried Forward</b>			R	
	Bill No. 18 Mechanical Work				

	<b>Brought Forward</b>			R
	<u>For the supply, delivery and installation of the strainers in accordance with the project specification. Complete with connection flanges and fittings</u>			
277	125 mm dia epoxy coated and lined strainer with element	No	2	
	<u>Relux (non-return) valves</u>			
	<u>For the supply, delivery and installation of the relux valves (brass) in accordance with the project specification. Complete with connection flanges and fittings</u>			
278	125mm dia brass (SANS approved)	No	3	
	<u>Gate valves</u>			
	<u>For the supply, delivery and installation of the gate valves (brass) in accordance with the project specification. Complete with connection flanges and fittings</u>			
279	125mm dia (SANS approved)	No	6	
	<u>Pressure reducing valves</u>			
	<u>For the supply, delivery and installation of the pressure reducing valves in accordance with the project specification. Complete with connection flanges and fittings</u>			
280	125mm dia (SANS approved)	No	1	
	<u>Connecting valves</u>			
	<u>For the supply, delivery and installation of the Flange connections in accordance with the project specification. Complete with connection flanges connectors and fittings</u>			
281	125mm dia (SANS approved) set 2 off	No	4	
	<b>Carried Forward</b>			R
	Bill No. 18 Mechanical Work			

Brought Forward				R
<b><u>WATER STORAGE TANK</u></b>				
282	For the complete supply, delivery, installation and commissioning of fire water tank (ABECO or other equally approved (6.1m x 4.88m x 3.66) 109 kL (Gross capacity) complete with the following: Fixed ladder assembly complete with ladders, platform cages, hand rails and access hatch, including internal partition, including all connection fittings, valves, flow switches and any other accessories to deem the installation complete and commissioning.	No	1	
<b><u>Galvanised piping</u></b>				
<b><u>For the complete supply, delivery, installation and commissioning of galvanised medium black piping (conform to SANS 10400, 10252 and 174). All pipes and fittings suitable for Klambon or other approved joining including all necessary fixations and equal couplings fixed to soffit, walls or chased into walls including all valves, fittings, hangers, brackets &amp; supports, pipe sleeves, insulation and cladding, wrapping in brown paper and necessary accessories as specified</u></b>				
<b><u>Straight pipe</u></b>				
283	100mm dia	m	10	
284	32mm dia	m	30	
285	25mm dia	m	110	
<b><u>90 degree bends</u></b>				
286	100mm dia	m	5	
287	32mm dia	m	10	
288	25mm dia	m	40	
<b><u>45 degree bends</u></b>				
289	100mm dia	m	5	
290	32mm dia	m	5	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward				R
291	25mm dia	m	5	
	<b><u>Tee's</u></b>			
292	100mm dia	m	10	
293	32mm dia	m	5	
294	25mm dia	m	10	
	<b><u>Reducers</u></b>			
295	100mm dia - 32mm dia	m	5	
296	100mm dia - 25mm dia	m	5	
297	32mm dia - 25mm dia	m	5	
	<b><u>HDPE SITE PIPING</u></b>			
	<b><u>For the complete supply, delivery and installation of HDPE class 16 piping laid in and including trenches (conform to SANS 10400) including all valves, fittings, hangers, brackets &amp; supports, pipe sleeves, insulation and cladding, wrapping in brown paper and necessary accessories as specified</u></b>			
298	25mm dia	m	10	
299	50mm dia	m	300	
300	125mm dia	m	120	
	<b><u>Tee's</u></b>			
301	Equal T-piece 125	No	10	
302	Equal T-piece 50	No	10	
303	Additional Extra Over Fittings	No	40	
Carried Forward				R
Bill No. 18 Mechanical Work				

Brought Forward			R
<b><u>Fire hose reels</u></b>			
For the Supply, delivery, installation and commissioning of the following fire fighting equipment as per specification. All fittings to be plassons or equal including all necessary fixations and equal couplings fixed to soffit, walls, or chased into walls, etc			
304	For the Supply, delivery, installation and commissioning 580mm Diameter metal fire hose reel complete with mounting frame, hose guard and nozzle, 20mm fire hose 30m long with 25mm water connection all as per SABS543-1992	No	10
305	Supply & Installation of Matching Fire Cabinet	No	10
<b><u>Portable fire extinguishers</u></b>			
306	Supply and install 4.5Kg Co2 (dry chemical portable) fire extinguisher for Class A, B and C fires, including solid timber backing board and hook complete	No	2
307	Supply and install 4.5Kg DCP (dry chemical portable) fire extinguisher for Class A, B and C fires, including solid timber backing board and hook complete	No	40
308	Supply & Installation of Matching Fire Cabinet	No	40
<b><u>Signage</u></b>			
309	For the supply, delivery and installation of fire and evacuation signage. Signage to be in accordance with SABS 1186-min size 150mm. Fire signage to be photo luminescent, and layed out as per fire drawings	No	50
<b><u>Compact fire blanket</u></b>			
<u>For the supply, delivery and installation of the following compact fire blankets</u>			
310	Size 1,2 x 1,2	No	2
311	Size 1,8 x 1,8	No	2
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
<b><u>Fire hydrant</u></b>			
312	For the supply, delivery, installation and commissioning of fire hydrant complete with Ø76 pedestal including 2 No dia 76 booster connections and 0-500 pressure gauge. Header pipe to be installed min 500mm below ground and stabilised with concrete at the bottom of header. Header to be mounted @ 1200mm above ground level. Including gate valves and all necessary fixtures	No	1
<b><u>Electrical</u></b>			
For the supply, delivery and installation of all electrical requirements in accordance with the project specification and SANS 1042			
313	Cabling to connect from electrical isolator to all fire pumps and MCC. Power and control cabling including cabling to pressure transducers		SUM
314	Emergency stops with wiring at each pump	No	4
315	Labelling of all equipment as specified		SUM
<b><u>Painting</u></b>			
316	For the supply, delivery and installation of the following fire pipework and fittings with red oxide as per the specifications		Item
<b><u>GENERAL ITEMS</u></b>			
317	Allow for builders work, drilling and making good of holes through slabs or walls including sleeves		Item
318	Allow for Commissioning and testing the complete installation as specified		Item
319	Allow for three sets of maintenance and operation manuals, including wiring diagrams, spare part lists as specified		Item
320	Allow for twelve months free maintenance and guarantee		Item
Carried Forward			R
Bill No. 18 Mechanical Work			

Brought Forward			R
321	Allow for instructing the clients staff in the correct operation of the installation	Item	
322	Allow for preparation of "as installed drawings" and printing (3 sets)	Item	
323	Allow for preparation of Workshop drawings and printing (3 sets)	Item	
324	Allow for Hydraulic Calculations	Item	
325	Any additional, items that the Tenderer deems necessary for the successful and total completion of the portion of the work required for this Bill	Item	
Carried to Summary			R
Bill No. 18			
Mechanical Work			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 19</u></b>			
	<b><u>GLAZING</u></b>			
	<b><u>(CPAP WORK GROUP NO. 150 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 19 Glazing			

Brought Forward

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**MIRRORS**

**5mm Silvered float glass copper backed mirrors with polished edges, holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete**

1	Mirror 450 x 450mm high with four (4) no. screws	No	25
	A : 1      B : 5      C : 3      D : 0		
	E : 0      F : 8      G : 0      H : 0		
	J : 0      K : 0      L : 8      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

**GLAZING TO STEEL WITH PUTTY**

**5mm Clear float glass**

2	Panes not exceeding 0.1m2.	m2	19
	A : 0      B : 0      C : 0      D : 0		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 4      S : 5      T : 8      U : 2		
	V : 0		

**6.38mm Clear Vue Normal strength intruder proof laminated safety glass**

3	Panes exceeding 0,1m² and not exceeding 0.5m²	m2	358
	A : 0      B : 74      C : 30      D : 37		
	E : 23      F : 43      G : 25      H : 27		
	J : 12      K : 38      L : 30      M : 22		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

Carried Forward

R

Bill No. 19  
Glazing

[illegible]

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 20</u></b>			
	<b><u>PAINTWORK</u></b>			
	<b><u>(CPAP WORK GROUP NO. 152 UNLESS OTHERWISE STATED)</u></b>			
	<b><u>Note:</u></b>			
	A: Block A - Guard House			
	B: Block B - New Admin Building			
	C: Block C - New NPSP			
	D: Block D - New Library and Computer Lab			
	E: Block E - New Multi-Purpose Centre and HOD			
	F: Block F - New Three Classrooms and Ablutions			
	G: Block G - New Two Classrooms			
	H: Block H - Existing Two Classrooms and HOD			
	J: Block J - Existing One Classroom			
	K: Block K - New Three Classrooms			
	L: Block L - New Two Classrooms, HOD and Ablutions			
	M: Block M - New Science Lab			
	N: Electrical Installation			
	O: Mechanical Installation			
	P: External Works			
	Q: Preliminaries			
	R: Enviroloo - Boys Toilet			
	S: Enviroloo - Girls Toilet			
	T: Enviroloo - Staff Toilet - Male			
	U: Enviroloo - Staff Toilet - Female			
	<b>Carried Forward</b>		R	
	Bill No. 20 Paintwork			

**Brought Forward**

R

**PREAMBLES**

The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013

**SUPPLEMENTARY PREAMBLES**

**SABS Specifications**

Alkali resistant primer - SABS 1416

Wash primer (metal etch) - SABS 723

Primers for internal wood work - SABS 678 Type 111

Zinc chromate primer for steel - SABS 679 Type 1

Undercoat for paints (Except emulsion paint) - SABS 681 Type 1

Gloss enamel paint - SABS 631

Aluminium paint - SABS 682 Grade 11

Structural steel paint - SABS 684 Type B

Emulsion paint - SABS 1586 (Gloss, Semi gloss, Matt : Internal /External)

**ON NEW WORK**

**ON INTERNAL FLOATED PLASTER SURFACES**

**"Plascon" or other equally approved Primer (PP700) and two coats "Velvagio" water based paint for interior use**

1	On walls	m2	3,529																								
	<table> <tr> <td>A : 56</td><td>B : 729</td><td>C : 450</td><td>D : 406</td></tr> <tr> <td>E : 253</td><td>F : 253</td><td>G : 137</td><td>H : 241</td></tr> <tr> <td>J : 84</td><td>K : 207</td><td>L : 276</td><td>M : 114</td></tr> <tr> <td>N : 0</td><td>O : 0</td><td>P : 0</td><td>Q : 0</td></tr> <tr> <td>R : 82</td><td>S : 144</td><td>T : 41</td><td>U : 56</td></tr> <tr> <td>V : 0</td><td></td><td></td><td></td></tr> </table>	A : 56	B : 729	C : 450	D : 406	E : 253	F : 253	G : 137	H : 241	J : 84	K : 207	L : 276	M : 114	N : 0	O : 0	P : 0	Q : 0	R : 82	S : 144	T : 41	U : 56	V : 0					
A : 56	B : 729	C : 450	D : 406																								
E : 253	F : 253	G : 137	H : 241																								
J : 84	K : 207	L : 276	M : 114																								
N : 0	O : 0	P : 0	Q : 0																								
R : 82	S : 144	T : 41	U : 56																								
V : 0																											

**Carried Forward**

R

Bill No. 20  
Paintwork

Brought Forward				R
2	On narrow widths	m2	160	
	A : 3      B : 36      C : 22      D : 20			
	E : 13      F : 13      G : 7      H : 12			
	J : 4      K : 10      L : 14      M : 6			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<b><u>ON EXTERNAL PLASTER SURFACES</u></b>			
	<b><u>"Plascon" or other equally approved alkali resistant primer and two coats emulsion paint for exterior use</u></b>			
3	On walls	m2	454	
	A : 15      B : 35      C : 47      D : 88			
	E : 33      F : 53      G : 25      H : 0			
	J : 0      K : 32      L : 47      M : 23			
	N : 0      O : 0      P : 0      Q : 0			
	R : 16      S : 22      T : 8      U : 9			
	V : 0			
	<b><u>ON PLASTERBOARD SURFACES</u></b>			
	<b><u>"Plascon" or other equally approved gypsum and plaster primer (PP700) and two coats professional super matt (PEM 900/TSA) for interior use</u></b>			
4	Ceilings including priming metal cover strips and nailheads	m2	1,972	
	A : 9      B : 257      C : 229      D : 306			
	E : 126      F : 238      G : 122      H : 145			
	J : 61      K : 182      L : 195      M : 102			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
5	75mm Coved cornices	m	1,238	
	A : 10      B : 214      C : 178      D : 91			
	E : 91      F : 160      G : 62      H : 89			
	J : 31      K : 93      L : 156      M : 64			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 20 Paintwork				

Brought Forward

R

**ON CONCRETE SURFACES**

**"Plascon" or other equally approved alkali resistant primer and two coats emulsion paint for exterior use**

6	On soffit	m2	8
	A : 0      B : 0      C : 0      D : 8		
	E : 0      F : 0      G : 0      H : 0		
	J : 0      K : 0      L : 0      M : 0		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

**ON FIBRE-CEMENT BOARD SURFACES**

**"Plascon" or other equally approved alkali resistant primer and two coats "Wall and All" emulsion paint for interior use**

7	Ceilings and cornices, including priming metal cover strips and nailheads	m2	494
	A : 0      B : 111      C : 52      D : 68		
	E : 32      F : 61      G : 30      H : 44		
	J : 19      K : 45      L : 6      M : 26		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		

**"Plascon" or other equally approved alkali resistant primer and two coats "Nu-Roof" emulsion paint for exterior use**

8	Fascias	m2	375
	A : 4      B : 31      C : 29      D : 31		
	E : 18      F : 34      G : 17      H : 17		
	J : 10      K : 26      L : 30      M : 15		
	N : 0      O : 0      P : 0      Q : 0		
	R : 34      S : 42      T : 17      U : 20		
	V : 0		

Carried Forward

R

Bill No. 20  
Paintwork

	Brought Forward		
9	Barge boards	m2	165
	A : 6      B : 17      C : 16      D : 23		
	E : 13      F : 13      G : 13      H : 13		
	J : 13      K : 13      L : 13      M : 13		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>ON METAL SURFACES</u></b>		
	<b><u>One coat calcium plumbate primer on:</u></b>		
10	Backs of galvanised steel door frames before fixing	m2	86
	A : 2      B : 17      C : 13      D : 8		
	E : 6      F : 15      G : 2      H : 0		
	J : 0      K : 4      L : 15      M : 4		
	N : 0      O : 0      P : 0      Q : 0		
	R : 0      S : 0      T : 0      U : 0		
	V : 0		
	<b><u>Degrease with "Galvkleen" cleaner thinned 20% by volume with water, prepare and apply one coat "Dulux Trade Corrocote 3" anti corrosive primer and two coats "Dulux Trade Universal" undercoat and two finishing coats "Dulux Trade Pearl glo" water based eggshell enamel on</u></b>		
11	On window frames	m2	642
	A : 6      B : 62      C : 60      D : 73		
	E : 45      F : 86      G : 50      H : 54		
	J : 23      K : 75      L : 60      M : 43		
	N : 0      O : 0      P : 0      Q : 0		
	R : 6      S : 0      T : 0      U : 0		
	V : 0		
12	On burglar bars	m2	671
	A : 17      B : 62      C : 60      D : 73		
	E : 45      F : 86      G : 50      H : 54		
	J : 23      K : 75      L : 60      M : 43		
	N : 0      O : 0      P : 0      Q : 0		
	R : 8      S : 8      T : 4      U : 4		
	V : 0		
	<b>Carried Forward</b>		
	Bill No. 20		
	Paintwork		

R	
R	



Brought Forward					
13	On gates			m2	267
	A : 5	B : 26	C : 49	D : 11	
	E : 20	F : 35	G : 10	H : 15	
	J : 5	K : 15	L : 35	M : 5	
	N : 0	O : 0	P : 0	Q : 0	
	R : 17	S : 11	T : 8	U : 0	
	V : 0				
14	On steel posts			m2	57
	A : 0	B : 11	C : 5	D : 6	
	E : 6	F : 6	G : 3	H : 4	
	J : 3	K : 4	L : 5	M : 3	
	N : 0	O : 0	P : 0	Q : 0	
	R : 0	S : 0	T : 0	U : 0	
	V : 0				
15	On door frames			m2	210
	A : 5	B : 36	C : 29	D : 18	
	E : 13	F : 33	G : 5	H : 0	
	J : 0	K : 8	L : 33	M : 8	
	N : 0	O : 0	P : 0	Q : 0	
	R : 6	S : 9	T : 3	U : 4	
	V : 0				
<b><u>ON WOOD SURFACES</u></b>					
<b><u>Prepare and apply two coats "Plascon" or other equally approved mat varnish</u></b>					
16	On Doors			m2	288
	A : 8	B : 56	C : 48	D : 30	
	E : 19	F : 49	G : 8	H : 0	
	J : 0	K : 11	L : 49	M : 11	
	N : 0	O : 0	P : 0	Q : 0	
	R : 0	S : 0	T : 0	U : 0	
	V : 0				
Carried Forward					
Bill No. 20					
Paintwork					

R

R

Brought Forward				R
17	On Door Frames	m2	7	
	A : 7      B : 0      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
18	76 x 228mm Saligna Beams	m	294	
	A : 0      B : 63      C : 29      D : 32			
	E : 19      F : 35      G : 11      H : 22			
	J : 10      K : 27      L : 30      M : 16			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<u>Three coats superior quality "Plascon" or other equally approved woodcare ultra varnish</u>			
19	Meranti benches	m2	5	
	A : 0      B : 5      C : 0      D : 0			
	E : 0      F : 0      G : 0      H : 0			
	J : 0      K : 0      L : 0      M : 0			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
	<u>Two coats superior quality "Plascon" or other equally approved WoodCare Interior ultra varnish</u>			
20	Skirting, rails, etc. not exceeding 300mm girth	m	1,067	
	A : 10      B : 175      C : 118      D : 153			
	E : 91      F : 93      G : 62      H : 89			
	J : 31      K : 93      L : 88      M : 64			
	N : 0      O : 0      P : 0      Q : 0			
	R : 0      S : 0      T : 0      U : 0			
	V : 0			
Carried Forward				R
Bill No. 20 Paintwork				

	Brought Forward						R
21	Dado rails			m	1,067		
	A : 10	B : 175	C : 118	D : 153			
	E : 91	F : 93	G : 62	H : 89			
	J : 31	K : 93	L : 88	M : 64			
	N : 0	O : 0	P : 0	Q : 0			
	R : 0	S : 0	T : 0	U : 0			
	V : 0						
	<b><u>"Powafix" or other approved carbolineum wood preservative treatment</u></b>						
	Note: Trusses to be painted prior to hoisting and installation.						
22	Trusses			m2	692		
	A : 12	B : 80	C : 75	D : 77			
	E : 48	F : 89	G : 48	H : 53			
	J : 29	K : 65	L : 77	M : 39			
	N : 0	O : 0	P : 0	Q : 0			
	R : 0	S : 0	T : 0	U : 0			
	V : 0						
	Carried to Summary						R
	Bill No. 20						
	Paintwork						

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 21</u></b>			
	<b><u>EXTERNAL WORKS (ALL TRADES)</u></b>			
	<b><u>PREAMBLES</u></b>			
	The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013			
	<b><u>SITE CLEARANCE (CPAP Work Group No. 104)</u></b>			
1	Allow for clearing the area of the site to be built upon of all grass, weeds, shrubs, trees with trunks not exceeding 200mm girth, debris, etc., including grubbing up all roots, scoffling up as required and cart away all vegetation and debris.	m2	17,200	
	<b><u>Removal of trees, etc</u></b>			
	<b><u>Cut down and remove trees, grub up roots and fill in holes:</u></b>			
2	Tree stump exceeding 200mm and not exceeding 500mm girth.	No	11	
3	Tree stump exceeding 500mm and not exceeding 1000mm girth.	No	5	
4	Tree stump exceeding 1500mm and not exceeding 2000mm girth.	No	7	
5	Tree stump exceeding 2500mm and not exceeding 3000mm girth.	No	1	
	<b>Carried Forward</b>		R	
	Bill No. 21 External Works			

<b>Brought Forward</b>			R
<b><u>BULK EXCAVATION, FILLING, ETC - MAIN SCHOOL</u></b>			
A Geotechnical Assessment is included with these Bills of Quantities. All excavations described as being in earth shall be deemed to include for all material described in the Geotechnical Assessment.			
Bulk earthworks quantities are based on the final levels required. Rates are deemed to include for sequencing of work if required, temporary ramps, double handling etc, deemed necessary during the construction period.			
Backfilling to platforms, embankments, etc. using in-situ material or imported fill from commercial sources, must be evenly spread, graded and mechanically compacted in layers not exceeding 200mm thick to a 95% Mod. AASHTO maximum density.			
The contractor shall make his own arrangement for disposal of spoil materials off site and the cost of all royalty and haulage; loading and unloading are to be included in the relevant rate.			
Rates for bulk excavations are deemed to include for risk of collapse/shoring to sides of excavated faces.			
Rates for bulk excavations are deemed to include for any necessary precautions or varied method of excavation required for excavating along the lateral support structure, existing services, etc.			
Temporary access ramps, forming temporary support banks, etc, as required by the Contractor and the sequencing and staging thereof have not been separately measured and are deemed to be included in the items described hereunder.			
<b><u>Open face excavation in earth</u></b>			
6	Strip average 150mm thick layer of topsoil, stockpile on site and maintain.	m2	12,500
7	Open face excavation over sloping site to reduce levels	m3	3,094
<b>Carried Forward</b>			R
Bill No. 21 External Works			

Brought Forward			R
8	Filling with selected material from the excavations including haulage from within the boundary of the site to form slopes, contours, platforms, etc. compacted to 95% Mod. AASHTO maximum density	m3	3,094
9	Filling with G7 material supplied by the contractor to form slopes, contours, platforms, etc. compacted to 95% Mod. AASHTO maximum density	m3	5,063
10	Filling with G9 material supplied by the contractor to form slopes, contours, platforms, etc. compacted to 95% Mod. AASHTO maximum density	m3	5,063
11	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	882
12	Keeping excavations free of all subterranean water by methods to be determined by the contractor	Item	
<b><u>Extra over bulk excavation in earth for excavation in:</u></b>			
13	Intermediate material	m3	155
14	Hard material	m3	77
<b><u>Excavation other than bulk in earth not exceeding 2m deep</u></b>			
15	Locate and carefully excavate by hand to prove position of existing services	m3	95
Carried Forward			R
Bill No. 21 External Works			

<b>Brought Forward</b>			R
<b><u>BULK EXCAVATION, FILLING, ETC - TEMPORARY</u></b>			
A Geotechnical Assessment is included with these Bills of Quantities. All excavations described as being in earth shall be deemed to include for all material described in the Geotechnical Assessment.			
Bulk earthworks quantities are based on the final levels required. Rates are deemed to include for sequencing of work if required, temporary ramps, double handling etc, deemed necessary during the construction period.			
Backfilling to platforms, embankments, etc. using in-situ material or imported fill from commercial sources, must be evenly spread, graded and mechanically compacted in layers not exceeding 200mm thick to a 95% Mod. AASHTO maximum density.			
The contractor shall make his own arrangement for disposal of spoil materials off site and the cost of all royalty and haulage; loading and unloading are to be included in the relevant rate.			
Rates for bulk excavations are deemed to include for risk of collapse/shoring to sides of excavated faces.			
Rates for bulk excavations are deemed to include for any necessary precautions or varied method of excavation required for excavating along the lateral support structure, existing services, etc.			
Temporary access ramps, forming temporary support banks, etc, as required by the Contractor and the sequencing and staging thereof have not been separately measured and are deemed to be included in the items described hereunder.			
<b><u>Open face excavation in earth</u></b>			
16	Strip average 150mm thick layer of topsoil, stockpile on site and maintain.	m2	4,700
17	Open face excavation over sloping site to reduce levels	m3	5,950
<b>Carried Forward</b>			R
Bill No. 21 External Works			

Brought Forward			R
18	Filling with selected material from the excavations including haulage from within the boundary of the site to form slopes, contours, platforms, etc. compacted to 95% Mod. AASHTO maximum density	m3	2,500
19	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compaction are being attained and for submitting results to the Engineer	No	250
20	Keeping excavations free of all subterranean water by methods to be determined by the contractor	Item	
<b><u>Extra over bulk excavation in earth for excavation in:</u></b>			
21	Intermediate material	m3	298
22	Hard material	m3	149
<b><u>Extra over all excavations for loading, carting and dumping surplus excavated material, rubble, etc. (no allowance made for increase in bulk)</u></b>			
23	Off site to a dumping site to be found by the Contractor	m3	3,450
<b><u>FENCING</u></b>			
<b><u>Metalwork (CPAP work group No. 136)</u></b>			
24	2400mm High site hoarding comprises of 18mm thick shutter board, 75 x 50mm timber frames, 3m high of 100mm diameter gum poles, excavations of base for post size 300 x 300 x 600mm deep and removed on completion.	m	200
<b><u>DEMOLITIONS</u></b>			
<b><u>Alterations (CPAP work group No. 102)</u></b>			
Carried Forward			R
Bill No. 21 External Works			



Brought Forward			R
<b><u>Demolish and remove to a dump site to be located by the contractor</u></b>			
25	Structure approximate size 5500 x 5000 x 3000mm high formed of timber frame, gum pole frames, and roof metal cladding, metal roof sheeting, including grubbing up foundations, concrete floors, etc. and level off area.	No	1
26	Structure approximate size 9000 x 3000 x 3000mm high formed of timber frame, gum pole frames, and roof metal cladding, metal roof sheeting, including grubbing up foundations, concrete floors, etc. and level off area.	No	1
27	Covered car park structure approximate size 9000 x 3000 x 3000mm high formed of metal frames, metal roof sheeting, including grubbing up foundations, etc. and level off area.	No	1
28	Brick building 9000 x 8500 x 3000mm high formed of clay brick walls, timber roof construction, metal roof sheeting, gypsum board ceilings, metal windows, burglar guard, metal door frame, timber doors, gate, electrical to be disconnected, concrete floors, grubbing up foundations, etc. and level off area.	No	1
29	Brick building 18500 x 9000 x 3000mm high formed of clay brick walls, timber roof construction, metal roof sheeting, gypsum board ceilings, metal windows, burglar guard, metal door frame, timber doors, gate, electrical to be disconnected, concrete floors, grubbing up foundations, etc. and level off area.	No	1
30	Brick building 22000 x 9000 x 3000mm high formed of clay brick walls, timber roof construction, metal roof sheeting, gypsum board ceilings, metal windows, burglar guard, metal door frame, timber doors, gate, electrical to be disconnected, concrete floors, grubbing up foundations, etc. and level off area.	No	1
31	Ablutions brick structure approximate size 12000 x 2500 x 2500mm high formed of clay brick walls, timber roof construction, metal roof sheeting, timber door & frame, electrical to be disconnected, concrete floors, grubbing up foundations, etc. and level off area.	No	1
<b><u>General guide (Demolishing of septic tanks)</u></b>			
The following is a general guide recommended for demolition of both the Active or Inactive septic tanks at			
<b>Carried Forward</b>			R
Bill No. 21 External Works			

<p style="text-align: center;"><b>Brought Forward</b></p> <p>schools.</p> <p>a) In order to fully meet the Occupational Health and Safety Act (No. 85 of 1993) as well as the National Environmental Management Act (No. 107 of 1998) it is recommended that septic tank structures should not in any instances be demolished by hand.</p> <p>b) Occupational Health and Safety Act requirements shall be adhered to in terms of safety for the learners, teachers and the public during the demolition process.</p> <ul style="list-style-type: none"> <li>• Thus all necessary cordoning-off of the works area should be adhered to at all times.</li> <li>• As far as practically possible, no open excavations will be left overnight. In the event that it happens, proper and adequate barricading and warning signage shall be put in place.</li> <li>• The entire area shall be demarcated during the demolition with one person directly and exclusively monitoring that there are no learners near or in the demarcated area.</li> </ul> <p>c) The demolition and rehabilitation process including the finished rehabilitated site should comply with the National Environmental Management Act requirements.</p> <p>d) All effluent and sludge should be removed from the redundant septic tank by an approved liquid waste contractor</p> <p>e) After pump-out/cleanout, tanks are to be treated with aglime or hydrated lime to disinfect and neutralise any remaining containment. Care should be taken when using lime.</p>	<p style="text-align: center;"><b>R</b></p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 21 External Works</p>	<p style="text-align: center;"><b>R</b></p>

Brought Forward			R
	<p>f) Existing septic tank structure to be demolished including grubbing out foundations, etc. and carted off site by contractor.</p> <p>g) Existing holes to be filled up with excavated materials from site and compacted to 98% Mod. AASHTO density in layers of 150mm depth.</p>		
32	Existing septic tank approximate size 5000 x 3000 x 2000mm high	No	1
	<b><u>Decommission existing borehole</u></b>		
33	Existing bore hole to decommissioned by excavation around borehole, cut off steel casing, cast concrete slabs including clogging of existing borehole and backfill with excavated materials from site.	No	1
	<b><u>REMOVAL OF EXISTING WORK</u></b>		
	<b><u>Saw cut, breaking up and removing 150m thick concrete surface beds including reducing ground by 150mm deep</u></b>		
34	Netball court	m2	162
	<b><u>Taking out/off and removing sundry metalwork</u></b>		
35	1.8m high weldmesh fencing including razor wires, steel poles / gum poles, grubbing up foundations, etc. and level off area.	m	1,056
36	3.0m high weldmesh fencing including steel bracing, poles, grubbing up foundations, etc. and level off area.	m	107
37	Existing steel single gate approximate size 1000 x 1800mm high including steel posts, grubbing up foundations, etc. and level off area.	m	3
38	Existing steel double gate approximate size 6000 x 1800mm high including steel posts, grubbing up foundations, etc. and level off area.	m	1
	<b><u>RELOCATION OF EXISTING</u></b>		
	<b>Carried Forward</b>		R
	Bill No. 21 External Works		

Brought Forward			R
<b><u>Take out and relocate</u></b>			
39	Relocate existing mobile classroom approximate size 9000 x 6000 x 2400mm high including disconnecting water, electrical & sewer services, grubbing out foundations & level off area, hoisting, insurance, relocate within site by de-hoisting and placing in new temporary position as directed by the Principal Agent, etc.	No 5	
40	Dismantle existing and relocate Enviro Loo complete with chamber to new position as per client, including excavation, backfilling, cart away etc for Enviro Loo in new position	No 16	
41	Dismantle existing and relocate elevated jojo tank structure approximate size 3000 x 3000 x 7500mm high including Jojo tank, metal structure, disconnect water services, grubbing out concrete foundation, etc. and level off area.	No 4	
<b><u>SOIL DRAINAGE (CPAP Work Group No. 146)</u></b>			
<b><u>HDPE pipes</u></b>			
<b><u>Slotted HDPE flexible drainage pipes</u></b>			
42	160mm HDPE flexible slotted agricultural pipes laid behind retaining walls for a depth not exceeding 6m including 19mm crushed stone encasing 300 x 300mm and "Kaymat" U14 geo-fabric filter blanket wrapped around encasing with 150mm side and 300mm end laps including stitching.	m 216	
43	Extra over for 160mm capped end	No 6	
44	Extra over for 160mm bend	No 4	
45	Extra over for 160mm junction	No 2	
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Earthworks</u></b>			
46	Excavation in earth not exceeding 2m deep for pipe trenches	m3 324	
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
47	Extra over excavation in earth for pipe trenches, chambers, etc. for excavation in intermediate material	m3	16
48	Extra over excavation in earth for pipe trenches, chambers, etc. for excavation in hard material	m3	8
49	Extra over for imported granular bedding and backfill to pipe trenches to 95% Mod. AASHTO density	m3	113
50	Backfilling obtained from excavations and backfill to pipe trenches to 95% Mod. AASHTO density	m3	211
51	Extra over on excavations for carting away surplus material from excavations and/or stock piles to an area where directed on site or adjacent site and spread and levelled	m3	113
<b><u>SOIL DRAINAGE (CPAP Work Group No. 146)</u></b>			
<b><u>uPVC class 400 HD Ultra Core pipes in class C bedding</u></b>			
52	110mm Pipes vertically or ramped to cleaning eyes, etc. (no excavation)	m	8
53	160mm Pipes vertically or ramped to cleaning eyes, etc. (no excavation)	m	5
54	110mm Pipes laid in and including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material and shoring to pipe trenches not exceeding 1m deep.	m	95
55	110mm Pipes laid in and including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material and shoring to pipe trenches exceeding 1m and not exceeding 2m deep.	m	63
56	160mm Pipes laid in and including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material and shoring to pipe trenches not exceeding 1m deep.	m	54
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
57	160mm Pipes laid in and including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material and shoring to pipe trenches exceeding 1m and not exceeding 2m deep.	m	216
58	160mm Pipes laid in and including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material and shoring to pipe trenches exceeding 2m and not exceeding 3m deep.	m	90
<b><u>Extra over uPVC pipes for fittings</u></b>			
59	110mm Bend	No	56
60	110mm Rodding eye with cast iron cover and frame	No	8
61	160mm Bend	No	15
62	160mm Access junction	No	5
63	160 x 110mm Access junction	No	48
64	160mm Rodding eye with cast iron cover and frame	No	5
<b><u>Precast concrete circular manholes (covers elsewhere measured) formed of manhole rings (SABS 1294) including excavation, risk of collapse, working space, backfilling with selected material from the excavations, cart away surplus material, shoring, hoisting in position, step irons, benching and haunching</u></b>			
65	Precast concrete manhole rings (SABS 1294) size internally 1000mm diameter not exceeding 1m deep including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material, shoring, step irons, benching and haunching	No	3
66	Precast concrete manhole rings (SABS 1294) size internally 1000mm diameter exceeding 1m and not exceeding 2m deep including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material, shoring, step irons, benching and haunching	No	5
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
67	Precast concrete manhole rings (SABS 1294) size internally 1000mm diameter exceeding 2m and not exceeding 3m deep including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material, shoring, step irons, benching and haunching	No	6
	<b><u>Gratings, covers, etc.</u></b>		
68	550mm Diameter heavy duty precast manhole cover and frame	No	14
	<b><u>Sundries</u></b>		
69	Unreinforced concrete encasing to horizontal pipe including the necessary formwork.	m3	13
70	Allow for testing all the soil drainage lines as directed by the Employer or his agents and for re-testing after replacing any defective work to his satisfaction. The contractor is to provide all testing apparatus and labour and is to follow the instructions implicitly.		Item
	<b><u>PERMANENT SURFACE WATER CHANNEL</u></b>		
	<b><u>Earthworks (CPAP Work Group No. 104)</u></b>		
71	Reduce levels in earth not exceeding 2m deep	m3	466
72	Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be found by the Contractor (no allowance made for increase in bulk)	m3	466
73	Backfilling with G5 material supplied and carted onto site by the Contractor, compacted to a density of at least 95% Mod. AASHTO maximum density under channelling	m3	213
74	Keeping excavations free of all water other than subterranean water		Item
75	Modified AASHTO Density tests on fillings	No	36
	<b>Carried Forward</b>		R
Bill No. 21 External Works			

Brought Forward			R
76	Trim and level off surface including levelling off to falls and currents surface of ground including excavating or filling, ripping and scarifying as necessary and hydraulically compacting to and for a depth of 300mm	m2	1,418
77	brand of anti-termite soil poison applied by a registered pest control company and guaranteed against termite infestation for ten years under floors etc including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	1,418
<b><u>Concrete (CPAP Work Group No. 110)</u></b>			
<b><u>Concrete</u></b>			
78	25MPa/19mm Reinforced concrete in panels cast against compacted earth laid to falls and currents.	m3	254
79	Finishing to top surfaces of concrete with smooth wood float (Class FM2) to channels to falls and currents	m2	1,418
80	Movement joint not exceeding 300mm high formed with one layer of 10mm 'Masonite Flexi joint Board' or other equally approved approved bitumen impregnated softboard filler board vertically between block and concrete surfaces.	m	1,800
81	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No	42
<b><u>Formwork (CPAP Work Group No. 111)</u></b>			
<b><u>Formwork</u></b>			
82	Class FM2 ordinary finish formwork to edges not exceeding 300mm high	m	1,327
<b><u>Reinforcement (CPAP Work Group No. 114)</u></b>			
<b><u>Reinforcement</u></b>			
83	Type ref. 193 fabric reinforcement in v-drains	m2	1,145
84	Type ref. 245 fabric reinforcement in concrete channel	m2	273
Carried Forward			R
Bill No. 21 External Works			



Brought Forward			R
<b><u>Waterproofing (CPAP Work Group No. 120)</u></b>			
85	Thioflex 600' or other equally approved two-part polysulphide flexible joint sealants, including backing cord, bond breaker, primer, etc., in horizontal joints 10 x 10mm at expansion joints.	m	1,800
<b><u>Sundries</u></b>			
86	Head wall size to suit 1500mm wide water channel complete with and including all necessary excavations, backfilling, concrete, Splitter block, etc.	No	3
87	Extra over concrete water channel for encasing of damp rock stone pitching at head walls	m2	45
88	Allow an amount of R 100,000.000 for pre-cast concrete culvert, amount to be utilized at the discretion of the Principal Agent.	Item	
<b><u>TEMPORARY SURFACE WATER CHANNEL</u></b>			
<b><u>Precast concrete (CPAP Work Group No. 112)</u></b>			
<b><u>"LG Green" or other equally approved stormwater channels, wet pressed on and including 20Mpa concrete and all necessary excavations, formwork, etc</u></b>			
89	Type SW3 Stormwater channel	m	240
<b><u>Sundries</u></b>			
90	Head wall size to suit 1500mm wide water channel complete with and including all necessary excavations, backfilling, concrete, Splitter block, etc.	No	4
<b><u>CONCRETE APRONS</u></b>			
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation in earth not exceeding 2m deep</u></b>			
91	Excavate to reduce levels	m3	121
92	Edge Thickening	m3	11
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Extra over all excavations for carting away</u></b>			
93	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3 102	
<b><u>Keeping excavations free of water</u></b>			
94	Keeping excavations free of all water other than subterranean water	Item	
<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density.</u></b>			
95	Backfilling to trenches, holes, etc.	m3 30	
<b><u>Earth filling supplied by the contractor, compacted to 95% Mod. AASHTO density</u></b>			
96	Imported C3 material obtained from commercial sources supplied by the contractor, compacted to 98% Mod AASHTO density	m3 45	
97	Imported G5 material obtained from commercial sources supplied by the contractor, compacted to 97% Mod AASHTO density	m3 45	
<b><u>Compaction of surfaces</u></b>			
98	Compaction of ground surface under aprons including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2 302	
<b><u>Prescribed density tests on filling</u></b>			
99	Modified AASHTO Density tests	No 15	
<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>			
100	Under floors, etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming	m2 302	
<b><u>Concrete (CPAP Work Group No. 110)</u></b>			
Carried Forward			R
Bill No. 21 External Works			

Brought Forward				R
<b><u>25MPa/19mm concrete</u></b>				
101	Reinforced concrete 30MPa/19mm in aprons	m3	45	
102	Edge thickening	m3	11	
<b><u>Test Cubes</u></b>				
103	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional).	No	9	
<b><u>Finishing top surfaces of concrete smooth with a steel trowel</u></b>				
104	Finishing top surfaces of concrete aprons smooth with a steel trowel to falls	m2	302	
<b><u>Expansion joints with 10mm softboard between vertical concrete surfaces, including necessary formwork</u></b>				
105	Not exceeding 300mm high	m	32	
<b><u>"Sika" or other equally approved two-part grey polysulphide sealing compound including backing cord, bond breaker , primer, etc</u></b>				
106	10 x 10mm In horizontal expansion joints including raking out expansion joint filler as necessary	m	12	
<b><u>Formwork (CPAP Work Group No. 111)</u></b>				
<b><u>Formwork</u></b>				
107	Rough formwork to sides of aprons not exceeding 300mm high	m	151	
<b><u>Reinforcement (CPAP Work Group No. 114)</u></b>				
<b><u>Fabric reinforcement</u></b>				
108	Type 193 fabric reinforcement in aprons and v-drains	m2	302	
<b><u>FENCING AND GATES</u></b>				
<b><u>Metalwork (CPAP work group No. 136)</u></b>				
Carried Forward				R
Bill No. 21 External Works				

Brought Forward			R
<b><u>Anti-climb high security transparent galvanised steel fencing:</u></b>			
109	Galvanized mesh panels with aperture of 76 x 12mm and widths not exceeding 3297mm wide and height of 2100mm high bolted to 2400mm high tapered locking posts embedded in 20Mpa/19mm concrete.	m	858
110	Parkland medium galvanized mesh panels with aperture of 76 x 25mm and widths not exceeding 2493mm wide and height of 1800mm high bolted to 2400mm high tapered locking posts embedded in 20Mpa/19mm concrete	m	198
<b><u>Gates, etc.</u></b>			
111	Sliding Gate size 11000 x 2100mm high formed of 120 x 60mm hollow section frame and mullions and filled in with marine fusion bonded wire mesh panels, with and including sliding track cast into concrete (concrete elsewhere measured).	No	1
112	Single gate size 1000 x 2100mm high with frame and mullions formed of 100 x 50 x 5mm hot dipped galvanised frame and filled in with marine fusion bond wire mesh complete with posts, keep, etc.	No	2
113	Double swing gate overall size 3000 x 2100mm high formed of two equal leaves with frame and mullions formed of 100 x 50 x 5mm hot dipped galvanised frame and filled in with marine fusion bond wire mesh complete with posts, keep, etc.	No	1
114	Double swing gate overall size 6000 x 2100mm high formed of two equal leaves with frame and mullions formed of 100 x 50 x 5mm hot dipped galvanised frame and filled in with marine fusion bond wire mesh complete with posts, keep, etc.	No	1
<b><u>Bollards, etc.</u></b>			
115	Hot dipped galvanized bollards formed of two pieces, with lower section of 180 x 180 x 6mm hollow section 600mm long embedded 300mm in ground with and including 20Mpa/19mm concrete and upper section of 200 x 200 x 6mm hollow section with one end welded with a closure piece and the other end placed over the lower piece.	No	15
Carried Forward			R
Bill No. 21 External Works			

Brought Forward				R
<b><u>HOT WATER TANK AND PUMP HOUSE</u></b>				
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>				
116	Excavate in earth not exceeding 2m deep for bases	m3	45	
117	Excavate in earth not exceeding 2m deep for edge thickening	m3	4	
118	Extra for intermediate material	m3	5	
119	Extra for hard material	m3	2	
120	Extra over on excavations for surplus material from excavations and/or stock piles to an area where directed on site or adjacent site and spread and levelled	m3	47	
121	Risk of collapse of sides of trench and hole excavations not exceeding 1.5m deep	m2	26	
122	Allow for keeping excavations free of water other than subterranean water		Item	
123	Compaction of ground surface under bases etc., including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod. ASSTO density	m2	36	
124	Backfilling with earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density.	m3	2	
125	Backfilling with G7 material under bases supplied and carted onto site by the Contractor all in accordance with SABS 1200Dm compacted in layers of 150mm to 97% Mod. AASHTO maximum density	m3	38	
126	Modified AASHTO Density tests on fillings	No	7	
127	brand of anti-termite soil poison applied by a registered pest control company and guaranteed against termite infestation for ten years under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	62	
<b><u>Concrete (CPAP Work Group No. 110)</u></b>				
Carried Forward				R
Bill No. 21 External Works				

Brought Forward			R
<b><u>Concrete</u></b>			
128	30MPa/19mm Reinforced concrete cast against excavated surfaces in bases	m3	5
129	30MPa/19mm Reinforced concrete cast against excavated surfaces for edge thickening	m3	4
130	30MPa/19mm Reinforced concrete cast against on/in formwork for plinth	m3	1
131	30MPa/19mm Reinforced concrete cast against on/in formwork for slabs	m3	6
132	30MPa/19mm Reinforced concrete cast against on/in formwork for upstand beams	m3	1
133	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No	3
<b><u>Finishing top surfaces of concrete smooth with a wood float</u></b>			
134	Surface beds, slabs, etc.	m2	54
<b><u>Formwork (CPAP Work Group No. 111)</u></b>			
<b><u>Smooth Formwork</u></b>			
<b><u>Smooth formwork to soffits</u></b>			
135	Slabs propped up exceeding 1.5m and not exceeding 3.5m high.	m2	29
<b><u>Smooth formwork to sides</u></b>			
136	Upstand beams	m2	8
137	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	93
<b><u>Boxing in smooth formwork to form</u></b>			
138	25 x 25mm High horizontal chamfer to sides along top edges	m	72
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
139	25 x 25mm High horizontal chamfer to sides along bottom edges	m	24
	<u>One layer of 0,6mm galvanised steel sheeting in slip joints between horizontal concrete and brick surfaces including cement mortar bed</u>		
140	Slip joint not exceeding 300mm wide	m	22
	<u>Reinforcement (CPAP Work Group No. 114)</u>		
	<u>Reinforcement (Provisional)</u>		
141	Various diameter bars in mild steel reinforcement	t	2.40
	<u>Masonry (CPAP Work Group No. 116)</u>		
	<u>Foundations (Provisional)</u>		
	<u>Brickwork of NFX bricks in class II mortar</u>		
142	Half brick walls	m2	8
	<u>Superstructure</u>		
	<u>Brickwork of NFP bricks in class II mortar</u>		
143	One brick walls	m2	64
	<u>Brickwork sundries</u>		
	<u>2.5mm Galvanised brickwork reinforcement</u>		
144	75mm Wide reinforcement built in horizontally	m	31
145	155mm Wide reinforcement built in horizontally	m	251
	<u>Prestressed fabricated concrete lintels including necessary temporary supports</u>		
146	75 x 110mm Lintels in lengths not exceeding 3m	m	5
	<u>Turning pieces to lintels, etc.</u>		
147	Wide turning pieces not exceeding 300mm wide or high	m	4
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Face Brickwork</u></b>			
<b><u>"Firelight Satin FBS" or other equally approved face bricks pointed with tinted flush horizontal and vertical joints</u></b>			
148	Extra over brickwork for face brickwork in foundations (Provisional)	m2	8
149	Extra over brickwork for face brickwork	m2	64
150	Extra over brickwork for brick-on-header course	m	4
151	110mm Wide sills set sloping and slightly projecting	m	1
<b><u>Waterproofing (CPAP Work Group No. 120)</u></b>			
<b><u>One layer of 375 micron "Consol Plastics Brikgrip DPC" embossed damp proof course</u></b>			
152	In walls	m2	5
<b><u>One layer of 375 micron "Consol" waterproof sheeting sealed at laps.</u></b>			
153	Under surface beds	m2	25
<b><u>One Layer "Derbigum" or other equally approved CG4 waterproofing membrane sealed to solvent based bitumen primed surface by means of torch fusion with minimum 100mm side laps and minimum 150mm end laps</u></b>			
154	On roof slabs	m2	29
155	On turn-ups and turn-downs exceeding 300mm girth	m2	4
156	Additional membrane and sealing into 110mm diameter outlet	No	2
<b><u>Metalwork (CPAP work group No. 136)</u></b>			
<b><u>Galvanised mild steel louvre units</u></b>			
Carried Forward			R
Bill No. 21 External Works			



Brought Forward			R
<b><u>'Renson' or other equally approved fixed pre-painted louvre units:</u></b>			
157	Z profile louvred screen' surface mounted louvre unit size 600 x 300mm high including fixed louvres, external frame, stainless steel insect screen mesh, etc., fixed to galvanised mild steel.	No	2
<b><u>Louvres Doors</u></b>			
158	Steel louvres double door size 2000 x 2400mm High as per Architects Detail (SD02)	m	2
<b><u>Plastering (CPAP work group No. 142)</u></b>			
<b><u>Untinted granolithic, on concrete</u></b>			
159	Average 30mm thick on floors with upper surface to falls	m2	25
<b><u>Screeds</u></b>			
<b><u>Screeds wood floated, on concrete</u></b>			
160	75mm Thick on floors laid to falls and currents	m2	29
161	75 x 75mm High triangle screed fillet with splayed ends	m	24
<b><u>Internal plaster</u></b>			
<b><u>One coat cement plaster steel floated on brickwork</u></b>			
162	On walls	m2	64
163	On narrow widths	m2	2
<b><u>Plumbing and drainage (CPAP work group No. 148)</u></b>			
<b><u>Rainwater disposal</u></b>			
164	Fulbore 110mm 180 degree vertical roof outlet, centre bolt Saint Gobain or other approved	No	2
Carried Forward			R
Bill No. 21 External Works			

	<b>Brought Forward</b>			R
	<b><u>"Marley" or other equally approved uPVC downpipes</u></b>			
165	110mm Diameter rainwater pipe	m	8	
166	Extra over on rainwater pipe for bend	No	4	
167	Extra over on rainwater pipe for shoe	No	2	
	<b><u>Paintwork (CPAP work group No.152)</u></b>			
	<b><u>On internal floated plaster surfaces</u></b>			
	<b><u>"Plascon" or other equally approved alkali resistant primer and two coats "Wall and All" emulsion paint for interior use</u></b>			
168	On walls	m2	64	
169	On narrow widths	m2	2	
	<b><u>On concrete surfaces</u></b>			
	<b><u>"Plascon" or other equally approved alkali resistant primer and two coats "Wall and All" emulsion paint for interior use</u></b>			
170	On soffits	m2	29	
171	On edges of slabs	m2	9	
	<b><u>WATER STORAGE TANK BASES</u></b>			
	<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
172	Excavate in earth not exceeding 2m deep for bases	m3	176	
173	Extra for intermediate material	m3	18	
174	Extra for hard material	m3	9	
175	Extra over on excavations for surplus material from excavations and/or stock piles to an area where directed on site or adjacent site and spread and levelled	m3	143	
	<b>Carried Forward</b>			R
	Bill No. 21 External Works			

Brought Forward			R
176	Risk of collapse of sides of trench and hole excavations not exceeding 1.5m deep	m2	56
177	Allow for keeping excavations free of water other than subterranean water		Item
178	Compaction of ground surface under bases etc., including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod. ASSTO density	m2	114
179	Backfilling with earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density.	m3	33
180	Backfilling with G7 material under bases supplied and carted onto site by the Contractor all in accordance with SABS 1200Dm compacted in layers of 150mm to 97% Mod. AASHTO maximum density	m3	119
181	Modified AASHTO Density tests on fillings	No	25
182	brand of anti-termite soil poison applied by a registered pest control company and guaranteed against termite infestation for ten years under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	170
<b><u>Concrete (CPAP Work Group No. 110)</u></b>			
<b><u>Concrete</u></b>			
183	10MPa/ 19mm Unreinforced concrete cast against excavated surfaces in blinding under bases	m3	3
184	30MPa/19mm Reinforced concrete base cast against excavated surfaces on blinding in bases	m3	19
185	30MPa/19mm Reinforced concrete upstand beams cast on/in formwork	m3	10
186	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5
<b><u>Formwork (CPAP Work Group No. 111)</u></b>			
Carried Forward			R
Bill No. 21 External Works			

	<b>Brought Forward</b>			R
	<b><u>Smooth formwork to sides</u></b>			
187	Upstand beams	m2	107	
188	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	45	
	<b><u>Reinforcement (CPAP Work Group No. 114)</u></b>			
	<b><u>Reinforcement (Provisional)</u></b>			
189	Various diameter bars in mild steel reinforcement	t	3.48	
	<b><u>Metalwork (CPAP work group No. 136)</u></b>			
	<b><u>Hot Dipped Galvanised Sundry Steelwork</u></b>			
190	80 x 10mm Thick flat plates set in position on concrete upstands and embedded in high strength non-shrinking grout (concrete upstands elsewhere measured)	m	52	
	<b><u>DISTRIBUTION BOX</u></b>			
	<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
	<b><u>Excavation other than bulk</u></b>			
191	Holes not exceeding 2m deep	m3	3	
192	Working Space, not exceeding 500mm from face of concrete surfaces	m2	10	
193	Compaction of ground surface under bases etc., including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod. AASHTO density	m2	3	
194	Risk of collapse of sides of trenches and holes not exceeding 1,5m deep	m2	10	
195	Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be found by the Contractor (no allowance made for increase in bulk)	m3	3	
	<b>Carried Forward</b>			R
	Bill No. 21			
	External Works			

Brought Forward			R
196	Allow for keeping excavations free of all water other than subterranean water	Item	
197	Approved brand of anti-termite soil poison applied by a registered pest control company and guaranteed against termite infestation for ten years bottoms and sides of holes and trenches	m2 13	
198	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No 1	
<b><u>Concrete (CPAP Work Group No. 110)</u></b>			
<b><u>Concrete</u></b>			
199	15MPa/19mm Unreinforced concrete in blinding layer cast against excavated surfaces.	m3 0.2	
200	25MPa/19mm Reinforced concrete in surface beds on waterproofing	m3 0.3	
201	30MPa/19mm Reinforced concrete in walls cast on/in formwork	m3 1	
202	30MPa/19mm Reinforced concrete in slabs cast on/in formwork	m3 0.3	
203	Finishing to top surfaces of concrete with smooth wood float (Class U2) to surface beds, slabs, etc.	m2 7	
204	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No 3	
<b><u>Formwork (CPAP Work Group No. 111)</u></b>			
<b><u>Formwork</u></b>			
205	Class F1 ordinary finish formwork to edges not exceeding 300mm high	m 18	
206	Class F1 ordinary finish formwork to soffits of slab propped up exceeding 1.5m and not exceeding 3.5m above bearing level	m2 3	
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
207	Class F1 ordinary finish formwork to sides of walls propped up exceeding 1.5m and not exceeding 3.5m above bearing level	m2	16
<b><u>Reinforcement (CPAP Work Group No. 114)</u></b>			
<b><u>Reinforcement</u></b>			
208	High tensile reinforcement bars of varying diameters	t	0.32
<b><u>Plastering (CPAP Work Group No 142)</u></b>			
<b><u>Plastering</u></b>			
209	Average 170mm thick on floors to falls	m2	3
<b><u>Plumbing and drainage (CPAP work group No. 148)</u></b>			
<b><u>uPVC class 34 pipes in class C bedding</u></b>			
210	110mm Diameter pipe cast in walls	m	1
211	110mm Pipes laid in and including excavation, risk of collapse, working space, hoisting in position, backfilling with selected excavated material, cart away surplus material and shoring to pipe trenches not exceeding 1m deep.	m	124
<b><u>Extra over uPVC pipes for fittings</u></b>			
212	110mm Bend	No	12
<b><u>Gratings, covers, etc:</u></b>			
213	600mm Diameter non drainable manhole cover (SANS 50124) heavy duty class (400KN loading capacity) ductile cast iron manhole cover and frame	No	4
<b><u>SEPTIC TANK (2 NO.)</u></b>			
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation other than bulk</u></b>			
214	Holes exceeding 2m not exceedign 4m deep	m3	369
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
215	Compaction of ground surface under bases etc., including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod. AASHTO density	m2	137
216	Extra for excavations in intermediate rock	m3	37
217	Risk of collapse of sides of trenches and holes exceeding 1,5m deep	m2	197
218	Earthfilling from the excavations as backfilling to trenches, holes, etc. compacted to 95% Mod. AASHTO density	m3	100
219	<b><u>Topsoil obtained from stockpiles on site, including spreading and levelling</u></b>	m3	14
220	Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be found by the Contractor (no allowance made for increase in bulk)	m3	269
221	Allow for keeping excavations free of all water other than subterranean water		Item
222	Approved brand of anti-termite soil poison applied by a registered pest control company and guaranteed against termite infestation for ten years bottoms and sides of holes and trenches	m2	333
223	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	10
<b><u>Concrete (CPAP Work Group No. 110)</u></b>			
<b><u>Concrete</u></b>			
224	15MPa/19mm Unreinforced concrete in blinding layer cast against excavated surfaces.	m3	7
225	25MPa/19mm Reinforced concrete in surface beds on waterproofing	m3	27
Carried Forward			R
Bill No. 21 External Works			

	Brought Forward			R
226	30MPa/19mm Reinforced concrete in walls cast on/in formwork	m3	29	
227	30MPa/19mm Reinforced concrete in slabs cast on/in formwork	m3	19	
228	30MPa/19mm Reinforced concrete in upstand beam cast on/in formwork	m3	1	
229	Finishing to top surfaces of concrete with smooth wood float (Class U2) to surface beds, slabs, etc.	m2	231	
230	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No	13	
	<b><u>Formwork (CPAP Work Group No. 111)</u></b>			
	<b><u>Formwork</u></b>			
231	Class F1 ordinary finish formwork to edges not exceeding 300mm high	m	105	
232	Class F1 ordinary finish formwork to soffits of slab propped up exceeding 1.5m and not exceeding 3.5m above bearing level	m2	95	
233	Class F1 ordinary finish formwork to sides of walls propped up exceeding 1.5m and not exceeding 3.5m above bearing level	m2	290	
	<b><u>Reinforcement (CPAP Work Group No. 114)</u></b>			
	<b><u>Reinforcement</u></b>			
234	High tensile reinforcement bars of varying diameters	t	6.21	
	<b><u>Waterproofing (CPAP Work Group No. 120)</u></b>			
	<b><u>Waterproofing</u></b>			
235	50 x 50mm Prostruct 531 MGP corner fillet 300mm girth	m	66	
	<b><u>Two coats "Brixeal" or other equally approved emulsion bitumen emulsion waterproof coating</u></b>			
236	On concrete walls	m2	149	
	<b>Carried Forward</b>			R
	Bill No. 21 External Works			



Brought Forward			R
<b><u>Plumbing and drainage (CPAP work group No. 148)</u></b>			
<b><u>uPVC class 34 pipes in class C bedding</u></b>			
237	110mm Diameter pipe cast in walls	m	4
<b><u>Extra over uPVC pipes for fittings</u></b>			
238	110mm Junction	No	2
<b><u>Gratings, covers, etc:</u></b>			
239	450 x 450mm non drainable manhole cover (SANS 50124) heavy duty class (400KN loading capacity) ductile cast iron manhole cover and frame	No	6
<b><u>Soakaway</u></b>			
240	Soakaway drain 1000mm wide x 14.4m long x 1800mm deep comprising 19.2mm clean granular stone in filling to bottom of drain to a depth of 1800mm; the stone wrapped in Geotextile Bidum A2 geofabric filter blanket, 110 mm uPVC slotted agricultural pipe 14m long and backfilling with approved material from excavations to a depth of 600mm	No	12
<b><u>Painting</u></b>			
<b><u>One coat "Pro-Struct 526" or other equally approved MCI epoxy primer and two coats "Pro-Struct 627" or other equally approved non-slip epoxy enamel coating with silica sand mixture to achieve a total dry film thickness of 500 microns</u></b>			
241	On cement render floors	m2	84
<b><u>COMBINATION COURT (2 NO.)</u></b>			
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
242	Trim and level off surface of ground including excavating or filling, ripping and scarifying as necessary and hydraulically compacting to and for a depth of 300mm	m2	1,262
243	Reduce levels in earth not exceeding 2m deep	m3	568
Carried Forward			R
Bill No. 21 External Works			

Brought Forward				R
244	Edge thickening in earth not exceeding 2m deep	m3	21	
245	Edge thickening in earth not exceeding 2m deep (Excavate in G2 materials)	m3	12	
246	Extra over all excavations for loading, carting and dumping surplus excavated material off site to a dumping site to be found by the Contractor (no allowance made for increase in bulk)	m3	600	
247	<b><u>Backfilling to trenches, holes, etc. earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod. AASHTO density.</u></b>	m3	3	
248	Backfilling with approved G2 material supplied and carted onto site by the Contractor, compacted to a density of at least 95% Mod. AASHTO maximum density	m3	189	
249	Backfilling with approved G5 material supplied and carted onto site by the Contractor, compacted to a density of at least 95% Mod. AASHTO maximum density	m3	189	
250	Keeping excavations free of all water other than subterranean water		Item	
251	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	38	
252	Approved brand of anti-termite soil poison applied by a registered pest control company and guaranteed against termite infestation for ten years under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	1,262	
<b><u>Concrete (CPAP Work Group No. 110)</u></b>				
<b><u>Concrete</u></b>				
253	15MPa/19mm Mass concrete cast against compacted earth laid to falls and currents.	m3	2	
Carried Forward				R
Bill No. 21 External Works				

Brought Forward			R
254	25MPa/19mm Reinforced concrete in panels cast against compacted earth laid to falls and currents.	m3	189
255	25MPa/19mm Reinforced concrete edge thickening cast against compacted earth laid to falls and currents.	m3	12
256	15mm Thick concrete mortar topping consisting of 1 bag of cement and 100 litres of sand mixed with just sufficient water to give plastic consistency	m2	1,262
257	Finishing to top surfaces of concrete with smooth wood float (Class FM2) to channels to falls and currents	m2	1,262
258	Movement joint not exceeding 300mm high formed with one layer of 10mm 'Masonite Flexi joint Board' or other approved bitumen impregnated softboard filler board vertically between block and concrete surfaces.	m	39
<b><u>Saw cut joints</u></b>			
259	6 x 30mm Saw cut joints in top of concrete	m	351
<b><u>Test cubes</u></b>			
260	Allow for necessary concrete test cubes size 150 x 150 x 150mm from batches of concrete required for this building as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved laboratory for testing, paying all charges and submitting reports to the Engineer.	No	34
<b><u>Formwork (CPAP Work Group No. 111)</u></b>			
<b><u>Formwork</u></b>			
261	Class FM2 ordinary finish formwork to edges not exceeding 300mm high	m	247
<b><u>Reinforcement (CPAP Work Group No. 114)</u></b>			
<b><u>Reinforcement</u></b>			
262	Type ref. 193 fabric reinforcement in surface beds	m2	1,262
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Waterproofing (CPAP Work Group No. 120)</u></b>			
263	Thioflex 600' or other equally approved two-part polysulphide flexible joint sealants, including backing cord, bond breaker, primer, etc., in horizontal joints 10 x 10mm at expansion joints.	m	390
264	One layer of 250 micron "Consol Plastics" or other equally approved waterproof sheeting sealed at laps	m2	1,262
<b><u>Metalwork (CPAP work group No. 136)</u></b>			
<b><u>Hot dipped galvanised steelwork</u></b>			
265	Basket ball net formed of 150mm diameter x 6mm thick circular hollow section tube with total length of 3650mm long with one end embedded in ground with 20Mpa/19mm concrete and other end fitted with a 10mm thick high density plastic board supported by 30 x 30 4.5mm thick angle iron sub structure	No	4
266	450mm Diameter inner size ring formed of 10mm diameter steel, welded on brackets and bolted to high density plastic boarding (Plastic boarding elsewhere measured) with and including net to suit not exceeding 400mm long.	No	4
<b><u>Anti-climb high security transparent galvanised steel fencing:</u></b>			
267	Parkland medium galvanized mesh panels with widths not exceeding 2493mm wide and height of 1800mm high bolted to 2400mm high tapered locking posts embedded in 20Mpa/19mm concrete	m	33
268	Parkland medium galvanized mesh panels with widths not exceeding 2493mm wide and height of 3700mm high bolted to 4300mm high tapered locking posts embedded in 20Mpa/19mm concrete	m	141
<b><u>Gates, etc.</u></b>			
269	Single gate size 1000 x 2100mm high with frame and mullions formed of 100 x 50 x 5mm hot dipped galvanised frame and filled in with marine fusion bond wire mesh complete with posts, keep, etc.	No	2
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Paintwork (CPAP work group No.152)</u></b>			
270	"Tenecon" or other equally approved one coat tile bond, two coats of White All Weather Surfaces, one coat Black All Weather Surfaces, two coats 2mm thick Green All Weather Surfaces all in accordance to manufacturer's specifications.	m2	1,262
271	Paint lines in accordance with Netball and Volleyball South African Association specifications	Item	
272	Paint Basketball lines in accordance with FIBA 2010 specifications	Item	
<b><u>GROUND SURFACE CHESS BOARD (4 NO.)</u></b>			
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation other than bulk</u></b>			
273	Trim and level off surface of ground (excavated or filled under this contract) to receive sub-base to roads, parking areas, etc., including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 150mm to at least 95% Mod. AASHTO density.	m2	129
274	150mm Thick layer of C4 sub-base course under courtyards and walkway areas, etc., with selected and natural G5 quality material, stabilised with 3% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 97% Mod. AASHTO density.	m3	19
275	Keeping excavations free of all water other than subterranean water	Item	
276	brand of weed killer applied by a registered pest control company under roads, parking and paving.	m2	129
277	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	4
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Masonry (CPAP Work Group No. 116)</u></b>			
278	60mm Clay interlocking paving bricks laid in herringbone pattern to SANS 1200MJ, blocks laid on 25mm river sand layer	m2 129	
<b><u>Precast concrete (CPAP Work Group No. 112)</u></b>			
279	Kerb (SABS 927 Fig 3) 150 x 300mm high with minimum 150 x 150 x 300mm unreinforced concrete bedding and haunching, mortar jointing to joints, including excavation, backfilling etc	m 91	
<b><u>Budgetary amount</u></b>			
280	Allow the sum of R 32 000.00 for out door chess set	Item	32,000.00
<b><u>PERMANENT DRIVEWAY AND PARKING AREA</u></b>			
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation other than bulk</u></b>			
281	Trim and level off surface of ground (excavated or filled under this contract) to receive sub-base to roads, parking areas, etc., including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 150mm to at least 95% Mod. AASHTO density.	m2 1,320	
282	150mm Thick layer of C3 sub-base course under roads, parking areas, etc., with selected and natural G2 quality material, stabilised with 4% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 98% Mod. AASHTO density.	m3 205	
283	150mm Thick layer of C4 sub-base course under roads, parking areas, etc., with selected and natural G5 quality material, stabilised with 4% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 97% Mod. AASHTO density.	m3 211	
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
284	150mm Thick layer of G6 sub-base course under roads, parking areas, etc., with selected and natural G6 quality material, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 95% Mod. AASHTO density.	m3	218
285	Keeping excavations free of all water other than subterranean water	Item	
286	brand of weed killer applied by a registered pest control company under roads, parking and paving.	m2	1,320
287	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	63
<b><u>Masonry (CPAP Work Group No. 116)</u></b>			
288	80mm Concrete interlocking paving bricks laid in herringbone pattern to SANS 1200MJ, blocks laid on 25mm river sand layer	m2	1,320
<b><u>Precast concrete (CPAP Work Group No. 112)</u></b>			
289	Kerb (SABS 927 Fig 3) 150 x 300mm high with minimum 150 x 150 x 300mm unreinforced concrete bedding and haunching, mortar jointing to joints, including excavation, backfilling etc	m	267
290	Ditto, but circular on plan not exceeding 4m radius	m	11
291	Ditto, but circular on plan exceeding 4m radius	m	13
<b><u>Paintwork (CPAP work group No.152)</u></b>			
<b><u>Two coats 'Plascon' or other equally approved road marking paint including setting out, etc. in accordance with the Provincial Road Department specification and standards in</u></b>			
292	100mm Wide solid lines to parking demarcation bays, etc.	m	283
Carried Forward			R
Bill No. 21 External Works			

Brought Forward				R
293	1,0m Long directional arrows	No	10	
294	1,3m Long letters to 'STOP' sign, etc.	No	2	
295	Disabled parking bay sign approximately 1,2m high	No	3	
<b><u>TEMPORARY DRIVEWAY AND PARKING AREA</u></b>				
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>				
<b><u>Excavation other than bulk</u></b>				
296	Trim and level off surface of ground (excavated or filled under this contract) to receive sub-base to roads, parking areas, etc., including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 150mm to at least 95% Mod. AASHTO density.	m2	1,055	
297	150mm Thick layer of C3 sub-base course under roads, parking areas, etc., with selected and natural G2 quality material, stabilised with 4% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 98% Mod. AASHTO density.	m3	158	
298	150mm Thick layer of C4 sub-base course under roads, parking areas, etc., with selected and natural G5 quality material, stabilised with 4% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 97% Mod. AASHTO density.	m3	158	
299	150mm Thick layer of G6 sub-base course under roads, parking areas, etc., with selected and natural G6 quality material, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 95% Mod. AASHTO density.	m3	158	
300	Keeping excavations free of all water other than subterranean water		Item	
301	brand of weed killer applied by a registered pest control company under roads, parking and paving.	m2	1,055	
Carried Forward				R
Bill No. 21 External Works				



Brought Forward			R
302	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	47
<b><u>Masonry (CPAP Work Group No. 116)</u></b>			
303	80mm Concrete interlocking paving bricks laid in herringbone pattern to SANS 1200MJ, blocks laid on 25mm river sand layer	m2	1,055
<b><u>Precast concrete (CPAP Work Group No. 112)</u></b>			
304	Kerb (SABS 927 Fig 3) 150 x 300mm high with minimum 150 x 150 x 300mm unreinforced concrete bedding and haunching, mortar jointing to joints, including excavation, backfilling etc	m	256
305	Ditto, but circular on plan not exceeding 4m radius	m	19
<b><u>Paintwork (CPAP Work Group No. 152)</u></b>			
<b><u>Two coats 'Plascon' or other equally approved road marking paint including setting out, etc. in accordance with the Provincial Road Department specification and standards in</u></b>			
306	100mm Wide solid lines to parking demarcation bays, etc.	m	255
307	1,0m Long directional arrows	No	10
308	1,3m Long letters to 'STOP' sign, etc.	No	1
309	Disabled parking bay sign approximately 1,2m high	No	2
<b><u>Removal of existing temporary work on completion</u></b>			
310	60mm Clay interlocking paving bricks including river sand	m2	4,600
<b><u>PERMANENT COURTYARDS AND WALKWAY</u></b>			
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation other than bulk</u></b>			
311	Trim and level off surface of ground (excavated or filled under this contract) to receive sub-base to roads, parking areas, etc., including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 150mm to at least 95% Mod. AASHTO density.	m2	4,600
312	150mm Thick layer of C4 sub-base course under courtyards and walkway areas, etc., with selected and natural G5 quality material, stabilised with 3% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 97% Mod. AASHTO density.	m3	690
313	Keeping excavations free of all water other than subterranean water	Item	
314	brand of weed killer applied by a registered pest control company under roads, parking and paving.	m2	4,600
315	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	69
<b><u>Masonry (CPAP Work Group No. 116)</u></b>			
316	60mm Approved clay interlocking paving bricks laid in herringbone pattern to SANS 1200MJ, blocks laid on 25mm river sand layer	m2	4,600
<b><u>Precast concrete (CPAP Work Group No. 112)</u></b>			
317	Kerb (SABS 927 Fig 3) 150 x 300mm high with minimum 150 x 150 x 300mm unreinforced concrete bedding and haunching, mortar jointing to joints, including excavation, backfilling etc	m	991
<b><u>TEMPORARY COURTYARDS AND WALKWAY</u></b>			
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation other than bulk</u></b>			
318	Trim and level off surface of ground (excavated or filled under this contract) to receive sub-base to roads, parking areas, etc., including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 150mm to at least 95% Mod. AASHTO density.	m2	2,900
319	150mm Thick layer of C4 sub-base course under courtyards and walkway areas, etc., with selected and natural G5 quality material, stabilised with 3% cement accordance with SABS 1200DM, supplied and carted onto site by the contractor, compacted in layers of 150mm thickness to at least 97% Mod. AASHTO density.	m3	435
320	Keeping excavations free of all water other than subterranean water		Item
321	brand of weed killer applied by a registered pest control company under roads, parking and paving.	m2	2,900
322	Allow for all necessary tests by an independent testing authority of compaction and moisture content of compacted earth to ensure that the required compactions are being attained and for submitting results to the Engineer	No	44
<b><u>Masonry (CPAP Work Group No. 116)</u></b>			
323	60mm Clay interlocking paving bricks laid in herringbone pattern to SANS 1200MJ, blocks laid on 25mm river sand layer	m2	2,900
<b><u>Precast concrete (CPAP Work Group No. 112)</u></b>			
324	Kerb (SABS 927 Fig 3) 150 x 300mm high with minimum 150 x 150 x 300mm unreinforced concrete bedding and haunching, mortar jointing to joints, including excavation, backfilling etc	m	535
<b><u>COVERED WALKWAYS</u></b>			
Carried Forward			R
Bill No. 21 External Works			

Brought Forward			R
<b><u>Earthworks (CPAP Work Group No. 104)</u></b>			
<b><u>Excavation in earth not exceeding 2m deep</u></b>			
325	Holes, etc.	m3	7
<b><u>Extra over all excavations for carting away</u></b>			
326	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	7
<b><u>Risk of collapse of excavations</u></b>			
327	Sides of trench and hole excavations not exceeding 1,5m deep	m2	70
<b><u>Compaction of surfaces</u></b>			
328	Compaction of ground surface under bases, etc. including grading, levelling and scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod. AASHTO density	m2	17
<b><u>Concrete (CPAP Work Group No. 110)</u></b>			
<b><u>25MPa/19mm concrete</u></b>			
329	Bases	m3	7
<b><u>Test cubes</u></b>			
330	Making and testing set of three 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2
<b><u>Mild steel reinforcement to structural concrete work</u></b>			
331	Bars of various diameters	t	0.84
<b><u>Roof Covering (CPAP Work Group No. 124)</u></b>			
<b><u>0.8mm spelter galvanised sheet steel and accessories with double interlocking concealed fix, fixed to timber purlins</u></b>			
332	Roof covering with pitches not exceeding 25 degrees fixed at walkways.	m2	573
Carried Forward			R
Bill No. 21 External Works			

Brought Forward		
<b><u>Carpentry and Joinery (CPAP Work Group No. 126)</u></b>		
<b><u>PRE-TREATMENT OF TIMBER</u></b>		
This service falls within the areas defined in the National Building Regulations for treatment of timber against insect infestation / insect pest affecting softwood fixed permanently in all buildings.		
The regulations require that the timber be treated in terms of SABS 05 and to comply with SABS 457, 753, 754 or 1288 as relevant. Tenderer's are to make allowance in there rates.		
<b><u>Sawn softwood:</u></b>		
333	50 x 75mm Purlins	m 573
334	50 x 228mm Rafter	m 478
<b><u>Laminated Wrot Saligna</u></b>		
335	76 x 222mm Beams	m 381
<b><u>Metalwork (CPAP work group No. 136)</u></b>		
<b><u>Hot Dipped Galvanised Sundry Steelwork</u></b>		
<b><u>Brackets, posts, etc. to roof timbers, etc.</u></b>		
336	100 x 100 x 4mm Hollow section post 2750mm high with 200 x 200 x 10mm thick base plate welded to one end and the other end welded to and including purpose made U-shaped bracket to suit 76 x 222mm high timber beam (Timber beam elsewhere measured) with 6 No. M8 pre-drilled holes on bracket and 4 No. M10 pre-drilled holes on base plate to suit site conditions.	No 109
<b><u>Sundries:</u></b>		
<b><u>Hilti' or other equally approved:</u></b>		
337	M10 Chemical anchors	No 436
<b><u>SPORTS FIELD</u></b>		
Carried Forward		
Bill No. 21 External Works		

R

R

Brought Forward			R
<b><u>Surface preparation</u></b>			
338	Trim and level off surface of ground (excavated or filled under this Contract) including excavating or filling, ripping and scarifying as necessary and hydraulically compacting the whole area for a depth of 300mm.	m2 5,000	
<b><u>Topsoil obtained from commerical sources carted onto site, including spreading and levelling</u></b>			
339	Topsoil making up shortages in dressing ground and for an average thickness of 300mm	m3 750	
<b><u>Grassing, Trees, etc</u></b>			
<b><u>Supply and plant the following grass</u></b>			
340	Grass planting to level areas with Cynadon Dactylon continuous root planting described including all necessary fertiliser, weed killer, watering and rolling, mowing, etc.	m2 5,000	
<b><u>Maintenance</u></b>			
341	Maintenance of grassed areas for a period of 4 months (total area approximately 5000m <sup>2</sup> ) including regularly cutting, weeding and irrigating as necessary	Item	
<b><u>Budgetary amount</u></b>			
342	Allow the sum of R 140 000.00 for precast concrete benches	Item	140,000.00
<b><u>BUDGETARY AMOUNT</u></b>			
343	Allow the sum of R 300 000.00 for refurbishment of two number existing boreholes	Item	300,000.00
344	Allow the sum of R 350 000.00 for new borehole	Item	350,000.00
345	Allow the sum of R 50 000.00 for landscaping	Item	50,000.00
<b>Carried to Summary</b>			R
Bill No. 21 External Works			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 22</u></b>			
	<b><u>PROVISIONAL SUMS</u></b>			
	<b><u>PREAMBLES</u></b>			
	The Tenderer is referred to the relevant clauses in the separate documents General Specification (PW 371-A) July 2013 and Particular Specification (PW 371B) July 2013			
	<b><u>COMMUNITY LIAISON OFFICER</u></b>			
1	Provide the sum of R 112,500.00 (One Hundred and Twelve Thousand, Five Hundred Rand) for community liaison officer	Item		112,500.00
2	Add Profit upon above if required	Item		
3	Attend upon above if required	Item		
	<b><u>PROJECT STEERING COMMITTEE</u></b>			
4	Provide the sum of R 50,000.00 (Fifty Thousand Rand) for project steering committee	Item		50,000.00
5	Add Profit upon above if required	Item		
6	Attend upon above if required	Item		
	<b><u>LOCAL SKILLS TRANSFER/TRAINING</u></b>			
7	Provide the sum of R 576,000.00 (Five Hundred and Seventy Six Thousand Rand) for local skills transfer/training	Item		576,000.00
8	Add Profit upon above if required	Item		
9	Attend upon above if required	Item		
	<b>Carried to Summary</b>		R	
	Bill No. 22 Provisional Sums			

<b>FINAL SUMMARY</b>		<b>Page No</b>	<b>Amount</b>	
<b>Bill No</b>				
1	Preliminaries	61		
2	Alterations	75		
3	Earthworks	84		
4	Concrete, Formwork & Reinforcement	101		
5	Masonry	112		
6	Waterproofing	116		
7	Roof Coverings etc	121		
8	Carpentry & Joinery	158		
9	Ceilings	161		
10	Floor Coverings	164		
11	Ironmongery	176		
12	Structural Steelwork	182		
13	Metalwork	201		
14	Plastering	207		
15	Tiling	211		
16	Plumbing & Drainage	241		
17	Electrical Work	269		
18	Mechanical Work	304		
19	Glazing	307		
20	Paintwork	315		
21	External Works	358		
22	Provisional Sums	359		
<b>Carried Forward</b>			R	



Bill No	FINAL SUMMARY	Page No	Amount
	Brought Forward		R
	Sub - Total (A)		R
	<b><u>BUDGETARY ALLOWANCES</u></b>		
	<b><u>Works for which budgetary allowances are provided will be measured and valued in accordance with clause 32 of the Principal Building Agreement and deducted in whole or in part if not required</u></b>		
	Allow the sum of R 1 700 000.00 (One Million, Seven Hundred Thousand Rand) for CPAP	Item	1,700,000.00
	Sub - Total (B)		R
	Value Added Tax (15%)		R
	Carried to Form of Tender		R