

PRELIMINARIES

The JBCC Preliminaries Code 2103, May 2005 edition for use with the JBCC Principal Building Agreement Edition 4.1 Code 2101, March 2005 is taken to be incorporated herein. The tenderer is deemed to have referred to these documents for the full intent and meaning of each clause. These clauses are referred to by number and heading only. Where standard clauses or options are not applicable to the contract such modifications or corrections as are necessary are given under each relevant clause. Where an item is not relevant to this specific contract such item is marked "N/A" signifying "Not Applicable"

PRICING OF PRELIMINARIES

Should Option A, as set out in clause B10.3.1 hereinafter be used for the adjustment of preliminaries then each item priced is to be allocated to one or more of the three categories Fixed, Value Related or Time Related and the respective amounts entered in the spaces provided under each item

Items not priced in these Preliminaries shall be deemed to be included elsewhere in these Bills of Quantities

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

SECTION A: JBCC PRINCIPAL BUILDING
AGREEMENT

DEFINITIONS

1 **A1.0 DEFINITIONS AND INTERPRETATION**

Clause 1.0

Clause 1.1 Definition of "**Commencement Date**" is added:

"**COMMENCEMENT DATE**" means the date that the **agreement**, made in terms of the Form of Offer and Acceptance, comes into effect

Clause 1.1 Definition of "**Construction Guarantee**" is amended by replacing it with the following:

"**CONSTRUCTION GUARANTEE**" means a guarantee at call obtained by the **contractor** from an institution approved by the **employer** in terms of the **employer's** construction guarantee form as selected in the **schedule**

Clause 1.1 Definition of "**Construction Period**" is amended by replacing it with the following:

"**CONSTRUCTION PERIOD**" means the period commencing on the **commencement date** and ending on the date of **practical completion**

Clause 1.1 Definition of "**Corrupt Practice**" is added:

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

Clause 1.1 Definition of "**Fraudulent Practice**" is added:

"**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

Clause 1.1 Definition of "**Interest**" is amended by replacing it with the following:

Carried to Collection

Section No. 1
Bill No. 1
Preliminaries

R

"INTEREST" means the interest rates applicable on 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)

Clause 1.1 Definition of **"Principal Agent"** is amended by replacing it with the following:

"PRINCIPAL AGENT" means the person or entity appointed by the **employer** and named in the **schedule**. In the event of a **principal agent** not being appointed, then all the duties and obligations of a **principal agent** as detailed in the **agreement** shall be fulfilled by a representative of the **employer** as named in the **schedule**

Clause 1.1 Definition of **"Security"** is amended by replacing it with the following:

"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 by replacing the words "prepaid registered post, telefax or e-mail" with "prepaid registered post or telefax"

Clause 1.6.4 is amended by replacing it with the following:

No clause

Fixed: _____ Value related: _____ Time related: _____

OBJECTIVE AND PREPARATION

2 **A2.0 OFFER, ACCEPTANCE AND PERFORMANCE**

Clause 2.0

Fixed: _____ Value related: _____ Time related: _____

Carried to Collection

Section No. 1
Bill No. 1
Preliminaries

Item

Item

R

3	<p>A3.0 DOCUMENTS</p> <p>Clause 3.0</p> <p>Clause 3.2.1 is amended by replacing "14.1" with "14.0"</p> <p>Clause 3.7 is amended by the addition of the following:</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>Clause 3.10 is amended by replacing the second reference to "principal agent" with the word "employer"</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>				
4	<p>A4.0 DESIGN RESPONSIBILITY</p> <p>Clause 4.0</p> <p>Clause 4.3 is amended by replacing it with the following:</p> <p>No clause</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item			
5	<p>A5.0 EMPLOYER'S AGENTS</p> <p>Clause 5.0</p> <p>Clause 5.1.2 is amended to include clauses 32.6.3, 34.3, 34.4 and 38.5.8</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item			
6	<p>A6.0 SITE REPRESENTATIVE</p> <p>Clause 6.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item			
Carried to Collection			R		
Section No. 1					
Bill No. 1					
Preliminaries					

7	<p>A7.0 COMPLIANCE WITH REGULATIONS</p> <p>Clause 7.0</p> <p>Note: A separate clause has been included in Section C : Specific Preliminaries of the bills of quantities / lump sum document for the contractor to have the opportunity to price for all the requirements of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item	
8	<p>A8.0 WORKS RISK</p> <p>Clause 8.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item	
9	<p>A9.0 INDEMNITIES</p> <p>Clause 9.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item	
10	<p>A10.0 WORKS INSURANCES</p> <p>Clause 10.0</p> <p>Clause 10.0 is amended by the addition of the following clauses:</p> <p>10.5 Damage to the Works</p> <p>(a) Without in any way limiting the contractor's 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>Carried to Collection</p>		R
	<p>Section No. 1 Bill No. 1 Preliminaries</p>		

- (b) The **contractor** shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the **works** and to rebuild, restore, replace and/or repair the **works**
- (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 excepted risks as set out in 10.6
- (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

10.6 Injury to Persons or loss of or damage to Properties

- (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
- (b) The **contractor** shall be liable for and hereby indemnifies the **employer** against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable 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
- (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 cost thereof from the **contractor** or to deduct the same from amounts due to the **contractor**

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

- (d) The **contractor** shall be responsible for the protection and safety of such portions of the premises placed 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**

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 that might result in catastrophic ground movement evident by sinkhole or doline 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 holds 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, restore, replace and/or repair the **works**, at the **contractor's** own costs

Carried to Collection

Section No. 1
Bill No. 1
Preliminaries

R

10.7.2 Injury to persons or loss of or damage to property

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

The **contractor** shall be liable for and hereby indemnifies the **employer** against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable 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 whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract

10.7.3 It is the responsibility of the **contractor** 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 **contractor's** obligations in terms of the contract, the **contractor** shall, within twenty-one (21) **calendar days** of the **commencement date** but before commencement of the **works**, submit to the **employer** proof of such insurance policy, if requested to do so

10.7.4 The **employer** shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the **contractor's** 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 **contractor** or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the **employer** and the **contractor** and for this purpose all these contracts shall be considered one indivisible whole

Fixed: _____ Value related: _____ Time related: _____

11

A11.0 LIABILITY INSURANCES

Clause 11.0

Fixed: _____ Value related: _____ Time related: _____

Item

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

12	<p>A12.0 EFFECTING INSURANCES</p> <p>Clause 12.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>			
13	<p>A13.0 No clause</p>	Item		
14	<p>A14.0 SECURITY</p> <p>Clause 14.0</p> <p>Clauses 14.1 - 14.8 are amended by replacing them with the following:</p> <p>14.1 In respect of contracts with a contract sum up to R1 million, the security to be provided by the contractor to the employer will be a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT)</p> <p>14.1.1 The payment reduction of the value certified in a payment certificate shall be <i>mutatis mutandi</i> in terms of 31.8(A)</p> <p>14.1.2 The employer shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the employer complies with the provisions of 33.4 in which event the employer's entitlement shall take precedence over his obligations to refund the payment reduction security or portions thereof to the contractor</p> <p>14.2 In respect of contracts with a contract sum above R1 million, the contractor shall have the right to select the security to be provided in terms of 14.3, 14.4, 14.5, 14.6, or 14.7 as stated in the schedule. Such security shall be provided to the employer within twenty-one (21) calendar days from commencement date. Should the contractor fail to select the security to be provided or should the contractor fail to provide the employer with the selected security within twenty-one (21) calendar days from commencement date, the security in terms of 14.7 shall be deemed to have been selected</p> <p>14.3 Where security as a cash deposit of ten per cent (10%) of the contract sum (excluding VAT) has been selected:</p>	N/A		
	<p style="text-align: right;">Carried to Collection</p>		R	
	<p>Section No. 1</p> <p>Bill No. 1</p> <p>Preliminaries</p>			

14.3.1 The **contractor** shall furnish the **employer** with a cash deposit equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.3.2 Within twenty-one (21) **calendar days** of the date of **practical completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to three per cent (3%) of the **contract value** (excluding VAT), and refund the balance to the **contractor**

14.3.3 Within twenty-one (21) **calendar days** of the date of **final completion** of the **works** the **employer** shall reduce the cash deposit to an amount equal to one per cent (1%) of the **contract value** (excluding VAT) and refund the balance to the **contractor**

14.3.4 On the date of payment of the amount in the final **payment certificate**, the **employer** shall refund the remainder of the cash deposit to the **contractor**

14.3.5 The **employer** shall be entitled to recover expense and loss from the cash deposit in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the cash deposit **security** or portions thereof to the **contractor**

14.3.6 The parties expressly agree that neither the **employer** nor the **contractor** shall be entitled to cede the rights to the deposit to any third party

14.4 Where **security** as a variable **construction guarantee** of ten percent (10%) of the **contract sum** (excluding VAT) has been selected:

14.4.1 The **contractor** shall furnish the **employer** with an acceptable variable **construction guarantee** equal in value to ten per cent (10%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.4.2 The variable **construction guarantee** shall reduce and expire in terms of the Variable **Construction Guarantee** form included in the invitation to tender

14.4.3 The **employer** shall return the variable **construction guarantee** to the **contractor** within fourteen (14) **calendar days** of it expiring

14.4.4 Where the **employer** has a right of recovery against the **contractor** in terms of 33.0, the **employer** shall issue a written demand in terms of the variable **construction guarantee**

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

14.5 Where **security** as a fixed **construction guarantee** of five per cent (5%) of the **contract sum** (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the **payment certificate** (excluding VAT) has been selected:

14.5.1 The **contractor** shall furnish a fixed **construction guarantee** to the **employer** equal in value to five per cent (5%) of the **contract sum** (excluding VAT)

14.5.2 The fixed **construction guarantee** shall come into force on the date of issue and shall expire on the date of the last certificate of **practical completion**

14.5.3 The **employer** shall return the fixed **construction guarantee** to the **contractor** within fourteen (14) **calendar days** of it expiring

14.5.4 The payment reduction of the value certified in a **payment certificate** shall be in terms of 31.8 (A) and 34.8

14.5.5 Where the **employer** has a right of recovery against the **contractor** in terms of 33.0, the **employer** shall be entitled to issue a written demand in terms of the fixed **construction guarantee** or may recover from the payment reduction or may do both

14.6 Where **security** as a cash deposit of five per cent (5%) of the **contract sum** (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the **payment certificate** (excluding VAT) has been selected:

14.6.1 The **contractor** shall furnish the **employer** with a cash deposit equal in value to five per cent (5%) of the **contract sum** (excluding VAT) within twenty-one (21) **calendar days** from **commencement date**

14.6.2 Within twenty-one (21) **calendar days** of the date of **practical completion** of the **works** the **employer** shall refund the cash deposit in total to the **contractor**

14.6.3 The payment reduction of the value certified in a **payment certificate** shall be *mutatis mutandi* in terms of 31.8(A)

14.6.4 Where the **employer** has a right of recovery against the **contractor** in terms of 33.0, the **employer** may issue a written notice in terms of 33.4 or may recover from the payment reduction or may do both

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

14.7 Where **security** as a payment reduction of ten per cent (10%) of the value certified in the **payment certificate** (excluding VAT) has been selected:

14.7.1 The payment reduction of the value certified in a **payment certificate** shall be *mutatis mutandi* in terms of 31.8(B)

14.7.2 The **employer** shall be entitled to recover expense and loss from the payment reduction in terms of 33.0 provided that the **employer** complies with the provisions of 33.4 in which event the **employer's** entitlement shall take precedence over his obligations to refund the payment reduction or portions thereof to the **contractor**

14.8 Payments made by the guarantor to the **employer** in terms of the fixed or variable **construction guarantee** shall not prejudice the rights of the **employer** or **contractor** in terms of this **agreement**

14.9 Should the **contractor** fail to furnish the **security** in terms of 14.2, the **employer**, in his sole discretion and without notification to the **contractor**, is entitled to change the **contractor's** selected form of **security** to that of a ten per cent (10%) payment reduction of the value certified in the **payment certificate** (excluding VAT), whereafter 14.7 shall be applicable

Fixed: _____ Value related: _____ Time related: _____

EXECUTION

15 A15.0 PREPARATION FOR AND EXECUTION OF THE WORKS

Clause 15.0

Clause 15.1.1 is amended by replacing it with:

No clause

Clause 15.1.2 is amended by replacing it with:

The **security** selected in terms of 14.0

Clause 15.1 is amended by the addition of the following clause:

15.1.4 An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (21) **calendar days** of **commencement date**

Carried to Collection

Section No. 1
Bill No. 1
Preliminaries

Item

R

	<p>Clause 15.2.1 is amended by replacing it with the following clause:</p> <p>Give the contractor possession of the site within ten (10) working days of the contractor complying with the terms of 15.1.4</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>			
16	<p>A16.0 ACCESS TO THE WORKS</p> <p>Clause 16.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
17	<p>A17.0 CONTRACT INSTRUCTIONS</p> <p>Clause 17.0</p> <p>Clause 17.1.11 is amended by deleting the words "and the appointment of nominated and selected subcontractors"</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
18	<p>A18.0 SETTING OUT OF THE WORKS</p> <p>Clause 18.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
19	<p>A19.0 ASSIGNMENT</p> <p>Clause 19.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
Carried to Collection			R	
<p>Section No. 1</p> <p>Bill No. 1</p> <p>Preliminaries</p>				

20	<p>A20.0 NOMINATED SUBCONTRACTORS</p> <p>Clause 20.0</p> <p>Clause 20.1.3 is amended by replacing it with the following:</p> <p>No clause</p> <p>Note: See item B9.1 hereinafter for adjustment of attendance on nominated subcontractors executing work allowed for under provisional sums</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
21	<p>A21.0 SELECTED SUBCONTRACTORS</p> <p>Clause 21.0</p> <p>Clause 21 is amended by replacing it with:</p> <p>No clause</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
22	<p>A22.0 EMPLOYER'S DIRECT CONTRACTORS</p> <p>Clause 22.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
23	<p>A23.0 CONTRACTOR'S DOMESTIC SUBCONTRACTORS</p> <p>Clause 23.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p> <p><u>COMPLETION</u></p>	Item		
24	<p>A24.0 PRACTICAL COMPLETION</p> <p>Clause 24.0</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
Carried to Collection			R	
Section No. 1				
Bill No. 1				
Preliminaries				

25	A25.0 WORKS COMPLETION Clause 25.0 Fixed: _____ Value related: _____ Time related: _____	Item		
26	A26.0 FINAL COMPLETION Clause 26.0 Clause 26.1.2 is amended by inserting "#" next to 26.1.2 Fixed: _____ Value related: _____ Time related: _____	Item		
27	A27.0 LATENT DEFECTS LIABILITY PERIOD Clause 27.0 Fixed: _____ Value related: _____ Time related: _____	Item		
28	A28.0 SECTIONAL COMPLETION Clause 28.0 Fixed: _____ Value related: _____ Time related: _____	Item		
29	A29.0 REVISION OF DATE FOR PRACTICAL COMPLETION Clause 29.0 Clause 29.2.5 is amended by replacing it with: No clause Fixed: _____ Value related: _____ Time related: _____	Item		
30	A30.0 PENALTY FOR NON-COMPLETION Clause 30.0 Fixed: _____ Value related: _____ Time related: _____ <u>PAYMENT</u>	Item		
31	A31.0 INTERIM PAYMENT TO THE CONTRACTOR Clause 31.0			
Carried to Collection			R	
Section No. 1 Bill No. 1 Preliminaries				

Clause 31.5.2 is amended by replacing "14.7.1" with "14.0"

Clause 31.8 is amended by replacing it with the following two alternative clauses:

Alternative A

31.8(A) Where a **security** is selected in terms of 14.1; 14.5 or 14.6, the value of the **works** in terms of 31.4.1 and **materials and goods** in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(A).1 Ninety-five per cent (95%) of such value in interim **payment certificates** issued up to the date of **practical completion**

31.8(A).2 Ninety-seven per cent (97%) of such value in interim **payment certificates** issued on the date of **practical completion** and up to but excluding the date of **final completion**

31.8(A).3 Ninety-nine per cent (99%) of such value in interim **payment certificates** issued on the date of **final completion** and up to but excluding the final **payment certificate** in terms of 34.6

31.8(A).4 One hundred per cent (100%) of such value in the final **payment certificate** in terms of 34.6 except where the amount certified is in favour of the **employer**. In such an event the payment reduction shall remain at the adjustment level applicable to the final **payment certificate**

Alternative B

31.8(B) Where **security** as a payment reduction in terms of 14.7 has been selected, the value of the **works** in terms of 31.4.1 and **materials and goods** in terms of 31.4.2 shall be certified in full. The value certified shall be subject to the following percentage adjustments:

31.8(B).1 Ninety per cent (90%) of such value in interim **payment certificates** issued up to the date of **practical completion**

31.8(B).2 Ninety-seven per cent (97%) of such value in interim **payment certificates** issued on the date of **practical completion** and up to but excluding the date of **final completion**

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

31.8(B).3 Ninety-nine per cent (99%) of such value in interim **payment certificates** issued on the date of **final completion** and up to but excluding the final **payment certificate** in terms of 34.6

31.8(B).4 One hundred per cent (100%) of such value in the final **payment certificate** in terms of 34.6 except where the amount certified is in favour of the **employer**. In such an event the payment reduction shall remain at the adjustment level applicable to the final **payment certificate**

Clause 31.12 is amended by deleting the following:

Payment shall be subject to the **employer** giving the **contractor** a tax invoice for the amount due

Fixed: _____ Value related: _____ Time related: _____

32 **A32.0 ADJUSTMENT TO THE CONTRACT VALUE**

Clause 32.0

Clauses 32.5.1, 32.5.4 and 32.5.7 are amended by the addition of the following at the end of the sentence:

"due to no fault of the **contractor**"

Fixed: _____ Value related: _____ Time related: _____

33 **A33.0 RECOVERY OF EXPENSE AND LOSS**

Clause 33.0

Fixed: _____ Value related: _____ Time related: _____

Item

Item

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

34	<p>A34.0 FINAL ACCOUNT AND FINAL PAYMENT</p> <p>Clause 34.0</p> <p>Clause 34.1 is amended by removing "#" next to 34.1</p> <p>Clause 34.2 is amended by inserting "#" next to 34.2</p> <p>Clause 34.8 is amended by deleting the words "where security as a fixed construction guarantee in terms of 14.4 has been selected or where payment reduction has been applied in terms of 14.7.1"</p> <p>Clause 34.13 is amended by replacing "seven (7) calendar days" with "twenty-one (21) calendar days" and deleting the words "subject to the employer giving the contractor a tax invoice for the amount due"</p> <p>Fixed:_____ Value related:_____ Time related:_____</p>				
35	<p>A35.0 PAYMENT TO OTHER PARTIES</p> <p>Clause 35.0</p> <p>Fixed:_____ Value related:_____ Time related:_____</p> <p><u>CANCELLATION</u></p>	Item			
36	<p>A36.0 CANCELLATION BY EMPLOYER - CONTRACTOR'S DEFAULT</p> <p>Clause 36.0</p> <p>Clause 36.1 is amended by the addition of the following clauses:</p> <p>36.1.3 refuses or neglects to comply strictly with any of the conditions of contract</p> <p>36.1.4 estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa</p> <p>36.1.5 in the judgement of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract</p> <p>Clause 36.3 is amended by removing the reference to "No clause" and replacing the words "principal agent" with "employer"</p>	Item			
Carried to Collection			R		
Section No. 1					
Bill No. 1					
Preliminaries					

Clause 36.0 is amended by the addition of the following clause:

36.7 Notwithstanding any clause to the contrary, on cancellation of this **agreement** either by the **employer** or the **contractor**; or for any reason whatsoever, the **contractor** shall on written instruction, discontinue with the **works** on a date stated and withdraw himself from the **site**. The **contractor** shall not be entitled to refuse to withdraw from the **works** on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

Fixed: _____ Value related: _____ Time related: _____

37 **A37.0 CANCELLATION BY EMPLOYER - LOSS AND DAMAGE**

Clause 37.0

Clause 37.3.5 is amended by replacing "ninety (90)" with "one hundred and twenty (120)"

Clause 37.0 is amended by the addition of the following clause:

37.5 Notwithstanding any clause to the contrary, on cancellation of this **agreement** either by the **employer** or the **contractor**; or for any reason whatsoever, the **contractor** shall on written instruction, discontinue with the **works** on a date stated and withdraw himself from the **site**. The **contractor** shall not be entitled to refuse to withdraw from the **works** on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

Fixed: _____ Value related: _____ Time related: _____

38 **A38.0 CANCELLATION BY CONTRACTOR - EMPLOYER'S DEFAULT**

Clause 38.0

Clause 38.5.4 is amended by replacing "ninety (90)" with "one hundred and twenty (120)"

Clause 38.0 is amended by the addition of the following clause:

Carried to Collection

Section No. 1
Bill No. 1
Preliminaries

Item

Item

R

	<p>38.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
39	<p>A39.0 CANCELLATION - CESSATION OF THE WORKS</p> <p>Clause 39.0</p> <p>Clause 39.3.5 is amended by the addition of the following at the end of the sentence:</p> <p>"within one hundred and twenty (120) working days of completion of such a report"</p> <p>Fixed: _____ Value related: _____ Time related: _____</p> <p><u>DISPUTE</u></p>	Item		
40	<p>A40.0 DISPUTE SETTLEMENT</p> <p>Clause 40.0</p> <p>Clause 40.2.2 is amended by replacing "one (1) year" with "three (3) years"</p> <p>Clause 40.6 is amended by removing the reference to:</p> <p>No clause</p> <p>Clause 40.7.1 is amended by replacing "(10)" with "(15)" and by the addition of the following:</p> <p>Whether or not mediation resolves the dispute, the parties shall bear their own costs concerning the mediation and equally share the costs of the mediator and related costs</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
	<p style="text-align: center;">Carried to Collection</p> <p>Section No. 1 Bill No. 1 Preliminaries</p>		R	

SUBSTITUTE PROVISIONS

41 **A41.0 STATE CLAUSES**

Clause 41.0

Fixed: _____ Value related: _____ Time
related: _____

Item

CONTRACT VARIABLES

42 **A42.0 THE SCHEDULE (DPW-04EC)**

Clause 42.0

Tenderers are referred to the Contract Data DPW-04(EC) for variables pertaining to this contract

Fixed: _____ Value related: _____ Time
related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

SECTION B: JBCC PRELIMINARIES

B1.0 DEFINITIONS AND INTERPRETATION

43 B1.1 Definitions and interpretation

See also clause A1.0 of Section A for additional and/or amended definitions which shall apply equally to this Section

Fixed: _____ Value related: _____ Time related: _____

Item

B2.0 DOCUMENTS

44 B2.1 Checking of documents

Fixed: _____ Value related: _____ Time related: _____

Item

45 B2.2 Provisional bills of quantities

Fixed: _____ Value related: _____ Time related: _____

Item

46 B2.3 Availability of construction documentation

Fixed: _____ Value related: _____ Time related: _____

Item

47 B2.4 Interests of agents

Fixed: _____ Value related: _____ Time related: _____

Item

48 B2.5 Priced documents

Fixed: _____ Value related: _____ Time related: _____

Item

49 B2.6 Tender submission

Clause 2.6 is amended by replacing "JBCC Form of Tender" with "Form of Offer and Acceptance DPW-07(EC)"

Fixed: _____ Value related: _____ Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

	<u>B3.0 THE SITE</u>	
50	B3.1 Defined works area	
	Fixed: _____ Value related: _____ Time related: _____	Item
51	B3.2 Geotechnical investigation	
	Fixed: _____ Value related: _____ Time related: _____	Item
52	B3.3 Inspection of the site	
	Fixed: _____ Value related: _____ Time related: _____	Item
53	B3.4 Existing premises occupied	
	Fixed: _____ Value related: _____ Time related: _____	Item
54	B3.5 Previous work - dimensional accuracy	
	Fixed: _____ Value related: _____ Time related: _____	Item
55	B3.6 Previous work - defects	
	Fixed: _____ Value related: _____ Time related: _____	Item
56	B3.7 Services - known	
	Fixed: _____ Value related: _____ Time related: _____	Item
57	B3.8 Services - unknown	
	Fixed: _____ Value related: _____ Time related: _____	Item
58	B3.9 Protection of trees	
	Fixed: _____ Value related: _____ Time related: _____	Item
59	B3.10 Articles of value	
	Fixed: _____ Value related: _____ Time related: _____	Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

60	B3.11 Inspection of adjoining properties Fixed: _____ Value related: _____ Time related: _____ <u>B4.0 MANAGEMENT OF CONTRACT</u>	Item		
61	B4.1 Management of the works Fixed: _____ Value related: _____ Time related: _____	Item		
62	B4.2 Programme for the works Fixed: _____ Value related: _____ Time related: _____	Item		
63	B4.3 Progress meetings Fixed: _____ Value related: _____ Time related: _____	Item		
64	B4.4 Technical meetings Fixed: _____ Value related: _____ Time related: _____	Item		
65	B4.5 Labour and plant records Fixed: _____ Value related: _____ Time related: _____ <u>B5.0 SAMPLES, SHOP DRAWINGS AND MANUFACTURERS' INSTRUCTIONS</u>	Item		
66	B5.1 Samples of materials Fixed: _____ Value related: _____ Time related: _____	Item		
67	B5.2 Workmanship samples Fixed: _____ Value related: _____ Time related: _____	Item		
68	B5.3 Shop drawings Fixed: _____ Value related: _____ Time related: _____	Item		
69	B5.4 Compliance with manufacturers' instructions Fixed: _____ Value related: _____ Time related: _____	Item		
Carried to Collection			R	
Section No. 1 Bill No. 1 Preliminaries				

	<u>B6.0 TEMPORARY WORKS AND PLANT</u>			
70	B6.1 Deposits and fees			
	Fixed: _____ Value related: _____ Time related: _____	Item		
71	B6.2 Enclosure of the works			
	Fixed: _____ Value related: _____ Time related: _____	Item		
72	B6.3 Advertising			
	Fixed: _____ Value related: _____ Time related: _____	Item		
73	B6.4 Plant, equipment, sheds and offices			
	Fixed: _____ Value related: _____ Time related: _____	Item		
74	B6.5 Main notice board			
	Fixed: _____ Value related: _____ Time related: _____	Item		
75	B6.6 Subcontractors' notice board			
	Fixed: _____ Value related: _____ Time related: _____	Item		
	<u>B7.0 TEMPORARY SERVICES</u>			
76	B7.1 Location			
	Fixed: _____ Value related: _____ Time related: _____	Item		
77	B7.2 Water			
	Fixed: _____ Value related: _____ Time related: _____	Item		
78	B7.3 Electricity			
	Fixed: _____ Value related: _____ Time related: _____	Item		
79	B7.4 Telecommunication facilities			
	Fixed: _____ Value related: _____ Time related: _____	Item		
	Carried to Collection		R	
	Section No. 1			
	Bill No. 1			
	Preliminaries			

80	<p>B7.5 Ablution facilities</p> <p>Fixed: _____ Value related: _____ Time related: _____</p> <p><u>B8.0 PRIME COST AMOUNTS</u></p>	Item		
81	<p>B8.1 Responsibility for prime cost amounts</p> <p>Fixed: _____ Value related: _____ Time related: _____</p> <p><u>B9.0 ATTENDANCE ON N/S SUBCONTRACTORS</u></p>	Item		
82	<p>B9.1 General attendance</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
83	<p>B9.2 Special attendance</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
84	<p>B9.3 Commissioning - fuel, water and electricity</p> <p>Fixed: _____ Value related: _____ Time related: _____</p> <p><u>B10.0 FINANCIAL ASPECTS</u></p>	Item		
85	<p>B10.1 Statutory taxes, duties and levies</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
86	<p>B10.2 Payment for preliminaries</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
87	<p>B10.3 Adjustment of preliminaries</p> <p>Clauses B10.3.1 and B10.3.2 are amended by replacing "within fifteen (15) working days of taking possession of the site" with "when submitting his priced bills of quantities / lump sum document"</p> <p>Fixed: _____ Value related: _____ Time related: _____</p>	Item		
Carried to Collection			R	
Section No. 1				
Bill No. 1				
Preliminaries				

88	B10.4 Payment certificate cash flow	Fixed: _____ Value related: _____ Time related: _____	Item
	B11.0 GENERAL		
89	B11.1 Protection of the works	Fixed: _____ Value related: _____ Time related: _____	Item
90	B11.2 Protection / isolation of existing / sectionally occupied works	Fixed: _____ Value related: _____ Time related: _____	Item
91	B11.3 Security of the works	Fixed: _____ Value related: _____ Time related: _____	Item
92	B11.4 Notice before covering work	Fixed: _____ Value related: _____ Time related: _____	Item
93	B11.5 Disturbance	Fixed: _____ Value related: _____ Time related: _____	Item
94	B11.6 Environmental disturbance	Fixed: _____ Value related: _____ Time related: _____	Item
95	B11.7 Works cleaning and clearing	Fixed: _____ Value related: _____ Time related: _____	Item
96	B11.8 Vermin	Fixed: _____ Value related: _____ Time related: _____	Item
97	B11.9 Overhand work	Fixed: _____ Value related: _____ Time related: _____	Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

98	B11.10 Instruction manuals and guarantees			
	Fixed:_____ Value related:_____ Time related:_____	Item		
99	B11.11 As built information			
	Fixed:_____ Value related:_____ Time related:_____	Item		
100	B11.12 Tenant installations			
	Fixed:_____ Value related:_____ Time related:_____	Item		
	<u>B12.0 SCHEDULE OF VARIABLES</u>			
101	B12.1 Schedule of variables			
	Fixed:_____ Value related:_____ Time related:_____	Item		
	<p>This schedule contains all variables referred to in this document and is divided into pre-tender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of these Preliminaries</p> <p>Spaces requiring information must be filled in, shown as "not applicable" or deleted and not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross-referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [] brackets</p>			
	12.1 PRE-TENDER INFORMATION			
	12.1.1 Provisional bills of quantities			
	[2.2] The quantities are provisional YES/NO			
	12.1.2 Availability of construction documentation			
	[2.3] <i>Construction documentation is complete</i> YES/NO			
	12.1.3 Interests of agents			
	[2.4] Details:			
	12.1.4 Defined works area			
	[3.1] Details:			
	Carried to Collection		R	
	Section No. 1			
	Bill No. 1			
	Preliminaries			

12.1.5 **Geotechnical investigation**

[3.2] Details:

12.1.6 **Existing premises occupied**

[3.4] Specific requirements:

12.1.7 **Previous work - dimensional accuracy**

[3.5] Details:

12.1.8 **Previous work - defects**

[3.6] Details:

12.1.9 **Services - known**

[3.7] Details:

12.1.10 **Protection of trees**

[3.9] Specific requirements:

12.1.11 **Inspection of adjoining properties**

[3.11] Specific requirements:

12.1.12 **Enclosure of the works**

[6.2] Specific requirements:

12.1.13 **Offices**

[6.4.3] Specific requirements:

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, suitably 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

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

12.1.14 **Main notice board**

[6.5] Specific requirements:

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 dark green. All wording shall be inscribed in dark green as per the coat of arms for SA. All wording shall be inscribed in dark green painted sans serif lettering

12.1.15 **Subcontractors' notice board**

[6.6] A notice board is required

YES/NO

Specific requirements:

12.1.16 **Water**

[7.2] Option A (by **contractor**)

YES/NO

Option B (by **employer** - free of charge)

YES/NO

Option C (by **employer** - metered)

YES/NO

12.1.17 **Electricity**

[7.3] Option A (by **contractor**)

YES/NO

Option B (by **employer** - free of charge)

YES/NO

Option C (by **employer** - metered)

YES/NO

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

12.1.18 **Telecommunications**

[7.4] Telephone YES/NO

Facsimile YES/NO

E-mail YES/NO

12.1.19 **Ablution facilities**

[7.5] Option A (by **contractor**) YES/NO

Option B (by **employer**) YES/NO

12.1.20 **Protection of existing/sectionally occupied works**

[11.2] Protection is required YES/NO

12.1.21 **Special attendance**

[9.2] **Subcontractor** (1) details:

Subcontractor (2) details:

Subcontractor (3) details:

Subcontractor (4) details:

12.1.22 **Protection of the works**

[11.1] Specific requirements:

12.1.23 **Disturbance**

[11.5] Specific requirements:
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**

12.1.24 **Environmental disturbance**

[11.6] Specific requirements:

12.2 **POST-TENDER INFORMATION**

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

12.2.1 **Payment of preliminaries**

[10.2] Option A (prorated)
YES/NO

Option B (calculated)
YES/NO

12.2.2 **Adjustment of preliminaries**

[10.3] Option A (three categories)
YES/NO

Option B (detailed breakdown)
YES/NO

12.2.3 **Additional agreed preliminaries items**

Details:

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

SECTION C: SPECIFIC PRELIMINARIES

Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item

102 **C1.0 CONTRACT DRAWINGS**

** Select relevant paragraph and delete whichever is not applicable depending on whether the contract is based on a **bills of quantities** or **lump sum document***

* 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

* A full set of drawings is issued with the tender documents indicating the full 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

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**

Fixed: _____ Value related: _____
Time related: _____

Item

103 **C2.0 GENERAL PREAMBLES**

The document "Specification of Materials and Methods to be used (PW371)" is obtainable on the Department's website (<http://www.publicworks.gov.za/> under "Consultants Guidelines"), and shall be read in conjunction with the **bills of quantities / lump sum document** and be referred to for the full descriptions of work to be done and materials to be used

Fixed: _____ Value related: _____
Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

104 **C3.0 TRADE NAMES**

Wherever a trade name for any product has been described in the **bills of quantities / lump sum document**, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the **principal agent** being obtained prior to the closing date for submission of tenders

If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for

Fixed: _____ Value related: _____
Time related: _____

Item

105 **C4.0 IMPORTED MATERIALS AND EQUIPMENT**

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 of Imported Materials and Equipment DPW-23(EC) 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)

Fixed: _____ Value related: _____
Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

106 **C5.0 HIV/AIDS AWARENESS**

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 items C10.1 to C10.5 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

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 31.0 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

C5.1 AWARENESS CHAMPION

Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification

Fixed: _____ Value related: _____
Time related: _____

Item

C5.2 AWARENESS WORKSHOPS

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

Fixed: _____ Value related: _____
Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

C5.3 POSTERS, BOOKLETS, VIDEOS, ETC.

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

Fixed: _____ Value related: _____
Time related: _____

Item

C5.4 ACCESS TO CONDOMS

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

Fixed: _____ Value related: _____
Time related: _____

Item

C5.5 MONITORING

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

Fixed: _____ Value related: _____
Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

107 **C6.0 OCCUPATIONAL HEALTH AND SAFETY ACT**

The **contractor** shall comply with all the requirements set out in the Construction Regulations, 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 / lump sum document**

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 **contractor** shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment

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

Fixed: _____ Value related: _____
Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

108

C7.0 COVID-19 MONITORING & AWARENESS

The **contractor** shall comply with all the requirements set by Government and as required depending on the National Alert Level implemented at the time of construction.

COVID-19 awareness and safe operating procedures must include, but are not limited to, daily screening of all workers and site visitors on arrival and departure, record keeping, daily awareness reminders, awareness posters, sanitising stations, PPE, etc.

The contractor shall price opposite this item for the development and implementation of a COVID-19 plan and appointment of COVID-19 officer.

Fixed: _____ Value related: _____
Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

109

CO-ORDINATION AND SUPERVISION OF CDP CONTRACTORS

The Contractor is to promote the participation and development of registered CDP Contractors by means of subcontracting defined portions of the works to such contractors to a value not less than R6 500 000.00 of the contract sum.

The Contractor is to co-ordinate and supervise the work of all these CDP Contractors in such a manner and at all times, as will suit the building programme and he is to allow adequate access for the CDP Contractors where required, to carry out their work in an efficient manner and acceptable quality standards in accordance with the specifications as no claims for extras in this regard will be entertained.

ATTENDANCE

The Contractor may allow for attendance upon the CDP Contractors concerned to execute the work. The Contractor is to allow the CDP Contractors the use of any scaffolding while it remains erected on the site. Where scaffolding is necessary for the use by any CDP Contractor and where the Contractor has not erected any for his own use or has removed same after his own use, the Contractor shall supply sufficient scaffolding to the CDP Contractors to be erected and dismantled by the CDP Contractor and returned to the Contractor. This attendance upon CDP Contractors to execute the work is to include for the scaffolding provisions as aforesaid and, in addition, is to include for co-operating to the fullest extent with all the parties involved, attending on off-loading materials, providing suitable storage for tools and materials used by the CDP Contractors, use of general facilities such as latrines, etc., supply and cost of power, lighting, water and the like. The Employer expect the Contractor to support the CDP Contractors as far as reasonably possible to realize the completion of the project

Fixed: _____ Value related: _____

Time related: _____

Item

Carried to Collection

R

Section No. 1
Bill No. 1
Preliminaries

Section No. 1

Bill No. 1

Preliminaries

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

Carried Forward

R

Section No. 1

Bill No. 1

Preliminaries

Section No. 1

Bill No. 1

Preliminaries

COLLECTION

Brought Forward

Total Brought Forward from Page No

Page
No

Amount

R

22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

CARRIED TO FINAL SUMMARY

R

Section No. 1
Bill No. 1
Preliminaries

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 1</u></p> <p><u>EARTHWORKS (PROVISIONAL)</u></p> <p>- WORKGROUP 104 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>Nature of ground</u></p> <p>The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "hard rock" or "soft rock"</p> <p><u>Carting away of excavated material</u></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><u>Excavation depths</u></p> <p>Unless otherwise described, all excavation depths shall be taken from the average reduced, natural or filled ground level</p> <p><u>Carting away of excavated material</u></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 on the building site</p> <p><u>BUILDINGS BULK EXCAVATION, FILLING, ETC</u></p> <p><u>EXCAVATIONS ETC</u></p>			
	Carried to Collection		R	
	<p>Section No. 2</p> <p>Bill No. 1</p> <p>Earthworks</p>			

	Open face excavation in earth over sloping site to Stockpile				
1	Open face excavation YA : 4220	m ³	4 220		
	Extra over bulk excavations in earth for excavation in				
2	Soft rock YA : 322	m ³	322		
3	Hard rock YA : 201	m ³	201		
	Extra over all excavations for carting away				
4	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor YA : 1820	m ³	1 820		
	Keeping excavations free of water				
5	Keeping excavations free of water other than subterranean water		Item		
	<u>FILLING ETC</u>				
	<u>Earth filling from stockpile compacted to 95% Mod AASHTO density</u>				
6	Over site to make up levels YA : 2400	m ³	2 400		
	Earth filling supplied by the contractor, compacted to 95% Mod AASHTO density				
7	G7 Fill Over site to form platforms YA : 6184	m ³	6 184		
8	G6 Fill Over site to form platforms YA : 2978	m ³	2 978		
	Compaction of surfaces				
9	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density YA : 9925	m ²	9 925		
	Carried to Collection			R	
	Section No. 2				
	Bill No. 1				
	Earthworks				

	Prescribed density tests on filling					
10	"Modified AASHTO Density" test YA : 295				No	295
11	"Field Density" test including "Optimum Moisture Content" (four readings per test) YA : 295				No	295
	<u>EXCAVATIONS</u>					
	<u>Excavation in earth not exceeding 2 m deep</u>					
12	Raft beams 1 : 4 2 : 3 A : 81 C : 73 D : 150 E : 27 F : 35 G : 213 H : 42 I : 42 J : 59 K : 7 L : 4 M : 60 N : 93				m ³	893
13	Trenches B : 310				m ³	310
14	Back excavation for working area 1 : 6 2 : 8 A : 34 C : 39 D : 113 E : 21 F : 23 G : 140 H : 36 I : 36 J : 21 K : 8 L : 7 M : 42 N : 44				m ³	578
15	Bases B : 93				m ³	93
	<u>Extra over excavation in earth for excavation in</u>					
16	Soft rock A : 23 C : 1 D : 5 E : 1 F : 1 G : 7 H : 2 I : 2 J : 2 L : 0 M : 2 N : 3				m ³	49
17	Hard rock A : 12 C : 1 D : 3 E : 0 F : 1 G : 4 H : 1 I : 1 J : 1 L : 0 M : 1 N : 1				m ³	25

Carried to Collection

Section No. 2
Bill No. 1
Earthworks

R

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FILLING, ETC.

Earth filling with excavated material compacted to 93%
Modified AASHTO density in 150mm layers

21	Backfilling to trenches, holes, etc	m ³	774		
	1 : 5 2 : 7 A : 29 B : 283				
	C : 33 D : 96 E : 18 F : 20				
	G : 119 H : 30 I : 30 J : 18				
	K : 7 L : 6 M : 36 N : 38				

Gravel filling (G5) supplied by the contractor compacted
to 93% Mod AASHTO density

22	Under floors, steps, pavings, etc.	m ³	543		
	B : 543				

SOIL POISONING

Soil insecticide

23	Under raft foundations, etc., including forming and poisoning shallow furrows against foundation walls, etc., filling in furrows and ramming	m ²	19 653		
	1 : 76 2 : 41 A : 1352 B : 2831				
	C : 1340 D : 2790 E : 546 F : 697				
	G : 4184 H : 820 I : 820 J : 1029				
	K : 134 L : 82 M : 1167 N : 1746				

Carried to Collection

R

Section No. 2
Bill No. 1
Earthworks

Section No. 2

Bill No. 1

Earthworks

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

43

44

45

46

47

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 1
Earthworks

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 2</u></p> <p><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></p> <p>- WORKGROUP 110 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>Cost of tests</u></p> <p>The costs of making, storing and testing of concrete test cubes as required shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the architect. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the architect. (Test cubes are measured separately)</p> <p><u>Formwork</u></p> <p>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</p> <p>The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.</p>			
	Carried to Collection		R	
	<p>Section No. 2</p> <p>Bill No. 2</p> <p>Concrete, Formwork and Reinforcement</p>			

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

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

CONCRETE

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

15MPa/19mm concrete

1	Surface blinding under footings and bases	m ³	18
	B : 18		

REINFORCED CONCRETE

30 Mpa/19mm Concrete poured around reinforcement:

2	Stripfootings	m ³	85
	B : 85		

3	Surfacebed	m ³	168
	B : 168		

4	Raft foundation (beams and slab)	m ³	1 683																
	<table border="0" style="width: 100%;"> <tr> <td>1 : 6</td> <td>2 : 5</td> <td>A : 145</td> <td>C : 131</td> </tr> <tr> <td>D : 267</td> <td>E : 51</td> <td>F : 89</td> <td>G : 398</td> </tr> <tr> <td>H : 77</td> <td>I : 112</td> <td>J : 105</td> <td>K : 12</td> </tr> <tr> <td>L : 7</td> <td>M : 109</td> <td>N : 171</td> <td></td> </tr> </table>	1 : 6	2 : 5	A : 145	C : 131	D : 267	E : 51	F : 89	G : 398	H : 77	I : 112	J : 105	K : 12	L : 7	M : 109	N : 171			
1 : 6	2 : 5	A : 145	C : 131																
D : 267	E : 51	F : 89	G : 398																
H : 77	I : 112	J : 105	K : 12																
L : 7	M : 109	N : 171																	

5	Bases	m ³	36
	B : 36		

6	Ramp including floor hardener	m ³	13																
	<table border="0" style="width: 100%;"> <tr> <td>2 : 0</td> <td>A : 6</td> <td>B : 3</td> <td>C : 0</td> </tr> <tr> <td>D : 0</td> <td>E : 0</td> <td>F : 0</td> <td>G : 1</td> </tr> <tr> <td>H : 0</td> <td>I : 0</td> <td>J : 0</td> <td>M : 0</td> </tr> <tr> <td>N : 0</td> <td></td> <td></td> <td></td> </tr> </table>	2 : 0	A : 6	B : 3	C : 0	D : 0	E : 0	F : 0	G : 1	H : 0	I : 0	J : 0	M : 0	N : 0					
2 : 0	A : 6	B : 3	C : 0																
D : 0	E : 0	F : 0	G : 1																
H : 0	I : 0	J : 0	M : 0																
N : 0																			

7	Slab	m ³	21
	A : 2 B : 20		

Carried to Collection

R

Section No. 2
Bill No. 2
Concrete, Formwork and Reinforcement

8	Beams B : 24	m ³	24
9	Coloums B : 42	m ³	42
10	Steps A : 5 B : 9	m ³	14
<u>TEST BLOCKS</u>			
11	Making and testing set of three of 150 x 150 x 150mm concrete strength test cubes (Provisional) 1 : 1 2 : 1 A : 24 B : 63 C : 27 D : 44 E : 12 F : 15 G : 64 H : 19 I : 19 J : 18 K : 2 L : 2 M : 19 N : 29	Sets	357
<u>CONCRETE SUNDRIES</u>			
<u>Finishing surfaces of concrete smooth with a power float</u>			
12	Surface beds, slabs, etc. 1 : 15 2 : 16 A : 433 B : 1449 C : 393 D : 786 E : 161 F : 209 G : 1254 H : 239 I : 239 J : 315 K : 27 L : 17 M : 345 N : 529	m ²	6 427
<u>Finishing surfaces of concrete smooth with a wood float</u>			
13	Ramps, steps, etc. 2 : 1 A : 21 B : 35 C : 1 D : 4 E : 2 F : 1 G : 8 H : 2 I : 2 J : 4 M : 4 N : 4	m ²	91
<u>MOVEMENT JOINTS, ETC.</u>			
<u>10mm Expansion joints between brickwork</u>			
14	10mm Joints not exceeding 300mm high 1 : 3 A : 52 C : 35 D : 77 E : 16 F : 20 G : 123 H : 23 I : 23 J : 31 K : 5 L : 3 M : 34 N : 105	m	549
Carried to Collection			
Section No. 2 Bill No. 2 Concrete, Formwork and Reinforcement			

R

	<u>Isolation Joints</u>				
15	100mm isolation joint consisting of two part 30mm polysulphide sealer, two part 70mm closed cell expanded polyethelene foam joint filler and approved bond breaker according to Engineer's specification B : 498	m	498		
	<u>Slip joints</u>				
16	Two layers 3 mm thick tempered masonite not exceeding 300 mm wide fixed horizontally in position between brick and concrete surfaces B : 70	m	70		
	<u>Expansion joints with 10mm softboard between vertical concrete surfaces</u>				
17	10mm Joints not exceeding 300mm high, including polysulphide sealant and backing material B : 129 G : 30 N : 20	m	180		
	<u>Saw cut joints</u>				
18	4 x 40mm Saw cut joints in top of surface bed, including polysulphide sealer and backing material B : 202	m	202		
	<u>Construction joints</u>				
19	4 x 20mm Saw cut joints in top of surface bed, including polysulphide sealer and backing material, with bonding agent between surface bed slab as per detail B : 70	m	70		
	<u>FORMWORK</u>				
	<u>GENERAL FORMWORK</u>				
	- WORKGROUP 111 -				
	<u>General formwork</u>				
20	Edges, risers, ends and reveals exceeding 300mm high or wide 1 : 19 2 : 16 A : 205 B : 95 C : 132 D : 353 E : 68 F : 81 G : 491 H : 89 I : 89 J : 113 K : 26 L : 20 M : 149 N : 251	m	2 196		
	Carried to Collection			R	
	Section No. 2				
	Bill No. 2				
	Concrete, Formwork and Reinforcement				

	<u>Rough formwork to soffits</u>				
21	Slab propped up not exceeding 3.5m A : 9	m ²	9		
	<u>SMOOTH FORMWORK</u>				
	<u>Smooth formwork with off shutter finish to sides of</u>				
22	Rectangular columns, exceeding 6.5m high and not exceeding 8m high B : 4	m ²	4		
23	Rectangular columns, exceeding 8m high and not exceeding 9.5m high B : 3	m ²	3		
24	L-Shape columns, exceeding 6.5m high and not exceeding 8m high B : 1	m ²	1		
	<u>Smooth formwork with off shutter finish to sides and soffits of</u>				
25	Beams exceeding 3.5m high and not exceeding 5m high, beam 510mm high B : 153	m ²	153		
26	Beams exceeding 3.5m high and not exceeding 5m high, beam 600mm high B : 34	m ²	34		
27	Beams exceeding 8m high and not exceeding 9.5m high, beam 1020mm high B : 38	m ²	38		
Carried to Collection				R	
Section No. 2					
Bill No. 2					
Concrete, Formwork and Reinforcement					

PERMANENT FORMWORK

300 x 50 x 1,6mm Galvanised composite steel
interlocking panels permanent decking system to soffits

28	Slabs propped up not exceeding 1,5m with ends laid on brick walls B : 115	m ²	115		
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REINFORCEMENT (Provisional)

- WORKGROUP 114 -

Fabric reinforcement

29	Type 193 fabric reinforcement in concrete surface beds, slabs, etc 1 : 15 2 : 16 A : 451 C : 393 D : 790 E : 163 F : 210 G : 1262 H : 241 I : 241 J : 319 K : 27 L : 17 M : 349 N : 533	m ²	5 028		
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30	Type 245 fabric reinforcement in concrete surface beds, slabs, etc B : 1478	m ²	1 478		
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Mild steel reinforcement

31	8mm to 12mm Diameter rods 1 : 0.21 2 : 0.29 A : 4.50 B : 13.67 C : 3.60 D : 7.87 E : 2.54 F : 2.93 G : 12.10 H : 3.89 I : 3.89 J : 3.07 K : 0.37 L : 0.22 M : 3.46 N : 4.90	t	67.48		
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High tensile steel reinforcement

32	10mm to 32mm Diameter bars 1 : 0.31 2 : 0.43 A : 6.11 B : 20.50 C : 5.40 D : 11.81 E : 3.82 F : 4.39 G : 18.14 H : 5.83 I : 5.83 J : 4.61 K : 0.55 L : 0.32 M : 5.18 N : 7.34	t	100.59		
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Carried to Collection

Section No. 2
Bill No. 2
Concrete, Formwork and Reinforcement

R

Section No. 2
Bill No. 2
Concrete, Formwork and Reinforcement
COLLECTION

Total Brought Forward from Page No

Page
No

Amount

49
50
51
52
53
54

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 2
Concrete, Formwork and Reinforcement

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 3</u></p> <p><u>MASONRY</u></p> <p>- WORKGROUP 118 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>BRICKWORK</u></p> <p><u>Sizes in descriptions</u></p> <p>Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick</p> <p><u>Hollow walls, etc</u></p> <p>Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole</p> <p>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 "Brixeal" bitumen emulsion waterproofing coating</p> <p><u>Brick reinforcement</u></p> <p>Descriptions of brickwork shall be deemed to include for steel reinforcing fabric as specified every fourth course in superstructure and every course in foundations. Additional reinforcement in lintels, etc are measured seperately</p>			
	Carried to Collection		R	
	<p>Section No. 2</p> <p>Bill No. 3</p> <p>Masonry</p>			

Face bricks

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

Pointing

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

SAMPLES

Samples of all masonry building units, except those for walls described as "load bearing", shall consist of a minimum of 6 units. Samples of building units to be used in walls described as "load bearing" shall consist of 30 units from every 30 000 units delivered to site

LIQUID WATERPROOFING ADMIXTURE FOR MORTAR

All classes of mortar should be supplemented with "Sika-1" liquid waterproofing admixture at a rate of 1,5 litre per 50kg cement

FOUNDATION BRICKWORK

Brickwork of NFX bricks in 3 : 1 cement mortar:

1	Half brick walls	m ²	593
	1 : 6 2 : 8 A : 31 B : 17		
	C : 39 D : 113 E : 21 F : 23		
	G : 140 H : 36 I : 36 J : 21		
	K : 10 L : 7 M : 42 N : 44		
2	One brick walls	m ²	205
	B : 205		
3	One and a half brick walls	m ²	102
	B : 102		
4	270mm Hollow walls of two half brick skins and 50mm cavity, including wire ties.	m ²	98
	B : 98		
5	390mm Hollow walls of two half brick skins and 170mm cavity, including wire ties.	m ²	6
	B : 6		
6	Cavity filling for foundation brick walls	m ³	5
	B : 5		

Carried to Collection

R

Section No. 2
Bill No. 3
Masonry

BRICKWORK					
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar with "Sika-1" liquid waterproofing admixture (Provisional)</u>					
7	Half brick walls A : 239 B : 227 D : 325 H : 22 I : 22 J : 26 K : 16 L : 6 M : 22	m ²	905		
8	Half brick wall in beam filling 2 : 3 A : 31 B : 72 C : 22 D : 52 E : 11 F : 14 G : 83 H : 16 I : 16 J : 21 K : 3 L : 2 M : 23 N : 36	m ²	403		
9	One brick walls 1 : 18 2 : 44 A : 357 B : 753 C : 449 D : 873 E : 228 F : 246 G : 1475 H : 379 I : 379 J : 460 K : 59 L : 46 M : 499 N : 600	m ²	6 863		
10	270mm Hollow walls of two half brick skins and 50mm cavity, including wire ties. B : 696	m ²	696		
11	390mm Hollow walls of two half brick skins and 170mm cavity, including wire ties. B : 31	m ²	31		
12	Mass brickwork in 700 x 330 columns A : 1 C : 1 D : 3 E : 1 F : 1 G : 5 H : 1 I : 1 J : 1 K : 0 L : 0 M : 1 N : 2	m ³	17		
13	Mass brickwork in 700 x 350 columns B : 2	m ³	2		
<u>Sundries:</u>					
14	Splayed mortar fillet one course high in 50mm cavity. B : 124	m	124		
Carried to Collection				R	
Section No. 2 Bill No. 3 Masonry					

15	Closing 50mm cavity of hollow wall half brick wide vertically at reveal or ends. B : 139	m	139
16	Closing 50mm cavity of hollow wall with one course of brickwork horizontally under cill or lintol. B : 133	m	133
17	Closing 50mm cavity of hollow wall horizontally with two courses of brickwork at top of wall. B : 124	m	124
18	Closing 50mm cavity at raking top of hollow wall with two courses of brickwork. B : 48	m	48
19	Splayed mortar fillet one course high in 170mm cavity. B : 8	m	8
20	Closing 170mm cavity of hollow wall half brick wide vertically at reveal or ends. B : 22	m	22
21	Closing 170mm cavity of hollow wall with one course of brickwork horizontally under cill or lintol. B : 5	m	5
22	Closing 170mm cavity of hollow wall horizontally with two courses of brickwork at top of wall. B : 8	m	8
23	Closing 170mm cavity at raking top of hollow wall with two courses of brickwork. B : 10	m	10
<u>Brickwork reinforcement</u>			
24	75mm Wide reinforcement built in horizontally A : 1736 B : 6578 C : 560 D : 3506 E : 349 F : 377 G : 2264 H : 680 I : 680 J : 390 K : 60 L : 58 M : 383 N : 421	m	18 042
25	150mm Wide reinforcement built in horizontally 2 : 192 A : 1976 B : 6801 C : 2564 D : 3578 E : 1086 F : 983 G : 5897 H : 1380 I : 1380 J : 2344 K : 247 L : 203 M : 2326 N : 2992	m	33 949

Carried to Collection

R

Section No. 2
Bill No. 3
Masonry

	<u>Prestressed lintels</u>				
26	100 x 70mm Lintels in lengths not exceeding 3m A : 47 B : 59 D : 8	m	114		
27	100 x 70mm Lintels in lengths exceeding 3m not exceeding 4.5m J : 49	m	49		
	<u>Turning pieces</u>				
28	220mm Wide turning piece to lintels, etc 2 : 1 A : 36 B : 212 C : 63 D : 111 E : 21 F : 33 G : 201 H : 28 I : 28 J : 17 K : 3 L : 7 M : 43 N : 83	m	888		
29	270mm Wide turning piece to lintels, etc B : 183	m	183		
30	390mm Wide turning piece to lintels, etc B : 5	m	5		
	<u>Galvanised hoop iron cramps, ties, etc</u>				
31	40 x 1,6mm "Tibond" wall tie strips welded to steel column and with ties bent out and built into brickwork 2 : 13 A : 152 B : 207 C : 108 D : 190 E : 52 F : 68 G : 409 H : 76 I : 76 J : 103 K : 14 L : 10 M : 113 N : 175	m	1 767		
	<u>Air bricks, etc. (Provisional)</u>				
32	Terra-cotta verminproof air bricks A : 2	No	2		
	Carried to Collection			R	
	Section No. 2 Bill No. 3 Masonry				

FACE BRICKWORK

Firelight Travertine FBX (or other approved) pointed with recessed horizontal and vertical joints

33	Extra over brickwork for face brickwork in foundations (Provisional)	m ²	672		
	1 : 6 2 : 8 A : 31 B : 95				
	C : 39 D : 113 E : 21 F : 23				
	G : 140 H : 36 I : 36 J : 21				
	K : 10 L : 7 M : 42 N : 44				
34	Extra over brickwork for face brickwork	m ²	5 896		
	1 : 37 2 : 87 A : 244 B : 1909				
	C : 246 D : 696 E : 123 F : 148				
	G : 888 H : 224 I : 224 J : 428				
	K : 53 L : 46 M : 280 N : 264				
35	Extra over brickwork for face brickwork with 20mm projection as per architects detail	m ²	1 317		
	A : 37 B : 84 C : 135 D : 181				
	E : 65 F : 70 G : 420 H : 51				
	I : 51 M : 97 N : 125				
36	Brick-on-edge header course coping to top of one brickwall, built fair and pointed on top and both edges	m	83		
	1 : 8 D : 46 H : 5 I : 5				
	J : 14 M : 4				
	<u>Corobrik Titanium Satin FBX (or other approved) pointed with recessed horizontal and vertical joints</u>				
37	Extra over brickwork for face brickwork	m ²	1 374		
	2 : 12 A : 75 B : 91 C : 92				
	D : 176 E : 44 F : 50 G : 303				
	H : 67 I : 67 J : 154 K : 22				
	L : 10 M : 87 N : 125				
38	Extra over brickwork for face brickwork in stack bond with projecting 20mm	m ²	623		
	A : 30 C : 30 D : 98 E : 21				
	F : 30 G : 181 H : 43 I : 43				
	J : 22 K : 2 L : 4 M : 43				
	N : 76				

Carried to Collection

R

Section No. 2
Bill No. 3
Masonry

39	200mm Wide sill set sloping and slightly projecting	m	794
	A : 32 B : 174 C : 25 D : 105		
	E : 21 F : 33 G : 201 H : 28		
	I : 28 J : 14 K : 2 L : 4		
	M : 43 N : 83		
40	Brick-on-edge header course lintel	m	1 034
	2 : 3 A : 77 B : 212 C : 62		
	D : 122 E : 27 F : 38 G : 221		
	H : 37 I : 37 J : 46 K : 6		
	L : 7 M : 53 N : 86		
	<u>COLUMN COPING</u>		
	<u>Old world concrete residency 400 throated precast coping</u>		
41	750mm x 390mm Precast column coping	No	165
	A : 9 B : 14 C : 8 D : 26		
	E : 6 F : 7 G : 42 H : 6		
	I : 6 J : 11 K : 2 L : 2		
	M : 11 N : 15		
	<u>FIBRE-CEMENT WINDOW CILLS</u>		
	<u>Fibre Internal cills in single lengths bedded in class I mortar including metal fixing lugs etc</u>		
42	15 x 150mm Wide sills set flat and slightly projecting	m	794
	A : 32 B : 174 C : 25 D : 105		
	E : 21 F : 33 G : 201 H : 28		
	I : 28 J : 14 K : 2 L : 4		
	M : 43 N : 83		

Carried to Collection

R

Section No. 2
Bill No. 3
Masonry

Section No. 2

Bill No. 3

Masonry

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

56

57

58

59

60

61

62

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 3
Masonry

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 4</u></p> <p><u>WATERPROOFING</u></p> <p>- WORKGROUP 120 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>DAMPPROOFING OF WALLS AND FLOORS</u></p> <p><u>One layer of 375 micron "Consol Plastics Brikgrip DPC" embossed damp proof course</u></p>			
1	<p>In walls</p> <p>A : 51 B : 127 D : 117 E : 19</p> <p>F : 19 G : 116 H : 31 I : 31</p> <p>J : 42 K : 5 L : 4 M : 40</p> <p>N : 47</p> <p><u>One layer of 250 micron polyethylene waterproof membrane sealed at laps with pressure sensitive tape</u></p>	m ²	649	
2	<p>Under raft foundations</p> <p>1 : 76 2 : 41 A : 1352 B : 2831</p> <p>C : 1340 D : 2790 E : 546 F : 697</p> <p>G : 4184 H : 820 I : 820 J : 1029</p> <p>K : 134 L : 82 M : 1167 N : 1746</p>	m ²	19 653	
3	<p>Under surfacebed</p> <p>B : 1505</p>	m ²	1 505	
	Carried to Collection			R
	<p>Section No. 2</p> <p>Bill No. 4</p> <p>Waterproofing</p>			

JOINT SEALANTS ETC

Approved polysulphide sealing compound including backing cord, bond breaker, etc

4	10 x 6mm In expansion joints in floors	m	199	
	B : 199			

5	10 x 15mm "Sikaflex Pro 2HP" Expansion joints in floors and walls	m	202	
	B : 202			

One layer Derbigum CG4H (horticultural) on one layer Derbigum CG3 waterproofing membrane, laid staggered with side laps of 100mm and end laps of 150mm, sealed to bitumen primed surfaces by 'Torch-Fusion followed by 250 micron polyethene sheeting loose laid with 100mm laps sealed with pressure sensitive tape, to receive DELTA MS20P (perforated) high density polyethylene dimpled drainage layer horizontal surfaces and followed by one layer of geofabric (Bidum A4) and landscaping (elsewhere specified under Soft Landscaping). Vertical waterproofing to be protected with DELTA MS8 dimple drainage/protection sheet. Waterproofing to be installed by an approved Derbigum contractor or other approved

WATEPROOFING TO RETAINING WALL

Derbigum CG4 Waterproofing on surface as per Supplier Specification

6	Retaining wall	m ²	228	
	B : 228			

WATEPROOFING TO SHOWER WALLS

Apply 2 Coats of Flinkote 3 including DELTA MS20P (perforated) high density polyethylene dimpled drainage layer to retaining all as per Engineers Specification

7	On brickwalls	m ²	50	
	J : 44 K : 6			

Carried to Collection

R

Section No. 2
Bill No. 4
Waterproofing

Section No. 2

Bill No. 4

Waterproofing

COLLECTION

Total Brought Forward from Page No

Page
No

64

65

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 4
Waterproofing

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 5</u></p> <p><u>ROOF COVERINGS, ETC</u></p> <p>- WORKGROUP 124 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>PROFILED METAL SHEETING AND ACCESSORIES</u></p> <p>NOTE: The contractor is to submit a certificate signed by the merchant, stating that the roof covering supplied complies with the required thickness specified</p> <p><u>Global Roofing Solutions or equal and approved 0,6mm thick 700mm cover Klip-Tite™ profile Z275spelter ISQ550 galvanised steel roof sheeting, fixed to timber or steel intermediate purlins at 1000mm centres and eaves and ridge purlins at 600mm centres using KL700 clips fixed with 10 No.16 x 16mm long self drilling wafer head PH2 screws, No. 3 drill point fasteners, all in accordance with the manufacturer's specifications. (Colour: Dark Dolphin or similar approved)</u></p>			
1	<p>Roof covering with pitch not exceeding 25 degrees</p> <p>2 : 37 A : 542 B : 1912 C : 513</p> <p>D : 999 E : 209 F : 270 G : 1619</p> <p>H : 301 I : 301 J : 404 K : 42</p> <p>L : 32 M : 441 N : 680</p>	m²	8 301	
2	<p>Ridge capping</p> <p>A : 46 B : 14 C : 50</p>	m	110	
	Carried to Collection			R
	<p>Section No. 2</p> <p>Bill No. 5</p> <p>Roof Coverings, etc</p>			

3	Eaves closure	m	1 571
	2 : 24 A : 75 B : 177 C : 124		
	D : 199 E : 53 F : 63 G : 376		
	H : 68 I : 68 J : 84 K : 23		
	L : 21 M : 90 N : 127		
4	Hip capping.	m	14
	A : 14		
5	Raking valley gutter 580mm girth and five times bent along girth	m	23
	C : 23		
6	Sidewall flashing 616mm girth	m	207
	A : 9 B : 90 C : 12 D : 12		
	E : 6 F : 6 G : 35 H : 6		
	I : 6 J : 6 K : 5 L : 5		
	M : 6 N : 6		
7	Headwall flashing 616mm girth	m	602
	A : 30 B : 150 C : 23 D : 76		
	E : 16 F : 20 G : 120 H : 22		
	I : 22 J : 30 K : 4 L : 3		
	M : 33 N : 52		
	<u>Weather Louvres</u>		
8	Natural Anodised Aluminium weather Louvre size 1490 x 550mm high with vermin proof mesh backing	No	29
	B : 29		
	<u>ROOF INSULATION</u>		
	<u>Sisalation 420' heavy industrial grade reinforced aluminium foil and polyethylene insulation</u>		
9	Insulation laid taut over purlins (at maximum 760mm centres) and fixed concurrent with roof covering, including galvanised steel straining wires	m ²	6 875
	2 : 37 A : 542 B : 1706 C : 447		
	D : 778 E : 164 F : 212 G : 1271		
	H : 236 I : 236 J : 316 K : 33		
	L : 26 M : 344 N : 529		

Carried to Collection

R

Section No. 2
Bill No. 5
Roof Coverings, etc

Section No. 2

Bill No. 5

Roof Coverings, etc

COLLECTION

Total Brought Forward from Page No

Page
No

67

68

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 5
Roof Coverings, etc

R

	<u>Plate nailed timber roof trusses as per detail drawings included at the back of these Bills of Quantities</u>				
1	Block A(SEcurity) Roof construction of 22m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. L : 1	No	1		
2	Block B (ADMIN): Roof construction of 436m ² (measured on flat) double pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. A : 1	No	1		
3	Block C (MED-COMP2): Roof construction of 403m ² (measured on flat) double pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. C : 1	No	1		
4	Block D (HALL: Stage Ablution): Roof construction of 81m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. B : 1	No	1		
5	Block D (HALL: Public Ablution): Roof construction of 146m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. B : 1	No	1		
Carried to Collection					R
Section No. 2 Bill No. 6 Carpentry and Joinery					

6	Block D (HALL: Kitchen area): Roof construction of 99m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. B : 1	No	1		
7	Block D (HALL: Entrance): Roof construction of 65m ² (measured on flat) double pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. B : 1	No	1		
8	Block D (HALL: Entrance): Roof construction of 74m ² (measured on flat) double pitched roof at 7meter high floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. B : 1	No	1		
9	Block E (HOD-CL1-STO2) Roof construction of 162m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. E : 1	No	1		
10	Block F (HOD-SCIE-CL1-ABL) Roof construction of 337m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. M : 1	No	1		
Carried to Collection					R
Section No. 2 Bill No. 6 Carpentry and Joinery					

11	Block G, N and O (CL4-STO4) Roof construction of 405m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. G : 3	No	3		
12	Block H (CL2-STO2) Roof construction of 206m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. F : 1	No	1		
13	Block I (HOD-MPC-ABL) Roof construction of 232m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. H : 1	No	1		
14	Block J (HOD-SCIE-ABL) Roof construction of 232m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. I : 1	No	1		
15	Block K (TS1-CHN) Roof construction of 311m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. J : 1	No	1		
Carried to Collection					R
Section No. 2 Bill No. 6 Carpentry and Joinery					

16	Block L(CARETAKER) Roof construction of 33m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. K : 1	No	1		
17	Block M (CL5-STO6) Roof construction of 662m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. N : 1	No	1		
18	Block P and Q (3GR-R) Roof construction of 383m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. D : 2	No	2		
19	Block (PUMPHOUSE) Roof construction of 30m ² (measured on flat) single pitched roof at ground floor level as per attached drawing. Roof to receive new roof sheeting (measured elsewhere.) Prices to include all material and labour cost which includes trusses, wallplates, windbracing, purlins, etc. and erection to engineers approval. A valid roof certificate must be submitted to the engineer before the placing of sheeting. 2 : 1	No	1		
Carried to Collection					R
Section No. 2 Bill No. 6 Carpentry and Joinery					

ROOF SUNDRIES

Sawn South African Softwood

20	76 x 114mm Wall plates	m	1 118
	2 : 8 A : 91 B : 144 C : 65		
	D : 152 E : 31 F : 41 G : 246		
	H : 46 I : 46 J : 62 K : 9		
	L : 6 M : 68 N : 105		

EAVES, VERGES, ETC.

Pressed fibre cement

21	15 x 215 mm Everite Nutec Barge and fascia boards including aluminium H-profile jointing strips and fixed with 63,5 mm brass countersunk screws to timber trusses	m	1 571
	2 : 24 A : 75 B : 177 C : 124		
	D : 199 E : 53 F : 63 G : 376		
	H : 68 I : 68 J : 84 K : 23		
	L : 21 M : 90 N : 127		

22	15 x 215 mm Everite Nutec Barge and fascia boards including aluminium H-profile jointing strips and fixed with 63,5 mm brass countersunk screws to steel trusses	m	602
	A : 30 B : 150 C : 23 D : 76		
	E : 16 F : 20 G : 120 H : 22		
	I : 22 J : 30 K : 4 L : 3		
	M : 33 N : 52		

SKIRTINGS

Selected wrought meranti

23	19 x 76mm Wrought Meranti Skirting including 19mm quadrant bead nailed	m	2 111
	A : 201 B : 218 C : 147 D : 241		
	E : 81 F : 85 G : 509 H : 85		
	I : 85 J : 66 K : 14 L : 17		
	M : 137 N : 226		

Carried to Collection

R

Section No. 2
Bill No. 6
Carpentry and Joinery

DOORS, ETC

Wrought meranti doors

24	44mm Framed, ledged and braced door 813 x 2032mm high (D2) B : 1 C : 3 E : 2 H : 3 I : 3 J : 3 K : 1 L : 1 M : 4 N : 1	No	22		
25	44mm Framed, ledged and braced door 930 x 2032mm high (D1) B : 1 C : 2 D : 12 E : 1 F : 2 G : 12 H : 2 I : 2 M : 3 N : 5	No	42		
26	44mm Framed, ledged and braced purpose made double door 1635 x 850mm B : 4	No	4		
<u>Solid flush doors with 3mm hardboard and 2 concealed edges</u>					
27	40mm Door 813 x 2032mm high (D3, D7) A : 13 B : 10 D : 24 E : 2 F : 2 G : 12 H : 3 I : 3 J : 2 K : 1 L : 1 M : 4 N : 5	No	82		
28	40mm Door 813 x 2032mm high with bottom edge cut off to form 150mm opening (D6) A : 4 B : 24 D : 12 H : 4 I : 4 J : 3 M : 4	No	55		
29	40mm Door 930 x 2032mm high (D9) A : 1 B : 2 D : 8	No	11		
30	Purpose made 40mm Door 1613 x 2032mm high with two 6.38mm Clear Safety viewing glass panels size 180 x 872mm high complete as per door schedule (D5) C : 2 J : 1	No	3		

Carried to Collection

R

Section No. 2
Bill No. 6
Carpentry and Joinery

Section No. 2

Bill No. 6

Carpentry and Joinery

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

70

71

72

73

74

75

76

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

R

Section No. 2

Bill No. 6

Carpentry and Joinery

NAILED UP CEILINGS

6,4mm 'Gypsum' ceiling board, or other approved, with
PVC H-Profile jointing strips, ceiling fixed to timber
battens, fix with dri-wall screws

3	Ceilings including 50 x 38mm sawn softwood bandering at 450mm centres A : 295 B : 249 C : 262	m ²	807		
4	Sloping Ceilings including 50 x 38mm sawn softwood bandering at 450mm centres D : 544 E : 109 F : 146 G : 876 H : 152 I : 152 J : 185 K : 15 L : 8 M : 230 N : 376	m ²	2 793		
5	Extra over ceiling for forming trap door size 600 x 600 mm (Provisional) A : 2 B : 5 C : 3 D : 12 E : 2 F : 2 G : 12 H : 3 I : 3 J : 4 K : 1 L : 1 M : 5 N : 5	No	60		

6mm 'Nutek' ceiling board, or other approved, with PVC
H-Profile jointing strips, ceiling fixed to timber battens,
fix with dri-wall screws

6	Ceilings including 38 x 38mm sawn softwood bandering at 450mm centres A : 23 B : 20 C : 45 J : 31	m ²	118		
7	Extra over ceiling for forming trap door size 600 x 600 mm (Provisional) A : 2 B : 1 C : 1 J : 1	No	5		

CORNICE

Gypsum Cornice

8	75mm Gypsum coved cornice nailed to ceiling and wall A : 311 B : 261 C : 190 D : 530 E : 104 F : 90 G : 540 H : 127 I : 127 J : 181 K : 24 L : 17 M : 182 N : 240	m	2 924		
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Carried to Collection

R

Section No. 2
Bill No. 7
Ceilings, Partitions and Access Flooring

CEILING INSULATION

135mm Thick "ISOTHERM" or similar, flexible Polyester blanket

- 9 Insulation laid on top of timber pulins with and including galvanised straining wires

m²

4 820

A : 318	B : 1371	C : 307	D : 544
E : 109	F : 146	G : 876	H : 152
I : 152	J : 216	K : 15	L : 8
M : 230	N : 376		

Carried to Collection

R

Section No. 2
Bill No. 7
Ceilings, Partitions and Access Flooring

Section No. 2

Bill No. 7

Ceilings, Partitions and Access Flooring

COLLECTION

Total Brought Forward from Page No

Page
No

78

79

80

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2

Bill No. 7

Ceilings, Partitions and Access Flooring

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 8</u></p> <p><u>FLOOR COVERINGS, WALL LININGS, ETC</u></p> <p>- WORKGROUP 130 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>FLOOR COVERINGS</u></p> <p><u>Supply and install 2.00mm thick x 2.00m wide XL PU Group M Homogeneous & Monolayer Marbleised design vinyl sheeting manufactured in accordance with EN 649/ISO 10581 and laid in Polyflor approved acrylic adhesive which has been spread using an A2 notched trowel on a previously prepared class 1 sub-floor with a 50mm below surface drilled moisture content reading of 75% RH in accordance with sabs 10070, including all cutting and waste, rolled in both directions with an articulated 68kg three-sectional roller immediately after it has been laid into the adhesive, joins must be butted, u-shape grooved 2/3RDS thickness of the sheet and heat welded using the manufacturer's welding rod, maintenance according to the manufacturers maintenance programme: colour code: to be confirmed on site</u></p>			
1	<p>On floors</p> <p>A : 270 B : 1068 C : 262 D : 544</p> <p>E : 109 F : 146 G : 876 H : 129</p> <p>I : 129 J : 83 K : 15 L : 8</p> <p>M : 207 N : 376</p>	m ²	4 222	
	Carried to Collection		R	
	<p>Section No. 2</p> <p>Bill No. 8</p> <p>Floor Coverings, Wall Linings, etc</p>			

	<u>2-4mm Thick gloss self-levelling non slip epoxy "SIKA" (or other approved) laid to manufacturer's specifications on cleaned and primed. Colour, pattern and aggregate size to architects approval.</u>				
2	On concrete surface bed floors B : 83 H : 23 I : 23 J : 61 M : 23	m ²	213		
	<u>CARPETS</u> 500 x 500 x 8mm Thick Belgotex Berberpoint or similar approved, Needle Punch carpet tiles fixed with approved adhesive				
3	On floors A : 35	m ²	35		
	<u>SKIRTINGS, NOSINGS, ETC</u> 75mm Black Coved PVC skirting fixed with approved adhesie to manufactures instructions				
4	75mm Coved vinyl skirtings A : 68 B : 136 D : 234 H : 43 I : 43 J : 81 K : 7 M : 43	m	656		
	<u>POLISH, SEALERS, ETC</u> Two coats wax polish on vinyl flooring A : 270 B : 1151 C : 262 D : 544 E : 109 F : 146 G : 876 H : 152 I : 152 J : 144 K : 15 L : 8 M : 230 N : 376	m ²	4 435		
	<u>EDGES, ETC.</u> Aluminium dividing strips				
6	12mm High M-Trim mill finish dividing strip in concrete thresh hold (Code: AFTIR120) or other approved A : 3 B : 19 C : 4 D : 11 E : 3 F : 2 G : 12 H : 5 I : 5 J : 5 K : 1 L : 1 M : 5 N : 5	m	81		

Carried to Collection

R

Section No. 2
Bill No. 8
Floor Coverings, Wall Linings, etc

Section No. 2

Bill No. 8

Floor Coverings, Wall Linings, etc

COLLECTION

Total Brought Forward from Page No

Page
No

82

83

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2

Bill No. 8

Floor Coverings, Wall Linings, etc

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 9</u></p> <p><u>IRONMONGERY</u></p> <p>- WORKGROUP 132 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>Finishes to ironmongery</u></p> <p>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 SD Sanded</p> <p><u>Fixing</u></p> <p>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs in brickwork or concrete</p> <p><u>FLUSH BOLTS</u></p>			
1	<p>Union "AL8208-105AS" or other approved 150mm X 20mm aluminium flush bolt</p> <p>A : 2 B : 4 C : 2 J : 1</p>	No	9	
	<p>Carried to Collection</p>			R
	<p>Section No. 2 Bill No. 9 Ironmongery</p>			

CATCHES, CABIN HOOKS, ETC

2 DHC-SS-031B - Dorma Hat and Coat Hook with rubber buffer (Stainless Steel) No 69

A : 5 B : 26 D : 18 H : 5
I : 5 J : 3 K : 1 L : 1
M : 5

LOCKS

"Dorma" or other approved

3 D036S-SS - Dormakaba Cylinder Sash Lock. Case dimensions (mm) 116.5H x 78D. Forend dimensions (mm) 168H x 22W. Backset 57mm. Centres 61mm. No 134

A : 11 B : 13 C : 7 D : 36
E : 4 F : 4 G : 24 H : 5
I : 5 J : 4 K : 1 L : 1
M : 8 N : 11

4 D035S-SS - Dormakaba Bathroom Sash Lock. Case dimensions (mm) 102H x 78D. Forend dimensions (mm) 155H x 22W. Backset 57mm. Centres 57mm. No 2

K : 1 L : 1

5 D032D-SS - dormakaba Bathroom Deadlock. Case dimensions (mm) 102H x 78D. Forend dimensions (mm) 155H x 22W. Backset 57mm. No 67

A : 5 B : 26 D : 18 H : 5
I : 5 J : 3 M : 5

6 D037D SS - dormakaba Cylinder Deadlock. Case dimensions (mm) 116.5H x 78D. Forend dimensions (mm) 168H x 22W. Backset 57mm. No 23

A : 2 B : 7 D : 6 H : 2
I : 2 J : 2 M : 2

7 DWC005 - Dormakaba Bathroom WC indicator (Red and White) and turnknob Sets 55.0

A : 4.0 B : 24.0 D : 12.0 H : 4.0
I : 4.0 J : 3.0 M : 4.0

8 DWC006 - Dormakaba Disabled WC indicator (Red & White) and turnknob for physically impaired Sets 12.0

A : 1.0 B : 2.0 D : 6.0 H : 1.0
I : 1.0 M : 1.0

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

9	DDC106601 GMK (66mm) - Dormakaba 66mm five pin Euro-profile Double Cylinder Grand Master Keyed A : 15 B : 23 C : 7 D : 42 E : 4 F : 4 G : 24 H : 7 I : 7 J : 6 K : 1 L : 1 M : 10 N : 11	No	162		
10	DCE-002 - Dorma Round Cylinder escutcheon (Stainless Steel) A : 2.0 B : 7.0 D : 6.0 H : 2.0 I : 2.0 J : 2.0 M : 2.0	Pairs	23.0		
11	DCE-105 SS - Dormakaba Narrow Stile Cylinder escutcheon (Stainless Steel) B : 7.0	Pairs	7.0		
12	D07935-SS - Dormakaba Narrow Stile Heavy Duty Swivel Sash Lock. Case dimensions (mm) 174H x 50D. Forend dimensions (mm) 290H x 22W. Backset 35mm. Centres 85mm. (Stainless Steel) A : 2	No	2		
13	D07735-SS - dormakaba Narrow Stile Heavy Duty Swivel Dead Lock. Case dimensions (mm) 174H x 40D. Forend dimensions (mm) 290H x 22W. Backset 35mm.. (Stainless Steel) B : 6	No	6		
14	PHB3 S DD - Dormakaba Three point locking panic bar - Double door - Door leaf 1000mm wide x 2270mm high (3101. 3102. PHX02. PHX04) B : 6.0	Sets	6.0		
15	DKC106601 GMK - dormakaba 66mm five pin Euro-profile Knob Cylinder Grand Master Keyed (Satin Nickel) B : 4	No	4		
16	DBC-SS-022 - Dormakaba Adjustable Roller Bolt (Stainless Steel) B : 9	No	9		

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

HANDLES

"Dorma" or other approved

17	TH126 Cyl S.S - Dormakaba Lever handle on rose with Cylinder escutcheons (Stainless Steel) A : 11.0 B : 13.0 C : 7.0 D : 36.0 E : 4.0 F : 4.0 G : 24.0 H : 5.0 I : 5.0 J : 4.0 K : 2.0 L : 2.0 M : 8.0 N : 11.0	Sets	136.0
18	DPH301A - Dorma 325x25mm Straight Tubular Pull Handle BTB (BTB Fixing sets included) (Stainless Steel) A : 4 B : 8 D : 12 H : 4 I : 4 J : 4 M : 4	No	40
19	DPH301B - Dorma 325x25mm Straight Tubular PullHandle Flange Fixing (Stainless Steel) A : 2 B : 4 D : 12 H : 2 I : 2 M : 2	No	24
20	DHP-430-BLSF 75X170 - Dormakaba DPH301C Pull Handle BT fixed on a 75x170x1.2mm thick Grade 430 stainless steel plate with no cylinder cut out. Stainless Steel Plate to have 4 countersunk holes for screw fixing. A : 4 B : 24 D : 12 H : 4 I : 4 J : 3 M : 4	No	55
21	DPP-430-BLSF75X170 - Dormakaba 75x170x1.2mm thick Grade 430 stainless steel plate. Stainless Steel Plate to have 4 countersunk holes for screw fixing. A : 4 B : 24 D : 12 H : 4 I : 4 J : 3 M : 4	No	55
22	TH126 NS Cyl S.S - Dormakaba Lever handle on narrow stile rose with narrow stile Cylinder escutcheons (Stainless Steel) A : 2.0	Sets	2.0
23	DPH205 BTB - Dormakaba 400x30mm Straight Tubular Pull Handle BTB (BTB Fixing Sets included) (Stainless Steel) B : 3.0	Pairs	3.0
24	DPH206-BTB - Dormakaba 400x30mm Offset Tubular Pull Handle BTB (BTB Fixing Sets included) (Pull Handle complies with BS 8424. Grade 3 - Heavy Duty) (Stainless steel) B : 6.0	Pairs	6.0

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

BATHROOM FITTINGS

25	TCS Hygiene 2-roll Vandal proof toilet roll holder, 1mm steel, White. Code: TR2N, size 270 x 130 x 130mm. Installed according to manufacturer specifications, or similar approved	No	69
	A : 5 B : 26 D : 18 H : 5 I : 5 J : 3 K : 1 L : 1 M : 5		
26	White vitreous China Soap Dish	No	8
	J : 7 K : 1		
27	Franke Stratos STRX 605 Grade 304, 1.2/1.5mm thick (18/10), satin stainless steel disposal bins (Product code: 359730) size 520x300x270mm deep, capacity of 34 liter, cylinder lock with standard Franke key, plugged and screwed to the wall with stainless steel screws	No	18
	B : 18		
28	Franke Stratos STRX 618 Grade 304 1.2mm/1.5mm thick 18/10 satin stainless soap dispensers (product code: 359705) size 304x100x134mm deep with a replaceable and refillable 1 liter container, cylinder lock with standard Franke key, plugged and screwed to the wall with stainless steel screws	No	15
	B : 15		
29	Stainless Steel three arm towel rail as by Franke or other approved	No	9
	A : 1 B : 1 D : 6 J : 1		
30	Finda classic rage 800mm long double towel rail in mirror polished	No	14
	A : 5 B : 3 D : 6		
	<u>"Chairman Industries"</u>		
31	DGR-SS-150 - Dormakaba 800x206mm Cistern Back Rail	No	12
	A : 1 B : 2 D : 6 H : 1 I : 1 M : 1		
32	DGR-SS-152 - Dormakaba 300x300x300mm Side Grab Rail	No	12
	A : 1 B : 2 D : 6 H : 1 I : 1 M : 1		

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

	<u>"CRYSTALTECH" CT8001 or similar approved aluminium framed shower door, factory glazed with 3mm belaton glazing, and fix in strict accordance with the manufacturer's specifications</u>		
33	1000mm wide x 1850mm high pivot shower door unit J : 7 K : 1	No	8
	<u>SUNDRIES</u>		
	<u>Strongroom</u>		
34	Strongroom door stop plugged A : 1	No	1
	<u>"Dorma" or other approved</u>		
35	DDS-NP-018 - Dorma Floor Mounted Door Stop (Nickel Plated) A : 17 B : 51 C : 9 D : 42 E : 4 F : 4 G : 24 H : 7 I : 7 J : 7 K : 1 L : 1 M : 10 N : 11	No	195
	<u>EMERGENCY SIGNS, BATHROOM SIGNS, ETC.</u>		
	<u>"Dorma" or other approved</u>		
36	DSS-145 stainless steel 150 x 150mm FIRE HOSE REEL sign A : 4	No	4
37	DSS-136 stainless steel 150 x 150mm ELECTRICAL SYMBOL sign A : 2	No	2
38	DSS-130/131 stainless steel 150 x 150mm MALE / FEMALE sign A : 2 B : 4 H : 2 I : 2 J : 2 M : 2	No	14
39	DSS-132 stainless steel 150 x 150mm MALE AND FEMALE sign D : 6	No	6
40	DSS-133 stainless steel 150 x 150mm DISABLED PERSON sign A : 1 B : 2 D : 6 H : 1 I : 1 M : 1	No	12

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

GREEN CHALK BOARD

Chalk Board Vitrex system 1000

41	Premium magnetic enamelchalk / white combination boards with swing leaves - 3 piece - W4000 x H1200mm in size - consists of 1 x centre board (W2000xH1200mm) and 2 x double sided swing leaves (W1000xH1200mm each)	No	31
	D : 6 E : 1 F : 2 G : 12		
	H : 1 I : 1 M : 2 N : 5		
	YA : 1		

VITREOUS ENAMELLED PINNING BOARDS

Vitrex System 2000 or similar approved vitreous enamelled pinning boards and fixing to manufacturers' instructions

42	System 2000 Domestic Pinning Boards size 1500 mm wide x 1200 mm high, complete with anodised aluminium frame and mitred corners, including fixing components	No	12
	D : 12		
43	System 2000 Domestic Pinning Boards size 1700 mm wide x 1200 mm high, complete with anodised aluminium frame and mitred corners, including fixing components	No	2
	C : 2		
44	System 2000 Domestic Pinning Boards size 2400 mm wide x 1200 mm high, complete with anodised aluminium frame and mitred corners, including fixing components.	No	72
	A : 10 C : 6 E : 4 F : 4		
	G : 24 H : 4 I : 4 M : 6		
	N : 10		

WHITEBOARD

Magnetic Whiteboards

45	Parrot Products BD0984 Magnetic Whiteboard (3000 x 1200mm)	No	4
	A : 2 C : 2		

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

BLINDS, ETC

Roller Block out Blinds

Serge Ferrari Soltis 86 white , cut to suit window opening (roll to fit in recess of ceiling) with simple plastic pellet chain

46	Window size 930mm wide x 1200mm high A : 23	No	23
47	Window size 1520mm wide x 1600mm high A : 3	No	3

Carried to Collection

R

Section No. 2
Bill No. 9
Ironmongery

Section No. 2

Bill No. 9

Ironmongery

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

85

86

87

88

89

90

91

92

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 9
Ironmongery

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 10</u></p> <p><u>METALWORK</u></p> <p>- WORKGROUP 136 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>Descriptions</u></p> <p>Descriptions of bolts shall be deemed to include nuts and washers</p> <p>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork of concrete</p> <p>Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described</p> <p><u>WELDED SCREENS, GATES, ETC</u></p> <p><u>Mild steel gates</u></p>			
1	<p>Single gate (G11) size 880 x 2100mm high overall, gate formed of 60 x 40 x 3mm hollow section frame fixed panels on both sides fitted with 40 x 6mm thick horizontal flat bar support with 10mm diameter holes for vertical rods complete as per schedule (see gate G11) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides</p> <p>C : 2 D : 4 H : 1 I : 1</p> <p>J : 2 M : 2</p>	No	12	
	Carried to Collection			R
	<p>Section No. 2</p> <p>Bill No. 10</p> <p>Metalwork</p>			

2	Single gate (G14) size 930 x 2100mm high overall, formed of 50 x 50 x 3mm square hollow section mild steel security gate, weld 40 x 6mm thick horizontal flat bar support hollow section mild steel frame, fitted with 40 x 6mm thick horizontal flat bar support with 10mm Diameter holes for vertical rods complete as per schedule (see gate G14) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides 1 : 1 D : 12	No	13		
3	Single gate (G12) size 1094 x 2100mm high overall, formed of 50 x 50 x 3mm square hollow section mild steel security gate, weld 40 x 6mm thick horizontal flat bar support hollow section mild steel frame, fitted with 40 x 6mm thick horizontal flat bar support with 10mm Diameter holes for vertical rods complete as per schedule (see gate G12) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides A : 1	No	1		
4	Single gate (G10) size 1145 x 2550mm high overall, each leave formed of 60 x 40 x 3mm hollow section frame fixed panels on both sides fitted with 40 x 6mm thick horizontal flat bar support with 10mm diameter holes for vertical rods complete as per schedule (see gate G10) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides B : 2	No	2		
5	Double gate (G13) size 1635 x 2100mm high overall, each leave formed of 50 x 50 x 3mm hollow section frame fitted with 40 x 6mm thick horizontal flat bar support with 10mm diameter holes for vertical rods complete as per schedule (see gate G13) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides YA : 1	No	1		
Carried to Collection					R
Section No. 2 Bill No. 10 Metalwork					

6	Double gate (G7) size 2150 x 2100mm high overall, each leave formed of 60 x 40 x 3mm hollow section frame fixed panels on both sides fitted with 40 x 6mm thick horizontal flat bar support with 10mm diameter holes for vertical rods complete as per schedule (see gate G7) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides A : 1	No	1
7	Double gate (G8) size 3440 x 2100mm high overall, each leave formed of 60 x 40 x 3mm hollow section frame fixed panels on both sides fitted with 40 x 6mm thick horizontal flat bar support with 10mm diameter holes for vertical rods complete as per schedule (see gate G8) The gate fitted with two pair but hinges as per buchel B2458 per gate and with Security dead lock (no latch) with knob handle both sides A : 1	No	1
<u>PRESSED STEEL DOOR FRAMES</u>			
<u>1,2 mm Double rebated frames suitable for half brick walls</u>			
8	Frame for door 813 x 2032mm high (D6,D7) A : 6 B : 24 D : 12 J : 1 K : 1 L : 1 M : 4	No	49
9	Frame for door 870 x 2032mm high (D3, D2) A : 11 B : 7 D : 24	No	42
10	Frame for door 930 x 2032mm high (D1,D9) A : 1 B : 2 D : 12	No	15
<u>1,2 mm Double rebated frames suitable for one brick walls</u>			
11	Frame for door 813 x 2032mm high (D6,D7) H : 4 I : 4 J : 2	No	10
12	Frame for door 870 x 2032mm high (D2, D3) B : 2 C : 3 E : 4 F : 2 G : 12 H : 6 I : 6 J : 5 K : 1 L : 1 M : 8 N : 6	No	56
13	Frame for door 930 x 2032mm high (D1, D9) C : 2 D : 12 E : 1 F : 2 G : 12 H : 2 I : 2 M : 3 N : 5	No	41
Carried to Collection			
Section No. 2 Bill No. 10 Metalwork			

R

14	Frame for double door 1635 x 850mm high (D5) B : 4 C : 2 J : 1 <u>1,2 mm Double rebated frames suitable for 270mm Cavity brick walls</u>	No	7		
15	Frame for door 870 x 2032mm high B : 2	No	2		
16	Frame for door 930 x 2032mm high B : 1	No	1		
17	Frame for double door 1635 x 2032mm high B : 9 <u>GALVANISED STEEL ROLLER SHUTTERS ETC</u> <u>"Serranda" aluminium roller shutters fixed to brickwork or concrete</u>	No	9		
18	Manual push-up slatted roller shutter for 1510 x 1020mm high opening (R1) A : 1 B : 1	No	2		
19	Manual push-up slatted roller shutter for 2500 x 1020mm high opening (R2) B : 1 J : 1 <u>STEEL STRONGROOM DOORS, VENTILATORS, ETC</u> <u>"Bitcon" Strongroom doors etc suitable for 230mm walls fixed to brickwork or concrete or other approved</u>	No	2		
20	Bitcon Category 2 strongroom door and frame with a mass of 590 kg A : 1	No	1		
21	Double ended strongroom ventilator A : 1 <u>PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES</u>	No	1		
22	Double door and frame size 1635 x 2100mm high with rebated frame suitable for one brick wall including vent louvres in each door as per DUROWIN or other approved 2 : 1	No	1		
Carried to Collection				R	
Section No. 2 Bill No. 10 Metalwork					

23	<p><u>LOUVERS</u></p> <p><u>1.6mm Thick Steel Louvers</u></p> <p>1200 x 1200 Steel Louvre with 1.6mm thick steel blades supplied by TROX or similar approved 2 : 1</p> <p><u>ALUMINIUM WINDOWS, DOORS, ETC</u></p> <p>- WORKGROUP 140 -</p> <p><u>Note:</u> Tenderers are referred to architect's drawing attached to these bills of quantities for tender purposes</p> <p><u>Windows and doors</u></p> <p>Doors and windows to be of the types described, and manufactured by and in accordance with the standard specification of "Aluminium City", or other approved hereinafter referred to as the Manufacturer.</p> <p>After manufacture, the Manufacturer shall be responsible for the delivery to site, unloading, placing in temporary storage, setting up and fixing in position, the supply of glass and glazing complete, sealant pointing, application and removal of protection tape and cleaning and servicing on completion of all aluminium doors and windows. Cleaning of glass before handing over shall be the responsibility of the Contractor as all glass is to be glazed clean by the manufacturer.</p> <p><u>Glazing</u></p> <p>Doors and windows are to be glazed with glass as described. Glazing may be either factory or site glazed and shall be executed by the Manufacturer who must ensure that glass is clean and free from any defects on completion of glazing</p> <p><u>Fixing</u></p> <p>All doors and windows are to be fixed in position by the Manufacturer. All must be perfectly plumb and shall be strutted and braced as necessary to prevent distortion</p>	No	1	
	<p style="text-align: right;">Carried to Collection</p>		R	
	<p>Section No. 2 Bill No. 10 Metalwork</p>			

Pointing etc.

All doors and windows shall be waterproofed with "Sondor" or other approved wax impregnated sealing strip between the aluminium frame and the structure, and in addition shall be pointed all round on the external face with "Expandite Thioflex 600" or other approved twopart polysulphide liquid polymer sealing compound, applied at the junction of the frame with the structure. Pointing, etc. of doors and windows shall be executed by the manufacturer, or his approved specialist waterproofing sub-contractor

Protection

The protection of aluminium doors and windows during and after fixing shall be the responsibility of the Contractor, they must be kept free from mortar droppings, etc. any units damaged are to be replaced. Aluminium doors and windows shall be protected with suitable adhesive protection tape applied to all exposed surfaces by the Manufacturer at the factory prior to delivery to site. Protection tape is to be of a different colour from the anodising

Servicing etc.

When necessary, all protection tape shall be removed by the Manufacturer, who shall the clean the doors and windows, but excluding the glass, which will have been glazed clean, test and service them, make all necessary adjustments and/or repairs and leave them in perfect order. Protection of the doors and windows after servicing by the Manufacturer and cleaning of glass after glazing shall be the responsibility of the Contractor

Prices

Prices for aluminium shall include the manufacture, delivery to site, unloading, setting up and fixing in position, supply of glass and glazing complete, "Sondor" sealing strips, wrought softwood infill linings to all hollow section aluminium frames according to details and sealant pointing, fixing lugs, brackets, screws, beads, timber grounds, cleaning and servicing of windows, all by the Manufacturer

Carried to Collection

R

Section No. 2
Bill No. 10
Metalwork

References

The type numbers used in the following descriptions are those referred to the relevant type numbers on the drawings issued for tender and construction purposes. The sizes given in the following descriptions are nominal and prices are to take cognisance thereof

Ironmongery

Prices for windows, doors and frames should allow for all the ironmongery specified on the drawings referred to

Purpose made Dark Grey powder coated aluminium windows, complete with and including ironmongery and 6.38mm clear safety glazing as per the specifications and window schedules at the back of the bill of quantities. Including 10 x 10mm Powder Coated Epoxy Dark grey colour solid square tubing bar fixed to window frame. All as per SABS regulations and fixed into openings between suspended ceilings, concrete beams, steel beams, brick walls, etc.(see attached drawings)

24	Window 930 x 1200mm high (W1) A : 23 B : 3 C : 17 D : 18 E : 5 F : 10 G : 60 K : 1 L : 1 M : 10 N : 25	No	173
25	Window 930 x 425mm high (W2) C : 10 D : 36 E : 11 F : 14 G : 84 L : 1 M : 21 N : 37	No	214
26	Window 930 x 425mm high (W3) D : 36 E : 7 F : 12 G : 72 J : 9 M : 13 N : 29	No	178
27	Window 600 x 850mm high (W4) A : 10 B : 36 D : 36 J : 10 K : 1 M : 5	No	98
28	Window 1520 x 1600mm high (W5) A : 3	No	3
29	Window 1520 x 850mm high (W6) A : 1	No	1
30	Window 1635 x 450mm high (W9) B : 9	No	9

Carried to Collection

R

Section No. 2
Bill No. 10
Metalwork

31	Window 1635 x 450mm high (W10) B : 45	No	45		
32	Window 1635 x 450mm high (W11) B : 37 <u>Purpose made Dark Grey powder coated aluminium windows, complete with and including ironmongery and 6.38mm clear laminated safety glazing as per the specifications and window schedules at the back of the bill of quantities. All as per SABS regulations and fixed into openings between suspended ceilings, concrete beams, steel beams, brick walls, etc.(see attached drawings)</u>	No	37		
33	View panel size 1000 x 990mm high (W8) D : 6	No	6		
34	Purpose made window, size 1250 x 990mm high overall (Sliding window - W07) A : 1 B : 1 C : 1 <u>Dark Grey Powder coated epoxy aluminium doors and frames with 6,38mm clear float safety glass, fixed to brickwork or concrete</u>	No	3		
35	Purpose made double door, size 1635 x 2100mm high overall,(Door type D4), including ironmongery as per schedule. A : 2 B : 6	No	8		
Carried to Collection				R	
Section No. 2 Bill No. 10 Metalwork					

Section No. 2

Bill No. 10

Metalwork

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

94

95

96

97

98

99

100

101

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 10
Metalwork

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 11</u></p> <p><u>STRUCTURAL STEELWORK</u></p> <p>- WORKGROUP 134 -</p> <p>SUPPLEMENTARY PREAMBLES</p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or other approved may be used with prior approval from the architect.</p> <p>The following Bills of quantities has to be read in conjunction with the standardized specifications, amendment to standard specifications as well as the particular project specifications as described under SANS 10162/1</p> <p><u>NOTES</u></p> <ol style="list-style-type: none"> 1. All steel must be grade 300 W to SABS 1431. Commercial Grade cold rolled sections to have a minimum yield stress of 225 MPa (Contractor to get confirmation from supplier in this regard). 2. All bolts and nuts to be grade 8.8 unless otherwise specified. Bolts shall be hot dip galvanised to BS763 and it must be possible to screw mate parts together by hand. 3. All fasteners must be supplied by the Contractor. 4. All welds shall be full penetration 6mm welds to SABS 044 and SABS 455, all round where possible, unless otherwise stated. 5. All construction and workshop details must be approved by the Engineer before fabrication is started. 6. Structural steelwork must be carried out according to SABS 1200H. <p>Carried to Collection</p> <p>Section No. 2 Bill No. 11 Structural Steelwork</p>			
			R	

7. All bolts and nuts must have washers.
8. The contractor must ensure adequate structural stability
of the structure for the full duration of erection.
The contractor shall supply all temporary bracing and fixing mechanisms to achieve the above.
9. No holes to be formed or widened with the use of a cutting torch. The contractor must confirm all dimensions on site.
Discrepancies to be reported to the engineer.
10. Prices for all structural steelwork are to include for the following:
 - (a) preparation and submission of two complete sets of shop drawings to the Structural Engineers for approval,
 - (b) fabrication,
 - (c) cleaning down and sandblasting to SA 2,5 (SIS 05 5900 - 1967) with profile of between 40 and 70 micron,
 - (d) prime (within 3 hours of sandblasting) with "Plascon zinc phosphate primer (UC. 170) to dry film thickness of between 50 and 100 micron,
 - (e) delivery to site,
 - (f) storage, if necessary,
 - (g) hoisting and erection complete, including all holing, galvanised mild steel bolts, washers, packing pieces, bolting, welding, etc
11. Painting of structural steelwork after erection is elsewhere measured

HALL ROOF TRUSSES AND BEAMS

STEEL, ERECTED AND FIXED IN POSITION
COMPLETE

THE FOLLOWING IN STEEL TRUSS SET COMPLETE

NOTE: Hall side wall height 5.9m and Hall centre height 9.633m

Carried to Collection

Section No. 2
Bill No. 11
Structural Steelwork

R

<u>Welded roof trusses of round hollow section rafters, tie beams, rails, struts, braces, cleats, etc and flat bearer, gusset and connection plates, bolted to steel</u>					
1	Steel truss exceeding 13.00m span (as per engineers detail, drawing no AG520A, AG521A). Truss overall size 29291 x 1300mm high, consisting of Truss top cord 127 x 4mm Diameter CHS, Truss bottom cord 127 x 4mm Diameter CHS, Truss Vertical Centre 127 x 4mm Diameter CHS, Truss Diagonal Members 63 x 3mm Diameter CHS, including all struts, braces, cleats, flat bearer, gusset and connection plates, bolted to steel B : 8	No	8		
2	Louver grid not exceeding 13.00m span, overall size 6.02 x 630mm high, Girts top and bottom rail diagonal and vertical bar 125 x 65 x 20 x 2.5mm CF lip Channel B : 7	No	7		
3	Flow brace consisting of 63 x 3.0mm Diameter CHS fixed to truss and purlin as per detail complete B : 48	No	48		
4	150 x 75 x 20 x 2.5mm x 6.31kg/m CF lip channel purlin fixed to trusses B : 6429	kg	6 429		
5	48 x 3.0 x 3.359kg/m Diameter CHS Sag bars bracing B : 705	kg	705		
6	73 x 3.0 mm x 5.416kg/m Diameter CHS Purlin bracing B : 1035	kg	1 035		
Carried to Collection				R	
Section No. 2 Bill No. 11 Structural Steelwork					

VERANDAH ROOF TRUSSES, BEAMS AND COLUMNS

THE FOLLOWING IN STEEL COLUMN AND BEAMS

Welded beams & columns in single lengths with flat section base, top, bearer and connection plates bolted to steel and/or concrete

7	IPE 200 x 100 x 22.4 x 22.4 kg/m (IPE 200) beam B : 3306	kg	3 306
8	75 x 75 x 3,5mm x 7.898kg/m Hollow section square column A : 285 B : 444 C : 253 D : 824 E : 190 F : 222 G : 1331 H : 190 I : 190 J : 348 K : 63 L : 63 M : 348 N : 475	kg	5 227
9	120 x 60 x 3,5mm x 9.564kg/m Hollow section beam A : 294 B : 681 C : 219 D : 727 E : 146 F : 191 G : 1149 H : 215 I : 215 J : 290 K : 37 L : 26 M : 320 N : 499	kg	5 007

THE FOLLOWING IN STEEL RAFTERS AND PURLINS

Welded rafters & purlins in single lengths with flat section base, top, bearer and connection plates bolted to steel and/or concrete

10	100 x 50 x 3,0mm x 6.807kg/m Hollow section rafter A : 434 B : 1184 C : 750 D : 1224 E : 257 F : 276 G : 1836 H : 336 I : 336 J : 434 K : 59 L : 59 M : 533 N : 750	kg	8 468
11	76 x 38 x 2,5mm x 4.347kg/m Hollow section purlin welded to rafter A : 401 B : 216 C : 299 D : 991 E : 198 F : 261 G : 1566 H : 293 I : 293 J : 396 K : 51 L : 35 M : 436 N : 680	kg	6 115

Carried to Collection

R

Section No. 2
Bill No. 11
Structural Steelwork

	<u>Cleats, brackets, etc</u>				
12	60 x 200 x 6 mm Thick plate as rafter end plate, with two (2No) 16mm holes	kg	21		
	A : 1 B : 3 C : 1 D : 3				
	E : 1 F : 1 G : 5 H : 1				
	I : 1 J : 1 K : 0 L : 0				
	M : 1 N : 2				
13	125 x 50 x 5mm Thick flatbar welded to columns, with one (1No) 14mm hole	kg	76		
	A : 4 B : 6 C : 4 D : 12				
	E : 3 F : 3 G : 19 H : 3				
	I : 3 J : 5 K : 1 L : 1				
	M : 5 N : 7				
14	75 x 50 x 6mm Thick flatbar welded between square hollow columns as spacers	kg	68		
	A : 3 B : 4 C : 4 D : 8				
	E : 3 F : 3 G : 19 H : 3				
	I : 3 J : 5 K : 1 L : 1				
	M : 5 N : 7				
15	160 x 160 x 10mm Baseplate, with four (4No) 16mm holes	kg	305		
	A : 17 B : 26 C : 15 D : 48				
	E : 11 F : 13 G : 78 H : 11				
	I : 11 J : 20 K : 4 L : 4				
	M : 20 N : 28				
16	225 x 75 x 6mm Thick top plate	kg	120		
	A : 7 B : 10 C : 6 D : 19				
	E : 4 F : 5 G : 31 H : 4				
	I : 4 J : 8 K : 1 L : 1				
	M : 8 N : 11				
17	75 x 75 x 3mm Thick closing plate	kg	116		
	A : 6 B : 10 C : 6 D : 18				
	E : 4 F : 5 G : 29 H : 4				
	I : 4 J : 8 K : 1 L : 1				
	M : 8 N : 11				

Carried to Collection

R

Section No. 2
Bill No. 11
Structural Steelwork

18	225 x 50 x 5mm Thick flatbar as cleat welded on top of top plate, with four (4No) 14mm holes A : 7 B : 11 C : 7 D : 21 E : 5 F : 6 G : 34 H : 5 I : 5 J : 9 K : 2 L : 2 M : 9 N : 12 <u>Bolts, etc</u>	kg	135		
19	M12 x 100mm anchor bolts A : 80 B : 246 C : 72 D : 228 E : 50 F : 56 G : 354 H : 58 I : 58 J : 88 K : 14 L : 14 M : 98 N : 136	No	1 552		
20	M12 x 100mm chemical bolts A : 108 B : 168 C : 96 D : 312 E : 72 F : 84 G : 504 H : 72 I : 72 J : 132 K : 24 L : 24 M : 132 N : 180 <u>WELDED SCREENS, ETC.</u> <u>Welded screens to store area fixed 100mm above ceilings, prepared and hot dipped galvanised and welding spots to be finished with cold galvanising on site</u> Screenex or Bastion Galvanised Steel Mesh or similar & approved laid into 50 x 50 x 5mm angle iron frames in units 1 100 mm wide x 2 500 mm maximum long, mesh welded into frame and sandwiched between second frame	No	1 980		
21	Mesh screen welded with a heavy duty welder onto frame C : 175 H : 24 I : 24 M : 24	m ²	248		
22	50 x 50 x 6 mm (4.47 kg/m) angle section frame C : 1361 H : 311 I : 311 M : 311	kg	2 293		
23	10 mm Diameter x 75 mm long expansion bolt C : 194 H : 46 I : 46 <u>WORKSHOP DRAWINGS</u>	No	286		
24	Allow for workshop drawings as specified and approved by the Engineer		Item		
Carried to Collection				R	
Section No. 2 Bill No. 11 Structural Steelwork					

Section No. 2

Bill No. 11

Structural Steelwork

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

103

104

105

106

107

108

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2

Bill No. 11

Structural Steelwork

R

Supply and install level lite F10 self-levelling screed or similar approved thickness of no less than 5mm prior to applying level lite® F10 self levelling compound, it is important to determine that the substrate is sound (cracks are often an indication of delamination between the slab and sand/ cement screeds, and it is advisable to tap the screed at regular intervals and listen for hollow sounds which indicate poor interlayer adhesion), with no loose or friable material, dry, ie less than 3%MC (verify the maximum permissible screed moisture level of the floor covering to be installed, and that screed moisture tests indicate suitability. all installed according to Manufactures specifications

2	Self levelling screed 4-8mm thick on floors	m²	4 290
	A : 305 B : 1040 C : 262 D : 544		
	E : 109 F : 146 G : 876 H : 129		
	I : 129 J : 144 K : 15 L : 8		
	M : 207 N : 376		

INTERNAL PLASTER

Cement plaster on brickwork finished with a steel trowel

3	On walls	m²	8 451
	2 : 41 A : 645 B : 1788 C : 374		
	D : 1292 E : 249 F : 219 G : 1317		
	H : 372 I : 372 J : 491 K : 70		
	L : 46 M : 522 N : 653		

4	On narrow widths	m²	370
	2 : 1 A : 16 B : 118 C : 12		
	D : 37 E : 8 F : 14 G : 81		
	H : 11 I : 11 J : 6 K : 1		
	L : 1 M : 18 N : 34		

5	On Concrete columns and beams	m²	476
	B : 476		

Cement plaster on concrete finished with a steel trowel

6	On ceilings	m²	123
	A : 8 B : 115		

Carried to Collection

R

Section No. 2
Bill No. 12
Plastering

Section No. 2

Bill No. 12

Plastering

COLLECTION

Total Brought Forward from Page No

Page
No

110

111

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 12
Plastering

R

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BILL NO. 13</u>			
	<u>TILING</u>			
	- WORKGROUP 144 -			
	NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Items, materials or methods</u>			
	Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect			
	<u>Descriptions</u>			
	Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding			
	<u>WALL TILING</u>			
	<u>150 x 150mm JOHNSON White glazed (Grade A) ceramic tiles fixed with adhesive to plaster (plaster elsewhere) and with white waterproof grout</u>			
1	On walls	m ²	1 323	
	A : 22 B : 1070 D : 77 J : 92 K : 8 M : 54			
2	On narrow widths	m ²	25	
	A : 1 B : 18 D : 1 J : 4			
3	Splash back	m ²	38	
	A : 4 D : 19 H : 3 I : 3 J : 4 K : 1 L : 1 M : 3			
	Carried to Collection			R
	Section No. 2 Bill No. 13 Tiling			

FLOOR TILING

300 x 300 x 8mm Full Body Porcelain non-slip tiles
(Allow R 350/m² for supply and delivery to site) on and
including 10mm bedding laid in patterns on screed
(screed elsewhere measured) and flush pointed with
tinted waterproof jointing compound with maximum 8mm
joints

4	On floors	m²	235	
	B : 235			

5	Skirting 300mm high	m	313	
	B : 313			

Non-slip white shower mosaic floor tiles with light-grey
frout

6	Shower floors	m²	8	
	J : 7 K : 1			

SUNDRIES

Internal or external corner strips

7	10mm Aluminium Square Edge Trim (Kirk100)	m	210	
	A : 11 B : 154 D : 11 J : 35			

Carried to Collection

R

Section No. 2
Bill No. 13
Tiling

Section No. 2

Bill No. 13

Tiling

COLLECTION

Total Brought Forward from Page No

Page
No

113

114

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 13
Tiling

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 14</u></p> <p><u>PLUMBING AND DRAINAGE</u></p> <p>- WORKGROUP 148 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>Copper pipes</u></p> <p>Pipes shall be hard drawn and half-hard pipes of the class stated. Class O (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><u>Reducing fittings</u></p> <p>Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60 mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60 mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained</p> <p><u>Wire gratings</u></p> <p>Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings</p>			
	Carried to Collection		R	
	<p>Section No. 2</p> <p>Bill No. 14</p> <p>Plumbing and Drainage</p>			

Exposed concrete surfaces

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster

Excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling

"Soft rock" and "hard rock" shall be as defined in "Earthworks"

Laying, backfilling, bedding, etc of pipes

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

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following:

SABS 1200 L : Medium-pressure pipelines

SABS 1200 LD : Sewers

SABS 1200 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

Flush pans

Flush pans shall have straight or side outlets and "P" or "S" traps as necessary

Stainless steel basins, sinks, wash troughs, urinals, etc

Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable

Carried to Collection

Section No. 2
Bill No. 14
Plumbing and Drainage

R

<u>Waste unions</u>					
Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings					
<u>SANITARY FITTINGS</u>					
<u>Wash hand basins</u>					
1	Vaal Sanitaryware vitreous china 510 x405mm rounded "Hibiscus" basin with three semi-punched tapholes, integrated overflow, and chainstay hole through the centre semi-punched taphole, including plug A : 7 B : 21 D : 12 H : 5 I : 5 J : 6 K : 1 L : 1 M : 5	No	63		
2	Grade R, Vaal Sanitaryware vitreous china 455 x290mm "Bantam" basin with two semi-punched tapholes (in RHS configuration), integrated overflow and chainstay hole. D : 18	No	18		
3	VAAL or similar approved Laboratory sink 234500, without overflow & with center end waste outlet. To be used with acid resistant waste - 8790Z0. Fixed undercounter top. H : 4 I : 13 M : 13	No	30		
4	32mm 350 CP bottle trap A : 7 B : 21 D : 30 H : 9 I : 18 J : 6 K : 1 L : 1 M : 18	No	111		
5	COBRA WATERTECH or similar approved Demand pushbutton pillar tap 15mm with raised nose. With cold indices. 1/2" BSP Male inlet and flanged backnut. Code KM2-102 B : 19 D : 24 H : 5 I : 5 J : 6 M : 5	No	64		
6	COBRA WATERTECH Basin pillar tap no: 111 with Star chromium plated handle, colour markings (hot/left & cold/right). Recommended working pressure is 400kpa (4 bar) A : 6 K : 1 L : 1	No	8		
Carried to Collection				R	
Section No. 2 Bill No. 14 Plumbing and Drainage					

7	COBRA WATERTECH or similar approved 503-21B elbow action Pillar tap (Cold only) A : 1 B : 2 D : 6 H : 4 I : 13 M : 13	No	39		
	<u>Urinals</u>				
8	Vaal Sanitaryware vitreous china wall hung "Lavatera" urinal with top inlet (code705426). Overall size 600 x 385 x 380 mm. Top inlet fittings (code 7054Z1). include a 38mm c.p. domical grating, a spreader (with a 20 mm diameter thread), and two hanger brackets. A : 2 B : 5 H : 2 I : 2 J : 3 M : 2	No	16		
9	32mm 350 CP bottle trap A : 2 B : 5 H : 2 I : 2 J : 3 M : 2	No	16		
10	15mm 128-15 CP underwall stopcock YA : 16	No	16		
11	"Junior type FJ6.000/FJT5.1" chromium plated flush valve complete with push button assembly A : 2 B : 5 H : 2 I : 2 J : 3 M : 2	No	16		
	<u>Water Closets</u>				
12	Vaal Sanitaryware vitreous china "Afsan" low level 90° outlet washdown pan.Vaal Sanitaryware vitreous china "Hibiscus Elite Vandal Proof" low level cistern (code7116LV), complete with front push button, lid, fitments and low level flush pipe. A : 4 B : 24 H : 4 I : 4 J : 3 K : 1 L : 1 M : 4	No	45		
13	MINI' WC SUITE: Vaal Sanitaryware vitreous china "Junior" 104° outlet washdown pan(code 751300) complete with lid and fitments, and Junior Jazz seat (code 8532Z000).Vaal Sanitaryware vitreous china "Hibiscus Elite Vandal Proof" low level cistern (code7116LV), complete with front push button, lid, fitments and low level flush pipe. D : 12	No	12		
Carried to Collection				R	
Section No. 2 Bill No. 14 Plumbing and Drainage					

14	Vaal Sanitaryware vitreous china "Protea Paraplegic" 90° outletpan (code 750200) and matching 9 litre cistern (code 7116LP) complete with lid, fitments, and purpose-made C.P. side-flush lever (left or right) or a back inlet exposed flushvalve. A : 1 B : 2 D : 6 H : 1 I : 1 M : 1	No	12
15	15mm Copper bent service pipe, 450mm girth, including two connectors A : 5 B : 26 D : 18 H : 5 I : 5 J : 3 K : 1 L : 1 M : 5	No	69
<u>The following in SHOWERS</u>			
16	40mm Shower P-trap with chrome plated grating, etc. J : 7 K : 1	No	8
17	15mm Undertile pattern stopcock with sliding wall flange - Carina 138CA-15 J : 7 K : 1	No	8
18	COBRA WATERTECH or similar approved Shower Set 3328SB026-065. Complete with 2x taps (hot & cold), flanges, shower arm 026 and -head 065 J : 7 K : 1	No	8
<u>Sinks</u>			
19	STAINLESS STEEL SINK: 1200mm drop-in one piece pressed sink in Formica Counter 0.9mm stainless steel gallow brackets & legs with soft black rubber P trap. A : 1 D : 6	No	7
20	STAINLESS DOUBLE STEEL SINK: 1800mm drop-in one piece pressed sink in Formica Counter, 0.9mm stainless steel gallow brackets & legs with soft black rubber P trap. B : 1 J : 1	No	2

Carried to Collection

R

Section No. 2
Bill No. 14
Plumbing and Drainage

21	Franke model "P2" Pot Sink double centre/end bowl pot sink, manufactured from grade 304 stainless steel 1,2mm thick with a 150mm high integral splash back and 50 x10mm turn down with a beaded edge on the remaining sides. Sink with a pressed 600x500x300mm deep bowl with a 40mm waste outletThe underside sprayed with vermin proof bitumastic sound deadening and supported with a 30x30x3mm framework and galvanised mild steel backing sheet. Unit fixed 900mm high from the top of the front apron to the finish floor level with anchor bolts B : 1	No	1
22	40mm Sink deepseal reseal "P" butyl trap A : 1 B : 4 D : 6 J : 1	No	12
23	COBRA WATERTECH or similar approved Capstan CSS 115/044 swan neck swivel sinkmixer, including plug and chain. A : 1 B : 2 D : 6 J : 1	No	10
<u>TAPS, VALVES, ETC</u>			
<u>"Cobra Watertech"</u>			
24	Brass wall mounted bib tap (Code: 100-15) A : 1	No	1
25	22mm 1003/125 RB fullway gate valve A : 1	No	1
<u>FLOOR TRAP</u>			
<u>Rofo Engineering or other approved</u>			
26	Rofo Engineering R-125H NW50 Square Flange Full Flow Floor Trap manufactured fromstainless steel 304, complete. Installed as per manufacturer specifications B : 3 H : 3 I : 3 J : 4 M : 3	No	16
<u>SANITARY PLUMBING</u>			
<u>uPVC pipes</u>			
27	50mm Pipes A : 49 B : 78 D : 101 H : 31 I : 56 J : 25 K : 6 L : 3 M : 56	m	405

Carried to Collection

R

Section No. 2
Bill No. 14
Plumbing and Drainage

28	110mm Pipes	m	75
	A : 10 B : 4 D : 29 H : 8		
	I : 8 J : 5 K : 2 L : 2		
	M : 8		
	<u>Extra over uPVC pipes for uPVC fittings</u>		
29	50mm Adaptor	No	136
	A : 10 B : 28 D : 36 H : 11		
	I : 20 J : 9 K : 1 L : 1		
	M : 20		
30	50mm Bend	No	158
	A : 20 B : 31 D : 42 H : 11		
	I : 20 J : 12 K : 1 L : 1		
	M : 20		
31	110mm Bend	No	69
	A : 5 B : 26 D : 18 H : 5		
	I : 5 J : 3 K : 1 L : 1		
	M : 5		
32	110mm Pan connector	No	69
	A : 5 B : 26 D : 18 H : 5		
	I : 5 J : 3 K : 1 L : 1		
	M : 5		
33	50mm Access bend	No	136
	A : 10 B : 28 D : 36 H : 11		
	I : 20 J : 9 K : 1 L : 1		
	M : 20		
34	50mm Junction	No	85
	A : 5 B : 14 D : 18 H : 7		
	I : 10 J : 9 K : 1 L : 1		
	M : 20		
35	50mm Access junction	No	60
	A : 3 B : 7 D : 10 H : 4		
	I : 5 J : 9 K : 1 L : 1		
	M : 20		
36	110mm Access junction	No	69
	A : 5 B : 26 D : 18 H : 5		
	I : 5 J : 3 K : 1 L : 1		
	M : 5		
	Carried to Collection		
	Section No. 2		
	Bill No. 14		
	Plumbing and Drainage		

R

37	50mm "GI two-way" vent valve A : 5 B : 5 D : 6 H : 3 I : 4 J : 9 K : 1 L : 1 M : 5	No	39
38	110mm "GI two-way" vent valve A : 5 B : 26 D : 18 H : 5 I : 5 J : 3 K : 1 L : 1 M : 5	No	69
	<u>Sundries</u>		
39	Testing waste pipe system YA : 1.00		Item
	<u>WATER SUPPLIES</u>		
	<u>Class 2 copper pipes</u>		
40	15mm Pipes A : 78 B : 151 D : 173 H : 51 I : 80 J : 80 K : 20 L : 13 M : 168	m	815
41	22mm Pipes A : 10 B : 96 D : 96 H : 22 I : 96 J : 52 K : 2 L : 2 M : 96	m	472
	<u>Extra over class 2 copper pipes for fittings</u>		
42	15mm Bush, elbow, bend, tee, reducing tee, saddles, etc. A : 195 B : 252 D : 287 H : 85 I : 100 J : 100 K : 22 L : 14 M : 209	No	1 264
43	22mm Bush, elbow, bend, tee, reducing tee, saddles, etc. A : 13 B : 120 D : 120 H : 28 I : 120 J : 65 K : 2 L : 2 M : 120	No	589

Carried to Collection

R

Section No. 2
Bill No. 14
Plumbing and Drainage

LAGGING

25mm Thick fibre glass insulation wrapped around pipes and fittings including straps, etc.

44	15mm Pipes	m	815
	A : 78 B : 151 D : 173 H : 51		
	I : 80 J : 80 K : 20 L : 13		
	M : 168		
45	22mm Pipes	m	472
	A : 10 B : 96 D : 96 H : 22		
	I : 96 J : 52 K : 2 L : 2		
	M : 96		

ELECTRIC WATER HEATERS

Hydroboil

46	Franke Zip Hydroboil Pro	No	2
	B : 1 J : 1		
47	Zip Hydroboil Automatic Boiling water dispenser, wall mounted	No	6
	D : 6		

FIRE APPLIANCES, ETC

Fire hose reels, extinguishers, etc.

48	"Centa" portable hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and purpose made wall bracket and carry handle, fitted with "Rainbird SH-2" or similar approved hose swivel (for connection with 25mm brass quick-coupling valve elsewhere measured)	No	8
	5 : 8		
49	9kg Dry powder chemical fire extinguisher	No	22
	A : 5 B : 5 D : 12		
50	4.5kg Carbon dioxide fire extinguisher with and including 20 x 100 x 600mm long oiled Meranti plank with bevelled edges and fixed to brick wall	No	52
	A : 2 B : 3 C : 4 D : 12		
	E : 1 F : 2 G : 12 H : 2		
	I : 2 J : 4 M : 3 N : 5		

Carried to Collection

R

Section No. 2
Bill No. 14
Plumbing and Drainage

Fire drill

- 51 Allow for a 60-minutes duration fire drill for the staff and students of how to extinguish a fire with a dry powder and carbon dioxide type fire extinguisher. The Demonstrator (Contractor) must use his own fully charged 9kg Stored Pressurised Dry Chemical Powder and 5kg carbon dioxide fire extinguishers (See specification for more details)

YA : 1.00

TESTING

- 52 Provide all necessary apparatus water, etc for and test the whole of the Sanitary Plumbing and Water Supply installation to the satisfaction of the Representative/Agent and Municipality, replace any defective work free of charge and leave perfect

YA : 1.00

Item

Item

Carried to Collection

R

Section No. 2
Bill No. 14
Plumbing and Drainage

Section No. 2

Bill No. 14

Plumbing and Drainage

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

116

117

118

119

120

121

122

123

124

125

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2

Bill No. 14

Plumbing and Drainage

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 15</u></p> <p><u>Kitchen Equipment, Gas Installation, etc</u></p> <p>- WORKGROUP 170 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>FIRE APPLIANCES, ETC</u></p> <p>Tenderers are referred to Section 7 of these Bills of Quantities for a detailed specification for the Mechanical Installation</p> <p>The specification is divided into three parts:</p> <p>Part 1 deals with the general prescriptions and standards (Applicable to all parts)</p> <p>Part 2 deals with the ventilation systems</p> <p>Part 3 deals with the portable fire extinguishers</p> <p>The mechanical drawing, number DW1010M form part of the mechanical specification and should be referred to when pricing this bill</p> <p>The specification was prepared and compiled by the Mechanical Engineering Subdirector in Bloemfontein and any enquiries in this regard should be directed to Mr. P.W. Rossouw: Tel No (051) 405 5352, Cell No 083 697 3362</p> <p>Specific attention is drawn to the various SABS Standards and requirements mentioned in the said specification</p>			
	Carried to Collection		R	
	<p>Section No. 2</p> <p>Bill No. 15</p> <p>Kitchen Equipment, Gas Installation, etc.</p>			

GAS INSTALLATION

1	Steel Gas cilinder of 48 kg liquid Petroleum gas B : 4 I : 2 M : 2	No	8
2	Steel Cage 1270mm x 2000mm x 650mm deep, as per detail B : 2 I : 1 M : 1	No	4
3	Concrete Plinth for steel Cage 650mm x 1270mm x 180mm high, complete B : 2 I : 1 M : 1	No	4

KITCHEN EQUIPMENT FOR NUTRITION CENTRE

The supply, delivery on site and construction of the following materials and equipment

NOTE:

Unless otherwise stated herein, all items in this bill shall be deemed to fall into Work Group No. 170 for JBCC CPAP purposes.

All item should be checked against the engineers report that attached

4	1650 x 750 x 910mm High Stainless Steel (306) Table B : 1	No	1
5	1650 x 650 x 910mm High Stainless Steel (306) Table with 150mmmm Splashback B : 1	No	1
6	1050 x 650 x 910mm High Stainless Steel (306) Table with 150mmmm Splashback B : 1	No	1
7	820 x 380mm Stainless Steel (306) Econo shelving Type 430 or Similar appoved, complete with uprights and corner gussets B : 32	m	32
8	1120 x 380mm Stainless Steel (306) Econo shelving Type 430 or Similar appoved, complete with uprights and corner gussets B : 27	m	27
9	500 x 500 Aluminium Trox louvres B : 1	No	1

Carried to Collection

R

Section No. 2
Bill No. 15
Kitchen Equipment, Gas Installation, etc.

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Section No. 2

Bill No. 15

Kitchen Equipment, Gas Installation, etc.

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

127

128

129

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2

Bill No. 15

Kitchen Equipment, Gas Installation, etc.

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u></p> <p><u>BILL NO. 16</u></p> <p><u>GLAZING</u></p> <p>- WORKGROUP 150 -</p> <p>NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Items, materials or methods</u></p> <p>Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect</p> <p><u>GLAZING TO STEEL WITH PUTTY</u></p> <p><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></p> <p><u>6mm Silvered float glass copper backed mirrors with 10 mm bevelled and polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u></p>			
1	<p>Mirror 450 x 600mm high with 4 round nose chromium plated mirror screws</p> <p>A : 7 B : 21 D : 30 H : 5</p> <p>I : 5 J : 6 K : 1 L : 1</p> <p>M : 5</p>	No	81	
	<p>CARRIED FORWARD TO SUMMARY OF SECTION</p> <p>No: 2</p> <p>Section No. 2</p> <p>Bill No. 16</p> <p>Glazing</p>			R

Item No		Quantity	Rate	Amount
	SECTION NO. 2			
	BILL NO. 17			
	PAINTWORK			
	- WORKGROUP 152 -			
	NOTE: Tenderers are advised to study the Preambles for Trades before pricing this bill			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Items, materials or methods</u>			
	Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. The use of trade names for items, materials or methods shall also mean - or other approved - on the condition that prior approval is obtained from the architect			
	<u>PAINTWORK, ETC TO NEW WORK</u>			
	<u>ON STEEL FLOATED PLASTER</u>			
	<u>Prepare surfaces and remove all loose material, apply one coat 'Dulux Primer' and two coats 'Dulux Acrylic PVA' paint</u>			
1	On internal walls 2 : 41 A : 661 B : 836 C : 387 D : 1329 E : 257 F : 233 G : 1398 H : 237 I : 237 J : 234 K : 48 L : 26 M : 399 N : 687	m ²	7 010	
2	On plastered ceiling A : 8 B : 115	m ²	123	
3	On concrete columns and beams B : 476	m ²	476	
	<u>Prepare surfaces and remove all loose material, apply one coat 'Dulux Primer' and two coats 'Dulux Eggshell Enamel' paint</u>			
4	On internal walls B : 1070 H : 150 I : 150 J : 263 K : 23 L : 21 M : 141	m ²	1 817	
	Carried to Collection			
	Section No. 2 Bill No. 17 Paintwork			
			R	

ON CEILINGS

Prepare surfaces and remove all loose material, apply two coats 'Dulux Acrylic PVA' paint

5 On internal ceilings and cornice m² 807
A : 295 B : 249 C : 262

6 On internal Sloping ceilings and cornice m² 2 793
D : 544 E : 109 F : 146 G : 876
H : 152 I : 152 J : 185 K : 15
L : 8 M : 230 N : 376

Prepare surfaces and remove all loose material, apply one coat 'Dulux Primer' and two coats 'Dulux Eggshell Enamel' paint

7 On internal ceilings and cornice m² 118
A : 23 B : 20 C : 45 J : 31

ON FIBRE-CEMENT

Prepare surfaces and remove all loose material, apply one coat 'Sealer' and two coats 'Dulux Enamel' paint

8 On internal window sills not exceeding 300 mm wide or girth in colours differing from surrounding work m 794
A : 32 B : 174 C : 25 D : 105
E : 21 F : 33 G : 201 H : 28
I : 28 J : 14 K : 2 L : 4
M : 43 N : 83

9 On Barge and fascia boards fixed to wooden trusses m 1 571
2 : 24 A : 75 B : 177 C : 124
D : 199 E : 53 F : 63 G : 376
H : 68 I : 68 J : 84 K : 23
L : 21 M : 90 N : 127

10 On Barge and fascia boards fixed to wooden trusses m 602
A : 30 B : 150 C : 23 D : 76
E : 16 F : 20 G : 120 H : 22
I : 22 J : 30 K : 4 L : 3
M : 33 N : 52

Carried to Collection

R

Section No. 2
Bill No. 17
Paintwork

ON METAL

Spot priming defects in pre-primed surfaces with 'Dulux Synthetic Metal' and apply one coat 'Dulux Universal Undercoat' and two coats 'Dulux Gloss Enamel' paint on steel

11	On door frames	m ²	264
	A : 18 B : 94 C : 11 D : 31		
	E : 8 F : 6 G : 18 H : 17		
	I : 17 J : 14 K : 3 L : 3		
	M : 8 N : 17		

12	On gates, grilles, burglar screens, balustrades, etc. (both sides measured over the full flat area)	m ²	137
	1 : 4 A : 31 B : 12 D : 62		
	H : 4 I : 4 J : 7 M : 7		
	YA : 7		

13	On beams and columns	m ²	2 050
	A : 124 B : 208 C : 110 D : 288		
	E : 93 F : 100 G : 444 H : 104		
	I : 104 J : 125 K : 25 L : 24		
	M : 133 N : 169		

ON WOOD

Three coats clear marine varnish

14	On doors	m ²	669
	A : 68 B : 123 C : 33 D : 166		
	E : 19 F : 15 G : 46 H : 43		
	I : 43 J : 35 K : 9 L : 8		
	M : 19 N : 42		

Three coats polyurethane matt varnish

15	On skirting, rails, etc. not exceeding 300mm girth	m	2 111
	A : 201 B : 218 C : 147 D : 241		
	E : 81 F : 85 G : 509 H : 85		
	I : 85 J : 66 K : 14 L : 17		
	M : 137 N : 226		

Carried to Collection

R

Section No. 2
Bill No. 17
Paintwork

Section No. 2

Bill No. 17

Paintwork

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

132

133

134

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 2**

Section No. 2
Bill No. 17
Paintwork

R

SECTION SUMMARY - NEW BUILDINGS			Page No	Amount
1	Earthworks	48		
2	Concrete, Formwork and Reinforcement	55		
3	Masonry	63		
4	Waterproofing	66		
5	Roof Coverings, etc	69		
6	Carpentry and Joinery	77		
7	Ceilings, Partitions and Access Flooring	81		
8	Floor Coverings, Wall Linings, etc	84		
9	Ironmongery	93		
10	Metalwork	102		
11	Structural Steelwork	109		
12	Plastering	112		
13	Tiling	115		
14	Plumbing and Drainage	126		
15	Kitchen Equipment, Gas Installation, etc.	130		
16	Glazing	131		
17	Paintwork	135		
CARRIED TO FINAL SUMMARY			R	
Section No. 2				

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 1</u>			
	<u>SITE WORKS AND PAVING (PROVISIONAL)</u>			
	- WORKGROUP 104 -			
	<u>GENERAL EARTH WORKS (PROVISIONAL)</u>			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>SITE CLEARANCE, REMOVAL OF TREES, ETC.</u>			
	<u>Site Clearance :</u>			
1	Clear area of site of all rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200 mm girth, bush, etc., including reclearing of any subsequent vegetation growth during the contract period as considered necessary by the Representative and removing all material from site 5 : 29838	m ²	29 838	
	<u>LANDSCAPING AND GARDENING</u>			
	<u>Taking out and removing, grubbing up roots and filling in holes</u>			
2	Indigenous tree exceeding 200mm and not exceeding 500mm girth 5 : 5	No	5	
3	Ditto, exceeding 1,000mm and not exceeding 1,500mm girth 5 : 7	No	7	
4	Ditto, exceeding 1,500mm and not exceeding 2,000mm girth 5 : 8	No	8	
	<u>Supply and install "Swart Karee Trees (50l)" or similar approved</u>			
5	Supply, deliver and plant 50l trees 5 : 44	No	44	
6	Excavate suitable size hole, fill with red garden soil and appropriate fertilizer mix as per tree supplier. 5 : 44	No	44	
	Carried to Collection			
	Section No. 3			
	Bill No. 1			
	Site works and Paving (Provisional)			

7	Supply and install 500mm diameter round precast concrete tree ring 5 : 44	No	44		
8	Square planter box size 1800mm x 1800mm formed of Precast concrete barrier kerb (Figure 3), wet pressed, placed in position, bedded and jointed in (3:1) cement mortar and flush pointed on exposed faces, including 30MPa/19mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, ramming, etc. YA : 40 <u>Landscaping</u> <u>Maintenance period</u> Attention is drawn to the maintenance period prescribed in the specification <u>Ground preparation</u>	No	40		
9	Cultivation and preparation of areas to be planted 5 : 9223 <u>Topsoil, compost, lime and fertilizer</u>	m ²	9 223		
10	Topsoil supplied by the contractor in plant beds, grassed areas and holes for trees, shrubs, etc 5 : 2767	m ³	2 767		
11	"Kikuyu" sods approximately 300 x 250 x 75mm thick 5 : 10328	m ²	10 328		
12	Maintenance shall consist of watering, weeding, cutting, repair of all erosion and settlements, replanting and topsoil dressing to establish a uniform surface with healthy growth <u>Preparations for vegetable garden</u>		Item		
13	Excavate 450mm deep in earth to spoil excavated material on site located by the contractor 5 : 45	m ³	45		
14	Supply and install suitable top soil mix 5 : 45	m ³	45		
Carried to Collection				R	
Section No. 3 Bill No. 1 Site works and Paving (Provisional)					

	<u>Large format chess board</u>				
15	Supply, deliver and install 64cm large high-density polyethene recycled plastic garden chess set complete with 2800 x 2800mm heavy duty nylon chessboard with 38cm squares.		Item		
	<u>OUTSIDE LEARNING SPACE AND SEATING STRUCTURE</u>				
	<u>EXCAVATIONS</u>				
	<u>Excavation in earth not exceeding 2 m deep</u>				
16	Trenches YA : 158	m ³	158		
	<u>Extra over all excavations for carting away</u>				
17	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor YA : 158	m ³	158		
	<u>Risk of collapse of excavations</u>				
18	Sides of excavations not exceeding 1,50m deep YA : 299	m ²	299		
	<u>Keeping excavations free of water</u>				
19	Keeping excavations free of water YA : 1.00		Item		
	<u>FILLING, ETC.</u>				
	<u>Earth filling with excavated material compacted to 93% Modified AASHTO density in 150mm layers</u>				
20	Backfilling to trenches, holes, etc YA : 57	m ³	57		
Carried to Collection				R	
Section No. 3					
Bill No. 1					
Site works and Paving (Provisional)					

<u>CONCRETE</u>					
<u>REINFORCED CONCRETE</u>					
<u>30 Mpa/19mm Concrete poured around reinforcement:</u>					
21	Stripfootings YA : 59	m ³	59		
<u>TEST BLOCKS</u>					
22	Making and testing set of three of 150 x 150 x 150mm concrete strength test cubes (Provisional) YA : 10	Sets	10		
<u>REINFORCEMENT (Provisional)</u>					
<u>Mild steel reinforcement</u>					
23	8mm to 12mm Diameter rods YA : 1.89	t	1.89		
<u>High tensile steel reinforcement</u>					
24	10mm to 32mm Diameter bars YA : 2.83	t	2.83		
<u>MASONRY</u>					
<u>FOUNDATION BRICKWORK</u>					
<u>Brickwork of NFX bricks in 3 :1 cement mortar:</u>					
25	440mm Brick walls YA : 209	m ²	209		
<u>BRICKWORK</u>					
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar with "Sika-1" liquid waterproofing admixture (Provisional)</u>					
26	440mm Brick walls YA : 172	m ²	172		
<u>Brickwork reinforcement</u>					
27	150mm Wide reinforcement built in horizontally YA : 5087	m	5 087		
Carried to Collection				R	
Section No. 3 Bill No. 1 Site works and Paving (Provisional)					

<u>FACE BRICKWORK</u>					
<u>Firelight Travertine FBX (or other approved) pointed with recessed horizontal and vertical joints</u>					
28	Extra over brickwork for face brickwork YA : 113	m ²	113		
29	Brick-on-edge header course coping to top of one brickwall, built fair and pointed on top and both edges YA : 419	m	419		
<u>Corobrik Titanium Satin FBX (or other approved) pointed with recessed horizontal and vertical joints</u>					
30	Extra over brickwork for face brickwork in stack bond YA : 174	m ²	174		
31	Brick-on-edge header course coping to top of one brickwall, built fair and pointed on top and both edges YA : 168	m	168		
<u>PAVING</u>					
<u>Paving of 60 mm concrete paving bricks of approved colour with butt joints on 20 mm thick river sand bed (elsewhere measured)</u>					
32	Extra over on Paving in stack bond YA : 84	m ²	84		
33	Extra over on Paving in stack bond to falls and cross fall YA : 100	m ²	100		
34	Extra over on Paving in stack bond in circular shape YA : 109	m ²	109		
<u>ROADS, PAVINGS, ETC.,</u>					
- WORKGROUP 154 -					
<u>BULK EXCAVATION, FILLING, ETC</u>					
<u>Excavation over site</u>					
35	Reduce levels not exceeding 2 m deep under parking areas, etc. 5 : 1759	m ³	1 759		
Carried to Collection				R	
Section No. 3					
Bill No. 1					
Site works and Paving (Provisional)					

	<u>Extra over all excavations for carting away</u>				
36	Surplus material from excavations and/or stock piles on site to be levelled on site as per instruction from the Representative. 5 : 1759	m ³	1 759		
	<u>Compaction of surfaces</u>				
37	Rip and re-compaction of in-situ ground surface under parking etc including scarifying for a depth of 150 mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% modified AASHTO density 5 : 10475	m ²	10 475		
	<u>Earth filling supplied by the contractor</u>				
38	Over site of G7 material subgrade layer in accordance with SABS 1200 DM compacted to 93% modified AASHTO density 5 : 1383	m ³	1 383		
39	Over site of G6 material subgrade layer in accordance with SABS 1200 DM compacted to 95% modified AASHTO density 5 : 1571	m ³	1 571		
40	Over site of G5 material subgrade layer in accordance with SABS 1200 DM compacted to 95% modified AASHTO density 5 : 188	m ³	188		
41	Over site of C4 material subgrade layer in accordance with SABS 1200 DM compacted to 97% modified AASHTO density 5 : 188	m ³	188		
	<u>Coarse river sand filling supplied by the Contractor</u>				
42	Under paving 5 : 210	m ³	210		
	<u>Keeping excavations free of water</u>				
43	Keeping excavations free of water		Item		
Carried to Collection				R	
Section No. 3 Bill No. 1 Site works and Paving (Provisional)					

	<u>WEED KILLER</u>				
	<u>Approved weed killer in strict accordance with manufacturers instructions</u>				
44	Under paving, etc 5 : 10475	m ²	10 475		
	<u>Prescribed density tests on filling</u>				
45	"Modified AASHTO Density" test 5 : 45	No	45		
	<u>CONCRETE</u>				
	<u>PAVING</u>				
	Paving is to be laid in accordance with SABS 1200 MJ, SABS 1058 and the Concrete Masonry Association's specifications				
	<u>Paving of 60 mm concrete paving bricks of approved colour with butt joints on 20 mm thick river sand bed (elsewhere measured)</u>				
46	Paving in stretcher bond to falls 5 : 9223	m ²	9 223		
	<u>Paving of 80 mm concrete paving bricks of approved colour with butt joints on 20 mm thick river sand bed (elsewhere measured)</u>				
47	Paving in stretcher bond to falls 5 : 1252	m ²	1 252		
	<u>PRECAST KERBS</u>				
	<u>Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing</u>				
48	Precast concrete mountable kerb (Figure 8C) size 200mm x 300mm high in 1000mm lengths, wet pressed, placed in position, bedded and jointed in (3:1) cement mortar and flush pointed on exposed faces, including 30MPa/19mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, ramming, etc. 5 : 25	m	25		
Carried to Collection				R	
Section No. 3 Bill No. 1 Site works and Paving (Provisional)					

49	Precast concrete barrier kerb (Figure 3) size 125mm x 300mm high in 1000mm lengths, wet pressed, placed in position, bedded and jointed in (3:1) cement mortar and flush pointed on exposed faces, including 30MPa/19mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, ramming, etc. 5 : 216	m	216
50	Precast concrete barrier kerb (Figure 3) size 125mm x 300mm high (circular on plan) in 1000mm lengths, wet pressed, placed in position, bedded and jointed in (3:1) cement mortar and flush pointed on exposed faces, including 30MPa/19mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, ramming, etc. 5 : 42	m	42
<u>ROAD MARKING</u>			
51	100mm Wide white lines (unbroken) with an approved road marking paint 5 : 345	m	345
52	100mm Wide yellow lines (unbroken) with an approved road marking paint 5 : 150	m	150
<u>RETRO-REFLECTIVE ROAD SIGNS, ETC.</u>			
Road signs and road markings shall conform to the requirements given in the South African Road Traffic Manual and relevant SABS specifications.			
The rate tendered for road signs shall cover the cost of supplying and erecting the completed signboard supports, face, frame and fixing brackets and shall include the cost for providing retro-reflective backgrounds, symbols, characters, legends and borders of the type specified in the South African Road Traffic Manual. The tendered rate shall include for excavations, backfilling and concreting of sign supports.			
53	600mm Diameter regulation "STOP" sign (R2) in accordance with S.A.B.S. standard fitted and fixed on creosoted pole, 2 000mm high bedded in 450 x 450 x 600mm deep concrete footing, included all necessary excavation, etc. 5 : 2	No	2

Carried to Collection

R

Section No. 3
Bill No. 1
Site works and Paving (Provisional)

54	600mm Diameter regulation "DISABLED PARKING SYMBOL" sign (R323) in accordance with S.A.B.S. standard fitted and fixed on creosoted pole, 2 000mm high bedded in 450 x 450 x 600mm deep concrete footing, included all necessary excavation, etc. 5 : 1	No	1		
	<u>CONCRETE WALKWAYS</u>				
	<u>EXCAVATION, ETC.</u>				
	<u>Compaction of surfaces</u>				
55	Rip and re-compaction of in-situ ground surface under parking etc including scarifying for a depth of 150 mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% modified AASHTO density 5 : 530	m ²	530		
	<u>Earth filling supplied by the contractor</u>				
56	Over site of G7 material subgrade layer in accordance with SABS 1200 DM compacted to 93% modified AASHTO density 5 : 80	m ³	80		
57	Over site of G6 material subgrade layer in accordance with SABS 1200 DM compacted to 95% modified AASHTO density 5 : 106	m ³	106		
	<u>REINFORCED CONCRETE</u>				
58	Reinforced concrete (20MPa) in walkway slab 5 : 85	m ³	85		
	<u>CONCRETE SUNDRIES</u>				
59	Wood float finish to top of concrete surface bed. 5 : 530	m ²	530		
60	Half rounded angle on edge of concrete walkways. 5 : 1072	m	1 072		
	<u>GENERAL FORMWORK</u>				
61	Rough formwork to edge of concrete not exceeding 300mm high. 5 : 535	m	535		
Carried to Collection				R	
Section No. 3 Bill No. 1 Site works and Paving (Provisional)					

62	12mm Expansion joints of 12mm bitumen impregnated softboard between vertical concrete surfaces not exceeding 300mm high. 5 : 221	m	221
63	Rake out softboard 25mm deep and seal expansion joints " Thioflex 600" polysulphide sealing compound including backing cord, bond breaker, primer, etc, in aprons. 5 : 221	m	221
<u>REINFORCEMENT</u>			
64	Type 193 fabric reinforcement in concrete surface beds, slabs, etc. 5 : 530	m ²	530
<u>CONCRETE APRONS</u>			
<u>The following in aprons</u>			
<u>EXCAVATION, ETC.</u>			
- WORKGROUP 104 -			
<u>Compaction of surfaces</u>			
65	Rip and re-compaction of in-situ ground surface under parking etc including scarifying for a depth of 150 mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% modified AASHTO density 5 : 1467	m ²	1 467
<u>Earth filling supplied by the contractor</u>			
66	Over site of G6 material subgrade layer in accordance with SABS 1200 DM compacted to 95% modified AASHTO density 5 : 220	m ³	220
<u>REINFORCED CONCRETE</u>			
- WORKGROUP 110 -			
67	Reinforced concrete (20MPa) in apron slab 5 : 235	m ³	235
<u>CONCRETE SUNDRIES</u>			
68	Wood float finish to top of concrete surface bed. 5 : 1467	m ²	1 467

Carried to Collection

R

Section No. 3
Bill No. 1
Site works and Paving (Provisional)

69	Half rounded angle on edge of concrete aprons. 5 : 1548	m	1 548
<u>GENERAL FORMWORK</u>			
- WORKGROUP 111 -			
70	Rough formwork to edge of concrete not exceeding 300mm high. 5 : 1548	m	1 548
71	12mm Expansion joints of 12mm bitumen impregnated softboard between vertical concrete surfaces not exceeding 300mm high. 5 : 516	m	516
72	Ditto, between vertical concrete surfaces and brickwork surfaces not exceeding 300mm high 5 : 1439	m	1 439
73	Rake out softboard 25mm deep and seal expansion joints " Thioflex 600" polysulphide sealing compound including backing cord, bond breaker, primer, etc, in aprons. 5 : 1955	m	1 955
<u>REINFORCEMENT</u>			
- WORKGROUP 114 -			
74	Type 193 fabric reinforcement in concrete surface beds, slabs, etc. 5 : 1467	m ²	1 467
<u>COVERED WALWAYS, PARKINGS AND SHADED AREAS</u>			
- WORKGROUP 134 -			
<u>COVERED WALKWAYS</u>			
<u>EXCAVATION, FILLING, ETC</u>			
- WORKGROUP 104 -			
<u>Excavation in earth not exceeding 2m deep</u>			
75	Bases 5 : 17	m ³	17

Carried to Collection

R

Section No. 3
Bill No. 1
Site works and Paving (Provisional)

	<u>Extra over all excavations for carting away</u>				
76	Surplus material from excavations to stock piles on site 5 : 17	m³	17		
	<u>Risk of collapse of excavations</u>				
77	Sides of trench and hole excavations not exceeding 1,5m deep 5 : 134	m²	134		
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	- WORKGROUP 110 -				
	<u>25MPa/19mm concrete</u>				
78	Bases 5 : 17	m³	17		
	<u>REINFORCEMENT (PROVISIONAL)</u>				
	- WORKGROUP 114 -				
	<u>High tensile steel reinforcement to structural concrete work</u>				
79	10mm Diameter bars 5 : 0.84	t	0.84		
	<u>STEEL COLUMNS AND BEAMS</u>				
	<u>Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete</u>				
80	120 x 60 x 3mm x 8.234kg/m RHS beams 5 : 5.94	t	5.94		
81	100 x 50 x 3mm x 6.807kg/m RHS beams 5 : 2.62	t	2.62		
	<u>STEEL PURLINS, GIRTS, BRACING, ETC</u>				
	<u>Purlins and girts, bolted to steel</u>				
82	150 x 50 x 20 x 2.5mm x 5.330kg/m Thick cold-formed lipped channel purlins 5 : 4.01	t	4.01		
83	75 x 75 x 3mm x 6.807kg/m SHS in columns 5 : 2.47	t	2.47		
	Carried to Collection			R	
	Section No. 3				
	Bill No. 1				
	Site works and Paving (Provisional)				

84	Base plates, cleats, etc. 5 : 1.18	t	1.18
<u>BOLTS, FASTENERS, ETC</u>			
85	M12 x 30 Bolts 5 : 2322	No	2 322
86	M16 x 45 Bolts 5 : 806	No	806
87	16mm Chemical bolts 5 : 1570	No	1 570
<u>PROFILED METAL SHEETING AND ACCESSORIES</u>			
- WORKGROUP 136 -			
<u>Global Roofing Solutions or equal and approved 0,6mm thick 700mm cover Klip-Tite™ profile Z275 spelter ISQ550 galvanised steel roof sheeting, fixed to timber or steel purlins using KL700 clips fixed with 10 No.16 x 16mm long self drilling wafer head PH2 screws, No. 3 drill point fasteners, all in accordance with the manufacturer's specifications. (Colour: Dark Dolphin or similar approved)</u>			
88	Roof covering with pitch not exceeding 25 degrees 5 : 577	m²	577
<u>PAINT ON METAL</u>			
- WORKGROUP 152 -			
<u>Prepare, touch up factory primer, paint one coat universal undercoat and two coats non drip matt polyurethane enamel paint</u>			
89	On general surfaces 5 : 178	m²	178
<u>COVERED PARKING</u>			
<u>EXCAVATION, FILLING, ETC</u>			
- WORKGROUP 104 -			
<u>Excavation in earth not exceeding 2m deep</u>			
90	Bases 5 : 3	m³	3
Carried to Collection			
Section No. 3			
Bill No. 1			
Site works and Paving (Provisional)			

R

	<u>Extra over all excavations for carting away</u>				
91	Surplus material from excavations to stock piles on site 5 : 2	m ³	2		
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 95% Modified AASHTO density</u>				
92	Backfilling to trenches, holes, etc. 5 : 1	m ³	1		
	<u>Risk of collapse of excavations</u>				
93	Sides of trench and hole excavations not exceeding 1,5m deep 5 : 22	m ²	22		
	<u>SOIL POISONING</u>				
	<u>Soil insecticide</u>				
94	To bottoms and sides of trenches, etc 5 : 25	m ²	25		
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	- WORKGROUP 110 -				
	<u>25MPa/19mm concrete</u>				
95	Bases 5 : 2	m ³	2		
	<u>REINFORCEMENT (PROVISIONAL)</u>				
	- WORKGROUP 114 -				
	<u>High tensile steel reinforcement to structural concrete work</u>				
96	10mm Diameter bars 5 : 0.09	t	0.09		
	<u>STEEL COLUMNS AND BEAMS</u>				
	- WORKGROUP 134 -				
	<u>Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete</u>				
97	100 x 100 x 4mm x 12.95kg/m SHS columns 5 : 0.51	t	0.51		
Carried to Collection				R	
Section No. 3					
Bill No. 1					
Site works and Paving (Provisional)					

98	150 x 100 x 4mm x 15kg/m RHS beams 5 : 0.50	t	0.50
99	150 x 100 x 6mm thick flatbar welded 5 : 12	No	12
100	150 x 100 x 3mm thick x 23.55 kg/m ² endcaps welded 5 : 12	No	12
101	100 x 100 x 8mm thick x 62.8 kg/m ² endcaps welded 5 : 12	No	12
<u>STEEL PURLINS, GIRTS, BRACING, ETC</u>			
<u>Purlins and girts, bolted to steel</u>			
102	150 x 75 x 20 x 2.5mm x 6.310kg/m Thick cold-formed lipped channel purlins 5 : 0.98	t	0.98
103	120mm long 125 x 75 x 8mm thick angle cleat welded 5 : 30	No	30
<u>Welded bracing, etc with connection plates, welded to steel</u>			
104	105 x 50 x 4mm x 35.32kg/m ² Flatbar welded on top of beam 5 : 12	No	12
<u>BOLTS, FASTENERS, ETC</u>			
105	M12 bolts (Class 8.8) 5 : 384	No	384
<u>PROFILED METAL SHEETING AND ACCESSORIES</u>			
<u>Global Roofing Solutions or equal and approved 0.6mm thick 700mm cover Klip-Tite™ profile Z275 spelter ISQ550 galvanised steel roof sheeting, fixed to timber or steel purlins using KL700 clips fixed with 10 No.16 x 16mm long self drilling wafer head PH2 screws, No. 3 drill point fasteners, all in accordance with the manufacturer's specifications. (Colour: Dark Dolphin or similar approved)</u>			
106	Roof covering with pitch not exceeding 25 degrees 5 : 172	m ²	172
Carried to Collection			
Section No. 3			
Bill No. 1			
Site works and Paving (Provisional)			

R

107	<p><u>PAINT ON METAL</u></p> <p>- WORKGROUP 152 -</p> <p><u>Prepare, touch up factory primer, paint one coat universal undercoat and two coats non drip matt polyurethane enamel paint</u></p> <p>On general surfaces 5 : 112</p>	m ²	112	
	<p>Carried to Collection</p>		R	
	<p>Section No. 3 Bill No. 1 Site works and Paving (Provisional)</p>			

Section No. 3

Bill No. 1

Site works and Paving (Provisional)

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 3**

R

Section No. 3

Bill No. 1

Site works and Paving (Provisional)

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 2</u>			
	<u>STORMWATER DRAINAGE (PROVISIONAL)</u>			
	- WORKGROUP 146 -			
	<u>STORMWATER CHANNELS</u>			
	<u>Stormwater channels, V drains, etc.</u>			
1	25 MPa Concrete open surface V-shape stormwater channel 1 000mm wide and 150mm thick and 75mm deep extreme formed in same, finished smooth on exposed faces with angles slightly rounded, laid to falls in lengths not exceeding 2m, jointed in 3:1 cement mortar including excavations, necessary formwork including 150mm deep selected filling underneath and compacting to a density of 93% of the Mod. AASHTO Maximum density 5 : 830	m	830	
2	Type 193 fabric reinforcement in concrete surface beds, slabs, etc. 5 : 830	m ²	830	
3	Extra over 1 000mm wide channel for angles, intersections, ends, dressing into sides of catchpits, etc. 5 : 36	No	36	
4	Triangular shaped stormwater channel outlet 1000mm wide at head, 1500mm wide at base and 1000mm long at sides formed of 80mm thick concrete V-shaped base and 350mm deep cut-off wall at the end including all excavations, formwork and nine 150 x 150mm broken bricks or stones protruding 150mm high at base of the spill basin 5 : 7	No	7	
	<u>Portal culverts</u>			
5	1200 x 300mm deep "Rocla" or similar approved rectangular portal culvert installed with and including 50mm 30MPa concrete blinding and rip and re-compact 150mm deep selected layer underneath and compacting to a density of 93% of the Mod. AASHTO density. 5 : 10	No	10	
Carried to Collection				R
Section No. 3				
Bill No. 2				
Stormwater Drainage (Provisional)				

6 1200 x 600mm deep "Rocla" or similar approved rectangular portal culvert installed with and including 50mm 30MPa concrete blinding and rip and re-compact 150mm deep selected layer underneath and compacting to a density of 93% of the Mod. AASHTO density.
5 : 16

No

16

Carried to Collection

R

Section No. 3
Bill No. 2
Stormwater Drainage (Provisional)

Section No. 3

Bill No. 2

Stormwater Drainage (Provisional)

COLLECTION

Total Brought Forward from Page No

Page
No

154

155

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 3**

Section No. 3

Bill No. 2

Stormwater Drainage (Provisional)

R

Carried to Collection

R

Protection of existing services

The contractor must make allowance against the relevant items for the following:

- (a) Necessary care to be taken when excavating near existing services in or across the path of excavations.
- (b) Protection and maintaining such service in operation by means of temporary support or shoring as necessary.
- (c) Delays and disruption of the progress of the work due to the existence of the service.
- (d) Repairs necessitated by damage caused by the Contractor.

SABS specifications references

Where reference is made to SABS 1200 specifications (all sections) it will be deemed to exclude clause 8 "Measurements and Payment".

Nature of ground

The tenderer must acquaint himself with the material to be excavated in and are requested to study the Geotechnical Survey Report attached to Part C4: Site Information of the procurement document

Carting away of excavated material

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

Prescribed tests

All prescribed tests are to be executed by an approved, accredited laboratory

Concrete pipes

Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings

Carried to Collection

R

Section No. 3
Bill No. 3
Water supplies (Provisional)

Polypropylene pipes

Polypropylene pipes 42 mm diameter and under shall be seamless copper coloured class 16 pipes jointed with brass compression fittings as designed for use with copper pipes as stated.

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

All pipe diameters are to match sizes as utilised for copper pipes.

Polyethylene pipes

Polyethylene pipes 75 mm diameter and under up to 42 mm shall be seamless copper coloured class 16 Type IV HDPE pipes jointed with polymer 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.

All pipe diameters are to match sizes as utilised for copper pipes.

C.O.D. Fibre Cement Pressure Pipes

Pipes shall be jointed with "Triplex" couplings. A lubricant (soft soap) is to be used in connecting the couplings to the pipe or fittings. The couplings are to be unsupported on the bedding when pipes are layed.

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.

Carried to Collection

Section No. 3
Bill No. 3
Water supplies (Provisional)

R

Copper pipes

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.

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In case of pipes with diameters not exceeding 60 mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In case of pipes with diameters exceeding 60 mm all sizes are given and no claim for extra bushes, reducers, etc., will be entertained.

Exposed concrete surfaces

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc. shall be finished smooth with plaster.

Excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the Quantity Surveyor/Engineer thereof prior to backfilling.

"Soft rock" and "hard rock" shall be as defined in "Earthworks".

Saddles

Saddles to be the Magnum uPVC type with stainless steel bolts and screw pieces complete with Talbot lockable clamp and compression external screw-thread adaptor.

Carried to Collection

R

Section No. 3
Bill No. 3
Water supplies (Provisional)

uPVC pressure pipes and fittings

Pipes for water supply shall be of the class stated.

Pipes of 40 mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings

Pipes of 50 mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all outer fittings shall be cast iron, all with similar push-in type joints

Exposed concrete surfaces

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chambers, etc. shall be finished smooth with plaster

Excavations

No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling

"Soft rock" and "hard rock" shall be as defined in "Earthworks"

Carried to Collection

R

Section No. 3
Bill No. 3
Water supplies (Provisional)

Laying, backfilling, bedding, etc. of pipes

Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturer's instructions.

Where no manufacturer's instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 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

Steel pipes, fittings and specials

Pipes of Nominal Bore up to 150 mm:

Substitute "screwed" in L3.4.2 with "flanged".

Pipes of Nominal Bore over 150 mm:

Add the following:

"All mild steel pipes must be manufactured from Grade B steel with minimum plate thickness of 6,0 mm except where specified otherwise."

Carried to Collection

R

Section No. 3

Bill No. 3

Water supplies (Provisional)

Corrosion protection

Cast Iron Pipes and Fittings:

Substitute L3.9.1 with the following:

"All internal surfaces shall be grit blasted to SA 2½ standard and then coated with Copon EP 2300 epoxy paint to a minimum thickness of 350 micron."

Joints, Bolts, Nuts and Washers:

Substitute L3.9.5 with the following:

"All joints, bolts, nuts and washers shall be cadmium-plated or stainless steel."

Rates

Rates for pipe items are to be all inclusive prices and rates (except where allowed for elsewhere) are for the completed work as described in the respective items and shall include all labour, pipes, **bedding and filling complete in layers not exceeding 300 mm (unless otherwise specified) and compacted** all sundry work, equipment cost, guards, lighting, profit and maintenance.

Under paved areas and buildings the sand bedding and filling must be stabilised with 4 % cement.

Rates for inspection chambers, etc., are to be all inclusive prices and rates (except where allowed for elsewhere) for the completed work as described in the respective items and shall include all labour, pipes, concrete-floors and slabs, brickwork, plastering, compacting, all sundry work, equipment cost, guards, lighting, profit and maintenance.

The Contractor is referred to Drawing no's 208640VSO/15 to 17 annexed to these Bill of Quantities.

Pipework, fittings, etc.

All underground steel pipes and fittings, after installation, shall be protected against corrosion according to PSL 1.2

Maintenance period

The maintenance period for the following work shall be 12 calendar months.

Carried to Collection

Section No. 3
Bill No. 3
Water supplies (Provisional)

R

SUPPLEMENTARY PREAMBLES

Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or other approved may be used with prior approval from the architect

uPVC Class 6 piping

1	50 mm Pipes laid in and including trenches not exceeding 1000 mm deep under paved areas and buildings 5 : 153	m	153
2	75 mm Pipes laid in and including trenches not exceeding 1000 mm deep under paved areas and buildings 5 : 344	m	344
3	90 mm Pipes laid in and including trenches not exceeding 1000 mm deep under paved areas and buildings 5 : 425	m	425
The following in suitable uPVC fittings			
4	50 x 50 Equal Tee 5 : 1	No	1
5	50 x 90° Bend 5 : 2	No	2
6	50 x 1.25" saddle 5 : 1	No	1
7	50 x 32 Reducer 5 : 5	No	5
8	75 x 75 Equal Tee 5 : 8	No	8
9	75 x 90° Bend 5 : 5	No	5
10	75 x 1.25" saddle 5 : 11	No	11
11	75 x 50 Reducer 5 : 3	No	3

Carried to Collection

Section No. 3
Bill No. 3
Water supplies (Provisional)

R

12	75 x 32 Reducer 5 : 2	No	2
13	90 x 75 Reducer 5 : 2	No	2
14	90 x 90° Bend 5 : 1	No	1
15	90 x 45° Bend 5 : 2	No	2
<u>High density polyethylene class 16 piping complying with SABS 533 Part III</u>			
16	32 mm Pipes laid in and including trenches not exceeding 1000 mm deep under paved areas and buildings 5 : 205	m	205
The following in HDPe compression (16 Bar) fittings			
17	32 x 1.25" BSP Adaptor 5 : 11	No	11
18	32 x 32 Equal Tee 5 : 5	No	5
19	32 x 90° Bend 5 : 8	No	8
<u>The following in valves, etc</u>			
20	32mm Pressure Reducing Valve 5 : 15	No	15
21	32mm Butterfly valve 5 : 2	No	2
22	50mm Butterfly valve 5 : 2	No	2
23	75mm Butterfly valve 5 : 5	No	5
Carried to Collection			
Section No. 3 Bill No. 3 Water supplies (Provisional)			

R

24	Garden tap complete with 20mm brass hose bib tap with hose union, approximately 1,2m long 20mm galvanised mild steel stand pipe with two elbows, 32 x 32 x 6mm mild steel angle section support painted with two coats aluminium paint, clamped around stand pipe, encased in 200 x 200mm unreinforced concrete 15MPa for a length of 800mm and 50mm above ground 5 : 6 <u>The following in valve chamber</u>	No	6		
25	Standard valve chamber size 1700 x 1140 x 1030mm high comprising of 100mm thick concrete footing with ref.193 mesh, 230mm thick brick walls, 80mm thick top slab with 1200 x 640 x 3mm lockable steel cover with lifting handle and chain to prevent opening of more than 110 degrees, fixed to concrete top slab. 5 : 1	No	1		
26	90mm Flange adapter 5 : 2	No	2		
27	100mm dia flanged non-return swing check valve 5 : 1	No	1		
28	100mm dia flanged C.I. steel pipe, min 100mm long 5 : 2	No	2		
29	KENT Elster 3000V water meter or similar approved 5 : 1	No	1		
30	DN110/PIN16 Gate Valve Flanged to SANS 664 5 : 1	No	1		
	<u>Sundries</u>				
31	Keeping excavations free of water 5 : 1.00			Item	
32	Extra over excavations to trenches, holes, etc., for excavations in soft rock 5 : 138	m³	138		
33	Extra over trench excavation for excavation in hard rock 5 : 104	m³	104		
34	Imported sand in bedding and surround to pipework well compacted in layers, including any additional excavation, risk of collapse, etc 5 : 207	m³	207		
Carried to Collection				R	
Section No. 3 Bill No. 3 Water supplies (Provisional)					

35	Mass concrete (15 MPa) in encasing to pipe not exceeding 100 mm diameter with a minimum 150 mm thick all round, including any additional excavation, risk of collapse, formwork, etc 5 : 24	m	24		
36	Mass concrete (15 MPa) in anchor block not exceeding 0,1 m3, including bedding and surrounding pipe and any additional excavation, risk of collapse, formwork, etc 5 : 41 <u>The following in pump house</u>	No	41		
37	50mm dia galvanised steel pipe 5 : 13	m	13		
38	Extra over galvanised steel pipe for 50mm galvanised fittings 5 : 7	No	7		
39	WP-F DN100 50mm dia Strainer 5 : 1	No	1		
40	50mm dia butterfly valve 5 : 6	No	6		
41	50mm dia viking johnson coupling 5 : 6	No	6		
42	50mm dia non-return valve 5 : 4	No	4		
43	Galvanised steel pipe supports consisting of 40x5mm flat bar strap fixed to frame with M12 bolts and 50x50x5mm angle iron frame with welded joints fixed to concrete surface bed with M12 chemical anchor bolts 5 : 6 <u>TESTING :</u>	No	6		
44	Allow for testing the whole of the water reticulation system and for any re-testing necessary after taking out and replacing any defective work to the satisfaction of the Representative. 5 : 1.00			Item	
Carried to Collection				R	
Section No. 3 Bill No. 3 Water supplies (Provisional)					

WATER SUPPLIES TO FIRE APPLIANCES

Extra over uPVC pipes for uPVC solvent welded pressure fittings

45	63 mm Adaptor coupling 5 : 8	No	8
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Extra over uPVC pipes for cast iron pressure fittings

46	63 x 63 x 90 mm Hydrant tee 5 : 8	No	8
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Galvanised steel pipes

47	63 mm Pipes 5 : 160	m	160
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Extra over galvanised steel pipes for galvanised mild steel fittings

48	63 mm Flange 5 : 8	No	8
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49	63 mm Shielded spindle type hydrant valve and joint to steel pipe 5 : 8	No	8
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50	63 mm Diameter pressure gauge with U-bend, 15 mm shut-off cock including tapped hole in steel pipe 5 : 8	No	8
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51	Precast concrete pier for hydrant valve 900 mm high overall 5 : 8	No	8
----	--	----	---

TESTING :

52	Allow for testing the whole of the water reticulation system and for any re-testing necessary after taking out and replacing any defective work to the satisfaction of the Representative. 5 : 1.00	Item	
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Carried to Collection

R

Section No. 3
Bill No. 3
Water supplies (Provisional)

	<u>Fire Booster Connection</u>				
53	Allow for the supply and install of fire booster connection complete with 2m x 80mm dia galvanised steel pipe, equal tee, 90 degree elbow, pressure gauge (0-24 bar), male booster connection and 65mm instantaneous hydrant outlet adaptor conforming to the relevant requirements for connectors of SABS 1128, Part II on 75mm uPVC main ring supply.		Item		
	<u>EMERGENCY WATER TANK</u>				
	<u>Galvanised steel water tank</u>				
54	Galvanised steel water tank 64.80 kl size 3.66 x 3.66 x 4.88m high (3x3x4 panels) with panel thickness of 4.5mm and roof cover plate thickness of 2.5mm minimum installed complete. All steel components to be hot dipped galvanised. All connections to be welded before galvanising. Steel water tank to be provided with 1 x 75mm dia inlet pipe, 1 x 75mm dia overflow pipe and 1 x 50mm dia outlet pipe to booster pump. 5 : 1	No	1		
55	75mm dia "Combi model BLCB right angle pattern, PN16 hydraulically operated end of line level control valve" or similar approved. The valve to be bronze and fitted with a stainless steel float pilot and suitable length discharge pipe. 5 : 1	No	1		
56	75mm dia galvanised steel pipe (class medium) fixed to steel frame 5 : 10	m	10		
57	Extra over galvanised steel pipe for 75mm galvanised fittings 5 : 7	No	7		
	<u>The following in water tank base:</u>				
	<u>EXCAVATIONS</u>				
	<u>Excavation in earth not exceeding 2 m deep</u>				
58	Bases 5 : 26	m ³	26		
	Carried to Collection			R	
	Section No. 3				
	Bill No. 3				
	Water supplies (Provisional)				

	<u>Extra over excavation in earth for excavation in</u>				
59	Soft rock 5 : 4	m ³	4		
60	Hard rock 5 : 4	m ³	4		
	<u>Extra over all excavations for carting away</u>				
61	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor 5 : 26	m ³	26		
	<u>Risk of collapse of excavations</u>				
62	Sides of excavations not exceeding 1,50m deep 5 : 23	m ²	23		
	<u>FILLING, ETC.</u>				
	<u>Gravel filling (G6) supplied by the contractor compacted to 93% Mod AASHTO density</u>				
63	Under bases, etc. 5 : 34	m ³	34		
	<u>SOIL POISONING</u>				
	<u>Soil insecticide</u>				
64	Under base, etc., including forming and poisoning shallow furrows against foundation walls, etc., filling in furrows and ramming 5 : 58	m ²	58		
	<u>CONCRETE</u>				
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	<u>15MPa/19mm concrete</u>				
65	Surface blinding under footings and bases 5 : 2	m ³	2		
	<u>REINFORCED CONCRETE</u>				
	<u>30 Mpa/19mm Concrete poured around reinforcement:</u>				
66	Base 5 : 5	m ³	5		
	Carried to Collection			R	
	Section No. 3				
	Bill No. 3				
	Water supplies (Provisional)				

67	Concrete beams 5 : 3 <u>TEST BLOCKS</u>	m ³	3		
68	Making and testing set of three of 150 x 150 x 150mm concrete strength test cubes (Provisional) 5 : 2 <u>FORMWORK</u> <u>Smooth formwork to sides of beams</u>	Sets	2		
69	Upright beams not exceeding 1.5m high 5 : 28 <u>REINFORCEMENT (PROVISIONAL)</u> <u>High tensile steel reinforcement to structural concrete work</u>	m ²	28		
70	10mm Diameter bars 5 : 1.60 <u>Fabric reinforcement</u>	t	1.60		
71	Type ref. 311 mesh reinforcement in concrete surface beds, slabs, etc 5 : 36 <u>SUNDRIES</u>	m ²	36		
72	50mm high strength non shrink grout 5 : 3	m ²	3		
73	80x8mm flat bar capping strip 5 : 15	m	15		
74	Chamfer to concrete beam edges 5 : 32	m	32		
Carried to Collection				R	
Section No. 3 Bill No. 3 Water supplies (Provisional)					

BOOSTER PUMP

- 75 Grundfos CR15-5 or similar approved booster pumps.
Power: 4kW
Rated voltage: 3 x 380-415D V
Rated current: 7.9A
Starting current: 1000 - 1110%.

Pumps to be variable speed drive (VSD) pump and installed complete with pressure switch on outlet pipe, dry run protection and motor protection.

5 : 2

No

2

- 76 1750x340x100mm high concrete plinth installed complete with 4 x Y12 dowel bars to floor and 90x90x10mm angle iron welded base rails for supporting pumps and motors fixed to concrete with 4 x M16 chemical anchors.

5 : 1

No

1

TESTING, ETC.

- 77 Allow for testing the whole of the emergency tank system and for any re-testing necessary after taking out and replacing any defective work to the satisfaction of the Representative

Item

DRINKING FOUNTAINS

The following in drinking fountains

- 78 465 x 320 x 800mm high brick pier with facebrick finish

5 : 4

No

4

- 79 2968 x 2000 x 100mm thick surface bed cast against excavated surfaces with and including all earthworks, reinforcing mesh ref.193 and wood float finish with falls to middle and side of stormwater channel

5 : 4

No

4

- 80 3800mm long x 100x50x11mm thick channel welded with 4 tap holes to 2 x 200x200x4mm thick base plates and cast into 300x300x200mm mass concrete footing

5 : 4

No

4

- 81 20mm dia galvanised water pipe

5 : 11

m

11

- 82 Extra over galvanised pipe for 20mm fittings

5 : 32

No

32

Carried to Collection

R

Section No. 3
Bill No. 3
Water supplies (Provisional)

83	COBRA WATERTECH or similar approved standard brass wall mounted bib tap with lock shield and removable key and 20mm hose union. 5 : 4	No	4		
84	COBRA WATERTECH or similar approved 3x1/2 Pillar Tap, C.P. (Type-Push Button Tap) fixed to steel channel 5 : 16	No	16		
85	COBRA WATERTECH or similar approved standard 20mm cast brass shutt off valve (SANS226). 5 : 4	No	4		
Carried to Collection					R
Section No. 3 Bill No. 3 Water supplies (Provisional)					

Section No. 3

Bill No. 3

Water supplies (Provisional)

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 3**

Section No. 3

Bill No. 3

Water supplies (Provisional)

R

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 4</u>			
	<u>SOIL DRAINAGE (PROVISIONAL)</u>			
	- WORKGROUP 146 -			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or other approved may be used with prior approval from the architect			
	<u>Existing Manhole</u>			
1	Break into existing manhole, build in pipe as necessary, bench out in connection to the existing soil drainage system with and including all excavations, material and labour to the approval of the Representative. 5 : 1.00	No	1.00	
	<u>Free Flow uPVC drain pipes including bedding and backfilling of pipe trenches</u>			
2	160mm Pipe and excavations not exceeding 1m deep 5 : 71	m	71	
3	160mm Pipe and excavations exceeding 1m and not exceeding 2m deep 5 : 415	m	415	
4	160mm Pipe and excavations exceeding 2m and not exceeding 3m deep 5 : 139	m	139	
	<u>Extra over Free Flow uPVC pipe for fittings</u>			
5	160mm Bend 5 : 19	No	19	
6	160mm Access bend YA : 6	No	6	
7	160mm Junction 5 : 10	No	10	
	Carried to Collection			R
	Section No. 3 Bill No. 4 Soil Drainage (Provisional)			

8	160mm Access junction YA : 12	No	12
9	160mm Access double junction YA : 5	No	5
	<u>Sundries</u>		
10	15MPa/19mm Mass concrete encasing around 160mm horizontal drain pipe including all necessary formwork 5 : 8	m	8
11	15MPa/19mm Mass concrete encasing around 160mm vertical or raking drain pipe to cleaning eye including all necessary formwork 5 : 12	m	12
12	15MPa/19mm Mass concrete encasing around 160mm vertical bend including all necessary formwork 5 : 12	No	12
13	15MPa/19mm Mass concrete in precast I.E. marker block set flush with the ground or paving 5 : 20	No	20
14	ABC cast iron straight or bent cleaning eye with removable cover jointed to 110mm uPVC pipe and set in and including 15MPa/19mm mass concrete surround with exposed surfaces trowelled smooth 5 : 4	No	4
	<u>Vitrified clay gulleys</u>		
15	100mm Gulley not exceeding 1m deep 5 : 6	No	6
16	100mm Gulley exceeding 1m and not exceeding 2m deep 5 : 6	No	6
	<u>Precast concrete circular manholes</u>		
17	Standard precast manhole, 1 050 mm internal diameter not exceeding 750 mm deep internally complete with precast concrete rings, cover slab, double seal cast iron manhole cover and frame (SABS 558 Type 2A heavy duty in roads and Type 8A medium duty elsewhere), unreinforced concrete footing and benching in bottom, dished down to channels and finished smooth with plaster. 5 : 1	No	1
Carried to Collection			
Section No. 3 Bill No. 4 Soil Drainage (Provisional)			

R

18	Ditto, but with 1 050 mm internal diameter exceeding 750 mm and not exceeding 1 500 mm deep internally. 5 : 19	No	19		
19	Ditto, but with 1 050 mm internal diameter exceeding 1 500 mm and not exceeding 2 000 mm deep internally. 5 : 6	No	6		
20	Ditto, but with 1 050 mm internal diameter exceeding 2 000 mm and not exceeding 3 000 mm deep internally. 5 : 4	No	4		
<u>Sundries</u>					
21	Extra over excavations to trenches, holes, etc., for excavations in soft rock 5 : 4	m ³	4		
22	Ditto, but hard rock. 5 : 4	m ³	4		
23	Imported sand in bedding and surround to pipework well compacted in layers, including any additional excavation, risk of collapse, etc 5 : 169	m ³	169		
24	Keeping excavations free of water 5 : 1.00		Item		
<u>TESTING :</u>					
25	Allow for testing the whole of the soil drainage system and for any re-testing necessary after taking out and replacing any defective work to the satisfaction of the Representative. 5 : 1.00		Item		
Carried to Collection				R	
Section No. 3 Bill No. 4 Soil Drainage (Provisional)					

Section No. 3

Bill No. 4

Soil Drainage (Provisional)

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

175

176

177

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 3**

Section No. 3

Bill No. 4

Soil Drainage (Provisional)

R

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>BILL NO. 5</u>			
	<u>SECURITY FENCING</u>			
	<u>SITE CLEARANCE</u>			
	- WORKGROUP 104 -			
1	Allow for digging up and removal of all grass, shrubs, rubbish and vegetable soil for a width of 500mm on either side of new fence line including forming 50mm high free space between underside of fence and ground surface by reducing or making up levels as required 5 : 1003	m	1 003	
	<u>EARTHWORKS</u>			
2	Excavate in earth not exceeding 2m deep for post bases 5 : 35	m³	35	
3	Extra over excavations in earth for trenches and holes for excavation in soft rock 5 : 5	m³	5	
4	Extra over excavations in earth for trenches and holes for excavation in hard rock 5 : 5	m³	5	
5	Extra over all excavations for carting away surplus material from excavations and/or stockpile on site to a dumping site to be located by the Contractor 5 : 35	m³	35	
6	Risk of collapse of sides of excavations for trenches and holes from natural, elevated or reduced ground level to not exceeding 1,5m deep 5 : 357	m²	357	
	Carried to Collection		R	
	Section No. 3 Bill No. 5 Fencing, etc (Provisional)			

<u>CONCRETE</u>				
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
- WORKGROUP 110 -				
<u>20MPa/19mm concrete</u>				
7	Bases 5 : 35	m ³	35	
<u>METALWORK</u>				
- WORKGROUP 136 -				
<u>2400mm HIGH SECURITY FENCING</u>				
<u>Powder coated steel high security fencing mesh. All details and specifications to be verified with manufacturer</u>				
Samples to be provided for approval before ordering of material.				
8	2400mm high black powder coated high security mesh fence with and including spikes on top and all posts, etc. Post shall be 3.0m long with taper locking post. Post width shall be 85mm - tapering to 45mm with a depth of 85mm. Post shall include locking recess mechanism to secure panel edge and shall be sealed with a UV stabilized polymer cap. Panel shall be of 3,305m width and 2400mm in height. Panel aperture size (centres) shall be 76.2mm x 25mm with minimum wire diameter of 3mm. The panel shall be reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands (rigidity) and shall have 2 x 70° flanges along sides (internal fixtures- all fixtures shall be on the inside of fence line). Panel shall have 1 x 90° flange along top and 1 x 30° flange along toe (integrated rigid angle). Panel post shall have a flush panel post finish with no climbing aid. Panel shall be affixed to post over 48 line wires using 16 x Single bolt comb clamps using 16 x Anti vandal bolts. Mesh panels to be coated with marine fusion bond coating and be fixed with locking recess mechanism to approval of the representative. 5 : 976	m	976	
Carried to Collection				R
Section No. 3 Bill No. 5 Fencing, etc (Provisional)				

9	1000 x 2400mm high pedestrian gate complete with spikes on top to match new fence including hinges, security lock, etc. 5 : 3	No	3		
10	1500 x 2400mm high double pedestrian gate complete with spikes on top to match new fence including hinges, security lock, etc. 5 : 3	No	3		
11	3000 x 2400mm high sliding gate complete with spikes on top to match new fence and including gate rail, stoped end, guide rollers, etc.(Concrete measured elsewhere) 5 : 1	No	1		
12	5000 x 2400mm high sliding gate complete with spikes on top to match new fence and including gate rail, stoped end, guide rollers, etc.(Concrete measured elsewhere) 5 : 2	No	2		
13	6000 x 2400mm high sliding gate complete with spikes on top to match new fence and including gate rail, stoped end, guide rollers, etc. (Concrete measured elsewhere) 5 : 1	No	1		
<u>ALUMINIUM FLAGPOLE</u>					
<u>The following in a 8.5m high Standard Government type Aluminium Flagpole as "Aluweld" or other approved and erected on 600 x 600 x 800mm deep Class C concrete base, incl excavations, carting away, etc.</u>					
14	"Aluweld" Aluminium Flagpole or other approved comprising 76mm and 50mm od aluminium tubing tapered by way of an aluminium cone casting, welded and complete with spherical top cap, two pulleys, two cleats, two halyards (ropes) and swivel type base. 5 : 2	No	2		
Carried to Collection				R	
Section No. 3 Bill No. 5 Fencing, etc (Provisional)					

Section No. 3

Bill No. 5

Fencing, etc (Provisional)

COLLECTION

Total Brought Forward from Page No

Page
No

179

180

181

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 3**

Section No. 3

Bill No. 5

Fencing, etc (Provisional)

R

Section No. 3

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 4</u>			
	<u>BILL NO. 1</u>			
	<u>ELECTRICAL INSTALLATION</u>			
	<u>PRELIMINARIES</u>			
	- WORKGROUP 160 -			
1	Contractual requirements <u>General Requirements</u>	Item		
2	Liaison with relevant authorities	Item		
3	On-site liaison with other disciplines <u>Documentation</u>	Item		
4	Certificate of Compliance for each building / Distribution <u>Guarantee</u>	Item		
5	12 month equipment and installation guarantee <u>Construction Regulations</u>	Item		
6	Construction Regulations Requirements	Item		
7	Health and Safety Compliance <u>General</u>	Item		
8	Any item deemed to be necessary for the successful completion of the installation but not measured or processed for elsewhere. Detailed description to be supplied <u>As-Build</u>	Item		
9	AS-BUILD AND MAINTENANCE MANUALS Alarm and Intercom •Panel wiring diagram •Panel installation manual •Battery installation date and warranty expire date •Passive detector manuals. •DLS 5 backup on CD •As-Build drawings indicating panel position, passive position and keypad position.	Item		
	Carried to Collection		R	
	Section No. 4 Bill No. 1 PRELIMINARIES AND GENERAL			

- 10 LV Cable works
- Cable routes
 - Cable marker positions
 - Manhole Positions and GPS coordinates
 - Kiosk Positions and GPS coordinates
 - Area lightening Positions and GPS coordinates

Item

- 11 Building
- Switches, Sockets and lighting positions
 - Ledged Cards (hard and soft copy
 - Luminaire product sheet
 - Lightning protection points and values on drawings

Item

Carried to Collection

R

Section No. 4
Bill No. 1
PRELIMINARIES AND GENERAL

Section No. 4

Bill No. 1

PRELIMINARIES AND GENERAL

COLLECTION

Total Brought Forward from Page No

Page
No

184

185

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 4**

Section No. 4

Bill No. 1

PRELIMINARIES AND GENERAL

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 4</u></p> <p><u>BILL NO. 2</u></p> <p><u>ELECTRICAL INSTALLATION</u></p> <p><u>LOW VOLTAGE DISTRIBUTION</u></p> <p>- WORKGROUP 160 -</p> <p>NOTE 1: Tenderers are advised to study the specification and will be held to have allowed for all the requirements of same when pricing the Bills of Quantities as no claims whatsoever in this regard will be entertained at a later date</p> <p>NOTE 2: For the purposes of tendering, only the total quantity shall be used in calculating the amount for inclusion in the tender at the tendered rate. The quantities in the description column immediately below the item represent the quantities per section for information and administration only</p> <p>NOTE 3: All items in this section shall be deemed to fall into Work Group No 160 for Haylett Formula purposes</p>			
	<p>NOTE: The complete installation must comply to the relevant SABS specifications and the Quality specification in this document. Therefore Bidders are advised to study the specification and drawings before the Bill is to be priced.</p>			
	<p style="text-align: right;">Carried to Collection</p>		R	
	<p>Section No. 4</p> <p>Bill No. 2</p> <p>LOW VOLTAGE DISTRIBUTION</p>			

FEEDER CABLES

Supply, install and connect 660/1000 Volt multi-core
PVC insulated armoured cables as specified complete
with copper earth wire as indicated: (REFER TO CABLE
DESTINATION)

1	35mm ² x 4 core - In cable trench/wire mesh ZA : 350	m	350
2	35mm ² x 4 core - Cable ends with engraved label indicating size ZA : 8	No	8
3	25mm ² BCEW ZA : 350	m	350
4	25mm ² x 4 core - In cable trench/wire mesh ZA : 25	m	25
5	25mm ² x 4 core - Cable ends with engraved label indicating size ZA : 2	No	2
6	16mm ² BCEW ZA : 25	m	25
7	16mm ² x 4 core - In cable trench/wire mesh ZA : 180	m	180
8	16mm ² x 4 core - Cable ends with engraved label indicating size ZA : 6	No	6
9	10mm ² BCEW ZA : 180	m	180
10	16mm ² x 3 core - In cable trench/wire mesh ZA : 500	m	500
11	16mm ² x 3 core - Cable ends with engraved label indicating size ZA : 26	No	26
12	4mm ² x 3 core - In cable trench ZA : 300	m	300
13	4mm ² x 3 core - Cable ends with engraved label indicating size ZA : 26	No	26

Carried to Collection

R

Section No. 4
Bill No. 2
LOW VOLTAGE DISTRIBUTION

DISTRIBUTION BOXES AND EQUIPMENT

Supply and install new outdoor kiosk complete with concrete foundation and earth spike. The kiosk must have a 1.5 meter apron paved around the kiosk with 50mm thick grey Cembrick paver. The kiosk must be complete as per the attached single line diagram. Each kiosk must be equipped with a 1 2mm padlock with masterkey system.

14	Kiosk 1 ZA : 1	No	1
15	Kiosk 2 ZA : 1	No	1
16	Kiosk 3 ZA : 1	No	1
17	Kiosk 4 ZA : 1	No	1

CABLE SLEEVES

Supply and install of sleeves for the low voltage cables:(excavations measured elsewhere)

18	50mm diameter PVC sleeve with draw wires ZA : 100	m	100
19	75mm diameter PVC sleeve with draw wires ZA : 100	m	100
20	110mm diameter PVC sleeve with draw wires ZA : 200	m	200

EXCAVATIONS

Excavations for cables and sleeves including bedding, temporary support of sides, keeping excavations dry, backfilling, compacting and removing of surplus material.

21	Pickable material ZA : 183	m ³	183
22	Hard rock ZA : 78	m ³	78
23	Bedding (150mm layer) ZA : 52	m ³	52

Carried to Collection

R

Section No. 4
Bill No. 2
LOW VOLTAGE DISTRIBUTION

24	Backfill and compaction ZA : 210	m ³	210
25	<u>Supply and install of cable route markers for the low voltage cables as specified :</u> ZA : 27	No	27
26	Supply and install of PVC danger tape 300mm above the low voltage cable: ZA : 1350	m	1 350

Carried to Collection

R

Section No. 4
Bill No. 2
LOW VOLTAGE DISTRIBUTION

Section No. 4

Bill No. 2

LOW VOLTAGE DISTRIBUTION

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

187

188

189

190

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 4**

Section No. 4

Bill No. 2

LOW VOLTAGE DISTRIBUTION

R

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 4</u></p> <p><u>BILL NO. 3</u></p> <p><u>ELECTRICAL INSTALLATION</u></p> <p><u>ELECTRICAL BUILDING INSTALLATION</u></p> <p>- WORKGROUP 160 -</p> <p>NOTE 1: Tenderers are advised to study the specification and will be held to have allowed for all the requirements of same when pricing the Bills of Quantities as no claims whatsoever in this regard will be entertained at a later date</p> <p>NOTE 2: For the purposes of tendering, only the total quantity shall be used in calculating the amount for inclusion in the tender at the tendered rate. The quantities in the description column immediately below the item represent the quantities per section for information and administration only</p> <p>NOTE 3: All items in this section shall be deemed to fall into Work Group No 160 for Haylett Formula purposes</p> <p>NOTE: The complete installation must comply to the relevant SABS specifications and the Quality specification in this document. Therefore Bidders are advised to study the specification and drawings before the Bill is to be priced.</p>			
	<p><u>CONDUIT</u></p> <p><u>Supply and install conduit including bending, short lengths, 1-/2-/3-/4-way boxes adaptors, locknuts, couplings, saddles, screws etc.:</u></p>			
1	<p>20mm diameter - PVC - Cut/Build into brickwork or fixed in ceiling void with steel saddles</p> <p>ZA : 8250</p>	m	8 250	
2	<p>25mm diameter - PVC - Cut/Build into brickwork or fixed in ceiling void with steel saddles (intercom services)</p> <p>ZA : 990</p>	m	990	
	Carried to Collection			R
	<p>Section No. 4</p> <p>Bill No. 3</p> <p>ELECTRICAL BUILDING INSTALLATION</p>			

3	20mm diameter - BOSAL galvanised - Cut/Build into brickwork or fixed in ceiling void with steel saddles ZA : 60	m	60
	<u>Supply and install pressed steel galvanised wall boxes 1mm thick:</u>		
4	100mm x 50mm x 50mm deep ZA : 218	No	218
5	100mm x 50mm Steel Blank Plate ZA : 8	No	8
6	100mm x 100mm x 50mm deep ZA : 276	No	276
7	100mm x 100mm x 50mm Surface box ZA : 18	No	18
	<u>Supply and install PVC boxes:</u>		
8	50mm diameter PVC round boxes ZA : 887	No	887
9	50mm diameter PVC round boxes lids ZA : 887	No	887
10	100mm x 50mm x 50mm ZA : 15	No	15
11	100mm x 100mm x 50mm ZA : 15	No	15
12	100mmx100mmx50mm extention boxes ZA : 43	No	43
	<u>CONDUCTORS</u>		
	<u>Supply and install 600/1000Volt PVC insulated stranded copper conductors drawn into conduits, etc.:</u>		
13	2,5mm ² Light ZA : 10670	m	10 670
14	4mm ² Plugs + Geysers + A/C ZA : 10208	m	10 208
15	6mm ² Stove ZA : 70	m	70

Carried to Collection

R

Section No. 4
Bill No. 3
ELECTRICAL BUILDING INSTALLATION

	<u>Supply and install Green PVC insulated copper earth conductors drawn into conduits, etc.:</u>				
16	2,5mm ² ZA : 10670	m	10 670		
17	4mm ² ZA : 115	m	115		
	<u>LIGHT SWITCHES</u>				
	<u>Supply, install and connect switches in flush mounted boxes, complete with white cover plates and white modules (complete with wall boxes).:</u>				
18	16 Amp 1-lever 1-Way ZA : 129	No	129		
19	16 Amp 1-lever 2-Way ZA : 52	No	52		
20	16 Amp 2-lever 1-Way ZA : 4	No	4		
21	16 Amp Water tight rotary ZA : 6	No	6		
22	<u>Two Position Key Switch mounted on steel 2x4 cover plate</u> ZA : 1	No	1		
23	Schneider SEMI Flush mounted occupancy sensor with passive infrared (dual load sensor) ZA : 3	No	3		
24	Supply and install day/night sensor complete with York box, clear lid and three 16A connector blocks ZA : 16	No	16		
25	Brother Labelling on light switches indicating supply source and circuit breaker number. ZA : 211	No	211		
	<u>SWITCH SOCKET</u>				
	<u>Supply, install and connect switch sockets in power skirting, complete with cover plates.:</u>				
26	16 Amp Single socket on power skirting White ZA : 94	No	94		
Carried to Collection				R	
Section No. 4 Bill No. 3 ELECTRICAL BUILDING INSTALLATION					

27	16 Amp Single shaved earth dedicated socket ZA : 157	No	157
28	16Amp Euro Socket with switch disconnecter ZA : 79	No	79
	<u>Supply, install and connect switch sockets complete with termination:</u>		
29	16 Amp Socket with 16A RSA + Euro socket both switched ZA : 108	No	108
30	16 Amp Socket with 2 x 16A RSA socket ZA : 26	No	26
31	Red Double dedicated 16A socket ZA : 30	No	30
	<u>Supply, install and connect unswitched sockets in ceiling void, complete in a round box with cover plate.:</u>		
32	6 Amp Unswitched socket with round box, the Socket must be constructed out of a single moulded piece. ZA : 481	No	481
	<u>Supply and install Interlocking surface mount socket complete with plug.</u>		
33	32Amp 5Pin Interlocking IP44 + socket (male +female) ZA : 1	No	1
34	Brother Labelling on light switches indicating supply source and circuit breaker number. ZA : 976	No	976
	<u>POWER SKIRTING</u>		
	<u>Supply and install power skirting including Covers, Internal Angle, Internal Divider, External Angle, Flat Angle, End Cap, Front Cover Joint, Base Cover Joint, T Junction, Cable retaining bracket, Cable tie saddle.ect.1&2-Compartment as specified.:</u>		
35	2-compartment O-Line Steel Power Skirting ZA : 86	m	86
36	End Caps ZA : 42	No	42
37	Corner - Internal ZA : 16	No	16
Carried to Collection			
Section No. 4			
Bill No. 3			
ELECTRICAL BUILDING INSTALLATION			

R

ISOLATORS/THREE PHASE SOCKETS

Supply, install and connect isolators complete in a wallbox including a white cover plate.:

38	30 Amp 2 pole 100mm x 100mm Isolator ZA : 12	No	12
39	32 Amp 2 pole IP65 Rotary Type Isolator (Gewiss) ZA : 25	No	25
40	32 Amp 3 pole IP65 Rotary Type Isolator (Gewiss) ZA : 1	No	1
41	63 Amp 3 pole IP65 Rotary Type Isolator (Gewiss) ZA : 1	No	1
42	Brother Labelling on light switches indicating supply source and circuit breaker number. ZA : 39	No	39

LUMINAIRES

Supply, install and connect luminaires complete with lamps, fixings, brass screws, washers, etc.:

43	New Type F1 ZA : 16	No	16
44	New Type F2 ZA : 335	No	335
45	New Type F3 ZA : 24	No	24
46	New Type F4 ZA : 22	No	22
47	New Type F5 ZA : 25	No	25
48	New Type B1 ZA : 149	No	149
49	New Type B2 ZA : 29	No	29
50	New Type B3 ZA : 1	No	1
51	New Type B4 ZA : 58	No	58

Carried to Collection

Section No. 4
Bill No. 3
ELECTRICAL BUILDING INSTALLATION

R

52	New Type B5 ZA : 13	No	13
53	New Type B6 ZA : 20	No	20
54	New Type Exit Light ZA : 10	No	10
<u>CABLE SLEEVES</u>			
<u>Supply and install sleeves in wall for the low voltage cables :</u>			
55	75mm diameter PVC sleeve with draw wires ZA : 321	m	321
<u>LIGHTNING PROTECTION INSTALLATION</u>			
<u>Supply, install and test a complete lightning protection installation, including aluminium and copper conductors, test joints, PVC conduit, earth electrodes, etc.:</u>			
56	Down conductors ZA : 98	No	98
57	Joints for electrical continuity Flush ZA : 44	No	44
58	4x4 Box with cover plate indicating test joint Flush ZA : 98	No	98
59	Test and certifying ZA : 19	No	19
<u>DATA/INTERCOM INSTALLATION</u>			
60	<u>Supply and install a 450mm x 450mm draw box in wall for data installation</u> ZA : 8	No	8
61	<u>Supply and install a 600mm x 600mm Telkom distribution board (for intercom system) complete with 20 pair Krone disconnection modules</u> ZA : 3	No	3
<u>Supply and install data outletsComplete with cradles and cover plate:</u>			
62	100mm x 50mm Modul complete with Krone 2 x RJ45 sockets CAT6 ZA : 26	No	26
Carried to Collection			
Section No. 4			
Bill No. 3			
ELECTRICAL BUILDING INSTALLATION			

R

63	On Power Skirting 2Mod module ZA : 78	No	78
64	Brother Labelling on data outlets indicating circuit number ZA : 131	No	131
<u>CABLE LADDERS AND WIRE WAYS</u>			
<u>Supply and install OL9000 Wire Channels complete with splice clamps,M8 drop in anchors ,threaded rod, coupling nuts, etc.</u>			
65	127mm wide - Wire Channel for power installation ZA : 270	m	270
66	Horizontal Elbow ZA : 2	No	2
67	Tee ZA : 6	No	6
<u>Supply and install GS50 Wire Mesh complete with splice clamps,M8 drop in anchors, coupling nuts, horizontal bends, tee's etc.</u>			
68	150mm wide - Medium Duty Wire Mesh ZA : 190	m	190
69	External Elbow ZA : 1	No	1
70	Horizontal Elbow ZA : 5	No	5
71	Tee ZA : 1	No	1
<u>DISTRIBUTION BOXES AND EQUIPMENT</u>			
<u>Supply and install, complete with panels , etc. a surface mounted distribution board including the busbars, termination of all conduits, conductors, cables, etc. Complete with equipment see line diagram:</u>			
72	DB.3GR-R ZA : 2	No	2
73	DB.ADM2 ZA : 1	No	1

Carried to Collection

R

Section No. 4
Bill No. 3
ELECTRICAL BUILDING INSTALLATION

74	DB.CL2+STO2 ZA : 1	No	1		
75	DB.CL4+STO4 ZA : 3	No	3		
76	DB.CL5+STO6 ZA : 1	No	1		
77	DB.HOD+CL1+STO2+ABL ZA : 1	No	1		
78	DB.HOD+MPC+ABL ZA : 1	No	1		
79	DB.HOD+SCIE+ABL ZA : 1	No	1		
80	DB.HOD+SCIE+CL1+ABL ZA : 1	No	1		
81	DB.COMP2 ZA : 1	No	1		
82	DB.HALL-01 ZA : 1	No	1		
83	DB.HALL-02 ZA : 1	No	1		
84	DB.SEC+CARE ZA : 1	No	1		
85	DB.TS1+CHN ZA : 1	No	1		
<u>EARTHING AND BONDING</u>					
86	Earthing of all buildings to comply with the latest SANS 10142-1 2017 Code of Practice for The Wiring of Premises as amended and as specified. Bonding of all hot, cold and waste pipes complete with including fixings, brass screws, nuts, washers etc.: ZA : 18	No	18		
<u>TESTING AND COMMISSIONING</u>					
87	Testing and commissioning of the complete installation including ICT, Fire detection, alarm etc. ZA : 18	No	18		
Carried to Collection				R	
Section No. 4 Bill No. 3 ELECTRICAL BUILDING INSTALLATION					

Section No. 4

Bill No. 3

ELECTRICAL BUILDING INSTALLATION

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

192

193

194

195

196

197

198

199

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 4**

R

Section No. 4

Bill No. 3

ELECTRICAL BUILDING INSTALLATION

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 4</u></p> <p><u>BILL NO. 4</u></p> <p><u>ELECTRICAL INSTALLATION</u></p> <p><u>ELECTRICAL EQUIPMENT</u></p> <p>- WORKGROUP 160 -</p> <p>NOTE 1: Tenderers are advised to study the specification and will be held to have allowed for all the requirements of same when pricing the Bills of Quantities as no claims whatsoever in this regard will be entertained at a later date</p> <p>NOTE 2: For the purposes of tendering, only the total quantity shall be used in calculating the amount for inclusion in the tender at the tendered rate. The quantities in the description column immediately below the item represent the quantities per section for information and administration only</p> <p>NOTE 3: All items in this section shall be deemed to fall into Work Group No 160 for Haylett Formula purposes</p> <p>NOTE: The contractor must allow for scaffolding and all necessary equipment including PPE to work up to 4 meters. All scaffolding structures to be inspected and signed off before any work are to commence.</p>			
	<u>SOLAR GEYSER INSTALLATION</u>			
	<u>Supply and install a complete solar geyser indirect split system as specified:</u>			
1	200L System complete as specified ZA : 5	No	5	
	<u>SIREN INSTALLATION</u>			
2	Supply and install a complete Microsound TS631 time switch as per specification complete with vandal proof cover and padlock: ZA : 1	No	1	
	Carried to Collection			R
	Section No. 4 Bill No. 4 ELECTRICAL EQUIPMENT			

3	Supply and install a complete siren BS200 Bell as per specification complete with vandal proof cover and padlock: Microsound TS631 time switch ZA : 1	No	1		
	<u>INTERCOM SYSTEM</u>				
4	Supply and install a complete Microsound M20X40 40way intercom base station system complete with power supply and terminations: ZA : 1	No	1		
5	Supply and install a complete Microsound RSPXCX190190 substation in class rooms complete with terminations. ZA : 37	No	37		
6	Supply and install 0.50mm twisted 20 pair from the base station to independent substation in class rooms and to loop between class rooms. ZA : 1500	m	1 500		
7	Supply and install 50mm PVC sleeve ZA : 1000	m	1 000		
8	Supply and install manholes RHI-NODE 600 complete with lid and 8 x 50mm knockouts. ZA : 15	No	15		
	<u>EXTRACTOR FAN</u>				
	<u>Supply and install flush wall mounted extractor fan 85W, extraction performance 1715m³/h, 300mm diameter impeller, IP 55 rating, 220V - 240V 50Hz complete.</u>				
9	Xpelair WX12 ZA : 2	No	2		
Carried to Collection				R	
Section No. 4 Bill No. 4 ELECTRICAL EQUIPMENT					

Section No. 4

Bill No. 4

ELECTRICAL EQUIPMENT

COLLECTION

Total Brought Forward from Page No

Page
No

201

202

Amount

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 4**

Section No. 4

Bill No. 4

ELECTRICAL EQUIPMENT

R

SECTION SUMMARY - ELECTRICAL INSTALLATION		Page No	Amount	
Bill No				
1	PRELIMINARIES AND GENERAL	186		
2	LOW VOLTAGE DISTRIBUTION	191		
3	ELECTRICAL BUILDING INSTALLATION	200		
4	ELECTRICAL EQUIPMENT	203		
CARRIED TO FINAL SUMMARY			R	
Section No. 4				

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 5</u>			
	<u>BILL NO. 1</u>			
	<u>MECHANICAL INSTALLATION</u>			
	<u>PRELIMINARIES</u>			
	- WORKGROUP 170 -			
1	Contractual requirements	Item		
2	Supervision on Site	Item		
3	Site Establishment	Item		
4	Removal of Waste	Item		
5	Local Transport & Delivery Cost	Item		
6	Health & Safety Requirements (Including Covid-19 regulations)	Item		
7	Preparation of all Workshop Drawings as per specifications	Item		
8	Technical Submittals for all mechanical and HVAC equipment i.e., Duct pressure drop, Fan systems, diffuser and weather louvre etc	Item		
9	Operating & Maintenance Manuals c/w as-built drawings	Item		
10	Guarantee & Maintenance Period for 12 months	Item		
11	Coding & Labelling of all equipment	Item		
12	Training & use of the plant to the end-user	Item		
13	Electrical COC on all the mechanical connections	Item		
14	Contractor to supply its own scaffolding	Item		
15	Items required by the contractor, but not measured in the B.O.Q	Item		
	CARRIED FORWARD TO SUMMARY OF SECTION			
	No: 5			
	Section No. 5			
	Bill No. 1			
	PRELIMINARIES AND GENERAL			
			R	

Section No. 5
Bill No. 2
ADMINISTRATION BLOCK (PROVISIONAL)

3	C1 - Cassette unit (Inverter Type) - 7kW ZB : 1 <u>Supply, deliver & installation of refrigerant piping (R410A Maksal type) c/w armaflex insulation, all bends and fittings</u>	No	1
4	M1 - 1/4" & 1/2" ZB : 10	m	10
5	2M2 - 1/4" & 1/2" ZB : 3	m	3
6	C1 - 3/8" & 5/8" ZB : 15 <u>Supply, deliver & installation of electrical control wiring between indoor & outdoor units</u>	m	15
7	M1 ZB : 10	m	10
8	M2 ZB : 3	m	3
9	C1 ZB : 15 <u>Supply, deliver & installation of electrical wiring from the outdoor unit to the supplied isolator (and connection thereof)</u>	m	15
10	M1 ZB : 2	No	2
11	M2 ZB : 1	No	1
12	C1 ZB : 1 <u>Supply, deliver & installation of UPVC condensate draining piping c/w all wall clips, bends, coupling & p-traps</u>	No	1
13	25mm ZB : 30	m	30
Carried to Collection			
Section No. 5 Bill No. 2 ADMINISTRATION BLOCK (PROVISIONAL)			

R

	<u>Supply, deliver & installation of powder coated condensor brackets for outdoor units c/w vibration mounts, rawl bolts & sundries</u>				
14	450mm Long ZB : 3	No	3		
15	650mm Long ZB : 1	No	1		
	<u>Supply, deliver & installation of AC remote controllers c/w wiring</u>				
16	Wireless remotes (Includes the fixing of cradles to the wall) ZB : 3	No	3		
17	Wired Controller ZB : 1	No	1		
	<u>Pressure Testing, vacuum & commissioning of AC units c/w charging of additional refrigerant if necessary</u>				
18	M1 ZB : 2	No	2		
19	M2 ZB : 1	No	1		
20	C1 ZB : 1	No	1		
	<u>Fresh-air Installation according to SANS10400-Part O - Supply, deliver, installation and commissioning of the following items as specified below:</u>				
	<u>In-Line Mixed Flow ventilation fans, complete hangers, brackets, vibration mounts and earth strapping over flexible connection</u>				
21	F1 - 375l/s @ 250Pa @ 1400m Altitude ZB : 1	No	1		
	<u>Sound Attenuators for the following:</u>				
22	Type F1 - Cylindrical to fit fan above (600L) ZB : 2	No	2		
Carried to Collection				R	
Section No. 5 Bill No. 2 ADMINISTRATION BLOCK (PROVISIONAL)					

	<u>Speed controller for the fan above including installation and electrical connection</u>				
23	Type F1 ZB : 1	No	1		
24	7-Day Timer ZB : 1	No	1		
	<u>Air Terminals including installation all fixing brackets</u>				
25	WL 1 - Weather Louver 700x350mm c/w insect screen & powder coated ZB : 1	No	1		
26	FB 1 - Filter Bank 400x400mm c/w 50mm washable pleated filter ZB : 1	No	1		
27	D1 - Rickard Air CRD Type Dia150mm Diffuser c/w fixing ring - White ZB : 2	No	2		
28	DV1 - Disc Valve Dia 150mm - White ZB : 10	No	10		
29	DV2 - Disc Valve Dia 200mm - White ZB : 1	No	1		
	<u>Supply, deliver & installation of galvanised sheet metal ducting (Category 1) - un-insulated c/w hangers & brackets.</u>				
	<u>Straight Ducts</u>				
30	350x350mm ZB : 6	m	6		
31	300x300mm ZB : 24	m	24		
32	250x250mm ZB : 16	m	16		
33	200x200mm ZB : 18	m	18		
34	Dia 200mm ZB : 3	m	3		
35	Dia 150mm ZB : 21	m	21		
	Carried to Collection			R	
	Section No. 5 Bill No. 2 ADMINISTRATION BLOCK (PROVISIONAL)				

	<u>Telescopic Plenum for WL 1</u>				
36	715x365mm ZB : 1	No	1		
	<u>Taper Pieces</u>				
37	715x365-400x400mm ZB : 1	No	1		
38	350x350-300x300mm ZB : 1	No	1		
39	300x300-250x250mm ZB : 1	No	1		
	<u>Square-to-Rounds</u>				
40	400x400-Dia315mm (c/w flexible canvas connection) ZB : 1	No	1		
41	350x350-Dia315mm (c/w flexible canvas connection) ZB : 1	m	1		
	<u>Shoe Pieces</u>				
42	200x200mm ZB : 3	No	3		
	<u>Offsets</u>				
43	350x350mm ZB : 2	No	2		
44	250x250mm ZB : 2	No	2		
	<u>Spigots</u>				
45	Dia 150mm ZB : 10	No	10		
46	Dia 200mm ZB : 3	No	3		
	<u>Flexible Ducting (Un-Insulated) c/w clamps</u>				
47	Dia 150mm ZB : 20	m	20		
	Carried to Collection			R	
	Section No. 5 Bill No. 2 ADMINISTRATION BLOCK (PROVISIONAL)				

48	Dia 200mm ZB : 6 <u>Extract-air Installation according to SANS10400-Part O - Supply, deliver, installation and commissioning of the following items as specified below:</u> <u>In-Line Mixed Flow ventilation fans, complete hangers, brackets, vibration mounts and earth strapping over flexible connection</u>	m	6		
49	F2 - 300l/s @ 150Pa @ 1400m Altitude ZB : 1	No	1		
50	F3 - Window/Wall Fan - 150mm - 83l/s ZB : 1 <u>Sound Attenuators for the following:</u>	No	1		
51	Type F2 - Cylindrical to fit fan above (600L) ZB : 2 <u>Speed controller for the fan above including installation and electrical connection</u>	No	2		
52	Type F2 ZB : 1	No	1		
53	Motion Sensor ZB : 3 <u>Air Terminals including installation all fixing brackets</u>	No	3		
54	WL 2 - Weather Louver 600x300mm c/w insect screen & powder coated ZB : 1	No	1		
55	DV1 - Disc Valve Dia 150mm - White ZB : 5	No	5		
56	DG1 - Door Grilles 400x300mm - Natural Anodised ZB : 3	No	3		
57	DV2 - Disc Valve Dia 200mm - White ZB : 1	No	1		
Carried to Collection				R	
Section No. 5 Bill No. 2 ADMINISTRATION BLOCK (PROVISIONAL)					

	<u>Supply, deliver & installation of galvanised sheet metal ducting (Category 1) - un-insulated c/w hangers & brackets.</u>				
	<u>Straight Ducts</u>				
58	350x350mm ZB : 2	m	2		
59	250x250mm ZB : 9	m	9		
60	Dia 150mm ZB : 8	m	8		
	<u>Telescopic Plenum for WL 2</u>				
61	615x315mm ZB : 1	No	1		
	<u>Square-to-Rounds</u>				
62	615x315-Dia315mm (c/w flexible canvas connection) ZB : 1	No	1		
63	350x350-Dia315mm (c/w flexible canvas connection) ZB : 1	No	1		
	<u>Shoe Pieces</u>				
64	250x250mm ZB : 2	No	2		
	<u>Spigots</u>				
65	Dia 150mm ZB : 5	No	5		
	<u>Flexible Ducting (Un-Insulated) c/w clamps</u>				
66	Dia 150mm ZB : 10	m	10		
	<u>Commissioning, testing & air balancing of the following entire systems:</u>				
67	Fresh-Air system - F1 ZB : 1	No	1		
68	Extract system - F2 ZB : 1	No	1		
Carried to Collection				R	
Section No. 5 Bill No. 2 ADMINISTRATION BLOCK (PROVISIONAL)					

Section No. 5

Bill No. 2

ADMINISTRATION BLOCK (PROVISIONAL)

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

206

207

208

209

210

211

212

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 5**

R

Section No. 5

Bill No. 2

ADMINISTRATION BLOCK (PROVISIONAL)

	<u>Supply, deliver & installation of refrigerant piping (R410A Maksal type) c/w armaflex insulation, all bends and fittings</u>				
2	C2 - 3/8" & 3/4" ZB : 78	m	78		
	<u>Supply, deliver & installation of electrical control wiring between indoor & outdoor units</u>				
3	C2 ZB : 78	m	78		
	<u>Supply, deliver & installation of electrical wiring from the outdoor unit to the supplied isolator (and connection thereof)</u>				
4	C2 ZB : 6	No	6		
	<u>Supply, deliver & installation of UPVC condensate draing piping c/w all wall clips, bends, coupling & p-traps</u>				
5	25mm ZB : 96	m	96		
	<u>Supply, deliver & installation of powder coated condensor brackets for outdoor units c/w vibration mounts, rawl bolts & sundries</u>				
6	650mm Long ZB : 6	No	6		
	<u>Supply, deliver & installation of AC remote controllers c/w wiring</u>				
7	Wired Controller ZB : 6	No	6		
	<u>Pressure Testing, vacuum & commissioning of AC units c/w charging of additional refrigerant if necessary</u>				
8	C2 ZB : 6	No	6		
Carried to Collection					R
Section No. 5 Bill No. 3 MEDIA & COMPUTER LAB (PROVISIONAL)					

	<u>Fresh-air Installation according to SANS10400-Part O - Supply, deliver, installation and commissioning of the following items as specified below:</u>				
	<u>In-Line Mixed Flow ventilation fans, complete hangers, brackets, vibration mounts and earth strapping over flexible connection</u>				
9	F4 - 265l/s @ 250Pa @ 1400m Altitude ZB : 3	No	3		
	<u>Sound Attenuators for the following:</u>				
10	Type F4 - Cylindrical to fit fan above (600L) ZB : 6	No	6		
	<u>Speed controller for the fan above including installation and electrical connection</u>				
11	Type F4 ZB : 3	No	3		
12	7-Day Timer ZB : 3	No	3		
	<u>Air Terminals including installation all fixing brackets</u>				
13	WL 1 - Weather Louver 700x350mm c/w insect screen & powder coated ZB : 3	No	3		
14	FB 1 - Filter Bank 400x400mm c/w 50mm washable pleated filter ZB : 3	No	3		
15	D2 - Rickard Air CRD Type Dia200mm Diffuser c/w fixing ring - White ZB : 6	No	6		
16	DV1 - Disc Valve Dia 150mm - White ZB : 1	No	1		
	<u>Supply, deliver & installation of galvanised sheet metal ducting (Category 1) - un-insulated c/w hangers & brackets.</u>				
	<u>Straight Ducts</u>				
17	300x300mm ZB : 21	m	21		
Carried to Collection				R	
Section No. 5 Bill No. 3 MEDIA & COMPUTER LAB (PROVISIONAL)					

18	150x150mm ZB : 7	m	7
19	Dia 200mm ZB : 9	m	9
	<u>Telescopic Plenum for WL 1</u>		
20	715x365mm ZB : 3	No	3
	<u>Taper Pieces</u>		
21	715x365-400x400mm ZB : 3	No	3
22	300x300-150x150mm ZB : 1	No	1
	<u>Square-to-Rounds</u>		
23	400x400-Dia315mm (c/w flexible canvas connection) ZB : 3	No	3
24	300x300-Dia315mm (c/w flexible canvas connection) ZB : 3	m	3
	<u>Offsets</u>		
25	300x300mm ZB : 3	No	3
	<u>Spigots</u>		
26	Dia 150mm ZB : 1	No	1
27	Dia 200mm ZB : 6	No	6
	<u>Flexible Ducting (Un-Insulated) c/w clamps</u>		
28	Dia 150mm ZB : 2	m	2
29	Dia 200mm ZB : 15	m	15

Carried to Collection

R

Section No. 5
Bill No. 3
MEDIA & COMPUTER LAB (PROVISIONAL)

	<u>Commissioning, testing & air balancing of the following entire systems:</u>				
30	Fresh-Air system - F4 ZB : 3	No	3		
	<u>Extract-air Installation according to SANS10400-Part O - Supply, deliver, installation and commissioning of the following items as specified below:</u>				
	<u>Extract Fan - Ceiling type</u>				
31	F5 - Ceiling Type Dia 250mm - 80l/s ZB : 2	No	2		
	<u>Air Terminals including installation all fixing brackets</u>				
32	DG - Door Grille 400x300mm - Natural Anodised ZB : 6	No	6		
	<u>Commissioning & testing of the following fans:</u>				
33	Fan - F5 ZB : 2	No	2		
Carried to Collection					R
Section No. 5 Bill No. 3 MEDIA & COMPUTER LAB (PROVISIONAL)					

Section No. 5

Bill No. 3

MEDIA & COMPUTER LAB (PROVISIONAL)

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

214

215

216

217

218

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 5**

R

Section No. 5

Bill No. 3

MEDIA & COMPUTER LAB (PROVISIONAL)

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO. 5</u></p> <p><u>BILL NO. 4</u></p> <p><u>MECHANICAL INSTALLATION</u></p> <p><u>HALL & KITCHEN</u></p> <p>- WORKGROUP 170 -</p> <p>NOTE 1: Tenderers are advised to study the specification and will be held to have allowed for all the requirements of same when pricing the Bills of Quantities as no claims whatsoever in this regard will be entertained at a later date</p> <p>NOTE 2: For the purposes of tendering, only the total quantity shall be used in calculating the amount for inclusion in the tender at the tendered rate. The quantities in the description column immediately below the item represent the quantities per section for information and administration only.</p> <p>NOTE 3: All items in this section shall be deemed to fall into Work Group No 170 for Haylett Formula purposes</p> <p>NOTE: The complete installation must comply to the relevant SABS specifications and the Quality specification in this document. Therefore Bidders are advised to study the specification and drawings before the Bill is to be priced.</p>			
1	<p><u>Kitchen Canopy Extract System</u></p> <p><u>Supply, delivery & installation of a Kitchen Canopy V-Bank Type. Stainless Steel Grade 430, 1400x1400mm (600mmHigh) complete with vapour proof light fittings (2off), oil trays & stainless steel baffle filters. Mounting hangers & brackets included.</u></p> <p>SC1</p> <p>ZB : 1</p> <p>No</p>	1		
	Carried to Collection		R	
	<p>Section No. 5</p> <p>Bill No. 4</p> <p>HALL & KITCHEN (PROVISIONAL)</p>			

	<u>Axial Flow Extract fan, complete hangers, brackets and vibration mounts.</u>				
2	F6 - 1100l/s @ 260Pa @ 1400m Altitude (Spark Proof) ZB : 1	No	1		
	<u>Sound Attenuators for the following:</u>				
3	SI - Cylindrical to fit fan above (1.5D Podded - Melinex Lined) ZB : 2	No	2		
	<u>Electrical connection for Fan (Stop/Start by others)</u>				
4	Type F6 ZB : 1	No	1		
	<u>Air Terminals including installation all fixing brackets</u>				
5	Weather Cowl c/w wire mesh screen - 450x450mm ZB : 1	No	1		
	<u>Supply, deliver & installation of galvanised sheet metal ducting (1mm Thickness) - un-insulated c/w hangers & brackets. All joints and lock-form to be sealed.</u>				
	<u>Straight Ducts</u>				
6	450x450mm ZB : 6	m	6		
	<u>Shoe Pieces</u>				
7	850x250mm ZB : 1	No	1		
	<u>Square-to-Rounds</u>				
8	850x250-Dia 630mm ZB : 1	No	1		
9	Dia 630-450x450mm ZB : 1	No	1		
	<u>Bends</u>				
10	450x450mm ZB : 1	No	1		
Carried to Collection					R
Section No. 5 Bill No. 4 HALL & KITCHEN (PROVISIONAL)					

	<u>Offsets</u>				
11	450x450mm ZB : 2	No	2		
	<u>Flashings on the roof to seal ducting penetration complete with water proofing.</u>				
12	700mm Wide ZB : 8	m	8		
	<u>Commissioning, testing & air balancing of the following entire systems:</u>				
13	Entire Canopy System ZB : 1	No	1		
	<u>Cold Room Installation</u>				
14	Supply, deliver & installation of a pre-fabricated holding cold room with dimensions: 4000x2200x2700mm High (Panel thickness: 100mm) - Both sides of panels clad with white chromodek sheets. Complete with door of 900x2000mm. ZB : 1	No	1		
15	Supply, deliver & installation of an enclosed type condensing unit complete with brackets. Capacity of 3kWR @ -5°C Te at 37°C Ambient. (Recam Eco Pack EPMKC511AZS type of similar) ZB : 1	No	1		
16	Supply, deliver & installation of a Evaporator unit complete with hangers. Evaporator complete with 2 x evaporator fans to match condensing unit above. (Recam HI3024HA or similar) ZB : 1	No	1		
17	Supply, deliver & installation of refrigerant piping, pipe supports, insulation of 1/2" wall thickness, electrical cables and drain piping ZB : 6	m	6		
18	Supply, deliver & installation of condensing unit & evaporator electrical switchgear in suitable enclosure ZB : 1	No	1		
	<u>Supply, deliver & installation of the following items:</u>				
19	Thermostatic expansion valve & orifice ZB : 1	No	1		
Carried to Collection				R	
Section No. 5 Bill No. 4 HALL & KITCHEN (PROVISIONAL)					

20	Pump down solinoid & coil ZB : 1	No	1	
21	Mechanical -30 to +30 thermostat ZB : 1	No	1	
22	Timer ZB : 1	No	1	
23	Room vapour proof light with door switch ZB : 1	No	1	
24	Supply and charge refrigerant gas ZB : 1	No	1	
25	Testing & Commissioning of cold room ZB : 1	No	1	
26	Installer / technician to be SAQCC registered with a valid licence as per Department of Labour & Pressure regulation act. COC must be supplied as per SAQCC guidelines on completion. ZB : 1	No	1	
27	Supply, deliver & installation of galvanised shelving. 4000mm x 600mm deep x 2700mm high. Shelf spacing to be 500mm. Steel thickness of 1mm. ZB : 1	No	1	
Carried to Collection				
Section No. 5 Bill No. 4 HALL & KITCHEN (PROVISIONAL)				

Section No. 5

Bill No. 4

HALL & KITCHEN (PROVISIONAL)

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

220

221

222

223

**CARRIED FORWARD TO SUMMARY OF SECTION
No: 5**

Section No. 5

Bill No. 4

HALL & KITCHEN (PROVISIONAL)

R

Bill No	<u>SECTION SUMMARY - MECHANICAL INSTALLATION</u>	Page No	Amount
1	PRELIMINARIES AND GENERAL	205	
2	ADMINISTRATION BLOCK (PROVISIONAL)	213	
3	MEDIA & COMPUTER LAB (PROVISIONAL)	219	
4	HALL & KITCHEN (PROVISIONAL)	224	
CARRIED TO FINAL SUMMARY			R
Section No. 5			

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 6</u>			
	<u>BILL NO. 1</u>			
	<u>PROVISIONAL SUMS</u>			
	<u>JOINERY, FITTINGS AND COOKWARE</u>			
	<u>JOINERY FITTINGS</u>			
1	Allow Provisional amount of R1 900 000.00 (One Million Nine Hundred Thousand Rand) for Joinery Fittings YA : 1.00	Item		1 900 000.00
2	Profit and attendance on above-mentioned item YA : 1.00	Item		
	<u>LOOSE FURNITURE</u>			
3	Allow Provisional amount of R650 000.00 (Six Hundred and Fifty Thousand Rand) for loose furniture YA : 1.00	Item		650 000.00
4	Profit and attendance on above-mentioned item YA : 1.00	Item		
	<u>STAGE CURTAINS</u>			
5	Allow Provisional amount of R200 000.00 (Two Hundred Thousand Rand) for the installation of the complete Stage Front, Side and Back Curtains	Item		200 000.00
6	Profit and attendance on above-mentioned item YA : 1.00	Item		
	<u>WINDOW CURTAINS</u>			
7	Allow Provisional amount of R70 000.00 (Seventy Thousand Rand) for the installation of the complete window curtains at the hall	Item		70 000.00
8	Profit and attendance on above-mentioned item YA : 1.00	Item		
	<u>SIGNAGE, ETC</u>			
9	Allow Provisional amount of R150 000.00 (One Hundred and Fifty Thousand Rand) for the complete installation of door, block and school signage YA : 1.00	Item		150 000.00
	Carried to Collection		R	
	Section No. 6			
	Bill No. 1			
	Provisional Sums			

10	Profit and attendance on above-mentioned item YA : 1.00 <u>NUTRITION COOKWARE, CUTLERY, CROCKERY, ETC</u>	Item		
11	Allow Provisional amount of R80 000.00 (Eighty Thousand Rand) for the supply of Cookware, Cutlery and Stainless Steel Crockery B : 1.00	Item	80 000.00	
12	Profit and attendance on above-mentioned item B : 1.00	Item		
13	Allow Provisional amount of R50 000.00 (Fifty Thousand Rand) for the supply of electrical fittings B : 1.00	Item	50 000.00	
14	Profit and attendance on above-mentioned item B : 1.00 <u>SITE WORKS</u> <u>SCHOOL ENTRANCE</u>	Item		
15	Allow Provisional amount of R 40 000.00 (Fourty Thousand Rand) for School entrance YA : 1.00	Item	40 000.00	
16	Profit and attendance on above-mentioned item YA : 1.00 <u>GARDEN IRRIGATION</u>	Item		
17	Allow Provisional amount of R10 000.00 (Ten Thousand Rand) for the garden irrigation	Item	10 000.00	
18	Profit and attendance on above-mentioned item YA : 1.00 <u>GRADE R PLAY AREA</u>	Item		
19	Allow Provisional amount of R60 000.00 (Sixty Thousand Rand) for the playarea at the Grade R	Item	60 000.00	
20	Profit and attendance on above-mentioned item 5 : 1.00	Item		
Carried to Collection			R	
Section No. 6 Bill No. 1 Provisional Sums				

<u>SHADED AREAS</u>				
21	Allow Provisional amount of R25 000.00 (Twenty Five Thousand Rand) for shaded play areas.	Item	25 000.00	
22	Profit and attendance on above-mentioned item 5 : 1.00	Item		
<u>ELECTRICAL INSTALLATION</u>				
<u>ELECTRICAL CONNECTION</u>				
23	Allow Provisional amount of R350 000.00 (Three Hundred and Fifty Thousand Rand) for the Electrical Connection	Item	350 000.00	
24	Profit and attendance on above-mentioned item	Item		
<u>STAGE LIGHTING</u>				
25	Allow Provisional amount of R115 000.00 (One Hundred and Fifteen Thousand Rand) to supply and install a complete LED stage lighting system for the Hall.	Item	115 000.00	
26	Profit and Attendance on above	Item		
<u>ALARM SYSTEM</u>				
27	Allow Provisional amount of R50 000.00 (Fifty Thousand Rand) to supply and install a complete alarm system for the Admin Building and Computer Room	Item	50 000.00	
28	Profit and Attendance on above	Item		
<u>COMPUTERS AND PROJECTORS</u>				
29	Allow Provisional amount of R1 500 000.00 (One Million Five Hundred Thousand Rand) for Computers and Projectors YA : 1.00	Item	1 500 000.00	
30	Profit and attendance on above-mentioned item YA : 1.00	Item		
<u>REMOVAL OF EXISTING INSTALLATION</u>				
31	Allow Provisional amount of R5 000.00 (Five Thousand Rand) for removal of existing electrical infrastructure	Item	5 000.00	
32	Profit and attendance on above-mentioned item YA : 1.00	Item		
Carried to Collection			R	
Section No. 6				
Bill No. 1				
Provisional Sums				

MECHANICAL INSTALLATION

33 Allow Provisional amount of R25 000.00 (Twenty Five Thousand Rand) for Unforeseen changes

Item 25 000.00

34 Profit and attendance on above-mentioned item
YA : 1.00

Item

COMMUNITY AND EMPLOYMENT

COMMUNITY LIASON OFFICER

35 Allow Provisional amount of R120 000.00 (One Hundred and Twenty Thousand Rand) for the Community Liason Officer

Item 120 000.00

YA : 1.00

36 Profit and attendance on above-mentioned item
YA : 1.00

Item

EMPLOYING GRADUATES

37 Allow Provisional amount of R1 080 000.00 (One Million and Eighty Thousand Rand) for Employing Graduates

Item 1 080 000.00

YA : 1.00

38 Profit and attendance on above-mentioned item
YA : 1.00

Item

Carried to Collection

R

Section No. 6
Bill No. 1
Provisional Sums

Section No. 6

Bill No. 1

Provisional Sums

COLLECTION

Total Brought Forward from Page No

Page
No

Amount

226

227

228

229

CARRIED TO FINAL SUMMARY

R

Section No. 6

Bill No. 1

Provisional Sums

Section No		Page No	Amount
1	PRELIMINARIES	42	
2	NEW BUILDINGS	136	
3	EXTERNAL WORKS	183	
4	ELECTRICAL INSTALLATION	204	
5	MECHANICAL INSTALLATION	225	
6	PROVISIONAL SUMS	230	
	SUB-TOTAL :		R
	OCCUPATIONAL HEALTH AND SAFETY (as per Health and Safety Specification and Bill of Quantities)		SUM
	SUB-TOTAL :		R
	<u>CDP CONTINGENCY</u>		
	"Final adjustment in terms of the CDP as the project proceeds"	Item	520 000.00
	SUB-TOTAL :		R
	<u>ADD</u> : VALUE ADDED TAX (15%)		R
	CARRIED TO FORM OF TENDER		R