



NEC3 Engineering & Construction Contract

Between **ESKOM HOLDINGS SOC Limited**
(Reg No. 2002/015527/30)

and

for **Construction of Eskom Central Network Centre in
Lusikisiki Eastern Cape, Cape Coastal Cluster.**

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CONTRACT No.

Part C1: Agreements & Contract Data

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C1.1 Form of Offer & Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of:

CONSTRUCTION OF ESKOM CENTRAL NETWORK CENTRE IN LUSIKISIKI EASTERN CAPE, CAPE COASTAL CLUSTER.

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

Option B	The offered total of the Prices exclusive of VAT is	R
	Value Added Tax @ 15% is	R
	The offered total of the amount due inclusive of VAT is ¹	R
	(Excluding VAT). In words	

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s)

Capacity

For the tenderer:

Name & signature of witness

Date

Tenderer's CIDB registration number (if applicable)

¹ This total is required by the *Employer* for budgeting purposes only. Actual amounts due will be assessed in terms of the *conditions of contract*.

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy signed between them of this document, including the Schedule of Deviations (if any).

Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s)

Name(s)

Capacity

**Senior Manager, Asset Creation
Cape Coastal Cluster**

**for the
Employer**

**ESKOM HOLDINGS SOC LIMITED,
Sunnilaws Office Park, Beacon Bay
EAST LONDON, 5205**

Name &
signature of
witness

Date

Note: If a tenderer wishes to submit alternative tenders, use another copy of this Form of Offer and Acceptance.

Schedule of Deviations to be completed by the *Employer* prior to contract award

Note:

1. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1		
2		
3		
4		
5		
6		
7		

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

For the tenderer:

For the Employer

Signature Name Capacity On behalf of Name & signature of witness Date Senior Manager, Asset Creation Cape Coastal Cluster ESKOM HOLDINGS SOC LIMITED, Sunnilaws Office Park, Beacon Bay EAST LONDON, 5205
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C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option and secondary Options	B: Priced contract with bill of quantities W1: Dispute resolution procedure X1: Price adjustment for inflation X2: Changes in the law X5: Sectional Completion X7: Delay damages X16: Retention X18: Limitation of liability Z: Additional conditions of contract
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The <i>Project Manager</i> is: (Name)	Andile Somsam
	Address	ESKOM HOLDINGS SOC LIMITED, Sunilaws Office Park, Beacon Bay EAST LONDON, 5205
	Tel	043- 703 2146
	Fax	n/a
	e-mail	somsamal@eskom.co.za
10.1	The <i>Supervisor</i> is: (Name)	Sazi Ntikinca
	Address	ESKOM HOLDINGS SOC LIMITED, Sunilaws Office Park, Beacon Bay

EAST LONDON, 5205

Tel No. **047 502 6507**
 Fax No. **n/a**
 e-mail **ntikinsn@eskom.co.za**

11.2(13)	The <i>works</i> are	Construction of Eskom Central Network Centre in Lusikisiki	
11.2(14)	The following matters will be included in the Risk Register	Part 5 – Annexures – Risks identified part of the Risk Assessment as per the Safety Health & Environment Specification document and FDP Document.	
11.2(15)	The <i>boundaries of the site</i> are	Within the servitude of Lusikisiki boundaries project.	
11.2(16)	The Site Information is in	Part 4: Works for that particular project.	
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings will form part of the project specific contract.	
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa	
13.1	The <i>language of this contract</i> is	English	
13.3	The <i>period for reply</i> is	Five (5) working days	
2	The Contractor's main responsibilities	Data required by this section of the core clauses is provided by the Contractor in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.	
3	Time		
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	31 March 2027	
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		1 TBA	
30.1	The <i>access dates</i> are:	Part of the Site	Date
		1 01 Sept 2025	
31.1	The Contractor is to submit a first programme for acceptance within	2 (two) weeks of the Contract Date.	
31.2	The <i>starting date</i> is	01 September 2025	
32.2	The Contractor submits revised programmes at intervals no longer than	3 working days	
35.1	The Employer is not willing to take over the <i>works</i> before the Completion Date.	Unless agreed upon with the Project Manager	

4 Testing and Defects

42.2 The *defects date* is **52 weeks after Completion of the whole of the works per project or section thereof if sectional completion is applicable.**

43.2 The *defect correction period* is **1 (one) week upon notification of defect**

5 Payment

50.1 The *assessment interval* is **Period agreed upon by Project Manager and Contractor from the Starting Date.**

51.1 The *currency of this contract* is the **South African Rand.**

51.2 The period within which payments are made is **Either 14 (fourteen) days or 30 (thirty) days depending on the Contractor's BBBEE status at the date of payment.**

51.4 The *interest rate* is **the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands.**

6 Compensation events

60.1(13) The place where weather is to be recorded is: **At the established Site Camp/ Office Area**

The *weather measurements* to be recorded for each calendar month are, **the cumulative rainfall (mm)**

the number of days with rainfall more than 10 mm

the number of days with minimum air temperature less than 0 degrees Celsius

the number of days with snow lying at 09:00 hours South African Time

and these measurements: are recorded within a calendar month

The *weather measurements* are supplied by **The contractor using actual weather readings from the established site**

The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at: **The nearest weather station of the South African Weather Service to the site**

and which are available from: **the South African Weather Bureau and included in Annexure A to this Contract Data provided by the Employer**

7 Title **As per the terms and conditions of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)**

8 Risks and insurance

80.1	These are additional <i>Employer's</i> risks	<p>1. Inclement weather</p> <p>2. Resident Complaints</p> <p>3. Theft and vandalism (outside CONTRACTORS PREMISES)</p> <p>4. Political Unrest</p> <p>5. Local Business Forum</p> <p>6. Community Unrest</p> <p>7. Disaster Management</p>
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9	Termination	As per the terms and conditions of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)
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10 Data for main Option clause

B	Priced contract with bill of quantities
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60.6	The <i>method of measurement</i> is	as stated in Part C2.1, Pricing Assumptions.
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11 Data for Option W1

W1.1	The <i>Adjudicator</i> is	<p>the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).</p>
	Address	TO BE APPOINTED WHEN DISPUTE ARISE
	Tel No.	
	Fax No.	
	e-mail	

W1.2(3)	The <i>Adjudicator nominating body</i> is:	<p>the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.</p>
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W1.4(2)	The <i>tribunal</i> is:	arbitration.
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W1.4(5)	The <i>arbitration procedure</i> is	<p>the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.</p>
	The place where arbitration is to be held is	EAST LONDON, EASTERN CAPE, South Africa
	The person or organisation who will choose an arbitrator	
	- if the Parties cannot agree a choice or	the Chairman for the time being or his nominee

	- if the arbitration procedure does not state who selects an arbitrator, is	of the Association of Arbitrators (Southern Africa) or its successor body.		
12	Data for secondary Option clauses			
X1	Price adjustment for inflation			
X1.1(a)	The <i>base date</i> for indices is	1 month prior to Tender Closing Date		
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for	Index prepared by
		0. 65 (65%)	Labour (Table C-3a for labour rates)	SIEFSA
		0. 20 (20%)	Transport (Table L-2 for road freight costs)	SIEFSA
		0.15 (15%)	non-adjustable	
		Total 1.00		
	The prices will be fixed and firm rates for the first 12 months of the contract. At the anniversary date of the contract the prices will be adjusted by Contracts Management team for inflation using CPA. The relevant publications to be used are published by the SIEFSA.			
X2	Changes in the law	As per the terms and conditions of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)		
X5	Sectional Completion			
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	Section	Description	Completion date
		1	TBA	[•]
X5 & X7	Sectional Completion and delay damages used together			
X7.1 X5.1	Delay damages for late Completion of the <i>sections</i> of the <i>works</i> are:	section	Description	Amount per day
		1	TBA	R[•]
	Remainder of the <i>works</i>			R[•]
	The total delay damages payable by the <i>Contractor</i> does not exceed:	R [•]		
X7	Delay damages (but not if Option X5 is also used)			

X7.1	Delay damages for Completion of the whole of the <i>works</i> are	0.1% of Contract Value per day. Up to a limit not exceeding 10% of Contract Value
X16	Retention (not used with Option F)	
X16.1	The <i>retention free amount</i> is	N/A
	The <i>retention percentage</i> is	10%
X18	Limitation of liability	
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	The sum of the loss as a result of any action arising by any negligent act by any person under the contractor's employ or any person performing work under the direct supervision of the contractor
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	the amount of the deductibles relevant to the event
X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to	The greater of <ul style="list-style-type: none"> • the total of the Prices at the Contract Date and • the amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date. • R15M first amount payable in terms of the <i>Employer's</i> assets policy.
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	the total of the Prices other than for the additional excluded matters. The <i>Contractor's</i> total liability for the additional excluded matters is not limited. The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for <ul style="list-style-type: none"> • Defects due to his design which arise before the Defects Certificate is issued, • Defects due to manufacture and fabrication outside the Site, • loss of or damage to property (other than the <i>works</i>, Plant and Materials), • death of or injury to a person and • infringement of an intellectual property right.
X18.5	The <i>end of liability date</i> is	(i) Seven years after the <i>defects date</i> for latent Defects and (ii) the date on which the liability in question prescribes in accordance with the Prescription

Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.

A latent Defect is a Defect which would not have been discovered on reasonable inspection by the *Employer* or the *Supervisor* before the *defects date*, without requiring any inspection not ordinarily carried out by the *Employer* or the *Supervisor* during that period. If the *Employer* or the *Supervisor* do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the *Employer* or the *Supervisor* to have discovered the Defect.

Z The Additional conditions of contract are

Z1 to Z15 always apply.

Z1 Cession delegation and assignment

- Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

- Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.
- Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.
- Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

Z3 Change of Broad Based Black Economic Empowerment (B-BBEE) status

- Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor's* B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.
- Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.
- Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.
- Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may

constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

- Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.
- Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.
- Z4.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*.
- Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

- Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Project Manager*, the *Supervisor*, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

Z6 Health, safety and the environment: Add to core clause 27.4

- Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:
- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
 - warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
 - undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z7 Provision of a Tax Invoice and interest. Add to core clause 51

Z7.1 Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.

Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

Z8.1 As per the terms and conditions of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)
Delete from the last sentence in core clause 61.3, "unless the *Project Manager* should have notified the event to the *Contractor* but did not".

Z9 Employer's limitation of liability

Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9.2 The *Contractor's* entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer's* liability under the indemnity is limited.

Z10 Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

Z10.1 or had a business rescue order granted against it.
As per the terms and conditions of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)

Z11 Addition to secondary Option X7 Delay damages (if applicable in this contract)

Z11.1 If the amount due for the *Contractor's* payment of delay damages reaches the limits stated in this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Contractor's* obligation to Provide the Works using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table.

Z12 Ethics

For the purposes of this Z-clause, the following definitions apply:

- Affected Party** means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,
- Coercive Action** means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
- Collusive Action** means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
- Committing Party** means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,
- Corrupt Action** means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,
- Fraudulent Action** means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,
- Obstructive Action** means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and
- Prohibited Action** means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

- Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z12.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.
- Z12.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.
- Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

- 84.1** When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

84.2 The *Contractor* provides the insurances stated in the Insurance Table A.

84.3 The insurances provide cover for events which are at the *Contractor's* risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the <i>works</i> , Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the <i>works</i> , Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) caused by activity in connection with this contract	<u>Loss of or damage to property</u> <u>Employer's property</u> The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance <u>Other property</u> The replacement cost <u>Bodily injury to or death of a person</u> The amount required by applicable law
Liability for death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

Z 13.2 **Replace core clause 87 with the following:**
 The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum limit of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document

Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

- Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.
- Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

For the purposes of this Z-clause, the following definitions apply:

- AAIA** means approved asbestos inspection authority.
- ACM** means asbestos containing materials.
- AL** means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
- Ambient Air** means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
- Compliance Monitoring** means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of

asbestos and asbestos containing material, equipment and articles.

OEL means occupational exposure limit.

Parallel Measurements means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.

Safe Levels means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

Standard means the *Employer's* Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.

SANAS means the South African National Accreditation System.

TWA means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z15.3 The *Employer* manages asbestos and ACM according to the Standard.

Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z15.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.

Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

Annexure A: One-in-ten-year-return *weather data* obtained from SA Weather Bureau for

If any one of these *weather measurements* recorded within a calendar month, before the Completion Date for the whole of the *works* and at the place stated in this Contract Data is shown to be more adverse than the amount stated below then the *Contractor* may notify a compensation event.

													
RAINFALL ANALYSIS FOR: 0129068A4 PT St Johns Lat:-31.6300 Lon:29.5500 Height:47 m DATA REQUESTED 1995 to 2015													
Data for the Average Calculation is not used if: There are more than five consecutive days of accumulation The data for certain days in the month is not available The accumulation period occurred at the end of the month													
Data for the Frequency calculation is not used if: The data for certain days in the month is not available The accumulation period occurred at the end of the month													
Month	Average Monthly Rainfall (mm)	Standard Deviation	Average Number of Rain Days per Month	Number of Months	Average Number of Rain Days in the Specified Range:						Maximum 24-hour Rainfall (mm)	Date of Maximum 24-hour Rainfall	
					1 - 5 mm	5.1 - 10mm	10.1 - 20mm	20.1 - 50mm	50.1 - 100 mm	> 100 mm			
JAN	116.1	46.7	13.7	18.0	4.4	1.9	2.2	1.2	0.2	0.1	163.0	2008/01/14	
FEB	100.8	70.5	10.9	18.0	3.5	1.4	1.1	1.3	0.2	0.1	180.5	1994/02/05	
MAR	112.2	56.4	12.1	16.0	4.1	1.8	2.0	1.1	0.4	0.0	86.5	2001/03/17	
APR	86.1	66.8	7.2	19.0	2.1	1.6	0.7	1.1	0.3	0.1	105.0	2008/04/20	
MAY	34.8	24.6	4.4	20.0	1.5	0.6	0.5	0.6	0.1	0.0	52.0	2000/05/23	
JUN	33.1	55.2	3.3	20.0	1.1	0.3	0.6	0.3	0.1	0.1	109.5	1997/06/13	
JUL	38.9	57.4	3.7	20.0	1.0	0.5	0.3	0.5	0.1	0.1	125.6	1996/07/08	
AUG	50.5	41.1	6.4	20.0	2.2	0.9	0.8	0.7	0.1	0.0	70.0	2006/08/02	
SEP	77.8	50.6	8.7	19.0	3.0	1.3	0.9	0.8	0.2	0.1	121.0	2004/09/25	
OCT	89.5	57.3	13.0	17.0	4.9	2.1	1.9	0.8	0.2	0.0	65.3	2006/10/04	
NOV	111.4	95.2	11.9	17.0	4.2	1.9	1.2	1.3	0.2	0.1	281.5	2005/11/06	
DEC	96.7	49.0	13.1	16.0	5.3	2.0	1.4	1.3	0.1	0.0	84.0	1994/12/24	
YR	947.9		108.3		37.1	16.3	13.7	10.8	2.1	0.5			

Only the difference between the more adverse recorded weather and the equivalent measurement given above is taken into account in assessing a compensation event.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No.	
11.2(8)	The <i>direct fee percentage</i> is The <i>subcontracted fee percentage</i> is	
11.2(18)	The <i>working areas</i> are the Site and	
24.1	The <i>Contractor's</i> key persons are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job: Responsibilities: Qualifications: Experience:	CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	31 March 2027
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the <i>Contractor's</i> design is in:	
31.1	The programme identified in the Contract Data is	

B	Priced contract with bill of quantities							
11.2(21)	The <i>bill of quantities</i> is in	C2.1 The Bill of Quantities						
11.2(31)	The tendered total of the Prices is	R						
	Data for Schedules of Cost Components	<i>Note "SCC" means Schedule of Cost Components starting on page 60, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).</i>						
B	Priced contract with bill of quantities	Data for the Shorter Schedule of Cost Components						
41 in SSCC	The percentage for people overheads is:	5% (Only applicable for compensation events)						
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	Minus %						
22 in SSCC	The rates of other Equipment are:	<table border="1"> <thead> <tr> <th>Equipment</th> <th>Size or capacity</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Equipment	Size or capacity	Rate			
Equipment	Size or capacity	Rate						
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates. Please insert another schedule if foreign resources may also be used	<table border="1"> <thead> <tr> <th>Category of employee</th> <th>Hourly rate</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Category of employee	Hourly rate				
Category of employee	Hourly rate							
62 in SSCC	The percentage for design overheads is	%						
63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:							

PART 2: PRICING DATA

ECC3 Option B

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option B	[03]
C2.2	The <i>bill of quantities</i>	[00]

C2.1 Pricing assumptions: Option B

1. How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract (ECC3) Option B states:

Identified and defined terms	11	
	11.2	(21) The Bill of Quantities is the <i>bill of quantities</i> as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.
		(28) The Price for Work Done to Date is the total of
		<ul style="list-style-type: none">• the quantity of the work which the <i>Contractor</i> has completed for each item in the Bill of Quantities multiplied by the rate and• a proportion of each lump sum which is the proportion of the work covered by the item which the <i>Contractor</i> has completed.
		Completed work is work without Defects which would either delay or be covered by immediately following work.
		(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that specifications and descriptions of the work or any constraints on how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

There is no general provision in Option B for payment for materials on Site before incorporation into the *works*. If secondary Option X14 Advanced payment has not been used then the tendering contractor may obtain the same effect by inserting appropriate items in the method related charges where the *method of measurement* allows, or alternatively making allowance in the rates of the *bill of quantities* for the financing of Plant and Materials until they are incorporated in the *works*.

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost

plus Fee is used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill. The P & G section of the bill is not used for the assessment of compensation events.

4. Measurement and payment

4.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
sum	Lump sum
t	tonne (1000kg)

4.2. General assumptions

- 4.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 4.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 4.2.3. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.
- 4.2.4. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified

for payment by the *Project Manager* at each assessment date will be used for determining payments due.

- 4.2.5. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.
- 4.2.6. A **5 %** handling fee is applicable to all material purchased by the contractor
- 4.2.7. The contractor's offer for supply rates shall be approved by the relevant Quantity Surveyor. These will be fixed for the duration of the *Contract*.

4.3. Departures from the *method of measurement*

4.3.1.

4.4. Amplification of or assumptions about measurement items

The following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.

4.4.1.

C2.2 the *bill of quantities*

Page	Item	Description	Uom	Quantity	Rate	Amount	Total
		SECTION NO. 1 : PRELIMINARIES AND GENERAL					
		BILL NO.1 : PRELIMINARIES					
1-2		NOTES					
1-2		i) The NEC3 Engineering and Construction Contract (Second edition of April 2013) in conjunction with the Contract Data is taken to be incorporated herein					
1-2		ii) The Tenderer is deemed to have taken cognizance of the abovementioned documents for the full intent and meaning of each clause. These clauses are referred to by clause number and heading only					
1-2		iii) Where standard clauses or options are not applicable to this contract such modifications, corrections or supplements as are necessary, are given under each relevant clause					
1-2		iv) Where any items are not used for this specific contract such items are nevertheless listed but marked not applicable in the amount column					
1-2		v) The amount or the items of the Preliminaries are adjusted to take account of the theoretical financial effect which changes in time or value (or both) have on this section. Such adjustments are based on adjustments in the following categories as recorded in the Bill of Quantities:					
1-2		a) an amount which is not varied, namely Fixed Related					
1-2		b) an amount which is varied in proportion to the contract value, namely Value Related; and					
1-2		c) an amount which is varied in proportion to the construction period as compared to the initial construction period excluding revisions to the construction period for which the contractor is not entitled to adjustment in terms of the contract, namely Time Related					
1-2		iv) Items not priced in these preliminaries are deemed to be included elsewhere in this Bill of Quantities					
1-2		SECTION A: CONDITIONS OF CONTRACT					
1-2		GENERAL (A1)					
1-2	1	Clause 1	Item	1.00			
1-2		Fixed:..... Value Related:..... Time Related:.....					
1-2		THE CONTRACTOR'S MAIN RESPONSIBILITIES (A2)					
1-2	2	Clause 2	Item	1.00			
1-2		Fixed:..... Value Related:..... Time Related:.....					
1-2		Objective and preparation					
1-2		TIME (A3)					

1-2	3	Clause 3	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3	4	Clause 4	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3		PAYMENT (A5)				
1-3	5	Clause 5	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3		COMPENSATION EVENTS (A6)				
1-3	6	Clause 6	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3		TITLE (A7)				
1-3	7	Clause 7	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3		INDEMNITY, INSURANCE AND LIABILITY (A8)				
1-3	8	Clause 8	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3		TERMINATION AND DISPUTE RESOLUTION (A9)				
1-3	9	Clause 9	Item	1.00		
1-3		Fixed:..... Value Related:..... Time Related:.....				
1-3		SECTION B: CONTRACT DATA				
1-3		CONTRACT DATA (B1)				
1-3	10	Clause 10	Item	1.00		
1-3		Tenderers are referred to Part C1.2 Contract Data for variables pertaining to this contract				
1-3	11	Fixed:..... Value Related:..... Time Related:.....	Item	1.00		
1-3		SECTION 1				
1-3		Occupational Health and Safety				
1-3	12	Preparation of Contrator's site specific Health and Safety Plan	Item	1.00		
1-4	13	Principal Contractor's initial obligations in respect of the OHS Act and Construction Regulations	Item	1.00		
1-4	14	Principal Contractor's time related obligations in respect of the OHS Act and Construction Regulations	Item	1.00		

1-4		Provision for Personal Protective Equipment and Protective Clothing					
1-4	15	Reflective vests	No	1.00			
1-4	16	Reflective bibs	No	1.00			
1-4	17	Hard Hats	No	1.00			
1-4	18	Protective foot wear	No	1.00			
1-4	19	Earplugs	No	1.00			
1-4	20	Dust masks	No	1.00			
1-4	21	Provision of full time Construction Health and Safety Officer	Days	1.00			
1-4		Costs of medical certificates and Medical Surveillance					
1-4	22	Initial (Baseline) medical examinations	No	1.00			
1-4	23	Exit examinations	No	1.00			
1-4	24	Induction Training	No	1.00			
1-4		Noise Monitoring					
1-4	25	Establishment of noise zones	No	1.00			
1-4	26	Audiograms	No	1.00			
1-4	27	Payment for Health and Safety representatives at meetings	Item	1.00			
1-4	28	Provision of First Aid boxes	Item	1.00			
1-4	29	Submission of the Health and Safety File	Item	1.00			
		Bill Total					0.00
		Section Total					0.00
		SECTION NO. 2 : CENTRAL NETWORK CENTRE					
		BILL NO.1 : EARTHWORKS					
2-2		TRADE PREAMBLES					
2-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					

2-2		EXCAVATION ETC (PROVISIONAL)				
2-2		Excavation in earth not exceeding 2m deep				
2-2	1	Reduced levels under floors	m ³	73.00		
2-2	2	Trenches	m ³	76.00		
2-2	3	Holes	m ³	2.00		
2-2		Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density				
2-2	4	Not exceeding 500mm deep for placing and removing formwork to walls etc., 1500mm away from excavated face	m ²	310.00		
2-2		Extra over trench and hole excavations in earth for excavation in				
2-2	5	Soft rock	m ³	36.00		
2-2	6	Hard rock	m ³	18.00		
2-2		Extra over all excavations for carting away				
2-2	7	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	132.00		
2-2		Risk of collapse of excavations				
2-2	8	Sides of bulk excavations not exceeding 1,5m deep	m ²	310.00		
2-3		Keeping excavations free of water				
2-3	9	Keeping excavations free of all water other than subterranean water	Item	1.00		
2-3		FILLING ETC OTHER THAN BULK				
2-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)				
2-3	10	Backfilling to trenches, holes, etc.	m ³	19.00		
2-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density				
2-3	11	G5 Under floors, paving, etc.	m ³	64.00		
2-3	12	G7 Under floors, paving, etc.	m ³	143.00		
2-3		Coarse river sand filling supplied by the contractor				
2-3	13	Under floors etc.	m ³	21.00		
2-3		Compaction of surfaces				
2-3	14	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	410.00		
2-3		Density Tests:				
2-3	15	Additional Mod AASHTO density tests as instructed by Engineer.	No	4.00		

2-3		SOIL POISONING					
2-3		Soil insecticide in accordance with SANS 5859					
2-3	16	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	487.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
2-5		TRADE PREAMBLES					
2-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-5		Cost of tests					
2-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
2-5		Breeze concrete					
2-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
2-5		Lightweight concrete					
2-5		Lightweight concrete shall have a density of 600kg/m ³ for the top 50mm and 400kg/m ³ for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
2-6		Formwork					

2-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use				
2-6		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				
2-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
2-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
2-6		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				
2-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
2-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
2-6		20MPa/19mm concrete				
2-6	1	Surface blinding under footings and bases	m ³	9.00		
2-6		REINFORCED CONCRETE CAST ON/IN FORMWORK				
2-6		25MPa/19mm concrete				
2-6	2	Slabs including beams and inverted beams	m ³	4.00		
2-6	3	Isolated beams	m ³	2.00		
2-7		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
2-7		25MPa/19mm concrete				
2-7	4	Bases	m ³	2.00		
2-7	5	Ground beams	m ³	67.00		
2-7		REINFORCED CONCRETE				
2-7		25MPa/19mm concrete				
2-7	6	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	63.00		

2-7	7	In cavities	m ³	6.00		
2-7		TEST CUBES				
2-7		Test cubes				
2-7	8	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00		
2-7		CONCRETE SUNDRIES				
2-7	9	Grout solid under steel base plates	No	4.00		
2-7		Finishing top surfaces of concrete smooth with a steel trowel				
2-7	10	Surface beds, slabs, etc.	m ²	446.00		
2-7		Finishing top surfaces of concrete with a sponge roll				
2-7	11	Pavings to falls	m ²	51.00		
2-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
2-7		Rough formwork to sides				
2-7	12	Strip footings (Provisional)	m ²	10.00		
2-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
2-7		Smooth formwork to sides				
2-7	13	Ground beams	m ²	460.00		
2-7	14	Eaves beams	m ²	17.00		
2-7	15	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	108.00		
2-7	16	Edges, risers, ends and reveals not exceeding 300mm high or wide, circular on plan	m	14.00		
2-8		Smooth formwork to soffits				
2-8	17	Slabs	m ²	61.00		
2-8	18	Eaves beams	m ²	7.00		
2-8		MOVEMENT JOINTS ETC				
2-8		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces				
2-8	19	10mm Joints not exceeding 150mm high.	m	32.00		
2-8		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed				
2-8	20	Not exceeding 300mm wide	m	52.00		
2-8		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces				
2-8	21	Sides of ground beams	m ²	19.00		

2-8	22	Not exceeding 300mm high to edges of surface beds	m	40.00			
2-8		Saw-cut joints					
2-8	23	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	7.00			
2-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
2-8		High tensile steel reinforcement to structural concrete work					
2-8	24	10mm Diameter bars	Tonnes	2.21			
2-8	25	12mm Diameter bars	Tonnes	1.12			
2-8		Fabric reinforcement					
2-8	26	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	436.00			
		Bill Total					0.00
		BILL NO.3 : PRECAST CONCRETE					
2-10		TRADE PREAMBLES					
2-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-10		PRECAST CONCRETE WINDOW SURROUNDS					
2-10		Winblok modular precast concrete window surrounds etc. finished smooth on exposed surfaces, including bedding, jointing and pointing					
2-10	1	317 x 317 x 100mm concrete decorative grille blocks.	No	18.00			
2-10		PRECAST CONCRETE PAVING					
2-10		200 x 100mm Paving bricks to SANS 1058: 2012 including 25mm sand bed:					
2-10	2	50mm Paving to aprons, etc.	m ²	26.00			
2-10		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing					
2-10	3	Barrier kerb (SABS 927 fig 4) with unreinforced concrete haunching at back of each joint including excavation, backfilling, etc	m	17.00			

2-10	4	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corng 813 sealant	m	110.00		
2-10	5	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corng 813 sealant, circular on plan	m	7.00		
2-11	6	Extra for end	No	2.00		
2-11	7	Extra for angle	No	9.00		
		Bill Total				0.00
		BILL NO.4 : MASONRY				
2-13		TRADE PREAMBLES				
2-13		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-13		SUPPLEMENTARY PREAMBLES				
2-13		BRICKWORK				
2-13		Sizes in descriptions				
2-13		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				
2-13		Hollow walls				
2-13		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				
2-13		Bagged and sealed walls				
2-13		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				
2-13		Face bricks				
2-13		Bricks shall be ordered timeously to obtain uniformity in size and colour				
2-13		Pointing				

2-13		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
2-14		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
2-14		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
2-14	1	Half brick walls in lining to concrete ground beams	m ²	90.00		
2-14	2	One brick walls	m ²	88.00		
2-14	3	One brick walls, circular on plan	m ²	11.00		
2-14	4	340mm Hollow walls of two half brick skins including wire ties	m ²	33.00		
2-14		BRICKWORK IN SUPERSTRUCTURE				
2-14		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
2-14	5	Half brick walls	m ²	216.00		
2-14	6	Half brick walls in beamfilling	m ²	60.00		
2-14	7	One brick walls	m ²	402.00		
2-14	8	One brick walls bagged and sealed	m ²	171.00		
2-14	9	One brick walls in gables	m ²	8.00		
2-14	10	One brick walls in parapets	m ²	11.00		
2-14	11	One brick walls in fire walls	m ²	28.00		
2-14	12	One brick walls, circular on plan	m ²	13.00		
2-14	13	One brick walls in parapets, circular on plan	m ²	3.00		
2-14	14	340mm Hollow walls of two half brick skins including wire ties	m ²	62.00		
2-14		BRICKWORK SUNDRIES				
2-14		Sundries				
2-14	15	Closing 110mm cavities of hollow walls vertically with brickwork half brick wide	m	10.00		
2-14	16	Closing 110mm cavities at top of hollow walls vertically with brickwork one course high	m	19.00		
2-14	17	Raking cutting brickwork	m ²	2.00		
2-14	18	Bed roofing solid in cement mortar.	m ²	2.00		
2-15		Joint forming material in movement joints				
2-15	19	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	24.00		
2-15		2,5mm Brickwork reinforcement				
2-15	20	75mm Wide reinforcement built in horizontally	m	2 081		
2-15	21	150mm Wide reinforcement built in horizontally	m	3 180		

2-15	22	150mm Wide reinforcement built in horizontally, circular on plan	m	40.00			
2-15		High tensile steel reinforcement to structural brick work					
2-15	23	8mm Diameter bars	Tonnes	0.08			
2-15		Prestressed fabricated concrete lintels including necessary temporary supports					
2-15	24	110 x 75mm Lintels in lengths not exceeding 3m.	m	24.00			
2-15	25	230 x 75mm Lintels in lengths not exceeding 3m	m	10.00			
2-15		Turning pieces to lintels etc.					
2-15	26	230mm Wide turning pieces	m	1.00			
2-15		Galvanised wire ties etc.					
2-15	27	4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and other end fixed to timber	No	88.00			
2-15	28	Door cramps with one end built into brickwork and other end fixed to timber	No	162.00			
2-15		Air bricks etc.					
2-15	29	229 x 76mm Clay vermin proof air brick including opening through half brick beamfilling	No	240.00			
2-15	30	229 x 150mm Clay vermin proof air brick including opening through one brick wall	No	18.00			
2-15		FACE BRICKWORK					
2-15		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.					
2-15	31	Extra over brickwork in NFX bricks for face brickwork	m ²	557.00			
2-15	32	Extra over brickwork for face brickwork in roller courses	m	115.00			
2-16	33	Extra over brickwork for brick-on-end soldier course lintels course(s) high, pointed on face and 150mm soffit	m	39.00			
2-16		Brick-on-edge header course copings, sills, etc. of Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face bricks, pointed with flush joints on all exposed faces					
2-16	34	230mm treads	m	35.00			
2-16	35	210mm Wide sills set level and slightly projecting	m	35.00			
2-16		FIBRE-CEMENT WINDOW SILLS					
2-16		Everite Nutec' fibre cement windows cills to suite window Size, internally, in single lengths not exceeding 3600mm, set flat and slightly projecting bedded in class 1 mortar and including fixing lugs screwed to underside with self tapping screws					
2-16	36	150 x 15mm Wide sills set flat and slightly projecting	m	37.00			

2-16		SANDSTONE PAVING					
2-16		300 x 300mm Sandstone paving bedded and pointed in cement mortar					
2-16	37	Paving to floors 50mm thick	m ²	54.00			
2-16	38	Extra for nosing	m	21.00			
2-16		SLATE PAVING					
2-16		300 x 300mm slate paving with polished finish, bedded in cement mortar					
2-16	39	Paving to floors of 50mm thick in panels not exceeding 5m ² on face	m ²	2.00			
2-16	40	Paving to floors 50mm thick in margins 150mm wide	m	59.00			
2-16		Acid wash surface with Grout Off diluted to tre concrete solution and then rinse. Neutralise and degrease with Easy Cleol Rinse until no bubbles or residues remain and -allow to cure for 8-12 hours. Seal with two ceots of Tile and Floor Care Smart Seal water based silicone with matt sheen finish using a sheepskin applicator.					
2-16	41	To slate and sandstone paving	m ²	65.00			
		Bill Total					0.00
		BILL NO.5 : WATERPROOFING					
2-18		TRADE PREAMBLES					
2-18		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-18		SUPPLEMENTARY PREAMBLES					
2-18		Waterproofing					
2-18		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs					
2-18		DAMPPROOFING OF WALLS AND FLOORS					
2-18		One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)					

2-18	1	In walls	m ²	69.00			
2-18	2	In walls vertically at reveals	m ²	13.00			
2-18		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape					
2-18	3	Under surface beds and ground beams	m ²	812.00			
2-18	4	Under paving	m ²	26.00			
2-18		Two coats Brixseal Type 5 bitumen emulsion waterproof coating					
2-18	5	On concrete columns, beams, etc.	m ²	90.00			
2-19		WATERPROOFING TO ROOFS, BASEMENTS, ETC					
2-19		Prime with one coat bitumen primer and one layer 4mm fully bonded waterproof membrane comprising two bitumen layers reinforced with woven spun bonded polyester fabric and coated with polyethylene film for heat bonding, laid with 100mm side and 150mm end laps					
2-19	6	On screeded roofs including turn-ups, etc.	m ²	63.00			
2-19	7	Flashing strip 300mm girth at turn-ups including sealing top edge into groove with mastic.	m	58.00			
2-19		PROTECTIVE ROOFING PAINT					
2-19		Two coats bituminous aluminium paint					
2-19	8	On waterproofing to roofs	m ²	63.00			
2-19		SEALING STRIPS, JOINT SEALANTS, ETC					
2-19		ABE Epoflex 800 sealing compound and Samseal EP 265 final sealant (filler) application:					
2-19	9	6 x 10mm In saw cut joints in floors.	m	7.00			
2-19	10	10 x 30mm In expansion joints in floors including raking out filler as necessary.	m	72.00			
2-19		Prostruct 649 sealing compound including backing cord, bond breaker, primer, etc.					
2-19	11	10 x 20mm In vertical expansion joints including raking out expansion joint filler as necessary.	m	48.00			
		Bill Total					0.00
		BILL NO.6 : ROOF COVERINGS					
2-21		TRADE PREAMBLES					
2-21		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

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		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-21		PROFILED METAL SHEETING AND ACCESSORIES				
2-21		SUPPLEMENTARY PREAMBLES				
2-21		Cutting of sheets:				
2-21		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish				
2-21		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.				
2-21	1	Roof covering with pitch not exceeding 25 degrees	m ²	554.00		
2-21	2	Turn up troughs at apex	m	85.00		
2-21	3	Turn up troughs at hips	m	80.00		
2-21	4	Turn down troughs at eaves	m	104.00		
2-21	5	Turn down troughs at valleys	m	48.00		
2-22		Safintra 30 x 462mm girth SAFLOK 70C Dove Grey Chromadek ISQ550 ridge cap with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufacturer's recommendations				
2-22	6	Ridge Capping	m	43.00		
2-22	7	Extra for intersection of ridge with two hips including soaker	No	3.00		
2-22	8	Extra for intersection of ridge with valley including soaker	No	1.00		
2-22	9	Extra for intersection of ridge with two valleys including soaker	No	1.00		
2-22		SHEET METAL FLASHINGS, LININGS, COPINGS, ETC				
2-22		Safintra 0.8mm thick SAFLOK 700 Grey Chromadek flashings complete with polyclosers.				
2-22	10	Eaves closer.	m	109.00		
2-22	11	Hip capping.	m	40.00		
2-22	12	Gutter flashing.	m	109.00		
2-22	13	Valley gutter.	m	24.00		

2-22	14	Extra for hip finial	No	5.00		
		Bill Total				0.00
		BILL NO.7 : CARPENTRY AND JOINERY				
2-24		TRADE PREAMBLES				
2-24		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				
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		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-24		SUPPLEMENTARY PREAMBLES				
2-24		Fixing				
2-24		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
2-24		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
2-24		Joinery				
2-24		Descriptions of frames shall be deemed to include frames, transomes, rails, etc.				
2-24		Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts				
2-24		Decorative thermosetting plastic laminate covering				
2-24		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
2-25		ROOFS ETC				
2-25		SA Pine				
2-25	1	Prefabricated Gangnail double pitched timber roof truss construction to suit building size overall 35.125 x 9.460m x 3.000m high max, front Tee entrance extension 4.680 x 6.660m wide gable end; back angle extension 6.670 x 8.340m wide hip end, designed and installed with 500mm eaves overhang with ridge, hip and valley trusses, temporary and permanent bracing, trimmers, hangers, fixings, etc. (purlins elsewhere measured) and hoist and fix in position approximately 3.00m above ground level. (Gross overall area on flat 410m2 - excluding eaves overhang)	Item	1.00		

2-25	2	Provide and install permanent harness anchor system similar to the Travsafe life line System by Phakamisa Industries	Item	1.00		
2-25	3	38 x 114mm Wall plates	m	105.00		
2-25	4	50 x 76mm Purlins	m	698.00		
2-25	5	Mitek Eco galvanised steel purlin clips	No	580.00		
2-25		EAVES, VERGES, ETC				
2-25		Fibre-cement plain ceiling boards				
2-25	6	Everite Nutec 6mm thick plain eaves soffit boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and top of rafters using 32 x 2,5mm serrated ceiling nails. All in accordance with the manufacturer's recommendations.	m²	55.00		
2-25		SouthPro' uPVC fascia's and bargeboards				
2-25	7	225 x 9mm Thick fascia in 6m lengths wih uPVC connectors, fixed with and including 12 x 40mm countersunk brass screws capped with PVC covers at Maximum 800mm centres	m	109.00		
2-25	8	225 x 75 x 9mm Thick barge boards in 6m lengths wih uPVC connectors, fixed with and including 12 x 40mm countersunk brass screws capped with PVC covers at Maximum 800mm centres	m	10.00		
2-25	9	Extra over for PVC H-profile fascia corner joiner	No	9.00		
2-26		SKIRTINGS				
2-26		Meranti				
2-26	10	75 x 19mm skirting boards with 19mm diameter quadrant trim nailed to wall at 500mm c/c with 32mm steel nails. All nails to be punched and filled.	m	22.00		
2-26		DOORS				
2-26		SUPPLEMENTARY PREAMBLES				
2-26		Semi solid flush doors with commercial veneer fixed to timber frames				
2-26	11	44 x 813 x 2032mm high approved door with hardwood edge strips all around to Architect's specification	No	13.00		
2-26	12	44 x 813 x 1832mm high approved door with hardwood edge strips all around to Architect's specification	No	5.00		
2-26		FRAMED FRAMES ETC				
2-26		Swartland Cape Culture (10 Year Guarantee) Frames				
2-26	13	70 x 90mm CODE SK1 door frame for Single door size 813 x 2032mm high	No	18.00		
2-26		BEADS, ARCHITRAVES, ETC				
2-26		Wrought softwood				
2-26	14	19mm quadrant beads	m	61.00		
2-26	15	75 x 19mm architraves	m	61.00		

2-26		NOTICEBOARDS, KEYBOARDS, DUCKBOARDS, ETC				
2-26		Vitrex				
2-26	16	Vitrex Model 2310-D or equal and approved, standard wall mounted educational range pin board size, size 1200mm high x 2400mm wide, reference (2309B) with 44 x 22mm rebated and moulded surround. Pinning surface to be Belgotex Colour-Rib, colour Bleach. Pin boards supplied complete with fixing components and secured to brickwork	No	2.00		
2-26	17	Magnetic Whiteboards with deluxe aluminium frame & pen/chalk rail size 1200mm x 2400mm	No	2.00		
2-27		FITTINGS				
2-27		General: The following fittings have been measured as complete units, i.e., the components of descriptions therefore such units shall be deemed to include all components, assembling, anchors, housing, notching, gluing, blocking, planting on and screwing with countersunk screws, edge strips, mouldings, decorative plastic finish, glass ironmongery, metalwork, paint or varnish finishes, fixings to walls, etc.				
2-27		Specification for Drawer Runners				
2-27		Eclipse STANDARD pull out system (code 230M5000 Brown) for the kitchen drawers (elsewhere specified) including all necessary Brown runners, fittings, etc, fitted in accordance with the manufacturers recommendations.				
2-27		Specification for Drawer and Door Handles				
2-27		Eclipse Brushed Nickel Barcelona bar handle fixed at 192mm centres fitted with steel self tapper screws:				
2-27		Specification for Hinges				
2-27		Eclipse Blum 107°CLIP top hinge in nickel plate d finish (code 75T1550 CLIP 107 ST SCREW ON) with 5mm horizontal cam mounting plate (code 177H5400E-0MM CLIP HORIZONTAL PLATE) and hinge cover cap, fixed using screw-on system in accordance with manufacturers recommendations.				
2-27		Specification for Stainless Steel Legs				
2-27		710 x 60mm Tapered Brushed Satin Nickel				
2-27		WORKTOPS				
2-27	18	Worktop of 18No. Stations size overall size 900 x 760mm high formed with 32mm melamine postformed top with rounded edges to both sides and 50 x 22mm meranti front edging; and 16mm thick white melamine front panels complete with 3mm thick white pvc edge strips and 50 x 22mm SA Pine cleats at top and bottom, all fixed to timber frame formed of 76 x 38mm SA Pine frame, complete with 25mm thick SA Pine CPU housing with exposed back including sides, divisions, etc. To Architect's Detail Drawing No. 1214/WD/044	m	20.00		

2-28	19	Worktop of 12No. Stations size overall size 900 x 760mm high formed with 32mm melamine postformed top with rounded edges to both sides and 50 x 22mm meranti front edging; and 16mm thick white melamine front panel complete with 3mm thick white pvc edge strips and 50 x 22mm SA Pine cleats at top and bottom, all fixed to timber frame formed of 76 x 38mm SA Pine frame, complete with 25mm thick SA Pine CPU housing with exposed back including sides, divisions, etc. To Architect's Detail Drawing No. 1214/WD/045	m	19.00			
2-28		BENCHES					
2-28		Meranti					
2-28	20	70 x 20mm Seating slats with mitred edges fixed to steel frame (elsewhere measured) with countersunk self tapping screws	m	47.00			
2-28	21	40 x 20mm Mitered front edge with 45 degrees mitres fixed to steel angle (elsewhere measured) with countersunk self tapping screws	m	10.00			
2-28	22	32 x 50mm Back rest with 20mm routed edges at top and bottom fixed to steel angle (elsewhere measured) with countersunk self tapping screws	m	10.00			
2-28		SHELVING					
2-28		SA Pine					
2-28	23	400 mm wide x 22mm Thick treated shelving fixed to bracket with adequate self tapping timber screws	m	68.00			
2-28		Shelco'					
2-28	24	Shelco Ref Code WB1820 pre-painted twin slot wall bands fixed to wall.	m	25.00			
2-28	25	Shelco Ref Code WBR450 400 x 240mm heavy duty pre-painted bracket fixed to wall bands.	No	98.00			
2-28		CUPBOARDS TO KITCHENS, BEDROOMS, ETC					
2-28		SUPPLEMENTARY PREAMBLES					
2-28		General					
2-29		The following cupboard fittings have been given as complete units i.e. the components of the units have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, assembling, housing, notching, glueing, blocking, planting-on and screwing with countersunk screws, edge strips, thermosetting plastic laminate, glass, ironmongery, metalwork, paint or varnish finishes, etc. Prices are to include for all necessary filler pieces against walls etc.					
2-29		References					
2-29		References given in descriptions refer to the respective types of fittings detailed on the architect's drawing(s) numbered ? annexed to these bills of quantities (accompanying these bills of quantities?) for tender purposes					
2-29		Kitchen cupboards etc.					

2-29		All external sections of built-in cupboards to be of FG Bison 16mm thick Melolwood MFB in Vancouver Maple Peen, comprising single layer of melamine-impregnated decorative paper, fused under heat and pressure to both sides of a smooth surface Bisonboard Particleboard substrate laminated on both sides, manufactured in accordance with SANS 1763: 1998 and constructed in accordance with the drawings. All edging to doors and drawers to be solid Vancouver Maple (or similarly approved)				
		All countertops to be 32mm thick solid post-formed with Vancouver Maple Peen melamine finish as above. All internal shelving to be of FG Gison 16mm thick Supalam MFB in Super White Peen, comprising SupaWood consolidate by heat and pressure on both sides with melamine impregnated paper to create a homogenous construction laminated on both sides, manufactured in accordance with SANS 1763: 1998 and constructed in accordance with the drawings. All edging to be 3mm thick white PVC impact edging.				
2-29	26	Wall cupboard 2000 x 350 x 400mm high with top, sides, bottom, divisions, shelf, back and hinged doors	No	1.00		
2-29	27	Floor cupboard type 2860 x 600 x 900mm high with top, sides, bottom, division, shelf, back and double hinged doors, dividing framework and drawers	No	1.00		
2-29	28	Sink cupboard 2860 x 600 x 900mm high with post-formed Melanine top, sides, bottom, divisions, shelf, back and single hinged doors, dividing framework and drawers (sink elsewhere measured).	No	1.00		
		Bill Total				0.00
		BILL NO.8 : CEILINGS PARTITIONS AND ACCESS FLOORING				
2-31		TRADE PREAMBLES				
2-31		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-31		SUPPLEMENTARY PREAMBLES				
2-31		Fixing				
2-31		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				

2-31		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
2-31		Ceilings				
2-31		Unless otherwise described ceilings shall be deemed to be horizontal				
2-31		Bulkheads				
2-31		Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
2-31		Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 900mm. Where these dimensions are more than 900mm such portions of ceilings have been included in the appropriate general items of ceilings				
2-32		Unless otherwise described bulkheads shall be deemed to be horizontal along the length				
2-32		User Note - Circular bulkheads shall be given separately				
2-32		Steel components				
2-32		All steel components for ceilings, partitions, etc. are to be galvanised in accordance with SANS 121				
2-32		NAILED-UP CEILINGS				
2-32		SUPPLEMENTARY PREAMBLES				
2-32		Gypsum plasterboard				
2-32	1	Gyproc 6,4mm RhinoCeil Value gypsum flush plastered ceiling with square edged Rhinoboard fixed print side up with 32mm galvanised clout or semi-clout nails at 150mm centers to and including 38 x 50mm (with 50mm dimension vertical) SA Pine branding at 300mm centres in one direction. All joints to be covered with Rhinotop fixed over joints (double over butt joints) end then plastered with 3mm to 6mm thick Rhinolite gypsum skim plaster, all fixed to trusses at centres exceeding 1000mm, not exceeding 1200mm in accordance with the manufacturers recommendations.	m ²	271.00		
2-32	2	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00		
2-32		Fibre-cement plain ceiling boards				
2-32	3	Everite Nutec 6mm thick plain ceiling boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and including 38 x 50mm battens at 600mm centres using 32 x 2,5mm serrated ceiling nails at 1500mm centres, minimum of 12mm from edge of board. All joints to be covered using H-profile steel jointing strips, all in accordance with the manufacturer's recommendations.	m ²	106.00		
2-32	4	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00		
2-32		Gypsum plasterboard cornices				

2-32	5	Lafarge Gypsum Gaudi Nucornice polystyrene cornice, overall size 55 x 55mm high, fixed to wall and ceiling using an approved water-based adhesive and appropriate nail fixing where necessary, filling all fixing holes with an approved acrylic sealant, all in accordance with the manufacturers recommendations.	m	452.00			
2-32		Insulation					
2-32	6	Brits Insulation Systems Isotherm 100mm thick polyester thermal insulation (density 10kg/m) laid over ceiling branding closely fitted between rafters	m ²	428.00			
2-33		Sisalation					
2-33	7	Sisalation FR 430 Fire retardant industrial grade reinforced aluminium foil insulation double sided, durable, reflective foil laminate incorporating a fire retardant between the various substrates, bonded together with low density polyethene, tested for conformance with SANS 1381-4: 2009, with a Class 1 fire rating in accordance with SNAS 10177 - 3: 2005 and ASTM E84 and BS 476 part 5, 6 and 7, with purlins spaced at greater than 1500mm centres drawn tautly across rafters with purlins spaced at greater than 1500mm centres and secured to each rafter with 38mm x 3,2mm x 1100mm hardboard counter bottom strips positioned flush with the bottom edge of the material thus leaving 150mm (f) overlap exposed at the top for the next layer and 150mm overlap thereafter on each 1250mm width roll.	m ²	554.00			
		Bill Total					0.00
		BILL NO.9 : FLOOR COVERINGS					
2-35		TRADE PREAMBLES					
2-35		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-35		FLOOR COVERINGS					
2-35		SUPPLEMENTARY PREAMBLES					
2-35		Floor coverings, wall linings, etc. shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc.					
2-35		Nexus Berber Point 920 (colour: Mauritius) Stain proof Miracle Fibre (Polypropylene) structured needle-punch Resinbac grade heavy commercial carpet tiles size 500 x 500 x 4mm thick.					

2-35	1	On floors	m ²	43.00			
2-35		FloorWorx Elite fully flexible vinyl floor sheeting 2m wide x 2mm thick in patterns in Whisper finish (colour code: FEL083) for field and Blue Grotto finish (colour code: FEL085) for inlays, manufactured in accordance with EN 649, laid in FloorworX No. 60 Plus acrylic adhesive spread with a notched trowel on suitably prepared subfloor (elsewhere specified) with a hygrometer reading showing a moisture content of less than 70%, with joints welded with fully flexible coloured 'Marley Welding Rod' to provide a smooth, hygienic sealed finish and rolled with 68kg three section metal roller on completion.					
2-35	2	On floors	m ²	320.00			
2-35	3	On walls 150mm high as skirting	m	355.00			
2-35	4	On kerbs not exceeding 300mm girth	m	8.00			
2-36	5	Extra for cut out 700mm diameter and replace with FEL 085 colour inlay	No	6.00			
2-36	6	Extra for cut out 1800mm diameter and replace with FEL 085 colour inlay	No	1.00			
2-36	7	Extra for cut out 700mm diameter and replace with FEL 083 colour inlay	No	1.00			
2-36		SKIRTINGS, NOSINGS, ETC					
2-36		Vinyl skirtings, nosings, etc.					
2-36	8	FloorWorx extruda Black (Colour Code: MCF54) vinyl cove fillet size 14 x 35mm, to accommodate the 150mm upturn of floor sheeting onto the vertical wall surface, fixed with Floorworx No 71 solvent based contact adhesive, spread with a brush onto both material and working surface.	m	355.00			
2-36		POLISH, SEALERS, ETC					
2-36		Polish, Sealers, etc.					
2-36	9	2 coats wax polish on vinyl flooring	m ²	373.00			
2-36		DOOR MATS, ETC.					
2-36	10	600 x 1500mm Squeegee door mat laid loose in mat surround.	No	3.00			
2-36	11	Anodised aluminium mat surround to suit 600 x 1500mm mat fixed in and including recess in concrete floor.	No	3.00			
		Bill Total					0.00
		BILL NO.10 : IRONMONGERY					
2-38		TRADE PREAMBLES					
2-38		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-38		SUPPLEMENTARY PREAMBLES				
2-38		Proprietary items				
2-38		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc. clarifying the features of the products/articles offered On request returnable samples are to be provided to the principal agent for consideration				
2-38		Finishes to ironmongery				
2-38		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AN Anodised natural AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
2-38		IRONMONGERY				
2-38		Set 1 - D1				
2-38	1	HMP HO90 100 x 44 sinkless centre leaf	No	12.00		
2-39	2	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 57mm centres.	No	6.00		
2-39	3	DORMA DO365 euro- profile cylinder sash lack SS	No	3.00		
2-39	4	DORMA DDC106501 nickel plated 65mm ten pin euro-profile master keyed cylinder.	No	3.00		
2-39	5	Howick H460- 180 x 20mm aluminium lever action flush bolt.	No	6.00		
2-39	6	Haistead 166 cabin hook 150mm.	No	6.00		
2-39		Set 2 - D2				
2-39	7	HMP HO90 100 x 44 sinkless centre leaf.	No	2.00		
2-39	8	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 57mm centres.	No	2.00		
2-39	9	DORMA DO63S euro - profile cylinder sash lach SS.	No	1.00		
2-39	10	DORMA DKC106501 nickel plated 65mm ten pin masterkeyed euro - profile master- keyed knod cylinder.	No	1.00		
2-39	11	Haistead 166 cabin hook 150mm.	No	1.00		

2-39		Set 3 - D3				
2-39	12	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	2.00		
2-39	13	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		
2-39	14	DORMA DO36S euro- profile cylinder sash lock SS.	No	1.00		
2-39	15	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder	No	1.00		
2-39	16	DORMA DDS-NP-018 nickel plated floor stop	No	1.00		
2-39		Set 4 - D4				
2-39	17	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	2.00		
2-39	18	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		
2-39	19	DORMA DO36S euro- profile cylinder sash lock SS.	No	1.00		
2-40	20	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder	No	1.00		
2-40	21	DORMA DDS-NP-018 nickel plated floor stop	No	1.00		
2-40		Set 5 - D5				
2-40	22	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	2.00		
2-40	23	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		
2-40	24	DORMA DO36S euro- profile cylinder sash lock SS.	No	1.00		
2-40	25	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder	No	1.00		
2-40	26	DORMA DDS-NP-018 nickel plated floor stop	No	1.00		
2-40		Set 7 - D7				
2-40	27	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	2.00		
2-40	28	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		
2-40	29	DORMA DO36S euro- profile cylinder sash lock SS.	No	1.00		
2-40	30	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder.	No	1.00		
2-40	31	DORMA DDS-NP-018 nickel plated floor stop.	No	1.00		
2-40		Set 8 - D8				
2-40	32	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	2.00		
2-40	33	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		

2-40	34	DORMA DO36S euro- profile cylinder sash lock SS.	No	1.00		
2-40	35	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder.	No	1.00		
2-40	36	DORMA DHC-SS-171 110mm Double coat hook.	No	1.00		
2-41	37	DORMA DDS-NP-018 nickel plated floor stop.	No	1.00		
2-41		Set 9 - D9				
2-41	38	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge.	No	4.00		
2-41	39	DORMA TH120 stainless steel lever handles on rose without escutcheons.	No	2.00		
2-41	40	DORMA DO36S euro-profile cylinder sash lock SS.	No	2.00		
2-41	41	DORMA DSC104201 nickel plated 65mm ten pin euro-profile master keyed double cylinder.	No	2.00		
2-41	42	DORMA DCE- 002 stainless steel euro-profile escutcheon.	No	2.00		
2-41	43	DORMA DDS-NP-018 nickel plated floor stop.	No	2.00		
2-41		Set 10 - D10				
2-41	44	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two bearing butt hinge.	No	4.00		
2-41	45	DORMA TS71/EN3-4 standard arm door closer- non hold open.	No	2.00		
2-41	46	DORMA DPH209 "T" shaped straight bolt through pull handle.	No	2.00		
2-41	47	Dorma DKP-22-164 300X 150 X1.2mm blank polished stainless steel push plate.	No	2.00		
2-41	48	DORMA DDS- NP-018 nickel plated floor stop.	No	2.00		
2-41		Set 11 - D11				
2-41	49	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two bearing butt hinge.	No	2.00		
2-41	50	DORMA TS71/EN3-4 standard arm door closer- non hold open.	No	2.00		
2-41	51	DORMA DPH209 "T" shaped straight bolt through pull handle.	No	2.00		
2-41	52	Dorma DKP-22-164 300X 150 X1.2mm blank polished stainless steel push plate.	No	2.00		
2-41	53	DORMA DDS- NP-018 nickel plated floor stop.	No	2.00		
2-41		Set 12 - D12				
2-41	54	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two ball butt hinge.	No	2.00		
2-42	55	DORMA TS73V EN 2-4 variable spring strength parrallel arm door closer.	No	1.00		
2-42	56	DORMA DPH213 350 x 32mm stainless steel "D" shaped straightback-to-back pull handles	No	1.00		

2-42	57	DORMA D032D bathroom/wc dead locks SS	No	1.00		
2-42	58	DORMA DWC -006 stainless steel WC indicator with 79mm turn knob for physically impaired.	No	2.00		
2-42	59	DORMA DBC-SS-022 stainless steel adjustable roller bolt.	No	1.00		
2-42	60	DORMA DDS-SS-020 stainless steel wall buffer.	No	1.00		
2-42	61	Stainless steel kick plate 300mm x width of floor, finished size to be checked on site. Grade 304 0.9mm thick drilled and countersunk for screw fixing.	No	2.00		
2-42		Set 13 - D13				
2-42	62	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge.	No	10.00		
2-42	63	DORMA DPH301C 150 x 19mm stainless steel "D" shaped straight back-to-back pull handles.	No	10.00		
2-42	64	DORMA D032D bathroom/WC dead lock SS.	No	5.00		
2-42	65	DORMA DWC - 005 stainless steel WC indicator and turn knob escutcheons.	No	10.00		
2-42	66	Howick H057 Alum Robe Hook.	No	5.00		
2-42	67	DJW Concealed Fixing Rubber Doorstop fitted to wall/ floor as per Architects instruction. Colour Black.	No	5.00		
2-42		Set 14 - D14				
2-42	68	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge.	No	2.00		
2-42	69	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		
2-42	70	DORMA D036S ruro-profile cylinder sash lock SS.	No	1.00		
2-42	71	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro-profile master-keyed knob cylinder.	No	1.00		
2-42	72	DORMA DDS-NP-018 nickel plated floor stop.	No	1.00		
2-42		Set 14 - G1				
2-42	73	Adequately sized padlock with triplicate keys.	No	1.00		
2-43		LETTERS, NAMEPLATES, ETC.				
2-43		70mm high white penspex signs with black vinyl letters in lengths to accommodate the number of Bookman Old capital letters fixed with adequate heavy duty double sided tape				
2-43	74	Sign with five (5) letters	No	3.00		
2-43	75	Sign with seven (7) letters	No	1.00		
2-43	76	Sign with nine (9) letters	No	4.00		
2-43	77	Pictogram sign	No	5.00		
2-43		Manufactured by Vista				

2-43	78	Vista Signage System flat mounted on 60mm diameter post, size 1500 x x300mm in silver anodised aluminium frame with convex frame, silver anodised aluminium end caps and clear non glare lens. Cut black vinyl letters size 250 x 1400mm	No	1.00		
2-43	79	Vista Signage System Landscape wall frame 250mm long x 120mm high WFL25 finished in silver anodised aluminium frame with convex frame, black plastic end caps and clear/non glare lens. Cut black vinyl letters size 200 x 100mm	No	1.00		
2-43	80	Running man - back to back Size 190 x 1900mm White figure on green background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 2100mm finished floor level.	No	4.00		
2-43	81	Emergency exit sign EXIT word written. Size 190 x 380mm. Red word on white background. Wall mounted screwed with countersunk self-tapping screws to wall at 2100mm above finished floor level.	No	3.00		
2-43	82	Fire extinguisher Fire extinguisher drawing and arrow to point down. Size 190 x 380mm.Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor leve	No	4.00		
2-43	83	Fire Hose Reel Fire Hydrant drawing and arrow to point down. Size 190 x 380mm.Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor level	No	2.00		
2-44	84	Direction arrow Direction Arrow, red drawing on white background. Wall mounted screwed with countersunk self-tapping screws to wall next to every individual sign.	No	4.00		
2-44		BATHROOM FITTINGS				
2-44		Supply and fix the following washroom and bathroom fitting accessories:				
2-44	85	Aliseo Metropolis 654mm long brass towel rail with chrome plated finish (code: 650002), size 654 x 54 x 59mm deep, plugged and screwed to the wall with stainless steel screws concealed with chrome plated cover plates.	No	7.00		
2-44	86	Aliseo Metropolis brass double hook with chrome plated finish (code: 650006), size 32 x 54 x 34mm deep pluqqed and screwed to wall with stainless steel screws concealed with Chrome cover plates	No	6.00		
2-44	87	Franke CNTX 21 Grade 304- 32mm diameter 18/10 stainless steel angle bars with Franke fine grip (product code 359880); size 415 x 415 x 95mm deep, plugged ard screwed to wall with stainless steel screws.	No	1.00		
2-44	88	Franke CNTX 21 Grade 304- 32mm diameter 18/10 stainless steel angle bars with Franke fine grip (product code: 359974) 750mm 95mm deep, plugged and screwed to the wall with stainless steel screws.	No	1.00		

2-44	89	Kimberly-Clark® Professional SQ2 toilet tissue dispenser colour White (code SA405606) overall size 130 x 135 x 265mm.	No	6.00			
2-44	90	Kimberly-Clark® Professional Reflex MK2 hand towel dispenser (colour: WHITE - code: SA426104). Overall size 310 x 280 x 408mm high	No	5.00			
2-44	91	Kimberly-Clark® Professional Foam soap dispenser (colour: WHITE - code: SA427715), overall size 134 x 120 x 250mm high	No	7.00			
2-44	92	Kimberly-Clark® Professional Reflex Disposer wal mounted waste bin (colour: WHITE - code: SA426213), overall size 334 x 258 x 635mm high	No	4.00			
2-45	93	Hygiene Systems Femcore Bin manual sanitary disposal system clour white (code: SW/01), overall size 182 x 345 x 517mm high with Femcare Wall Mount Bracket (code: SW/04), plugged and screwed to wall with stainless steel crews. (Or similarly approved sanitary disposal unit).	No	3.00			
2-45	94	Chromium plated shower curtain rail 1220mm long fixed to walls with end caps	No	6.00			
2-45		PELMETS AND CURTAIN TRACKS					
2-45		Windovert White Aluminium Venetian blind or equal and approved, with 25 x 3mm thick slats including matching 65mm valance fixed to front of headrail, cordlock and roller pins, blind to be fitted inside reveal to concrete lintel:					
2-45	95	Blind to suit opening size 1500mm wide x 1200mm high.	No	1.00			
2-45	96	Blind to suit opening size 1800mm wide x 1200mm high.	No	12.00			
2-45	97	Blind to suit opening size 1800mm wide x 600mm high.	No	7.00			
2-45	98	Blind to suit opening size 600mm wide x 900mm high.	No	5.00			
2-45	99	Blind to suit opening size 900mm wide x 900mm high.	No	10.00			
2-45	100	Blind to suit opening size 2970mm wide x 1200mm high.	No	1.00			
2-45	101	Blind to suit opening size 1500mm wide x 900mm high.	No	2.00			
2-45		STEEL LOCKERS					
2-45		Steel lockers with standard baked enamel finish					
2-45	102	7 (seven) Compartment Locker 1800mm x 300mm x 450mm with Hasp & Staple for padlock [Tier openings 290mm(H) x 230mm(W) x 420mm(D)] Weight: 19kg	No	2.00			
		Bill Total					0.00
		BILL NO.11 : STRUCTURAL STEELWORK					
2-47		TRADE PREAMBLES					
2-47		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-47		SUPPLEMENTARY PREAMBLES				
2-47		Descriptions				
2-47		Descriptions of bolts shall be deemed to include nuts and washers				
2-47		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
2-47		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
2-47		GALVANISED STEEL COLUMNS AND BEAMS				
2-47		Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete				
2-47	1	IPE 254 x 146 x 31mm x 31.1kg/m H-section Universal columns	Tonnes	0.52		
2-47	2	450 x 250 x 16 Base plate with four 18mm diameter bolt holes	No	4.00		
2-47	3	254 x 115 x 31 plate with two 18mm diameter bolt holes welded to colums	No	8.00		
2-47		Welded beams in single lengths with flat bearer and connection plates, bolted to steel				
2-47	4	IPE 254 x 146 x 31mm x 31.1kg/m Universal beams	Tonnes	0.33		
2-48	5	254 x 115 x 31mm plate with two 18mm diameter bolt holes welded to beams	No	32.00		
2-48	6	108 x 31mm x 7.7kg/m flat bar with 18mm diameter bolt holes welded to beams	Tonnes	0.08		
2-48		BOLTS, FASTENERS, ETC				
2-48		Bolts and fasteners				
2-48	7	M16 Grade 8.8 bolts cast into concrete	No	16.00		
2-48	8	M16 Grade 8.8 bolts fixed to steel	No	80.00		
2-48		PAINTING				

2-48		Surface to be dry, sound and clean. Apply Plascon Galvanised Iron Clearer (GIC 1) to all bare galvanised areas Allow to react for 1 minute and rinse off with tap water using bristle brush or Scotch Brite pads to remove 01 surface contaminants. until surface is water break-free. Prime with one coat Glatex 8 Metal Primer (FL 3) with an overcoating time of 8 hours and finish wih two coats Glatex 8 (PL) colour Black with 16 hours drying time between coats, for maintenance cycle of 10 years in a C3 - industrial environment				
2-48	9	On structural galvanised steel columns, beams, etc.	m ²	29.00		
		Bill Total				0.00
		BILL NO.12 : METALWORK				
2-50		TRADE PREAMBLES				
2-50		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-50		SUPPLEMENTARY PREAMBLES				
2-50		Descriptions of bolts, anchors, etc.				
2-50		Descriptions of bolts shall be deemed to include nuts and washers				
2-50		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
2-50		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described				
2-50		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres				
2-50		Aluminium doors, windows, etc.				

2-50		Doors and windows shall comply with AAAMSA design criteria. Glazing shall comply with SAGGA regulations. Glass shall be laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities (as described in the headings to window descriptions). Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings. Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed. For purpose made windows and doors, refer to drawings annexed to be issued separately with these bills of quantities.				
2-51		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product. 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively.				
2-51		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process. 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked. 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years.				
2-51		STAINLESS STEEL BALUSTRADES				
2-51		Welded balustrades to walkways				
2-51	1	50.8mm dia. Polished stainless steel continuous handrails	Kg	10.00		
2-51	2	Extra over for intermediates at 500mm centres	Kg	10.00		
2-51		GALVANISED STEEL GATES, SCREENS, ETC				
2-51		Welded screens and gates to brickwork				
2-51	3	Single gate size 990mm x 2240mm high with 50 x 30mm rectangular section framing with two 50 x 30mm rectangular section welded in and covered with VEM 6320 H"Valmetex" expanded metal mesh welded to inside of frame and fitted with heavy duty hinges welded to steel framing including barrel locking mechanism device. All to Architects details. Drawings.	No	1.00		
2-51		ALUMINIUM WINDOWS, DOORS, ETC. (CPAP WORK GROUP NO. 140)				
2-51		Black Powder coated casement window units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete.				

2-51	4	Purpose made window, 1500 x 1200mm high window in four (4) equal sections with top two (2) opening sections to Architect's Drawing. W1	No	1.00			
2-52	5	Purpose made window, 1800 x 1200mm high window in four (4) equal sections with top two (2) opening sections to Architect's Drawing. W2, W7	No	11.00			
2-52	6	Purpose made window, 1800 x 600mm high window in two (2) equal sections to Architect's Drawing. W3	No	7.00			
2-52	7	Purpose made window, 600 x 900mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W4	No	5.00			
2-52	8	Purpose made window, 900 x 900mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W5	No	10.00			
2-52	9	Purpose made window, 2970 x 1200mm high window in six (6) equal sections with top three (3) glass louvred opening sections to top half to Architect's Drawing. W6	No	1.00			
2-52	10	Purpose made window, 1800 x 1200mm high window in four (4) equal sections with top two (2) glass louvred opening sections to top half to Architect's Drawing. W8	No	1.00			
2-52	11	Purpose made window, 1500 x 900mm high window in four (4) equal sections with top two (2) opening sections to Architect's Drawing. W9	No	2.00			
2-52		ALUMINIUM SHOPFRONTS (CPAP WORK GROUP NO. 149)					
2-52		Black Powder coated casement shopfront units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete					
2-52	12	Purpose made stack away door, size 2400 x 900mm high in three equal leaves to Architect's Drawing	No	1.00			
2-52		FRAMEWORK					
2-52		Benches					
2-52	13	Bench frame supports overall size 570 x 820mm high formed of 38 x 38mm HCS welded steel frame supports at 550mm centres fixed to brickwork on welded 38 x 6 x 40mm long flatbar with drilled holes to fit and including 100 x 80mm (6 No.) rawbolts at top and bottom to brick walls and concrete floors complete with capping at ends of frame to Architect's Detail Drawing	No	21.00			
2-52	14	30 x 30mm angle runners welded to frame Architect's Detail Drawing	m	10.00			
2-53		POWDER COATED LOUVRE UNITS					
2-53		Black Powder coated horizontal louvres					
2-53	15	Purpose made louvre size 2100 x 1400 x 400mm deep louvred shading element composed of 100 x 50 x 2mm rectangular hollow section frame with 275 x 3mm thick bent up light shelves fixed to timber brickwork or concrete to Architect's Drawing. S1	No	3.00			

2-53	16	Purpose made louvre size 2100 x 800 x 400mm deep louvred shading element composed of 100 x 50 x 2mm rectangular hollow section frame with 275 x 3mm thick bent up light shelves fixed to timber brickwork or concrete to Architect's Drawing. S2	No	7.00		
2-53	17	Purpose made louvre size 400 x 400mm double sided vermin proof louvre fixed to timber door to Architect's Drawing.	No	3.00		
2-53		STEEL RECORDROOM AND STRONGROOM DOORS, VENTILATORS, ETC				
2-53		Austen D550/1 SABS category 1 strongroom door with 7security keylock & 3-wheel combination combination lock installed by diir specialist suitable for 270mm cavity walls with concrete infill fixed to brickwork or concrete				
2-53	18	Single 760 x 1860mm high record room door to Architect's Drawing. D6	No	1.00		
2-53		ROOF LIGHTS				
2-53		Tubular type roof lights				
2-53	19	Sundowner Skylights' tubular skyight with 320mm diameter unit, UV stabilized 4mm thick acrylic dome, 0,311m thick rigid polished and anodized aluminium tube, installed on a metal sheeting roof, fitted with a flat satin matt light diffuser with white colour ceiling ring including electric and blackout ring. All to be installed by Sundowner Skylights and left completely watertight	No	4.00		
		Bill Total				0.00
		BILL NO.13 : PLASTERING				
2-55		TRADE PREAMBLES				
2-55		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
2-55		SUPPLEMENTARY PREAMBLES				
2-55		User Note - The following preambles are to be included only when specifically required by the principal agent				
2-55		Method				
2-55		The method to be used shall be either the monolithic method or the bonded method				
2-55		Preparation				

2-55	For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.					
2-55	Mix					
2-55	Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.					
2-56	Panels					
2-56	Granolithic shall be laid in panels not exceeding 14m ² for monolithic finishes, not exceeding 9,5m ² for bonded finishes and not exceeding 6m ² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.					
2-56	Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints					
2-56	Laying					
2-56	Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels					
2-56	Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels					
2-56	After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated					
2-56	Curing, seasoning and protection					
2-56	Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.					
2-56	Colour					
2-56	Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.					
2-56	SCREEDS					

2-56		Screeds steel trowelled, on concrete					
2-56	1	25mm Thick (average) to floors	m ²	367.00			
2-56	2	30mm Thick (average) to ramps to falls	m ²	7.00			
2-56	3	30mm Thick (average) to steps	m ²	4.00			
2-56	4	40mm Thick (average) to floors to falls	m ²	44.00			
2-56	5	50mm Thick (average) to floors to falls	m ²	7.00			
2-56	6	50mm Thick (average) on roofs with upper surface to falls	m ²	47.00			
2-57	7	25mm Thick (average) to roofs upstands	m ²	15.00			
2-57	8	25mm Thick (average) to roofs upstands, circular on plan	m ²	2.00			
2-57		GRANOLITHIC					
2-57		Untinted granolithic, on concrete					
2-57	9	Average 30mm thick on floors with upper surface to falls	m ²	8.00			
2-57	10	75mm high coved skirting	m	17.00			
2-57		INTERNAL PLASTER					
2-57		Cement plaster steel trowelled, on brickwork					
2-57	11	On walls	m ²	1 325			
2-57	12	On narrow widths	m ²	42.00			
2-57		Cement plaster steel trowelled, on concrete					
2-57	13	On ceilings	m ²	11.00			
2-57		Sundries					
2-57	14	230 x 150mm cast plaster air grating	No	18.00			
2-57		EXTERNAL PLASTER					
2-57		Cement plaster wood floated, on brickwork					
2-57	15	On walls	m ²	91.00			
2-57	16	On circular walls	m ²	17.00			
2-57	17	On narrow widths	m ²	6.00			
2-57		Cement plaster steel trowelled, on concrete					
2-57	18	On ceilings	m ²	27.00			
2-57	19	On beams	m ²	6.00			
2-57	20	Weathering not exceeding 300mm wide with 70mm projecting plaster fillet both sides	m	24.00			
2-57	21	Weathering not exceeding 300mm wide with 70mm projecting plaster fillet both sides, circular on plan	m	7.00			
2-58		SPECIALISED PLASTER TYPE WALL COATINGS					

2-58		Prepare substrate by removing all loose and friable matter, Ensure that the surface is clean, dry and sound in accordance o SABS ISO 1514: 1993. Apply one coat of Marmoran RLP Primer with sheepskin roller and allow to cure. Apply one coat of 1.5mm Marmoran Background Plaster by steel trowel and while: wet, cast the Marmoran Stone Finish 1.5mm (colour: DARK GREY) by hand and embed with a roller. When tre coating has fully cured seal Marmoran Supaglaze, applied with a sheepskin roller or brush. Allow for drying time between coats. The system must be applied by specialist in strict conformance to the manufacturer's instructions. Refer to the drawings for the active area's to be coated.				
2-58	22	On walls	m ²	26.00		
2-58	23	On circular walls	m ²	17.00		
2-58	24	On narrow widths	m ²	6.00		
2-58		Prepare substrate by removing all loose and friable matter, Ensure that the surface is clean, dry and sound in accordance o SABS ISO 1514: 1993. Apply one coat of Marmoran RLP Primer with sheepskin roller and allow to cure. Apply one coat of Marmoran Coledoplast 2-1 (colour: BLUE - to match manufactures specification BLUE of Marmoran 'Heatgord 4' as specified elsewhere) with a steel trowel and polish with the same. The system must be applied by specialist in strict conformance to the manufacturer's instructions. Refer to the drawings for the active area's to be coated.				
2-58	25	On walls	m ²	66.00		
2-58	26	On beams	m ²	6.00		
2-58	27	On narrow widths	m ²	8.00		
2-58		CORNER PROTECTORS, DIVIDING STRIPS, ETC				
2-58		Corner protectors, dividing strips, etc.				
2-58	28	25 x 25 x 5mm Galvanised steel angle water bar with 5 x 25 x 50mm lugs welded on at 350mm centres, each once drilled for and including M8 stainless steel expansion bolt fixed in concrete.	m	7.00		
		Bill Total				0.00
		BILL NO.14 : TILING				
2-60		TRADE PREAMBLES				
2-60		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-60		SUPPLEMENTARY PREAMBLES					
2-60		Fixing					
2-60		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					
2-60		Tiling described as 'fixed with adhesive on power floated concrete' shall be deemed to include for approved tiling key-coat					
2-60		Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional range of products as recommended by the manufacturer of the tiles					
2-60		WALL TILING					
2-60		Union Tiles 'Shiny White' ceramic tiles (code: 1SAMOSH1000), size 200 x 200mm fixed to internal wall plaster backing with TAL tile adhesive mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with TAL tile grout (colour: WHITE), excess grout on tile surface to be cleaned with water as work proceeds					
2-60	1	On walls	m ²	328.00			
2-60	2	On walls in narrow widths	m ²	13.00			
2-61	3	50 x 200mm Listello capping tiles	m	199.00			
2-61	4	PVC corner trim	m	139.00			
2-61	5	PVC skirting trim	m	192.00			
2-61		FLOOR TILING					
2-61		Union Tiles Dark Blue mesh backed ceramic mosaics size 48 x 48mm, sheet size 300 30Jmm (code: 10RI2215) fixed Mesh side down to internal floor with White TAL Mosaic Fix Tile adhesive mixed with bonding liquid in lieu of water, laid with diagonal joints continuously in both directions with tile grout applied with flexible spatula, excess grout to be removed with damp sponge and tiles to be washed off with Glint Tile Cleaner once grout has cured.					
2-61	6	On floors to falls	m ²	7.00			
2-61		SUNDRIES					
2-61		Metal Profiles:					
2-61	7	Kirk Marketing stainless steel square edge trim code SQE 100 grade 304 size 10mm (d) installed in accordance to manufacturers specifications.	m	5.00			
		Bill Total					0.00

		BILL NO.15 : PLUMBING AND DRAINAGE					
2-63		TRADE PREAMBLES					
2-63		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-63		RAINWATER DISPOSAL					
2-63		Watertite Guttering commercial and industrial Square profile aluminium H3003h 14 seamless gutter, coated internally and externally with ColourTech G4 in colour Marble White with matching splash-plate including cut and mitred angles covered with a mitre externally, secured to metal roof sheets with 25 x 2.5mm L-Shaped and 20 x 3mm dual-purpose brackets at 600mm centres using aluminium pop rivets, including expanded aluminium mesh leaf guard set over gutter, accessories sealed inside with Dow Corning 813 silicone sealer					
2-63	1	140 x 150 x 0.90mm thick roof gutters	m	109.00			
2-63	2	Extra over gutter for angle	No	8.00			
2-63	3	Extra over gutter for outlet for pipe	No	9.00			
2-63	4	Extra over gutter for stopped end	No	2.00			
2-63	5	50 x 20mm high overflow spigot	No	4.00			
2-63	6	78 x 78 x 2mm thick aluminium downpipe in fixed to wall with and including straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets	m	30.00			
2-63	7	Extra over rainwater pipe for bend	No	14.00			
2-63	8	Extra over rainwater pipe for shoe	No	7.00			
2-64	9	Spreader for rainwater pipe 500mm wide	No	2.00			
2-64		uPVC Class 6 rainwater good and accessories					
2-64	10	110mm Rainwater pipe built into brickwork	m	11.00			
2-64	11	110mm Bend.	No	6.00			
2-64	12	110 Cast iron fullbore outlet cast into concrete.	No	3.00			
2-64		SANITARY FITTINGS					
2-64		Vaal Sanitaryware					

2-64	13	Flamingo vitreous china wall mounted basin (colour: WHITE - code: 7007), size 560 x 405mm with one tap-hole including overflow and chain-stay hole bolted to wall with two 10mm bolts (code: 8448Z0) and sealed with silicone sealant where basin meets wall	No	6.00		
2-64	14	Flamingo vitreous china wall mounted basin (colour: WHITE - code: 7007), size 560 x 405mm with one tap-hole including overflow and chain-stay hole bolted to wall with two 10mm bolts (code: 8448Z0) and sealed with silicone sealant where basin meets wall (Paraplegic)	No	1.00		
2-64	15	415 x 275 x 315mm Flatback white vitreous china wall mounted urinal (code: 705326) including 38mm chromium plated domical grating (code: 87S7Z0) and chromium plated top inlet spreader (code: 8543Z0)	No	3.00		
2-64		Water Closet				
2-64	16	White vitreous china wall hung WC pan with Kamifix concealed cistern for wall hung WC (code: 110.350.00.5), front actuated with Bolero dual flush actuator (code: 115.760.11.1) in white alpin finish including flush pipe and pan connector, water supply connection with angle stop valve, protection cover for service and protection cover for flush pipe, fixed with included fastening materials inside solid wall from 120mm up to 200mm.	No	5.00		
2-64	17	White vitreous china wall hung WC pan with Kamifix concealed cistern for paraplegic application (code: 110.350.00.5), front actuated with Tango single flush with flush/stop actuator (code: 115.777.11.1) in white alpin finish including flush pipe and pan connector, water supply connection with angle stop valve, protection cover for service and protection cover for flush pipe, fixed with included fastening materials inside solid wall from 120mm up to 200mm. WC fixed 450mm from finished floor level.	No	1.00		
2-65		Franke				
2-65	18	Franke Trendline Model 900 x 460 SEB Crade 304 18/10 polished stainless steel SINGLE END BOWL drop on sink (code: 310500), overall size 900 x 460mm wide with one 460 x 350 x 140mm 140mm deep bowl, fitted onto cupboard (elsewhere specified) including 38mm waste fitting and PVC trap (trap elsewhere specified)	No	1.00		
2-65		Plexicor acrylic				
2-65	19	900 x 1200 x 150mm Granada shower tray with waste outlet, bedded in position	No	6.00		
2-65		WASTE UNIONS ETC				
2-65		Cobra Watertech				
2-65	20	32mm 301 CP basin waste union	No	5.00		
2-65	21	32mm 303 CP basin waste union and 309CP anti-theft plug	No	2.00		
2-65	22	40mm 316 CP sink waste union	No	1.00		
2-65		TRAPS ETC				
2-65		Cobra Watertech				

2-65	23	75mm VA3.113 CP hinged urinal domical grating	No	3.00		
2-65	24	40mm 373 RB shower trap with chromium plated grating	No	6.00		
2-65	25	32mm 340 CP bottle trap	No	7.00		
2-65	26	40mm 360 CP bottle trap	No	1.00		
2-65	27	32mm 340 CP bottle trap with C-342/1/2/9 tail pipe	No	3.00		
2-65		TAPS, VALVES, ETC				
2-65		Cobra Watertech				
2-65	28	15mm 128-15CP Star undertile stopcock	No	9.00		
2-65	29	15mm 100-15RB bib-tap	No	2.00		
2-65	30	Cobra Watertech Metsi 15mm chrome plated basin mixer with cast fixed outlet manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	6.00		
2-65	31	Cobra Watertech 15mm chrome plated elbow action raised nose pillar tap with red indicator for hot water (code: 503-21R), manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00		
2-66	32	Cobra Watertech 15mm chrome plated elbow action raised nose pillar tap with blue indicator for cold water (code: 503-21R), manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00		
2-66	33	Cobra Watertech Stella 15mm plain extended bibtap (code: 3306ST/EXT-15), manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00		
2-66	34	Cobra Watertech FJ6000 Flush valve, manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	3.00		
2-66	35	Cobra Watertech FJT5.5 Flush pipe, manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	3.00		
2-66	36	15mm 181/020/070CP shower mixer with riser pipe, arm and shower head	No	6.00		
2-66		SANITARY PLUMBING				
2-66		uPVC soil and vent pipes				
2-66	37	40mm Pipes	m	6.00		
2-66	38	50mm Pipes	m	21.00		
2-66	39	110mm Pipes	m	25.00		
2-66	40	40mm Pipes chased into brickwork	m	6.00		
2-66	41	50mm Pipes laid under floors	m	12.00		
2-66		Extra over uPVC soil and vent pipes for fittings				
2-66	42	40mm Bend	No	6.00		
2-66	43	50mm Bend	No	4.00		
2-66	44	50mm Junction	No	1.00		

2-66	45	50mm Access Bend	No	5.00			
2-66	46	50mm Access Junction	No	4.00			
2-66	47	50mm Access Reducing Junction	No	2.00			
2-66	48	110mm End cap	No	2.00			
2-66	49	110mm Pan connector	No	6.00			
2-66	50	110mm Bend	No	2.00			
2-66	51	110mm Access Bend	No	4.00			
2-66	52	110mm Access junction	No	4.00			
2-66	53	110mm Access reducing junction	No	4.00			
2-67	54	110mm Access double junction	No	4.00			
2-67	55	110mm Air vent cowl	No	1.00			
2-67		Sundries					
2-67	56	Wire balloon grating in top of pipe not exceeding 100mm diameter	No	1.00			
2-67		Testing					
2-67	57	Testing waste pipe system	Item	1.00			
2-67		TESTING					
2-67	58	Testing water pipe system.	Item	1.00			
		Bill Total					0.00
		BILL NO.16 : GLAZING					
2-69		TRADE PREAMBLES					
2-69		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-69		SUPPLEMENTARY PREAMBLES					
2-69		Float glass					
2-69		The term 'float glass' is used for monolithic annealed glass					
2-69		Laminated glass					

2-69		Laminated glass to have polyvinyl butyral (PVB) interlayer(s)					
2-69		TOPS, SHELVES, DOORS, MIRRORS, ETC					
2-69		4mm "GG" quality polished glass mirror fixed to wall with vertical strips of double sided adhesive tape.					
2-69	1	Mirror 400 x 900mm high	No	17.00			
		Bill Total					0.00
		BILL NO.17 : PAINTWORK					
2-70		TRADE PREAMBLES					
2-70		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
2-70		SUPPLEMENTARY PREAMBLES					
2-70		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:					
2-70		Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m ² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m ² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m					

2-71	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant manufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.</p>					
2-71	PAINT SPECIFICATIONS					
2-71	Painting, etc.					
2-71	All painting shall be done in accordance with Plascon specifications unless otherwise described					
2-71	COLOURS					
2-71	Colours, etc.					
2-71	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
2-71	PLASCON					
2-71	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
2-71	The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification.					
	All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified.					
	Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint.					
	All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc.					
	Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine					
2-72	ON INTERNAL FLOATED PLASTER SURFACES					

2-72		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat Plascoll Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats Wall & All (WAA) with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.					
2-72	1	Walls	m ²	986.00			
2-72	2	Ceilings and beams	m ²	11.00			
2-72		ON INTERNAL GYPSUM PLASTER SURFACES					
2-72		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Professional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Professional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment					
2-72	3	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	271.00			
2-72		ON FIBRE-CEMENT BOARD SURFACES					
2-72		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Professional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Professional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment					
2-72	4	Eaves soffit linings	m ²	55.00			
2-72	5	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	106.00			
2-72	6	Cills	m ²	6.00			
2-73		ON METAL SURFACES					
2-73		One coat alkyd based zinc phosphate primer and two coats premium quality polyurethane enamel paint, on steel					
2-73	7	Gates, grilles, burglar screens, balustrades, etc. (both sides measured over the full flat area)	m ²	5.00			
2-73	8	Framing not exceeding 300mm girth	m	63.00			
2-73		ON WOOD SURFACES					
2-73		Two coats oil wood primer					
2-73	9	Backs of frames, linings, etc. not exceeding 300mm wide	m	92.00			

2-73		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated with 48 hours with moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Wood Primer (UC 2) with an overcoating time of 16 hours and finish with two coats Velvagio Satin (VLO) with 16 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.				
2-73	10	Doors	m ²	66.00		
2-73	11	Door frames etc.	m ²	23.00		
2-73	12	Roof timbers at eaves and verges	m ²	12.00		
2-73	13	Skirtings, rails, etc. not exceeding 300mm girth	m	22.00		
2-73		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated with 48 hours with moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Woodcare Clear Varnish (CM 5) with an overcoating time 16 hours and finish with two coats Woodcare Clear Varnish (CM 5) with 16 hour drying time between coats, for maintenance cycle of 3 years in a C1 - inland environment.				
2-73	14	Fittings	m ²	103.00		
2-73	15	Framing not exceeding 300mm girth	m	269.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO. 3 : CUSTOMER NETWORK CENTRE				
		BILL NO.2 : EARTHWORKS				
3-2		TRADE PREAMBLES				
3-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
3-2		EXCAVATION ETC (PROVISIONAL)				
3-2		Excavation in earth not exceeding 2m deep				

3-2	1	Reduced levels under floors	m ³	20.00			
3-2	2	Trenches	m ³	10.00			
3-2	3	Excavate for working space to sides of ground beams for formwork and backfilling	m ²	66.00			
3-2		Extra over trench and hole excavations in earth for excavation in					
3-2	4	Soft rock	m ³	3.00			
3-2	5	Hard rock	m ³	2.00			
3-2		Extra over all excavations for carting away					
3-2	6	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	25.00			
3-2		Risk of collapse of excavations					
3-2	7	Sides of bulk excavations not exceeding 1,5m deep	m ²	66.00			
3-2		Keeping excavations free of water					
3-2	8	Keeping excavations free of all water other than subterranean water	Item	1.00			
3-3		FILLING ETC OTHER THAN BULK					
3-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)					
3-3	9	Backfilling to trenches, holes, etc.	m ³	5.00			
3-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density					
3-3	10	G5 Under floors, paving, etc.	m ³	9.00			
3-3	11	G7 Under floors, paving, etc.	m ³	9.00			
3-3		Coarse river sand filling supplied by the contractor					
3-3	12	Under floors etc.	m ³	3.00			
3-3		Compaction of surfaces					
3-3	13	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	67.00			
3-3		Density Tests:					
3-3	14	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00			
3-3		SOIL POISONING					
3-3		Soil insecticide in accordance with SANS 5859					
3-3	15	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	67.00			

		Bill Total					0.00
		BILL NO.3 : CONCRETE, FORMWORK AND REINFORCEMENT					
3-5		TRADE PREAMBLES					
3-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-5		Cost of tests					
3-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
3-5		Breeze concrete					
3-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
3-5		Lightweight concrete					
3-5		Lightweight concrete shall have a density of 600kg/m3 for the top 50mm and 400kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
3-6		Formwork					
3-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use					
3-6		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					

3-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
3-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
3-6		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				
3-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
3-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
3-6		20MPa/19mm concrete				
3-6	1	Surface blinding under footings and bases	m ³	1.00		
3-6		REINFORCED CONCRETE CAST ON/IN FORMWORK				
3-6		25MPa/19mm concrete				
3-6	2	Eaves beams	m ³	4.00		
3-7		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
3-7		25MPa/19mm concrete				
3-7	3	Ground beams	m ³	7.00		
3-7		REINFORCED CONCRETE				
3-7		25MPa/19mm concrete				
3-7	4	Surface beds cast in panels on waterproofing (elsewhere measured).	m ³	9.00		
3-7	5	Steps and ramps	m ³	2.00		
3-7		TEST CUBES				
3-7		Test cubes				
3-7	6	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00		
3-7		CONCRETE SUNDRIES				
3-7		Finishing top surfaces of concrete smooth with a steel trowel				
3-7	7	Surface beds, slabs, etc.	m ²	67.00		

3-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
3-7		Rough formwork to sides				
3-7	8	Ground beams	m ²	57.00		
3-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
3-7		Smooth formwork to sides				
3-7	9	Eaves beams	m ²	29.00		
3-7	10	Edges, risers, ends and reveals not exceeding 300mm high or wide, circular on plan	m	32.00		
3-7		MOVEMENT JOINTS ETC				
3-7		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces				
3-7	11	10mm Joints not exceeding 150mm high.	m	32.00		
3-7		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed				
3-7	12	Not exceeding 300mm wide	m	32.00		
3-8		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces				
3-8	13	Not exceeding 300mm high to edges	m	32.00		
3-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
3-8		High tensile steel reinforcement to structural concrete work				
3-8	14	10mm Diameter bars	Tonnes	0.24		
3-8	15	12mm Diameter bars	Tonnes	0.16		
3-8		Fabric reinforcement				
3-8	16	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	67.00		
		Bill Total				0.00
		BILL NO.4 : PRECAST CONCRETE				
3-10		TRADE PREAMBLES				
3-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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3-10		PRECAST CONCRETE				
3-10		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing				
3-10	1	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corng 813 sealant	m	38.00		
3-10	2	Extra for end	No	2.00		
3-10	3	Extra for angle	No	2.00		
		Bill Total				0.00
		BILL NO.5 : MASONRY				
3-11		TRADE PREAMBLES				
3-11		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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3-11		SUPPLEMENTARY PREAMBLES				
3-11		BRICKWORK				
3-11		Sizes in descriptions				
3-11		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				
3-11		Hollow walls				
3-11		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				
3-11		Bagged and sealed walls				
3-11		User Note - The following preamble generally applies for works in hot and humid coastal areas				

3-11		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				
3-11		Face bricks				
3-11		Bricks shall be ordered timeously to obtain uniformity in size and colour				
3-12		Pointing				
3-12		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
3-12		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
3-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
3-12	1	Half brick linings to concrete ground beams	m ²	26.00		
3-12		BRICKWORK IN SUPERSTRUCTURE				
3-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
3-12	2	Half brick walls	m ²	31.00		
3-12	3	Half brick walls in beamfilling	m ²	20.00		
3-12	4	One brick walls	m ²	37.00		
3-12	5	One brick walls bagged and sealed	m ²	26.00		
3-12		BRICKWORK SUNDRIES				
3-12		Joint forming material in movement joints				
3-12	6	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	8.00		
3-12		2,5mm Brickwork reinforcement				
3-12	7	75mm Wide reinforcement built in horizontally	m	146.00		
3-12	8	150mm Wide reinforcement built in horizontally	m	323.00		
3-12		Prestressed fabricated concrete lintels including necessary temporary supports				
3-12	9	110 x 75mm Lintels in lengths not exceeding 3m	m	7.00		
3-12	10	230 x 75mm Lintels in lengths not exceeding 3m	m	17.00		
3-12		Galvanised wire ties etc.				
3-12	11	4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and other end fixed to timber	No	32.00		
3-12	12	Door cramps with one end built into brickwork and other end fixed to timber	No	54.00		
3-12		Air bricks etc.				

3-12	13	229 x 150mm Clay vermin proof air brick including opening through one brick beamfilling	No	66.00			
3-13		FACE BRICKWORK					
3-13		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.					
3-13	14	Extra over brickwork in NFX bricks for face brickwork	m ²	84.00			
3-13	15	Extra over brickwork for face brickwork in roller courses	m	33.00			
3-13		Brick-on-edge header course copings, sills, etc. of Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face bricks, pointed with flush joints on all exposed faces					
3-13	16	210mm Wide sills set level and slightly projecting	m	8.00			
3-13		FIBRE-CEMENT WINDOW SILLS					
3-13		Everite Nutec' fibre cement windows cills to suite window Size, internally, in single lengths not exceeding 3600mm, set flat and slightly projecting beded in class 1 mortar and including fixing lugs screwed to underside with self tapping screws					
3-13	17	150 x 15mm Wide sills set flat and slightly projecting	m	8.00			
		Bill Total					0.00
		BILL NO.6 : WATERPROOFING					
3-15		TRADE PREAMBLES					
3-15		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-15		SUPPLEMENTARY PREAMBLES					
3-15		Waterproofing					
3-15		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs					
3-15		DAMPPROOFING OF WALLS AND FLOORS					

3-15		One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)				
3-15	1	In walls	m ²	15.00		
3-15		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape				
3-15	2	Under surface beds and ground beams	m ²	135.00		
		Bill Total				0.00
		BILL NO.7 : ROOF COVERINGS				
3-16		TRADE PREAMBLES				
3-16		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
3-16		PROFILED METAL SHEETING AND ACCESSORIES				
3-16		SUPPLEMENTARY PREAMBLES				
3-16		Cutting of sheets:				
3-16		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish				
3-16		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.				
3-16	1	Roof covering with pitch not exceeding 25 degrees	m ²	100.00		
3-16	2	Turn up troughs at apex	m	4.00		
3-16	3	Turn up troughs at hips	m	52.00		
3-16		Safintra 30 x 462mm girth SAFLOK 700 Dove Grey Chromadek ISQ550 ridge cap with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufacturer's recommendations				
3-16	4	Ridge Capping	m	2.00		
3-16	5	Hip Capping	m	26.00		

3-17	6	Extra for intersection of ridge with two hips including soaker	No	2.00			
3-17	7	Extra fro hip finial	No	4.00			
3-17		ROOF AND WALL INSULATION (CPAP WORK GROUP NO. 122)					
3-17		Sisalation					
3-17	8	Sisalation FR 430 Fire retardant industrial grade reinforced aluminium foil insulation double sided, durable, reflective foil laminate incorporating a fire retardant between the various substrates, bonded together with low density polyethylene, tested for conformance with SANS 1381-4: 2009, with a Class 1 fire rating In accordance with SNAS 10177 - 3: 2005 and ASTM E84 and BS 476 part 5, 6 and 7 ,with purlins spaced at greater than 1500mm centres down tautly across rafters with purlins spaced at greater than 1500mm centres and secured to each rafter with 38mm x 3,2mm x 1100mm hardboard counter bottom strips positioned flush with the bottom edge of the material thus leaving 150mm (f) overlap exposed at the top for the next layer and 150mm overlap thereafter on each 1250mm width roll.	m ²	100.00			
3-17		SHEET METAL FLASHINGS, LININGS, COPINGS, ETC					
3-17		Safintra 0.8mm thick SAFLOK 700 Grey Chromadek flashings complete with polyclosers.					
3-17	9	Eaves closer.	m	37.00			
3-17	10	Gutter flashing.	m	37.00			
		Bill Total					0.00
		BILL NO.8 : CARPENTRY AND JOINERY					
3-19		TRADE PREAMBLES					
3-19		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-19		SUPPLEMENTARY PREAMBLES					
3-19		Fixing					
3-19		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete					

3-19		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
3-19		Joinery				
3-19		Descriptions of frames shall be deemed to include frames, transomes, rails, etc.				
3-19		Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts				
3-19		Decorative thermosetting plastic laminate covering				
3-19		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
3-20		ROOFS ETC				
3-20		SA Pine				
3-20	1	Prefabricated Gangnail double pitched timber roof truss construction to suit building size overall 7.440 x 9.005 x 1.500m high max, designed and installed with 500mm eaves overhang with ridge, hip and valley trusses, temporary and permanent bracing, trimmers, hangers, fixings, etc. (purlins elsewhere measured) and hoist and fix in position approximately 3.00m above ground level. (Gross overall area on flat 66.6m2 - excluding eaves overhang)	Item	1.00		
3-20	2	38 x 114mm Wall plates	m	33.00		
3-20	3	50 x 76mm purlins	m	100.00		
3-20	4	Mitek Eco galvanised steel purlin clips	No	160.00		
3-20		EAVES, VERGES, ETC				
3-20		Fibre-cement plain ceiling boards				
3-20	5	Everite Nutec 6mm thick plain eaves soffit boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and top of rafters using 32 x 2,5mm serrated ceiling nails. All in accordance with the manufacturer's recommendations.	m ²	18.00		
3-20	6	70mm coved cornice	m	70.00		
3-20		SouthPro' uPVC fascia's and bargeboards				
3-20	7	225 x 9mm Thick fascia in 6m lengths wih uPVC connectors, fixed with and including 12 x 40mm countersunk brass screws capped with PVC covers at Maximum 800mm centres	m	37.00		
3-20	8	Extra over for PVC H-profile fascia corner joiner	No	4.00		
3-20		SKIRTINGS				
3-20		Meranti				
3-20	9	75 x 19mm skirting boards with 19mm diameter quadrant trim nailed to wall at 500mm c/c with 32mm steel nails. All nails to be punched and filled.	m	30.00		
3-21		DOORS				

3-21		SUPPLEMENTARY PREAMBLES					
3-21		Semi solid flush doors with commercial veneer fixed to timber frames					
3-21	10	44 x 813 x 2032mm high approved door with hardwood edge strips all around to Architect's specification (D2 - D5)	No	6.00			
3-21		FRAMED FRAMES ETC					
3-21		Swartland Cape Culture (10 Year Guarantee) Frames					
3-21	11	70 x 90mm CODE SK1 (925mm) door frame for Single door size 813 x 2032mm high	No	6.00			
3-21		BEADS, ARCHITRAVES, ETC					
3-21		Wrought softwood					
3-21	12	19mm quadrant beads	m	31.00			
3-21	13	75 x 19mm architraves	m	31.00			
3-21		NOTICEBOARDS, KEYBOARDS, DUCKBOARDS, ETC					
3-21		Vitrex					
3-21	14	Vitrex Model 2310-D or equal and approved, standard wall mounted educational range pin board size, size 1200mm high x 2400mm wide, reference (2309B) with 44 x 22mm rebated and moulded surround. Pinning surface to be Belgotex Colour-Rib, colour Bleach. Pin boards supplied complete with fixing components and secured to brickwork	No	2.00			
3-21	15	Magnetic Whiteboards with deluxe aluminium frame & pen/chalk rail size 1200mm x 2400mm	No	2.00			
3-21		FITTINGS					
3-21		General: The following fittings have been measured as complete units, i.e., the components of descriptions therefore such units shall be deemed to include all components, assembling, anchors, housing, notching, gluing, blocking, planting on and screwing with countersunk screws, edge strips, mouldings, decorative plastic finish, glass ironmongery, metalwork, paint or varnish finishes, fixings to walls, etc.					
3-22		Specification for Drawer Runners					
3-22		Eclipse STANDARD pull out system (code 230M5000 Brown) for the kitchen drawers (elsewhere specified) including all necessary Brown runners, fittings, etc, fitted in accordance with the manufacturers recommendations.					
3-22		Specification for Drawer and Door Handles					
3-22		Eclipse Brushed Nickel Barcelona bar handle fixed at 192mm centres fitted with steel self tapper screws:					
3-22		Specification for Hinges					

3-22		Eclipse Blum 107°CLIP top hinge in nickel plate d finish (code 75T1550 CLIP 107 ST SCREW ON) with 5mm horizontal cam mounting plate (code 177H5400E-0MM CLIP HORIZONTAL PLATE) and hinge cover cap, fixed using screw-on system in accordance with manufacturers recommendations.				
3-22		Specification for Stainless Steel Legs				
3-22		710 x 60mm Tapered Brushed Satin Nickel				
3-22		WORKTOPS				
3-22	16	Worktop of 3No. Stations size overall size 900 x 760mm high formed with 32mm melamine postformed top with rounded edges to both sides and 50 x 22mm meranti front edging; and 16mm thick white melamine front panels complete with 3mm thick white pvc edge strips and 50 x 22mm SA Pine cleats at top and bottom, all fixed to timber frame formed of 76 x 38mm SA Pine frame, complete with 25mm thick SA Pine CPU housing with exposed back including sides, divisions, etc. To Architect's Details	m	4.00		
3-22	17	Worktop of 5No. Stations size overall size 900 x 760mm high formed with 32mm melamine postformed top with rounded edges to both sides and 50 x 22mm meranti front edging; and 16mm thick white melamine complete with 3mm thick white pvc edge strips and 50 x 22mm SA Pine cleats at top and bottom, all fixed to timber frame formed of 76 x 38mm SA Pine frame, complete with 25mm thick SA Pine CPU housing with exposed back including sides, divisions, etc. To Architect's Details	m	15.00		
3-22		BENCHES				
3-22		Meranti				
3-22	18	70 x 20mm Seating slats with mitred edges fixed to steel frame (elsewhere measured) with countersunk self tapping screws	m	25.00		
3-23	19	40 x 20mm Mitered front edge with 45 degrees miteres fixed to steel angle (elsewhere measured) with countersunk self tapping screws	m	5.00		
3-23	20	32 x 50mm Back rest with 20mm routed edges at top and bottom fixed to steel angle (elsewhere measured) with countersunk self tapping screws	m	6.00		
3-23		CUPBOARDS TO KITCHENS, BEDROOMS, ETC				
3-23		SUPPLEMENTARY PREAMBLES				
3-23		General				
3-23		The following cupboard fittings have been given as complete units i.e. the components of the units have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, assembling, housing, notching, glueing, blocking, planting-on and screwing with countersunk screws, edge strips, thermosetting plastic laminate, glass, ironmongery, metalwork, paint or varnish finishes, etc. Prices are to include for all necessary filler pieces against walls etc.				
3-23		References				

3-23		References given in descriptions refer to the respective types of fittings detailed on the architect's drawing(s) numbered ? annexed to these bills of quantities (accompanying these bills of quantities?) for tender purposes				
3-23		Kitchen cupboards etc.				
3-23		All external sections of built-in cupboards to be of FG Bison 16mm thick Melolwood MFB in Vancouver Maple Peen, comprising single layer of melamine-impregnated decorative paper, fused under heat and pressure to both sides of a smooth surface Bisonboard Particleboard substrate laminated on both sides, manufactured in accordance with SANS 1763: 1998 and constructed in accordance with the drawings. All edging to doors and drawers to be solid Vancouver Maple (or similarly approved)				
		All countertops to be 32mm thick solid post-formed with Vancouver Maple Peen melamine finish as above. All internal shelving to be of FG Gison 16mm thick Supalam MFB in Super White Peen, comprising SupaWood consolidate by heat and pressure on both sides with melamine impregnated paper to create a homogenous construction laminated on both sides, manufactured in accordance with SANS 1763: 1998 and constructed in accordance with the drawings. All edging to be 3mm thick white PVC impact edging.				
3-24	21	Wall cupboard 1800 x 350 x 400mm high with top, sides, bottom, divisions, shelf, back and hinged doors	No	1.00		
3-24	22	Floor cupboard type 1800 x 600 x 900mm high with top, sides, bottom, division, shelf, back and double hinged doors, dividing framework and drawers	No	1.00		
3-24	23	Sink cupboard 1670 x 600 x 900mm high with post-formed Melanine top, sides, bottom, divisions, shelf, back and single hinged doors, dividing framework and drawers (sink elsewhere measured).	No	1.00		
		Bill Total				0.00
		BILL NO.9 : CEILINGS PARTITIONS AND ACCESS FLOORING				
3-26		TRADE PREAMBLES				
3-26		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
3-26		SUPPLEMENTARY PREAMBLES				

3-26		Fixing				
3-26		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
3-26		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
3-26		Ceilings				
3-26		Unless otherwise described ceilings shall be deemed to be horizontal				
3-26		Bulkheads				
3-26		Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
3-26		Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 900mm. Where these dimensions are more than 900mm such portions of ceilings have been included in the appropriate general items of ceilings				
3-27		Unless otherwise described bulkheads shall be deemed to be horizontal along the length				
3-27		User Note - Circular bulkheads shall be given separately				
3-27		Steel components				
3-27		All steel components for ceilings, partitions, etc. are to be galvanised in accordance with SANS 121				
3-27		NAILED-UP CEILINGS				
3-27		SUPPLEMENTARY PREAMBLES				
3-27		Gypsum plasterboard				
3-27	1	Gyproc 6,4mm RhinoCeil Value gypsum flush plastered ceiling with square edged Rhinoboard fixed print side up with 32mm galvanised clout or semi-clout nails at 150mm centers to and including 38 x 50mm (with 50mm dimension vertical) SA Pine branding at 300mm centres in one direction. All joints to be covered with Rhinotope fixed over joints (double over butt joints) and then plastered with 3mm to 6mm thick Rhinolite gypsum skim plaster, all fixed to trusses at centres exceeding 1000mm, not exceeding 1200mm in accordance with the manufacturers recommendations.	m ²	44.00		
3-27	2	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00		
3-27		Fibre-cement plain ceiling boards				

3-27	3	Everite Nutec 6mm thick plain ceiling boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and including 38 x 50mm battens at 600mm centres using 32 x 2,5mm serrated ceiling nails at 1500mm centres, minimum of 12mm from edge of board. All joints to be covered using H-profile steel jointing strips, all in accordance with the manufacturer's recommendations.	m ²	14.00			
3-27	4	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00			
3-27		Gypsum plasterboard cornices					
3-27	5	Lafarge Gypsum Gaudi Nucornice polystyrene cornice, overall size 55 x 55mm high, fixed to wall and ceiling using an approved water-based adhesive and appropriate nail fixing where necessary, filling all fixing holes with an approved acrylic sealant, all in accordance with the manufacturers recommendations.	m	72.00			
3-27		Insulation					
3-27	6	Brits Insulation Systems Isotherm 100mm thick polyester thermal insulation (density 10kg/m) laid over ceiling brandering closely fitted between rafters	m ²	62.00			
		Bill Total					0.00
		BILL NO.10 : FLOOR COVERINGS					
3-29		TRADE PREAMBLES					
3-29		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-29		FLOOR COVERINGS					
3-29		SUPPLEMENTARY PREAMBLES					
3-29		Floor coverings, wall linings, etc. shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc.					

3-29		FloorWorx Elite fully flexible vinyl floor sheeting 2m wide x 2mm thick in patterns in Whisper finish (colour code: FEL083) for field and Blue Grotto finish (colour code: FEL085) for inlays, manufactured in accordance with EN 649, laid in FloorworX No. 60 Plus acrylic adhesive spread with a notched trowel on suitably prepared subfloor (elsewhere specified) with a hygrometer reading showing a moisture content of less than 70%, with joints welded with fully flexible coloured 'Marley Welding Rod' to provide a smooth, hygienic sealed finish and rolled with 68kg three section metal roller on completion.				
3-29	1	On floors	m ²	58.00		
3-29	2	Extra for cut out 700mm diameter and replace with FEL 085 colour inlay	No	3.00		
3-29	3	Extra for cut out 1800mm diameter and replace with FEL 085 colour inlay	No	1.00		
3-29	4	Extra for cut out 700mm diameter and replace with FEL 083 colour inlay	No	1.00		
3-30		SKIRTINGS, NOSINGS, ETC				
3-30		Vinyl skirtings, nosings, etc.				
3-30	5	FloorWorx extruda Black (Colour Code: MCF54) vinyl cove fillet size 14 x 35mm, to accommodate the 150mm upturn of floor sheeting onto the vertical wall surface, fixed with Floorworx No 71 solvent based contact adhesive, spread with a brush onto both material and working surface.	m	30.00		
3-30		POLISH, SEALERS, ETC				
3-30		Polish, Sealers, etc.				
3-30	6	2 coats wax polish on vinyl flooring	m ²	58.00		
3-30		DOOR MATS, ETC.				
3-30	7	600 x 1500mm Squeegee door mat laid loose in mat surround.	No	1.00		
3-30	8	Anodised aluminium mat surround to suit 600 x 1500mm mat fixed in and including recess in concrete floor.	No	1.00		
		Bill Total				0.00
		BILL NO.11 : IRONMONGERY				
3-32		TRADE PREAMBLES				
3-32		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
3-32		SUPPLEMENTARY PREAMBLES				
3-32		Proprietary items				
3-32		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items. Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc. clarifying the features of the products/articles offered. On request returnable samples are to be provided to the principal agent for consideration.				
3-32		Finishes to ironmongery				
3-32		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AN Anodised natural AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
3-32		IRONMONGERY				
3-32		Set 1 - D1				
3-32	1	HMP HO90 100 x 44 sinkless centre leaf	No	4.00		
3-33	2	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 57mm centres.	No	2.00		
3-33	3	DORMA DO365 euro- profile cylinder sash lock SS	No	1.00		
3-33	4	DORMA DDC106501 nickel plated 65mm ten pin euro-profile master keyed cylinder.	No	1.00		
3-33	5	Howick H460- 180 x 20mm aluminium lever action flush bolt.	No	2.00		
3-33	6	Haistead 166 cabin hook 150mm.	No	2.00		
3-33	7	DORMA DDS-NP-018 nickel plated floor stop	No	2.00		
3-33		Set 2 - D5				
3-33	8	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	12.00		
3-33	9	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	12.00		
3-33	10	DORMA DO36S euro- profile cylinder sash lock SS.	No	6.00		
3-33	11	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder	No	6.00		
3-33	12	DORMA DDS-NP-018 nickel plated floor stop	No	6.00		
3-33		LETTERS, NAMEPLATES, ETC.				

3-33		70mm high white perspex signs with black vinyl letters in lengths to accommodate the number of Bookman Old capital letters fixed with adequate heavy duty double sided tape					
3-33	13	Sign with seven (7) letters	No	1.00			
3-33	14	Pictogram sign	No	5.00			
3-33		Manufactured by Vista					
3-33	15	Vista Signage System flat mounted on 60mm diameter post, size 1500 x 300mm in silver anodised aluminium frame with convex frame, silver anodised aluminium end caps and clear non glare lens. Cut black vinyl letters size 250 x 1400mm	No	1.00			
3-33	16	Vista Signage System Landscape wall frame 250mm long x 120mm high WFL25 finished in silver anodised aluminium frame with convex frame, black plastic end caps and clear/non glare lens. Cut black vinyl letters size 200 x 100mm	No	1.00			
3-34	17	Running man - back to back Size 190 x 1900mm White figure on green background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 2100mm finished floor level.	No	1.00			
3-34	18	Emergency exit sign EXIT word written. Size 190 x 380mm. Red word on white background. Wall mounted screwed with countersunk self-tapping screws to wall at 2100mm above finished floor level.	No	1.00			
3-34	19	Fire extinguisher Fire extinguisher drawing and arrow to point down. Size 190 x 380mm. Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor level	No	1.00			
3-34	20	Fire Hose Reel Fire Hydrant drawing and arrow to point down. Size 190 x 380mm. Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor level	No	1.00			
3-34	21	Direction arrow Direction Arrow, red drawing on white background. Wall mounted screwed with countersunk self-tapping screws to wall next to every individual sign.	No	1.00			
3-34		BATHROOM FITTINGS					
3-34		Supply and fix the following washroom and bathroom fitting accessories:					
3-34	22	Aliseo Metropolis 654mm long brass towel rail with chrome plated finish (code: 650002), size 654 x 54 x 59mm deep, plugged and screwed to the wall with stainless steel screws concealed with chrome plated cover plates.	No	4.00			
3-34	23	Aliseo Metropolis brass double hook with chrome plated finish (code: 650006), size 32 x 54 x 34mm deep plugged and screwed to wall with stainless steel screws concealed with Chrome cover plates	No	3.00			

3-35	24	Franke CNTX 21 Grade 304- 32mm diameter 18/10 stainless steel angle bars with Franke fine grip (product code 359880); size 415 x 415 x 95mm deep, plugged and screwed to wall with stainless steel screws.	No	1.00		
3-35	25	Franke CNTX 21 Grade 304- 32mm diameter 18/10 stainless steel angle bars with Franke fine grip (product code: 359974) 750mm 95mm deep, plugged and screwed to the wall with stainless steel screws.	No	1.00		
3-35	26	Kimberly-Clark® Professional SQ2 toilet tissue dispenser colour White (code SA405606) overall size 130 x 135 x 265mm.	No	3.00		
3-35	27	Kimberly-Clark® Professional Reflex MK2 hand towel dispenser (colour: WHITE - code: SA426104). Overall size 310 x 280 x 408mm high	No	3.00		
3-35	28	Kimberly-Clark® Professional Foam soap dispenser (colour: WHITE - code: SA427715), overall size 134 x 120 x 250mm high	No	3.00		
3-35	29	Kimberly-Clark® Professional Reflex Disposer wall mounted waste bin (colour: WHITE - code: SA426213), overall size 334 x 258 x 635mm high	No	3.00		
3-35	30	Hygiene Systems Femcore Bin manual sanitary disposal system clour white (code: SW/01), overall size 182 x 345 x 517mm high with Femcare Wall Mount Bracket (code: SW/04), plugged and screwed to wall with stainless steel crews. (Or similarly approved sanitary disposal unit).	No	3.00		
3-35		PELMETS AND CURTAIN TRACKS				
3-35		Windovert White Aluminium Venetian blind or equal and approved, with 25 x 3mm thick slats including matching 65mm valance fixed to front of headrail, cordlock and roller pins, blind to be fitted inside reveal to concrete lintel:				
3-35	31	Blind to suit opening size 900mm wide x 900mm high. (W3)	No	1.00		
3-35	32	Blind to suit opening size 1542mm wide x 1200mm high. (W4)	No	1.00		
3-35	33	Blind to suit opening size 1800mm wide x 2125mm high. (W1)	No	1.00		
		Bill Total				0.00
		BILL NO.12 : METALWORK				
3-37		TRADE PREAMBLES				
3-37		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-37		SUPPLEMENTARY PREAMBLES					
3-37		Descriptions of bolts, anchors, etc.					
3-37		Descriptions of bolts shall be deemed to include nuts and washers					
3-37		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete					
3-37		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described					
3-37		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres					
3-37		Aluminium doors, windows, etc.					
3-37		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to be issued separately with these bills of quantities					
3-38		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively					
3-38		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years					
3-38		ALUMINIUM WINDOWS, DOORS, ETC. (CPAP WORK GROUP NO. 140)					

3-38		Black Powder coated casement window units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete					
3-38	1	Purpose made window, 1800 x 1200mm high window in four (4) equal sections with top two (2) opening sections to Architect's Drawing. W1	No	4.00			
3-38	2	Purpose made window, 600 x 900mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W2	No	2.00			
3-38	3	Purpose made window, 900 x 900mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W3	No	1.00			
3-38	4	Purpose made window, 1542 x 1200mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W4	No	1.00			
3-38	5	Purpose made window, 900 x 900mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W5	No	1.00			
3-39		ALUMINIUM SHOPFRONTS (CPAP WORK GROUP NO. 149)					
3-39		Black Powder coated casement shopfront units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete					
3-39	6	Purpose made double door, size 1800 x 2125mm high to Architect's Drawing	No	1.00			
3-39		FRAMEWORK					
3-39		Benches					
3-39	7	Bench frame supports overall size 570 x 820mm high formed of 38 x 38mm HCS welded steel frame supports at 550mm centres fixed to brickwork on welded 38 x 6 x 40mm long flatbar with drilled holes to fit and including 100 x 80mm (6 No.) rawbolts at top and bottom to brick walls and concrete floors complete with capping at ends of frame to Architect's Detailed Drawing	No	10.00			
3-39	8	30 x 30mm angle runners welded to frame Architect's Detailed Drawing	m	5.00			
		Bill Total					0.00
		BILL NO.13 : PLASTERING					
3-41		TRADE PREAMBLES					
3-41		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

	Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
	The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-41	SUPPLEMENTARY PREAMBLES					
3-41	User Note - The following preambles are to be included only when specifically required by the principal agent					
3-41	Method					
3-41	The method to be used shall be either the monolithic method or the bonded method					
3-41	Preparation					
3-41	For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.					
3-41	Mix					
3-41	Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.					
3-42	Panels					
3-42	Granolithic shall be laid in panels not exceeding 14m ² for monolithic finishes, not exceeding 9,5m ² for bonded finishes and not exceeding 6m ² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.					
3-42	Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints					
3-42	Laying					
3-42	Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels					

3-42		Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels					
3-42		After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated					
3-42		Curing, seasoning and protection					
3-42		Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.					
3-42		Colour					
3-42		Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.					
3-42		SCREEDS					
3-42		Screeds steel trowelled, on concrete					
3-42	1	25mm Thick (average) to floors	m ²	58.00			
3-42	2	30mm Thick (average) to ramps	m ²	5.00			
3-42	3	30mm Thick (average) to steps	m ²	3.00			
3-42		INTERNAL PLASTER					
3-42		Cement plaster steel trowelled, on brickwork					
3-42	4	On walls	m ²	150.00			
3-42	5	On narrow widths	m ²	4.00			
		Bill Total					0.00
		BILL NO.14 : TILING					
3-44		TRADE PREAMBLES					
3-44		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-44		SUPPLEMENTARY PREAMBLES					
3-44		Fixing					

3-44		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				
3-44		Tiling described as 'fixed with adhesive on power floated concrete' shall be deemed to include for approved tiling key-coat				
3-44		Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional range of products as recommended by the manufacturer of the tiles				
3-44		WALL TILING				
3-44		Union Tiles 'Shiny White' ceramic tiles (code: 1SAMOSH1000), size 200 x 200mm fixed to internal wall plaster backing with TAL tile adhesive mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with TAL tile grout (colour: WHITE), excess grout on tile surface to be cleaned with water as work proceeds				
3-44	1	On walls	m ²	16.00		
3-44	2	On walls in narrow widths	m ²	2.00		
3-45	3	50 x 200mm Listello capping tiles	m	37.00		
3-45	4	PVC corner trim	m	54.00		
3-45	5	PVC skirting trim	m	30.00		
3-45		FLOOR TILING				
3-45		Union Tiles Dark Blue mesh backed ceramic mosaics size 48 x 48mm, sheet size 300 30Jmm (code: 10RI2215) fixed Mesh side down to internal floor with White TAL Mosaic Fix Tile adhesive mixed with bonding liquid in lieu of water, laid with diagonal joints continuously in both directions with tile grout applied with flexible spatula, excess grout to be removed with damp sponge and tiles to be washed off with Glint Tile Cleaner once grout has cured.				
3-45	6	On floors to ramps	m ²	5.00		
3-45	7	On steps	m ²	3.00		
3-45		SUNDRIES				
3-45		Metal Profiles:				
3-45	8	Kirk Marketing stainless steel square edge trim code SQE 100 grade 304 size 10mm (d) installed in accordance to manufacturers specifications.	m	11.00		
		Bill Total				0.00
		BILL NO.15 : PLUMBING AND DRAINAGE				
3-47		TRADE PREAMBLES				

3-47		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
3-47		RAINWATER DISPOSAL					
3-47		Watertite Guttering commercial and industrial Square profile aluminium H3003h 14 seamless gutter, coated internally and externally with ColourTech G4 in colour Marble White with matching splash-plate including cut and mitred angles covered with a mitre externally, secured to metal roof sheets with 25 x 2.5mm L-Shaped and 20 x 3mm dual-purpose brackets at 600mm centres using aluminium pop rivets, including expanded aluminium mesh leaf guard set over gutter, accessories sealed inside with Dow Coming 813 silicone sealer					
3-47	1	140 x 150 x 0.90mm thick roof gutters	m	37.00			
3-47	2	Extra over gutter for angle	No	4.00			
3-47	3	Extra over gutter for outlet for pipe	No	4.00			
3-47	4	78 x 78 x 2mm thick aluminium downpipe fixed to walls with and including straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets	m	14.00			
3-47	5	Extra over rainwater pipe for bend	No	8.00			
3-47	6	Extra over rainwater pipe for shoe	No	4.00			
3-48		SANITARY FITTINGS					
3-48		Vaal Sanitaryware					
3-48	7	Flamingo vitreous china wall mounted basin (colour: WHITE - code: 7007), size 560 x 405mm with one tap-hole including overflow and chain-stay hole bolted to wall with two 10mm bolts (code: 8448Z0) and sealed with silicone sealant where basin meets wall	No	2.00			
3-48	8	Flamingo vitreous china wall mounted basin (colour: WHITE - code: 7007), size 560 x 405mm with one tap-hole including overflow and chain-stay hole bolted to wall with two 10mm bolts (code: 8448Z0) and sealed with silicone sealant where basin meets wall (Paraplegic)	No	1.00			
3-48		Water Closet					

3-48	9	White vitreous china wall hung WC pan with Kamifix concealed cistern for wall hung WC (code: 110.350.00.5), front actuated with Bolero dual flush actuator (code: 115.760.11.1) in white alpin finish including flush pipe and pan connector, water supply connection with angle stop valve, protection cover for service and protection cover for flush pipe, fixed with included fastening materials inside solid wall from 120mm up to 200mm.	No	2.00		
3-48	10	White vitreous china wall hung WC pan with Kamifix concealed cistern for paraplegic application (code: 110.350.00.5), front actuated with Tango single flush with flush/stop actuator (code: 115.777.11.1) in white alpin finish including flush pipe and pan connector, water supply connection with angle stop valve, protection cover for service and protection cover for flush pipe, fixed with included fastening materials inside solid wall from 120mm up to 200mm. WC fixed 450mm from finished floor level.	No	1.00		
3-48		Franke				
3-48	11	Franke Trendline Model 1500 x 460 SEB Crade 304 18/10 polished stainless steel DOUBLE BOWL drop on sink (code: 310500), overall size 1500 x 460mm wide with two 460 x 350 x 140mm 140mm deep bowls, fitted onto cupboard (elsewhere specified) including 38mm waste fitting and PVC trap (trap elsewhere specified)	No	1.00		
3-48		WASTE UNIONS ETC				
3-48		Cobra Watertech				
3-48	12	32mm 301 CP basin waste union	No	5.00		
3-49	13	32mm 303 CP basin waste union and 309CP anti-theft plug	No	2.00		
3-49	14	40mm 316 CP sink waste union	No	2.00		
3-49		TRAPS ETC				
3-49		Cobra Watertech				
3-49	15	32mm 340 CP bottle trap	No	3.00		
3-49	16	40mm 360 CP bottle trap	No	2.00		
3-49	17	32mm 340 CP bottle trap with C-342/1/2/9 tail pipe	No	3.00		
3-49		TAPS, VALVES, ETC				
3-49		Brass				
3-49	18	32mm Stopcock	No	1.00		
3-49	19	32mm Fullway gate valve	No	1.00		
3-49	20	22mm Hose bib-tap	No	2.00		
3-49	21	32mm Non-return valve	No	1.00		
3-49		Cobra Watertech				
3-49	22	15mm 128-15CP Star undertile stopcock	No	3.00		

3-49	23	Cobra Watertech Metsi 15mm chrome plated basin mixer with cast fixed outlet manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00			
3-49	24	Cobra Watertech 15mm chrome plated elbow action raised nose pillar tap with red indicator for hot water (code: 503-21R), manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00			
3-49	25	Cobra Watertech Stella 15mm plain extended bibtap (code: 3306ST/EXT-15), manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00			
3-49		SANITARY PLUMBING					
3-49		uPVC soil and vent pipes					
3-49	26	40mm Pipes	m	16.00			
3-49	27	50mm Pipes	m	6.00			
3-49	28	110mm Pipes	m	13.00			
3-49	29	40mm Pipes chased into brickwork	m	8.00			
3-49	30	50mm Pipes chased into brickwork	m	3.00			
3-50		Extra over uPVC soil and vent pipes for fittings					
3-50	31	40mm Bend	No	3.00			
3-50	32	50mm Bend	No	1.00			
3-50	33	50mm Access Bend	No	3.00			
3-50	34	50mm Access Junction	No	4.00			
3-50	35	110mm End cap	No	1.00			
3-50	36	110mm Pan connector	No	3.00			
3-50	37	110mm Bend	No	1.00			
3-50	38	110mm Access Bend	No	2.00			
3-50	39	110mm Access junction	No	3.00			
3-50	40	110mm Access reducing junction	No	4.00			
3-50	41	110mm Access double junction	No	1.00			
3-50	42	110mm Air vent cowl	No	1.00			
3-50		Testing					
3-50	43	Testing waste pipe system	Item	1.00			
		Bill Total					0.00
		BILL NO.16 : GLAZING					
3-52		TRADE PREAMBLES					

3-52		<p>The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries</p> <p>Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles</p>				
		<p>The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications</p>				
3-52		SUPPLEMENTARY PREAMBLES				
3-52		Float glass				
3-52		The term 'float glass' is used for monolithic annealed glass				
3-52		Laminated glass				
3-52		Laminated glass to have polyvinyl butyral (PVB) interlayer(s)				
3-52		TOPS, SHELVES, DOORS, MIRRORS, ETC				
3-52		4mm "GG" quality polished glass mirror fixed to wall with vertical strips of double sided adhesive tape.				
3-52	1	Mirror 400 x 900mm high	No	3.00		
		Bill Total				0.00
		BILL NO.17 : PAINTWORK				
3-53		TRADE PREAMBLES				
3-53		<p>The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries</p> <p>Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles</p> <p>The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications</p>				
3-53		SUPPLEMENTARY PREAMBLES				
3-53		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:				

3-53	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m</p>					
3-54	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant m</p>					
	<p>anufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.</p>					
3-54	<p>PAINT SPECIFICATIONS</p>					
3-54	<p>Painting, etc.</p>					
3-54	<p>All painting shall be done in accordance with Plascon specifications unless otherwise described</p>					
3-54	<p>COLOURS</p>					
3-54	<p>Colours, etc.</p>					
3-54	<p>Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091</p>					
3-54	<p>PLASCON</p>					
3-54	<p>Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091</p>					
3-54	<p>The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification.</p> <p>All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified.</p> <p>Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint.</p>					

		All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc.				
		Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine				
3-55		ON INTERNAL FLOATED PLASTER SURFACES				
3-55		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat Plascoll Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats Wall & All (WAA) with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.				
3-55	1	Walls	m ²	136.00		
3-55		ON INTERNAL GYPSUM PLASTER SURFACES				
3-55		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Profesional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Profesional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment				
3-55	2	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	44.00		
3-55		ON FIBRE-CEMENT BOARD SURFACES				
3-55		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Profesional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Profesional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment				
3-55	3	Eaves soffit linings	m ²	18.00		
3-55	4	Fascias and barge boards	m ²	9.00		
3-55	5	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	14.00		
3-55	6	Cills	m ²	2.00		
3-55		ON METAL SURFACES				
3-55		One coat alkyd based zinc phosphate primer and two coats premium quality polyurethane enamel paint, on steel				
3-55	7	Framing not exceeding 300mm girth	m	32.00		
3-56		ON WOOD SURFACES				
3-56		Two coats oil wood primer				
3-56	8	Backs of frames, linings, etc. not exceeding 300mm wide	m	31.00		

3-56		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated with 48 hours with e moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Wood Primer (UC 2) with an overcoating time of 16 hours and finish with two coats Velvagio Satin (VLO) with 16 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.				
3-56	9	Doors	m ²	23.00		
3-56	10	Door frames etc.	m ²	8.00		
3-56	11	Roof timbers at eaves and verges	m ²	4.00		
3-56	12	Skirtings, rails, etc. not exceeding 300mm girth	m	30.00		
3-56		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated with 48 hours with e moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Woodcare Clear Varnish (CM 5) with an overcoating time 16 hours and finish with two coats Woodcare Clear Varnish (CM 5) with 16 hour drying time between coats, for maintenance cycle of 3 years in a C1 - inland environment.				
3-56	13	Fittings	m ²	32.00		
3-56	14	Framing not exceeding 300mm girth	m	174.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO. 4 : GENERAL STORE				
		BILL NO.1 : EARTHWORKS				
4-2		TRADE PREAMBLES				
4-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-2		EXCAVATION ETC				
4-2		Excavation in earth not exceeding 2m deep				

4-2	1	Reduced levels under floors	m ³	21.00		
4-2	2	Trenches	m ³	53.00		
4-2		Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density				
4-2	3	Not exceeding 500mm deep for placing and removing formwork to walls etc., 1500mm away from excavated face	m ²	176.00		
4-2		Extra over trench and hole excavations in earth for excavation in				
4-2	4	Soft rock	m ³	4.00		
4-2	5	Hard rock	m ³	2.00		
4-2		Extra over all excavations for carting away				
4-2	6	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	56.00		
4-2		Risk of collapse of excavations				
4-2	7	Sides of bulk excavations not exceeding 1,5m deep	m ²	176.00		
4-3		Keeping excavations free of water				
4-3	8	Keeping excavations free of all water other than subterranean water	Item	1.00		
4-3		FILLING ETC OTHER THAN BULK				
4-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)				
4-3	9	Backfilling to trenches, holes, etc.	m ³	18.00		
4-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density				
4-3	10	G5 Under floors, paving, etc.	m ³	21.00		
4-3	11	G7 Under floors, paving, etc.	m ³	34.00		
4-3		Coarse river sand filling supplied by the contractor				
4-3	12	Under floors etc.	m ³	8.00		
4-3		Compaction of surfaces				
4-3	13	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	164.00		
4-3		Density Tests:				
4-3	14	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00		
4-3		SOIL POISONING				
4-3		Soil insecticide in accordance with SANS 5859				

4-3	15	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	164.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
4-5		TRADE PREAMBLES					
4-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
4-5		Cost of tests					
4-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
4-5		Breeze concrete					
4-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
4-5		Lightweight concrete					
4-5		Lightweight concrete shall have a density of 600kg/m ³ for the top 50mm and 400kg/m ³ for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
4-6		Formwork					
4-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use					

4-6		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				
4-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
4-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
4-6		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				
4-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
4-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
4-6		20MPa/19mm concrete				
4-6	1	Surface blinding under footings and bases	m ³	3.00		
4-6		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
4-6		25MPa/19mm concrete				
4-6	2	Ground beams	m ³	23.00		
4-7		REINFORCED CONCRETE				
4-7		25MPa/19mm concrete				
4-7	3	Surface beds cast in panels on waterproofing (elsewhere measured).	m ³	21.00		
4-7	4	Stub columns	m ³	3.00		
4-7	5	Filling in vertical cavity walls	m ³	3.00		
4-7		TEST CUBES				
4-7		Test cubes				
4-7	6	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00		
4-7		CONCRETE SUNDRIES				
4-7	7	Grout solid under steel base plates	No	163.00		
4-7		Finishing top surfaces of concrete smooth with a steel trowel				

4-7	8	Surface beds, slabs, etc.	m ²	164.00			
4-7		Finishing top surfaces of concrete with a sponge roll					
4-7	9	Pavings to falls	m ²	39.00			
4-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)					
4-7		Rough formwork to sides					
4-7	10	Ground beams	m ²	174.00			
4-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)					
4-7		Smooth formwork to sides					
4-7	11	Stub columns	m ²	22.00			
4-7	12	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	74.00			
4-7		MOVEMENT JOINTS ETC					
4-7		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces					
4-7		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces					
4-7	13	Ground beams	m ²	15.00			
4-7	14	Not exceeding 300mm high to edges of surface beds	m	36.00			
4-8		Saw-cut joints					
4-8	15	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	49.00			
4-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
4-8		High tensile steel reinforcement to structural concrete work					
4-8	16	10mm Diameter bars	Tonnes	0.35			
4-8	17	12mm Diameter bars	Tonnes	0.61			
4-8	18	16mm Diameter bars	Tonnes	0.09			
4-8		Fabric reinforcement					
4-8	19	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	164.00			
		Bill Total					0.00
		BILL NO.3 : PRECAST CONCRETE					
4-10		TRADE PREAMBLES					

4-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-10		PRECAST CONCRETE PAVING				
4-10		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing				
4-10	1	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corn 813 sealant	m	38.00		
4-10	2	Extra for end	No	2.00		
4-10	3	Extra for angle	No	2.00		
		Bill Total				0.00
		BILL NO.4 : MASONRY				
4-11		TRADE PREAMBLES				
4-11		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-11		SUPPLEMENTARY PREAMBLES				
4-11		BRICKWORK				
4-11		Sizes in descriptions				
4-11		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				
4-11		Hollow walls				
4-11		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				

4-11		Bagged and sealed walls				
4-11		User Note - The following preamble generally applies for works in hot and humid coastal areas				
4-11		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				
4-11		Face bricks				
4-11		Bricks shall be ordered timeously to obtain uniformity in size and colour				
4-12		Pointing				
4-12		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
4-12		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
4-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
4-12	1	Half brick walls in lining to concrete ground beams	m ²	27.00		
4-12		BRICKWORK IN SUPERSTRUCTURE				
4-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
4-12	2	One brick walls in two half brick thickness bagged and sealed including ties	m ²	151.00		
4-12		BRICKWORK SUNDRIES				
4-12		Sundries				
4-12	3	Extra over one brick wall for forming 460 x 340mm vertical stiffeners with 230 x 110mm cavity (concrete fill elsewhere measured)	m	98.00		
4-12		Joint forming material in movement joints				
4-12	4	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	38.00		
4-12		2,5mm Brickwork reinforcement				
4-12	5	150mm Wide reinforcement built in horizontally	m	804.00		
4-12		High tensile steel reinforcement to structural brick work				
4-12	6	8mm Diameter bars	Tonnes	0.01		
4-12		Prestressed fabricated concrete lintels including necessary temporary supports				
4-12	7	230 x 75mm Lintels in lengths not exceeding 3m	m	5.00		
4-12		FACE BRICKWORK				

4-12		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.				
4-12	8	Extra over brickwork in NFX bricks for face brickwork internally	m ²	148.00		
4-13	9	Extra over brickwork in NFX bricks for face brickwork externally	m ²	202.00		
4-13	10	Extra over brickwork for face brickwork in roller course on top.	m	53.00		
		Bill Total				0.00
		BILL NO.5 : WATERPROOFING				
4-15		TRADE PREAMBLES				
4-15		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-15		SUPPLEMENTARY PREAMBLES				
4-15		Waterproofing				
4-15		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs				
4-15		DAMPPROOFING OF WALLS AND FLOORS				
4-15		One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)				
4-15	1	In walls	m ²	15.00		
4-15	2	In walls vertically at reveals	m ²	2.00		
4-15		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape				
4-15	3	Under surface beds and ground beams	m ²	276.00		
4-15		Two coats bitumen emulsion waterproof coating				
4-15	4	On concrete ground beams	m ²	30.00		

4-16		SEALING STRIPS, JOINT SEALANTS, ETC				
4-16		ABE Epoflex 800 sealing compound and Samseal EP 265 final sealant (filler) application:				
4-16	5	6 x 10mm In saw cut joints in floors.	m	49.00		
4-16	6	10 x 30mm In expansion joints in floors including raking out filler as necessary.	m	24.00		
4-16		Prostruct 649 sealing compound including backing cord, bond breaker, primer, etc.				
4-16	7	10 x 20mm In vertical expansion joints including raking out expansion joint filler as necessary.	m	38.00		
		Bill Total				0.00
		BILL NO.6 : ROOF COVERINGS				
4-18		TRADE PREAMBLES				
4-18		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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4-18		PROFILED METAL SHEETING AND ACCESSORIES				
4-18		SUPPLEMENTARY PREAMBLES				
4-18		Cutting of sheets:				
4-18		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish				
4-18		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mm centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.				
4-18	1	Roof covering with pitches not exceeding 25 degrees	m ²	219.00		
4-18	2	Turn up troughs at apex	m	57.00		
4-18	3	Turn down troughs at eaves	m	19.00		
4-18	4	Bend end of sheets circular at eaves over vertical cladding	m	38.00		

4-19		Sarintra 0,58mm thick 700mm cover SAFLOK 700 Dove Grey Colorbond G550 interlocking wall cladding fixed to galvanised steel rails at 1200mm centres and top rails at 1020mm centres using galvanised SL 700 clips secured to rails with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.				
4-19	5	Vertical cladding	m ²	19.00		
4-19		Safintra 1.25mm thick 762mm corrugated profile polycarbonate roof sheeting fixed to steel purlins at 900mm centres and eaves and ridge purlins at 900mm centres using 6 x 20mm stainless steel self tapping screws with banded water purlins at 90mm centres and eaves and ridge purlins at 90mm centre using 6 x 20mm stainless steel self tapping screws with bonding washer over purlins and at centres not exceeding 500mm between purlins with minimum 230mm end laps sealed wqith a double row of sealing tape as described at first, third, fourth and sixth crest of each sheet and at all crests at sheet ends. Side laps to be secured using 6 x 20mm steel screws over purlins and at centres not exceeding 500mm between purlins with minimum 230mm end laps sealed with a double row of sealing tape, all in accordance with the manufacturer's recommendation.				
4-19	6	Vertical cladding	m ²	58.00		
4-19		Safintra 30 x 462mm girth SAFLOK 700 Dove Grey Chromadek ISQ550 ridge cap with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufacturer's recommendations				
4-19	7	Ridge Cap	m	19.00		
4-19		Ventilators				
4-19	8	Safintra SAFLOK 700 Dove Grey Chromadek ridge mounted ventilator, size 2200mm long x 650mm wide 540mm high with 300 wide throat, fixed in accordance with the manufacturers recommendations	No	3.00		
4-19		SHEET METAL FLASHINGS, LININGS, COPINGS, ETC				
4-19		Safintra 0.8mm thick SAFLOK 700 Grey Chromadek flashings complete with polyclosers.				
4-19	9	Drip flashing	m	51.00		
4-19	10	Verge capping.	m	12.00		
4-19	11	Verge capping circular.	m	4.00		
4-20	12	Gutter flashing.	m	22.00		
4-20	13	Vertical corner trim	No	4.00		
4-20		Sisalation				

4-20	14	Sisalation FR 430 Fire retardant industrial grade reinforced aluminium foil insulation double sided, durable, reflective foil laminate incorporating a fire retardant between the various substrates, bonded together with low density polyethylene, tested for conformance with SANS 1381-4: 2009, with a Class 1 fire rating In accordance with SNAS 10177 - 3: 2005 and ASTM E84 and BS 476 part 5, 6 and 7 ,with purlins spaced at greater than 1500mm centres drawn tautly across rafters with purlins spaced at greater than 1500mm centres and secured to each rafter with 38mm x 3,2mm x 1100mm hardboard counter bottom strips positioned flush with the bottom edge of the material thus leaving 150mm (f) overlap exposed at the top for the next layer and 150mm overlap thereafter on each 1250mm width roll.	m ²	219.00		
		Bill Total				0.00
		BILL NO.7 : CARPENTRY AND JOINERY				
4-22		TRADE PREAMBLES				
4-22		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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4-22		SUPPLEMENTARY PREAMBLES				
4-22		Fixing				
4-22		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
4-22		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
4-22		Joinery				
4-22		Descriptions of frames shall be deemed to include frames, transomes, rails, etc.				
4-22		Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts				
4-22		Decorative thermosetting plastic laminate covering				
4-22		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
4-22		DOORS				

4-22		Swartland Cape Culture (10 Year Guarantee) Doors				
4-22	1	44 x 813 x 2032mm high Swartland PD1 framed ledged and braced door with 6mm plywood panels to Architect's specification (D2)	No	1.00		
4-23		FRAMED FRAMES ETC				
4-23		Swartland Cape Culture (10 Year Guarantee) Frames				
4-23	2	70 x 90mm CODE SK1 (925mm) door frame for Single door size 813 x 2032mm high	No	1.00		
4-23		BEADS, ARCHITRAVES, ETC				
4-23		Wrought softwood				
4-23	3	19mm quadrant beads	m	10.00		
4-23		FITTINGS				
4-23		Shelving and Hangers				
4-23	4	Shelving and Hangers to Architect's Drawing No. 1214/WD/2018	No	1.00		
4-23	5	Shelving and Hangers to Architect's Drawing No. 1214/WD/063 Rev A	No	1.00		
		Bill Total				0.00
		BILL NO.8 : IRONMONGERY				
4-25		TRADE PREAMBLES				
4-25		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-25		SUPPLEMENTARY PREAMBLES				
4-25		Proprietary items				
4-25		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc. clarifying the features of the products/articles offered On request returnable samples are to be provided to the principal agent for consideration				

4-25		Finishes to ironmongery					
4-25		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AN Anodised natural AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded					
4-25		IRONMONGERY					
4-25		Set 1 - D2					
4-25	1	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel ball bearing butt hinge	No	3.00			
4-26	2	DORMA PHA2101/2104 emergency exit panic latch for door leaf up to 1000mm wide	No	1.00			
4-26		LETTERS, NAMEPLATES, ETC.					
4-26		70mm high white penspex signs with black vinyl letters in lengths to accommodate the number of Bookman Old capital letters fixed with adequate heavy duty double sided tape					
4-26	3	Sign with eleven (11) letters	No	1.00			
4-26		Manufactured by Vista					
4-26	4	Emergency exit sign EXIT word written. Size 190 x 380mm. Red word on white background. Wall mounted screwed with countersunk self-tapping screws to wall at 2100mm above finished floor level.	No	1.00			
4-26	5	Fire extinguisher Fire extinguisher drawing and arrow to point down. Size 190 x 380mm.Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor level	No	2.00			
4-26	6	Fire Hose Reel Fire Hydrant drawing and arrow to point down. Size 190 x 380mm.Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor level	No	1.00			
		Bill Total					0.00
		BILL NO.9 : STRUCTURAL STEELWORK					
4-28		TRADE PREAMBLES					
4-28		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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4-28		SUPPLEMENTARY PREAMBLES				
4-28		Descriptions				
4-28		Descriptions of bolts shall be deemed to include nuts and washers				
4-28		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
4-28		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
4-28		GALVANISED STEEL COLUMNS AND BEAMS				
4-28		Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete				
4-28	1	203 x 203 x 46mm x 46.1kg/m H-section Universal columns	Tonnes	0.58		
4-28	2	IPE 160 x 15.8kg/m I-section Universal columns	Tonnes	0.62		
4-28	3	350 x 350 x 18mm Base plate with four 18mm diameter bolt holes	No	6.00		
4-28	4	350 x 150 x 18mm Base plate with four 18mm diameter bolt holes	No	8.00		
4-29		Welded beams in single lengths with flat bearer and connection plates, bolted to steel				
4-29	5	IPE 160 x 15.8kg/m I-section Universal Universal beams	Tonnes	0.40		
4-29	6	168 x 107 x 10mm end plate (H3) with two 12mm diameter bolt holes welded to beams	No	2.00		
4-29	7	270 x 82 x 10mm end plate (H2) with six 10mm diameter bolt holes welded to beams	No	4.00		
4-29	8	367 x 82 x 6mm end plate (H1) with six 10mm diameter bolt holes welded to beams	No	8.00		
4-29	9	308 x 150 x 10mm end plate (C1) with six 12mm diameter bolt holes welded to beams	No	6.00		
4-29	10	178 x 45mm haunch cut from IPE140 I-Section welded to beams	No	8.00		
4-29	11	400 x 200mm haunch cut from IPE160 I-Section welded to beams	No	8.00		
4-29	12	500 x 150mm haunch cut from IPE160 I-Section welded to beams	No	6.00		
4-29		STEEL PURLINS, GIRTS, BRACING, ETC				

4-29		Purlins and girts, bolted to steel				
4-29	13	150 x 75 x 20 x 2mm x 5.1kg/m cold-formed lipped channels	Tonnes	0.83		
4-29	14	50 x 50 x 5mm x 3.77kg/m angle iron cross bracing	Tonnes	0.10		
4-29		BOLTS, FASTENERS, ETC				
4-29		Bolts and fasteners				
4-29	15	M16 Grade 4.8 bolts cast into concrete	No	64.00		
4-29	16	M12 Grade 4.8 bolts cast into concrete	No	112.00		
4-29	17	M12 Grade 4.8 bolts fixed to steel	No	40.00		
4-29	18	M10 Grade 4.8 bolts fixed to steel	No	144.00		
4-29	19	Provide and install permanent harness anchor system similar to Transafe Life line system by Phakamisa Industries	Item	1.00		
4-30		PAINTING				
4-30		Surface to be dry, sound and clean. Apply Plascon Galvanised Iron Clearer (GIC 1) to all bare galvanised areas Allow to react for 1 minute and rinse off with tap water using bristle brush or Scotch Brite pads to remove O1 surface contaminants. until surface is water break-free. Prime with one coat Glatex 8 Metal Primer (FL 3) with an overcoating time of 8 hours and finish wih two coats Glatex 8 (PL) colour Black with 16 hours drying time between coats, for maintenance cycle of 10 years in a C3 - industrial environment				
4-30	20	On structural galvanised steel columns, beams, etc.	m ²	29.00		
		Bill Total				0.00
		BILL NO.10 : METALWORK				
4-32		TRADE PREAMBLES				
4-32		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-32		SUPPLEMENTARY PREAMBLES				
4-32		Descriptions of bolts, anchors, etc.				
4-32		Descriptions of bolts shall be deemed to include nuts and washers				

4-32		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
4-32		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described				
4-32		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres				
4-32		Aluminium doors, windows, etc.				
4-32		Doors and windows shall comply with AAAMSA design criteria. Glazing shall comply with SAGGA regulations. Glass shall be laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings. Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed. For purpose made windows and doors, refer to drawings annexed to be issued separately with these bills of quantities				
4-33		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively				
4-33		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
4-33		STEEL ROLLER SHUTTERS ETC				
4-33		Galvanised steel with silicon polyester paint finish roller shutters with 76mm slats (18kg/m²), fixed to brickwork or concrete				
4-33	1	Chain operated slatted roller shutter for 3000 x 2500mm high opening	No	1.00		
		Bill Total				0.00
		BILL NO.11 : PLASTERING				
4-35		TRADE PREAMBLES				

4-35	<p>The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries</p> <p>Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles</p>					
	<p>The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications</p>					
4-35	SUPPLEMENTARY PREAMBLES					
4-35	User Note - The following preambles are to be included only when specifically required by the principal agent					
4-35	Method					
4-35	The method to be used shall be either the monolithic method or the bonded method					
4-35	Preparation					
4-35	<p>For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.</p>					
4-35	Mix					
4-35	<p>Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.</p>					
4-36	Panels					
4-36	<p>Granolithic shall be laid in panels not exceeding 14m² for monolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.</p>					
4-36	<p>Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints</p>					
4-36	Laying					
4-36	<p>Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels</p>					

4-36		Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels				
4-36		After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated				
4-36		Curing, seasoning and protection				
4-36		Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.				
4-36		Colour				
4-36		Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.				
4-36		SCREEDS				
4-36		Sponge rolled concrete surface layer finished with a.b.e Construction Chemicals obecoate 400 hi-build solvent free hi-build epoxy floor system and comprising resin, hardner, filler and pigment paste and obecote WD 337 for concrete surfaces and abecote 384 for metal surfaces, all in accordance with the manufacturer's instructions				
4-36	1	25mm Thick on floors and landings	m ²	114.00		
4-37		EXTERNAL PLASTER				
4-37		Cement plaster wood floated, on brickwork				
4-37	2	On narrow widths	m ²	5.00		
4-37	3	Weathering 110mm wide in short lenghts to top of projecting wall stifners	m	17.00		
		Bill Total				0.00
		BILL NO.12 : PLUMBING AND DRAINAGE				
4-39		TRADE PREAMBLES				
4-39		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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4-39		RAINWATER DISPOSAL				
4-39		Watertite Guttering commercial and industrial Square profile aluminium H3003h 14 seamless gutter, coated internally and externally with ColourTech G4 in colour Marble White with matching splash-plate including cut and mitred angles covered with a mitre externally, secured to metal roof sheets with 25 x 2.5mm L-Shaped and 20 x 3mm dual-purpose brackets at 600mm centres using aluminium pop rivets, including expanded aluminium mesh leaf guard set over gutter, accessories sealed inside with Dow Coming 813 silicone sealer				
4-39	1	140 x 150 x 0.90mm thick roof gutters	m	22.00		
4-39	2	Extra over gutter for outlet for pipe	No	6.00		
4-39	3	Extra over gutter for stopped end	No	4.00		
4-39	4	78 x 78 x 2mm thick aluminium downpipe in fixed to wall with and including straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets	m	18.00		
4-39	5	Extra over rainwater pipe for shoe	No	6.00		
		Bill Total				0.00
		BILL NO.13 : PAINTWORK				
4-40		TRADE PREAMBLES				
4-40		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
4-40		SUPPLEMENTARY PREAMBLES				
4-40		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:				

4-40	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m</p>					
4-41	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant m</p>					
	<p>anufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.</p>					
4-41	<p>PAINT SPECIFICATIONS</p>					
4-41	<p>Painting, etc.</p>					
4-41	<p>All painting shall be done in accordance with Plascon specifications unless otherwise described</p>					
4-41	<p>COLOURS</p>					
4-41	<p>Colours, etc.</p>					
4-41	<p>Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091</p>					
4-41	<p>PLASCON</p>					
4-41	<p>Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091</p>					
4-41	<p>The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification.</p> <p>All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified.</p> <p>Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint.</p>					

		All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc.				
		Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine				
4-42		ON EXTERNAL FLOATED PLASTER SURFACES				
4-42		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat Plascoll Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats Wall & All (WAA) with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.				
4-42	1	Walls	m ²	6.00		
4-42		ON WOOD SURFACES				
4-42		Two coats oil wood primer				
4-42	2	Backs of frames, linings, etc. not exceeding 300mm wide	m	5.00		
4-42		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated with 48 hours with e moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Wood Primer (UC 2) with an overcoating time of 16 hours and finish with two coats Velvagio Satin (VLO) with 16 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.				
4-42	3	Doors	m ²	4.00		
4-42	4	Door frames etc.	m ²	2.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO. 5 : EQUIPMENT STORE				
		BILL NO.1 : EARTHWORKS				
5-2		TRADE PREAMBLES				
5-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
5-2		EXCAVATION ETC				
5-2		Excavation in earth not exceeding 2m deep				
5-2	1	Reduced levels under floors	m ³	25.00		
5-2	2	Trenches	m ³	56.00		
5-2	3	Holes	m ³	3.00		
5-2	4	Excavation for working space to sides of ground beams for formwork and backfilling	m ²	223.00		
5-2		Extra over trench and hole excavations in earth for excavation in				
5-2	5	Soft rock	m ³	16.00		
5-2	6	Hard rock	m ³	8.00		
5-2		Extra over all excavations for carting away				
5-2	7	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	64.00		
5-2		Risk of collapse of excavations				
5-2	8	Sides of bulk excavations not exceeding 1,5m deep	m ²	223.00		
5-2		Keeping excavations free of water				
5-2	9	Keeping excavations free of all water other than subterranean water	Item	1.00		
5-3		FILLING ETC OTHER THAN BULK				
5-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)				
5-3	10	Backfilling to trenches, holes, etc.	m ³	20.00		
5-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density				
5-3	11	G5 Under floors, paving, etc.	m ³	26.00		
5-3	12	G7 Under floors, paving, etc.	m ³	26.00		
5-3		Coarse river sand filling supplied by the contractor				
5-3	13	Under floors etc.	m ³	8.00		
5-3		Compaction of surfaces				
5-3	14	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	213.00		
5-3		Density Tests:				
5-3	15	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00		

5-3		SOIL POISONING					
5-3		Soil insecticide in accordance with SANS 5859					
5-3	16	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	213.00			
5-3		TRADE PREAMBLES					
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
5-5		TRADE PREAMBLES					
5-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-5		Cost of tests					
5-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
5-5		Breeze concrete					
5-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
5-5		Lightweight concrete					
5-5		Lightweight concrete shall have a density of 600kg/m3 for the top 50mm and 400kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
5-6		Formwork					

5-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use				
5-6		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				
5-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
5-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
5-6		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				
5-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
5-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
5-6		20MPa/19mm concrete				
5-6	1	Surface blinding under footings and bases	m ³	2.00		
5-6		REINFORCED CONCRETE CAST ON/IN FORMWORK				
5-6		25MPa/19mm concrete				
5-6	2	Slabs including beams and inverted beams	m ³	4.00		
5-7		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
5-7		25MPa/19mm concrete				
5-7	3	Bases	m ³	2.00		
5-7	4	Ground beams	m ³	36.00		
5-7		REINFORCED CONCRETE				
5-7		25MPa/19mm concrete				
5-7	5	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	27.00		
5-7	6	Stub columns	m ³	2.00		

5-7		TEST CUBES				
5-7		Test cubes				
5-7	7	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	3.00		
5-7		CONCRETE SUNDRIES				
5-7		Finishing top surfaces of concrete smooth with a steel trowel				
5-7	8	Surface beds, slabs, etc.	m ²	144.00		
5-7		Finishing top surfaces of concrete with a sponge roll				
5-7	9	Pavings to falls	m ²	68.00		
5-7	10	Grout solid under steel base plates	No	9.00		
5-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
5-7		Rough formwork to sides				
5-7	11	Strip footings, bases etc. (Provisional)	m ²	51.00		
5-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
5-7		Smooth formwork to sides				
5-7	12	Ground beams	m ²	257.00		
5-7	13	Rectangular stub columns	m ²	16.00		
5-7	14	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	27.00		
5-7		Smooth formwork to soffits				
5-7	15	Slabs	m ²	13.00		
5-8		MOVEMENT JOINTS ETC				
5-8		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces				
5-8	16	10mm Joints between ground beams	m ²	34.00		
5-8	17	10mm Joints not exceeding 150mm high.	m	27.00		
5-8		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed				
5-8	18	Not exceeding 300mm wide	m	17.00		
5-8		Saw-cut joints				
5-8	19	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	21.00		
5-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
5-8		High tensile steel reinforcement to structural concrete work				

5-8	20	10mm Diameter bars	Tonnes	0.99			
5-8	21	12mm Diameter bars	Tonnes	0.61			
5-8	22	16mm Diameter bars	Tonnes	0.07			
5-8		Fabric reinforcement					
5-8	23	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	213.00			
		Bill Total					0.00
		BILL NO.3 : PRECAST CONCRETE					
5-10		TRADE PREAMBLES					
5-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
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5-10		PRECAST CONCRETE WINDOW SURROUNDS					
5-10		Winblok modular precast concrete window surrounds etc. finished smooth on exposed surfaces, including bedding, jointing and pointing					
5-10	1	317 x 317 x 100mm concrete decorative grille blocks.	No	8.00			
5-10		PRECAST CONCRETE PAVING					
5-10		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing					
5-10	2	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corng 813 sealant	m	46.00			
5-10	3	Extra for end	No	2.00			
5-10	4	Extra for angle	No	2.00			
		Bill Total					0.00
		BILL NO.4 : MASONRY					
5-11		TRADE PREAMBLES					

5-11		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
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5-11		SUPPLEMENTARY PREAMBLES				
5-11		BRICKWORK				
5-11		Sizes in descriptions				
5-11		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				
5-11		Hollow walls				
5-11		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				
5-11		Bagged and sealed walls				
5-11		User Note - The following preamble generally applies for works in hot and humid coastal areas				
5-11		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				
5-11		Face bricks				
5-11		Bricks shall be ordered timeously to obtain uniformity in size and colour				
5-12		Pointing				
5-12		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
5-12		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
5-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
5-12	1	Half brick walls in lining to concrete ground beams	m ²	31.00		
5-12		BRICKWORK IN SUPERSTRUCTURE				
5-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
5-12	2	Half brick walls in beamfilling	m ²	32.00		
5-12	3	One brick walls	m ²	236.00		

5-12	4	One brick walls in fire walls	m ²	43.00		
5-12	5	One brick walls bagged and sealed	m ²	51.00		
5-12		BRICKWORK SUNDRIES				
5-12		Sundries				
5-12	6	Raking cutting brickwork	m ²	10.00		
5-12	7	Bed roofing solid in cement mortar.	m ²	10.00		
5-12		Joint forming material in movement joints				
5-12	8	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	12.00		
5-12		2,5mm Brickwork reinforcement				
5-12	9	150mm Wide reinforcement built in horizontally	m	1 427		
5-12		High tensile steel reinforcement to structural brick work				
5-12	10	8mm Diameter bars	Tonnes	0.08		
5-12		Prestressed fabricated concrete lintels including necessary temporary supports				
5-12	11	230 x 75mm Lintels in lengths not exceeding 3m	m	30.00		
5-12		Galvanised wire ties etc.				
5-12	12	4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and other end fixed to timber	No	68.00		
5-12	13	Door cramps with one end built into brickwork and other end fixed to timber	No	54.00		
5-13		Air bricks etc.				
5-13	14	229 x 76mm Clay vermin proof air brick including opening through half brick beamfilling	No	120.00		
5-13	15	229 x 150mm Clay vermin proof air brick including opening through one brick wall	No	16.00		
5-13		FACE BRICKWORK				
5-13		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.				
5-13	16	Extra over brickwork in NFX bricks for face brickwork	m ²	243.00		
5-13	17	Extra over brickwork for face brickwork in roller courses	m	65.00		
5-13		Brick-on-edge header course copings, sills, etc. of Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face bricks, pointed with flush joints on all exposed faces				
5-13	18	210mm Wide sills set level and slightly projecting	m	10.00		
5-13		FIBRE-CEMENT WINDOW SILLS				

5-13		Everite Nutec' fibre cement windows cills to suite window Size, internally, in single lengths not exceeding 3600mm, set flat and slightly projecting beded in class 1 mortar and including fixing lugs screwed to underside with self tapping screws					
5-13	19	150 x 15mm Wide sills set flat and slightly projecting	m	10.00			
		Bill Total					0.00
		BILL NO.5 : WATERPROOFING					
5-15		TRADE PREAMBLES					
5-15		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
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5-15		SUPPLEMENTARY PREAMBLES					
5-15		Waterproofing					
5-15		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs					
5-15		DAMPPROOFING OF WALLS AND FLOORS					
5-15		One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)					
5-15	1	In walls	m ²	19.00			
5-15		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape					
5-15	2	Under surface beds and ground beams	m ²	358.00			
5-15		Two coats bitumen emulsion waterproof coating					
5-15	3	On concrete ground beams	m ²	31.00			
5-15		SEALING STRIPS, JOINT SEALANTS, ETC					
5-15		ABE Epoflex 800 sealing compound and Samseal EP 265 final sealant (filler) application					
5-15	4	6 x 10mm In saw cut joints in floors.	m	21.00			
5-16	5	10 x 30mm In expansion joints in floors including raking out filler as necessary.	m	32.00			

5-16		Prostruct 649 sealing compound including backing cord, bond breaker, primer, etc.					
5-16	6	10 x 20mm In vertical expansion joints including raking out expansion joint filler as necessary.	m	24.00			
		Bill Total					0.00
		BILL NO.6 : ROOF COVERINGS					
5-18		TRADE PREAMBLES					
5-18		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-18		PROFILED METAL SHEETING AND ACCESSORIES					
5-18		SUPPLEMENTARY PREAMBLES					
5-18		Cutting of sheets:					
5-18		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish					
5-18		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.					
5-18	1	Roof covering with pitches not exceeding 25 degrees	m ²	270.00			
5-18	2	Turn up troughs at apex	m	71.00			
5-18	3	Turn up troughs at hips	m	36.00			
5-18	4	Turn down troughs at eaves	m	98.00			
5-18		Ridge Cap					
5-18	5	Safintra 30 x 462mm girth SAFLOK 70C Dove Grey Chromadek ISQ550 ridge cap with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufacturer's recommendations	m	22.00			
5-19	6	Extra for intersection of ridge with two hips including soaker	No	2.00			
5-19		SHEET METAL FLASHINGS, LININGS, COPINGS, ETC					

5-19		Safintra 0.8mm thick SAFLOK 700 Grey Chromadek flashings complete with polyclosers.				
5-19	7	Eaves closer.	m	69.00		
5-19	8	Hip capping.	m	18.00		
5-19	9	Gutter flashing.	m	69.00		
5-19	10	Extra for hip finial	No	4.00		
5-19		Sisalation				
5-19	11	Sisalation FR 430 Fire retardant industrial grade reinforced aluminium foil insulation double sided, durable, reflective foil laminate incorporating a fire retardant between the various substrates, bonded together with low density polyethylene, tested for conformance with SANS 1381-4: 2009, with a Class 1 fire rating in accordance with SNAS 10177 - 3: 2005 and ASTM E84 and BS 476 part 5, 6 and 7, with purlins spaced at greater than 1500mm centres drawn tautly across rafters with purlins spaced at greater than 1500mm centres and secured to each rafter with 38mm x 3,2mm x 1100mm hardboard counter bottom strips positioned flush with the bottom edge of the material thus leaving 150mm (f) overlap exposed at the top for the next layer and 150mm overlap thereafter on each 1250mm width roll.	m ²	270.00		
		Bill Total				0.00
		BILL NO.7 : CARPENTRY AND JOINERY				
5-21		TRADE PREAMBLES				
5-21		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
5-21		SUPPLEMENTARY PREAMBLES				
5-21		Fixing				
5-21		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
5-21		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
5-21		Joinery				

5-21		Descriptions of frames shall be deemed to include frames, transomes, rails, etc.				
5-21		Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts				
5-21		Decorative thermosetting plastic laminate covering				
5-21		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
5-22		ROOFS ETC				
5-22		SA Pine				
5-22	1	Prefabricated Gangnail double pitched timber roof truss construction to suit building size overall 27.38 x 5.26m x 2.000m high max, designed and installed with 500mm eaves overhang all around with ridge, hip and valley trusses, temporary and permanent bracing, trimmers, hangers, fixings, etc. (purlins elsewhere measured) and hoist and fix in position approximately 3.00m above ground level. (Gross overall area on flat 144m2 - excluding eaves overhang)	Item	1.00		
5-22	2	Provide and install permanent harness anchor system similar to the Travsafe life line System by Phakamisa Industries	Item	1.00		
5-22	3	38 x 114mm Wall plates	m	65.00		
5-22	4	50 x 76mm purlins	m	471.00		
5-22	5	Mitek Eco galvanised steel purlin clips	No	402.00		
5-22		EAVES, VERGES, ETC				
5-22		Fibre-cement plain ceiling boards				
5-22	6	Everite Nutec 6mm thick plain eaves soffit boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and top of rafters using 32 x 2,5mm serrated ceiling nails. All in accordance with the manufacturer's recommendations.	m ²	34.00		
5-22		SouthPro' uPVC fascia's and bargeboards				
5-22	7	225 x 9mm Thick fascia in 6m lengths wih uPVC connectors, fixed with and including 12 x 40mm countersunk brass screws capped with PVC covers at Maximum 800mm centres	m	69.00		
5-22	8	Extra over for PVC H-profile fascia corner joiner	No	4.00		
5-22		SKIRTINGS				
5-22		Meranti				
5-22	9	75 x 19mm skirting boards with 19mm dia .quadrant trim nailed to wall at 500mm c/c with 32mm steel nails. All nails to be punched and filled.	m	15.00		
5-23		DOORS				
5-23		Swartland Cape Culture (10 Year Guarantee) Doors				

5-23	10	44 x 1612 x 2030mm high Swartland SD2/1612 framed ledged, braced and battern double door in two leaves to Architect's specification	No	1.00			
5-23		FRAMED FRAMES ETC					
5-23		Swartland Cape Culture (10 Year Guarantee) Frames					
5-23	11	70 x 90mm CODE SK 3 NS (1724mm) hardwood rebated, moulded, grooved and weathered door frame for double door size 1612 x 2030mm high	No	1.00			
5-23		BEADS, ARCHITRAVES, ETC					
5-23		Wrought softwood					
5-23	12	19mm quadrant beads	m	12.00			
5-23		FITTINGS					
5-23		Shelving and Hangers					
5-23	13	Store Hangers to Architect's Drawing No. 1214/WD/065 Rev A	No	1.00			
5-23		Desks					
5-23	14	Storeman's Office Desk to Architect's Drawing No. 1214/WD/015 Rev A	No	1.00			
		Bill Total					0.00
		BILL NO.8 : CEILINGS PARTITIONS AND ACCESS FLOORING					
5-25		TRADE PREAMBLES					
5-25		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-25		SUPPLEMENTARY PREAMBLES					
5-25		Fixing					
5-25		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete					
5-25		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere					
5-25		Ceilings					

5-25		Unless otherwise described ceilings shall be deemed to be horizontal				
5-25		Bulkheads				
5-25		Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
5-25		Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 900mm. Where these dimensions are more than 900mm such portions of ceilings have been included in the appropriate general items of ceilings				
5-26		Unless otherwise described bulkheads shall be deemed to be horizontal along the length				
5-26		User Note - Circular bulkheads shall be given separately				
5-26		Steel components				
5-26		All steel components for ceilings, partitions, etc. are to be galvanised in accordance with SANS 121				
5-26		NAILED-UP CEILINGS				
5-26		SUPPLEMENTARY PREAMBLES				
5-26		Gypsum plasterboard				
5-26	1	Gyproc 6,4mm RhinoCeil Value gypsum flush plastered ceiling with square edged Rhinoboard fixed print side up with 32mm galvanised clout or semi-clout nails at 150mm centers to and including 38 x 50mm (with 50mm dimension vertical) SA Pine branding at 300mm centres in one direction. All joints to be covered with Rhinotope fixed over joints (double over butt joints) end then plastered with 3mm to 6mm thick Rhinolite gypsum skim plaster, all fixed to trusses at centres exceeding 1000mm, not exceeding 1200mm in accordance with the manufacturers recommendations.	m ²	15.00		
5-26	2	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00		
5-26		Fibre-cement plain ceiling boards				
5-26	3	Everite Nutec 6mm thick plain ceiling boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and including 38 x 50mm battens at 600mm centres using 32 x 2,5mm serrated ceiling nails at 1500mm centres, minimum of 12mm from edge of board. All joints to be covered using H-profile steel jointing strips, all in accordance with the manufacturer's recommendations.	m ²	93.00		
5-26	4	Extra over ceiling for forming 600 x 600mm trapdoor	No	6.00		
5-26		Gypsum plasterboard cornices				

5-26	5	Lafarge GypsJm Gaudi Nucornice polystyrene cornice, overall size 55 x 55mm high, fixed to wall and ceiling using an approved water-based adhesive and appropriate nail fixing where necessary, filling all fixing holes with an approved acrylic sealant, all in accordance with the manufacturers recommendations.	m	112.00		
5-26		Insulation				
5-26	6	Brits Insulation Systems Isotherm 100mm thick polyester thermal insulation (density 10kg/m) laid over ceiling brandering closely fitted between rafters	m ²	108.00		
		Bill Total				0.00
		BILL NO.9 : IRONMONGERY				
5-28		TRADE PREAMBLES				
5-28		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
5-28		SUPPLEMENTARY PREAMBLES				
5-28		Proprietary items				
5-28		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc. clarifying the features of the products/articles offered On request returnable samples are to be provided to the principal agent for consideration				
5-28		Finishes to ironmongery				
5-28		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AN Anodised natural AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
5-28		IRONMONGERY				
5-28		Set 1 - D6				
5-28	1	Dorma DBB-SS-009 102 X 75 X 3mm stainless steel two ball bearing butt hinge	No	6.00		

5-29	2	Dorma TH120 stainless steel lever handles on rose without escutcheons.	No	1.00			
5-29	3	Dorma DO36S euro-profile cylinder sash lock SS.	No	1.00			
5-29	4	Dorma DO38R Rebate conversion kit for euro-profile locks SS.	No	1.00			
5-29	5	Dorma DKC106501 nickel plated 65 ten pin masterkey euro profile master-keyed knob cylinder.	No	1.00			
5-29	6	Dorma DCE-002 stainless steel euro-profile escutcheon.	No	2.00			
5-29	7	Dorma DFB-SS-027/160mm stainless steel flush bolt.	No	2.00			
5-29	8	Dorma DPS-SS-032 stainless steel dust prof socket.	No	1.00			
5-29	9	Halstead 166 cabin hook 150mm	No	2.00			
		Bill Total					0.00
		BILL NO.10 : STRUCTURAL STEELWORK					
5-31		TRADE PREAMBLES					
5-31		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-31		SUPPLEMENTARY PREAMBLES					
5-31		Descriptions					
5-31		Descriptions of bolts shall be deemed to include nuts and washers					
5-31		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete					
5-31		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete					
5-31		GALVANISED STEEL COLUMNS AND BEAMS					
5-31		Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete					
5-31	1	203 x 203 x 46mm x 46.1kg/m H-section Universal columns	Tonnes	1.04			
5-31	2	350 x 350 18mm Base plate with six 16mm diameter bolt holes	No	9.00			

5-31		Welded beams in single lengths with flat bearer and connection plates, bolted to steel					
5-31	3	IPE 160 x 15.8kg/m I-section Universal beams	Tonnes	0.36			
5-31	4	308 x 150 x 10mm plate with two 14mm diameter bolt holes welded to beams	No	9.00			
5-32	5	500 x 150mm haunch cut from IPE160 I-Section welded to beams	No	9.00			
5-32		BOLTS, FASTENERS, ETC					
5-32		Bolts and fasteners					
5-32	6	M16 Grade 8.8 bolts cast into concrete	No	36.00			
5-32	7	M12 Grade 8.8 bolts fixed to steel	No	54.00			
5-32	8	Provide and install permanent harness anchor system similar to Transafe Life line system by Phakamisa Industries	Item	1.00			
5-32		PAINTING					
5-32		Surface to be dry, sound and clean. Apply Plascon Galvanised Iron Clearer (GIC 1) to all bare galvanised areas Allow to react for 1 minute and rinse off with tap water using bristle brush or Scotch Brite pads to remove 01 surface contaminants. until surface is water break-free. Prime with one coat Glatex 8 Metal Primer (FL 3) with an overcoating time of 8 hours and finish with two coats Glatex 8 (PL) colour Black with 16 hours drying time between coats, for maintenance cycle of 10 years in a C3 - industrial environment					
5-32	9	On structural galvanised steel columns, beams, etc.	m ²	29.00			
		Bill Total					0.00
		BILL NO.11 : METALWORK					
5-34		TRADE PREAMBLES					
5-34		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-34		SUPPLEMENTARY PREAMBLES					
5-34		Descriptions of bolts, anchors, etc.					
5-34		Descriptions of bolts shall be deemed to include nuts and washers					

5-34		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete					
5-34		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described					
5-34		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres					
5-34		Aluminium doors, windows, etc.					
5-34		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to be issued separately with these bills of quantities					
5-35		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively					
5-35		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years					
5-35		PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES					
5-35		Pressed Steel doors including frames					
5-35	1	Type BV door 914 x 2134mm high with factory fitted louvre panel with vernim proof with rebated frame suitable for one brick wall	No	2.00			
5-35	2	Type MV door 1524 x 2134mm high with factory fitted louvre panel with vernim proof with rebated frame suitable for one brick wall	No	1.00			
5-35	3	Type MV door 1524 x 2134mm high with rebated frame suitable for one brick wall	No	2.00			
5-35		ALUMINIUM WINDOWS, DOORS, ETC. (CPAP WORK GROUP NO. 140)					

5-35		Black Powder coated casement window units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete				
5-35	4	Purpose made window, 1200 x 600mm high window with 600mm top hung aluminium opening section to Architect's Drawing. W1	No	4.00		
5-35	5	Purpose made window, 1800 x 600mm high window in two (2) equal sections to Architect's Drawing. W2	No	3.00		
5-36		ALUMINIUM SHOPFRONTS (CPAP WORK GROUP NO. 149)				
5-36		Black Powder coated casement shopfront units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete				
5-36	6	Purpose made single door, size 2125 x 900mm high to Architect's Drawing (D1)	No	1.00		
5-36		STEEL ROLLER SHUTTERS ETC				
5-36		Galvanised steel roller shutters with 76mm slats (18kg/m ²), fixed to brickwork or concrete				
5-36	7	Chain operated slatted roller shutter for 2400 x 2100mm high opening (D2)	No	1.00		
		Bill Total				0.00
		BILL NO.12 : PLASTERING				
5-38		TRADE PREAMBLES				
5-38		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
5-38		SUPPLEMENTARY PREAMBLES				
5-38		User Note - The following preambles are to be included only when specifically required by the principal agent				
5-38		Method				
5-38		The method to be used shall be either the monolithic method or the bonded method				
5-38		Preparation				

5-38	For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.					
5-38	Mix					
5-38	Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.					
5-39	Panels					
5-39	Granolithic shall be laid in panels not exceeding 14m ² for monolithic finishes, not exceeding 9,5m ² for bonded finishes and not exceeding 6m ² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.					
5-39	Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints					
5-39	Laying					
5-39	Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels					
5-39	Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels					
5-39	After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated					
5-39	Curing, seasoning and protection					
5-39	Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.					
5-39	Colour					
5-39	Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.					
5-39	SCREEDS					

5-39		Sponge rolled concrete surface layer finished with a.b.e Construction Chemicals obecoate 400 hi-build solvent free hi-build epoxy floor system and comprising resin, hardner, filler and pigment paste and obecote WD 337 for concrete surfaces and abecote 384 for metal surfaces, all in accordance with the manufacturer's instructions					
5-39	1	25mm Thick on floors and landings	m ²	121.00			
5-39		Screeds steel trowelled, on concrete					
5-39	2	25mm Thick (average) to floors	m ²	82.00			
5-40		INTERNAL PLASTER					
5-40		Cement plaster steel trowelled, on brickwork					
5-40	3	On walls	m ²	409.00			
5-40	4	On narrow widths	m ²	8.00			
5-40		Cement plaster steel trowelled, on concrete					
5-40	5	On ceilings	m ²	13.00			
5-40		Sundries					
5-40	6	230 x 150mm cast plaster air grating	No	16.00			
		Bill Total					0.00
		BILL NO.13 : PLUMBING AND DRAINAGE					
5-42		TRADE PREAMBLES					
5-42		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-42		RAINWATER DISPOSAL					
5-42		Watertite Guttering commercial and industrial Square profile aluminium H3003h 14 seamless gutter, coated internally and externally with ColourTech G4 in colour Marble White with matching splash-plate including cut and mitred angles covered with a mitre externally, secured to metal roof sheets with 25 x 2.5mm L-Shaped and 20 x 3mm dual-purpose brackets at 600mm centres using aluminium pop rivets, including expanded aluminium mesh leaf guard set over gutter, accessories sealed inside with Dow Coming 813 silicone sealer					
5-42	1	140 x 150 x 0.90mm thick roof gutters	m	66.00			

5-42	2	Extra over gutter for angle	No	4.00			
5-42	3	Extra over gutter for outlet for pipe	No	6.00			
5-42	4	78 x 78 x 2mm thick aluminium downpipe in fixed to wall with and including straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets	m	26.00			
5-42	5	Extra over rainwater pipe for bend	No	12.00			
5-42	6	Extra over rainwater pipe for shoe	No	6.00			
		Bill Total					0.00
		BILL NO.14 : PAINTWORK					
5-43		TRADE PREAMBLES					
5-43		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
5-43		SUPPLEMENTARY PREAMBLES					
5-43		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:					
5-43		Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m ² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m ² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m					

5-44	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant manufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.</p>					
5-44	PAINT SPECIFICATIONS					
5-44	Painting, etc.					
5-44	All painting shall be done in accordance with Plascon specifications unless otherwise described					
5-44	COLOURS					
5-44	Colours, etc.					
5-44	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
5-44	PLASCON					
5-44	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
5-44	The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification.					
	<p>All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified.</p> <p>Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint.</p> <p>All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc.</p> <p>Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine</p>					
5-45	ON INTERNAL FLOATED PLASTER SURFACES					

5-45		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat Plascoll Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats Wall & All (WAA) with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.				
5-45	1	Walls	m ²	417.00		
5-45	2	Ceilings and beams	m ²	13.00		
5-45		ON INTERNAL GYPSUM PLASTER SURFACES				
5-45		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Professional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Professional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment				
5-45	3	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	15.00		
5-45		ON FIBRE-CEMENT BOARD SURFACES				
5-45		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Professional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Professional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment				
5-45	4	Eaves soffit linings	m ²	34.00		
5-45	5	Fascias	m ²	21.00		
5-45	6	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	93.00		
5-45	7	Cills	m ²	2.00		
5-46		ON METAL SURFACES				
5-46		One coat alkyd based zinc phosphate primer and two coats premium quality polyurethane enamel paint, on steel				
5-46	8	Doors	m ²	26.00		
5-46	9	Frames	m ²	7.00		
5-46		ON WOOD SURFACES				
5-46		Two coats oil wood primer				
5-46	10	Backs of frames, linings, etc. not exceeding 300mm wide	m	6.00		

5-46		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated with 48 hours with moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Wood Primer (UC 2) with an overcoating time of 16 hours and finish with two coats Velvagio Satin (VLO) with 16 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.				
5-46	11	Doors	m ²	73.00		
5-46	12	Door frames etc.	m ²	2.00		
5-46	13	Roof timbers at eaves and verges	m ²	8.00		
5-46	14	Skirtings, rails, etc. not exceeding 300mm girth	m	15.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO. 6 : LADDER RACK				
		BILL NO.1 : EARTHWORKS				
6-2		TRADE PREAMBLES				
6-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
6-2		EXCAVATION ETC				
6-2		Excavation in earth not exceeding 2m deep				
6-2	1	Reduced levels under floors	m ³	13.00		
6-2	2	Holes	m ³	12.00		
6-2		Extra over trench and hole excavations in earth for excavation in				
6-2	3	Soft rock	m ³	8.00		
6-2	4	Hard rock	m ³	4.00		
6-2		Extra over all excavations for carting away				
6-2	5	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	21.00		

6-2		Risk of collapse of excavations					
6-2	6	Sides of bulk excavations not exceeding 1,5m deep	m ²	48.00			
6-2		Keeping excavations free of water					
6-2	7	Keeping excavations free of all water other than subterranean water	Item	1.00			
6-3		FILLING ETC OTHER THAN BULK					
6-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)					
6-3	8	Backfilling to trenches, holes, etc.	m ³	4.00			
6-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density					
6-3	9	G5 Under floors, paving, etc.	m ³	7.00			
6-3	10	G7 Under floors, paving, etc.	m ³	14.00			
6-3	11	19mm crushed stone	m ³	3.00			
6-3		Coarse river sand filling supplied by the contractor					
6-3	12	Under floors etc.	m ³	3.00			
6-3		Compaction of surfaces					
6-3	13	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	46.00			
6-3		Density Tests:					
6-3	14	Additional Mod AASHTO density tests as instructed by Engineer.	No	4.00			
6-3		SOIL POISONING					
6-3		Soil insecticide in accordance with SANS 5859					
6-3	15	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	46.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
6-5		TRADE PREAMBLES					
6-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

	Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
	The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
6-5	Cost of tests					
6-5	The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
6-5	Breeze concrete					
6-5	Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
6-5	Lightweight concrete					
6-5	Lightweight concrete shall have a density of 600kg/m3 for the top 50mm and 400kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
6-6	Formwork					
6-6	Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use					
6-6	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					
6-6	Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described					
6-6	Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described					

6-6		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				
6-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
6-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
6-6		20MPa/19mm concrete				
6-6	1	Surface blinding under footings and bases	m ³	1.00		
6-6		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
6-6		25MPa/19mm concrete				
6-6	2	Bases	m ³	3.00		
6-7		REINFORCED CONCRETE				
6-7		25MPa/19mm concrete				
6-7	3	Stub columns	m ³	1.00		
6-7		TEST CUBES				
6-7		Test cubes				
6-7	4	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	3.00		
6-7		CONCRETE SUNDRIES				
6-7		Finishing top surfaces of concrete with a sponge roll				
6-7	5	Grout solid under steel base plates	No	8.00		
6-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
6-7		Rough formwork to sides				
6-7	6	Bases	m ²	10.00		
6-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
6-7		Smooth formwork to sides				
6-7	7	Stub columns	m ²	5.00		
6-7		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
6-7		High tensile steel reinforcement to structural concrete work				

6-7	8	10mm Diameter bars	Tonnes	0.06			
6-7	9	16mm Diameter bars	Tonnes	0.39			
		Bill Total					0.00
		BILL NO.3 : ROOF COVERINGS					
6-9		TRADE PREAMBLES					
6-9		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
6-9		PROFILED METAL SHEETING AND ACCESSORIES					
6-9		SUPPLEMENTARY PREAMBLES					
6-9		Cutting of sheets:					
6-9		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish					
6-9		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.					
6-9	1	Roof covering with pitches not exceeding 25 degrees	m ²	61.00			
6-9	2	Vertical cladding	m ²	44.00			
6-9	3	Bend roofing over vertical cladding	m	22.00			
6-9	4	Drip flashing	m	22.00			
6-9		Safintra 30 x 462mm girth SAFLOK 70C Dove Grey Chromadek ISQ550 ridge cap with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufacturer's recommendations					
6-9	5	Ridge Cap	m	11.00			
		Bill Total					0.00
		BILL NO.4 : STRUCTURAL STEELWORK					

6-10		TRADE PREAMBLES				
6-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
6-10		SUPPLEMENTARY PREAMBLES				
6-10		Descriptions				
6-10		Descriptions of bolts shall be deemed to include nuts and washers				
6-10		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
6-10		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
6-10		GALVANISED STEEL COLUMNS AND BEAMS				
6-10		Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete				
6-10	1	IPE 140 x 12.9kg/m I-section Universal columns	Tonnes	0.52		
6-10	2	PC 100 x 50 x 10.1kg/m channels	Tonnes	0.62		
6-10	3	250 x 150 x 12mm Base plate with four 12mm diameter bolt holes	No	8.00		
6-10		Welded beams in single lengths with flat bearer and connection plates, bolted to steel				
6-10	4	IPE 140 x 12.9kg/m I-section Universal beams	Tonnes	0.26		
6-10	5	73 x 150 x 10mm end plate with four 12mm diameter bolt holes welded to beams	No	8.00		
6-11	6	73 x 180 x 8mm end plate with two 12mm diameter bolt holes welded to beams	No	16.00		
6-11	7	73 x 185 x 8mm end plate with two 12mm diameter bolt holes welded to beams	No	8.00		
6-11	8	73 x 190 x 10mm end plate with six 12mm diameter bolt holes welded to beams	No	8.00		
6-11	9	178 x 45mm haunch cut from IPE140 I-Section welded to beams	No	8.00		
6-11		STEEL PURLINS, GIRTS, BRACING, ETC				
6-11		Purlins and girts, bolted to steel				

6-11	10	150 x 75 x 20 x 2.5mm x 6.31kg/m cold-formed lipped channels	Tonnes	0.41			
6-11	11	50 x 50 x 5mm x 3.77kg/m angle iron cross bracing	Tonnes	0.06			
6-11		BOLTS, FASTENERS, ETC					
6-11		Bolts and fasteners					
6-11	12	M10 Grade 4.8 bolts cast into concrete	No	32.00			
6-11	13	M10 Grade 4.8 bolts fixed to steel	No	672.00			
6-11		PAINTING					
6-11		Surface to be dry, sound and clean. Apply Plascon Galvanised Iron Clearer (GIC 1) to all bare galvanised areas Allow to react for 1 minute and rinse off with tap water using bristle brush or Scotch Brite pads to remove 01 surface contaminants. until surface is water break-free. Prime with one coat Glatex 8 Metal Primer (FL 3) with an overcoating time of 8 hours and finish with two coats Glatex 8 (PL) colour Black with 16 hours drying time between coats, for maintenance cycle of 10 years in a C3 - industrial environment					
6-11	14	On structural galvanised steel columns, beams, etc.	m ²	29.00			
		Bill Total					0.00
		BILL NO.5 : PROVISIONAL SUMS					
6-13		TRADE PREAMBLES					
6-13		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
6-13		SUPPLEMENTARY PREAMBLES					
6-13		General					
6-13		Work for which budgetary allowances are provided will be measured and valued in accordance with clause 32 of the Principal Building Agreement and deducted in whole or in part if not required without any compensation for loss or profit on the said allowances					
6-13		Prime cost amounts and provisional sums are net. Prime cost amounts include for delivery to site of all articles concerned Provisional sums are for material and equipment supplied and installed complete by firms of specialists					
6-13		Profit					

6-13		Where stated, the contractor may allow for profit if required				
6-13		General attendance on nominated/selected subcontractors				
6-13		The item 'Attendance' which follows each provisional sum for nominated/selected subcontractors' work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the nominated/selected subcontractors, the following:				
6-13		1 The services as set out in clause B9.1 of the Preliminaries 2 Making good in all trades and cleaning down and removal of rubbish on completion				
6-13		Special attendance on nominated/selected subcontractors				
6-13		Where stated special attendance will be described in detail in the Schedule for Variables in the Preliminaries for the services as set out in clause B9.2				
6-13		Builder's work				
6-13		Builder's work in connection with specialist services is given elsewhere in these bills of quantities				
6-14		Ladder Roller Installation				
6-14	1	Provide the sum of R 20 000.00 (Twenty thousand Rand) for ladder roller installation	Item			
6-14	2	Profit	Item	1.00		
6-14	3	Attendance	Item	1.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO. 7 : BAY WASH				
		BILL NO.1 : EARTHWORKS				
7-2		TRADE PREAMBLES				
7-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-2		EXCAVATION ETC				

7-2		Excavation in earth not exceeding 2m deep					
7-2	1	Reduced levels under floors	m ³	7.00			
7-2	2	Trenches	m ³	5.00			
7-2	3	Holes	m ³	27.00			
7-2		Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density					
7-2	4	Not exceeding 500mm deep for placing and removing formwork to walls etc., 1500mm away from excavated face	m ²	44.00			
7-2		Extra over trench and hole excavations in earth for excavation in					
7-2	5	Soft rock	m ³	2.00			
7-2	6	Hard rock	m ³	2.00			
7-2		Extra over all excavations for carting away					
7-2	7	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	32.00			
7-2		Risk of collapse of excavations					
7-2	8	Sides of bulk excavations not exceeding 1,5m deep	m ²	105.00			
7-3		Keeping excavations free of water					
7-3	9	Keeping excavations free of all water other than subterranean water	Item	1.00			
7-3		FILLING ETC OTHER THAN BULK					
7-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)					
7-3	10	Backfilling to trenches, holes, etc.	m ³	7.00			
7-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density					
7-3	11	G5 Under floors, paving, etc.	m ³	6.00			
7-3	12	G7 Under floors, paving, etc.	m ³	6.00			
7-3		Coarse river sand filling supplied by the contractor					
7-3	13	Under floors etc.	m ³	2.00			
7-3		Compaction of surfaces					
7-3	14	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	49.00			
7-3		Density Tests:					
7-3	15	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00			
7-3		SOIL POISONING					

7-3		Soil insecticide in accordance with SANS 5859					
7-3	16	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	49.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
7-5		TRADE PREAMBLES					
7-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
7-5		Cost of tests					
7-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
7-5		Breeze concrete					
7-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
7-5		Lightweight concrete					
7-5		Lightweight concrete shall have a density of 600kg/m ³ for the top 50mm and 400kg/m ³ for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
7-6		Formwork					

7-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use				
7-6		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				
7-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
7-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
7-6		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				
7-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
7-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
7-6		20MPa/19mm concrete				
7-6	1	Surface blinding under footings and bases	m ³	1.00		
7-6		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
7-6		25MPa/19mm concrete				
7-6	2	Ground beams	m ³	6.00		
7-6	3	Bases	m ³	5.00		
7-7		REINFORCED CONCRETE				
7-7		25MPa/19mm concrete				
7-7	4	Surface beds cast in panels on waterproofing (elsewhere measured).	m ³	8.00		
7-7	5	In cavities	m ³	3.00		
7-7		TEST CUBES				
7-7		Test cubes				

7-7	6	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00			
7-7		CONCRETE SUNDRIES					
7-7	7	Grout solid under steel base plates	No	6.00			
7-7		Finishing top surfaces of concrete smooth with a steel trowel					
7-7	8	Surface beds, slabs, etc.	m ²	49.00			
7-7		Finishing top surfaces of concrete with a sponge roll					
7-7	9	Pavings to falls	m ²	49.00			
7-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)					
7-7		Rough formwork to sides					
7-7	10	Ground beams	m ²	55.00			
7-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)					
7-7		Smooth formwork to sides					
7-7	11	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	41.00			
7-7		MOVEMENT JOINTS ETC					
7-7		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces					
7-7		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces					
7-7	12	Not exceeding 300mm high to edges of surface beds	m	10.00			
7-7		Saw-cut joints					
7-7	13	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	10.00			
7-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
7-8		High tensile steel reinforcement to structural concrete work					
7-8	14	10mm Diameter bars	Tonnes	0.10			
7-8	15	12mm Diameter bars	Tonnes	0.14			
7-8	16	16mm Diameter bars	Tonnes	0.48			
7-8		Fabric reinforcement					
7-8	17	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	49.00			
		Bill Total					0.00

		BILL NO.3 : PRECAST CONCRETE				
7-10		TRADE PREAMBLES				
7-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-10		PRECAST CONCRETE PAVING				
7-10		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing				
7-10	1	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corng 813 sealant	m	22.00		
7-10	2	Extra for end	No	1.00		
7-10	3	Extra for angle	No	4.00		
7-10	4	Extra for junction	No	1.00		
		Bill Total				0.00
		BILL NO.4 : MASONRY				
7-11		TRADE PREAMBLES				
7-11		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-11		SUPPLEMENTARY PREAMBLES				
7-11		BRICKWORK				
7-11		Sizes in descriptions				
7-11		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				

7-11		Hollow walls				
7-11		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				
7-11		Bagged and sealed walls				
7-11		User Note - The following preamble generally applies for works in hot and humid coastal areas				
7-11		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				
7-11		Face bricks				
7-11		Bricks shall be ordered timeously to obtain uniformity in size and colour				
7-12		Pointing				
7-12		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
7-12		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
7-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
7-12	1	Half brick wall linings to ground beams	m ²	28.00		
7-12	2	Brick-on-edge header course copings	m	28.00		
7-12		BRICKWORK SUNDRIES				
7-12		Joint forming material in movement joints				
7-12	3	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	28.00		
7-12		2,5mm Brickwork reinforcement				
7-12	4	75mm Wide reinforcement built in horizontally	m	28.00		
		Bill Total				0.00
		BILL NO.5 : WATERPROOFING				
7-14		TRADE PREAMBLES				
7-14		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-14		SUPPLEMENTARY PREAMBLES				
7-14		Waterproofing				
7-14		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs				
7-14		DAMP-PROOFING OF WALLS AND FLOORS				
7-14		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape				
7-14	1	Under surface beds and ground beams	m ²	104.00		
7-14		Two coats bitumen emulsion waterproof coating				
7-14	2	On ground beams	m ²	15.00		
7-14		SEALING STRIPS, JOINT SEALANTS, ETC				
7-14		ABE Epoflex 800 sealing compound and Samseal EP 265 final sealant (filler) application:				
7-14	3	6 x 10mm In saw cut joints in floors.	m	10.00		
7-14	4	10 x 30mm In expansion joints in floors including raking out filler as necessary.	m	10.00		
		Bill Total				0.00
		BILL NO.6 : ROOF COVERINGS				
7-15		TRADE PREAMBLES				
7-15		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-15		PROFILED METAL SHEETING AND ACCESSORIES				
7-15		SUPPLEMENTARY PREAMBLES				
7-15		Cutting of sheets:				

7-15		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish					
7-15		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufocuturer's recommendations.					
7-15	1	Roof covering with pitches not exceeding 25 degrees	m ²	53.00			
7-15	2	Turn up troughs at apex	m	16.00			
7-15	3	Turn down troughs at eaves	m	16.00			
7-15	4	Bend end of sheets circular at eaves over vertical cladding	m	16.00			
7-16		Sarintra 0,58mm thick 700mm cover SAFLOK 700 Dove Grey Colorbond G550 interlocking wall cladding fixed to galvanised steel rails at 1200mm centres and top rails at 1020mm centres using galvanised SL 700 clips secured to rails with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufocuturer's recommendations.					
7-16	5	Vertical cladding	m ²	70.00			
7-16		Safintra 30 x 462mm girth SAFLOK 70C Dove Grey Chromadek ISQ550 ridge cap with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufocuturer's recommendations					
7-16	6	Ridge Cap	m	8.00			
		Bill Total					0.00
		BILL NO.7 : STRUCTURAL STEELWORK					
7-18		TRADE PREAMBLES					
7-18		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
7-18		SUPPLEMENTARY PREAMBLES					
7-18		Descriptions					
7-18		Descriptions of bolts shall be deemed to include nuts and washers					

7-18		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
7-18		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
7-18		GALVANISED STEEL COLUMNS AND BEAMS				
7-18		Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete				
7-18	1	IPE 160 x 15.8kg/m I-section Universal columns	Tonnes	0.47		
7-18	2	300 x 150 x 18mm Base plate with four 18mm diameter bolt holes	No	6.00		
7-18		Welded beams in single lengths with flat bearer and connection plates, bolted to steel				
7-18	3	IPE 160 x 15.8kg/m I-section Universal Universal beams	Tonnes	0.29		
7-18	4	270 x 82 x 10mm end plate (H2) with six 10mm diameter bolt holes welded to beams	No	6.00		
7-19	5	367 x 82 x 6mm end plate (H1) with six 10mm diameter bolt holes welded to beams	No	6.00		
7-19	6	390 x 45mm haunch cut from IPE160 I-Section welded to beams	No	6.00		
7-19	7	400 x 180mm haunch cut from IPE160 I-Section welded to beams	No	6.00		
7-19		STEEL PURLINS, GIRTS, BRACING, ETC				
7-19		Purlins and girts, bolted to steel				
7-19	8	150 x 75 x 20 x 2mm x 5.1kg/m cold-formed lipped channels	Tonnes	0.33		
7-19		BOLTS, FASTENERS, ETC				
7-19		Bolts and fasteners				
7-19	9	M12 Grade 4.8 bolts cast into concrete	No	24.00		
7-19	10	M12 Grade 4.8 bolts fixed to steel	No	18.00		
7-19	11	M10 Grade 4.8 bolts fixed to steel	No	36.00		
7-19		PAINTING				
7-19		Surface to be dry, sound and clean. Apply Plascon Galvanised Iron Clearer (GIC 1) to all bare galvanised areas Allow to react for 1 minute and rinse off with tap water using bristle brush or Scotch Brite pads to remove 01 surface contaminants. until surface is water break-free. Prime with one coat Glatex 8 Metal Primer (FL 3) with an overcoating time of 8 hours and finish with two coats Glatex 8 (PL) colour Black with 16 hours drying time between coats, for maintenance cycle of 10 years in a C3 - industrial environment				
7-19	12	On structural galvanised steel columns, beams, etc.	m ²	29.00		
		Bill Total				0.00

		BILL NO.8 : METALWORK					
7-21		TRADE PREAMBLES					
7-21		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
7-21		SUPPLEMENTARY PREAMBLES					
7-21		Descriptions of bolts, anchors, etc.					
7-21		Descriptions of bolts shall be deemed to include nuts and washers					
7-21		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete					
7-21		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described					
7-21		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres					
7-21		Aluminium doors, windows, etc.					
7-21		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type ? laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities (as described in the headings to window descriptions?). Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to (issued separately with?) these bills of quantities					
7-22		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively					

7-22		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years				
7-22		SUNDRY STEELWORK				
7-22		Steel Gratings				
7-22	1	340mm wide recto Grid over sump Type RS80 Mild Steel 40 x 4.5 Bearer Bar including angles both sides	m	4.00		
		Bill Total				0.00
		BILL NO.9 : PLASTERING				
7-24		TRADE PREAMBLES				
7-24		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-24		SUPPLEMENTARY PREAMBLES				
7-24		User Note - The following preambles are to be included only when specifically required by the principal agent				
7-24		Method				
7-24		The method to be used shall be either the monolithic method or the bonded method				
7-24		Preparation				
7-24		For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.				

7-24		Mix				
7-24		Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.				
7-25		Panels				
7-25		Granolithic shall be laid in panels not exceeding 14m\`b2 for monolithic finishes, not exceeding 9,5m\`b2 for bonded finishes and not exceeding 6m\`b2 for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.				
7-25		Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints				
7-25		Laying				
7-25		Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels				
7-25		Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels				
7-25		After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated				
7-25		Curing, seasoning and protection				
7-25		Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.				
7-25		Colour				
7-25		Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.				
7-25		EXTERNAL PLASTER				
7-25		Cement plaster wood floated, on brickwork				
7-25	1	On walls	m ²	28.00		
7-25	2	Weathering 110mm wide in short lengths to top of projecting wall stiffers	m	28.00		
		Bill Total				0.00

BILL NO.10 : PLUMBING AND DRAINAGE				
7-27		TRADE PREAMBLES		
7-27		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications		
7-27		RAINWATER DISPOSAL		
7-27		Watertite Guttering commercial and industrial Square profile aluminium H3003h 14 seamless gutter, coated internally and externally with ColourTech G4 in colour Marble White with matching splash-plate including cut and mitred angles covered with a mitre externally, secured to metal roof sheets with 25 x 2.5mm L-Shaped and 20 x 3mm dual-purpose brackets at 600mm centres using aluminium pop rivets, including expanded aluminium mesh leaf guard set over gutter, accessories sealed inside with Dow Coming 813 silicone sealer		
7-27	1	140 x 150 x 0.90mm thick roof gutters	m	16.00
7-27	2	Extra over gutter for outlet for pipe	No	4.00
7-27	3	Extra over gutter for stopped end	No	2.00
7-27	4	78 x 78 x 2mm thick aluminium downpipe in fixed to wall with and including straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets	m	10.00
7-27	5	Extra over rainwater pipe for shoe	No	4.00
7-27		TRAPS ETC		
7-27		Rofo		
7-27	6	RO 200 V (H) NW 100 stainless steel floor trap with grating	No	1.00
7-28		SANITARY PLUMBING		
7-28		uPVC pipes		
7-28	7	110mm Pipes to sludge trap	m	6.00
7-28		FIRE APPLIANCES ETC		
7-28		Hose reels, etc.		
7-28	8	4,5Kg DCP fire extinguisher and bracket bolted on.	No	1.00
7-28	9	9Kg DCP fire extinguisher and bracket bolted on.	No	1.00
		Bill Total		0.00

		BILL NO.11 : PAINTWORK				
7-30		TRADE PREAMBLES				
7-30		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
7-30		SUPPLEMENTARY PREAMBLES				
7-30		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:				
7-30		Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m ² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m ² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m				
7-31		Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m ² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m ² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant m anufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.				
7-31		PAINT SPECIFICATIONS				
7-31		Painting, etc.				

7-31		All painting shall be done in accordance with Plascon specifications unless otherwise described				
7-31		COLOURS				
7-31		Colours, etc.				
7-31		Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091				
7-31		PLASCON				
7-31		Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091				
7-31		The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification. All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified. Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint. All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc. Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine				
7-32		ON INTERNAL FLOATED PLASTER SURFACES				
7-32		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat Plascoll Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats Wall & All (WAA) with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.				
7-32	1	Walls	m ²	28.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO. 8 : GUARD HOUSE				
		BILL NO.1 : EARTHWORKS				
8-2		TRADE PREAMBLES				
8-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-2		EXCAVATION ETC				
8-2		Excavation in earth not exceeding 2m deep				
8-2	1	Trenches	m ³	7.00		
8-2	2	Excavate for working space to sides of ground beams for formwork and backfilling	m ²	46.00		
8-2		Extra over trench and hole excavations in earth for excavation in				
8-2	3	Soft rock	m ³	5.00		
8-2	4	Hard rock	m ³	2.00		
8-2		Extra over all excavations for carting away				
8-2	5	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	4.00		
8-2		Risk of collapse of excavations				
8-2	6	Sides of bulk excavations not exceeding 1,5m deep	m ²	46.00		
8-2		Keeping excavations free of water				
8-2	7	Keeping excavations free of all water other than subterranean water	Item	1.00		
8-3		FILLING ETC OTHER THAN BULK				
8-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)				
8-3	8	Backfilling to trenches, holes, etc.	m ³	3.00		
8-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density				
8-3	9	G5 Under floors, paving, etc.	m ³	2.00		
8-3	10	G7 Under floors, paving, etc.	m ³	3.00		
8-3		Coarse river sand filling supplied by the contractor				
8-3	11	Under floors etc.	m ³	1.00		
8-3		Compaction of surfaces				
8-3	12	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	24.00		
8-3		Density Tests:				

8-3	13	Additional Mod AASHTO density tests as instructed by Engineer.	No	1.00			
8-3		SOIL POISONING					
8-3		Soil insecticide in accordance with SANS 5859					
8-3	14	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	24.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
8-5		TRADE PREAMBLES					
8-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-5		Cost of tests					
8-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
8-5		Breeze concrete					
8-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
8-5		Lightweight concrete					
8-5		Lightweight concrete shall have a density of 600kg/m ³ for the top 50mm and 400kg/m ³ for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
8-6		Formwork					

8-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use				
8-6		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				
8-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
8-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
8-6		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				
8-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
8-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
8-6		20MPa/19mm concrete				
8-6	1	Surface blinding under footings and bases	m ³	1.00		
8-6		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
8-6		25MPa/19mm concrete				
8-6	2	Ground beams	m ³	5.00		
8-7		REINFORCED CONCRETE				
8-7		25MPa/19mm concrete				
8-7	3	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	3.00		
8-7		TEST CUBES				
8-7		Test cubes				
8-7	4	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2.00		
8-7		CONCRETE SUNDRIES				

8-7		Finishing top surfaces of concrete smooth with a steel trowel				
8-7	5	Surface beds, slabs, etc.	m ²	24.00		
8-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
8-7		Smooth formwork to sides				
8-7	6	Ground beams	m ²	40.00		
8-7	7	Edges, risers, ends and reveals not exceeding 300mm high or wide, circular on plan	m	32.00		
8-7		MOVEMENT JOINTS ETC				
8-7		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces				
8-7	8	10mm Joints	m ²	7.00		
8-7	9	10mm Joints not exceeding 150mm high.	m	7.00		
8-7		Saw-cut joints				
8-7	10	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	10.00		
8-7		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
8-7		High tensile steel reinforcement to structural concrete work				
8-7	11	10mm Diameter bars	Tonnes	0.04		
8-7	12	12mm Diameter bars	Tonnes	0.10		
8-7		Fabric reinforcement				
8-7	13	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	24.00		
		Bill Total				0.00
		BILL NO.3 : PRECAST CONCRETE				
8-9		TRADE PREAMBLES				
8-9		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-9		PRECAST CONCRETE PAVING				

8-9		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing					
8-9	1	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corn 813 sealant	m	25.00			
8-9	2	Extra for angle	No	3.00			
8-9	3	Extra for junction	No	1.00			
8-9	4	Extra for triangular spreader at end 2095mm maximum width x 1156mm Mesh 193 reinforced concrete bottom, plastered brick sides and brick on end water breaker embedded in bottom	No	1.00			
		Bill Total					0.00
		BILL NO.4 : MASONRY					
8-10		TRADE PREAMBLES					
8-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-10		SUPPLEMENTARY PREAMBLES					
8-10		BRICKWORK					
8-10		Sizes in descriptions					
8-10		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick					
8-10		Hollow walls					
8-10		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					
8-10		Bagged and sealed walls					
8-10		User Note - The following preamble generally applies for works in hot and humid coastal areas					
8-10		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating					

8-10		Face bricks				
8-10		Bricks shall be ordered timeously to obtain uniformity in size and colour				
8-11		Pointing				
8-11		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
8-11		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
8-11		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
8-11	1	Half brick linings to concrete ground beams	m ²	6.00		
8-11		BRICKWORK IN SUPERSTRUCTURE				
8-11		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
8-11	2	Piers	m ³	1.00		
8-11	3	Half brick walls in beamfilling	m ²	12.00		
8-11	4	One brick walls	m ²	28.00		
8-11	5	One brick walls bagged and sealed	m ²	17.00		
8-11		BRICKWORK SUNDRIES				
8-11		2,5mm Brickwork reinforcement				
8-11	6	75mm Wide reinforcement built in horizontally	m	32.00		
8-11	7	150mm Wide reinforcement built in horizontally	m	215.00		
8-11		High tensile steel reinforcement to structural brick work				
8-11	8	8mm Diameter bars	Tonnes	0.20		
8-11		Prestressed fabricated concrete lintels including necessary temporary supports				
8-11	9	230 x 75mm intels in lengths not exceeding 3m	m	13.00		
8-11	10	230 x 75mm lintels in lengths exceeding 3m not exceeding 5m	m	5.00		
8-11		Galvanised wire ties etc.				
8-11	11	4mm Diameter roof tie 2m girth bent double, with one end built into brickwork and other end fixed to timber	No	24.00		
8-11	12	Door cramps	No	18.00		
8-11		Air bricks etc.				
8-11	13	229 x 76mm Clay vermin proof air brick including opening through half brick beamfilling	No	36.00		
8-11	14	229 x 150mm Clay vermin proof air brick including opening through one brick beamfilling	No	6.00		
8-12		FACE BRICKWORK				

8-12		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.				
8-12	15	Extra over brickwork in NFX bricks for face brickwork	m ²	76.00		
8-12	16	Extra over brickwork for face brickwork in roller courses	m	17.00		
8-12		Brick-on-edge header course copings, sills, etc. of Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face bricks, pointed with flush joints on all exposed faces				
8-12	17	210mm Wide sills set level and slightly projecting	m	5.00		
8-12		FIBRE-CEMENT WINDOW SILLS				
8-12		Everite Nutec' fibre cement windows cills to suite window Size, internally, in single lengths not exceeding 3600mm, set flat and slightly projecting beded in class 1 mortar and including fixing lugs screwed to underside with self tapping screws				
8-12	18	150 x 15mm Wide sills set flat and slightly projecting	m	5.00		
		Bill Total				0.00
		BILL NO.5 : WATERPROOFING				
8-14		TRADE PREAMBLES				
8-14		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-14		SUPPLEMENTARY PREAMBLES				
8-14		Waterproofing				
8-14		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs				
8-14		DAMPPROOFING OF WALLS AND FLOORS				
8-14		One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)				
8-14	1	In walls	m ²	7.00		

8-14		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape					
8-14	2	Under surface beds and ground beams	m ²	46.00			
8-14		Two coats bitumen emulsion waterproof coating					
8-14	3	On concrete ground beams	m ²	7.00			
		Bill Total					0.00
		BILL NO.6 : ROOF COVERINGS					
8-15		TRADE PREAMBLES					
8-15		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-15		PROFILED METAL SHEETING AND ACCESSORIES					
8-15		SUPPLEMENTARY PREAMBLES					
8-15		Cutting of sheets:					
8-15		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish					
8-15		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with manufacturer's recommendations.					
8-15	1	Roof covering with pitches not exceeding 25 degrees	m ²	41.00			
8-15	2	Turn up troughs at hips	m	28.00			
8-15	3	Turn down troughs at eaves	m	24.00			
8-15		SHEET METAL FLASHINGS, LININGS, COPINGS, ETC					
8-15		Safintra 0.8mm thick SAFLOK 700 Grey Chromadek flashings complete with polyclosers.					
8-15	4	Eaves closer.	m	24.00			
8-15	5	Hip capping.	m	14.00			

8-16	6	Gutter flashing.	m	24.00		
8-16	7	Extra for hip finial	No	4.00		
8-16	8	Apex intersection of four hips including soacker	No	4.00		
		Bill Total				0.00
		BILL NO.7 : CARPENTRY AND JOINERY				
8-18		TRADE PREAMBLES				
8-18		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-18		SUPPLEMENTARY PREAMBLES				
8-18		Fixing				
8-18		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
8-18		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
8-18		Joinery				
8-18		Descriptions of frames shall be deemed to include frames, transomes, rails, etc.				
8-18		Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts				
8-18		Decorative thermosetting plastic laminate covering				
8-18		Laminate covering shall be glued under pressure and edge strips of same shall be butt jointed at junctions with adjacent similar finish				
8-19		ROOFS ETC				
8-19		SA Pine				

8-19	1	Prefabricated Gangnail pyramid timber roof truss construction to suit building size overall 4.85 x 4.95 x 1.500m high max, designed and installed with 500mm eaves overhang with ridge, hip and valley trusses, temporary and permanent bracing, trimmers, hangers, fixings, etc. (purlins elsewhere measured) and hoist and fix in position approximately 3.00m above ground level. (Gross overall area on flat 24m2 - excluding eaves overhang)	Item	1.00		
8-19	2	38 x 114mm Wall plates	m	19.00		
8-19	3	50 x 76mm purlins	m	75.00		
8-19	4	Mitek Eco galvanised steel purlin clips	No	160.00		
8-19		EAVES, VERGES, ETC				
8-19		Fibre-cement plain ceiling boards				
8-19	5	Everite Nutec 6mm thick plain eaves soffit boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and top of rafters using 32 x 2,5mm serrated ceiling nails. All in accordance with the manufacturer's recommendations.	m ²	11.00		
8-19		SouthPro' uPVC fascia's and bargeboards				
8-19	6	225 x 9mm Thick fascia in 6m lengths with uPVC connectors, fixed with and including 12 x 40mm countersunk brass screws capped with PVC covers at Maximum 800mm centres	m	24.00		
8-19	7	Extra over for PVC H-profile fascia corner joiner	No	4.00		
8-19		SKIRTINGS				
8-19		Meranti				
8-19	8	75 x 19mm skirting boards with 19mm dia .quadrant trim nailed to wall at 500mm c/c with 32mm steel nails. All nails to be punched and filled.	m	16.00		
8-19		DOORS				
8-19		SUPPLEMENTARY PREAMBLES				
8-19		Semi solid flush doors with commercial veneer fixed to timber frames				
8-19	9	44 x 813 x 1832mm high approved door with hardwood edge strips all around to Architect's specification (D13)	No	1.00		
8-20		FRAMED FRAMES ETC				
8-20		Swartland Cape Culture (10 Year Guarantee) Frames				
8-20	10	70 x 90mm CODE SK1 (925mm) door frame for Single door size 813 x 2032mm high	No	1.00		
8-20		BEADS, ARCHITRAVES, ETC				
8-20		Wrought softwood				
8-20	11	19mm quadrant beads	m	5.00		
8-20	12	75 x 19mm architraves	m	5.00		
8-20		NOTICEBOARDS, KEYBOARDS, DUCKBOARDS, ETC				

8-20		Vitrex					
8-20	13	Vitrex Model 2310-D or equal and approved, standard wall mounted educational range pin board size, size 1500mm high x 750mm wide, reference (2309B) with 44 x 22mm rebated and moulded surround. Pinning surface to be Belgotex Colour-Rib, colour Bleach. Pin boards supplied complete with fixing components and secured to brickwork	No	1.00			
8-20	14	Magnetic Whiteboards with deluxe aluminium frame & pen/chalk rail size 1200mm x 2400mm	No	1.00			
8-20		FITTINGS					
8-20		General: The following fittings have been measured as complete units, i.e., the components of descriptions therefore such units shall be deemed to include all components, assembling, anchors, housing, notching, gluing, blocking, planting on and screwing with countersunk screws, edge strips, mouldings, decorative plastic finish, glass ironmongery, metalwork, paint or varnish finishes, fixings to walls, etc.					
8-20		Specification for Drawer Runners					
8-20		Eclipse STANDARD pull out system (code 230M5000 Brown) for the kitchen drawers (elsewhere specified) including all necessary Brown runners, fittings, etc, fitted in accordance with the manufacturers recommendations.					
8-20		Specification for Drawer and Door Handles					
8-20		Eclipse Brushed Nickel Barcelona bar handle fixed at 192mm centres fitted with steel self tapper screws:					
8-21		Specification for Hinges					
8-21		Eclipse Blum 107°CLIP top hinge in nickel plate d finish (code 75T1550 CLIP 107 ST SCREW ON) with 5mm horizontal cam mounting plate (code 177H5400E-0MM CLIP HORIZONTAL PLATE) and hinge cover cap, fixed using screw-on system in accordance with manufacturers recommendations.					
8-21		Specification for Stainless Steel Legs					
8-21		710 x 60mm Tapered Brushed Satin Nickel					
8-21		FITTINGS					
8-21	15	Worktop size overall 1500 x 600 x 750mm high formed with 32mm thick Formica top with rounded front and edge fixed to wall with one 200 x 200mm gallows brackets bolted on formed with 30 x 30 x 2mm galvanised mild steel angles and supported by floor cupboard one end and two stainless steel 710 x 60mm tapered brushed legs at centre and other end. To Architect's Details	No	1.00			
8-21		CUPBOARDS, ETC					
8-21		SUPPLEMENTARY PREAMBLES					
8-21		General					

8-21		The following cupboard fittings have been given as complete units i.e. the components of the units have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, assembling, housing, notching, glueing, blocking, planting-on and screwing with countersunk screws, edge strips, thermosetting plastic laminate, glass, ironmongery, metalwork, paint or varnish finishes, etc. Prices are to include for all necessary filler pieces against walls etc.					
8-21		References					
8-21		References given in descriptions refer to the respective types of fittings detailed on the architect's drawing(s) numbered ? annexed to these bills of quantities (accompanying these bills of quantities?) for tender purposes					
8-22		Kitchen cupboards etc.					
8-22		All external sections of built-in cupboards to be of FG Bison 16mm thick Melolwood MFB in Vancouver Maple Peen, comprising single layer of melamine-impregnated decorative paper, fused under heat and pressure to both sides of a smooth surface Bisonboard Particleboard substrate laminated on both sides, manufactured in accordance with SANS 1763: 1998 and constructed in accordance with the drawings. All edging to doors and drawers to be solid Vancouver Maple (or similarly approved)					
		All countertops to be 32mm thick solid post-formed with Vancouver Maple Peen melamine finish as above. All internal shelving to be of FG Gison 16mm thick Supalam MFB in Super White Peen, comprising SupaWood consolidate by heat and pressure on both sides with melamine impregnated paper to create a hogenous construction laminated on both sides, manufactured in accordance with SANS 1763: 1998 and constructed in accordance with the drawings. All edging to be 3mm thick white PVC impact edging.					
8-22	16	Sink cupboard 2245 x 600 x 900mm high with post-formed Melanine top, sides, bottom, divisions, shelf, back and single hinged doors, dividing framework and drawers (sink elsewhere measured).	No	1.00			
		Bill Total					0.00
		BILL NO.8 : CEILINGS PARTITIONS AND ACCESS FLOORING					
8-24		TRADE PREAMBLES					
8-24		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-24		SUPPLEMENTARY PREAMBLES				
8-24		Fixing				
8-24		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
8-24		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
8-24		Ceilings				
8-24		Unless otherwise described ceilings shall be deemed to be horizontal				
8-24		Bulkheads				
8-24		Bulkheads are defined as those portions of ceilings which are stepped down from the general ceiling level in a particular room or area and which generally occur along the perimeter. Their purpose is either to conceal services or to create architectural features				
8-24		Bulkheads have only been described as such where they conform to the above definition and where the horizontal or vertical dimensions do not exceed 900mm. Where these dimensions are more than 900mm such portions of ceilings have been included in the appropriate general items of ceilings				
8-25		Unless otherwise described bulkheads shall be deemed to be horizontal along the length				
8-25		User Note - Circular bulkheads shall be given separately				
8-25		Steel components				
8-25		All steel components for ceilings, partitions, etc. are to be galvanised in accordance with SANS 121				
8-25		NAILED-UP CEILINGS				
8-25		SUPPLEMENTARY PREAMBLES				
8-25		Gypsum plasterboard				
8-25	1	Gyproc 6,4mm RhinoCeil Value gypsum flush plastered ceiling with square edged Rhinoboard fixed print side up with 32mm galvanised clout or semi-clout nails at 150mm centers to and including 38 x 50mm (with 50mm dimension vertical) SA Pine brander at 300mm centres in one direction. All joints to be covered with Rhinotope fixed over joints (double over butt joints) end then plastered with 3mm to 6mm thick Rhinolite gypsum skim plaster, all fixed to trusses at centres exceeding 1000mm, not exceeding 1200mm in accordance with the manufacturers recommendations.	m ²	11.00		
8-25	2	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00		
8-25		Fibre-cement plain ceiling boards				

8-25	3	Everite Nutec 6mm thick plain ceiling boards, manufactured in accordance with SANS 9001: 2000 carrying SANS 803:2005 mark, fixed to and including 38 x 50mm battens at 600mm centres using 32 x 2,5mm serrated ceiling nails at 1500mm centres, minimum of 12mm from edge of board. All joints to be covered using H-profile steel jointing strips, all in accordance with the manufacturer's recommendations.	m ²	8.00		
8-25	4	Extra over ceiling for forming 600 x 600mm trapdoor	No	1.00		
8-25		Gypsum plasterboard cornices				
8-25	5	Lafarge GypsJm Gaudi Nucornice polystyrene cornice, overall size 55 x 55mm high, fixed to wall and ceiling using an approved water-based adhesive and appropriate nail fixing where necessary, filling all fixing holes with an approved acrylic sealant, all in accordance with the manufacturers recommendations.	m	33.00		
8-25		Insulation				
8-25	6	Brits Insulation Systems Isotherm 100mm thick polyester thermal insulation (density 10kg/m) laid over ceiling branding closely fitted between rafters	m ²	11.00		
8-26		Sisalation				
8-26	7	Sisalation FR 430 Fire retardant industrial grade reinforced aluminium foil insulation double sided, durable, reflective foil laminate incorporating a fire retardant between the various substrates, bonded together with low density polyethene, tested for conformance with SANS 1381-4: 2009, with a Class 1 fire rating in accordance with SNAS 10177 - 3: 2005 and ASTM E84 and BS 476 part 5, 6 and 7, with purlins spaced at greater than 1500mm centres drawn tautly across rafters with purlins spaced at greater than 1500mm centres and secured to each rafter with 38mm x 3,2mm x 1100mm hardboard counter bottom strips positioned flush with the bottom edge of the material thus leaving 150mm (f) overlap exposed at the top for the next layer and 150mm overlap thereafter on each 1250mm width roll.	m ²	41.00		
		Bill Total				0.00
		BILL NO.9 : FLOOR COVERINGS				
8-28		TRADE PREAMBLES				
8-28		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				

8-28		FLOOR COVERINGS				
8-28		SUPPLEMENTARY PREAMBLES				
8-28		Floor coverings, wall linings, etc. shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc.				
8-28		FloorWorx Elite fully flexible vinyl floor sheeting 2m wide x 2mm thick in patterns in Whisper finish (colour code: FEL083) for field and Blue Grotto finish (colour code: FEL085) for inlays, manufactured in accordance with EN 649, laid in FloorworX No. 60 Plus acrylic adhesive spread with a notched trowel on suitably prepared subfloor (elsewhere specified) with a hygrometer reading showing a moisture content of less hen 70%, with joints welded with fully flexible coloured 'Marley Welding Rod' to provide a smooth, hygienic sealed finish and rolled with 68kg three section metal roller or completion.				
8-28	1	On floors	m ²	12.00		
8-28		POLISH, SEALERS, ETC				
8-28		Polish, Sealers, etc.				
8-28	2	2 coats wax polish on vinyl flooring	m ²	12.00		
		Bill Total				0.00
		BILL NO.10 : IRONMONGERY				
8-29		TRADE PREAMBLES				
8-29		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-29		SUPPLEMENTARY PREAMBLES				
8-29		Proprietary items				
8-29		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Prices are to be based on the specific products/articles specified. If tenderers wish to offer alternative products/articles for certain items, these items are to be clearly marked and the alternative specification given with supporting brochures etc. clarifying the features of the products/articles offered On request returnable samples are to be provided to the principal agent for consideration				

8-29		Finishes to ironmongery				
8-29		Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AN Anodised natural AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
8-29		IRONMONGERY				
8-29		Set 1 - D1				
8-29	1	DORMA DBBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge	No	2.00		
8-30	2	DORMA CB75 lever handle on rectangular Euro cylinder backplate, 61mm centres.	No	2.00		
8-30	3	DORMA DO36S euro- profile cylinder sash lock SS.	No	1.00		
8-30	4	Dorma DKC106501 nickel plated 65mm ten pin masterkeyed euro- profile master- keyed knob cylinder	No	1.00		
8-30	5	DORMA DDS-NP-018 nickel plated floor stop	No	1.00		
8-30		Set 2 - D2				
8-30	6	DORMA DBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinge.	No	2.00		
8-30	7	DORMA DPH301C 150 x 19mm stainless steel "D" shaped straight back-to-back pull handles.	No	2.00		
8-30	8	DORMA DO32D bathroom/WC dead lock SS.	No	1.00		
8-30	9	DORMA DWC - 005 stainless steel WC indicator and turn knob escutcheons.	No	2.00		
8-30	10	Howick H057 Alum Robe Hook.	No	1.00		
8-30	11	DJW Concealed Fixing Rubber Doorstop fitted to wall/ floor as per Architects instruction. Colour Black.	No	1.00		
8-30		LETTERS, NAMEPLATES, ETC.				
8-30		70mm high white penspex signs with black vinyl letters in lengths to accommodate the number of Bookman Old capital letters fixed with adequate heavy duty double sided tape				
8-30	12	Sign with five (5) letters	No	1.00		
8-30	13	Sign with seven (7) letters	No	1.00		
8-30		Manufactured by Vista				
8-30	14	Fire extinguisher Fire extinguisher drawing and arrow to point down. Size 190 x 380mm.Red drawing on white background. Wall mounted sign hanging from a bracket fixed with self-tapping screws to wall at 1800mm above finished floor leve	No	1.00		
8-31		BATHROOM FITTINGS				

8-31		Supply and fix the following washroom and bathroom fitting accessories:				
8-31	15	Aliseo Metropolis 654mm long brass towel rail with chrome plated finish (code: 650002), size 654 x 54 x 59mm deep, plugged and screwed to the wall with stainless steel screws concealed with chrome plated cover plates.	No	2.00		
8-31	16	Aliseo Metropolis brass double hook with chrome plated finish (code: 650006), size 32 x 54 x 34mm deep plugged and screwed to wall with stainless steel screws concealed with Chrome cover plates	No	1.00		
8-31	17	Kimberly-Clark® Professional SQ2 toilet tissue dispenser colour White (code SA405606) overall size 130 x 135 x 265mm.	No	1.00		
8-31	18	Kimberly-Clark® Professional Reflex MK2 hand towel dispenser (colour: WHITE - code: SA426104). Overall size 310 x 280 x 408mm high	No	1.00		
8-31	19	Kimberly-Clark® Professional Foam soap dispenser (colour: WHITE - code: SA427715), overall size 134 x 120 x 250mm high	No	1.00		
8-31	20	Kimberly-Clark® Professional Reflex Disposer wall mounted waste bin (colour: WHITE - code: SA426213), overall size 334 x 258 x 635mm high	No	1.00		
8-31	21	Hygiene Systems Femcore Bin manual sanitary disposal system colour white (code: SW/01), overall size 182 x 345 x 517mm high with Femcare Wall Mount Bracket (code: SW/04), plugged and screwed to wall with stainless steel screws. (Or similarly approved sanitary disposal unit).	No	1.00		
		Bill Total				0.00
		BILL NO.11 : METALWORK				
8-33		TRADE PREAMBLES				
8-33		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
8-33		SUPPLEMENTARY PREAMBLES				
8-33		Descriptions of bolts, anchors, etc.				
8-33		Descriptions of bolts shall be deemed to include nuts and washers				

8-33		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete					
8-33		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described					
8-33		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres					
8-33		Aluminium doors, windows, etc.					
8-33		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities as described in the headings to window descriptions. Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to be issued separately with these bills of quantities					
8-34		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively					
8-34		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years					
8-34		ALUMINIUM WINDOWS, DOORS, ETC. (CPAP WORK GROUP NO. 140)					
8-34		Black Powder coated casement window units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete					
8-34	1	Purpose made window, 1500 x 1200mm high window in four (4) equal sections with top two (2) opening sections to Architect's Drawing. W1	No	2.00			
8-34	2	Purpose made window, 980 x 1200mm high window in four (4) equal sections with top two (2) opening sections to Architect's Drawing. W2	No	1.00			

8-34	3	Purpose made window, 1100 x 1200mm high window in six (6) equal sections with top three (3) glass louvred opening sections to top half to Architect's Drawing. W3	No	1.00			
8-34		ALUMINIUM SHOPFRONTS (CPAP WORK GROUP NO. 149)					
8-34		Black Powder coated casement shopfront units as per SABS 0400-1990, SABS 0137 and SABS 1263-1, complete with subframes, 6.38mm clear laminated safety glass, ironmongery, glass, sealing, etc. and fixing to brickwork or concrete					
8-34	4	Purpose made single door, size 2125 x 900mm high to Architect's Drawing (D1)	No	1.00			
		Bill Total					0.00
		BILL NO.12 : PLASTERING					
8-36		TRADE PREAMBLES					
8-36		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-36		SUPPLEMENTARY PREAMBLES					
8-36		User Note - The following preambles are to be included only when specifically required by the principal agent					
8-36		Method					
8-36		The method to be used shall be either the monolithic method or the bonded method					
8-36		Preparation					
8-36		For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.					
8-36		Mix					

8-36		Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.					
8-37		Panels					
8-37		Granolithic shall be laid in panels not exceeding 14m ² for monolithic finishes, not exceeding 9,5m ² for bonded finishes and not exceeding 6m ² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.					
8-37		Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints					
8-37		Laying					
8-37		Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels					
8-37		Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels					
8-37		After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated					
8-37		Curing, seasoning and protection					
8-37		Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.					
8-37		Colour					
8-37		Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.					
8-37		SCREEDS					
8-37		Screeds steel trowelled, on concrete					
8-37	1	25mm Thick (average) to floors	m ²	12.00			
8-37	2	40mm Thick (average) to floors to falls	m ²	9.00			
8-37		INTERNAL PLASTER					
8-37		Cement plaster steel trowelled, on brickwork					
8-37	3	On walls	m ²	38.00			
8-37	4	On narrow widths	m ²	3.00			

8-38		Sundries					
8-38	5	230 x 150mm cast plaster air grating	No	6.00			
8-38		CORNER PROTECTORS, DIVIDING STRIPS, ETC					
8-38		Corner protectors, dividing strips, etc.					
8-38	6	25 x 25 x 5mm Galvanised steel angle water bar with 5 x 25 x 50mm lugs welded on at 350mm centres, each once drilled for and including M8 stainless steel expansion bolt fixed in concrete.	m	1.00			
		Bill Total					0.00
		BILL NO.13 : TILING					
8-40		TRADE PREAMBLES					
8-40		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-40		SUPPLEMENTARY PREAMBLES					
8-40		Fixing					
8-40		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					
8-40		Tiling described as 'fixed with adhesive on power floated concrete' shall be deemed to include for approved tiling key-coat					
8-40		Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional (Ceresit Tylon?) range of products as recommended by the manufacturer of the tiles					
8-40		WALL TILING					
8-40		Union Tiles 'Shiny White' ceramic tiles (code: 1SAMOSH1000), size 200 x 200mm fixed to internal wall plaster backing with TAL tile adhesive mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with TAL tile grout (colour: WHITE), excess grout on tile surface to be cleaned with water as work proceeds					
8-40	1	On walls	m ²	17.00			

8-41	2	On walls in narrow widths	m ²	1.00			
8-41	3	50 x 200mm Listello capping tiles	m	11.00			
8-41		FLOOR TILING					
8-41		Union Tiles Dark Blue mesh backed ceramic mosaics size 48 x 48mm, sheet size 300 30Jmm (code: 10RI2215) fixed Mesh side down to internal floor with White TAL Mosaic Fix Tile adhesive mixed with bonding liquid in lieu of water, laid with diagonal joints continuously in both directions with tile grout applied with flexible spatula, excess grout to be removed with damp sponge and tiles to be washed off with Glint Tile Cleaner once grout has cured.					
8-41	4	On floors to falls	m ²	9.00			
8-41		SUNDRIES					
8-41		Metal Profiles:					
8-41	5	Kirk Marketing stainless steel square edge trim code SQE 100 grade 304 size 10mm (d) installed in accordance to manufacturers specifications.	m	8.00			
		Bill Total					0.00
		BILL NO.14 : PLUMBING AND DRAINAGE					
8-43		TRADE PREAMBLES					
8-43		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-43		RAINWATER DISPOSAL					
8-43		Watertite Guttering commercial and industrial Square profile aluminium H3003h 14 seamless gutter, coated internally and externally with ColourTech G4 in colour Marble White with matching splash-plate including cut and mitred angles covered with a mitre externally, secured to metal roof sheets with 25 x 2.5mm L-Shaped and 20 x 3mm dual-purpose brackets at 600mm centres using aluminium pop rivets, including expanded aluminium mesh leaf guard set over gutter, accessories sealed inside with Dow Corning 813 silicone sealer					
8-43	1	140 x 150 x 0.90mm thick roof gutters	m	24.00			
8-43	2	Extra over gutter for angle	No	2.00			
8-43	3	Extra over gutter for stopped end	No	1.00			

8-43	4	50 x 20mm high overflow spigot	m	4.00		
8-43	5	78 x 78 x 2mm thick aluminium downpipe in fixed to wall with and including straps at 1500mm centres using nail plugs, with downpipes riveted and silicone sealed to gutter outlets	m	7.00		
8-43	6	Extra over rainwater pipe for bend	No	4.00		
8-43	7	Extra over rainwater pipe for shoe	No	2.00		
8-44		SANITARY FITTINGS				
8-44		Vaal Sanitaryware				
8-44	8	Flamingo vitreous china wall mounted basin (colour: WHITE - code: 7007), size 560 x 405mm with one tap-hole including overflow and chain-stay hole bolted to wall with two 10mm bolts (code: 8448Z0) and sealed with silicone sealant where basin meets wall	No	1.00		
8-44		Geberit Kambifix				
8-44	9	Geberit Kamifix concealed cistern for wall hung WC (code: 110.350.00.5), front actuated with Bolero dual flush actuator (code: 115.760.11.1) in white alpin finish including flush pipe and pan connector, water supply connection with angle stop valve, protection cover for service and protection cover for flush pipe, fixed with included fastening materials inside solid wall from 120mm up to 200mm.	No	1.00		
8-44		Franke				
8-44	10	Franke Trendline Model 900 x 460 SEB Crade 304 18/10 polished stainless steel SINGLE END BOWL drop on sink (code: 310500), overall size 900 x 460mm wide with one 460 x 350 x 140mm 140mm deep bowl, fitted onto cupboard (elsewhere specified) including 38mm waste fitting and PVC trap (trap elsewhere specified)	No	1.00		
8-44		WASTE UNIONS ETC				
8-44		Cobra Watertech				
8-44	11	32mm 301 CP basin waste union	No	1.00		
8-44	12	40mm 316 CP sink waste union	No	1.00		
8-44		TRAPS ETC				
8-44		Cobra Watertech				
8-44	13	32mm 340 CP bottle trap	No	1.00		
8-44	14	40mm 360 CP bottle trap	No	1.00		
8-44		TAPS, VALVES, ETC				
8-44		Brass				
8-44	15	22mm Hose bib-tap	No	1.00		
8-44		Cobra Watertech				
8-44	16	15mm 128-15CP Star undertile stopcock	No	1.00		
8-44	17	15mm 100-15RB bib-tap	No	1.00		

8-45	18	Cobra Watertech Metsi 15mm chrome plated basin mixer with cast fixed outlet manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00			
8-45	19	Cobra Watertech FJ6000 Flush valve, manufactured in accordance with SANS 226:2004 Type 2 (3S 5412).	No	1.00			
8-45		SANITARY PLUMBING					
8-45		uPVC soil and vent pipes					
8-45	20	40mm Pipes	m	2.00			
8-45	21	50mm Pipes	m	4.00			
8-45	22	110mm Pipes	m	5.00			
8-45		Extra over uPVC soil and vent pipes for fittings					
8-45	23	40mm Bend	No	2.00			
8-45	24	50mm Bend	No	4.00			
8-45	25	50mm Access Bend	No	1.00			
8-45	26	110mm Pan connector	No	1.00			
8-45	27	110mm Bend	No	1.00			
8-45	28	110mm Access junction	No	1.00			
8-45	29	110mm Air vent cowl	No	1.00			
8-45		Sundries					
8-45	30	Wire balloon grating in top of pipe not exceeding 100mm diameter	No	1.00			
8-45		Testing					
8-45	31	Testing waste pipe system	Item	1.00			
		Bill Total					0.00
		BILL NO.15 : GLAZING					
8-47		TRADE PREAMBLES					
8-47		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-47		SUPPLEMENTARY PREAMBLES					

8-47		Float glass					
8-47		The term 'float glass' is used for monolithic annealed glass					
8-47		Laminated glass					
8-47		Laminated glass to have polyvinyl butyral (PVB) interlayer(s)					
8-47		TOPS, SHELVES, DOORS, MIRRORS, ETC					
8-47		4mm "GG" quality polished glass mirror fixed to wall with vertical strips of double sided adhesive tape.					
8-47	1	Mirror 400 x 900mm high	No	1.00			
		Bill Total					0.00
		BILL NO.16 : PAINTWORK					
8-48		TRADE PREAMBLES					
8-48		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
8-48		SUPPLEMENTARY PREAMBLES					
8-48		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:					
8-48		Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m ² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m ² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m					

8-49	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant manufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.</p>					
8-49	PAINT SPECIFICATIONS					
8-49	Painting, etc.					
8-49	All painting shall be done in accordance with Plascon specifications unless otherwise described					
8-49	COLOURS					
8-49	Colours, etc.					
8-49	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
8-49	PLASCON					
8-49	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
8-49	The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification.					
	<p>All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified.</p> <p>Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint.</p> <p>All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc.</p> <p>Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine</p>					
8-50	ON INTERNAL FLOATED PLASTER SURFACES					

8-50		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat Plascoll Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats Wall & All (WAA) with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.				
8-50	1	Walls	m ²	31.00		
8-50		ON INTERNAL GYPSUM PLASTER SURFACES				
8-50		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Profesional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Professional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment				
8-50	2	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	11.00		
8-50		ON FIBRE-CEMENT BOARD SURFACES				
8-50		Surface to be dry, sound and free of dirt and loose particles. Wipe down with a damp cloth and allow to dry complete y. Prime with one coat Profesional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats Professional Evolution Acrylic (PEV 900) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment				
8-50	3	Eaves soffit linings	m ²	32.00		
8-50	4	Ceilings and cornices, including priming metal cover strips and nailheads	m ²	8.00		
8-50	5	Cills	m ²	1.00		
8-50		ON WOOD SURFACES				
8-50		Two coats oil wood primer				
8-50	6	Backs of frames, linings, etc. not exceeding 300mm wide	m	5.00		
8-51		Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat Plascor Woodcare Pretreatment (WWP 1), overcoated withn 48 rours with e moisture content, measured with a Daser Hygrometer (or equivalent), of BD 2 scale (A1 - A5) < 14% or less. Prime with one coat Wood Primer (UC 2) with an overcoating time of 16 hours and finish with two coats Velvagio Satin (VLO) with 16 hours drying time between coats, for a mainterance cycle of 7 years in a C1 - inland environment.				
8-51	7	Doors	m ²	3.00		
8-51	8	Door frames etc.	m ²	1.00		
8-51	9	Roof timbers at eaves and verges	m ²	5.00		
8-51	10	Skirtings, rails, etc. not exceeding 300mm girth	m	16.00		

		Bill Total					0.00
		Section Total					0.00
		SECTION NO. 9 : REFUSE BUILDING					
		BILL NO.1 : EARTHWORKS					
9-2		TRADE PREAMBLES					
9-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
9-2		EXCAVATION ETC					
9-2		Excavation in earth not exceeding 2m deep					
9-2	1	Reduced levels.	m ³	4.00			
9-2	2	Trenches	m ³	8.00			
9-2	3	Excavate for working space to sides of ground beams for formwork and beamfilling	m ²	42.00			
9-2		Extra over trench and hole excavations in earth for excavation in					
9-2	4	Soft rock	m ³	5.00			
9-2	5	Hard rock	m ³	2.00			
9-2		Extra over all excavations for carting away					
9-2	6	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	10.00			
9-2		Risk of collapse of excavations					
9-2	7	Sides of bulk excavations not exceeding 1,5m deep	m ²	42.00			
9-2		Keeping excavations free of water					
9-2	8	Keeping excavations free of all water other than subterranean water	Item	1.00			
9-3		FILLING ETC OTHER THAN BULK					
9-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)					
9-3	9	Backfilling to trenches, holes, etc.	m ³	2.00			

9-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density					
9-3	10	G5 Under floors, paving, etc.	m ³	3.00			
9-3	11	G7 Under floors, paving, etc.	m ³	2.00			
9-3		Coarse river sand filling supplied by the contractor					
9-3	12	Under floors etc.	m ³	1.00			
9-3		Compaction of surfaces					
9-3	13	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	24.00			
9-3		Density Tests:					
9-3	14	Additional Mod AASHTO density tests as instructed by Engineer.	No	1.00			
9-3		SOIL POISONING					
9-3		Soil insecticide in accordance with SANS 5859					
9-3	15	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	24.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
9-5		TRADE PREAMBLES					
9-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
9-5		Cost of tests					
9-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					

9-5		Breeze concrete				
9-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated				
9-5		Lightweight concrete				
9-5		Lightweight concrete shall have a density of 600kg/m3 for the top 50mm and 400kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm				
9-6		Formwork				
9-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use				
9-6		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				
9-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
9-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
9-6		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				
9-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
9-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
9-6		20MPa/19mm concrete				
9-6	1	Surface blinding under footings and bases	m ³	1.00		
9-6		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				

9-6		25MPa/19mm concrete					
9-6	2	Ground beams	m ³	6.00			
9-7		REINFORCED CONCRETE CAST ON/IN FORMWORK					
9-7		25MPa/19mm concrete					
9-7	3	Slabs including beams and inverted beams	m ³	3.00			
9-7		REINFORCED CONCRETE					
9-7		25MPa/19mm concrete					
9-7	4	Surface beds cast in panels on waterproofing (elsewhere measured).	m ³	3.00			
9-7		TEST CUBES					
9-7		Test cubes					
9-7	5	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	4.00			
9-7		CONCRETE SUNDRIES					
9-7		Finishing top surfaces of concrete with a sponge roll					
9-7	6	Surface beds, slabs, etc.	m ²	28.00			
9-7	7	Surface beds, slabs, etc. to falls	m ²	10.00			
9-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)					
9-7		Smooth formwork to sides					
9-7	8	Ground beams	m ²	42.00			
9-7	9	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	28.00			
9-7		Smooth formwork to soffits					
9-7	10	Slabs	m ²	3.00			
9-7	11	Projecting soffit 150mm wide and edge not exceeding 300mm high	m	15.00			
9-7		MOVEMENT JOINTS ETC					
9-7		Two layers of 375 micron dampproof course (One layer of 0,6mm galvanised steel sheet?) in slip joints between horizontal concrete and brick surfaces including cement mortar bed					
9-7	12	Exceeding 300mm wide	m	15.00			
9-7		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces					
9-7	13	10mm Joints	m ²	5.00			
9-7	14	10mm Joints not exceeding 150mm high.	m	7.00			
9-8		Saw-cut joints					

9-8	15	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	10.00		
9-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
9-8		High tensile steel reinforcement to structural concrete work				
9-8	16	10mm Diameter bars	Tonnes	0.04		
9-8	17	12mm Diameter bars	Tonnes	0.10		
9-8		Fabric reinforcement				
9-8	18	Type 395 fabric reinforcement in concrete surface beds, slabs, etc.	m ²	14.00		
		Bill Total				0.00
		BILL NO.3 : PRECAST CONCRETE				
9-10		TRADE PREAMBLES				
9-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
9-10		PRECAST CONCRETE PAVING				
9-10		Precast concrete finished smooth on exposed surfaces including bedding, cutting and pointing				
9-10	1	Stormwater V Channel 150mm thick x 900mm wide with jointex at 2000mm centres and 10mm jointex expansion joint one side next to walls pointed with Dow Corng 813 sealant	m	19.00		
9-10	2	Extra for angle	No	2.00		
9-10	3	Extra for fair end	No	2.00		
9-10		PRECAST CONCRETE WINDOW SURROUNDS				
9-10		Winblok modular precast concrete window surrounds etc. finished smooth on exposed surfaces, including bedding, jointing and pointing				
9-10	4	317 x 317 x 100mm concrete decorative grille blocks.	No	16.00		
		Bill Total				0.00

		BILL NO.4 : MASONRY				
9-11		TRADE PREAMBLES				
9-11		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
9-11		SUPPLEMENTARY PREAMBLES				
9-11		BRICKWORK				
9-11		Sizes in descriptions				
9-11		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				
9-11		Hollow walls				
9-11		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				
9-11		Bagged and sealed walls				
9-11		User Note - The following preamble generally applies for works in hot and humid coastal areas				
9-11		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				
9-11		Face bricks				
9-11		Bricks shall be ordered timeously to obtain uniformity in size and colour				
9-12		Pointing				
9-12		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
9-12		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
9-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
9-12	1	Half brick linings to concrete ground beams	m ²	9.00		
9-12		BRICKWORK IN SUPERSTRUCTURE				
9-12		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				

9-12	2	One brick walls bagged and sealed	m ²	28.00			
9-12		BRICKWORK SUNDRIES					
9-12		2,5mm Brickwork reinforcement					
9-12	3	150mm Wide reinforcement built in horizontally	m	167.00			
9-12		High tensile steel reinforcement to structural brick work					
9-12	4	8mm Diameter bars	Tonnes	0.20			
9-12		Prestressed fabricated concrete lintels including necessary temporary supports					
9-12	5	230 x 75mm intels in lengths not exceeding 3m	m	4.00			
9-12		FACE BRICKWORK					
9-12		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.					
9-12	6	Extra over brickwork in NFX bricks for face brickwork internally	m ²	23.00			
9-12	7	Extra over brickwork in NFX bricks for face brickwork externally	m ²	37.00			
9-12	8	Extra over brickwork for face brickwork in roller courses	m	15.00			
		Bill Total					0.00
		BILL NO.5 : WATERPROOFING					
9-14		TRADE PREAMBLES					
9-14		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
9-14		SUPPLEMENTARY PREAMBLES					
9-14		Waterproofing					
9-14		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs					

9-14		DAMPPROOFING OF WALLS AND FLOORS				
9-14		One layer 375 micron embossed polyethylene dampproof course (SANS 952-1985 type B)				
9-14	1	In walls	m ²	6.00		
9-14		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape				
9-14	2	Under surface beds and ground beams	m ²	52.00		
9-14		Two coats bitumen emulsion waterproof coating				
9-14	3	On concrete vertically	m ²	9.00		
9-15		WATERPROOFING TO ROOFS, BASEMENTS, ETC				
9-15		Prime with one coat bitumen primer and one layer 4mm fully bonded waterproof membrane comprising two bitumen layers reinforced with woven spun bonded polyester fabric and coated with polyethylene film for heat bonding, laid with 100mm side and 150mm end laps				
9-15	4	On screeded roofs including turn-ups, etc.	m ²	20.00		
9-15	5	Flashing strip 300mm girth at turn-ups including sealing top edge into groove with mastic.	m	14.00		
9-15		PROTECTIVE ROOFING PAINT				
9-15		Two coats bituminous aluminium paint				
9-15	6	On waterproofing to roofs	m ²	20.00		
		Bill Total				0.00
		BILL NO.6 : METALWORK				
9-17		TRADE PREAMBLES				
9-17		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
9-17		SUPPLEMENTARY PREAMBLES				
9-17		Descriptions of bolts, anchors, etc.				
9-17		Descriptions of bolts shall be deemed to include nuts and washers				

9-17		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete					
9-17		Items described as 'holed for bolt(s)' shall be deemed to exclude the bolts unless otherwise described					
9-17		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres					
9-17		Aluminium doors, windows, etc.					
9-17		Doors and windows shall comply with AAAMSA design criteria Glazing shall comply with SAGGA regulations. Glass shall be type ? laminated performance glass as shown on the window schedules/drawings appended to these bills of quantities (as described in the headings to window descriptions?). Glass thickness shall comply with SAGGA regulations irrespective of thicknesses shown on the schedules/drawings Doors and windows shall be supplied with protective tape and plastic and shall be removed only once surrounding trades have been completed For purpose made windows and doors, refer to drawings annexed to (issued separately with?) these bills of quantities					
9-18		The following certificates shall be provided prior to commencement of site work: 1 A copy of the relevant AAAMSA Performance Test Certificate from the manufacturer/contractor supplying the architectural aluminium product 2 A Certificate of Conformance confirming that anodising or powder coating has been processed in accordance with SANS 999 and SANS 1796 respectively					
9-18		3 A powder guarantee of not less than 15 years issued by the powder manufacturer. The specific conditions contained in this guarantee shall form part of the powder coating process 4 A Certificate of Conformance confirming that glazing has been installed in accordance with SANS 0137, ensuring that safety glazing materials have been installed in the mandatory areas and that each individual pane of safety glazing materials has been permanently marked 5 A warranty from the manufacturer of the laminated safety glass and/or hermetically sealed glazing units guaranteeing the products against delamination and colour degradation for a period of not less than five years					
9-18		PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES					
9-18		Pressed Steel doors including frames					
9-18	1	Type MV door 1524 x 2134mm high with factory fitted louvre panel with vernim proof with rebated frame suitable for one brick wall	No	2.00			
		Bill Total					0.00
		BILL NO.7 : PLASTERING					
9-20		TRADE PREAMBLES					

9-20	<p>The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries</p> <p>Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles</p>					
	<p>The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications</p>					
9-20	SUPPLEMENTARY PREAMBLES					
9-20	User Note - The following preambles are to be included only when specifically required by the principal agent					
9-20	Method					
9-20	The method to be used shall be either the monolithic method or the bonded method					
9-20	Preparation					
9-20	<p>For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleed water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall then be wetted and kept damp for at least six hours before applying the granolithic.</p>					
9-20	Mix					
9-20	<p>Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic.</p>					
9-21	Panels					
9-21	<p>Granolithic shall be laid in panels not exceeding 14m² for monolithic finishes, not exceeding 9,5m² for bonded finishes and not exceeding 6m² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width.</p>					
9-21	<p>Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or fibreboard and finished with V-joints</p>					
9-21	Laying					
9-21	<p>Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels</p>					

9-21		Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels					
9-21		After wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated					
9-21		Curing, seasoning and protection					
9-21		Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying.					
9-21		Colour					
9-21		Coloured granolithic shall be tinted with an approved colouring pigment mixed into a true and even colour.					
9-21		SCREEDS					
9-21		Screeds steel trowelled, on concrete					
9-21	1	40mm Thick (average) to roofs to falls	m ²	14.00			
9-21		INTERNAL PLASTER					
9-21		Cement plaster steel trowelled, on brickwork					
9-21	2	On ceilings	m ²	11.00			
9-22		EXTERNAL PLASTER					
9-22		Cement plaster steel trowelled, on concrete					
9-22	3	On 150mm projecting soffit and vertical edges not exceeding 150mm high including drip groove	m	15.00			
9-22		CORNER PROTECTORS, DIVIDING STRIPS, ETC					
9-22		Corner protectors, dividing strips, etc.					
9-22	4	25 x 25 x 5mm Galvanised steel angle water bar with 5 x 25 x 50mm lugs welded on at 350mm centres, each once drilled for and including M8 stainless steel expansion bolt fixed in concrete.	m	2.00			
		Bill Total					0.00
		BILL NO.8 : PLUMBING AND DRAINAGE					
9-24		TRADE PREAMBLES					
9-24		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
9-24		TRAPS ETC				
9-24		Cobra Watertech				
9-24	1	40mm SS floor trap	No	1.00		
9-24		TAPS, VALVES, ETC				
9-24		Brass				
9-24	2	22mm Hose bib-tap	No	1.00		
9-24		SANITARY PLUMBING				
9-24		uPVC soil and vent pipes				
9-24	3	40mm Pipes under floors	m	3.00		
9-24		Extra over uPVC soil and vent pipes for fittings				
9-24	4	40mm Bend	No	7.00		
9-24		Testing				
9-24	5	Testing waste pipe system	Item	1.00		
		Bill Total				0.00
		BILL NO.9 : PAINTWORK				
9-25		TRADE PREAMBLES				
9-25		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
9-25		SUPPLEMENTARY PREAMBLES				
9-25		User Note The following four items, given as examples, have been set up to comply with the Munsell system (the 'extra over' option) as prescribed in the Standard System of Measuring Building Work and should be inserted at the end of each type of paint where applicable:				

9-25	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m</p>					
9-26	<p>Extra over paintwork to all areas, for paintwork in colours which have a value of 7 or less based on the Munsell system m² Extra over paintwork to gates, grilles, burglar screens, balustrades, etc., for paintwork in colours which have a value of 7 or less based on the Munsell system (both sides measured over the full flat area) m² Extra over paintwork to rails, bars, pipes, etc. not exceeding 300mm girth, for paintwork in colours which have a value of 7 or less based on the Munsell system m Extra over paintwork to skirtings, rails, etc. not exceeding 300mm girth for paintwork in colours which have a value of 7 or less based on the Munsell system m Note It has however become evident that application problems exist with the said Munsell system and until such time as the Standard System of Measuring Building Work is adjusted to overcome these problems users should determine from the relevant manufacturer which of their colour groupings differ appreciably in price and adjust descriptions accordingly.</p>					
9-26	PAINT SPECIFICATIONS					
9-26	Painting, etc.					
9-26	All painting shall be done in accordance with Plascon specifications unless otherwise described					
9-26	COLOURS					
9-26	Colours, etc.					
9-26	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
9-26	PLASCON					
9-26	Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091					
9-26	<p>The following paints are manufactured / supplied by PLASCON PAINTS (PTY) LTD and applied in strict accordance with the manufacturer / supplier's specification.</p> <p>All work to be executed in strict accordance with the specifications of Plascon Paints (pty) Ltd. The coating systems are as per Plascon's List of Decorative Paint Products' unless otherwise specified.</p> <p>Primers and first coats maybe be thinned in accordance with the paint specifications of Plascon Paints (pty) Ltd. to aid the absorption of the paint.</p>					

		All surface must be sound, clean and have moisture content of less than 8% for walls generally and 3% for slabs / concrete etc.				
		Where surfaces of plaster etc are sandy / friable, the first coat must be replaced with "Plascon Merit" plaster primer thinned 10% with turpentine				
9-27		ON INTERNAL FLOATED PLASTER SURFACES				
9-27		Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Daser Hygrometer (or equivalent), of BD 2 3 scale - 8% or less, Prime with one coat bonding liquid, one overcoating time of 16 hours and finish with two coats Universal enamel with 2 hours drying time between coats, for a maintenance cycle of 7 years in C1 - inland environment.				
9-27	1	On concrete ventilation panels	m ²	12.00		
9-27	2	On ceilings	m ²	11.00		
9-27		ON METAL SURFACES				
9-27		One coat alkyd based zinc phosphate primer and two coats premium quality polyurethane enamel paint, on steel				
9-27	3	Doors	m ²	6.00		
9-27	4	Frames	m ²	2.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO.10 : POLE YARD FACILITIES				
		BILL NO.1 : SCRAP COMPARTMENTS				
10-2		TRADE PREAMBLES				
10-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
10-2		EARTHWORKS				
10-2		EXCAVATION ETC (PROVISIONAL)				
10-2		Excavation in earth exceeding 2m and not exceeding 4m deep				
10-2	1	Reduced levels (included in external works)	m ³	6.00		

10-2		Extra over all excavations for carting away				
10-2	2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	6.00		
10-2		Risk of collapse of excavations				
10-2	3	Sides of trench and hole excavations not exceeding 1,5m deep	m ²	6.00		
10-2		Keeping excavations free of water				
10-2	4	Keeping excavations free of all water other than subterranean water	Item	1.00		
10-2		FILLING ETC OTHER THAN BULK				
10-2		Coarse river sand filling supplied by the contractor				
10-2	5	Under floors etc.	m ³	1.00		
10-3		Compaction of surfaces				
10-3	6	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density (included in external works)	m ²	19.00		
10-3		Density Tests:				
10-3	7	Additional Mod AASHTO density tests as instructed by Engineer. (included in external works)	No	1.00		
10-3		CONCRETE, FORMWORK AND REINFORCEMENT				
10-3		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
10-3		20MPa/19mm concrete				
10-3	8	Surface blinding under footings and bases	m ³	1.00		
10-3		REINFORCED CONCRETE CAST ON/IN FORMWORK				
10-3		25MPa/19mm concrete				
10-3	9	Walls	m ³	6.00		
10-3		REINFORCED CONCRETE				
10-3		25MPa/19mm concrete				
10-3	10	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	6.00		
10-3		TEST CUBES				
10-3		Test cubes				
10-3	11	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2.00		
10-3		CONCRETE SUNDRIES				
10-3		Finishing top surfaces of concrete smooth with a steel trowel				
10-3	12	Surface beds, slabs, etc.	m ²	19.00		

10-3		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
10-3		Smooth formwork to sides				
10-3	13	Raft foundations	m ²	6.00		
10-3	14	Walls	m ²	48.00		
10-4		MOVEMENT JOINTS ETC				
10-4		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed				
10-4	15	Not exceeding 300mm wide	m	5.00		
10-4		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces				
10-4	16	10mm Joints not exceeding 150mm high.	m	5.00		
10-4		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces				
10-4	17	Not exceeding 300mm high to edges of surface beds	m	5.00		
10-4		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
10-4		High tensile steel reinforcement to structural concrete work				
10-4	18	10mm Diameter bars	Tonnes	0.65		
10-4	19	8mm Diameter bars	Tonnes	0.01		
10-4		WATERPROOFING				
10-4		DAMPPROOFING OF WALLS AND FLOORS				
10-4		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape				
10-4	20	Under surface beds and ground beams	m ²	19.00		
10-4		GALVANISED STEEL GATES, SCREENS, ETC				
10-4		Welded screens and gates to concrete walls				
10-4	21	Double gate size 1500 x 1200mm high consisting of 743 x 2075mm high each leaf with 50mm diameter 25mm tubular section framing with two 50mm diameter 25mm tubular section 45 degrees welded in and covered with 4mm diameter wire mesh of three strands mild steel and fitted with heavy duty hinges welded to steel tubular framing including locking device	No	4.00		
		Bill Total				0.00
		BILL NO.2 : TRANSFORMER PLINTHS				
10-6		TRADE PREAMABLES				

10-6		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
10-6		EXCAVATION ETC (PROVISIONAL)				
10-6		Excavation in earth exceeding 2m and not exceeding 4m deep				
10-6	1	Reduced levels (included in external works)	m ³	41.00		
10-6		Extra over all excavations for carting away				
10-6	2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	41.00		
10-6		Risk of collapse of excavations				
10-6	3	Sides of trench and hole not exceeding 1,5m deep	m ²	33.00		
10-6		Keeping excavations free of water				
10-6	4	Keeping excavations free of all water other than subterranean water	Item	1.00		
10-6		FILLING ETC OTHER THAN BULK				
10-6		Coarse river sand filling supplied by the contractor				
10-6	5	Under floors etc.	m ³	1.00		
10-6		Compaction of surfaces				
10-6	6	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density (included in external works)	m ²	90.00		
10-7		Density Tests:				
10-7	7	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00		
10-7		CONCRETE, FORMWORK AND REINFORCEMENT				
10-7		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
10-7		20MPa/19mm concrete				
10-7	8	Surface blinding under footings and bases	m ³	1.00		
10-7		REINFORCED CONCRETE				
10-7		25MPa/19mm concrete				

10-7	9	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	16.00			
10-7		Test cubes					
10-7	10	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00			
10-7		CONCRETE SUNDRIES					
10-7		Sundries					
10-7		Finishing top surfaces of concrete smooth with a power float					
10-7	11	Surface beds, slabs, etc.	m ²	90.00			
10-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)					
10-7		Smooth formwork to sides					
10-7	12	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	56.00			
10-7		Formwork Sundries					
10-7	13	Form 450 x 450 x 100mm deep sump	No	2.00			
10-7		MOVEMENT JOINTS ETC					
10-7		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed					
10-7	14	Not exceeding 300mm wide	m	10.00			
10-7		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces					
10-7	15	10mm Joints not exceeding 150mm high.	m	10.00			
10-8		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces					
10-8	16	Not exceeding 300mm high to edges of surface beds	m	10.00			
10-8		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
10-8		High tensile steel reinforcement to structural concrete work					
10-8	17	10mm Diameter bars	Tonnes	0.63			
10-8		MASONRY					
10-8		BRICKWORK IN FOUNDATIONS (PROVISIONAL)					
10-8		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar					
10-8	18	One brick walls	m ²	325.00			
10-8		BRICKWORK SUNDRIES					
10-8		Joint forming material in movement joints					

10-8	19	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	10.00			
10-8		2,5mm Brickwork reinforcement					
10-8	20	150mm Wide reinforcement built in horizontally	m	90.00			
10-8		WATERPROOFING					
10-8		DAMPPROOFING OF WALLS AND FLOORS					
10-8		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape					
10-8	21	Under surface beds and ground beams	m ²	90.00			
10-8		PLASTERING					
10-8		GRANOLITHIC					
10-8		Untinted granolithic, on concrete					
10-8	22	Average 30mm thick on floors with upper surface to falls	m ²	90.00			
10-8		EXTERNAL PLASTER					
10-8		Cement plaster steel trowelled, on brickwork					
10-8	23	On walls	m ²	60.00			
10-8	24	On narrow widths	m ²	5.00			
		Bill Total					0.00
		BILL NO.3 : DRAINAGE SUMP					
10-10		TRADE PREAMBLES					
10-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
10-10		EARTHWORKS					
10-10		EXCAVATION ETC (PROVISIONAL)					
10-10		Excavation in earth exceeding 2m and not exceeding 4m deep					
10-10	1	Reduced levels (included in external works)	m ³	9.00			
10-10		Extra over all excavations for carting away					

10-10	2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	9.00			
10-10		Risk of collapse of excavations					
10-10	3	Sides of trench and hole excavations not exceeding 1,5m deep	m ²	11.00			
10-10		Keeping excavations free of water					
10-10	4	Keeping excavations free of all water other than subterranean water	Item	1.00			
10-10		FILLING ETC OTHER THAN BULK					
10-10		Coarse river sand filling supplied by the contractor					
10-10	5	Under floors etc.	m ³	1.00			
10-11		Compaction of surfaces					
10-11	6	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density (included in external works)	m ²	19.00			
10-11		Density Tests:					
10-11	7	Additional Mod AASHTO density tests as instructed by Engineer. (included in external works)	No	1.00			
10-11		CONCRETE, FORMWORK AND REINFORCEMENT					
10-11		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES					
10-11		20MPa/19mm concrete					
10-11	8	Surface blinding under footings and bases	m ³	1.00			
10-11		REINFORCED CONCRETE					
10-11		25MPa/19mm concrete					
10-11	9	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	4.00			
10-11		TEST CUBES					
10-11		Test cubes					
10-11	10	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2.00			
10-11		CONCRETE SUNDRIES					
10-11		Finishing top surfaces of concrete smooth with a steel trowel					
10-11	11	Surface beds, slabs, etc.	m ²	19.00			
10-11		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)					
10-11		Smooth formwork to sides					
10-11	12	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	18.00			

10-11		Formwork Sundries					
10-11	13	Form 450 x 450 x 100mm deep sump	No	1.00			
10-11		MOVEMENT JOINTS ETC					
10-11		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed					
10-11	14	Not exceeding 300mm wide	m	5.00			
10-12		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces					
10-12	15	10mm Joints not exceeding 150mm high.	m	5.00			
10-12		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces					
10-12	16	Not exceeding 300mm high to edges of surface beds	m	5.00			
10-12		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
10-12		High tensile steel reinforcement to structural concrete work					
10-12	17	10mm Diameter bars	Tonnes	0.14			
10-12		WATERPROOFING					
10-12		DAMPPROOFING OF WALLS AND FLOORS					
10-12		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape					
10-12	18	Under surface beds and ground beams	m ²	19.00			
10-12		PLASTERING					
10-12		GRANOLITHIC					
10-12		Untinted granolithic, on concrete					
10-12	19	Average 30mm thick on floors with upper surface to falls	m ²	19.00			
10-12		EXTERNAL PLASTER					
10-12		Cement plaster steel trowelled, on brickwork					
10-12	20	On walls	m ²	26.00			
10-12	21	On narrow widths	m ²	3.00			
		Bill Total					0.00
		BILL NO.4 : GREASE TRAP					
10-14		TRADE PREAMABLES					

10-14		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
10-14		EARTHWORKS				
10-14		EXCAVATION ETC (PROVISIONAL)				
10-14		Excavation in earth exceeding 2m and not exceeding 4m deep				
10-14	1	Holes	m ³	15.00		
10-14		Extra over trench and hole excavations in earth for excavation in				
10-14	2	Soft rock	m ³	1.00		
10-14	3	Hard rock	m ³	1.00		
10-14		Extra over all excavations for carting away				
10-14	4	Surplus material from excavations to spoil	m ³	15.00		
10-14		Risk of collapse of excavations				
10-14	5	Sides of trench and hole excavations exceeding 1,5m deep	m ²	13.00		
10-14		Keeping excavations free of water				
10-14	6	Keeping excavations free of all water other than subterranean water	Item	1.00		
10-15		SOIL POISONING				
10-15		Soil insecticide in accordance with SANS 5859				
10-15	7	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	6.00		
10-15		CONCRETE				
10-15		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
10-15		20Mpa/19mm Concrete in:				
10-15	8	Blinding	m ³	1.00		
10-15		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
10-15		25 MPa/19 mm concrete in:				
10-15	9	Surface beds.	m ³	2.00		

10-15	10	Surface beds thickening.	m ³	1.00		
10-15		REINFORCED CONCRETE				
10-15		25 MPa/19 mm concrete in:				
10-15	11	Slabs.	m ³	2.00		
10-15		CONCRETE TESTING				
10-15		Concrete test cubes:				
10-15	12	Making and testing set of three 150 x 150 x 150mm concrete strength test cubes.	Sets	3.00		
10-15		CONCRETE SUNDRIES				
10-15		Finishing top of concrete smooth with a Class U3 Steel Trowel Finish:				
10-15	13	Surface beds, slabs, etc	m ²	10.00		
10-15		FORMWORK				
10-15		Formwork (use and waste) to concrete to:				
10-15	14	Slabs propped up exceeding 1,5m and not exceeding 3,5m high	m ²	10.00		
10-15	15	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	14.00		
10-15		Sundries to formwork:				
10-15	16	450 x 600mm Rebated opening through 170mm thick slab	No	3.00		
10-16		REINFORCEMENT				
10-16		Steel fabric reinforcement to concrete:				
10-16	17	Welded high tensile steel square mesh fabric reinforcement reference 245 (mass 2,45kg/m ²) to surface beds.	m ²	11.00		
10-16		Mild steel reinforcement to structural concrete work:				
10-16	18	8mm Diameter bars.	Tonnes	1.00		
10-16		High tensile steel reinforcement to structural concrete work:				
10-16	19	10mm Diameter bars.	Tonnes	1.00		
10-16	20	16mm Diameter bars.	Tonnes	1.00		
10-16		BRICKWORK				
10-16		Brickwork of 'NFX' extra hard burnt bricks (14MPa compressive strength) in Class I mortar:				
10-16	21	Half brick walls.	m ²	3.00		
10-16	22	One brick wall.	m ²	35.00		
10-16		Brickwork Sundries				
10-16		Sundries				

10-16	23	Extra over one brick wall for 110mm diameter uPVC pipe sleeve, 2000mm long bent once	No	2.00			
10-16		Bagging of 1:3 cement and sand mixture					
10-16	24	Outer face of external brick wall	m ²	19.00			
10-16	25	Inner face of external brick wall	m ²	30.00			
10-16		Brickwork reinforcement:					
10-16	26	High tensile steel fabric reinforcement 75mm wide to every course of brick walls.	m	814.00			
10-16		WATERPROOFING					
10-16		Prepare and apply two coats heavy quality bituminous solution in strict accordance with the manufacturers specifications on:					
10-16	27	Brick walls	m ²	26.00			
10-17		METALWORK					
10-17		Sundry metalwork:					
10-17		To Engineers Detail Drawing No. S172454-GEN-03					
10-17	28	50 x 50 x 6mm galvanised angle iron frame rawl bolted to concrete by and including 10mm bolts at 500mm centres	m	15.00			
10-17	29	50 x 50 x 6mm galvanised angle 2100mm long iron frame rawl bolted to frame at each end by and including 10mm bolts	No	2.00			
10-17	30	1800 x 2000mm Vastrap cover complete with handles (2 No.) and fitted to frame with with (3 No.) hinges	No	3.00			
10-17	31	1200 x 1350mm high sludge tray	No	1.00			
10-17		SOIL DRAINAGE					
10-17		Brick inspection chambers including precast concrete cover slabs and channels in benching					
10-17	32	1320 x 2000mm Inspection chamber complete including covers, piping etc. To Engineer's Drawing No. S172454-SW-02	No	1.00			
		Bill Total					0.00
		BILL NO.5 : OIL BUND					
10-19		TRADE PREAMBLES					
10-19		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
10-19		EXCAVATION ETC (PROVISIONAL)				
10-19		Excavation in earth exceeding 2m and not exceeding 4m deep				
10-19	1	Reduced levels (included in external works)	m ³	25.00		
10-19		Extra over all excavations for carting away				
10-19	2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	25.00		
10-19		Risk of collapse of excavations				
10-19	3	Sides of trench and hole not exceeding 1,5m deep	m ²	19.00		
10-19		Keeping excavations free of water				
10-19	4	Keeping excavations free of all water other than subterranean water	Item	1.00		
10-19		FILLING ETC OTHER THAN BULK				
10-19		Coarse river sand filling supplied by the contractor				
10-19	5	Under floors etc.	m ³	1.00		
10-19		Compaction of surfaces				
10-19	6	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density (included in external works)	m ²	56.00		
10-20		Density Tests:				
10-20	7	Additional Mod AASHTO density tests as instructed by Engineer. (included in external works)	No	2.00		
10-20		CONCRETE, FORMWORK AND REINFORCEMENT				
10-20		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
10-20		20MPa/19mm concrete				
10-20	8	Surface blinding under footings and bases	m ³	1.00		
10-20		REINFORCED CONCRETE				
10-20		25MPa/19mm concrete				
10-20	9	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	10.00		
10-20		Test cubes				
10-20	10	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2.00		
10-20		CONCRETE SUNDRIES				
10-20		Sundries				

10-20		Finishing top surfaces of concrete smooth with a power float				
10-20	11	Surface beds, slabs, etc.	m ²	56.00		
10-20		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
10-20		Smooth formwork to sides				
10-20	12	Edges, risers, ends and reveals not exceeding 300mm high or wide	m ²	31.00		
10-20		MOVEMENT JOINTS ETC				
10-20		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed				
10-20	13	Not exceeding 300mm wide	m	10.00		
10-20		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces				
10-20	14	10mm Joints not exceeding 150mm high.	m	10.00		
10-20		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces				
10-20	15	Not exceeding 300mm high to edges of surface beds	m	10.00		
10-21		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
10-21		High tensile steel reinforcement to structural concrete work				
10-21	16	10mm Diameter bars	Tonnes	0.38		
10-21		MASONRY				
10-21		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
10-21		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
10-21	17	One brick walls	m ²	18.00		
10-21		BRICKWORK SUNDRIES				
10-21		Joint forming material in movement joints				
10-21	18	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	10.00		
10-21		2,5mm Brickwork reinforcement				
10-21	19	150mm Wide reinforcement built in horizontally	m	213.00		
10-21		WATERPROOFING				
10-21		DAMPPROOFING OF WALLS AND FLOORS				
10-21		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape				

10-21	20	Under surface beds and ground beams	m ²	56.00			
10-21		PLASTERING					
10-21		GRANOLITHIC					
10-21		Untinted granolithic, on concrete					
10-21	21	Average 30mm thick on floors with upper surface to falls	m ²	56.00			
10-21		EXTERNAL PLASTER					
10-21		Cement plaster steel trowelled, on brickwork					
10-21	22	On walls	m ²	36.00			
10-21	23	On narrow widths	m ²	3.00			
		Bill Total					0.00
		Section Total					0.00
		SECTION NO.11 : TRUCK AND PARKING BAYS					
		BILL NO.1 : EARTHWORKS					
11-2		TRADE PREAMBLES					
11-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					
		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
11-2		EXCAVATION ETC					
11-2		Excavation in earth not exceeding 2m deep					
11-2	1	Reduced levels	m ³	143.00			
11-2	2	Holes	m ³	37.00			
11-2		Extra over trench and hole excavations in earth for excavation in					
11-2	3	Soft rock	m ³	6.00			
11-2	4	Hard rock	m ³	3.00			
11-2		Extra over all excavations for carting away					
11-2	5	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	160.00			
11-2		Risk of collapse of excavations					

11-2	6	Sides excavations not exceeding 1,5m deep	m ²	133.00			
11-2		Keeping excavations free of water					
11-2	7	Keeping excavations free of all water other than subterranean water	Item	1.00			
11-3		FILLING ETC OTHER THAN BULK					
11-3		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)					
11-3	8	Backfilling to trenches, holes, etc.	m ³	20.00			
11-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 95% Mod. AASHTO density					
11-3	9	G5 Under floors, paving, etc.	m ³	71.00			
11-3		Earth filling supplied and carted onto site by the contractor compacted to a density of at least 98% Mod. AASHTO density					
11-3	10	G2 Under floors, paving, etc.	m ³	71.00			
11-3		Compaction of surfaces					
11-3	11	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	474.00			
11-3		Density Tests:					
11-3	12	Additional Mod AASHTO density tests as instructed by Engineer.	No	12.00			
11-3		SOIL POISONING					
11-3		Soil insecticide in accordance with SANS 5859					
11-3	13	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	474.00			
		Bill Total					0.00
		BILL NO.2 : CONCRETE, FORMWORK AND REINFORCEMENT					
11-5		TRADE PREAMBLES					
11-5		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
11-5		Cost of tests					
11-5		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
11-5		Breeze concrete					
11-5		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
11-5		Lightweight concrete					
11-5		Lightweight concrete shall have a density of 600kg/m ³ for the top 50mm and 400kg/m ³ for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
11-6		Formwork					
11-6		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use					
11-6		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					
11-6		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described					
11-6		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described					
11-6		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					

11-6		User Note - In order to accommodate the custom in some regions to give formwork to sides of beams, isolated beams, etc. separately from formwork to the soffits thereof, the items in respect of formwork to beams, isolated beams, etc. are given under the headings of 'Formwork to Sides', 'Formwork to Soffits' and 'Formwork to Sides and Soffits'				
11-6		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
11-6		20MPa/19mm concrete				
11-6	1	Surface blinding under footings and bases	m ³	2.00		
11-6		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
11-6		25MPa/19mm concrete				
11-6	2	Bases	m ³	13.00		
11-7		REINFORCED CONCRETE				
11-7		25MPa/19mm concrete				
11-7	3	Stub columns	m ³	2.00		
11-7		TEST CUBES				
11-7		Test cubes				
11-7	4	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00		
11-7		CONCRETE SUNDRIES				
11-7	5	Grout solid under steel base plates	No	36.00		
11-7		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
11-7		Rough formwork to sides				
11-7	6	Bases	m ²	48.00		
11-7		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
11-7		Smooth formwork to sides				
11-7	7	Stub columns	m ²	21.00		
11-7		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
11-7		Mild steel reinforcement to structural concrete work				
11-7	8	8mm Diameter bars	Tonnes	0.06		
11-7		High tensile steel reinforcement to structural concrete work				
11-7	9	16mm Diameter bars	Tonnes	2.02		
		Bill Total				0.00

		BILL NO.3 : PRECAST CONCRETE					
11-9		TRADE PREAMBLES					
11-9		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
11-9		PRECAST CONCRETE PAVING					
11-9		80mm Thick 30MPa precast concrete interlocking block paving of 200 x 100mm paving blocks in accordance with SANS 1058, laid to falls on and including 25mm thick bed of crusher dust with joints filled in with sand, compacted with a vibration compactor					
11-9	1	Paving to parking etc. to falls	m ²	474.00			
11-9	2	Extra over for circular cutting around steel column	m	36.00			
		Bill Total					0.00
		BILL NO.4 : ROOF COVERINGS					
11-10		TRADE PREAMBLES					
11-10		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
11-10		PROFILED METAL SHEETING AND ACCESSORIES					
11-10		SUPPLEMENTARY PREAMBLES					
11-10		Cutting of sheets:					
11-10		All necessary cutting to sheets shall be properly performed and all exposed cut edges shall be perfectly straight and treated to match roof finish					

11-10		Sarintra 0,50mm thick 700mm cover SAFLOK 700 Cove Grey Colorbond G550 interlocking roof covering fixed to galvanised steel purlins at 1500mrr centres and ridge purlins at 1260mm centres using galvanised SL 700 clips secured to purlins with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with marufocturer's recommendations.				
11-10	1	Roof covering with pitches not exceeding 25 degrees	m ²	495.00		
11-10	2	Turn up troughs at apex	m	77.00		
11-10	3	Turn down troughs at eaves	m	77.00		
11-10		Sarintra 0,58mm thick 700mm cover SAFLOK 700 Dove Grey Colorbond G550 interlocking wall cladding fixed to galvanised steel rails at 1200mm centres and top rails at 1020mm centres using galvanised SL 700 clips secured to rails with 3No. 1C x 22mm Class 3 wafer head self tapping screws, all in accordance with marufocturer's recommendations.				
11-10	4	Vertical cladding	m ²	113.00		
11-11		Safintra 0.58mm thick SAFLOK 700 Dove Grey Chromadek ISQ550 accessories with Z275 spelter to both sides, fixed using SAF 700 clip-en sliders, all in accordance with the manufacturer's recommendations				
11-11	5	Apex trim	m	16.00		
11-11	6	Verge trim	m	22.00		
11-11	7	Corner trim	m	6.00		
11-11	8	Raking corner trim	m	9.00		
11-11	9	Eaves closer	m	16.00		
11-11	10	Drip flashing	m	16.00		
		Bill Total				0.00
		BILL NO.5 : STRUCTURAL STEELWORK				
11-13		TRADE PREAMBLES				
11-13		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
11-13		SUPPLEMENTARY PREAMBLES				
11-13		Descriptions				

11-13		Descriptions of bolts shall be deemed to include nuts and washers				
11-13		Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
11-13		Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
11-13		GALVANISED STEEL COLUMNS AND BEAMS				
11-13		Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete				
11-13	1	IPE 160 x 15.8kg/m I-section Universal columns	Tonnes	1.42		
11-13	2	203 x 133 x 25mm x 25.1kg/m I-section Universal columns	Tonnes	1.00		
11-13	3	300 x 150 x 12mm Base plate with four 12mm diameter bolt holes	No	30.00		
11-13	4	250 x 350 x 12mm Base plate with four 18mm diameter bolt holes	No	8.00		
11-13	5	82 x 1040 x 10mm End plate with four 12mm diameter bolt holes	No	30.00		
11-14	6	82 x 161 x 10mm End plate with four 12mm diameter bolt holes	No	30.00		
11-14	7	133 x 1015 x 10mm End plate with four 12mm diameter bolt holes	No	8.00		
11-14	8	133 x 205 x 10mm End plate with four 12mm diameter bolt holes	No	8.00		
11-14		Welded beams in single lengths with flat bearer and connection plates, bolted to steel				
11-14	9	IPE 160 x 15.8kg/m I-section Universal beams	Tonnes	1.25		
11-14	10	203 x 133 x 25mm x 25.1kg/m I-section Universal beams	Tonnes	0.72		
11-14	11	10mm diameter threaded bars	Tonnes	0.03		
11-14	12	797 x 436mm x 10mm haunch cut at a radius of 752mm with 90mm diameter hole and fitted with and including 6mm steel welded to beams	No	23.00		
11-14		STEEL PURLINS, RAILS, GIRTS, BRACING, ETC				
11-14		Purlins and girts, bolted to steel				
11-14	13	150 x 75 x 20 x 2mm x 5.1kg/m cold-formed lipped channels	Tonnes	1.59		
11-14	14	200 x 75 x 20 x 2.5mm x 7.29kg/m cold-formed lipped channels	Tonnes	1.66		
11-14	15	50 x 50 x 5mm x 3.77kg/m cross bracing	Tonnes	0.77		
11-14		BOLTS, FASTENERS, ETC				
11-14		Bolts and fasteners				

11-14	16	M12 Grade 4.8 bolts cast into concrete	No	152.00		
11-14	17	M12 Grade 4.8 bolts fixed to steel	No	304.00		
11-14		PAINTING				
11-14		Surface to be dry, sound and clean. Apply Plascon Galvanised Iron Clearer (GIC 1) to all bare galvanised areas Allow to react for 1 minute and rinse off with tap water using bristle brush or Scotch Brite pads to remove 01 surface contaminants. until surface is water break-free. Prime with one coat Glatex 8 Metal Primer (FL 3) with an overcoating time of 8 hours and finish wih two coats Glatex 8 (PL) colour Black with 16 hours drying time between coats, for maintenance cycle of 10 years in a C3 - industrial environment				
11-14	18	On structural galvanised steel columns, beams, etc.	m ²	242.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO.12 : ELECTRICAL INSTALLATION				
		BILL NO.1 : ELECTRICAL WORK				
12-2		TRADE PREAMBLES				
12-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
12-2	1	Electrical Installation complete as per Electrical Installation Bills of Quantities	Item	1.00		
12-2	2	Profit	Item	1.00		
12-2	3	Attendance	Item	1.00		
		Bill Total				0.00
		Section Total				0.00
		SECTION NO.13 : MECHANICAL INSTALLATION				
		BILL NO.1 : MECHANICAL WORK				
13-2		TRADE PREAMBLES				

13-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
13-2		Mechanical Installation					
13-2	1	Ventilation and Air Conditioning Installed Complete as per Ventilation and Air Conditioning Installation Bills of Quantities	Item	1.00			
13-2	2	Profit	Item	1.00			
13-2	3	Attendance	Item	1.00			
13-2	4	Domestic Water System Installed Complete as per Domestic Water System Installation Bills of Quantities	Item	1.00			
13-2	5	Profit	Item	1.00			
13-2	6	Attendance	Item	1.00			
13-2	7	Fire Protection System Installed Completes as per Fire Protection System Installation Bills of Quantities	Item	1.00			
13-2	8	Profit	Item	1.00			
13-2	9	Attendance	Item	1.00			
		Bill Total					0.00
		Section Total					0.00
		SECTION NO.14 : EXTERNAL WORKS					
		BILL NO.1 : PLUMBING AND DRAINAGE					
14-2		TRADE PREAMBLES					
14-2		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					

14-2		STORMWATER DRAINAGE (CPAP WORK GROUP NO. 146)				
14-2		Class 100D concrete pipes with interlocking joints				
14-2	1	300mm Pipes laid in and including trenches not exceeding 1m deep	m	350.00		
14-2		Sumps, catchpits, inspection chambers, etc. including concrete kerbs or precast concrete cover slabs (gratings and covers elsewhere)				
14-2	2	Type 2 Stormwater Kerb Inlet complete to Engineer's Drawing No. S172454-STW-02	No	5.00		
14-2	3	1200 x 2000mm Brick catchpit complete including gratings, etc. To Engineer's Drawing No. S172454-STW-03	No	6.00		
14-2	4	Brick Headwall including concrete apron (19/25Mpa), excavations, formwork, backfilling, concrete stormwater pipe, etc complete including to Engineer's Drawing No. S172454-STW-03	No	1.00		
14-2	5	9000 x 3750mm wide mattress bedding including excavations 375mm deep complete with 3000 x 1000 x 300mm deep Reno Mattress Boxes laid on AG200 Geofabrick.	No	1.00		
14-3		Municipal connection				
14-3	6	Provide the sum of R 2 000.00 (Two thousand five Rand) for municipal connection	Item			
14-3	7	Profit	Item	1.00		
14-3		SOIL DRAINAGE (CPAP WORK GROUP NO. 146)				
14-3		Heavy duty (Class 34) uPVC sewer and drain pipes				
14-3	8	110mm Pipes laid in and including trenches not exceeding 1m deep	m	170.00		
14-3		Extra over normal duty (Class 34) uPVC sewer and drain pipes for fittings				
14-3	9	110mm Rodding eye	No	2.00		
14-3		Cast iron pipes with SSN couplings				
14-3	10	50mm Pipes laid in and including trenches not exceeding 1m deep	m	300.00		
14-3		Extra over cast iron pipes with SSN couplings for fittings				
14-3	11	50mm Bend	No	3.00		
14-3	12	50mm junction	No	3.00		
14-3		Brick inspection chambers including precast concrete cover slabs and channels in benching				
14-3	13	1320 x 2000mm Inspection chamber complete including covers, piping etc. To Engineer's Drawing No. S172454-SW-02	No	13.00		
14-3		SEPTIC TANK				
14-3		EARTHWORKS				

14-3		EXCAVATION ETC (PROVISIONAL)				
14-3		Excavation in earth exceeding 2m and not exceeding 4m deep				
14-3	14	Septic tank	m ³	67.00		
14-3		Extra over trench and hole excavations in earth for excavation in				
14-3	15	Soft rock	m ³	6.00		
14-3	16	Hard rock	m ³	3.00		
14-3		Extra over all excavations for carting away				
14-3	17	Surplus material from excavations stock piles on site	m ³	24.00		
14-4		Risk of collapse of excavations				
14-4	18	Sides of trench and hole excavations exceeding 1,5m deep	m ²	54.00		
14-4		Keeping excavations free of water				
14-4	19	Keeping excavations free of all water other than subterranean water	Item	1.00		
14-4		Filling				
14-4		Earth filling obtained from the prescribed stock piles on site, compacted to 98% Mod AASHTO density!				
14-4	20	Backfilling to trenches, holes, etc.	m ³	44.00		
14-4		Compaction of surfaces				
14-4	21	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	27.00		
14-4		SOIL POISONING				
14-4		Soil insecticide in accordance with SANS 5859				
14-4	22	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m ²	27.00		
14-4		CONCRETE				
14-4		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-4		20Mpa/19mm Concrete in:				
14-4	23	Blinding	m ³	1.00		
14-4		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-4		25 MPa/19 mm concrete in:				
14-4	24	Surface beds.	m ³	2.00		
14-4	25	Surface beds thickening.	m ³	2.00		

14-4		REINFORCED CONCRETE				
14-4		25 MPa/19 mm concrete in:				
14-4	26	Filling in cavity (Provisional).	m ³	4.00		
14-4	27	Slabs.	m ³	2.00		
14-5		CONCRETE TESTING				
14-5		Concrete test cubes:				
14-5	28	Making and testing set of three 150 x 150 x 150mm concrete strength test cubes.	Sets	3.00		
14-5		CONCRETE SUNDRIES				
14-5		Finishing top of concrete smooth with a Class U3 Steel Trowel Finish:				
14-5	29	Surface beds, slabs, etc	m ²	19.00		
14-5		FORMWORK				
14-5		Formwork (use and waste) to concrete to:				
14-5	30	Slabs propped up exceeding 1,5m and not exceeding 3,5m high	m ²	9.00		
14-5	31	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	14.00		
14-5		Sundries to formwork:				
14-5	32	450 x 600mm Rebated opening through 170mm thick slab	No	2.00		
14-5		REINFORCEMENT				
14-5		Steel fabric reinforcement to concrete:				
14-5	33	Welded high tensile steel square mesh fabric reinforcement reference 245 (mass 2,45kg/m ²) to surface beds.	m ²	11.00		
14-5		Mild steel reinforcement to structural concrete work:				
14-5	34	8mm Diameter bars.	Tonnes	0.00		
14-5		High tensile steel reinforcement to structural concrete work:				
14-5	35	10mm Diameter bars.	Tonnes	1.00		
14-5	36	16mm Diameter bars.	Tonnes	0.00		
14-5		BRICKWORK				
14-5		Brickwork of 'NFX' extra hard burnt bricks (14MPa compressive strength) in Class I mortar:				
14-5	37	Half brick walls.	m ²	3.00		
14-5	38	330mm Hollow walls of two half brick skins with cavities filled in with and including 25MPa/20mm concrete (elsewhere measured)	m ²	31.00		
14-6		Brickwork Sundries				

14-6		Openings					
14-6	39	Extra over half brick wall for forming 170 x 330mm opening.	No	2.00			
14-6		Bagging of 1:3 cement and sand mixture					
14-6	40	Outer face of external brick wall	m ²	19.00			
14-6	41	Inner face of external brick wall	m ²	30.00			
14-6		Brickwork reinforcement:					
14-6	42	High tensile steel fabric reinforcement 75mm wide to every course of brick walls.	m	814.00			
14-6		WATERPROOFING					
14-6		Prepare and apply two coats heavy quality bituminous solution in strict accordance with the manufacturers specifications on:					
14-6	43	Brick walls	m ²	26.00			
14-6		METALWORK					
14-6		Sundry metalwork:					
14-6	44	450 x 600mm Cast iron double seal manhole cover and frame (mass 72kg) coated with preservative solution and bedding frame in 3-1 cement mortar in opening in concrete cover (elsewhere measured) and the cover in tallow.	No	2.00			
14-6	45	Loose key for lifting manhole covers.	No	1.00			
14-6	46	Sep irons @ 300 c/c vertically	No	16.00			
14-6		SANITARY PLUMBING					
14-6		Unplasticized polyvinyl chloride (uPVC) pipes for above ground use:					
14-6	47	110mm Diameter pipe fixed to walls.	m	3.00			
14-6	48	20mm Diameter weep hole piping, 230mm long	No	4.00			
14-6		Extra over uPVC piping for the following fittings:					
14-6	49	110mm Junction with inspection eye.	No	7.00			
14-7		THE FOLLOWING IN NO. 8 No FRENCH DRAINS					
14-7		Soakaways, etc:					
14-7	50	Excavate for and build french drain size 2m long x 0.8m wide and 1.85m deep, filled in with 50-75mm loosely packed selected rubble, G5 quality material, 19mm crusher stone, each to a depth of 0.4m deep, and wrap with "Kaymat U19" geofabric filter blanket wrapped around rubble with 150mm side and 300mm end laps, and top of trench covered with a double layer 250 micron USB green dampproof course with 500mm overlap on both sides of trench and fill in over with earth from the excavation well rammed and compacted and deposit remainder of soil on site where directed	No	8.00			
14-7		Agricultural Drainage					

14-7		Perforated unplasticised polyvinyl chloride for underground use laid in filling:				
14-7	51	110mm Diameter piping and laying in filling (elsewhere)	m	16.00		
14-7		Extra over perforated unplasticised polyvinyl chloride pipes for the following fittings:				
14-7	52	110mm Diameter end cap	No	8.00		
14-7	53	110mm Diameter inspection pipe	No	8.00		
14-7		TAPS, VALVES, ETC				
14-7		Valves, Etc.				
14-7	54	50mm Brass Isolation valve	No	2.00		
14-7	55	50mm Brass Air valve	No	1.00		
14-7	56	Isolation Valve Chamber to Engineer's Details Drawing No. S172454-03-WL-03	No	2.00		
14-7	57	Air Valve Chamber to Engineer's Details Drawing No. S172454-03-WL-02	No	1.00		
14-7		WATER SUPPLIES				
14-7		Excavation, etc. for water supplies				
14-7	58	Excavation in earth not exceeding 1m deep for pipe trenches	m ³	19.00		
14-7	59	Backfilling to pipe trenches	m ³	19.00		
14-7		Class 12 uPVC pressure pipes with solvent welded joints				
14-7	60	50mm Pipes laid in and including trenches not exceeding 1m deep	m	140.00		
14-8		Extra over Class 16 uPVC pressure pipes for fittings with solvent welded joints				
14-8	61	50mm Bend	No	2.00		
14-8		Extra over Class 16 uPVC pressure pipes for cast iron pressure fittings				
14-8	62	110 x 50mm Reducer	No	1.00		
14-8	63	50mm End Cap	No	2.00		
14-8		Sundries				
14-8	64	Unreinforced concrete in thrust blocks in trenches at bends, tees, etc. including extra excavation, formwork, etc.	m ³	1.00		
14-8		FIRE APPLIANCES				
14-8		Fire hydrant				
14-8	65	75mm Ø ND, DN65, PN16 SG iron, underground type, screw-down pattern, with a 65mm Ø bayonet lug outlet (SABS 1128) as per specifications.	No	2.00		
14-8	66	80mm Ø flanged steel pipe FBE coated to SABS 1217, of variable length to be fitted where necessary.	No	2.00		

14-8	67	100mm Ø CI Hydrant Tee	No	2.00			
14-8	68	Fire Hydrant Chamber to Engineer's Details Drawing No. S172454-03-WL-03	No	2.00			
14-8		Fire Hose Reels					
14-8		Fire hose reels to comply with requirements contained in SANS 543 and maintained in accordance with the requirements as given in SANS 1475-2.					
14-8		Supply, install, test and commission:					
14-8	69	30m Fire Hose Reel complete with fibre braid reinforced neoprene hose of 20mm internal diameter.	No	2.00			
14-8		WATER SUPPLIES TO FIRE APPLIANCES					
14-8		Class 12 uPVC pressure pipes with solvent welded joints					
14-8	70	100mm Pipes laid in and including trenches not exceeding 1m deep	m	140.00			
14-8		Extra over Class 16 uPVC pressure pipes for fittings with solvent welded joints					
14-8	71	100mm Bend	No	2.00			
14-9		Municipal connection					
14-9	72	Provide the sum of R 2 000.00 (Two thousand Rand) for municipal connection	Item				
14-9	73	Profit	Item	1.00			
14-9		Testing					
14-9	74	Testing water pipe system	Item	1.00			
		Bill Total					0.00
		BILL NO.2 : MECHANICAL WORK					
14-11		TRADE PREAMBLES					
14-11		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
14-11		PUMPS					
14-11		Water Tanks					

14-11	1	Provide R 300 000 (Three hundred thousand rand) for the Installation of Bulk Fire and Domestic Water Tank complee to Engineer's Drawings No. S172451-WL-01 and S172451-WL-02 excluding Building Works	No				
14-11		TELECOM					
14-11		Telecom Tower					
14-11	2	Provide R 300 000 (Three hundred thousand rand) for the Installation of Telecom Tower excluding Building Works (Elsewhere measured)	Item				
		Bill Total					0.00
		BILL NO.3 : ROADWORKS					
14-12		TRADE PREAMBLES					
14-12		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
14-12		ROADWORK, PARKING AREAS AND PAVING					
14-12		Testing of material and filling					
14-12	1	Descriptions of earth filling, compaction, etc. shall be deemed to include for all necessary testing required in accordance with the SABS 1200 series	Item	1.00			
14-12		Precast concrete block road surfacing					
14-12	2	Paving shall be laid in accordance with SABS 1200 MJ, SANS 1058 and the Concrete Masonry Association's specifications	Item	1.00			
14-12	3	Paving shall be laid to herringbone (?) pattern on 20mm thick (thickness after final compaction) clean river sand (preparation of ground or filling elsewhere)	Item	1.00			
14-12	4	Clean sand shall be swept into joints between roadstones at completion	Item	1.00			
14-12		Site clearance					
14-12	5	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc. and trees not exceeding 200mm girth	m ²	12 694			
14-12		Excavation in earth not exceeding 2m deep					
14-12	6	Over site between buildings, retaining walls, etc. to reduce levels and dispose spoil	m ³	4 770			

14-13	7	Reduce levels to spoil	m ³	900.00		
14-13		Extra over bulk excavation in earth for excavation in				
14-13	8	Soft rock	m ³	400.00		
14-13	9	Hard rock	m ³	100.00		
14-13		Keeping excavations free of water				
14-13	10	Keeping excavations free of all water other than subterranean water	Item	1.00		
14-13		Extra over all excavations for carting away				
14-13	11	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m ³	4 770		
14-13		Earth filling supplied by the contractor under parking areas, roadways, etc.				
14-13	12	Bulk filling of G7 material in accordance with SABS 1200 DM, compacted in 150mm layers to 95% Mod AASHTO density	m ³	8 900		
14-13	13	Layerworks filling of G7 material in accordance with SABS 1200 DM, compacted in 150mm layers to 95% Mod AASHTO density	m ³	1 700		
14-13	14	Sub-base course of G5 material in accordance with SABS 1200 DM, compacted to 98% Mod AASHTO density for main site platform	m ³	1 700		
14-13	15	Sub-base course of G5 material in accordance with SABS 1200 DM, compacted to 98% Mod AASHTO density (buildings)	m ³	300.00		
14-13	16	Filling (50mm deep) of G5 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m ³	150.00		
14-13		Compaction of surfaces				
14-13	17	Compaction of ground surface under pavings etc. including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density.	m ²	12 694		
14-13		Additional tests required by the engineer				
14-13	18	In-situ dry density test in accordance with method A10(b) of TMH1	No	5.00		
14-13	19	Maximum dry density and optimum moisture content test in accordance with method A7 of TMH1	No	5.00		
14-14	20	Atterberg limits test in accordance with methods A2 to A4 of TMH1	No	5.00		
14-14	21	CBR test in accordance with method A8 of TMH1	No	5.00		
14-14	22	UCS test in accordance with method A14 of TMH1	No	5.00		
14-14		30MPa fibre reinforced concrete				
14-14	23	Paving to parking areas, roadways, etc. in panels between construction joints etc.	m ³	170.00		

14-14	24	Edging to kerbs etc.	m ³	9.00		
14-14		Finishing top surfaces of concrete with a power float and a coarse hard grass broom				
14-14	25	Paving to parking areas, roads, etc. to falls	m ²	1 133		
14-14	26	Edging to kerbs etc. not exceeding 300mm wide	m ²	67.00		
14-14		Saw-cut joints				
14-14	27	6 x 35mm Saw cut joints in top of concrete with 10 x 6mm second cut.	m	675.00		
14-14		Formwork				
14-14	28	Formwork to edge not exceeding 300mm high	m	226.00		
14-14	29	Formwork to edge not exceeding 300mm high, circular on plan	m	37.00		
14-14		Vertical joggle construction joints through concrete, including thick cement slurry to one face				
14-14	30	Paving not exceeding 300mm thick	m	337.00		
14-14		30MPa precast concrete interlocking block paving of 200 x 100mm paving blocks in accordance with SANS 1058, laid to falls on and including 25mm thick bed of crusher dust with joints filled in with sand, compacted with a vibration compactor				
14-14	31	50mm Thick Paving to parking areas etc. to falls	m ²	1 000		
14-14	32	80mm Thick Paving to parking areas etc. to falls	m ²	6 300		
14-14	33	Extra over for circular cutting	m	10.00		
14-14		Precast concrete finished smooth on exposed surfaces, including bedding, jointing and pointing				
14-14	34	150 x 300mm High kerbs (SANS 927 fig 3) with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc.	m	530.00		
14-15	35	150 x 300mm High kerbs (SANS 927 fig 3) with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, circular on plan exceeding 4m radius, formed with straight kerbs, including excavation, backfilling, etc.	m	22.00		
14-15	36	100 x 250mm High mountable kerbs (SANS 927 fig 10) with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc.	m	100.00		
14-15		Two-part grey polysulphide sealing compound, including backing cord, bond breaker, primer, etc.				
14-15	37	6 x 35mm In saw-cut joints	m	675.00		
14-15		Road signs				
14-15	38	Standard STOP sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc.	No	1.00		
14-15		Paintwork				

14-15		Prepare and apply one coat white reflective road marking paint on bituminous road surfacing, precast concrete paving blocks, etc.					
14-15	39	100mm Wide line	m	320.00			
14-15	40	100mm Wide dotted line	m	10.00			
14-15	41	Arrow 50 x 30mm overall	No	8.00			
14-15	42	50mm Letter	No	48.00			
		Bill Total					0.00
		BILL NO.4 : PROVISIONAL SUMS					
14-17		TRADE PREAMBLES					
14-17		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
14-17		BUDGETARY ALLOWANCES					
14-17		Sundry building work					
14-17	1	Provide the sum of R 12 000 (Twelve thousand Rand) for Jetmaster Braai with flue installed complete	Item				
14-17		Signage					
14-17	2	Provide the sum of R 70 000 (Seventy thousand Rand) for boundary wall signage installed complete	Item				
		Bill Total					0.00
		BILL NO.5 : RETAINING WALLS					
14-18		TRADE PREAMBLES					
14-18		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					

		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
14-18		EXCAVATION ETC (PROVISIONAL)				
14-18		Excavation in earth exceeding 2m deep				
14-18	1	Trenches	m ³	37.00		
14-18		Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density				
14-18	2	Exceeding 2m and not exceeding 4m deep for placing and removing formwork to walls etc., 1000mm away from excavated face	m ²	50.00		
14-18		Extra over trench and hole excavations in earth for excavation in				
14-18	3	Soft rock	m ³	7.00		
14-18	4	Hard rock	m ³	2.00		
14-18		Extra over all excavations for carting away				
14-18	5	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	65.00		
14-18		Risk of collapse of excavations				
14-18	6	Sides of trench and hole excavations not exceeding 1,5m deep	m ²	110.00		
14-19		Keeping excavations free of water				
14-19	7	Keeping excavations free of all water other than subterranean water	Item	1.00		
14-19		FILLING ETC OTHER THAN BULK				
14-19		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)				
14-19	8	Backfilling to trenches, holes, etc.	m ³	8.00		
14-19		Density Tests:				
14-19	9	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00		
14-19		FILTER FABRIC				
14-19		Kaytech filter fabric blanket with 50mm laps				
14-19	10	110mm Diameter perforated Kaytech soil pipe with 19mm stone filter size 300 x 300mm wrapped in Bidum.	m	83.00		
14-19	11	110mm Diameter corrugated smooth bore pipe	m	110.00		
14-19		SUPPLEMENTARY PREAMBLES				

14-19		The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)					
14-19		Breeze concrete					
14-19		Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (1:12); the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated					
14-19		Lightweight concrete					
14-19		Lightweight concrete shall have a density of 600kg/m3 for the top 50mm and 400kg/m3 for the remaining thickness. The minimum thickness at outlets, channels, etc. shall be 50mm					
14-20		Formwork					
14-20		Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use					
14-20		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					
14-20		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described					
14-20		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described					
14-20		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					
14-20		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES					
14-20		20MPa/19mm concrete					
14-20	12	Surface blinding under footings and bases	m ³	7.00			
14-20		REINFORCED CONCRETE CAST ON/IN FORMWORK					

14-20		25MPa/19mm concrete				
14-20	13	Filling in cavities	m ³	33.00		
14-20		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-20		25MPa/19mm concrete				
14-20	14	Footings	m ³	17.00		
14-20		TEST CUBES				
14-20		Test cubes				
14-20	15	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	3.00		
14-21		Cost of tests				
14-21		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
14-21		Rough formwork to sides				
14-21	16	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	220.00		
14-21		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
14-21		Mild steel reinforcement to structural concrete work				
14-21	17	8mm Diameter bars	Tonnes	0.16		
14-21		High tensile steel reinforcement to structural concrete work				
14-21	18	16mm Diameter bars	Tonnes	0.19		
14-21	19	12mm Diameter bars	Tonnes	1.44		
14-21	20	10mm Diameter bars	Tonnes	0.73		
14-21		SUPPLEMENTARY PREAMBLES				
14-21		BRICKWORK				
14-21		Sizes in descriptions				
14-21		Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick				
14-21		Hollow walls				
14-21		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				
14-21		Bagged and sealed walls				
14-21		Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats bitumen emulsion waterproofing coating				

14-21		Face bricks				
14-21		Bricks shall be ordered timeously to obtain uniformity in size and colour				
14-21		Pointing				
14-21		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
14-22		BRICKWORK IN FOUNDATIONS (PROVISIONAL)				
14-22		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar				
14-22	21	340mm Hollow walls of two half brick skins with concrete infill (eslewhere measured) including wire ties	m ²	275.00		
14-22		BRICKWORK SUNDRIES				
14-22		Joint forming material in movement joints				
14-22	22	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	88.00		
14-22		2,5mm Brickwork reinforcement				
14-22	23	150mm Wide reinforcement built in horizontally	m	1 617		
14-22		SUPPLEMENTARY PREAMBLES				
14-22		Waterproofing				
14-22		Waterproofing of roofs, basements, etc. shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc. with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs				
14-22		WATERPROOFING TO ROOFS, BASEMENTS, ETC				
14-22		Prime with one coat bitumen primer and one layer 4mm fully bonded waterproof membrane comprising two bitumen layers reinforced with woven spun bonded polyester fabric and coated with polyethylene film for heat bonding, laid with 100mm side and 150mm end laps				
14-22	24	On walls	m ²	275.00		
		Bill Total				0.00
		BILL NO.6 : BOUNDARY WALL				
14-24		TRADE PREAMBLES				
14-24		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries				

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
14-24	1	On walls	m ²	14.00		
14-24		ENTRANCE WALL AND GATE				
14-24		EARTHWORKS				
14-24		Excavation in earth not exceeding 2m deep				
14-24	2	Trenches	m ³	14.00		
14-24		Extra over all excavations for carting away				
14-24	3	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	9.00		
14-24		Risk of collapse of excavations				
14-24	4	Sides of bulk excavations not exceeding 1,5m deep	m ²	43.00		
14-24		Keeping excavations free of water				
14-24	5	Keeping excavations free of all water other than subterranean water	Item	1.00		
14-24		FILLING ETC OTHER THAN BULK				
14-24		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)				
14-24	6	Backfilling to trenches, holes, etc.	m ³	5.00		
14-25		CONCRETE, FORMWORK AND REINFORCEMENT				
14-25		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-25		20MPa/19mm concrete				
14-25	7	Surface blinding under 1 footings and bases	m ³	1.00		
14-25		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-25		25MPa/19mm concrete				
14-25	8	Strip footings	m ³	3.00		
14-25		REINFORCED CONCRETE				
14-25		25MPa/19mm concrete				
14-25	9	Filling to piers	m ³	1.00		
14-25		TEST CUBES				
14-25		Test cubes				

14-25	10	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2.00			
14-25		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)					
14-25		Rough formwork to sides					
14-25	11	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	39.00			
14-25		MOVEMENT JOINTS ETC					
14-25		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces Expansion joints with 10mm of board (bitumen impregnated soft board between vertical concrete and brick surfaces					
14-25	12	Not exceeding 300mm high to edges of surface beds	m	0.00			
14-25		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
14-25		Mild steel reinforcement to structural concrete work					
14-25	13	8mm Diameter bars Tonnes	Tonnes	0.00			
14-25	14	10mm Diameter bars Tonnes	Tonnes	0.00			
14-25		High tensile steel reinforcement to structural concrete work					
14-25	15	10mm Diameter bars Tonnes	Tonnes	1.00			
14-25	16	12mm Diameter bars Tonnes	Tonnes	0.00			
14-26	17	16mm Diameter bars Tonnes	Tonnes	0.00			
14-26		BRICKWORK					
14-26		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar					
14-26	18	340 x 340mm attached brick columns with 110 x 110mm cavity	m	15.00			
14-26	19	290mm Hollow walls of two half brick skins including wire ties	m ²	36.00			
14-26	20	340mm Brick walls on top 450mm high including wire ties	m ²	11.00			
14-26		BRICKWORK SUNDRIES					
14-26		Sundries					
14-26		10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.					
14-26	21	10mm Joint forming material in movement joints not exceeding 300mm wide	m	6.00			
14-26		2,5mm Brickwork reinforcement					
14-26	22	75mm Wide reinforcement built in horizontally	m	373.00			
14-26		FACE BRICKWORK					

14-26		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.				
14-26	23	Extra over brickwork in NFX bricks for face brickwork externally	m ²	53.00		
14-26	24	Extra over brickwork for brick-on-edge roller course as coping 340mm wide	m	13.00		
14-26	25	Extra over brickwork for face brickwork in projecting (circular on elevation) roller course	m	12.00		
14-26		SLATE CLADDING				
14-26	26	300 x 300mm African Blue slate cladding fixed to walls with adhesive and pointing	m ²	14.00		
14-27		PLASTERING				
14-27		EXTERNAL PLASTER				
14-27		Cement plaster wood floated, on brickwork				
14-27	27	On walls	m ²	14.00		
14-27		FENCING				
14-27		Cochrane ClearVu or Equivalently approved Invisible Wall Fencing System Supplied and Installed Complete				
14-27	28	2100mm High ClearVu type high density mesh panels with 4mm thick mesh diameter and aperture sizes of 76,2 x 12,7mm centres. Panels to be finished with line galvanized deep etch primer and epoxy enamel finish coat, all fixed between posts with clamping plate to secure mesh panel against post using anti-vandal bolt heads as tamper proof fixing. Posts to be taper posts of maximum 85 x 85mm at maximum centres of 3382mm posts to be capped with UV stabilised polymer end caps. 100mm High galvanised 'shark tooth' type spike rails, bolted to 50mm wide ClearVu mesh flange bent along fence top, all supplied and installed strictly in manufacture's specification and recommendation	m	448.00		
14-27	29	Anti-Burrow 600 x 150mm underdig including all necessary excavation, cartaways, etc	m	448.00		
14-27	30	Taper locking post size 85 x 45 x 2700mm high including locking recess mechanism sealed with a UV stabilized polymer cap and bedded in 500 x 500 x 600mm mass concrete (15MPa) bases and related earthworks.	No	112.00		
14-27	31	Corner post size 76 x 152 x 2700mm high including locking recess mechanism sealed with a UV stabilized polymer cap and bedded in 500 x 500 x 600mm mass concrete (15MPa) bases and related earthworks.	No	7.00		
14-27	32	Double leaf sliding Gate size 20 000 x 2100mm high formed of galvanised framing including heavy duty hinges and spikes, 3mm diameter wire with apertures size 76.2mm x 25mm with galvanised mesh infill	No	1.00		

14-27	33	Double leaf sliding Gate size 6 000 x 2100mm high formed of galvanised framing including heavy duty hinges and spikes, 3mm diameter wire with apertures size 76.2mm x 25mm with galvanised mesh infill	No	2.00			
14-27	34	300 x 300 x 300mm Cement concrete 15MPa block with 12mm diameter x 200mm long galvanised pipe embedded in top as gate keep including all excavations, backfilling, etc.	No	12.00			
14-28	35	Shark tooth spike fixed on top of fence and gates	No	474.00			
		Bill Total					0.00
		BILL NO.7 : SCREEN WALL AND BENCH					
14-30		TRADE PREAMBLES					
14-30		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles					
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications					
14-30		SCREEN WALL BENCH					
14-30		EARTHWORKS					
14-30		Excavation in earth not exceeding 2m deep					
14-30	1	Trenches	m ³	14.00			
14-30		Extra over all excavations for carting away					
14-30	2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	9.00			
14-30		Risk of collapse of excavations					
14-30	3	Sides of bulk excavations not exceeding 1,5m deep	m ²	28.00			
14-30		Keeping excavations free of water					
14-30	4	Keeping excavations free of all water other than subterranean water	Item	1.00			
14-30		FILLING ETC OTHER THAN BULK					
14-30		Earth filling obtained from the excavations and/or prescribed stock piles on site (not compacted)					
14-30	5	Backfilling to trenches, holes, etc.	m ³	5.00			
14-31		CONCRETE, FORMWORK AND REINFORCEMENT					
14-31		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES					

14-31		20MPa/19mm concrete				
14-31	6	Surface blinding under 1 footings and bases	m ³	1.00		
14-31		REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-31		25MPa/19mm concrete				
14-31	7	Strip footings	m ³	4.00		
14-31		REINFORCED CONCRETE				
14-31		25MPa/19mm concrete				
14-31	8	Filling to piers	m ³	1.00		
14-31	9	Seats	m ³	1.00		
14-31		TEST CUBES				
14-31		Test cubes				
14-31	10	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2.00		
14-31		Finishing top surfaces of concrete with a sponge roll				
14-31	11	Seats	m ²	9.00		
14-31		ROUGH FORMWORK (DEGREE OF ACCURACY III) (CPAP WORK GROUP NO. 111)				
14-31		Rough formwork to sides				
14-31	12	Strip footings	m ²	8.00		
14-31		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)				
14-31		Smooth formwork to sides				
14-31	13	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	28.00		
14-31	14	Chamfer edge of concrete	m	14.00		
14-31		MOVEMENT JOINTS ETC				
14-31		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces Expansion joints with 10mm of board (bitumen impregnated soft board between vertical concrete and brick surfaces				
14-31	15	Not exceeding 300mm high to edges of surface beds	m	0.00		
14-32		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)				
14-32		Mild steel reinforcement to structural concrete work				
14-32	16	8mm Diameter bars Tonnes	Tonnes	0.00		
14-32	17	10mm Diameter bars Tonnes	Tonnes	0.00		
14-32		High tensile steel reinforcement to structural concrete work				

14-32	18	10mm Diameter bars Tonnes	Tonnes	1.00			
14-32	19	12mm Diameter bars Tonnes	Tonnes	0.00			
14-32	20	16mm Diameter bars Tonnes	Tonnes	0.00			
14-32		BRICKWORK					
14-32		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar					
14-32	21	340 x 340mm attached brick columns with 110 x 110mm cavity	m	13.00			
14-32	22	Half brick walls	m ²	17.00			
14-32	23	One brick walls	m ²	43.00			
14-32	24	340mm brick walls of two half brick skins including wire ties	m ²	2.00			
14-32		BRICKWORK SUNDRIES					
14-32		Sundries					
14-32		Joint forming material in movement joints					
14-32	25	10mm Sondor Jointex expanded polyurethane built in vertically between brick skins not exceeding 300 mm wide.	m	1.00			
14-32		2,5mm Brickwork reinforcement					
14-32	26	75mm Wide reinforcement built in horizontally	m	373.00			
14-32		Prestressed fabricated concrete lintels including necessary temporary supports					
14-32	27	110 x 75mm Lintels in lengths not exceeding 3m.	m	2.00			
14-33		FACE BRICKWORK					
14-33		Corobrik 20-30 MPa 'Agate Travertine' Imperial FBX clay face brick, size 222 x 106 x 73mm, manufactured in accordance with SANS 227: 2007, built in stretcher bond, bedded and jointed in Class 11 mortar and pointed with recessed vertical and horizontal joints, suitable for exposure zones 1-2.					
14-33	28	Extra over brickwork for brick-on-edge roller course as coping 230mm wide	m	75.00			
14-33	29	Extra over brickwork for face brickwork in roller courses	m	12.00			
14-33		FIBRE-CEMENT WINDOW SILLS					
14-33		Everite Nutec' fibre cement windows cills to suite window Size, internally, in single lengths not exceeding 3600mm, set flat and slightly projecting bedded in class 1 mortar and including fixing lugs screwed to underside with self tapping screws					
14-33	30	150 x 15mm Wide sills set flat and slightly projecting	m	11.00			
14-33		PRECAST CONCRETE WEATHERED COPINGS, ETC.					

14-33		Deranco saddleback coloured precast concrete finished smooth on exposed surfaces including bedding, jointing and pointing:					
14-33	31	Coping on top of 340 x 340mm pier projecting all around with drip.	No	5.00			
14-33	32	Coping on top of 1800 x 680mm chimney stack including opening for flue.	No	1.00			
14-33	33	Shelf slab 1570 x 450 x 100mm thick	No	1.00			
14-33		WATERPROOFING					
14-33		DAMPPROOFING OF WALLS AND FLOORS					
14-33		One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape					
14-33	34	Under seats	m ²	9.00			
14-34		METALWORK					
14-34		GALVANISED STEEL GATES, SCREENS, ETC					
14-34		Welded screens and gates to concrete					
14-34		Galvanised steel pre-painted palisade fencing of 50 x 2.5mm thick profiled pales with 5 "S" profiles - maximum gap between pales 120mm. Tops of pales to be splay cut and triple pointed. Pales to be welded at both ends to 45 x 40 x 10 x 2.5mm lipped angle section horizontal rails, bolted with M12 tensile anti-vandal shear nuts to brick piers (elsewhere measured) at maximum 4.5m apart, including required brackets					
14-34	35	Electrically operated galvanised steel sliding gate, 2000mm high and 5000mm wide formed of 100 x 50 x 3mm hollow section frame, five horizontal rails and fourteen vertical rails, including guides, guide posts, sliding gear, track, motors, etc. complete.	No	1.00			
14-34		PLASTERING					
14-34		EXTERNAL PLASTER					
14-34		Cement plaster wood floated, on brickwork					
14-34	36	On walls	m ²	14.00			
14-34	37	50mm Letter	No	12.00			
		Bill Total					0.00
		BILL NO.8 : TOWER PLATFORMS					
14-36		TRADE PREAMBLES					
14-36		The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in this Project Specific Preliminaries					

		Supplementary preambles and/or specifications are incorporated in this Project Specific Preliminaries to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles				
		The contract sum shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications				
14-36		EXCAVATION ETC (PROVISIONAL)				
14-36		Excavation in earth exceeding 2m and not exceeding 4m deep				
14-36	1	Reduced levels	m ³	41.00		
14-36		Extra over all excavations for carting away				
14-36	2	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m ³	41.00		
14-36		Risk of collapse of excavations				
14-36	3	Sides of trench and hole not exceeding 1,5m deep	m ²	33.00		
14-36		Keeping excavations free of water				
14-36	4	Keeping excavations free of all water other than subterranean water	Item	1.00		
14-36		FILLING ETC OTHER THAN BULK				
14-36		Coarse river sand filling supplied by the contractor				
14-36	5	Under floors etc.	m ³	1.00		
14-36		Compaction of surfaces				
14-36	6	Compact ground surface for a depth of 150mm breaking down oversize material, adding suitable material if necessary and compacting to 95% Mod. AASHTO maximum density	m ²	90.00		
14-37		Density Tests:				
14-37	7	Additional Mod AASHTO density tests as instructed by Engineer.	No	2.00		
14-37		CONCRETE, FORMWORK AND REINFORCEMENT				
14-37		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
14-37		20MPa/19mm concrete				
14-37	8	Surface blinding under footings and bases	m ³	1.00		
14-37		REINFORCED CONCRETE				
14-37		25MPa/19mm concrete				
14-37	9	Raft surface beds cast in panels on waterproofing (elsewhere measured).	m ³	16.00		
14-37		Test cubes				

14-37	10	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	5.00			
14-37		CONCRETE SUNDRIES					
14-37		Sundries					
14-37		Finishing top surfaces of concrete smooth with a power float					
14-37	11	Surface beds, slabs, etc.	m ²	90.00			
14-37		SMOOTH FORMWORK (DEGREE OF ACCURACY II) (CPAP WORK GROUP NO. 111)					
14-37		Smooth formwork to sides					
14-37	12	Edges, risers, ends and reveals not exceeding 300mm high or wide	m ²	56.00			
14-37		Formwork Sundries					
14-37	13	Form 450 x 450 x 100mm deep sump	No	2.00			
14-37		MOVEMENT JOINTS ETC					
14-37		Two layers of 375 micron dampproof course in slip joints between horizontal concrete and brick surfaces including cement mortar bed					
14-37	14	Not exceeding 300mm wide	m	10.00			
14-37		Isolation joints with Sondor Jointex expanded polyurethane between vertical concrete surfaces					
14-37	15	10mm Joints not exceeding 150mm high.	m	10.00			
14-38		Expansion joints with 10mm softboard (bitumen impregnated softboard between vertical concrete and brick surfaces					
14-38	16	Not exceeding 300mm high to edges of surface beds	m	10.00			
14-38		REINFORCEMENT (PROVISIONAL) (CPAP WORK GROUP NO. 114)					
14-38		High tensile steel reinforcement to structural concrete work					
14-38	17	10mm Diameter bars	Tonnes	0.63			
14-38		PLASTERING					
14-38		GRANOLITHIC					
14-38		Untinted granolithic, on concrete					
14-38	18	Average 30mm thick on floors with upper surface to falls	m ²	90.00			
		Bill Total					0.00
		Section Total					0.00

PART 3: SCOPE OF WORK

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C3.1: EMPLOYER’S WORKS INFORMATION

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1 Description of the works

1.1 Executive overview

This project is for the construction of the Lusikisiki new CNC on an Eskom owned site. The new Lusikisiki CNC will be in line with the Eskom CNC standard design and will comply with the municipal bylaws, National Environmental Management Act and the Building Regulations.

Due to the urgency of the project, it is proposed that the project be conducted in a conventional building method.

1.2 Employer's objectives and purpose of the works

1.2.1 The scope of work comprises of the following activities and the construction of:

- Customer Network Centre (CNC)
- Chemical storage
- General Stores
- Customer Services
- Guard House
- Installation of HVAC System
- Pole Storage
- The scope of work comprises of the following activities and the construction of;
- Customer Network Centre (CNC)
- Chemical storage
- General Stores
- Customer Services
- Guard House
- Installation of HVAC System
- Pole Storage

1.3 Interpretation and terminology

1.3.1 Abbreviations

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits
PM	Project Manager
CPE	Contract Project Engineer
CPM	Contract Project Manager
EMP	Environmental Management Program
PE	Project Engineer
PES	Project Engineer Specialist
FDP	Final Design Package
T&Q	Technology and Quality Department - Eskom

1.3.2 Acceptance of Eskom SHEQ Policies and Procedures

The attached documents form part of this legal binding contract, the **Contractor** confirms that he has familiarized himself with all the embedded documents from 1 to 25 as indicated

No	UNIQUE IDENTIFIER	REVISION	DOCUMENT TITLE
1	32 - 727	LATEST	SAFETY, HEALTH, ENVIRONMENT AND QUALITY (SHEQ) POLICY 32-727  Safety, Health, Environment and Qua
5	ESKOM LIFE SAVING RULES	LATEST	ESKOM LIFE SAVING RULES 240-62196227   Eskom life-saving rules.pdf Life saving rules (2)Acknowledgement.
6	CONSTRUCTION REG 4	LATEST	NOTIFICATION OF CONSTRUCTION WORK TO DEPARTMENT OF LABOUR  Notification of construction work (2).
7	CONSTRUCTION REG 4 & 5	LATEST	APPOINTMENT LETTERS FOR CLIENT REPRESENTATIVE, PRINCIPAL CONTRACTOR & CONTRACTOR  Principal Contractor appointment.docx
8 & 9	OHS ACT	LATEST	WRITTEN AGREEMENT ON OHS ACT SECTION 37(2) & STANDARD CLAUSE  Section 37 (2) Agreement (2).docx
10, 11 & 12	34 - 1063	LATEST	EXPANDED PUBLIC WORKS REPORT 34-1063.
13	<u>DST 34-961</u>	LATEST	LEGAL APPOINTMENTS AND AUTHORIZATIONS
14	TPC 41-55	LATEST	TRANSPORTING PERSONS ON BACK OF VEHICLES  Vehicle and Driver Safety Management.p
15	LTIR	LATEST	LOST TIME INJURY REPORT
16	1. Contractor Performance Evaluation	LATEST	
17	SHE Requirements for the Eskom Commercial Process	LATEST	 SHE Requirements for the Eskom Comm

18	2. Supplier Contract Quality Requirements	LATEST	
19	3. Work at Heights Procedure	LATEST	 Work at Height Standard.pdf
20	4. Contract Specification for Vegetation Management Services on Eskom Networks	LATEST	 DST_240-52456757 vegetation.pdf
	5. Environmental Incident Management Procedure 240-133087117		 Environmental Incident Management
	6. Eskom Wildlife Interaction and Management Standard 7. 32-829		 Wildlife Interaction and Management Standard
	8. Eskom Waste Standard 32-245		 Eskom Waste Management 32-245.

2 Management and start up.

2.1 Management meetings

Regular meetings of a general and Legal nature shall be convened and chaired by the *Project Manager/Project co-ordinator or representative so delegated by Eskom Holdings SOC Limited. As part of the contractor's responsibility with an objective of minimizing the adverse effects of risks and surprises for both Parties, meetings shall be held at reasonable times as defined OHS act as follows:*

Title and purpose	Approximate time & interval	Location	Attendance by
Kick-Off Meetings		On site	e.g. PM, Contractor, Supervisor, and _____
Risk register and compensation events	Weekly on at		
Overall contract progress and feedback	Monthly on ___ at		e.g. Employer, Contractor, Supervisor, and
Technical Site Meetings			
Health, Safety & Environmental Meetings			
Community based Meetings			

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the works. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.2 Documentation control

All contractual Documentation must have relevant contract number and Purchase Order Number as reference as per Eskom Holdings SOC Limited Standards (List). Contractual communications will be in the form of properly compiled letters, letters attached to emails, emails, NEC template and urgent contractor meetings can be in the form of sms and as outlined on core clause 13 of the NEC3 ECC.

The use of sms's, emails does not override the use of applicable and relevant NEC3 ECC standard templates, forms and Eskom Holdings SOC Limited procedures.

Note: It is the contractor responsibility to acquire and familiarize themselves with the NEC3 ECC.

2.3 Health and safety risk management

In addition to the requirements of the laws governing health and safety, Eskom may have some additional requirements particular to the *works* and the Working Areas for this contract. The text below provides for these being attached as an Annexure to this Works Information. PLEASE ALSO READ CORE CLAUSE 27.4 TOGETHER WITH Z7 IN THE ADDITIONAL CONDITIONS OF CONTRACT TO MAKE SURE THAT WHATSOEVER IS INCLUDED IN THE ANNEXURE FOLLOWS ON FROM THOSE CLAUSES.

The Cluster Safety Risk Manager or his representative having jurisdiction over the *works* must provide the relevant safety, health and environmental (SHE) criteria for incorporation into this Works Information. The SHE specification / scope must be signed off by the Cluster Safety Risk Manager or his representative confirming that the applicable safety criteria have been taken into account.

The Buyer must refer the tender to the Cluster Safety Risk Manager or his representative in order to evaluate against enquiry-specific safety criteria.

The Cluster Safety Risk Managers who will be responsible for the allocation of resources to assist P&SCM with the above processes are as follows:

- Dx CCC B/E Nosipho Manyonga
- Dx CCC SHEQ-Lindelwa Ngcaba
- Dx CCC Contractors Xolile Myoyo
- Dx CCC Contractors Nathen Felkers

The *Contractor* shall comply with the health and safety requirements contained in Annexure 32-136 to this Works Information.

The contractor SHE files should be submitted and approved within 5 working days. The contractor is given **one opportunity** to correct, and re-submit within seven 7 days.

The Contractors Project SHEQ File is to be updated on a continuous basis. The Contractor is to ensure that all relevant documentation and authorisations are contained in the file pertaining to the project. Upon completion of the project, the Contractor is to convert all documentation contained in the SHEQ file into electronic format and save it as a PDF File. The file name should contain the name of the Contractor and the project. The file should then be saved onto a disk or removal storage device and handed over to the *Project Manager* upon completion of the project.

2.4 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints contained in the FDP and attached in Annexure B to this Works Information and consist of the following documentation to comply with:

- Environmental Legal Compliance for Eskom Distribution Projects with DESD's signed
- 240-DX-048T Standard for Environmental Screening of Distribution Activities applicable to Eskom Dx Cluster
- 240-715553 Distribution generic EMP for Operations Maintenance Standard
- 240-DX-038T Generic Environmental Management Programme for Distribution Activities
- 240-DX-049T Standard for Environmental Impact Assessment of Distribution Activities
- DPC_34-926 doc incorporating Water use issues draft 1(3) (Repaired) draft 0A.

Notes and Requirements for Environmental Compliance

- Contractors must be aware of environmental specifications in contracts and comply with them;
- Contractors building new lines and substations and performing maintenance on existing infrastructure to attend environmental law course.
- Legal contraventions involving contractors to be communicated to all other contractors to avoid recurrence;
- Contractors to follow and comply with EMPr's provided.
- Contractors are to use the following Standard **240-52456757 Contract Specification for Vegetation Management Services on Eskom Networks** when doing bush clearing.
- Contractors building new assets or maintaining existing assets to always have a copy of the EMPr, EA and any other permits (tree, water, heritage, CCA) and also monitoring/inspections reports available on site where such documents exist;
- Contractors assisting with self-build projects for third parties to attend the DESD training awareness.
- Contractors assisting with self-build projects for third parties to ensure that the relevant documentation including the DESD is handed over to and acknowledged and supported by the Land Development and Environment section. Such contractors take
- liability for the completion of the DESD;
- All environmental incidents to be brought under the attention of the Eskom Holdings SOC Limited representative within 24 hours as per Environmental Incident Management Procedure 240-133087117 ;
- Contractors must demand/request a copy of the completed DESD for their projects);
- Read and understand the DESD, EMPr and other permits;
- (K) Ensure all relevant staff are aware of the conditions of the DESD, EMPr and other permits;
- Review DESD and EMP before tendering;
- Environmental Authorizations are only issued for specific projects that triggers Listed activities as stipulated in NEMA regulations .

2.5 Quality assurance requirements

Quality Control

- An approved Quality Control Programme is to be implemented in conjunction with, and to the approval of, the *Project Manager*.
- The Quality Control Document for per construction stage is to be used and signed off by the relevant people indicated in the document.
- The following Quality Control stages to be documented:
 1. Geotechnical investigation & report for each pole foundation.
 2. DCP tests & soil nominations for each stay foundation.
 3. Steel inspection on steel poles at delivery
 4. Structure dressing & installation Quality control check sheets
 5. Stay pull tests per stay
 6. Earth resistance (pole foot) tests per structure
 7. Sag & tension records during stringing of conductors and shield wire
 8. Recording of full tension joints

Quality Engineering

- All construction and installation methods are to comply with the *Power Delivery Engineering* standard requirements as contained in the National and Provincial Standards on the Distribution Technology websites.
- The Contractor shall comply with the Project Specifications included in the FDP document. Any changes proposed during the construction phase shall notify the Project Manager who will follow the Project Change Request approval process.
- Eskom Holdings SOC Limited's representative must be notified at least 30 days prior to the commissioning.
- Eskom Holdings SOC Limited's representative must be allowed access to the site at any time during the construction to carry out an inspection of the works.
- Before the start of the construction stage, the Contractor will confirm with the Clerk of Works which activities are identified as Holding Points/milestone and which activities he would like to be photographed as proof for compliancy if not present. A Holding Point is an activity for which arrangements have to be made for the Clerk of Works to be present and to witness the work procedure.
- Each stage, once completed by the contractor, will be signed off by both the Contractor and Clerk of Works. The Clerk of Works will indicate whether the activity was:
 - Witnessed (W) - present during this activity
 - Verify (V) - not present but confirm compliancy.
- Once all the activities have been completed, the Quality Control Programme shall be presented to the Project Manager to sign off the Handover Certificate of each stage.

2.6 Programming constraints

The contractor shall submit his construction program in terms of the conditions of contract. This program shall be submitted according to Part one – Data provided by the *Employer* (Time).

Any programme, which is going to be used to assess delay and disruption during the course of a project, must be prepared in a manner, which most accurately and clearly expresses the intention of the Contractor.

The programme prepared at the beginning of the project should therefore be:

1. Realistic and capable of achievement;
2. Based on available information; with
3. Assumptions clearly defined; and
4. Supported by a method statement identifying the contractor's construction logic.

This Programme may include but not limited to the activities stated below:

- Site Establishment
- Bush clearing
- Survey
- Foundations
- Superstructures
- Electrical
- Plumbing
- Finishes
- Commissioning

Every activity on the programme will be clearly linked to a **labour** resources and **equipment** required to perform the specific activity.

Weather delays based on the rainfall data supplied under Part 2 (C1.2 Annexure A), must be included in the programme. Only weather delays over and above the specified number of rain days will qualify for evaluation as delays.

Completion and hand-over dates for formal inspection by the site supervisor must be indicated.

Project expenditure (cash flow projection) on a monthly basis for the entire duration of the contract must be indicated.

The Contract Program will be on display in the *Contractors Site Offices* and will be updated weekly. In addition to the maintaining of this programme, the Contractor will report progress to the Project Manager on a weekly basis.

Should any deviations to the program be found, the *Contractor* shall submit a revised program to the *Project Manager* within one week.

The *Project Manager* retains the right to alter the Accepted Program should circumstances on *site* necessitate such a change.

The following Statutory non-working days are included within the contract period:

- All Public Holidays for the duration of the contract.
- The programme must clearly indicate the working days for the entire construction period or alternatively all the non-working days within the construction period.

2.7 Contractor’s management, supervision and key people

The *Contractor* shall also provide a detailed organization chart showing the personnel to be employed for the *works*, along with Training certificates of all key personnel. Contractors to submit proof to Eskom that their Contracts manager or delegated employee representative has NEC ECC training. A full definition of ONE team shall form part of the organization chart per project and identity number shall form part of this document.

2.8 Invoicing and payment

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager’s* payment certificate. Email Invoice to shared services:

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

- Name and address of the *Contractor* and the *Project Manager*;
- The contract number and title;
- *Contractor’s* VAT registration number;
- The *Employer’s* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

Note: All material purchased by the contractor will be paid once they have been installed (subjected to project managers discretion). The risk of paying the material prematurely delivered to site will remain with the contractor.

Financial records are to be kept by the Contractor on any additional items not included in the original Scope of Works/Activity List.

An **EPWP (Expanded Public Works Programme)** reports must accompany each invoice as part of the approval and acceptance process of the monthly assessment and reporting stage.

On a monthly basis, the *Contractor* must report the number of employees working on the projects. Manhours report must be provided on the 1st day of the following month to the respective Eskom Project Manager, cc Contract administrator Xoliswa Quluba, e-mail address is QulubaX@eskom.co.za

General Information	X
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- No Pro-forma Invoice	
- Check Vendor number against the Address and name on Tax invoice	
- Insert the Vendor number on Tax invoice (Top right hand corner)	
- Bank details must be on the invoice or on a attach sheet, but it does not require a bank stamp just a letter)	
- Check banking details on invoice against SAP system. If more than one banking account check bank account against banking details on invoice. If banking details not on invoice, write the bank code next to the vendor account (bank code 0002)	
- Check Vendor VAT number against the vendor master. (FK03) If VAT number not on master records, prepare a list and forward to Vendor Management to check and update the vendor master records	
- No fax copies of Tax invoices allowed	
- No copies of Tax invoices allowed unless originally printed by the Vendor if a photocopy tax invoice, it must be an original "certified copy" (i.e. not a copy of a "certified copy" invoice) from the vendor and check in system if not previously be paid. Put stamp "not previously paid" on invoice and sign.	
- Ensure that date received stamp is clear on invoice	
- Stamp all Invoices with the Vat stamp, complete and sign (only when VAT is applicable)	
- The stamp should not be stamped over any written information	
- When scanning invoice, check the quality before linking in SAP (inboxes)	
With Reference Invoices	X
- Goods receipt must be done (payment with reference)	
- Ensure that the SAP purchase order number is clear and correct on the invoice	
- GR number to be written on the Invoices	
- If multiple lines on invoice write the line number of the order against the line to ensure that the processors match the correct lines (to ensure that 191100 is matched correctly)	

2.9 Insurance provided by the Employer

The insurance provided by the *Employer*, is addressed under the **contract data by the Employer under Z13.2** Insurances "Insurance provided by the *Employer*". In this case Format Dx is applicable for this contract.

2.10 Contract change management

For any compensation event relating to changes to scope and additions to scope which were not part of the original scope, such changes shall be treated under compensation event core clause section 6 of the NEC3. The contractor shall notify the Project Manager of any changes to Site Personnel within 5 (Five) working day Only resources listed on the approved safety file should be allowed on the construction site. Should there be a need for replacement of resources or adding more teams, the safety file must be updated to reflect such amendment. The allocated safety officer shall re-evaluate the health and safety file for approval. Additional resources may only be allowed access to construction sites after the amended file has been approved

2.11 Provision of bonds and guarantees

N/A

2.12 Records of Defined Cost, payments & assessments of compensation events to be kept by the Contractor

2.13 Training workshops and technology transfer

Technological requirements and standards that are applicable at this stage of contract establishment may change and contractors are required to comply with latest standards. In the event that this results in a cost implication, this will be dealt with according to section 6 of the NEC/ECC Contract.

Contractor shall comply with all SD&L requirements relating to training, workshops and any technology transfer obligations.

3 Engineering and the *Contractor's* design

The contractor shall execute the works as per the Employer's Final Design Package (FDP)/ Detailed Design Package (DDP).

3.1 *Employer's* design

The Employer will supply Contractor with a final design document compiled by the Project Engineer detailing the scope of work to be executed on the project as well as Project Drawings.

3.2 Parts of the *works* which the *Contractor* is to design

Even when the contract is a traditional 'construction only' contract, the *Contractor* is probably still required to carry out workshop details from overall drawings provided by the *Employer* and to design temporary works.

3.3 Procedure for submission and acceptance of *Contractor's* design

This procedure may also include a design stage activity matrix or requirements for co-operation with Others on a multi party project. State requirements for drawings to be prepared by the *Contractor*.

3.4 Other requirements of the *Contractor's* design

N/a

3.5 Use of *Contractor's* design

N/a

3.6 Design of Equipment

N/a

3.7 Equipment required to be included in the *works*

The Contractor shall propose at the start of the project and Project Manager/ Engineer to approve.

3.8 As-built drawings, operating manuals and maintenance schedules

The Contractor completes as-built drawings and as-built schedule of quantities handed over as completed. The Contractor submits these as-built drawings and as-built schedule of quantities as part of the hand-over documentation in line with the completion dates indicated on the approved construction programme.

Should there be conflict between the specification and drawings, then documentation shall be considered in the order of priority set out below:

- Tender Correspondence/Minutes/Site Instructions
- Works Information & Final Design Package
- Drawings
- Should the Contractor note any inconsistency between the specification and drawings he shall notify the Project Manager and obtain clarification or instructions prior to collecting and installing materials and plant for the work.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site

Extended Public Works Programme (EPWP) shall be applicable on all projects. The EPWP report template is included as supporting documentation and forms part of this Contract.

To be compiled by the Contractor:

- Base indicators to be collated on all EPWP projects (Table 1)

Table 1: Base indicators to be collected on all EPWP projects

B1 Number	Project level Indicator to be used in monitoring system	Comments
1	Number of people ("Different warm bodies") employed on relevant project	Will be assumed to be equivalent to number of job opportunities created. Will measure the number of people to benefit directly from the EPWP
2	Person-days of employment created	Total number of person days created will be divided by 230 to convert to person years of employment created
3	Minimum wage rate	Since local public bodies may set the wage rate as part of the EPWP to wage rate on a particular project will need to be reported
4	Number of training days provided	Since all workers are entitled to training it is important to ensure that actual training is delivered
5	Overall spending on the project	Will give an indication of how much is actually spent on EPWP projects
6	Demographics of workers on EPWP Projects	The percentages of women, youth and disabled to be reported on.

- KPI to be used for the EPWP (Table 2)

Table 2: KPI's to be used for the EPWP

KPI	KPI	Method for calculation	Comment
1	Number of Job opportunities created	Assumed to be equal to number of warm bodies employed per project	Will give an indication as to how many unemployed people benefit directly from the EPWP
2	Person years of employment created	Divide the total number of person days of all projects by 230 (Agreed upon number of person days of employment per year)	Indicator that shows the equivalent number of full-time jobs created
3	Number of training days provided	Total sum from all projects	Measure total amount of training provided
4	Overall spending on EPWP projects	Total sum from all projects	Measure total government spending on the EPWP
5	Demographics of workers on EPWP projects	Total sums of the project totals of women, youth and disabled employed	Measures the demographics of the people benefiting from the EPWP
6	Average length of employment created	Divide person years of employment created (KPI 2) by number of job opportunities (KPI 1)	Also allows comparison between sectors and types of projects
7	Total income paid out to previously unemployed	Multiply number of person-days (BI 2) by the minimum wage (BI 3)	

8	workers Average income of EPWP worker	Divide Total income (KPI 6) by Number of job opportunities (KPI1)	
9	Average duration of training provided	Divide total number of training days (KPI 3) by number of job opportunities (KPI 1)	Provides an indication of the level of skills build in the programme
10	Percentage of spending paid out to EPWP workers	Divide total income paid out (KPI 6) by Overall spending on EPWP (KPI 4)	Measure the labour intensity of the EPWP

4.1.2 BBBEE and preferencing scheme

The “PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS” is applicable as described under the “Invitation to Tender” section.

4.1.3 Supplier Development and Localisation

A commitment from a supplier to implement skills development and/or the promotion of localised content applicable to the scope of work shall be provided at tender stage. Regular reporting on a 2 monthly basis must be done and handed to the project manager and SDL&I functionary to report on progress of compliance to the commitments agreed upon at contract stage. This report must be handed over to the Project Manager and SDL&I functionary on a 2 monthly basis when submitting the assessment claim for payment

4.2 Subcontracting

4.2.1 Preferred subcontractors

4.2.2 Subcontract documentation, and assessment of subcontract tenders

The use of the NEC3 - ECSC is required.

4.2.3 Limitations on subcontracting

The *Employer* may require that the *Contractor* must subcontract certain specialised work, or that the *Contractor* shall not subcontract more than a specified proportion of the whole of the contract.

(unless otherwise agreed) of the Works may be sub-contracted subject to *Project Managers* approval.

4.2.4 Attendance on subcontractors

The *Contractor* is responsible for performing on the provided scope of work as if he had not subcontracted. The appointed *Contractor* will also be liable to the *Subcontractors'* employees, as he legally and liable to this contract.

The *Contractor* is liable for ensuring that materials are fit for purpose and free of defects.

The *Contractor* is liable for ensuring that all materials and workmanship fulfil the specifications, instructions and design.

Any appointment of a subcontractor by the *Contractor* is to be approved by the *Project Manager*.

The *Sub Contractor* must be CIDB registered. A maximum of 25% of the Works may be sub-contracted subject to *Project Managers* approval.

4.2.5 SECURITY OFFICER'S ON-SITE EQUIPMENT REQUIREMENTS

SERVICE INFORMATION

Description of the service

The Provision of the supply of security services Eskom Eastern Cape Operating Unit.

- 24 Hour Physical Guarding Service.
- The Service required is PSIRA D Grade trained, registered and competent Security Guards on site in the form of two (2) guards during day shift and two (2) guards during night shift pending on the size of the site as well as the scope of work at the specific site.
- Monday to Sunday (incl. Public Holidays) to conduct physical security on site.
- Physical guarding duties) Visibility) Access control Duties) Patrol / Inspection Duties) Prelim Investigation and

SECURITY SERVICES

ACCESS CONTROL

Control and management of movement of employees, visitors and Security Service Providers by ensuring that only authorized persons are allowed on site and to that only authorized equipment and material enters or is removed from site.

Access control will include amongst others the following activities:

- Recording of visitors details electronically or manually (as per site specifics)
- Application of the visitor confirmation process
- Declaration, recording and movement control of equipment and material
- Screening of persons and articles/parcels through the use of electronic equipment
- Conduct Alcohol screening/testing (training and device will be provided by Eskom)
- Safety inductions of visitors and Security Service Providers
- Searching or vehicles and persons for presence of prohibited items such as weapons, explosives or items or any devices that can be used in the commission of a criminal act.

STATIC GUARDING

The provision of unarmed guarding services in the Eastern Cape Operating Unit.

Static guarding will include among others the following activities:

- Monitoring specific locations, areas, installations to identify and prevent access of unauthorized persons, material and equipment
- Attend to and intercept suspicious activities
- Prevent illegal activities
- Prevent occurrences that may endanger Eskom employees, its Security Service Providers and visitors
- Prevent criminal activities

- Prevent incidents that may interrupt Eskom's normal business
 - Supervision of static guards will be required by no fewer than 2 visits per shift per site by two supervisors at all times
 - The deployment of ad-hoc security guards within an agreed time with the Eskom security supervisor (not longer than 3 hours of request)
 - The submission of a monthly report to Eskom
- Static guarding sites must be equipped with a panic button system linked to a 24/7 operational control room. To provide response service to a static guarded site.

SECURITY SERVICES

The Security supplier is expected to do an environment scanning within which security services are to be rendered in order to identify potential threats and risks and develop appropriate mitigation strategies to address the threats and risks. The implementation of such strategies shall be done in consultation with Eskom.

SECURITY PATROL

- Execution of crime prevention patrols at the critical network infrastructure and hotspot areas including any other specified sites within regional boundaries.
- Visiting and patrolling of Eskom sites at irregular intervals and not in a specific sequence, to detect the presence of unauthorized person, suspicious activities or occurrences that may endanger personnel or critical network infrastructure.
- Prevention of unauthorized removal of Eskom assets from Eskom sites and network infrastructure.
- Eskom reserves the right to change the reporting base within the boundaries of the allocated geographical area.
- The Eskom Service manager or his/her delegate reserves the right to re-direct crime prevention activities in his/her area of responsibility.
- No deviations from the operational plan without the authorization of the Eskom Service manager or his/her delegate will be permitted.
- The service provider must be a legally constituted entity allowed to provide security services.
- All personnel employed by the service provider must have been trained at a PSIRA accredited training institution and proof must be available on request.
- Salaries must be in accordance with the Wage Determination Act.

SECURITY OFFICERS (PSIRA Grade)

- All Security officers must be registered with PSIRA at the required grade.
- Security officers must be in possession of their PSIRA and company I.D card at all times.
- Security officers will be expected to sign a declaration of Secrecy, before commencements of their duties in terms of this contract.
- All Security officers must be subjected to a criminal screening process prior to the commencement of the contract and a copy of the results must be placed in their personnel files.
- Security officers should not have been convicted of any criminal offence and should disclose all pending criminal prosecutions against them. Non-disclosure of such will result in the officers' automatic removal from Eskom site or duties.
- Security officers should be able to read and write and express themselves well in English.

- Security officers may be required to undergo polygraph testing as and when required.
- Security officers will not be allowed to access IT networks registries, communication networks or any sensitive/zoned areas even when responding to alarms.
- Security officers should be trained on the Standard Operating Procedures (SOPs) relevant for their site of deployment and/or be made available for training by Eskom at no additional costs on any process or procedure necessary for them to do their duties. Proof of training must be kept on file and availed to Eskom on request.
- No security officers are to be deployed in terms of this contract, before undergoing necessary Eskom SAFETY induction, training and assessments. Eskom reserves the right to remove such Officers that have not complied with this requirement from their sites or duties as per this contract at the cost to the Security Service Provider.

SUPERVISION (GRADE B)

A Dedicated supervisor may be required in specified areas. A minimum PSIRA Grade B supervisor must supervise deployed guards. The supervisors must ensure that guards deployed at rural/ remote sites or areas with transport challenges are provided with their company transport to assist them to reach the sites. Smaller and remote sites will require a roaming Supervisor as per the regional requirements. The posting of guards is required to be done by the Supervisor at all sites (the practice of "self-posting" is not ruled out but must be monitored closely). All equipment must be tested and documented in the OB and deviations corrected during each and every shift change.

TRAINING

All Security personnel deployed in terms of this contract must be trained in accordance with the various applicable legislative requirements such as Private Security Industry Regulatory Authority (PSIRA),

WORKING TIMES /SHIFTS

- Working times shall be as determined by PSIRA – 48 hours per week and 45 hours per week days for shift workers.
- The security service is required 24 hours a day on a two shift cycle i.e. 06:00 to 18:00 and 18:00 to 06:00.
- A signed off reviewed list of Security officers deployed in terms of this contract must be provided on monthly basis, within 5 days prior to the commencement of the new month.
- The Security Service provider is responsible to ensure that every shift complement is correct as per Eskom's requirement before commencement of a shift.
- The Security Officers will be expected to do a pre-job / daily risk assessment and safety talks before commencement of every shift.

COMMUNICATION

The Security service provider must ensure suitable continuous communication between operational control room and their deployed staff. Supplier shall provide either one or more of the following mediums of communications as per user requirements: base radios, hand-held radios, satellite radio, company contracted cell phones (programmed with all the necessary contact details as per Eskom list) and/or push to talk system (PTT).

CONTINGENCY PLANS

- The service provider must have contingency plans in place for among others the following:
- Own Strike/Labour unrest amongst own staff.
- Shortage of Manpower due to e.g. absenteeism, sick leave annual leave.
- Equipment Failure e.g. Vehicle breakdown and Communication system.

INCIDENT REPORTING AND INVESTIGATION

- All incidents and response to incidents must be handled according to the relevant Standard Operating Procedure (SOP) and/or work instructions for each site.
- All incidents and response must be immediately (within 15 minutes) reported to the Eskom.
- The SAPS must be contacted immediately only for criminal incidents or suspected ongoing criminal activities.
- Weekly status reports are to be supplied by the service provider.
- The Security Service Provider is to ensure that all involved personnel are available for relevant court proceedings, incident investigations and assist Eskom and the SAPS in their investigations as and when required.
- All incidents (including incidents in terms of the Occupational Health and Safety Act), should be reported within 24 hours and a preliminary investigation report provided within 24 hours as well as a final Incident investigation report within Seven (7) days.

SECURITY REGISTERS

- The Security Service provider will be required to provide with the Occurrence books, Visitors and After-hours register where necessary.
- Occurrence book to be correctly completed by Security officers and supervisors listing all occurrences and visits on site.
- Visitors register to be completed daily and filed on site for future reference and pages must be numbered.
- Security Service Provider must ensure that quality registers are provided. Register must remain bonded, with no loose and damaged pages.
- Accurate records of all occurrences are to be kept for a minimum of 12 months (Max 5 years) post the occurrence and should be made readily available to Eskom at any time. The OB's must be handed to Eskom once the contract term is completed or the contract is terminated.

DOCUMENTATION

The following documentation is to be supplied by the security service provider at least four (4) weeks before a Task order can be issued and commencement of the contract.

- List of all potential security officers intended to be deployed on Eskom sites in terms of this contract.
- Certified ID copies and PSIRA certificates of all security officers.
- Certified copies of firearm competency certificates of the security officers.
- Certified copies of the company and Directors PSIRA registrations certificates.
- Criminal check records as proof that the Security officers have not been convicted of any criminal offence.
- A list of all vehicles and maintenance records for vehicles to be used as per this contract and in a specific region/area.
- Driver risk profiles must be submitted for every driver as per this Security Service Provider.
- Emergency Preparedness procedure with relevant contact details.
- Standard operating procedures per site to include the following but not limited to and should be approved by Eskom representative before application:
 - wearing of uniform standard
 - Communication procedure
 - Firearm handling procedure
 - Shift changes
 - Emergency Preparedness and Response process

SAFETY REQUIREMENTS

- All vehicles utilized to transport staff, must be fitted with SABS approved seatbelts and in accordance with Eskom's safety standards.
- The Service provider is responsible to ensure that the security officers deployed at Ad-hoc sites have access to a shelter, water and sanitation.
- All Security officers should receive a safety induction before they can be deployed on Eskom sites.
- All Security Service providers to prevent further reoccurrences at any of the Eskom site, as per allocated timeframes, shall implement safety recommendations following an incident.
- Open fires, the use of bar heaters and hotplates as heaters at Eskom sites, is totally prohibited.
- Security officers should observe the provisions of the Criminal procedure Act and all relevant legislation regarding the use of minimum force. Security officers should at all-time use minimum force sufficient to bring the situation under control and such force shall cease as soon as the situation is brought under control. No deliberate assault on suspects will be condoned.

OPERATIONAL EQUIPMENT REQUIREMENTS

- A list of equipment shall be fully specified as per sites requirements in the bill of quantities (BOQ). Eskom will provide specifications for mobile guard houses and facilities.
- Service providers must supply this on an "as and when" required basis.
- The specification will be determined per the task order. All vehicles must be equipped with a local global positioning system or any other vehicle tracking device or system.

MANPOWER REQUIREMENTS

Manpower will be required on an as and when required basis. A task order stipulating the required number of security guards/officers will be provided on a monthly basis.

- No work is to commence before a task order with a SAP order number has been supplied to the Security Service Provider by Eskom and such task order by be duly signed off by both parties.
- No task order will be issued until Eskom is satisfied that all applicable training, legislative and stipulated requirements have been met.

SALARIES AND PAYMENTS

Security Service Provider shall pay security guards/officers at least the minimum wage specified in the Sectorial Determination, of the Private Security Sector, South Africa. Register all security guards with the Department of Labour: UIF, COID and provident fund.

Eskom reserves the right to request proof of the above registrations on a monthly basis or as and when required. A PSIRA listing of all guards employed by the Security Service Provider and letter of good standing shall be provided on a monthly basis or as and when required.

UNIFORMS

- The Security Service Provider must comply with legislative requirement (PSIRA Regulation 13). Uniform items must be kept in clean, neat and good condition at all times.
- Uniform must be functional in terms of the environment where security staff are deployed.
- Bullet proof vests shall be worn as part of uniform by all security officers. Only Eskom shall indicate exclusions to this rule for certain sites or posts as per the site risk assessments; if applicable.
- For obvious hygiene and safety reasons, each Security officer must be issued with his/her own bullet proof vest.

SCHEDULE OF DEFICIENCY AND PENALTIES:

DEFIENCIENCY PENALTY

- Security officer (SO) or dog not posted on duty as agreed upon. (Short posting) One shift cost deduction (per SO)
- SO intoxicated/ or under the influence of liquor or drugs. Permanent removal of SO from Eskom contract duties. Plus the cost of the entire shift.
- Refusal by SO to comply with lawful instruction. Permanent removal of SO from Eskom contract duties.
- Sleeping on duty. One shift cost deduction (entire shift)
- Desertion of post by SO One shift cost deduction (entire shift)
- Negligent by SO in the performance of their duties Permanent removal of SO from Eskom contract duties.
- SO late for duty (tantamount to short posting) One shift cost deduction (per SO)
- SO without a functional torch or spot light One shift cost deduction (entire shift)
- SO or site without a functional radio or PTT One shift cost deduction (entire shift)
- No functional panic button on site only for applicable sites One shift cost deduction (entire shift)

- SO not wearing bullet proof vest. Vests worn without plates and wearing of non-level 3 bullet proof vests will be deemed as no bullet proof vest was worn. One shift cost deduction (entire shift)
- Non submission of vehicle tracking reports Non payments of the total services (i.e. the cost for the SOs, vehicle and dog for the entire month)
- Non submission of site inspections reports by Crime prevention and response team. Non payments of the total services (i.e. the cost for the SOs, vehicle and dog for the entire month)
- Late reporting of patrol teams at designated reporting site. Total shift cost deduction (i.e. the cost for the SOs, vehicle and dog)
- SO not wearing proper uniform items or uniform is worn out. One shift cost deduction
- SO not in possession of a baton or hand-cuffs One shift cost deduction (entire shift)
- Unavailability of patrol teams on call out. Total shift cost deduction (i.e. the cost for the SOs, vehicle and dog)

THE COMPANY MUST AGREE TO THE FOLLOWING:

- Reliability checks by relevant National intelligence structures.
- Security screening of the companies Owners/CEO'S/Directors/Partners.
- Security Screening of Security Officials who will be working on the sub station
- Signing of declaration of secrecy by security officials
- Adherence to all internal Security policies and procedures of ESKOM
- Contract security officers must not be allowed to access IT networks registries, communication networks or any other sensitive/zoned sites
- Security officers must always present an acceptable image and appearances
- Agree on references checks
- The use of Polygraph Testing on guards if so required at the cost of the service provider.

4.3 Plant and Materials

4.3.1 Quality

The *Contractor* shall control his activities and processes in accordance with Eskom's Quality Requirements for Procurement of Assets, Goods & Services, QM-58 and ISO-9001.

All materials shall be new and of the best quality and shall conform to the requirements of the Eskom Buyers Guide (Eskom Distribution Standard Part 9). With regards to the material supply chain, the approved materials manufacturer and marking requirements shall be set out on a schedule and approved before construction.

4.3.2 Plant & Materials provided "free issue" by the *Employer*

N/a

Please note the contractor is accountable for all the material for the Project.

Materials supplied by Eskom, will be delivered to Contractor Site.

The Delivery Driver and the Contractor shall sign the Goods Issue Document at delivery date as a declaration that;

- The quantities are correct as specified on the Good Issue Document
- The quality of material is acceptable
- Any discrepancies found shall be noted in the remarks column and co-signed by the Dispatch Controller and the Contractor

4.3.3 *Contractor's* procurement of Plant and Materials

All material is to comply with the **latest** Eskom Approved Manufacturer's List as published in the Cape Coastal – Eastern Cape by the Eskom T&Q Department. Any non-standard material items are to be approved by Eskom Holdings Limited before use on the project. Acceptance sampling is to be carried out on receipt of material on site in order to inspect the outward condition of the material item.

In exceptional cases which require materials and/or techniques which are not contemplated in the various Distribution standards shall be approved by the nominated **Senior Supervisor as stated in the contract data C1,2 (10.1)** The written approval shall be submitted.

The *Contractor* will be required to arrange a material sample inspection on site according to the requirements supplied by the PE. At this inspection materials will be recorded and approved per item by the PE, the Eskom PES and the T&Q Department. For any enquiries related to material inspection standards contact **Henry Jordaan No. 043 7035318**

4.3.4 Spares and consumables

All hardware to be supplied by *Contractor* is to be as per Eskom Standards limited to Eskom's approval. All hardware and cost thereof shall be within the mandate that has been Eskom approved.

4.4 Tests and inspections before delivery

The *Contractor* will be required to arrange and supply the following:

Material Sample Inspection: - A sample of each material item is to be presented for an inspection by the Eskom T&Q Department. A 2 week notification period required.

4.5 Marking Plant and Materials outside the Working Areas

Where applicable. Subject to approval of the Clerk of Works.

4.6 *Contractor's* Equipment (including temporary works).

The *Contractor* is to provide the necessary equipment to complete the *Works* safely and by the *completion date*. (Refer to item 5.9)

4.7 Cataloguing requirements by the *Contractor*

5 Construction

5.1 Temporary works, Site services & construction constraints

The contractor provides a secure and accessible area for the Site Camp, which includes secure storage facilities and areas, etc. The location of the site camp shall be determined in consultation with the *Project Manager*, local communities, and the relevant authorities.

The *Contractor* is to provide a 24 hour, 7 days a week, access and perimeter control unarmed security service from a reputable PSIRA registered security firm.

The *Contractor* when sourcing Security firms do as guided by information stated under **4.2 SUBCONTRACTING under 4.2.5 SECURITY OFFICER'S ON-SITE EQUIPMENT REQUIREMENTS**

On completion of the contract, the contractor removes the site camp and offices, and the area will be left in its original state to the satisfaction of the employer's representative and the Environmental Officer.

Site Establishment Costs

The *Contractor* shall take note that the total cost involved in establishing site services, facilities, and temporary works shall be incorporated in the Fixed and Time Related Preliminary & General costs part of the Bill of Quantity.

In situations where private roads must be used for construction purposes, the condition of the said roads shall be recorded (e.g. Photographed) prior to the use thereof and be agreed upon by the *Employer*, the *Landowner* and the *Contractor*. The *Contractor*, at all times at his expense, shall maintain all private roads used as access to the site of work by the *Contractor*. Upon completion of the work, the road shall be left in at least the condition it was prior to the commencement of the construction activities.

The Contractor should adhere to the Life Saving Rules at all times.

Due to the importance to save life's and apparatus of Eskom it is recommended that if a contractor abuse any Life Saving Rules, all work allocated to the contractor will immediately put on hold until final outcome with investigation. Safety is the combined responsibility of the team and therefore team leader or team **will** be punished together. There are five cardinal rules that may not be broken by the Team Leader and his/her team.

5.1.1 Restrictions to access on Site, roads, walkways and barricades

Where possible, access along the power line must be established by utilizing existing tracks. Access roads shall only be constructed and maintained where necessary at watercourses, steep slopes or where boulders and rocks prohibit vehicular traffic. No access roads shall be constructed in and/or outside the power line servitude without the written instructions from the *Project Manager*.

5.1.2 People restrictions on Site; hours of work, conduct and records

It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records will be needed when assessing compensation events.

5.1.3 Health and safety facilities on Site

The *Contractor* shall at all times adhere to the **Safety Health & Environmental Specification** attached in the Annexure of the contract document.

A Health & Safety Plan as well as the Health & Safety File as specified in the **Safety Health & Environmental Specification** must be kept on site and updated on a regular basis. Daily safety tailgate talks with task risk analysis shall be held and recorded to discuss the safety aspects and risks involved in the day's work to ensure safe operation throughout the contract period.

Health & Safety meetings shall be held at least once a month and records of minutes kept in the H&S file on site. The following items on the agenda to be discussed as a minimum requirement:

- Eskom Monthly Safety Theme – inform staff.
- Eskom Incident Case Studies and Recommendations
- OHS Act appointments – Updates, Validity, Expiry dates etc.
- PPE – issued and required.
- Safe Work procedures (Method Statements) – updates/changes
- Equipment – Inspection records updated
- Training requirements
- Staff Medicals
- Environmental issues

The *Contractor* shall not be **allowed to work on any “live” structures. All live structures are to be identified beforehand and shown to all the contractor’s staff – notification to be official recorded and kept in the SHE file on site.**

The *Contractor* shall not be **allowed to leave any excavation open** without supervision. If foundations cannot be planted/casted on the same day of the excavation, holes are to be closed over the night period or full time security guard to be arranged.

Machinery that can encroach on the safe working clearances with regard to live lines and equipment, are not to be operated within nine metres of live reticulation lines, without the direct supervision of a qualified supervisor under the *Employer’s* HV Regulations and the OHS Act.

Precautions against Damage

The *Contractor* shall take precautions for the protection of life and property on, or about, or in connection with the contract. The *Contractor* shall be held liable for any damage arising from negligence on the part of himself and his employees. The *Contractor* will ensure that excavations are done carefully as per the construction drawings. The damages occurring during any required excavations will be for the contractor's risk, and must therefore be repaired by the contractor.

Protection of the environment should at all times be adhered to.

Customer & Client liaison

The contractor will ensure that all required outages be communicated to the *Project Manager* and that the necessary outage requests are tabled for approval at the Monthly Outage meetings of the applicable area.

5.1.4 Environmental controls, fauna & flora, dealing with objects of historical interest

The *Contractor* shall at all times adhere to the **Environmental Management Programme (EMP) and all referenced documents referred to in Section 2.4.**

No fences, gates or locks may be damaged to obtain access onto a line route. Arrangements must be made in advance to obtain permission for access.

Use of private roads must be arranged in advance. Any damage to private roads must be repaired at the contractor's expense and to the satisfaction of the landowner.

No fires may be lit on private property. If fires are lit on Eskom's property or in the construction camp, provision must be made that no accidental fires are started. No firewood may be collected in the veld.

No trees may be cut or removed without prior permission from the landowner. Permits shall be obtained for protected trees (protected trees shall be dealt with in special conditions)

5.1.5 Title to materials from demolition and excavation

The *Contractor* has no such title. All equipment and materials dismantled to be stored inside the *Contractor's* site camp. Disposal of this equipment and materials to be liaise with the **Asset Disposal Officer – Regeba Kamroodeen at 031 710 5674.**

5.1.6 Cooperating with and obtaining acceptance of Others

The *Contractor* is responsible to ensure that the landowners and/or local authority have been informed before any work is carried out on site. It is also the *Contractor's* responsibility to maintain a good relationship with the landowners and to ensure that the following procedures are in place:

- 1) Access arrangements to the property
- 2) Allowable construction times on the property to be agreed and documented

5.1.7 Publicity and progress photographs

Photographs can be captured to provide evidence with supporting documentation where applicable. These photographs shall have date and time stamps to be eligible for use.

5.1.8 *Contractor's* Equipment

The *Contractor* is to provide equipment necessary to complete the *Works* safely and by the *completion date*. An equipment asset register is to be kept on site record is to be kept on site.

5.1.9 Equipment provided by the *Employer*

As stated on the Bill of Quantity

5.1.10 Site services and facilities

The *Contractor* shall provide on *Site* a minimum of one well illuminated, insulated and ventilated *site* office for utilisation by the *Employer / Project Manager* or their representatives. This *site* office shall have as a minimum the following:

- A Suitable water supply and sanitary facilities (chemical toilet).
- First aid facilities
- Telecommunication facilities (down loading of electronic communications and printing of it)
- Access to Eskom website to download latest information.
- 1 x Table, 10 x chairs required and a suitable office required to hold a site meeting.
- Site diary.

5.1.11 Facilities provided by the *Contractor*

Material Storage Area

The *Contractor* shall provide a secure fenced-in yard for the whole of the contract period. Storage facilities must be of such a nature that all the *Contractors* materials, including free issue materials (Employers materials) are safe from theft, fire hazards and vandalism. Fire breaks around the storage area, and fire-fighting equipment must be in accordance with the OHS Act, and of sufficient capacity to ensure the security of stored materials.

5.1.12 Existing premises, inspection of adjoining properties and checking work of Others

To be negotiated and agreed with the approval of the community liaison officer where applicable.

5.1.13 Survey control and setting out of the *works*

N/a

5.1.14 Excavations and associated water control

Keep excavations free from water.

5.1.15 Underground services, other existing services, cable and pipe trenches and covers

The *Contractor* shall be held liable for any damages caused during construction to existing services such as, underground water pipes, electrical cables, telecommunication cables, overhead lines, storm water pipes and existing roads.

It is the responsibility of the *Contractor* to contact the landowner and/or local authority to determine the position of such services to prevent any damages.

5.1.16 Control of noise, dust, water and waste

The *Contractor* shall within reason try and keep noise levels, dust and wastage to a minimum.

5.1.17 Sequences of construction or installation

As per the approved construction programme and in conjunction with the Quality Control Plan.

5.1.18 Giving notice of work to be covered up

The Project Manager/Clerk of Works shall always be notified.

5.1.19 Hook ups to existing works

As per approved FDP. All safety requirements shall be observed.

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

	Item of work	To be completed by
	As built drawings of	Within _____ days after Completion
	Performance testing of the <i>works</i> in use as specified in paragraph _____ of this Works Information.	See performance testing requirements.

The whole of the *Works* as described by the *Works Information* of this contract and in the Final Design package shall be completed on or before the *Completion Date*. Completion includes the completion and submission of hand-over documentation, as-built drawings, and completed defect lists. The *Contractor* pays delay damages for late completion in terms of the *Conditions of Contract*. Should the Contractor receive 3 non-conformances, preventative actions and corrective actions, Eskom reserves the right to terminate the contract.

Outages & Commissioning

The contractor will prepare the scope of works required for the planned outage at each stage before the outage date. On the day of the outage, the required scope of work at this point is to be completed, checked and handed over to the CNC with the required handover documentation.

5.2.2 Use of the *works* before Completion has been certified

The *Contractor* will have to carry out the supervision of the installations, as per the instruction of the *Project Manager* then a *Sectional completion Certificate* shall be issued to the *Contractor*.

5.2.3 Materials facilities and samples for tests and inspections

From time to time random sample test and inspections may be requested, to ensure good quality of the goods being supplied

5.2.4 Commissioning

Commissioning is to be done before or after Completion depending on the Programme.

5.2.5 Start-up procedures required to put the *works* into operation

In order to put the *works* into operation the *Project Manager* may require the *Contractor* to either do this for him or be in attendance whilst he does it, depending on who is the responsible person.

5.2.6 Take over procedures.

Take-over is after or at the same time as Completion. The *Contractor* is to arrange an inspection before completion of the installation to inspect and identify any outstanding or any defects. The *Project Manager* may require the *Contractor* to provide assistance, on an as and when required basis.

5.2.7 Access given by the *Employer* for correction of Defects

After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted

5.2.8 Performance tests after Completion

The *Contractor* will perform all tests required to bring the asset to service.

5.2.9 Training and technology transfer

The *Employer* requires the *Contractor* to provide training on the use of the access control or any associated transfer of technology from him to the *Employer*.

5.2.10 Operational maintenance after Completion

The *Employer* may require the *Contractor* before the *defects date* to perform certain duties after Completion and take over which relate to maintenance of the *works*.

6 Plant and Materials standards and workmanship

6.1 Investigation, survey and Site clearance

Some contracts may require the *Contractor* to carry out further investigation of existing facilities or of the Site before commencing final design.

6.2 Building works

Reference could be made to the latest Model Trade Preambles published by the Association of South African Quantity Surveyors. However these have been developed for use with the JBCC series of contracts and an approach where description of the work is made part of the bill of quantities, which is not the case in other forms of contract. Only parts of the Model Trade Preambles could be referenced by an ECC contract, with a covering note dealing with the changes in terminology. Further changes are required depending on which parts are to be selected.

This subsection would typically comprise

- a) Particular specifications provided by the Employer
- b) List of standardised specifications applicable to the works and
- c) Variations to the standardised specifications

6.3 Civil engineering and structural works

Reference could be made to the SANS1200 series of specifications developed and published by South African National Standards. However these are now very out of date and originally developed for use with SAICE general conditions of contract for works of civil engineering which have themselves been superseded twice.

All SANS 1200 specifications are in the process of being updated to make them more compatible with a wider range of contracts, including NEC, and users should check availability of the new SANS 2000 series of specifications.

Sections 3, 4 and 5 of SANS1200A are probably already covered in section 5 of this Works Information.

This subsection would typically comprise

- a) Particular specifications provided by the Employer
- b) List of standardised specifications applicable to the works and
- c) Variations to the standardised specifications

If use is made of the 1200 series, users should include a covering note dealing with the changes in terminology, such as the one provided below. Further changes are required depending on which specifications in the 1200 series are selected.

C3.2 CONTRACTORS WORKS INFORMATION

This section of the Works Information will always be contract specific depending on the nature of the *works*. It is most likely to be required for design and construct contracts where the tendering contractor will have proposed specifications and schedules for items of Plant and Materials and workmanship, which once accepted by the *Employer* prior to award of contract now become obligations of the *Contractor* per core clause 20.1.

Typical sub headings could be

- a) *Contractor's* design
- b) Plant and Materials specifications and schedules
- c) Other

This section could also be compiled as a separate file.

PART 4: SITE INFORMATION

Document reference	Title	No of pages
	This cover page	[01]
C4	Site Information	[01]
	Total number of pages	[02]

PART 4: SITE INFORMATION

Core clause 11.2(16) states

“Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in.”

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information.

1. General description

Full details will be specified in the Final Design Package

2. Existing buildings, structures, and plant & machinery on the Site

Some of the existing infrastructure is indicated on layout drawings provided. Though it is the *Contractor's* responsibility, to familiarise himself with all existing infrastructure in and around the working place.

3. Subsoil information

All excavations and associated soil information are described under the Works information and Bill of Quantities. No geotechnical study or report provided.

4. Hidden services

In the event of a discrepancy between physical condition and the information on a drawing, the *Contractor* shall notify the *Project Manager* immediately if the physical condition found on *site* is such that the deviation from the drawing requires a change in the design of the *works*.

PART 5: ANNEXURES

C5 Annexures

GENERAL SPECIFICATIONS

NO	REFERENCE NUMBER	R E V.	TITLE	TYPE *SPEC/PF	ATTACHED YES/NO
A1	PFMA 1 of 1999		Public Finance Management Act		No
			<u>Integrated Risk Management - Safety</u>		
A2	OHS Act. 85 of 1993		Occupational Health and Safety Act	SPEC	No
A3	COID 130 of 1993		Compensation Health and Safety Act		
A4	SCSAMAAE4	0	Safety Risk Management Process Manual	Manual	No
A5	SCSPVABM9	0	Co-Ordination of safety on capital projects	Procedure	No
A6	SCSASAAW8	4	Standards applicable for Contractors working in close proximity to live apparatus	Standard	No
A7	32-136	0	Contractor Health and Safety Requirements	SPEC	YES
A8	SCSPVACK0	0	Identifying, analyzing, documenting and observing dangerous/hazardous tasks.	Procedure	No
A9	SCSPVACU1	1	Pres-Task Planning and Feedback process	Procedure	No
A10	SCSPVABP6	1	Procedure for refusal to work on the grounds of health, safety and environmental concerns.	Procedure	No
A11	34-350	0	Reporting, recording, investigating, costing and follow-up of incident/accidents.	Procedure	No
A12	34-332	0	First Aid Standard	Standard	No
A13	ESKPVAEY6	0	Operating Regulations for High Voltage Systems	Procedure	No
A14	34-163	1	Portfolio of evidence for Authorisation	Guide	No
A15	NWS 1494		Fire Prevention and Protection of Contractor's Premises on New Work Sites	SPEC	No
			<u>Operational</u>		
A16	ESKARAAG4	6	Operating Regulations for High Voltage Systems	Procedure	No
A17	SCSPVABN2	0	Training, Testing and Authorization of persons for the operating and maintenance of the Power System	SPEC	No
A18	SCSAMAAE5	1	The training logbooks for Authorization of persons working on high voltage systems.	SPEC	No
A19	SCSAAAR0		GUIDE FOR THE STORAGE, TRANSPORT AND HANDLING OF COMPOSITE INSULATORS	Guide	No
A20	ESKASAAU7	0	Quality Requirements for the procurement of Assets, Goods and Services.	Standard	No
A21	SCSAGAAW2	0	Building line restrictions, servitudes widths, line separations and clearances from power lines	Guide	No
A22	DISPVABY3	0	Procedure for handling Auditing and stacking of new wooden poles	Procedure	No.
A23	DISPVAB17	1	Procedure for manual handling of rural line poles.	Standard	No
A24	ESKASABG3	1	Standards for bush clearance and maintenance within overhead powerline servitudes	Standard	No
A25	SCSSCAAY5	2	Specifications for phase conductor for distribution lines (See 4.6 Conductor markings)	SPEC	No
A26	DISADABQ9		Access to farms	Guide	No.
			<u>Contractor Site Requirements</u>		
A27	STR103/2006 10 TI-012		Transporting person on back of vehicles Prohibition of transportation of employees in crew cabs mounted on the back of trucks	Technical Instr.	No
A28	Work Instruction		Expanded Public Works Report – Divisional Capital Programme & Manhour Report		No
A29			Eskom Distribution Standard including all Technical Bulletins issued till Tender Issue date	SPEC	No
A30			Electrical Clearances and Safe Working Clearances	SPEC	No
A31			Tax Declaration and Tax Clearance	SPEC	No
A32			Section 28 of the National Environmental Management Act 10 of 1998	SPEC	No

			Project Specific Documentation:		
A33		0	Final Design Package & drawings – will be provided electronically at tender clarification meeting	FDP	Yes
A34		0	Environmental Documents: • ENVIRONMENTAL MANAGEMENT PLAN	SPEC	Yes
A35		0	SHE SPECIFICATION FOR SUBSTATION PROJECTS	SPEC	Yes

Eskom Holdings Limited's Standard and Specifications are available at www.eskom.co.za and all Procurement offices.