

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 1</u></b>			
	<b><u>SECTION B: PRELIMINARIES</u></b>			
	<b><u>Interpretation (B1)</u></b>			
A	Clause 1.1 - Definitions F:..... V:..... T:.....	Item		
B	Clause 1.2 - Interpretation F:..... V:..... T:.....	Item		
	<b><u>Documents (B2)</u></b>			
C	Clause 2.1 - Checking of documents F:..... V:..... T:.....	Item		
D	Clause 2.2 - Provisional <b>bills of quantities</b>  F..... V..... T.....	Item		
E	Clause 2.3 - Availability of <b>construction information</b>  Clause 2.3 is hereby amended by adding the following to the end of the clause:  <b>Budgetary allowances and provisional sums</b>  The <b>budgetary allowances</b> and/or <b>provisional sums</b> allocated for subsequent trades included in this <b>agreement</b> will be separately procured, based on multiple procurement of <b>subcontractors</b> during the <b>construction period</b>  F:..... V:..... T:.....	Item		
	<b>Carried Forward</b>		R	
	Bill No. 1 Preliminaries			

	Brought Forward		R
F	Clause 2.4 - Ordering of materials and goods  F:..... V:..... T:.....	Item	
	<b><u>Previous work and adjoining properties (B3)</u></b>		
G	Clause 3.1 - Previous work - dimensional accuracy  F:..... V:..... T:.....	Item	
H	Clause 3.2 - Previous work - <b>defects</b>  F:..... V:..... T:.....	Item	
I	Clause 3.3 - Inspection of adjoining properties  F:..... V:..... T:.....	Item	
	<b><u>The Site (B4)</u></b>		
J	Clause 4.1 - Defined works area  F:..... V:..... T:.....	Item	
K	Clause 4.2 - Handover of site in stages  F:..... V:..... T:.....	Item	
L	Clause 4.3 - Enclosure of the works  F:..... V:..... T:.....	Item	
M	Clause 4.4 - Geotechnical investigation  F:..... V:..... T:.....	Item	
N	Clause 4.5 - Encroachments  F:..... V:..... T:.....	Item	
	<b>Carried Forward</b>		R
	Bill No. 1 Preliminaries		

Brought Forward			R
O	Clause 4.6 - Existing premises occupied F:..... V:..... T:.....	Item	
P	Clause 4.7 - Services - known F:..... V:..... T:.....	Item	
Q	Clause 4.8 - Protection of trees and/or relevant natural features F:..... V:..... T:.....	Item	
<b><u>Management of Contract (B5)</u></b>			
R	Clause 5.1 - Management of the works F:..... V:..... T:.....	Item	
S	Clause 5.2 - Progress meetings F:..... V:..... T:.....	Item	
T	Clause 5.3 - Technical meetings F:..... V:..... T:.....	Item	
<b><u>Samples, shop drawings and manufacturer's instructions (B6)</u></b>			
<b><u>Deposits and fees (B7)</u></b>			
U	Clause 7.1 - Deposits and fees F:..... V:..... T:.....	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

Brought Forward			R
<b><u>Temporary services (B8)</u></b>			
V	Clause 8.1 - Water		
	F:..... V:.....	Item	
	T:.....		
W	Clause 8.2 - Electricity		
	F:..... V:.....	Item	
	T:.....		
X	Clause 8.3 - Ablution and welfare facilities		
	F:..... V:.....	Item	
	T:.....		
Y	Clause 8.4 - Communication facilities		
	F:..... V:.....	Item	
	T:.....		
<b><u>Prime cost amounts (B9)</u></b>			
Z	Clause 9.1 - Responsibility for <b>prime cost amounts</b>		
	F:..... V:.....	Item	
	T:.....		
<b>Carried Forward</b>			R
Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R	
	<b><u>Attendance on subcontractors (B10)</u></b>			
AA	<p>Clause 10.1 - General attendance</p> <p>General attendance is defined as being the duties of the contractor in terms of clause 12.2 of the JBCC n/s subcontract agreement</p> <p>F..... V..... T.....</p>	Item		
AB	<p>Clause 10.2 - Special attendance</p> <p>F..... V..... T.....</p>	Item		
	<b><u>General (B11)</u></b>			
AC	<p>Clause 11.1 - Protection of the <b>works</b></p> <p>F:..... V:..... T:.....</p>	Item		
AD	<p>Clause 11.2 - Protection/isolation of existing/sectionally occupied <b>works</b></p> <p>F:..... V:..... T:.....</p> <p><u>User note</u></p>	Item		
AE	<p>Clause 11.3 - Security of the <b>works</b></p> <p>F:..... V:..... T:.....</p>	Item		
	<b>Carried Forward</b>		R	
	<p>Bill No. 1 Preliminaries</p>			

Brought Forward			R
AF	Clause 11.4 - <b>Notice</b> before covering work F:..... V:..... T:.....	Item	
AG	Clause 11.5 - Disturbance F:..... V:..... T:.....	Item	
AH	Clause 11.6 - Environmental disturbance <b>Controlling all forms of pollution</b> The <b>contractor</b> shall be responsible for and take all precautions in controlling by whatever means necessary all forms of pollution during the <b>construction period</b> due <i>inter alia</i> to noise, artificial light, wind-blown sand, dust, deposits of mud, etc The <b>contractor</b> is to ensure that all roads which border the <b>site</b> and is used by the <b>contractor</b> during the execution of the <b>works</b> are kept clean and free of any dirt or debris caused by the execution of the <b>works</b> F..... V..... T.....	Item	
AI	Clause 11.7 - <b>Works</b> cleaning and clearing F:..... V:..... T:.....	Item	
AJ	Clause 11.8 - Vermin F:..... V:..... T:.....	Item	
AK	Clause 11.9 - Overhand work F:..... V:..... T:.....	Item	
Carried Forward			R
Bill No. 1 Preliminaries			

	<b>Brought Forward</b>		R	
AL	<p>Clause 11.10 - Tenant installations by direct contractors</p> <p>F:..... V:..... T:.....</p>	Item		
AM	<p>Clause 11.11 - Advertising</p> <p>F:..... V:..... T:.....</p>	Item		
	<b><u>Schedule (B12)</u></b>			
AN	<p><b>Information for completion of schedule</b></p> <p>Information necessary for elections and completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder. Where no information is given it shall mean that no specific requirements are expected or that the clause is not relevant to this specific contract</p> <p>12.1 - Provisional <b>bills of quantities</b> [2.2]</p> <p style="padding-left: 40px;">The quantities are provisional                      Yes</p> <p>12.2 - Availability of <b>construction information</b> [2.3]</p> <p style="padding-left: 40px;"><b>Construction documentation</b> is complete</p> <p>12.3 - Previous work - dimensional accuracy [3.1]</p> <p>12.4 - Previous work - <b>defects</b> [3.2]</p> <p>12.5 - Inspection of adjoining properties [3.3]</p> <p>12.6 - Defined works area [4.1]</p> <p>12.7 - Handover of site in stages [4.2]</p> <p>12.8 - Enclosure of the works [4.3]</p> <p>12.9 - Geotechnical investigation [4.4]</p> <p>12.10 - Existing premises occupied [4.7]</p> <p>12.11 - Services - known [4.7]</p>			
	<b>Carried Forward</b>		R	
	<p>Bill No. 1 Preliminaries</p>			

<p style="text-align: center;"><b>Brought Forward</b></p> <p>12.12 - Protection of trees and/or relevant natural features [4.8]</p> <p>12.13 - Water [8.1]</p> <p style="padding-left: 40px;">Option A (by <b>contractor</b>) Yes Option B (by <b>employer</b> - free of charge) No Option C (by <b>employer</b> - metered) No</p> <p>12.14 - Electricity [8.2]</p> <p style="padding-left: 40px;">Option A (by <b>contractor</b>) Yes Option B (by <b>employer</b> - free of charge) No Option C (by <b>employer</b> - metered) No</p> <p>12.15 - Ablution and welfare facilities [8.3]</p> <p style="padding-left: 40px;">Option A (by <b>contractor</b>)                      Yes Option B (by <b>employer</b>)                      No</p> <p>12.16 - Communication facilities [8.4]</p> <p>12.17 - Protection of the <b>works</b> [11.1]</p> <p>12.18 - Protection/isolation of existing/sectionally occupied <b>works</b> [11.2]</p> <p style="padding-left: 40px;">Protection/isolation is required                      Yes</p> <p>12.19 - Disturbance [11.5]</p>		R	
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 1 Preliminaries</p>		R	



Brought Forward		R	
<p>Add the following to clause 9.5</p> <p>All work is to be carried out in such a manner as to cause no unacceptable or unreasonable dust, noise, vibrations, nuisance, inconvenience, annoyance and the like to the public, others, other properties and traffic in so far as they exceed the permissible limitations set by government legislation or the local authority. Any delays, stoppages and the like arising from or in order to comply with the above will not constitute grounds for an adjustment to the <b>construction period</b> or <b>contract value</b> whatsoever</p> <p>12.20 - Environmental disturbance [11.6]</p> <p>F:..... V:..... T:.....</p>	Item		
<p>Bill No. 1 Preliminaries</p>		R	

**Carried Forward**

	<b>Brought Forward</b>		<b>R</b>
	<b><u>SECTION C: SPECIFIC PRELIMINARIES</u></b>		
AO	<p>Warranties for materials and workmanship</p> <p>Where warranties for materials and/or workmanship are called for, the <b>contractor</b> shall obtain a written warranty, addressed to the <b>employer</b>, from the entity supplying the materials and/or doing the work and shall deliver same to the <b>principal agent</b> on the <b>final completion</b> of the contract</p> <p>The warranty shall state that workmanship, materials and installation are warranted for a specific period from the date of <b>final completion</b> and that any <b>defects</b> that may arise during the specified period shall be made good at the expense of the entity supplying the materials and/or doing the work, upon written <b>notice</b> to do so</p> <p>The warranty will not be enforced if the work is damaged by <b>defects</b> in the execution of the <b>works</b>, in which case the responsibility for replacement shall rest entirely with the <b>contractor</b></p> <p>F:..... V:..... T:.....</p>	Item	
AP	<p>Overtime</p> <p>Should overtime be required to be worked for any reason whatsoever, the costs of such overtime is to be borne by the <b>contractor</b> unless the <b>principal agent</b> has specifically authorised, in writing, prior to execution thereof, that costs for such overtime are to be borne by the <b>employer</b></p> <p>F:..... V:..... T:.....</p>	Item	
	<b>Carried Forward</b>		<b>R</b>
	<p>Bill No. 1 Preliminaries</p>		

	<b>Brought Forward</b>		R	
AQ	<p>Co-operation of the <b>contractor</b> for cost management</p> <p>It is specifically agreed that the <b>contractor</b> accepts the obligation of assisting the <b>principal agent</b> in implementing proper cost management. The <b>contractor</b> will be advised by the <b>principal agent</b> of all cost management procedures which will be implemented to ensure that the final building cost does not exceed the budget</p> <p>F:..... V:..... T:.....</p>	Item		
AR	<p>Overloading</p> <p>The <b>contractor</b> shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the <b>works</b> or temporary works eg scaffolding, etc. The <b>contractor</b> shall submit details of his proposed loading, storage, plant erection, etc to the <b>principal agent</b> for approval prior to proceeding with such loading, storing or erecting and shall comply with and pay for the <b>principal agent's</b> requirements in connection with the provision of temporary support work, etc. Any damage caused to the <b>works</b> by overloading shall be made good by the <b>contractor</b> at his sole expense</p> <p>F:..... V:..... T:.....</p>	Item		
AS	<p>Propping of floors below</p> <p>The <b>contractor</b> is advised that propping of floors below may be required if he wishes to use any areas of completed suspended reinforced concrete slabs for vehicle access, storage of <b>materials and goods</b> and location of plant, scaffolding, etc. The location of these areas and any necessary propping shall be approved by the <b>principal agent</b> and the cost thereof shall be borne by the <b>contractor</b></p> <p>F:..... V:..... T:.....</p>	Item		
	<b>Carried Forward</b>		R	
	<p>Bill No. 1 Preliminaries</p>			

Brought Forward		R
AT	<p>Testing of flat roof waterproofing for watertightness</p> <p>Flat roof waterproof areas shall be prepared with small sand dykes around them of a size and enclosing an area approved by the <b>principal agent</b>, flooded with water and kept "ponded" for at least forty (40) hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing</p> <p>F:..... V:..... T:.....</p> <p>The <b>contractor</b> is to submit to the <b>principal agent</b> on an annual basis a schedule of spend, split into vendors engaged as <b>subcontractors</b> and suppliers indicating their BBBEE rating including proof of the said rating</p> <p>F:..... V:..... T:.....</p>	Item
AU	<p>Advertising rights</p> <p>The <b>employer</b> may elect to contract with advertising agencies for the erection of advertising hoardings, banners, wraps or the like for the duration of the contract. The <b>contractor</b> shall not prevent such an arrangement and will assist in the facilitation of same. Position and type of advertising structure to be agreed with the <b>principal agent</b> so as not to hinder the <b>contractor</b> in the meeting of his obligations under this <b>agreement</b></p> <p>F:..... V:..... T:.....</p>	Item
Carried Forward		R
<p>Bill No. 1 Preliminaries</p>		

	<b>Brought Forward</b>		R
AV	<p>Confidentiality</p> <p>The <b>contractor</b> undertakes to maintain in confidence any and all information regarding this project and shall obtain appropriate similar undertakings from all <b>subcontractors</b> and suppliers. Such information shall not be used in any way except in connection with the execution of the <b>works</b></p> <p>No information regarding this project shall be published or disclosed without the prior written consent of the <b>employer</b></p> <p>F:..... V:..... T:.....</p>	Item	
AW	<p>Media releases</p> <p>All rights of publication of articles in the media, together with any advertising relating thereto or in any way connected with this project, shall vest with the <b>employer</b></p> <p>The <b>contractor</b> together with his <b>subcontractors</b> shall not, without the prior written consent of the <b>employer</b>, cause any statement or advertisement to be printed, screened or aired by the media</p> <p>F:..... V:..... T:.....</p> <p><b><u>SUMMARY OF CATEGORIES</u></b></p> <p>Category : Fixed R.....</p> <p>Category : Value R.....</p> <p>Category : Time R.....</p>	Item	
	<b>Carried to Summary</b>		R
	<p>Bill No. 1 Preliminaries</p>		



<b>Brought Forward</b>	R
<p><u>General</u></p> <p>The contractor shall carry out the whole of the work with as little mess and noise as possible and with a minimum of disturbance to adjoining premises and their tenants. He shall provide proper protection and provide and erect any temporary tarpaulins and temporary plumbing that may be necessary during the progress of the works, all to the satisfaction of the architect, and remove when directedAny water supply pipes and other piping that may be met with and found necessary to disconnect orcut, shall be effectually stopped off or grubbed up and removed, and any new connections that may be necessary shall be made with proper fittings, to the satisfaction of the architectDoors, fanlights, fittings, frames, linings, etc shall be thoro ughly overhauled before refixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and easing, oiling, adjusting and repairing ironmongery if necessary, replacing any glass damagedin removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber</p> <p>Where doors, windows, etc are described as taken out this shall be understood to include for removal of all beads, architraves, ironmongery, etc and doors which are re-fixed are to be provided with new architraves (elsewhere measured)Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good to match existingWith regard to building up of openings in existing walls, cement screeds and pavings, granolithic, etc, shall be leve lled and prepared for raising of brickworkAllow for making good all existing plastered walls where damaged by furniture, etc, and stopping up all screw and nail holes before paintingMaking good of finishes shall be deemed to include makinggo od of the brick and concrete surfaces onto which the new finishes are applied, where necessaryThe contractor will be required to take all dimensions affecting the existing building on the site and he will be held solely responsible for the accura cy of all such dimensions</p>	
<b>Carried Forward</b>	R
<p>Bill No. 2 Alterations</p>	

Brought Forward			R
<b><u>TEMPORARY BARRIERS, SCREENS, ETC</u></b>			
<u>Temporary barriers, screens, etc including removal</u>			
A	Drywall barrier 3,00m high formed of galvanised steel channel section rails and studs covered on one side with 12,7mm gypsum board panels and finished with two coats interior quality PVA emulsion paint on one side and corrugated roof sheeting other side including corners, ends, etc	m	12
<b><u>REMOVAL OF EXISTING WORK</u></b>			
<u>Breaking up and removing reinforced concrete, including cutting off and removing reinforcement</u>			
B	170mm Thick slabs	m2	9
C	Upstand beam size 330 x 510mm	m	14
D	Upstand beam size 220 x 1 360mm	m	16
<u>Breaking down and removing brickwork etc</u>			
E	One brick walls	m2	469
<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc</u>			
F	Corrugated iron roof covering and timber purlins	m2	0.3
G	Acoustic tile suspended ceilings, including suspension grid, hangers, etc	m2	608
<u>Taking up and removing vinyl floor coverings, carpeting, etc and preparing screed for new floor covering</u>			
H	Vinyl tile floor covering	m2	1,518
<u>Hacking up and removing ceramic tile floor finish, including removing mortar bed or backing from concrete and preparing surfaces for new screed, tile finish, etc</u>			
I	Ceramic tiles to floors	m2	350
Carried Forward			R
Bill No. 2 Alterations			



**Vaal University of Technology**  
**Extension to Engineering Block RE**  
**Additional Floor & Post Graduate Centre on Engineering Wing**

Brought Forward				R
	<u>Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc</u>			
J	30mm Screeds from floors	m2	2,289	
K	Internal plaster from soffit of beams and prepare to receive carbon fibre reinforcement (carbon fibre reinforcement elsewhere)	m2	424	
L	Internal plaster from walls	m2	1,564	
M	Skimming from external walkway concrete panels	m2	26	
	<u>Remove existing Fullbore Outlets, fill holes with concrete</u>			
N	Fullbore outlet and fill hole with concrete	No	10	
	<b><u>PREPARATORY WORK TO EXISTING SURFACES</u></b>			
	<u>Preparatory work to existing surfaces</u>			
O	Scarify existing concrete floor slab to receive new finish	m2	1,868	
	<u>Preparatory work to existing surfaces</u>			
P	Hacking faces of existing concrete columns, beams, etc to receive plaster	m2	37	
	<u>Structural Repair work to Concrete Columns</u>			
Q	Remove Polysulphide joint sealant	m	48	
R	Saw cut, breakout and remove spalled concrete sections of concrete columns to expose sound concrete within the column, approximately 20mm behind and around exposed reinforcement, including all necessary propping and supporting of columns and beams, as per the structural Engineer's instruction.	m3	5	
S	Wash down and clean exposed concrete and reinforcing steel with High pressure water jet and prepare and allow to dry to achieve a SA 2 1/2 or ST3 finish and apply corrosion protective coat, as per Structural Engineer's instructions.	m2	27	
	<b>Carried Forward</b>			R
	Bill No. 2 Alterations			

## Brought Forward

R

T	Patch up concrete column with Sika Monotop 412 NFG structural repair mortar, or similar approved, as per Structural Engineers instruction.
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m3

5

## Structural Repair work to Concrete staircase

U	Saw cut, breakout and remove spalled concrete sections of concrete columns to expose sound concrete within the slab, approximately 20mm behind and around exposed reinforcement, including all necessary propping and supporting of columns and beams, as per the Structural Engineer's instruction.
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m3

2

## Structural Repair work to Concrete Beams

V	Wash down and clean exposed concrete and reinforcing steel with High pressure water jet and prepare and allow to dry to achieve a SA 2 1/2 or ST3 finish and apply corrosion protective coat, as per Structural Engineer's instructions.
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m2

197

W	Patch up concrete beam with Sika Monotop 412 NFG structural repair mortar, or similar approved, as per Structural Engineers instruction.
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m3

5

X	Carbon fiber strips to be cleaned from any corrosion
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m2

16

## Structural Repair work to Concrete Roof Slab

Y	Saw cut, breakout and remove spalled concrete sections of concrete roof slab to expose sound concrete within the slab, approximately 20mm behind and around exposed reinforcement, including all necessary propping and supporting of slab and beams, as per the structural Engineer's instruction.
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m3

5

Z	Wash down and clean exposed concrete and reinforcing steel with High pressure water jet and prepare and allow to dry to achieve a SA 2 1/2 or ST3 finish and apply corrosion protective coat, as per Structural Engineer's instructions.
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m2

284

AA	Patch up concrete roof slab with Sika Monotop 412 NFG structural repair mortar, or similar approved, as per Structural Engineers instruction.
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m3

5

**Carried Forward**

R

## Bill No. 2 Alterations

**Vaal University of Technology**  
**Extension to Engineering Block RE**  
**Additional Floor & Post Graduate Centre on Engineering Wing**

<b>Brought Forward</b>			<b>R</b>
<u>Structural Repair work to Concrete Walls</u>			
AB	Saw cut, breakout and remove spalled concrete sections of concrete walls to expose sound concrete within the wall, approximately 20mm behind and around exposed reinforcement, including all necessary propping and supporting of walls, slab and beams, as per the structural Engineer's instruction.	m3	9
AC	Wash down and clean exposed concrete and reinforcing steel with High pressure water jet and prepare and allow to dry to achieve a SA 2 1/2 or ST3 finish and apply corrosion protective coat, as per Structural Engineer's instructions.	m2	117
AD	Patch up concrete wall with Sika Monotop 412 NFG structural repair mortar, or similar approved, as per Structural Engineers instruction.	m3	9
AE	Re-skimming external concrete walls with Sika Monotop 3020 structural repair mortar, or similar approved, as per Structural Engineers instruction.	m3	1
<u>Repair to upper portions of Western Concrete Roof slab</u>			
AF	Saw cut, breakout and remove spalled concrete sections of concrete roof slab to expose sound concrete within the slab, approximately 20mm behind and around exposed reinforcement, including all necessary propping and supporting of slab and beams, as per the structural Engineer's instruction.	m3	3
AG	Wash down and clean exposed concrete and reinforcing steel with High pressure water jet and prepare and allow to dry to achieve a SA 2 1/2 or ST3 finish and apply corrosion protective coat, as per Structural Engineer's instructions.	m2	18
AH	Patch up concrete roof slab with Sika Monotop 412 NFG structural repair mortar, or similar approved, as per Structural Engineers instruction.	m3	3
<b>Carried Forward</b>			<b>R</b>
Bill No. 2 Alterations			

Brought Forward		R
<b><u>MAKING GOOD OF FINISHES, ETC ALL TO MATCH EXISTING IN EVERY RESPECT</u></b>		
<u>Making good internal cement plaster, with Sikalite admixture as an additive to plaster</u>		
In patches	m2	156
<b><u>REPAIR OF EXISTING STORMWATER PIPES</u></b>		
Repair of existing Stormwater leaks, as per Engineer's Instruction	m	17
Re-instate repaired stormwater pipe, as per Engineer's Instruction	m	17
Carried to Summary		R
Bill No. 2 Alterations		

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 3</u></b>			
	<b><u>EARTHWORKS</u></b>			
	<u>NOTES:</u>			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<u>Nature of ground</u>			
	The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "hard rock" or "soft rock".			
	The nature of the ground is assumed to be gravel, therefore "earth", but possibly interspersed with "soft rock".			
	The nature of the ground is assumed to be silty clay with loose river boulders varying in size up to approximately 450mm diameter, therefore "earth", but possibly interspersed with "hard rock".			
	Trial holes indicate that the nature of the ground is silty clay to a depth of approximately 500mm with fine to medium loose sandy material below, therefore "earth". The trial holes also indicate that the water table is at a maximum depth of approximately 1000mm.			
	A soils investigation has been carried out on site by the engineer and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured			
	<b>Carried Forward</b>		R	
	Bill No. 3 Earthworks			

	<b>Brought Forward</b>			R
	<u>Carting away of excavated material</u>			
	Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site			
	<u>Filling</u>			
	Notwithstanding the reference to prescribed multiple handling in clause 1 page 10 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any multiple handling of material			
	<b><u>REMOVAL OF EXISTING WORK</u></b>			
A	Remove existing paving carefully for stormwater pipe inspection, re-instate paving	m2	34	
	<b><u>SITE CLEARANCE</u></b>			
	<u>Site Clearance</u>			
B	Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc	m2	18	
C	Digging up and removing weeds from Paving	m2	1,255	
	<b><u>EXCAVATIONS</u></b>			
	<u>Excavation in earth not exceeding 2m deep</u>			
D	Holes	m3	71	
E	Excavations to access stormwater pipe (hand excavation)	m3	51	
	<b><u>EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER</u></b>			
	<u>Extra over excavation, other than bulk excavation, in earth for excavation in</u>			
F	Soft rock	m3	3	
	<b>Carried Forward</b>			R
	Bill No. 3 Earthworks			

Vaal University of Technology  
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Additional Floor & Post Graduate Centre on Engineering Wing

Brought Forward			R
G	Hard rock	m3	3
H	Existing concrete	m3	2
<b><u>SUNDRIES</u></b>			
<u>Extra over all excavations for carting away</u>			
I	Surplus material from excavations and/or stock piles on site to a dumping site situated approximately 10km from the building site	m3	20
<u>Risk of collapse of excavations</u>			
J	Sides of bulk excavations not exceeding 1,5m deep	m2	16
K	Backfilling to bases with material from excavation	m3	36
<b><u>FILLING ETC</u></b>			
<u>Filling supplied by the contractor, collected, loaded, transported, off loaded, etc. by the contractor (10Km free haulage)</u>			
L	G6 material in bedding under stormwater pipes, in 150mm layers compacted to 98% Mod AASHTO	m3	46
M	Earth filling supplied by the contractor, compacted to 93% Mod AASHTO density	m3	7
N	G6 material in bedding under concrete plinth, in 150mm layers compacted to 95% Mod AASHTO	m3	7
O	G6 material in bedding under concrete plinth, in 150mm layers compacted to 98% Mod AASHTO	m3	7
<u>Prescribed density tests on filling</u>			
P	"Modified AASHTO Density" test	No	2
<b><u>SOIL POISONING ETC.</u></b>			
Carried Forward			R
Bill No. 3 Earthworks			

Brought Forward			R
	<u>Application of jointing stabilization/pavement sealant</u>		
Q	Jointing stabilization/pavement sealant to existing paving	m2	1,255
	<u>"Shelldrite Termite Prufe" or similar and approved termite-proof soil poisoner, in accordance with SABS 0124-1977</u>		
R	Under surface beds	m2	49
Carried to Summary			R
Bill No. 3 Earthworks			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO 4</u></b>			
	<b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b>			
	<u>NOTES:</u>			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	Cost of tests The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the architect. The testing shall be undertaken by an independent firm or institution nominated by the contractor and to the approval of the architect. (Test cubes are measured separately)			
	Formwork			
	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. The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.			
	Formwork to soffits of slabs etc shall be deemed to be to propped up not exceeding 1,5m high unless otherwise described			
	Formwork to soffits of (solid) slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described			
	<b>Carried Forward</b>		R	
	Bill No. 4 Concrete, Formwork and Reinforcement			

## REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

25Mpa/19mm concrete

A	Base	m3	20
B	Plinths	m3	9

## REINFORCED CONCRETE

25Mpa/19mm concrete

C	Slabs, including beams and inverted beams	m3	7
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35MPa/19mm concrete

D	Slabs, including beams and inverted beams	m3	34
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E	Ramps, including upstand beams	m3	42
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40MPa/19mm concrete

F	Stairs, including landings, beams and inverted beams	m3	4
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G	Rectangular stub columns	m3	8
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### Finishing top surfaces of concrete smooth with a wood float

H	Sloping ramp	m2	88
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## PRECAST SLABS

**Carried Forward**

Bill No. 4  
Concrete, Formwork and Reinforcement

Brought Forward				R
	<u>"Echo Floors" or similiar and approved hollow core slabs erected onto brickwork and/or n/e 3.0m above ground level including grouting of longitudinal joints, all in accordance with manufacturers specifications.</u>			
I	170mm deep - 900mm wide "Echo Floors" or similiar and approved hollow core slabs in various lengths including grouting ends of panels, support beams over openings in load-bearing walls and beams that may be required to support the concentrated loads, grouting, propping as well as the screed/topping and mesh as specified by the manufacturer.	m2	580	
	<b><u>ROUGH FORMWORK (DEGREE OF ACCURACY II)</u></b>			
	<u>Rough formwork to sides</u>			
J	Inverted beams above concrete, propped to a height exceeding 1.5m and not exceeding 3.5m high	m2	72	
K	Rectangular stub columns	m2	21	
L	Three sides of rectangular stub columns	m2	21	
M	Edges not exceeding 300mm high	m	12	
N	Edges exceeding 300mm high	m2	109	
O	Risers not exceeding 300mm high	m	30	
P	Raking outer edge of stair or kerb to stair not exceeding 300mm high, propped to a height exceeding 1.5m and not exceeding 3.5m high	m	12	
	<u>Rough formwork to soffits</u>			
Q	Slabs propped to a height exceeding 1.5m and not exceeding 3.5m high	m2	199	
R	Slabs propped to a height exceeding 1.5m and not exceeding 3.5m high, including removal from confined space	m2	7	
	<b>Carried Forward</b>			R
	Bill No. 4 Concrete, Formwork and Reinforcement			

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	<b>Brought Forward</b>			<b>R</b>
S	Raking soffit of stair slab, propped to a height exceeding 1.5m and not exceeding 3.5m high.	m2	9	
	<u>Boxing in rough formwork to form</u>			
T	20 x 20mm Horizontal chamfers at corners	m	33	
U	45 degree chamfer to the plinth slab from edge beam	m	26	
	<b><u>PERMANENT FORMWORK (LEFT IN)</u></b>			
V	1.6mm Thick 'Bondlok' formwork to soffit of slab	m2	89	
W	1.6mm Thick "Bondlok" to sloping ramp	m2	87	
X	Prop size 76 x 228mm formed of two 38 x 228mm S.A. Pine on edge fixed with hurricane clips both sides at 1 000mm centres to top of existing slab and with 100 x 20mm thick shutterboard on top	m	38	
	<b><u>MOVEMENT JOINTS ETC</u></b>			
	<u>Expansion joints with softboard between concrete surfaces</u>			
Y	12mm Joints not exceeding 300mm high between new and existing slab	m	14	
	<b><u>REINFORCEMENT (PROVISIONAL)</u></b>			
Z	8 to 40mm Diameter bars - mild steel and high tensile	t	15.71	
	<b><u>SUNDRIES</u></b>			
	<u>Fabric reinforcement</u>			
AA	Type 617 fabric reinforcement in concrete surface beds, slabs, etc	m2	103	
	<u>High tensile steel dowel bars</u>			
AB	12mm Diameter dowel bar 500mm long with one fixed into existing concrete with epoxy including drilling hole and the other end cast into concrete	No	180	
	<b>Carried Forward</b>			<b>R</b>
	Bill No. 4 Concrete, Formwork and Reinforcement			

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Brought Forward			R
	<u>Finishing top surfaces of concrete smooth with a power float</u>		
AC	Surface beds, slabs, etc	m2	49
	<b><u>PENETRATIONS</u></b>		
AD	Allow the sum of R10,000.00 (Ten Thousand) for penetrations to be executed by the Main Contractor during the contract	Item	10,000.00
Carried to Summary			R
Bill No. 4			
Concrete, Formwork and Reinforcement			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 5</u></b>			
	<b><u>MASONRY</u></b>			
	<u>NOTES:</u>			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<b><u>BRICKWORK</u></b>			
	<u>Sizes in descriptions</u>			
	Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick			
	<u>Hollow walls etc</u>			
	Descriptions of hollow walls shall be deemed to include wall ties and leaving every fifth perpend of the bottom course of the external skin open as a weep hole			
	<u>Bagging Brickwork</u>			
	Where so described, brick walls to be bagged by rubbing over with a wet sack whilst the mortar in the joints is still soft until all crevices are filled up, and an even surface is obtained, including additional mortar as necessary. Surfaces of occasional concrete lintols, beams, etc., which are included in the measurement, must be finished to match			
	<u>Reinforced brick lintels</u>			
	Lintels shall bear at least 160mm onto adjacent walling. Where such bearing cannot be obtained due to the proximity of adjacent openings the lintel shall be continuous			
	<b>Carried Forward</b>		R	
	Bill No. 5 Masonry			

Brought Forward			R
<u>Face bricks</u>			
Bricks shall be ordered timeously to obtain uniformity in size and colour			
<u>Pointing</u>			
Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc			
<b><u>SUPERSTRUCTURE</u></b>			
<u>Brickwork of 10MPa bricks in class III mortar</u>			
A	Half brick walls	m2	165
B	Half brick linings to concrete	m2	8
C	One brick walls	m2	1,560
D	One brick linings to concrete	m2	5
E	One brick walls in beamfilling	m2	21
F	One and a half brick walls	m2	422
G	One and a half brick walls in beamfilling	m2	21
<b><u>BRICKWORK SUNDRIES</u></b>			
<u>Miscellaneous</u>			
H	Cutting toothings and bonding new brickwork to existing	m2	5
<u>Brickwork reinforcement</u>			
I	75mm Wide reinforcement built in horizontally	m	434
J	150mm Wide reinforcement built in horizontally	m	7,837
<u>Prestressed fabricated lintels</u>			
K	110 x 75mm Lintels in lengths not exceeding 3m	m	38
Carried Forward			R
Bill No. 5 Masonry			

Brought Forward			R
	<u>Turning pieces</u>		
L	230mm Wide turning piece to lintels etc	m	20
	<u>Bagging Brickwork</u>		
M	On brick walls	m2	171
<b><u>FACE BRICKWORK</u></b>			
	<u>Face bricks (PC Amount R4900 per thousand) pointed with recessed horizontal and vertical joints</u>		
N	Extra over brickwork for face brickwork	m2	1,318
O	Extra over brickwork for brick-on-edge header course lintels pointed on face and 110mm soffit	m	137
P	Extra over brickwork for brick-on-edge sloping cill	m	117
<b><u>NUTEC-CEMENT WINDOW SILLS</u></b>			
	<u>Natural grey sills in single lengths bedded in class I mortar, including metal fixing lugs etc</u>		
Q	150 x 15mm Wide sills set flat and slightly projecting	m	118
	<u>Raise Existing Feature Wall to match existing</u>		
R	Raise existing feature wall	m2	126
<b>Carried to Summary</b>			
Bill No. 5 Masonry			R





Brought Forward			R
<b><u>JOINT SEALANTS ETC</u></b>			
<u>"Fosroc Thioflex 600" two-part grey polysulphide sealing compound, including backing cord, bond breaker, primer, etc</u>			
E	10 x 10mm In expansion joints in floors	m	150
<b><u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u></b>			
<u>4mm "Derbigum SP" fully bonded waterproofing</u>			
F	Roofs	m2	82
G	On tops and sides of inverted beams	m2	106
H	On bottoms and sides of box gutters	m2	199
<b>Carried to Summary</b>			R
Bill No. 6 Waterproofing			



Bill No. 7  
Roof Coverings

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 8</u></b>			
	<b><u>CARPENTRY AND JOINERY</u></b>			
	NOTES:			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	Joinery Descriptions of frames shall be deemed to include frames, transoms, mullions, rails, etc			
	Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes			
	Fixing Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete			
	Decorative laminate finish Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish			
	<b><u>DOORS, ETC</u></b>			
	<u>Semi-solid flush doors with 6mm tempered hardboard on both sides and 10mm hardwood edging all round hung to steel frames</u>			
A	40mm Door (Type D05) 0,76 x 2,03m high	No	18	
	<u>Solid flush doors with 6mm tempered hardboard on both sides and 10mm hardwood edging all round hung to steel frames</u>			
B	40mm Door (Type D06) 0,81 x 2,03m high	No	5	
C	40mm Door (Type D03) 0,81 x 2.03m high, with 450 x 450mm opening for aluminium louvre grille (grille elsewhere measured).	No	6	
	<b>Carried Forward</b>			
	Bill No. 8 Carpentry and Joinery		R	

Brought Forward			R
D	40mm Door (Type D04) 0,91 x 2.03m high, with 450 x 450mm opening for aluminium louvre grille (grille elsewhere measured).	No	2
	<u>Sundries</u>		
E	20 x 25mm Splayed wrot Meranti glazing bead bedded in and including putty and countersunk screwed to steel door frame	m	4
	<b><u>SKIRTINGS</u></b>		
	<u>Wrought meranti</u>		
F	19 x 69mm Skirtings, nailed	m	31
	<b><u>PANELLING, ETC</u></b>		
	<u>19mm Blockboard with decorative veneer both sides</u>		
G	Panelling size 254 x 254mm	m2	2
H	Panelling size 354 x 760mm	m2	19
I	Extra for veneer to 19mm edges	m	82
	<b><u>JOINERY SUNDRIES</u></b>		
	<u>Wrought meranti</u>		
J	75 x 50mm Framed frames, plugged	m	25
K	75 x 50mm Bearers, plugged	m	50
L	75 x 50mm standards, plugged	m	55
Carried to Summary			R
Bill No. 8			
Carpentry and Joinery			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 9</u></b>			
	<b><u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u></b>			
	<u>NOTES:</u>			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<u>Descriptions</u>			
	Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete			
	Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted", the bolts are measured elsewhere			
	<u>Bulkheads</u>			
	Bulkheads are those areas of the ceiling which occur at a level or plane differing from the general ceiling or plane in a particular room or area and which generally occur along the perimeter of the room or area. Their purpose is either to conceal services or to create an architectural feature by changing levels			
	Bulkheads will only be measured as such when they conform with the above description and when the horizontal or vertical dimensions do not exceed 1,2m. Should these dimensions be more than 1,2m then the horizontal or vertical ceilings will be included in the general ceiling measurements			
	<b>Carried Forward</b>		R	
	Bill No. 9 Ceilings, Partitions, etc			

<b>Brought Forward</b>				R
<u>Flush margins and borders</u>				
Flush margins and borders not exceeding 1200mm wide of materials differing from the general ceiling material are given in metres separated into groups of successive widths of 300mm				
<u>Proprietary suspended ceilings</u>				
Electric light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance shall be made accordingly for their support, inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing shall take cognisance thereof)				
<b><u>SUSPENDED CEILINGS</u></b>				
<u>Suspended ceilings not exceeding 1m below soffit to match existing</u>				
A	Horizontal ceilings suspended not exceeding 1m below concrete soffits	m2	1,159	
	<u>600 x 1200mm "Pelican Econocast Pinhole" acoustic mineral fibre ceiling tiles with square edges and white painted finish on exposed pre painted "T" grid suspension system, including main and cross tees, necessary hangers, grids, etc:</u>			
B	Horizontal ceilings suspended not exceeding 1m below concrete soffits	m2	1,096	
C	Extra over ceilings for opening for 150mm diameter downlighter	No	15	
D	Extra over ceilings for opening for 0,60 x 2,0m light fitting	No	60	
<b>Carried Forward</b>				R
Bill No. 9 Ceilings, Partitions, etc				



Brought Forward			R
	<u>6.4mm "Rhino" gypsum plasterboard screwed up ceiling a suspension grid and tee system including main and cross tees, necessary hangers, grids, etc with 63mm wide strips of mesh scrim nailed over joints and the whole finished with gypsum skim plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer</u>		
E	Horizontal ceilings suspended not exceeding 1m below steel frame	m2	131
F	Rhino cornice	m	230
	<u>"Donn" cornices to suspended ceilings</u>		
G	"SM25" pre-painted cornices, nailed	m	359
	<b><u>PARTITIONS, ETC</u></b>		
	<u>Dry wall partition comprising steel top and bottom track with vertical studs 18mm thick water resistant gypsum board both sides riveted to top and bottom track and studs including necessary abutments, ends, etc.</u>		
H	Partition 2,69m high	m	8
I	Extra over partition 2,69m high for vertical abutment	No	2
J	Extra over partition 2,69m high for corner	No	1
	<b><u>Doors, etc.</u></b>		
	<u>Anodised aluminium door units to meet AAAMSA standards, glazed with clear glass according to SABS 1263, including sub-frames and silicone sealant all round both sides, fixed to brickwork or concrete</u>		
K	Single door, fanlight and sidelight unit overall size 1 422 x 2 410mm (Type D07). (Drawing No AR/ENGB/707)	No	2
L	Single door, fanlight and sidelight unit overall size 1 864 x 2 410mm (Type D07). (Drawing No AR/ENGB/707)	No	1
	<b>Carried to Summary</b>		R
	Bill No. 9 Ceilings, Partitions, etc		

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 10</u></b>			
	<b><u>IRONMONGERY</u></b>			
	<u>NOTES:</u>			
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	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<u>Finishes to ironmongery</u>			
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded			
	The finishes to locks, bolts, handles, ets shall be stainless steel			
	<b><u>HINGES, BOLTS, ETC</u></b>			
A	19mm Diameter QS2203 Bolt thru stainless steel pull handle	No	10	
B	30mm Diameter QS2801BTB stainless steel pull handle	No	8	
	<b><u>ALL LOCKS MUST BE SUITABLE FOR MASTER KEYING OPERATION</u></b>			
C	QS6055/4/SS dead bolt lock with QS1103S double cylinder	m	4	
D	QS0055 Dead bolt lock with QS4410-QS4406 thumbturn WC indicator with coin release	No	11	
	<b>Carried Forward</b>			
	Bill No. 10 Ironmongery		R	

Brought Forward			R
E	QS6055/1AS/SS cylinder latch dead bolt lock with QS1103S double cylinder with Kiruna tube lever handle on QS4482CYL plate	m	5
F	QS300/1 Panic push bar with single point locking	m	2
<b><u>PUSH PLATES AND KICKING PLATES</u></b>			
<u>Push Plates and Kick Plates</u>			
G	QS4508 75mm diameter round engraved push sign	No	2
<b><u>DOOR CLOSERS</u></b>			
<u>Door Closers</u>			
H	Silver QS700 overhead door closer with QS7703 slide channel, classic cover and EN 154 fire rated	No	2
I	Silver QS700 overhead door closer with with delayed action and QS7703 slide channel, classic cover and EN 154 fire rated	No	2
<b><u>LETTERS, NAMEPLATES, ETC</u></b>			
J	QS4501 75mm diameter round engraved male sign	No	1
K	QS4502 75mm diameter round engraved female sign	No	1
L	QS4506 75mm diameter round engraved disabled sign	No	1
<b><u>BATHROOM FITTINGS</u></b>			
<u>"Chairman Industries":</u>			
M	32mm Diameter stainless steel side grab rail (Ref code: DL2).	No	3
N	32mm Stainless steel rear grab rail (Ref code: SR1)	No	3
<u>"Kimberly-Clark Professional":</u>			
O	Stainless steel satin finish soap dispenser (Ref code: SA427716)	No	17
P	Stainless steel curved wall bin (Ref code: SA426135)	No	7
<b>Carried Forward</b>			R
Bill No. 10 Ironmongery			

Bill No. 10  
Ironmongery

## STRUCTURAL STEELWORK

Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.

Descriptions of bolts shall be deemed to include nuts and washers. Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete. Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.

Welded columns in single lengths with flat section base, top, bearer and connection plates, bolted to concrete

A	254 x 254 x 73 Kg/m H-section columns connected to base plate. (plates and bolts measured elsewhere)	t	12.39
B	152 x 152 x 37 Kg/m H-section column connected to base plate. (plates and bolts measured elsewhere)	t	0.82
<u>Welded beams in single lengths with flat section bearer and connection plates, bolted to steel columns</u>			
C	356 x 171 x 57 Kg/m I-section beam	t	1.15
D	PFC 200 x 75mm bolted to existing concrete	t	1.02
E	PFC 160 x 65mm bolted to existing concrete	t	1.28

R

Bill No. 11  
Structural Steelwork

Brought Forward			R
<b><u>Lattice Truss as per Detail 1, drawing "P23-084-01"</u></b>			
<u>Welded lattice beams formed of 203 x 203 x 52 kg/m and 90 x 90 x 6mm angle framework and bracing, with flat bearer, gusset and connection plates, bolted to steel columns</u>			
F	203 x 203 x 60Kg/m top and bottom chord, connected to steel columns/beams. (bolts and plates measured elsewhere)	t 11.41	
G	305 x 165 x 46 Kg/m I-section beam bolted onto 307 x 166 x 10mm thick steel endplate using 4xM20 Grade 8.8 Bolts	t 1.52	
H	90 x 90 x 6mm Angle section diagonals welded onto 350 x 350 x 12mm steel end plate with 3 x M16 Grade 8.8 Bolts and nuts	t 1.49	
I	IPE 200 welded onto 150 x 150 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel columns/beams.	t 1.00	
J	IPE 160 welded onto 150 x 150 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel columns/beams.	t 0.67	
<u>Welded Circular Hollow Sections in single lengths with flat section bearer and connection plates, bolted to steel columns</u>			
K	152.4 x 3 CHS welded onto 275 x 161 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel beams.	t 1.73	
<b><u>Roof truss as per Detail 1, Structural drawing "704-01"</u></b>			
<u>Welded roof beams formed of 254 x 146 x 31kg/m and 50 x 50 x 5mm angle framework and bracing, with flat bearer, gusset and connection plates, bolted to steel columns</u>			
L	I-beam 254 x 146 x 31Kg/m tie beam welded onto 150 x 150 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel columns/beams.	t 6.75	
Carried Forward			R
Bill No. 11 Structural Steelwork			

**Vaal University of Technology**  
**Extension to Engineering Block RE**  
**Additional Floor & Post Graduate Centre on Engineering Wing**

Brought Forward			R
M	50 x 50 x 5mm Angle section diagonals welded onto 350 x 350 x12mm steel end plate with 3 x M16 Grade 8.8 Bolts and nuts	t	3.94
N	IPE 200 top chord and stub welded onto 150 x 150 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel columns/beams.	t	9.48
O	PFC 100 x 50 welded to 5mm steel plates using 6mm welds all round	t	1.45
<u>Welded Circular Hollow Sections in single lengths with flat section bearer and connection plates, bolted to steel columns</u>			
P	152.4 x 3 CHS welded onto 275 x 161 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel beams.	t	3.87
<u>Lean to Roof over Ramp</u>			
<u>Welded lean to roof beams formed of IPE 200 beams, with flat bearer, gusset and connection plates, bolted to steel columns</u>			
Q	IPE 200 beam onto 150 x 150 x 10mm steel plates with 4 x M20 Grade 8.8 bolts to connect to steel columns/beams.	t	0.82
<u>STEEL FLOORS, STAIRS, ETC</u>			
<u>Escape Staircases (No 2 off)</u>			
<u>Welded and bolted suspended floor and stairs 2 No. off Fire Escape Stairs</u>			
R	6mm "Vastrap" plate floor panels	m2	42
S	6mm "Vastrap" plate treads 250 x 600mm long with 30mm nosing	m	100
T	203 x 203 x 52Kg/m channel columns	t	5.53
U	PFC 180 x 70mm stringers	t	3.31
V	PFC 180 x 70mm Landing beams	t	3.75
Carried Forward			R
Bill No. 11 Structural Steelwork			

Bill No. 11  
Structural Steelwork



Brought Forward				R
<b><u>PURLINS, GIRTS, BRACING, ETC</u></b>				
<u>Purlins and girts, bolted to steel</u>				
Z	CFLC 150 x 75 x 20 x 2.5mm Purlins fixed with 125 x 75 x 8mm angle cleat welded on.			
	<b>Roof</b>			
	<b>See Detail X: Structural Drawing 704-01</b>	t	5.61	
AA	CFLC 150 x 75 x 20 x 2.5mm Purlins fixed with 125 x 75 x 8mm angle cleat welded on			
	Lean to Roof: See Section A-A: Structural Drawing "704-01"	t	1.99	
<b><u>SUNDRIES</u></b>				
<u>Bolts to columns, beams, trusses etc</u>				
AB	M24 Grade 10.9 bolts including holes through steel	No	680	
AC	M20 Grade 10.9 bolts including holes through steel	No	788	
AD	M16 chemical anchor bolts including holes in concrete	No	611	
AE	360 x 360 x 16mm Grade 350W base plate cast into concrete (bolts measured elsewhere)	No	10	
AF	460 x 460 x 20mm Thick Grade 350W base plate including four M24 threaded rods 600mm long with nuts and washers fixed 500mm deep in existing concrete beam with epoxy including drilling hole (care must be taken not to damage existing reinforcement) (bolts measured elsewhere)	No	49	
<b><u>GUTTERS AND RAINWATER PIPES</u></b>				
<u>3mm Welded hot-rolled sheet gutters (Steel gutter by Specialist)</u>				
AG	2.5mm Thick galvanised mild steel gutter 1,700mm girth four times bent	m	56	
Carried Forward				R
Bill No. 11 Structural Steelwork				

Bill No. 11  
Structural Steelwork

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 12</u></b>			
	<b><u>METALWORK</u></b>			
	<u>NOTES:</u>			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	Descriptions Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described			
	<b><u>STEEL HANDRAILS, BALUSTRADES, ETC</u></b>			
	<u>Welded balustrading 1 000mm high formed of 50mm diameter stainless steel hollow section top rail, six 19mm diameter mild solid section intermediate rails, 38mm diameter mild steel sold section standards at 900mm centres, fixed to top rail and base plate with 16mm mild steel pin including 50 x 150 x 4mm thick base plate</u>			
A	Balustrade to sloping ramp	m	129	
B	Balustrade to sloping stairs	m	116	
	<u>Welded cat-ladder</u>			
C	Welded cat-ladder 600mm wide and 6 000mm high to roof, formed of 50 x 6mm flat section stringers and 25mm diameter rungs at approximately 300mm centres, including flat and angle section brackets, including circular cage around formed of 30 x 4mm flats, etc	No	1	
	<b>Carried Forward</b>			
	Bill No. 12 Metalwork		R	

Brought Forward			R
<b><u>PRESSED STEEL DOOR FRAMES</u></b>			
<u>1,2mm Rebated frames suitable for half brick walls including three hinges and three PVC buffers to closing style</u>			
D	Frame for door 762 x 2032mm high	No	18
E	Frame for door 914 x 2032mm high	No	2
<u>1,2mm Rebated frames suitable for one brick walls with three hinges and three PVC buffers to closing style</u>			
F	Frame for door 813 x 2032mm high	No	9
G	Frame for door 914 x 2032mm high	No	2
H	Frame for door 813 x 2032mm high with fixed fanlight 308mm high over including transome	No	2
<b><u>STEEL WINDOWS, DOORS, ETC</u></b>			
<u>Stainless steel glazing beads, coupling transoms, coupling mullions, etc</u>			
I	25 x 25mm Standard glazing beads	m	2
<b><u>NATURAL ANODISED ALUMINIUM LOUVRE UNITS</u></b>			
<u>'Trox' fixed type natural anodise aluminium louvre units screwed into wooden door</u>			
J	Louvre unit for 450 x 450mm high opening	No	8
<b><u>ALUMINIUM WINDOWS, DOORS, ETC</u></b>			
Note: Tenderers are referred to architect's window and door schedules attached to these bills of quantities before pricing as the bills of quantities items refer to size and reference only			
Carried Forward			R
Bill No. 12 Metalwork			

Brought Forward			R
<b><u>Windows etc.</u></b>			
<u>"Sheerline Sheersash 36" or equal approved powder coated anodised aluminium windows to meet AAAMSA standards PTHA2 and PSHA2, glazed with 6mm Fadeban NS, including sub-frames and silicone sealant all round both sides, fixed to brickwork or concrete</u>			
K	Window size 2 000 x 550mm (Type W-01). (Drawing No AR/ENG/601)	No	2
L	Window size 900 x 1 580mm (Type W-03). (Drawing No AR/ENG/602)	No	14
M	Window size 900 x 1 993mm (Type W-04). (Drawing No AR/ENG/603)	No	13
N	Window size 3 990 x 2 000mm (Type W-05). (Drawing No AR/ENG/604)	No	6
O	Window overall size 3 910 x 2 000mm (Type W-06). (Drawing No AR/ENG/605)	No	1
P	Window overall size 3 910 x 2 000mm (Type W-07). (Drawing No AR/ENG/606)	No	4
<b><u>Doors, etc.</u></b>			
<u>Anodised aluminium door units to meet AAAMSA standards, glazed with clear glass according to SABS 1263, including sub-frames and silicone sealant all round both sides, fixed to brickwork or concrete</u>			
Q	Single door, fanlight and sidelight unit overall size 1 422 x 2 410mm (Type D07). (Drawing No AR/ENGB/707)	No	1
<u>Powder coated aluminium door units to meet AAAMSA standards, glazed with clear glass according to SABS 1263, including sub-frames and silicone sealant all round both sides, fixed to brickwork or concrete</u>			
R	Single door, fanlight and sidelight unit overall size 1 422 x 2 410mm (Type D07). (Drawing No AR/ENGB/707)	No	2
S	Double door and fanlight overall size 1 864 x 2 410mm (Type D08). (Drawing No AR/ENGB/708)	No	1
Carried Forward			R
Bill No. 12 Metalwork			

Brought Forward		R
<p><u>Powder coated finish natural anodised aluminium glazed units of standard class A2 heavy duty aluminium framing to meet AAAMSA standards, glazed with 6mm Fadeban safety glass with glazing beads and neoprene gaskets, the glazing beads to be allen keyed secured, including sub-frames and silicone sealant all round both sides, fixed to brickwork or concrete</u></p> <p>Double door including top lights and side lights overall size 7 991 x 2 850mm (Type D01). (Drawing No AR/ENGB/701)</p>	No	1
<p><u>Wispeco purpose made powder coated aluminium doors</u></p> <p>Double door and frame overall size 1 726 x 2 075mm high (Type D09) (Drawing No AR/ENGB/709) including all louvres, hinges, mesh screens, thresholds, etc.</p>	No	1
<p><u>3 Arm bi-directional glass full height turnstile with stainless steel brushed frame and covers including logics and power supply plus battery backup power supply 24V, mounting bracket including 2 x 12Vah batteries</u></p> <p>Turnstiles overall size 1 400 x 2 261mm (Type D02). (Drawing No AR/ENGB/702)</p>	No	2
<p><b><u>FIRE DOORS</u></b></p> <p>Bitcon Industries Class B fire resistant door and frame overall size 900 x 2 064mm high (Type D10) with commercial veneer both sides and opening for viewing panel size 150 x 450mm including stainless steel beading surround</p>	No	3
<p><b><u>SUNDRY STEELWORK</u></b></p> <p><u>Welded bearers to column cladding</u></p> <p>30 x 30 x 3mm Angle bearers 100mm long</p>	No	72
<p><b><u>FENCING</u></b></p>		
Carried Forward		R
<p>Bill No. 12</p> <p>Metalwork</p>		

Brought Forward			R
	<u>"Clear Vu" fencing</u>		
Y	"Clear Vu" fencing 1 800mm high above slab level comprising of mesh panels 3 305mm wide formed of reinforced 4 x 50mm deep "V" formation horizontal recessed bands, fixed to taper locking posts size 85 x 45 x 85mm, posts 1,8m long both sides, each post fixed to concrete slab with base plates size 100mm x 100mm. All sealed with UV stabilized polymer cap coated with marine fusion bond coating, each panel clamped with 16 x single bolt comb clamps, supplied and installed as per manufacturers instructions.	m	26
Z	Galvanised mild steel padestrian gate size 2,4m x 1,80m high, gate leaf formed of 100 x 50mm hollow section frame all round with two 100 x 50mm hollow section transomes filled in with galvanised "Clear Vu"mesh, the complete gate fixed to and including IPE 120 posts 1,8m long both sides, each post fixed to concrete slab with base plates 100mm x 100mm, including 2 heavy duty hinges to the leaf and one heavy duty lockable barrel bolts and 51mm "Union 3122" padlock	No	1
Carried to Summary			R
Bill No. 12 Metalwork			

Item No		Quantity	Rate	Amount
	<b><u>BILL NO 13</u></b>			
	<b><u>PLASTERING</u></b>			
	<u>NOTES:</u>			
	Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<b><u>GRANOLITHIC</u></b>			
	<u>Method</u>			
	The method to be used shall be either the monolithic or bonded method			
	<u>Preparation</u>			
	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 shall then be applied immediately afterwards. 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 finish			
	<u>Mix</u>			
	Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SABS 1083 and 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			
	<b>Carried Forward</b>		R	
	Bill No. 13 Plastering			



Brought Forward			R
<u>Panels</u>			
Granolithic shall be laid in panels not exceeding 14m <sup>2</sup> for granolithic finishes, not exceeding 9,5m <sup>2</sup> for bonded finishes and not exceeding 6m <sup>2</sup> for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width. Joints between panels shall be positioned, where possible, 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 small V-joints			
<u>Laying</u>			
Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels			
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, thoroughly compacted and lightly wood floated to the required levels			
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			
<u>Curing, seasoning and protection</u>			
Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying			
<b><u>SCREEDS</u></b>			
<u>Screeds on concrete</u>			
A	30mm Thick on floors and landings	m2	3,613
B	30mm Thick on treads and risers of stairs, including reedings	m2	14
C	Average 30mm thick on floors to falls	m2	75
Carried Forward			R
Bill No. 13 Plastering			

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## PLUMBING AND DRAINAGE (PROVISIONAL)

Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.

Descriptions of gutter outlets etc. shall be deemed to include wire balloon gratings

Stormwater channels:  
Descriptions of channels shall be deemed to include all necessary excavation and disposal of surplus material

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

Pipes shall rest on solid ground and, where necessary, pockets of sufficient size shall be cut around joints to enable the jointing to be properly performed or, alternatively, pipes shall be bedded full length on and including unreinforced concrete laid in a semi-dry state immediately before pipes are laid

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

R

Bill No. 16  
Plumbing and Drainage

<b>Brought Forward</b>	R
<p><u>Gratings, covers, etc:</u> Gratings, covers, etc shall be as manufactured by "Besaans du Plessis Foundries", unless otherwise described Septic tanks Descriptions of septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc all in accordance with the manufacturer's instructions</p> <p><u>Stainless steel basins, sinks, wash troughs, urinals, etc:</u> Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable</p> <p><u>Flush pans:</u> Flush pans shall have straight or side outlets and "P" or "S" traps as necessary</p> <p><u>Lead pipes and traps:</u> All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel</p> <p><u>uPVC pressure pipes and fittings:</u> Pipes for water supply shall be of the class described Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings Pipes of 50mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints</p> <p><u>"Polycop" polypropylene pipes:</u> Polypropylene pipes 54mm diameter and under shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes, as described Pipes shall be firmly fixed to walls etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions All pipe diameters are nominal external</p>	
<b>Carried Forward</b>	R
<p>Bill No. 16 Plumbing and Drainage</p>	

<p style="text-align: center;"><b>Brought Forward</b></p> <p><u>Copper pipes:</u> Pipes shall be hard drawn and half-hard pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground</p> <p><u>Steel sectional water tanks:</u> Tanks shall comply with SABS CKS 114</p> <p><u>"Densyl" petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd:</u> Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with relevant overlaps for specific diameters of pipes. Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, "Layflat" sheeting, securing of same, etc</p> <p>Prices for wrapping of pipes shall include for all work as described to couplings in the length</p> <p>User note: Dependent on soil or environmental conditions laps may require to be increased to a maximum of 55% (which results in a double layer) and pipes may require a PVC outer wrap</p> <p><u>Excavations:</u> No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling "Soft rock" and "hard rock" shall be as defined in "Earthworks"</p> <p>Keeping excavations free of water. Further to clause 9 page 83 of the Standard System of Measuring Building Work, excavations for sumps, catchpits, inspection chambers, junction boxes and the like shall be deemed to include for keeping free of water</p>	<p style="text-align: center;">R</p>
<p style="text-align: center;"><b>Carried Forward</b></p> <p>Bill No. 16 Plumbing and Drainage</p>	<p style="text-align: center;">R</p>

<b>Brought Forward</b>	R
<p><u>Laying, backfilling, bedding, etc of pipes:</u> Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions</p> <p>Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding</p> <p><u>Reducing fittings:</u> Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm, only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm, all sizes are given and no claim for extra bushes, reducers, etc will be entertained</p> <p><u>General:</u> Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete Descriptions of overflow pipes where measured number, shall be deemed to include joints to cisterns and splay cut ends Descriptions of pipes laid in and including trenches shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 93% Modified AASHTO density and disposal of surplus material Descriptions of copper service pipes and flexible connecting pipes shall include connections to taps, cisterns, etc and to steel pipes Descriptions of wc pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors separately measured)</p>	
<b>Carried Forward</b>	R
<p>Bill No. 16 Plumbing and Drainage</p>	



Brought Forward			R
<b><u>RAINWATER DISPOSAL</u></b>			
<u>0,6mm Galvanised sheet iron with chromadek finish</u>			
A	100mm Half round eaves gutters	m	42
B	Extra for stopped end	No	2
C	Extra for outlet for 100mm pipe	No	6
D	100mm Diameter rainwater pipes	m	55
E	Extra for shoe	No	6
F	Extra for eaves or plinth offset	No	6
<u>uPVC pipes</u>			
G	110mm Pipes	m	18
<u>Extra over uPVC pipes for fittings</u>			
H	110mm Bend	No	4
I	110mm Fullbore Adaptor	m	2
<u>"Full-flow" cast iron outlets</u>			
J	100mm Vertical outlet	No	2
K	100mm 45 Degree side outlet	No	2
<b><u>SANITARY FITTINGS</u></b>			
<u>"Franke" or equal and approved grade 304 (18/10) stainless steel</u>			
L	Model ARX size 460 x370mm single end bowl sink with waste outlet and plug and chain	No	1
<u>"Vaal"</u>			
M	595 x 455mm "Cameo" oval self rimming vanity basin with one taphole and chain stay hole through the centre semi-punched taphole	No	30
Carried Forward			R
Bill No. 16 Plumbing and Drainage			

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	Brought Forward			R
N	"Lavatera" wall urinal with top inlet (Code 705426) with top inlet fittings (Code 7054Z1) including 38mm chromium plated domical grating and spreader.	No	12	
O	Vitreous china "Orchid" back inlet (Code 439016) wall hung open rim pan with jazz double flap thermoset seat (Code 8531Z0) and fixed to and including floor bracket (Code 8082Z0)	No	19	
P	Vitreous china "Orchid Paraplegic" back inlet (Code 439016) wall hung open rim pan with jazz double flap thermoset seat (Code 8531Z0) and fixed to and including floor bracket (Code 8082Z0)	No	3	
<b><u>WASTE UNIONS ETC</u></b>				
Q	32mm Chromium plated waste union, plug, chain and stay	No	30	
R	40mm Chromium plated waste union, plug, chain and stay	No	13	
<b><u>TRAPS ETC</u></b>				
S	32mm Chromium Plated bottle trap including tailpipe and wall flange complete	No	30	
T	40mm Chromium Plated Bottle Trap including Tailpipe and Wall Flange complete	No	13	
<b><u>TAPS, VALVES, ETC</u></b>				
<u>"Cobra Watertech" or equal and approved including joints to plastic piping</u>				
U	15mm 232-350 Chromium Plated angle regulating valve complete	No	31	
V	15mm Pillar tap (Code 114 CA-15)	No	28	
W	15mm Chromium plated medical elbow action pillar tap (Code 505-21B)	No	3	
X	"Flushmaster Junior" urinal flush valve	m	12	
Y	"Flushmaster Junior" WC flush valve	m	19	
<b>Carried Forward</b>				
Bill No. 16 Plumbing and Drainage				R

Brought Forward			R
Z	"Flushmaster Junior" disabled WC flush valve	No	3
<b><u>FLOOR DRAINS</u></b>			
	<u>Herbish HB 200H series floor drain with 70mm water seal, with 240 x 240mm square top flange with tiling key</u>		
AA	Floor drain	No	2
<b><u>TESTING</u></b>			
AB	Allow for testing of the complete plumbing installation to the satisfaction of the principal agent and the Local Authorities		Item
Carried to Summary			R
Bill No. 16			
Plumbing and Drainage			



Item No		Quantity	Rate	Amount
	<b><u>BILL NO 18</u></b>			
	<b><u>PAINTWORK</u></b>			
	<p><u>NOTES:</u></p> <p>Attention is directed to the relevant sections of the Model Preambles for Trades (2008 edition) as published by the Association of South African Quantity Surveyors, which form part of this Bill of Quantities and must be read in conjunction therewith.</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>DESCRIPTIONS</u></b></p> <p>Descriptions of paintwork shall be deemed to include for all cutting in</p> <p><b><u>PREPARATORY WORK TO EXISTING WORK</u></b></p> <p>Previously painted plastered surfacesSurfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth</p> <p>Previously painted metal surfacesSurfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal</p> <p>Previously painted wood surfacesSurfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth</p> <p><b><u>PAINT SPECIFICATIONS</u></b></p> <p>All painting shall be done in accordance with "Plascon-Evans" specifications</p>			
	<b>Carried Forward</b>		R	
	Bill No. 18 Paintwork			

Brought Forward			R
<b><u>PAINTWORK, ETC TO NEW WORK ON</u></b>			
<b><u>FLOATED PLASTER SURFACES WITH</u></b>			
<u>One coat alkali resistant plaster primer and two coats PVA acrylic emulsion paint on</u>			
A	Bagged walls	m2	163
B	Internal one coat plastered walls	m2	155
<u>One coat alkali resistant plaster primer and two coats PVA acrylic emulsion paint on</u>			
C	Ceilings and beams	m2	950
<u>One coat "Plascon Merit Plaster Primer" and two coats "Plascon Double Velvet Pure Acrylic" paint</u>			
D	Internal two coat plastered walls.	m2	2,367
<b><u>PLASTER BOARD SURFACES WITH</u></b>			
<u>One coat alkali resistant plaster primer and two coats PVA acrylic emulsion paint on</u>			
E	Partitions	m2	43
F	Ceilings and cornices, including priming metal coverstrips and nailheads	m2	124
<b><u>METAL SURFACES WITH</u></b>			
<u>Spot priming defects in pre-primed surfaces with zinc phosphate metal primer, one coat universal undercoat and two coats super universal enamel paint on steel</u>			
G	Door frames	m2	48
<u>One coat acrylic emulsion metal primer, one coat universal undercoat and two coats super universal enamel paint on galvanised steel</u>			
H	Purlins	m2	89
I	Stringers	m2	105
<b>Carried Forward</b>			R
Bill No. 18 Paintwork			

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Brought Forward			R
J	Columns and beams	m2	398
	<u>Prepare and paint one coat primer, one coat universal undercoat and two coats eggshell enamel, to match "Silver RAL9006" all round</u>		
K	Rails not exceeding 150mm diameter	m	764
	<b><u>WOOD SURFACES WITH</u></b>		
	<u>One coat oil wood primer, one coat universal undercoat and two coats super universal enamel paint on</u>		
L	Doors	m2	120
M	Panelling	m2	13
N	Skirtings, rails, etc not exceeding 300mm girth	m	31
	<b><u>PAINTWORK, ETC TO PREVIOUSLY PAINTED WORK ON</u></b>		
	<b><u>FLOATED PLASTER SURFACES WITH</u></b>		
	<u>One coat primer and two coats interior quality PVA emulsion paint</u>		
O	On internal plastered walls	m2	1,607
Carried to Summary			R
Bill No. 18 Paintwork			





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<b>Brought Forward</b>			R
<u>Electrical Installation</u>			
D	Provide the sum of R12,007,265.47 (Twelve Million and Seven Thousand Two Hundred and Sixty Five and Forty Seven) for the electrical installation	Item	12,007,265.47
E	Profit		%
F	Attendance		%
<u>Air Conditioning and Ventilation Installation</u>			
G	Provide the sum of R6,210,759.88 (Six Million Two Hundred and Ten Thousand Seven Hundred and Fifty Nine and Eighty Eight) for air conditioning and ventilation installation	Item	6,210,759.88
H	Profit		%
I	Attendance		%
<u>Hot Water Installations</u>			
J	Provide the sum of R429,454.33 (Four Hundred and Twenty Nine Thousand Four Hundred and Fifty Four and Thirty Three) for Hot water installation	Item	429,454.33
K	Profit		%
L	Attendance		%
<u>Fire Protection</u>			
M	Provide the sum of R4,439,389.32 (Four Million Four Hundred and Thirty Nine Thousand Three Hundred and Eighty Nine and Thirty Two) for Fire Protection	Item	4,439,389.32
N	Profit		%
O	Attendance		%
<b>Carried Forward</b>			R
Bill No. 19 Provisional Amounts			

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**Additional Floor & Post Graduate Centre on Engineering Wing**

<b>Brought Forward</b>			R	
	<u>Wet Services</u>			
P	Provide the sum of R516,223.71 (Five Hundred and Sixteen Thousand Two Hundred and Twenty Three and Seventy One) for Wet Services	Item		516,223.71
Q	Profit		%	
R	Attendance		%	
	<u>Partitioning Installation</u>			
S	Provide the sum of R300,000.00 (Three Hundred Thousand) for partitioning installation	Item		300,000.00
T	Profit		%	
U	Attendance		%	
	<u>Desking and Seating Installation</u>			
V	Provide the sum of R2,800,000.00 (Two Million Eight Hundred Thousand) for desking and installation	Item		2,800,000.00
W	Profit		%	
X	Attendance		%	
	<u>Furniture and Fittings Installation</u>			
Y	Provide the sum of R688,000.00 (Six Hundred and Eighty Eight Thousand) for Furniture and Fittings Installation	Item		688,000.00
Z	Profit		%	
AA	Attendance		%	
<b>Carried Forward</b>			R	
Bill No. 19 Provisional Amounts				

**Vaal University of Technology**  
**Extension to Engineering Block RE**  
**Additional Floor & Post Graduate Centre on Engineering Wing**

<b>Brought Forward</b>			R
	<u>Steel Mesh Cladding to Fire Escape Stairs</u>		
AB	Provide the sum of R170,500.00 (One Hundred and Seventy Thousand Five Hundred) for supply and installation of the Steel Mesh Cladding to the Fire Escape Stairs	Item	170,500.00
AC	Profit	%	
AD	Attendance	%	
	<u>Joinery Installation</u>		
AE	Provide the sum of R126,500.00 (One Hundred and Twenty Six Thousand Five Hundred) for joinery installation	Item	126,500.00
AF	Profit	%	
AG	Attendance	%	
	<u>Signage</u>		
AH	Provide the sum of R82,500.00 (Eighty Two Thousand Five Hundred) for the supply and installation of signage	Item	82,500.00
AI	Profit	%	
AJ	Attendance	%	
	<u>Community Liason Officer</u>		
AK	Provide the sum of R120,000.00 (One Hundred and Twenty Thousand) for a community liason officer	Item	120,000.00
AL	Profit	%	
AM	Attendance	%	
<b>Carried to Summary</b>			R
Bill No. 19			
Provisional Amounts			

**Vaal University of Technology**  
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**Additional Floor & Post Graduate Centre on Engineering Wing**

FINAL SUMMARY				
Bill No		Page No	Amount	
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6	Waterproofing	34		
7	Roof Coverings	36		
8	Carpentry and Joinery	38		
9	Ceilings, Partitions, etc	41		
10	Ironmongery	44		
11	Structural Steelwork	50		
12	Metalwork	55		
13	Plastering	58		
14	Tiling	59		
15	Floor Coverings	60		
16	Plumbing and Drainage	67		
17	Glazing	68		
18	Paintwork	71		
19	Provisional Amounts	75		
	Sub Total		R	

**Vaal University of Technology**  
**Extension to Engineering Block RE**  
**Additional Floor & Post Graduate Centre on Engineering Wing**

**Bill  
No**

**FINAL SUMMARY**

**Brought Forward**

**Page  
No**

**Amount**

**CONTINGENCY**

Allow the Contingency Amount of R5,250,000.00 (Five Million Two Hundred and Fifty Thousand), to be used at the absolute discretion of the Engineers/Principal Agent and this amount shall be deducted in whole or in part from the contract value if not required, without and compensation for loss or profit on the amount.

Item

5,250,000.00

Sub Total

Value Added Tax

**Carried to Form of Tender**