

Section No. 1
Preliminaries
Bill No. 1
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vii) Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder"

SECTION A: PRINCIPAL BUILDING AGREEMENT

Definitions

- 1 Clause 1.0 - Definitions and interpretation [1.1] Replace the following definitions in DEFINITIONS AND INTERPRETATIONS with the following wording:
AGREEMENT means the agreement arising from the signing of the Form of offer and Acceptance by the parties. BILLS OF QUANTITIES means the document drawn up in accordance with the pricing instructions contained in the pricing data. CONSTRUCTION PERIOD means the period commencing on the date that the agreement made in terms of the Offer and Acceptance comes into effect and ending on the date of practical completion. CONTRACT DOCUMENTS means the agreement and all documents referenced therein. CONTRACT DRAWINGS means the drawings listed in the scope of works. CONTRACT SUM means the total price in the Form of Offer and Acceptance. SCHEDULE means the variables listed in the Contract Data. [1.6.4] Delete sub-clause 1.6.4
F:..... V:..... T:.....
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Item

Objective and Preparation

- 2 Clause 2.0 - Offer, acceptance and performance obligations
F:..... V:.....
T:.....
- 3 Clause 3.0 - Documents [3.1] The Employer will not be required to provide a payment guarantee in terms of clause 3.1, clause 3.3 or any other clause. [3.5] Delete sub-clause 3.5 and replace with: The employer will arrange for the signing of the contract documentation. [3.6] Delete sub-clause 3.6
F:..... V:.....
T:.....
- 4 Clause 4.0 - Design responsibility
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T:.....

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5	Clause 5.0 - Employer's agents F:..... V:..... T:.....	Item		
6	Clause 6.0 - Contractor's site representative F:..... V:..... T:.....	Item		
7	Clause 7.0 - Compliance with laws and regulations Without limiting the generality of the provisions of Clause 7.0, the contractor's attention is drawn to the provisions of the Construction Regulations - 2003 issued in terms of the Occupational Health and Safety Act - 1993. It is specifically stated that the employer shall prepare a documented Health and Safety specification for the works and that the employer shall ensure that the contractor has made provision for the cost of health and safety measures during the execution of the works. The contractor shall price opposite this item for the compliance with the Act and the regulations and the reasonable provisions of the aforementioned health and safety specifications. F:..... V:..... T:.....	Item		
8	Clause 8.0 - Works risk F:..... V:..... T:.....	Item		
9	Clause 9.0 - Indemnities F:..... V:..... T:.....	Item		
10	Clause 10.0 - General insurances F:..... V:..... T:.....	Item		
11	Clause 11.0 - Special insurances F:..... V:..... T:.....	Item		
12	Clause 12.0 - Effecting insurance F:..... V:..... T:.....	Item		
13	Clause 13.0 - Assignment F:..... V:..... T:.....	Item		
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14	<p>Clause 14.0 - Security F:..... V:..... T:.....</p> <p>Execution</p>	Item		
15	<p>Clause 15.0 - Preparation for and execution of the works F:..... V:..... T:.....</p>	Item		
16	<p>Clause 16.0 - Site and Access F:..... V:..... T:.....</p>	Item		
17	<p>Clause 17.0 - Contract instructions F:..... V:..... T:.....</p>	Item		
18	<p>Clause 18.0 - Setting out of the works The contractor shall notify the principal agent of any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc exist in order that the necessary arrangements may be made for the rectification of any such encroachments. F:..... V:..... T:.....</p>	Item		
19	<p>Clause 19.0 - Temporary works and plant Sub-clause 19.1.1 - The contractor must provide, erect, maintain and remove at completion all required temporary fencing, hoarding screen barriers, access gates, etc. Sub-clause 19.1.2 - The contractor shall provide maintain and remove on completion a meeting room at least 8,0 x 5,0m on plan and 2,6m high internally. F:..... V:..... T:.....</p>	Item		
20	<p>Clause 19.2 - One main notice board shall be provided F:..... V:..... T:.....</p>	Item		
21	<p>Clause 20.0 - Nominated subcontractors F:..... V:..... T:.....</p>	Item		
22	<p>Clause 21.0 - Selected subcontractors F:..... V:..... T:.....</p>	Item		
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23	Clause 22.0 - Employer's Direct contractors F:..... V:..... T:.....	Item		
24	Clause 23.0 - Contractor's Domestic sub-contractors F:..... V:..... T:.....	Item		
<u>Completion</u>				
25	Clause 24.0 - Practical completion F:..... V:..... T:.....	Item		
26	Clause 25.0 - Works completion F:..... V:..... T:.....	Item		
27	Clause 26.0 - Final completion F:..... V:..... T:.....	Item		
28	Clause 27.0 - Latent defects liability period F:..... V:..... T:.....	Item		
29	Clause 28.0 - Sectional completion F:..... V:..... T:.....	Item		
30	Clause 29.0 - Revision of date of practical completion The removal and replacement of materials and/or workmanship which do not conform to specification or drawing shall not constitute grounds for the extension of the construction period nor for adjustment of the contract value (Clause 29.3) F:..... V:..... T:.....	Item		
31	Clause 30.0 - Penalty for non-completion Note: The penalty for failing to complete the whole of Works will be calculated as 0.04% of the Contract Sum, rounded up to the nearest R10. If the Works is to be completed in sections, the penalty for failing to complete each section will be calculated as 0.04% of the value of that section, rounded up to the nearest R10. [30.2.2] Replace reference to 36.3 at end of sentence with 36.0 F:..... V:..... T:.....	Item		
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Payment

32 Clause 31.0 - Interim payment to the contractor
The inclusion of materials and goods stored off site in the amount authorized for payment in terms of clause 31.4 shall be at the sole discretion of the principal agent and such inclusion shall only be considered upon the provision by the contractor of an approved guarantee issued by a registered commercial bank. Clause 31.6.5 is therefore not applicable. Materials and goods stored off site shall not be included in the amount authorized for payment. Clause 31.6.5 shall be deemed to be deleted. Notwithstanding this or any other clause, materials and goods stored off site shall not be included in the amount authorized for payment. Clause 31.9 shall be altered to read as follows: "The Employer shall pay to the Contractor the amount certified within thirty (30) calendar days of the date of issue of the payment certificate. Payment shall be subject to the Contractor giving the Employer a VAT invoice for the amount due within the relevant period for payment".

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Item

33 Clause 32.0 - Adjustment to the contract value Where the contractor fails to select a choice at clause 3.2.4 page 51 of the Principal Building Agreement Contract Data - CE, the contractor will be deemed to have selected NO.

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T:.....

Item

34 Clause 33.0 - Recovery of expense and loss

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

Item

35 Clause 34.0 - Final account and final payment

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

Item

36 Clause 35.0 - Payment to other parties

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

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Termination

37 Clause 36.0 - Termination by employer - contractor's default

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38	Clause 37.0 - Termination by employer - loss and damage F:..... V:..... T:.....	Item		
39	Clause 38.0 - Termination by contractor - employer's default F:..... V:..... T:.....	Item		
40	Clause 39.0 - Termination - cessation of the works F:..... V:..... T:.....	Item		
	<u>Dispute (A40)</u>			
41	Clause 40.0 - Dispute settlement F:..... V:..... T:.....	Item		
	<u>Contract Agreement</u>			
42	Clause 41.0 - Post tender provisions The required post tender information shall be inserted in the post tender provisions after consultation with the contractor. F:..... V:..... T:.....	Item		
43	Clause 42.0 - Contractual agreement The required information of the contracting parties and the amount of the accepted contract sum shall be inserted in the contractual agreement for the signature of the agreement by the contracting parties. F:..... V:..... T:.....	Item		
	<u>SECTION B: PRELIMINARIES</u>			
	<u>Definition and interpretation</u>			
44	Definition and interpretation (B1.1 - B1.6.5) See also clause A1.0 of Section A for additional and / or amended definitions which shall apply equally to this section F:..... V:..... T:.....	Item		
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<u>Documents</u>				
45	Clause 2.1 - Checking of documents F:..... V:..... T:.....	Item		
46	Clause 2.2 - Provisional Bills of Quantities F:..... V:..... T:.....	Item		
47	Clause 2.3 - Availability of construction documentation The budgetary allowances and selected or nominated sub-contract amounts allocated for subsequent trades included in this document will be separately procured, based on multiple procurement of selected or nominated sub-contractors during the construction period. F:..... V:..... T:.....	Item		
<u>Previous work and adjoining properties</u>				
48	Clause 3.1 - Previous work - dimension accuracy F:..... V:..... T:.....	Item		
49	Clause 3.2 - Previous work - defects F:..... V:..... T:.....	Item		
50	Clause 3.3 - Inspection of adjoining properties F:..... V:..... T:.....	Item		
<u>Samples, shop drawings and manufacturer's instructions</u>				
51	Clause 4.1 - Samples of materials F:..... V:..... T:.....	Item		
52	Clause 4.2 - Workmanship samples F:..... V:..... T:.....	Item		
53	Clause 4.3 - Shop drawings F:..... V:..... T:.....	Item		
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54	<p>Clause 4.4 - Compliance with Manufacturer's instructions F:..... V:..... T:.....</p> <p><u>Deposits and fees</u></p>	Item		
55	<p>Clause 5.1 - Deposits and fees F:..... V:..... T:.....</p> <p><u>Temporary services</u></p>	Item		
56	<p>Clause 6.1 - Water F:..... V:..... T:.....</p>	Item		
57	<p>Clause 6.2 - Electricity F:..... V:..... T:.....</p>	Item		
58	<p>Clause 6.4 - Telecommunication facilities F:..... V:..... T:.....</p>	Item		
59	<p>Clause 6.5 - Ablution facilities F:..... V:..... T:.....</p> <p><u>Prime cost amounts</u></p>	Item		
60	<p>Clause 7.1 - Responsibility for prime cost amounts F:..... V:..... T:.....</p> <p><u>Special attendance on N/S Subcontractors</u></p>	Item		
61	<p>Clause 8.1 - Special attendance F:..... V:..... T:.....</p> <p><u>General</u></p>	Item		
62	<p>Clause 9.1 - Protection of works F:..... V:..... T:.....</p>	Item		
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63	Clause 9.2 - Protection/isolation of existing/sectionally occupied works F:..... V:..... T:.....	Item		
64	Clause 9.3 - Security of works F:..... V:..... T:.....	Item		
65	Clause 9.4 - Notice before covering work F:..... V:..... T:.....	Item		
66	Clause 9.5 - Disturbance F:..... V:..... T:.....	Item		
67	Clause 9.6 - Environmental disturbance F:..... V:..... T:.....	Item		
68	Clause 9.7 - Works cleaning and clearing F:..... V:..... T:.....	Item		
69	Clause 9.8 - Vermin F:..... V:..... T:.....	Item		
70	Clause 9.9 - Overhand work F:..... V:..... T:.....	Item		
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Schedule of variables

Information necessary for elections and completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder.

Where no information is given it shall mean that either no details or specific requirements are available or that the clause is not relevant to this specific contract.

10.1 Provisional Bills of Quantities (Clause 2.2)

The quantities are provisional: Yes

10.2 Availability of construction documentation (Clause 2.3)

Construction documentation is complete: Yes

10.3 Previous work - dimension accuracy (Clause 3.1)

10.4 Previous work - defects (Clause 3.2)

10.5 Inspection of adjoining properties (Clause 3.3)

10.6 Water (Clause 7.2) Option A (by contractor) - yes

Option B (by employer - free of charge) - no

Option C (by employer - metered) - no

10.7 Electricity (Clause 7.3)

Option A (by contractor) - yes

Option B (by employer - free of charge) - no

Option C (by employer - metered) - no

10.8 Telecommunications (Clause 7.4)

Telephone - Yes

Facsimile - Yes

Email - No

10.9 Ablution facilities (Clause 7.5)

Option A (by contractor) - yes

Option B (by employer) - no

10.10 Protection of the works (Clause 9.1)

10.11 Protection / isolation of existing / sectionally occupied works (Clause 9.2)

Protection /isolation is required - Yes

10.12 Disturbance (Clause 9.5)

10.13 Environmental disturbance (Clause 9.6)

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SECTION C: SPECIFIC PRELIMINARIES

71 CONTRACT DRAWINGS * The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed Should any part of the drawings not be clearly understood by the Tenderer he shall before submitting his tender obtain clarification in writing from the Principal Agent.

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

72 TRADE NAMES Wherever a trade name for any product has been described in the Bills of Qunatities document, the Tenderers attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal Agent being obtained prior to the closing date for submission of tenders If prior written approval for alternative product is not obtained, the product described shall be deemed to have been tendered for.

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Item

73 HIV / AIDS AWARENESS It is required of the Contractor to thoroughly study the HIV / AIDS Specification of the Department that must be read in conjunction with and is deemed to be incorporated under this section of the Bills of Qunatities document. Provision for pricing of HIV / AIDS awareness is made under items C10.1 to C10.5 hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained. The Contractor must take note that complaine with the HIV / AIDS specification is compulsory. In the event of partial or total non-complaine, the Principal Agent notwithstanding the provisions of clause A 31.0 of Section A or any other clause to the contrary reserves the right to delay issuing any progress payment certificate until the Contractor provides satisfactory proof of complaine. The Contractor shall not be entitled to any compensation of whatsoever nature, including interest due to such delay in payment.

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74	<p>AWARENESS CHAMPION Selection, appointment, briefing and making available of an awareness champion including provision of all relevant services, all in accordance with the HIV / AIDS Specification</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
75	<p>AWARENESS WORKSHOPS Selection and appointment of a competent service provider approved by the Principal Agent, provision of a service workshop plan and a suitable venue, conducting of awareness workshops by means of traditional and / or modern multi-media techniques including follow-up courses, making available all tuition material and performing assessment procedures all in accordance with the HIV / AIDS Specification</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
76	<p>POSTERS, BOOKLETS, VIDEOS, ETC. Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc for the duration of the construction period all in accordance with the HIV / AIDS Specification</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
77	<p>ACCESS TO CONDOMS Provision and maintenance of condom dispensers fixed in position including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the construction period all in accordance with the HIV / AIDS Specification</p>	Item		
78	<p>MONITORING Monitoring HIV / AIDS awareness of workers, providing the Principal Agent with access to information including making available all reports thoroughly completed and reflecting yhr correct information for the duration of the construction period and close out, all in accordance with the HIV / AIDS Specification</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
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79	<p>OCCUPATIONAL HEALTH AND SAFETY ACT The Contractor shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) It is required of the Contractor to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this section of the Bills of Quantities document. The Contractor must take note that compliance with the Occupational Health and Safety Act is compulsory. In the event of partial or total non-compliance, the Principal Agent notwithstanding the provisions of clause A 31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the Contractor provides satisfactory proof of compliance. The Contractor shall not be entitled to any compensation of whatsoever nature including interest due to such delay of payment. Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained. brought forward from the Occupational Health and Safety Bill of Quantities A F:..... V:..... T:.....</p>	Item			
80	<p>PROPRIETARY BRANDED PRODUCTS The contractor shall take delivery of, handle, store, use apply and/or fix all proprietary branded products in strict accordance with the manufacturers' instruction after consultation with the manufacturer's authorised representative F:..... V:..... T:.....</p>	Item			
81	<p>OVERTIME Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the contractor unless the principal agent has specifically authorised in writing, prior to the execution thereof, that costs for such overtime are to be borne by the employer. F:..... V:..... T:.....</p>	Item			
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82	<p>AS BUILT DRAWINGS The position of construction breaks and the extent of individual concrete pours are to be recorded by the contractor on the structural engineer's drawings and are to be submitted to the principal agent and the structural engineer for their records.</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
83	<p>SITE INSTRUCTIONS Site instructions issued on site are to be recorded in triplicate in a site instruction book which is to be maintained on site by the contractor</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
84	<p>LABOUR RECORD At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number and description of tradesmen and labourers employed by him and all subcontractors on the works each day.</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
85	<p>PLANT RECORD At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools, currently used on the works.</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
86	<p>NON CESSION OF MONIES The contractor shall not cede nor assign his rights or claims to any monies due or to become due under this contract</p> <p>F:..... V:.....</p> <p>T:.....</p>	Item		
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87	<p>WARRANTIES FOR MATERIAL AND WORKMANSHIP Where warranties for materials and/or workmanship are called for, the contractor shall obtain a written warranty, addressed to the employer from the firm supplying the materials and/or doing the work and shall deliver the same to the principal agent on the certified completion of the contract. The warranty shall state that the workmanship, materials and installation are warranted for a specific period from the date of final completion and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work upon written notice to do so. The warranty will not be enforced if the work is damaged by defects in construction of the building in which case the responsibility for replacement shall rest entirely with the contractor.</p> <p>F:..... V:..... T:.....</p>	Item			
88	<p>CO-OPERATION OF CONTRACTOR FOR COST MANAGEMENT It is specifically agreed that the contractor accepts the obligation of assisting the principal agent in implementing proper cost management. The contractor will be advised by the principal agent of all cost management procedures which will be implemented to ensure that the final building cost does not exceed the budget. The principal agent undertakes to make available to the contractor all budgetary allowances and cost assessments/reports to enable the proper procedure to be implemented and the contractor shall attend all cost plan review and management meetings. The contractor undertakes to extend these procedures as necessary to all sub-contractors.</p> <p>F:..... V:..... T:.....</p>	Item			
89	<p>TESTING OF WINDOWS FOR WATER TIGHTNESS Each window shall be tested for watertightness with water sprayed on using adequate pressure. If in the opinion of the principal agent, the pressure proves to be inadequate, then the pressure shall be boosted by means of compressed air or other approved means.</p> <p>F:..... V:..... T:.....</p>	Item			
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90	<p>TESTING OF FLAT ROOF WATERPROOFING FOR WATERTIGHTNESS Flat roof waterproof areas shall be prepared with small sand dykes around them of a size and enclosing an area approved by the principal agent, flooded with water and kept "ponded" for atleast 36 hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing. A written guarantee of 10 years must be provided for all waterproofing.</p> <p>F:..... V:..... T:.....</p>	Item		
91	<p>Shop drawings</p> <p>Shop drawings are drawings, illustrations, schedules, performance charts, brochures and other data which are prepared by the contractor or subcontractor, manufacturer, supplier or distributor and which detail some portion of the works.</p> <p>Where applicable, the necessary copies of shop drawings shall be supplied to the contractor by subcontractors or suppliers, who must obtain the principal agent's approval of such shop drawings before the relevant work is put in hand. A proper record of shop drawings must be kept by the contractor including dates of receipt, submission and approval.</p> <p>The contractor is to present a complete schedule showing the sequence of submission of shop drawings, including submission dates and the scheduled dates of approval of drawings. This schedule is to take into account that the Principal Agent's require a reasonable check period from the date of receipt of shop drawings before returning the drawings to the contractor in accordance with the works programme.</p> <p>The Principal Agent's approval of shop drawings or samples is limited to check conformity with design and specification and shall not relieve the contractor from responsibility for erection and/or installation.</p> <p>In addition to the shop drawings, the contractor shall also supply to the Principal Agent marked up structural or other drawings showing any changes and/or additional requirements to be made in the structure in order to fit in dimensions of apparatus and materials to be installed. This information to be supplied in accordance with the works programme.</p>	Item		
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92	Access to the site				
	Access to the site shall be restricted to one entrance / exit point. Access to the site will be discussed and agreed with the Principal Agent.	Item			
93	Survey beacons				
	The contractor's attention is drawn to the relevant land survey act in terms of which the contractor will be responsible for the safety and protection of any survey beacons, benchmarks and pegs on the site, as well as costs incurred in the replacement of moved or damaged beacons, benchmarks and pegs.	Item			
94	Pricing of bills of quantities				
	Tenderer's are to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise state, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting labour, setting, fitting and fixing in position, cutting and waste (except where to be measure in accordance with the standard system of measurement) , patterns, models and templates, plant, temporary works, returning of packing, duties, taxes, imports, establishment charges, overheads, profit and all other obligations arising out of the contract.				
	Prices for all plant, temporary works, services and other items provided shall included for the supply, maintenance, operating cost and subsequent removal and making good as necessary.				
	Items left unpriced will be deemed to be covered in prices against other items throughout these bills of quantities and no claim for any extras arising out of the tenderer's omission to price any item will be entertained.	Item			
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95	<p>Acceleration</p> <p>When the principal agent rules that the contractor is entitled to an extension of time, the period (days) will be confirmed by all parties in writing, the principal agent will be entitled to instruct the contractor in writing to accelerate the progress of the remaining works to ensure that the works are completed within the original or extended construction period, subject to the cost of the acceleration being agreed with the contractor and approved by the employer.</p> <p>Apon receipt of such instruction, the contractor shall take all necessary steps to ensure that the works is completed timeously including the provision of additional resources, plant, manpower, etc., and the working of overtime or additional overtime beyond that contemplated at the time of tender (at all times adhering to the regulations and requirements of all authorities whatsoever) and by all other adequate and proper means and methods. The contractor shall prove that such steps are being taken if called upon to do so.</p> <p>The contractor's entitlement to compensation arising out of or in respect of any extensions to the construction period that may have been granted by the principal agent, or alternatively where the principal agent has instructed the contractor to accelerate, shall be adjusted strictly in terms of Clause B10.3 hereof. The contractor shall not be entitled to any compensation of any nature whatsoever, other than that provided for in terms of Clause B10.3.</p> <p>An extension of the construction period shall not necessarily be granted on the ground of delays occasioned by any injunctions, restrictions or orders granted by any court restraining the contractor from using explosives, any mechanical equipment, compressors, pneumatic drills or other machinery or which prevent him from proceeding with the works by virtue of the disturbance caused.</p>	Item		
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96	<p>Photographic record</p> <p>Photographic record of existing premises must be undertaken by the contractor before construction works take place.</p> <p>A for weekly photographic record is to be provided by the contractor, recording the state of progress of the works. Two copies of each photograph, suitably mounted and annotated with the location and date, are to be made available to the employer via the Principal Agent.</p>	Item		
97	<p>Structural safety</p> <p>The contractor shall take all reasonable measures to ascertain that all alterations are structurally practicable and safe. The contractor shall provide and price under this item, all necessary temporary propping and support which may be required.</p>	Item		
98	<p>Media releases, advertising, etc.</p> <p>All rights of publication of articles in the media, together with any advertising relating to, or in any way connected with this project shall vest in the employer.</p> <p>The contractor, together with his subcontractors shall not, without the written consent of the employer, cause any statement or advertisement to be printed, screened or aired by the media.</p>	Item		
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99	<p>Handover, guarantees and maintenance instructions / manuals</p> <p>The contractor shall obtain and hand over to the Principal Agent on practical completion all relevant guarantees, any operating and maintenance instruction manuals, data or instructions required by the Principal Agent or provided by manufacturers, suppliers or subcontractors.</p> <p>The contractor shall ensure that all warranties and guarantees received are fully ceded to the employer on final completion, failing which the release of the construction guarantee will be withheld until this is satisfactorily completed.</p> <p>The guarantees shall state that workmanship, materials and installations are guaranteed for a specific period reckoned from the date of practical completion of the works and that any defects in the workmanship, materials and installation that may arise during that period shall be made good at the expense of the firm doing the work upon written notice from the Principal Agent or the employer to do so.</p>	Item		
100	<p>EPWP CONDITIONS AND SPECIFICATIONS</p> <p>Employment Targets</p> <p>The contractor needs to provide a realistic estimate on the number of jobs that the project has the potential to create throughout the project duration as the project will be implemented using Labour Intensive Construction methods on elements where it is economical and feasible for this construction method. No of jobs to be created</p>	Item		
101	<p><u>Employment requirements</u></p> <p>Tenderers are advised that this contract will be subject to the Expanded Public Works Program (EPWP) aimed at alleviating and reducing unemployment.</p>	Item		
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	<p>Tenderers must allow for any costs for the employment of unskilled labour as per the requirements of the EPWP program;</p> <ol style="list-style-type: none"> 1. 55% of unskilled labour to be women 2. 55% of unskilled labour to be youth aged between 18 and 35 years 3. 2% of unskilled labour to be people living with disability <p>100% Unskilled labour utilised must reside within the boundaries of the Municipality ward where this contract is executed, with preference to the local community closest or at the walking distance to the contract site. Wherever possible local skilled tradesmen are to be employed on this contract with the view to maximize utilization of local resources.</p>			
102	<p><u>Labour rate and payment intervals</u></p> <p>The contractor should ensure that labour rate paid to unskilled local labour is commensurate to the daily task. When determining the rate, consideration should be given to that EPWP participants are mostly bread winners in their families, as the program intends alleviating poverty. There should also be consideration that the labour rate promotes creation of expanded number of jobs created and person days of work. Contractors should make endeavours to ensure that labourers, particularly unskilled are remunerated on fortnight basis and prior notification be made should there be a shortfall on their wages. The labour rate for local unskilled shall also be determined in consideration of the location of the project, i.e. for projects implemented in urbanized municipalities will not be the same as that for rural municipalities.</p> <p><u>LABOUR INTENSIVE CONSTRUCTION METHOD</u></p>	Item		
103	<p><u>Labour Intensive Construction (LIC) method</u></p> <p>On site there must a person(s) having competency in managing and implementing LIC methods. *Foreman @ NQF Level 4 the Unit Standard on Implementing LIC methods on site. *Site Agent/ Managers @ NQF level 5 the Unit Standard on Manage Labour-Intensive Skills Programme both must be CETA accredited</p>	Item		
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104	<p><u>Labour Intensive Construction Method</u></p> <p>Those parts of the contract to be constructed using Labour Intensive methods will be marked in the BoQ with letter LI (indicating Labour Intensive) against every item so designated. Such works will only be constructed using method so indicated.</p> <p>Reference to be made to Guidelines for the implementation of Labour Intensive Infrastructure projects under EPWP. "Scope of Work in Respect of Work Relating to the Expanded Public Works Programme (EPWP)"</p>	Item		
105	<p><u>RECORD KEEPING</u></p> <p>Every employer must keep in the project site office the following minutes of site progress minutes; contractors' monthly site progress reports; accurately recorded attendance register; proof of payment as means to verify authenticity of data in the EPWP Participants form submitted with payment certificates. Copies of submitted EPWP Participants data forms should also be kept in the site office. A project file should be kept consisting of data as per the EPWP project file check list.</p>	Item		
106	<p>The employer must keep this record for a period of at least three (3) years after the completion of the project in his/her office as the project site office would have been relocated.</p> <p>This should be safely kept for job creation data verifications and periodical audits on projects conducted by National and Provincial Department of Public Works after one (1) or two (2) quarters of submitting captured EPWP data to the National EPWP Coordinating Department.</p>	Item		
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EPWP REPORTING as per EPWP DATA FORM

At the end of each month as part of site progress report and to be attached to every contractors' progress payment certificate; the contractor shall provide the principal agent & Public Works with a written records, as per EPWP data form; which will be reflecting, beneficiaries full name & surname; ID No and job description of labour employed by main contractor and sub-contractors on site. At the end of each month the contractor must submit the following documents to be attached to the Progress payment certificate:

1. EPWP monthly data collection form
2. Worker monthly payment upload
3. Worker monthly proof of payment i.e
 - 3.1 Acknowledgement of receipt of payment or
 - 3.2 Payslips
 - 3.3 Bank statement highlighted the workers paid
4. Worker monthly training form
5. Monthly attendance register
6. Certified copies of ID's (once off)
7. ID size photos (once off)
8. Proof of UIF
9. Proof of COIDA

EPWP PROMOTION

107 EPWP signage board

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108	<p>EPWP Program at the project level shall always be promoted through have the projects signage board that embrace EPWP logo at the bottom, correct measurement for this signage board will be provided by the project leader during the site handing over meeting. the standard "HELVETIVA MEDUIM " letters are to be used . Professional title to be 10 mm above line . Line thickness to be 8 mm thick . Space between bottom of the line and bottom of the lettering below the line has to be 100 mm. Letter sizes are as follows : Helvetica meduim 100 mm black upper case to be for project name and owner . Helvetica meduim 75mm black upper case only to be used for professional titles.Project name and owner shall be black lettering on white background.board sizes are as follows : Board to be minomum 2000mm from ground level and to be constructed from reinforced formed chromadek panels minimum 0,6mm thick chromadek. The contractor is responsible for ensuring that the project board remains neatly and safely erected for the full duration including maintenance period,after which the project board and post are to be dismantled and handed to the client in good order.</p>	Item		
109	<p><u>Branding of labour apparel</u></p> <p>Contractor & Sub-contractors' labourers shall be provided with EPWP branded Personal Protective Equipment (PPE), reflector vest with EPWP wording at the back is an ideal and cost effective means of promoting program on site.</p>	Item		
	<p><u>COMMUNITY LIAISON OFFICER (CLO)</u></p>			
	<p>Section No. 1 Preliminaries Bill No. 1 Preliminaries</p>		<p>Carried to Collection</p>	<p>R</p>

UTILISATION OF A COMMUNITY LIAISON OFFICER

The Contractor shall allow for and pay any and all costs necessary for the engagement of the services of a Community Liaison Officer (CLO) for the full duration of this contract

A CLO will be identified by the local structures of the ward areas and appointed following fair and transparent interviewing process, to be conducted in the presence of local structures and the contractor representative, in order to assist the Contractor in the procurement of any local labour, etc. required for this project. The Contractor is to liaise with the CLO and afford him any assistance needed in ensuring sound working relations with the local community.

Key Responsibilities of the CLO are envisaged to include and not necessary be limited to:

1. Assisting local leadership in conducting skills and resources audit which facilitates sourcing labour from within the ward or targeted areas for employment, as required by contractor.
2. Assisting in sourcing labour-only domestic sub-contractors and the procurement of materials from local resources, as required by the contractor.
3. Assisting the contractor by identifying areas of potential conflict and or threats to the project or to stakeholders in the project and recommend appropriate action to the contractor.
4. Assisting contractor and stakeholders in the project in the resolution of any conflict which may arise.
5. Establishing and ensuring that sufficient and open communication channels between the contractor and the work force are maintained.
6. Establish and ensuring that efficient and open communication channels between the contractor and the community are maintained
7. Identifying and reporting to the Contractor regarding issues where communication between stakeholder is necessary, recommend courses of action and facilitate such communications
8. Assisting the Contractor and the work force in the establishment of grievance procedures and necessary recommendation to the Contractor regarding the grievances and solution thereto.
9. Attending to site meetings and project implementation meetings as required by the Contractor and prepare periodic reports as may be required by the Contractor from time to time.
10. Attending to such other duties which are consistent with the functions of a CLO, as may be required by the Contractor from time to time.

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110 Tenderers are to price twice the rate of unskilled local labour rate against this item for any and all costs arising out of compliance with the foregoing and in the event of a Tenderer failing to price against this item or making inadequate financial provision against this item for compliance as aforesaid, then no claim for costs or additional cost incurred will be entertained by the Principal Agent

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Section No. 2
Building Works
Bill No. 1
Piling (Provisional)

GENERAL

The schedule of quantities hereunder is intended to provide a broad outline of the requirements in respect of the foundation piling. The tenderer may adjust or expand on the schedule as he may deem necessary.

This section of work shall be deemed to be submitted as a fixed price based on the tenderers design solution and schedules of quantities. No claim for revised quantities, rates, etc will be entertained unless additional items are specifically requested by the Principal Agent.

The works shall comply with SABS 1200F and/or any supplementary specification herein. However the Measurement and Payment clauses shall not apply.

The contractor shall take full responsibility for piling work and shall guarantee that piling work will support the calculated loads laid down by the consulting Structural Engineer.

The contractor shall indemnify the employer against any injury to or death of any person and all loss or damage to all structures resulting from the failure of any pile. In the event of the failure of any pile the contractor shall make good such pile and all consequent damage at his own expense

The results of the Geotechnical Investigation, which are made available to the tenderer are given in good faith and the employer and consultants accept no responsibility as to their accuracy.

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Section No. 2
Building Works
Bill No. 1
Piling (Provisional)

INDEMNITY

The contractor shall take full responsibility for the design supply of piling work and shall guarantee that piling work will support the calculated loads laid down by the engineer without injurious settlement. The actual lengths of piles shall be determined on site by the contractor in consultation with the engineer who will give all assistance possible. This does not in any way relieve the contractor of his responsibility or obligation to provide the specified guarantee.

The cost of repairing or making good any damage to the supported structures that occurs during Defects liability period, and is deemed by the Engineer to be a consequence of settlement of the piled foundations, shall be recoverable from the Piling Contractor.

SEQUENCE OF WORK

The Tenderer shall be responsible for and shall plan the work in a logical sequence of access, execution and completion.

Rates hereunder are deemed to include for out of sequence work, work in stages, temporary access ways, multiple establishment, etc, as required.

OBSTRUCTIONS

The risk of encountering obstructions and removal thereof is deemed to be included in the rates and no claim in this respect will be entertained.

TRIMMING ETC

In respect of foundation piles, cutting off and stripping piles to expose reinforcing is separately measured, however the cost of cutting-off or making good due to pile heads having being cast outside of the limits set by the Structural Engineer shall be borne by the contractor.

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Section No. 2
Building Works
Bill No. 1
Piling (Provisional)

DETAILS TO BE SUBMITTED AS PART OF TENDER RETURN

Tenderers must provide the following returnables with their tender;

1. Preliminary piling design including pile type, rebar, design lengths and design parameters. The piling designer is to state whether piles are end bearing only or whether shaft friction is included in the design. The designer shall further state what steps shall be taken if end bearing is not met in the rock at the anticipated depths.
2. Details of Professional Engineer undertaking piling design including copy of Professional Indemnity Insurance.
3. Proposed number, type, capacity and dimensions of piling rig/s to be utilized.
4. Estimate number of piles to be installed per day per rig type.
5. Method of batching or proposed concrete/grout supplier.
6. Laboratory/testing authority that will be undertaking testing.

SCOPE OF WORK

The work comprises the installation of 1005 piles. The contractor is referred to the Structural Engineer's foundation layout drawings and the Geotechnical Report as per Annexure B issued together with these bills of quantities in order to acquaint himself fully with the nature and scope of the work

GUARANTEE AND INSURANCE

- | | | | | |
|---|---|------|--|--|
| 1 | Provision of the specified piling guarantee and insurance | Item | | |
|---|---|------|--|--|

ESTABLISHMENT

- | | | | | |
|---|---|------|--|--|
| 2 | Transporting and establishment on site of necessary plant for the execution of the work and removal thereof on completion | Item | | |
|---|---|------|--|--|

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Section No. 2
Building Works
Bill No. 1
Piling (Provisional)

3	Setting up plant at pile position	No	1,005
4	Surveyor establishment		Item
5	Setting out of piles	No	1,005
6	As built survey after pile installation	No	1,005

PILES DESIGNED BY THE CONTRACTOR

Design, Supply and Installation of Piles suitable for the following working loads, etc including concrete reinforcement, couplings, drilling, driving or boring etc., complete and disposal of surplus excavation material to a dumping site to be located by the contractor

7	450mm Diameter piles with a load capacity of 800kN	No	1,005
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Section No. 2
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Bill No. 1
Piling (Provisional)

TESTING

Load Testing:

The load test is to be completed within 28 days of installing the first pile.

The test procedure shall be the British procedure.

Piles shall be deemed to satisfy the test requirements if the minimum settlement measured at the pile cap does not exceed 10mm under the normal load, 18mm under the maximum load and 12mm for the residual settlement after removal of all load.

It is required that the working pile will have to be tested to 1,5 times the working load.

The piles to be tested will be selected on site by the Consulting Structural Engineer.

The test will require deflection measurements at two independent localities on the pile accurate to 0,1mm. The set up reading of these deflections is to be approved by the Consulting Structural Engineer.

- | | |
|---|--|
| 8 | Transporting and establishment on site of necessary testing plant for the execution of the work and removal thereof on completion. |
| 9 | Piles to be load tested for loads up to 1,5 times the working load including down drag forces. Exact positions to be agreed in due course. |

Integrity Testing:

The contractor is to note that all piles to be integrity tested.

- | | | | |
|----|--|----|-------|
| 10 | Establishment for Sonic Integrity Testing | No | 30 |
| 11 | Allow for sonic integrity testing of all installed piles | No | 1,005 |

TEST BLOCKS

- | | | |
|----|---|------|
| 12 | Grout cube testing (set of six cubes per day) | Item |
|----|---|------|

SUNDRIES

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Piling (Provisional)

Standing time

NOTE: Standing time will be payable only for plant and crew that is standing during the applicable ordinary hours of work, for periods during which, in the opinion of the Engineer, the total pile installation operation is at a stand-still because of reasons approved by the Engineer. Standing time will NOT be payable in respect of inclement weather or due to the phasing of works.

- 13 Plant and crew standing time due to suspension of work for reasons approved by the Engineer (measured in hours as defined).

Hrs

RATE ONLY

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Piling (Provisional)

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<u>BUILDING WORKS</u>			
<u>BILL NO. 2</u>			
<u>EARTHWORKS (PROVISIONAL)</u>			
<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
<u>NOTES</u>			
<u>Carting away of surplus excavated material</u>			
<p>Note that the carting away of excavated material is measured as a separate item, unless specifically stated otherwise. Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks, etc., directly from the excavations or, alternatively, from stock piles situated on the building site. The material shall be carted away to a dumping site to be located by the contractor. All dumping costs related to such carting away shall be deemed included in the rates for the cart away items</p>			
<u>Dust control</u>			
<p>The Contractor shall take all necessary and reasonable measures to acceptably control all dust associated with the works which shall include for watering down at least twice a day for the duration of the contract, if so required</p>			
		R	
<p>Section No. 2 Building Works Bill No. 2 Earthworks (Provisional)</p>			
<p>Carried to Collection</p>			

<u>EXCAVATIONS, FILLING, ETC</u>			
<u>Excavate in pickable material not exceeding 2m deep below reduced or natural ground level and set aside for use as filling (backfilling elsewhere)</u>			
1	Reduced levels under floors	m3	4,532
2	Trenches	m3	2,851
3	Holes	m3	73
4	Holes including working around piles	m3	1,732
<u>Extra over trench and hole excavations in earth for excavation in</u>			
5	Soft rock	m3	230
6	Hard rock	m3	460
<u>Disposal of excavated material</u>			
7	Extra over all excavations for loading and carting away surplus excavated material from the site and dumping at a dumping ground to be located by the Contractor (Excavated volume measured - no allowance made for bulking)	m3	5,863
<u>Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density</u>			
8	Not exceeding 500mm deep for placing and removing of formwork to pile caps, ground beams, walls etc., against excavated face	m2	6,319
9	Exceeding 500mm and not exceeding 1,5m deep for placing and removing of formwork to pile caps, ground beams, walls etc., against excavated face	m2	12,345
10	Exceeding 1,5m and not exceeding 3m deep for placing and removing of formwork to pile caps, ground beams, walls, etc., against excavated face	m2	5,953
<u>Keeping works free of water</u>			
11	Allow for the bailing, pumping or otherwise in keeping the works free from all water or mud (All buildings)	Item	
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<u>De-watering</u>					
12	Allow for supplying a 50mm diameter submersible pump delivering 500 litres per minute with and including a minimum 50m length of discharge hose for pumping away of any subterranean water which may surface in foundation trenches, bases, etc	Hrs	320.00		
<u>Risk of collapse of excavations</u>					
13	Sides of trench and hole excavations not exceeding 1,5m deep	m2	18,663		
14	Sides of trench and hole excavations exceeding 1,5m deep	m2	5,953		
<u>EARTH FILLING, ETC</u>					
<u>Natural gravel material obtained from excavations or prescribed stockpiles on site, consolidated in 150mm thick layers and compacted to 95% Mod. AASHTO maximum density</u>					
15	Backfilling to trenches, holes, etc	m3	3,325		
<u>Selected G5 filling material supplied by the contractor and carted onto site, consolidated in 150mm thick layers and compacted to 95% Mod. AASHTO maximum density</u>					
16	Under floors, pavings, etc	m3	1,152		
<u>Selected G7 filling material supplied by the contractor and carted onto site, consolidated in 150mm thick layers and compacted to 95% Mod. AASHTO maximum density</u>					
17	Under floors, pavings, etc	m3	1,152		
<u>Compaction of surfaces</u>					
18	Rip and scarify top of filled or excavated surfaces for a depth of 150mm, break down or remove oversize material, add suitable material where required and recompact to 95% Mod AASHTO density	m2	9,788		
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Section No. 2 Building Works Bill No. 2 Earthworks (Provisional)					

Additional soil tests to be carried out as directed by the Principal Agent

Note: Prices for soil tests must be included in the Contractor's rates for earthworks items

19	Modified AASHTO Density tests	No	100		
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SOIL POISONING

Soil insecticide in accordance with SANS 5859

20	Under floors etc., including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	7,682		
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21	Sides and bottom of trenches and holes	m2	26,723		
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<u>BUILDING WORKS</u>			
<u>BILL NO. 3</u>			
<u>CONCRETE, FORMWORK AND REINFORCEMENT (PROVISIONAL)</u>			
<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Cost of tests</u>			
<p>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 to the approval of the engineer. (Test cubes are measured separately)</p>			
<u>Formwork</u>			
<p>Description of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use</p>			
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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 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"

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

10MPa/19mm concrete

1	Surface blinding under footings and bases	m3	115
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REINFORCED CONCRETE CAST AGAINST ROUGH FORMWORK

40MPa/19mm concrete

2	Strip footings	m3	1,046
3	Pile caps	m3	852
4	Columns in foundations (Provisional)	m3	81
5	Surface beds cast in panels on waterproofing	m3	2,095
6	Filling to cavity of hollow walls	m3	36
7	Plinths	m3	45

REINFORCED CONCRETE CAST IN/ON SMOOTH FORMWORK

40MPa/19mm concrete

8	Slabs, including beams and inverted beams	m3	2,607
9	Raked slabs, ramps, etc., including beams and inverted beams	m3	25

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Section No. 2
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Concrete, Formwork and Reinforcement (Provisional)

10	Stairs, including landings, beams and inverted beams	m3	138
11	Columns	m3	543
<u>TEST BLOCKS</u>			
12	Allow for set of three test cubes size 150 x 150 x 150 mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Representative/Agent	Sets	579
<u>CONCRETE SUNDRIES</u>			
<u>Finishing top surfaces of concrete smooth with a class II powerfloat</u>			
13	Surface beds, slabs, etc	m2	10,757
<u>Finishing top surfaces of concrete smooth with a steel float</u>			
14	Roof slabs, etc	m2	2,469
<u>Stripping back heads of concrete piles for a height not exceeding 1000mm to expose reinforcement including trimming to defined levels and bending reinforcement as necessary for casting into pile caps</u>			
15	450mm Diameter pile	No	1,005
<u>SLEEVES, CORES ETC</u>			
<u>Plastic sleeves for pipes</u>			
16	110mm PVC Sleeve cast in 255mm concrete slabs	No	173
17	250mm PVC Sleeve cast in 255mm concrete slabs	No	153
18	300mm PVC Sleeve cast in 255mm concrete slabs	No	100
<u>Concrete cores, etc</u>			
19	110mm Core through 250mm thick concrete slabs	No	317
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20	160mm Core through 250mm thick concrete slabs	No	112
	<u>40MPa non-shrink grout</u>		
21	Bedding base plate including chamfered edges all round	m3	16
	<u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u>		
	<u>Rough formwork to sides</u>		
22	Strip footings	m2	6,119
23	Pile caps	m2	2,838
24	Rectangular columns in foundations (Provisional)	m2	850
	<u>Rough formwork to circular columns</u>		
25	300mm Diameter column 1100mm high in foundations	No	18
26	400mm Diameter column 1100mm high in foundations	No	13
	<u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u>		
	<u>Formwork shall be such as to produce surface conditions and finished concrete to relevant sections of the works as required, that no treatment of the surface of the concrete is required after the striking of the formwork. Imperfections, such as small fins, bulges, irregularities, surface honeycombing and slight surface discolourations shall be made good and repaired by the Contractor at his own costs.</u>		
	<u>Smooth formwork to sides</u>		
27	Walls in foundations circular exceeding 1m radius (Provisional)	m2	12
28	Walls circular exceeding 1m radius	m2	124
29	Rectangular columns with a total height not exceeding 3,5m high above bearing level	m2	5,977
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30	Rectangular columns with a total height exceeding 5m and not exceeding 6.5m high above bearing level	m2	484		
31	Inverted beams above concrete	m2	970		
32	Edges, risers, ends and reveals exceeding 300mm high or wide	m2	59		
33	Steps	m2	212		
34	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	2,355		
35	Edges not exceeding 300mm high circular exceeding 1m radius	m	163		
36	Sloping and stepped outer edges of stairs not exceeding 300mm high	m	213		
<u>Smooth formwork to circular columns</u>					
37	300mm Diameter column 3.5m high slanted	No	18		
38	400mm Diameter column 3.5m high slanted	No	26		
<u>Smooth formwork to soffits</u>					
39	Slabs not exceeding 250mm thick propped up to a height not exceeding 3,5m	m2	2,284		
40	Slabs exceeding 250mm and not exceeding 500mm thick propped up to a height not exceeding 3,5m	m2	2,732		
41	Slabs exceeding 250mm and not exceeding 500mm thick propped up to a height exceeding 3,5m and not exceeding 5,0m high	m2	182		
42	Slabs exceeding 250mm and not exceeding 500mm thick propped up to a height exceeding 9,5m and not exceeding 11,0m high	m2	17		
43	Slabs with sloping soffits propped up not exceeding 3.5m high	m2	306		
44	Landings exceeding 250mm and not exceeding 500mm thick propped up to a height not exceeding 3.5m high	m2	191		
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Section No. 2 Building Works Bill No. 3 Concrete, Formwork and Reinforcement (Provisional)					

<u>Smooth formwork to sides and soffits</u>					
45	Beams propped up not exceeding 3.5m high	m2	4,334		
46	Isolated beams propped up not exceeding 3.5 high	m2	1,084		
<u>Boxing in smooth formwork to form</u>					
47	20 x 20mm Chamfer along sides of columns	m	16,469		
<u>MOVEMENT JOINTS ETC</u>					
<u>20mm Expansion joint of "Jointex" or equal and approved high density polystyrene expansion joint filler including necessary blocking piece for tearing out later</u>					
48	20mm Joints not exceeding 300mm high	m	2,563		
<u>Slip joints between horizontal concrete and brick surfaces with two layers of three-ply bituminous sheeting including cement mortar bed</u>					
49	Joints not exceeding 300mm wide	m	4,307		
<u>Saw cut joints</u>					
50	6 x 30mm Saw cut joints in top of concrete	m	3,844		
<u>REINFORCEMENT</u>					
<u>Mild tensile steel reinforcement to structural concrete work (Note: the following item has not been separated into various diameters and this principle will apply when remeasuring the item)</u>					
51	Various diameter bars not exceeding 13 meter lengths	t	625.05		
<u>High tensile steel reinforcement to structural concrete work (Note: the following item has not been separated into various diameters and this principle will apply when remeasuring the item)</u>					
52	Various diameter bars not exceeding 13 meter lengths	t	297.88		
<u>Fabric reinforcement</u>					
53	Type 193 fabric reinforcement in concrete surface beds, slabs, etc	m2	7,682		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 3 Concrete, Formwork and Reinforcement (Provisional)					

Section No. 2
Building Works
Bill No. 3
Concrete, Formwork and Reinforcement (Provisional)

SUMMARY

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Section No. 2
Building Works
Bill No. 3
Concrete, Formwork and Reinforcement (Provisional)

Section No. 2
Building Works
Bill No. 4
Precast Concrete (Provisional)

PRECAST DECORATIVE BLOCKS

"L.G. Green" or equal and approved

2 200 x 190 x 200mm Bird proof louvre block

m2

119

Carried to Collection

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Section No. 2
Building Works
Bill No. 4
Precast Concrete (Provisional)

Section No. 2

Building Works

Bill No. 4

Precast Concrete (Provisional)

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Section No. 2

Building Works

Bill No. 4

Precast Concrete (Provisional)

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BUILDING WORKS</u>			
	<u>BILL NO. 5</u>			
	<u>MASONRY (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p> <p><u>GENERALLY</u></p> <p><u>Fire Bricks:</u> Fireclay and silica firebricks shall comply with SABS 35 and shall be capable of passing the refractory tests covered by SABS Code of Practice 016</p> <p>All bricks in load bearing brickwork to have a minimum crushing strength of 14 MPa. Other bricks to have a minimum strength of 10 MPa. All bricks to have a water absorption of less than 12%.</p> <p><u>Mortar, etc:</u> All mortar shall be mixed in a mortar mixing machine or on a non-absorbent, close-jointed timber or iron platform. The mixing machine or platform shall be kept clean and old mortar shall be removed before any new batch of mortar is prepared for mixing</p> <p><u>Mortar Boards:</u> All dagha boards must be cleaned off at the end of each day</p>			
	Carried to Collection		R	
	Section No. 2 Building Works Bill No. 5 Masonry (Provisional)			

Brickwork and Blockwork Generally

Gauge rod: A gauge rod must be prepared for the Architect's approval before any brickwork is commenced and all brickwork or blockwork must be built to this gauge

Levelling: The brickwork or blockwork, etc., must be levelled at each course, window sills and floors

Pointing

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

BRICKWORK IN FOUNDATIONS

Brickwork of NFX (14MPa minimal compressive strength) in class II cement mortar

1	One brick walls	m2	5,120
2	320mm Cavity wall formed of two 110mm skins with mass concrete infill, bagged and sealed (concrete infill measured elsewhere)	m2	89
3	440mm Cavity wall of two half brick skins including wire ties with inner skin bagged and sealed	m2	100

BRICKWORK IN SUPERSTRUCTURE

Brickwork of NFP bricks in class II cement mortar

4	Half brick walls	m2	5,492
5	Half brick linings to concrete columns	m2	3,998
6	Half brick walls circular on plan	m2	8
7	Half brick walls in beamfilling	m2	240
8	One brick walls	m2	24,755
9	One brick walls circular on plan	m2	67
10	320mm Cavity wall formed of two 110mm skins with mass concrete infill, bagged and sealed (concrete infill measured elsewhere)	m2	248

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Section No. 2
Building Works
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Masonry (Provisional)

11	440mm Cavity wall of two half brick skins including wire ties with inner skin bagged and sealed	m2	488		
<u>BRICKWORK SUNDRIES</u>					
12	Closing 100mm cavities of hollow walls vertically with brickwork half brick wide	m	182		
13	Closing 220mm cavities of hollow walls vertically with brickwork one brick wide	m	146		
<u>Chip off projections, fill up crevices, cement wash with 1:6 cement and sand slurry and apply two coats "Brixal" bitumen emulsion waterproof coating</u>					
14	On outer face of inner skin of brick walls including any additional labour required in raising wall in two separate skins and working around ties and/or brick reinforcing fabric	m2	1,295		
<u>Joint forming material in movement joints</u>					
15	10mm Bitumen impregnated fibre board built in vertically through brick walls	m2	650		
<u>Brickwork reinforcement</u>					
16	75mm Wide reinforcement built in horizontally	m	29,006		
17	150mm Wide reinforcement built in horizontally	m	144,714		
<u>Hot dipped galvanised hoop iron cramps, ties, etc</u>					
18	30 x 1,6mm Wall tie 400mm long with one end shot pinned to concrete with 2No. "Hilti" shot studs, and other end built into brickwork	No	5,378		
19	30 x 1,6mm Roof tie 1.6m long with one end built into brickwork and other end fixed to timber	No	1,464		
<u>Hot dipped galvanised steel support angle</u>					
20	Supply and fabricate hot dipped galvanised 30 x 30 x 4.5mm angle fixed to brickwork/ concrete	m	41		
21	Supply and fabricate hot dipped galvanised 100 x 100 x 10mm angle fixed to brickwork/ concrete	m	2,401		

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Section No. 2
Building Works
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Masonry (Provisional)

<u>LINTELS</u>					
<u>Approved prestressed fabricated lintels</u>					
22	110 x 70mm Lintels in lengths not exceeding 3m	m	1,613		
23	110 x 70mm Lintels in lengths exceeding 3m not exceeding 4.5m	m	315		
24	110 x 70mm Lintels in lengths exceeding 4.5m not exceeding 6m	m	66		
<u>Turning pieces</u>					
25	115mm Turning piece	m	986		
<u>FACE BRICKWORK</u>					
<u>Face bricks purchase price of R 7,000/ 1000 VAT excluded delivered to site pointed with 10 x 10mm recessed horizontal and vertical joints</u>					
26	Extra over brickwork for face brickwork	m2	28,848		
27	Extra over brickwork for face brick in foundations	m2	2,655		
28	Extra over brickwork for face brick in beam filling	m2	240		
29	Fair splay cutting	m	1,276		
30	Fair cutting and fitting around pipe exceeding 100mm and not exceeding 200mm diameter	No	103		
<u>Brick-on-edge header course coping, sills, etc., of face bricks purchase price of R 7,000/ 1000 VAT excluded delivered to site pointed with recessed joints on all exposed faces</u>					
31	220mm Wide sill set sloping	m	986		
32	Extra over brickwork for brick-on-edge header course pointed on face	m	1,457		
<u>STONE RIVEN WALL CLADDING</u>					
<u>Stone riven wall cladding</u>					
33	Stone riven wall cladding complete as per drawing (2020_073_3_GDT500 - Rev 6)	m2	26		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 5 Masonry (Provisional)					

**NUTEC-CEMENT/ FIBRE-CEMENT WINDOW
SILLS**

**"Everite" or equal and approved nutec sills in single
lengths, bedded in class II mortar including metal
fixing lugs, etc., at 400mm centres all in accordance
with manufacturers' specifications**

34	15 x 170mm Wide sills set flat and slightly projecting	m	986
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Carried to Collection

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Masonry (Provisional)

Section No. 2

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Bill No. 5

Masonry (Provisional)

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Section No. 2

Building Works

Bill No. 5

Masonry (Provisional)

Section No. 2
Building Works
Bill No. 6
Waterproofing (Provisional)

	<u>One layer of "Gundle" or equal and approved USB Green 250 micron damp proof sheeting with minimum 150mm overlaps and sealed with "Gunplas" or equal and approved pressure sensitive tape</u>				
2	Under surface beds	m2	7,382		
	<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u>				
	<u>Prime all surfaces with approved primer (re-prime extremely porous surfaces), and apply one layer of "4mm Derbigum SP4" or equal and approved waterproofing membrane, fully bonded by means of torchfusion, with 75mm side laps and 100mm ends laps, installed by an approved waterproofing contractor who shall provide a ten year guarantee. As per drawings (2020 073 3 GDT995 - Rev 6 and 2020 073 3 GDT996 - Rev 6)</u>				
3	On flat roofs	m2	2,469		
4	On top and sides of inverted beams	m2	567		
5	50 x 50mm Triangular fillets bonded in hot bitumen at all abutments	m	1,387		
6	Additional membrane 450mm girth at internal and external angles	m	1,387		
7	Dressing and sealing into 110mm diameter outlet	No	48		
	<u>"Sika Cemflex" or equal and approved acrylic based emulsion waterproofing and bonding agent, mixed and applied in accordance with the manufacturer's instructions including "Cemflex" or equal and approved fabric</u>				
8	On shower floors	m2	667		
9	On shower walls	m2	1,768		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 6 Waterproofing (Provisional)					

SEALING STRIPS, JOINT SEALANTS, ETC.

**Approved sealing compound including backing
cord, bond breaker, primer, etc**

10	6 x 10mm In saw cut joints in floors	m	3,844		
11	10 x 10 in expansion joints in floors including raking out expansion joint filler as necessary	m	2,563		

**Tinted silicone sealing compound including backing
cord, bond breaker, primer, etc**

12	Junction of steel window and door frames externally with face brick reveals, sills and heads or plastered lintels.	m	4,793		
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Section No. 2
Building Works
Bill No. 6
Waterproofing (Provisional)

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Section No. 2
Building Works
Bill No. 7
Roof Coverings (Provisional)

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Section No. 2
Building Works
Bill No. 7
Roof Coverings (Provisional)

[illegible]

Section No. 2
Building Works
Bill No. 8
Carpentry and Joinery (Provisional)

<u>Decorative laminate finish</u>				
Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish				
<u>ROOFS ETC</u>				
<u>DESIGN, SUPPLY AND INSTALLATION OF TIMBER ROOF STRUCTURE COMPLETE</u>				
1 Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 73m2 (on flat floor area inclusive of overhangs) Student Residence - Common Area (Part 1 of 4)	Item			
2 Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 73m2 (on flat floor area inclusive of overhangs) Student Residence - Common Area (Part 2 of 4)	Item			
3 Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 158m2 (on flat floor area inclusive of overhangs) Student Residence - Common Area (Part 3 of 4)	Item			
4 Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 158m2 (on flat floor area inclusive of overhangs) Student Residence - Common Area (Part 4 of 4)	Item			
Carried to Collection		R		
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)				

5	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 247m2 (on flat floor area inclusive of overhangs) Block B	Item		
6	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 356m2 (on flat floor area inclusive of overhangs) Block D	Item		
7	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 522m2 (on flat floor area inclusive of overhangs) Block C	Item		
8	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 537m2 (on flat floor area inclusive of overhangs) Block A	Item		
9	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 545m2 (on flat floor area inclusive of overhangs) Block E	Item		
Carried to Collection			R	
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)				

10	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 1,265m2 (on flat floor area inclusive of overhangs) Student Residence - Male		Item		
11	Design, supply and install timber roof truss system complete in accordance with the Standard Building Regulations, including cross battens at hips, valleys, etc., fixed to trusses with and including ring shank nails, hurricane clips at exposed sections and at ridges, temporary and permanent bracing, etc., to suit roof area approximate size 1,265m2 (on flat floor area inclusive of overhangs) Student Residence - Female		Item		
	<u>Sawn softwood</u>				
12	38 x 114mm Wall plates	m	1,586		
13	50 x 76mm Purlins	m	9,431		
14	50 x 76mm Splayed purlins	m	550		
15	38 x 114mm Timber backing board fixed onto rafter for fascia and barge boards	m	1,789		
16	38 x 170mm Valley boards	m	137		
	<u>Sundries</u>				
17	Wrought face on sawn timbers two coats creosote on sawn timbers	m2	1,163		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

<u>EAVES, VERGES, ETC</u>			
<u>"Everite" or equal and approved pressed nutec-cement</u>			
18	12 x 150mm Everite medium density plain ungrooved Nutec fascia boards	m	687
19	10 x 80 x 260mm Everite medium density plain ungrooved Nutec barge boards	m	1,102
<u>SKIRTINGS</u>			
<u>Wrought Hardwood</u>			
20	69 x 19mm Skirting plugged including 19mm quadrant	m	9,455
<u>SOLID CORE DOORS</u>			
<u>Drawings and specifications</u>			
The list of drawings applicable are as follows:			
1. 2020_073_3_GDT853 - REV 7			
2. 2020_073_3_GDT855 - REV 7			
3. 2020_073_3_GDT860 - REV 7			
4. 2020_073_3_GDT861 - REV 7			
5. 2020_073_3_GDT862 - REV 7			
6. 2020_073_3_GDT863 - REV 7			
<u>40mm Thick solid core flush panel door with commercial veneer finish and hardwood edge strips on both sides, hung to steel frames (steel frames measured elsewhere)</u>			
21	Single door, overall size 813 x 2032mm high (Type 1)	No	159
<u>40mm Thick solid core flush panel door with commercial veneer finish and hardwood edge strips on both sides including cut out for 600 x 600mm high aluminium louvre, hung to steel frames (steel frames and aluminium louvre measured elsewhere)</u>			
22	Single door, overall size 813 x 2032mm high (Type 2)	No	54
23	Extra over for cut out for 600 x 600mm high for door louvre	No	54
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Section No. 2			
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Carpentry and Joinery (Provisional)			

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Carpentry and Joinery (Provisional)

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Bill No. 8
Carpentry and Joinery (Provisional)

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

44mm Thick framed, ledged and braced batten door comprising of 44 x 144mm top rail and stiles, 22 x 144mm middle ledge, 44 x 222mm bottom rail and 22 x 108mm braces complete, filled in with 22mm V-jointed one side tongued and grooved panels with 16mm particle boards in single sheets glued and pinned inside recesses to back of vertical boarding hung to steel frames (steel frames measured elsewhere)

34	Single door, overall size 813 x 2032mm high (Type 8)	No	8
35	Double door, overall size 1600 x 2032mm high (Type 9)	No	1

FRAMED, LEDGED AND BRACED DOORS WITH LOUVRES

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

44mm Thick half framed and ledged with transom, hardwood door, half louvred with rebated meeting stiles and fitted with vermin-proof mesh internally, suitable for painting, hung to steel frames (steel frames measured elsewhere)

36	Single door, overall size 813 x 2032mm high (Type 13)	No	2
37	Double door, overall size 1615 x 2032mm high (Type 12)	No	4

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Section No. 2
Building Works
Bill No. 8
Carpentry and Joinery (Provisional)

FIRE DOORS AND FRAMES

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

44mm Thick Class 'B' Type 2 Hour Fire-Rated door, with 300 x 100 pyro view panel per leaf, with commercial veneer/ flush panel door, hung to steel frames complete

38	Single door, overall size 813 x 2032mm high (Type F1)	No	30
39	Double door, size 1511 x 2032mm high (Type F2)	No	7

DOOR FRAMES, ETC.

Meranti 50 x 90mm rebated frame to Manufacturer's and Architects specification

40	50 x 90mm Thick rebated meranti door frame to suit door size	m	710
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Carried to Collection

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Section No. 2
Building Works
Bill No. 8
Carpentry and Joinery (Provisional)

FITTINGS

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT212 - REV 2
2. 2020_073_3_GDT213 - REV 1
3. 2020_073_3_GDT214 - REV 1
4. 2020_073_3_GDT215 - REV 1
5. 2020_073_3_GDT216 - REV 1
6. 2020_073_3_GDT217 - REV 0
7. 2020_073_3_GDT218 - REV 0
8. 2020_073_3_GDT219 - REV 0
9. 2020_073_3_GDT220 - REV 0
10. 2020_073_3_GDT221 - REV 0
11. 2020_073_3_GDT222 - REV 0
12. 2020_073_3_GDT223 - REV 0
13. 2020_073_3_GDT224 - REV 0

Pinboards

41	720 x 600mm High pinboard as per drawing (2020_073_3_GDT214 - Rev 1)	No	384
42	1200 x 600mm High pinboard complete as per drawings (2020_073_3_GDT220 - Rev 0 and 2020_073_3_GDT221 - Rev 0)	No	18
43	2500 x 1000mm High pinboard complete as per drawing (2020_073_3_GDT216 - Rev 1 and 2020_073_3_GDT216 - Rev 1)	No	35

Whiteboards

44	2090 x 1150mm Whiteboard complete as per drawing (2020_073_3_GDT215 Rev 1 and 2020_073_3_GDT216 Rev 1)	No	58
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Desks

45	900 x 600 x 750mm High desk complete as per drawings (2020_073_3_GDT212 - Rev 2 and 2020_073_3_GDT214 - Rev 2)	No	384
46	1200 x 600 x 750mm High desk complete as per drawings (2020_073_3_GDT220 - Rev 0 and 2020_073_3_GDT221 - Rev 0)	No	18

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Section No. 2
Building Works
Bill No. 8
Carpentry and Joinery (Provisional)

47	2400 x 800 x 900mm high Desk complete as per drawing (2020_073_3_GDT215 Rev 1)	No	4		
	<u>Bedroom Cupboards</u>				
48	Bedroom cupboard, overall size 600 x 600 x 2700mm High complete as per drawing (2020_073_3_GDT213 - Rev 1)	No	384		
49	Bedroom cupboard 1200 x 600 x 2100mm High complete as per drawings (2020_073_3_GDT220 - Rev 0 and 2020_073_3_GDT221 - Rev 0)	No	18		
	<u>Kitchen Cupboards</u>				
50	Kitchen cupboard 2000 x 600 x 900mm high complete as per drawing (2020_073_3_GDT219 - Rev 0)	No	1		
51	L-shaped kitchen cupboard, overall size 2880 x 600 x 900mm high complete (Type 1) as per drawings (2020_073_3_GDT220 - Rev 0 and 2020_073_3_GDT221 - Rev 0)	No	6		
52	L-shaped kitchen cupboard, overall size 2880 x 600 x 900mm high complete (Type 2) as per drawings (2020_073_3_GDT220 - Rev 0 and 2020_073_3_GDT221 - Rev 0)	No	4		
53	L-shaped kitchen cupboard, overall size 3670 x 600 x 900mm high complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
	<u>Cupboards</u>				
54	Storage cupboard, overall size 2500 x 600 x 1800mm High complete as per drawing (2020_073_3_GDT223 - Rev 0 and 2020_073_3_GDT224 - Rev 0)	No	3		
55	Cupboard, overall size 2500mm long x 600mm wide x 750mm high complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
56	Cupboard, overall size 2550mm long x 600mm wide x 900mm high including counter complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
57	Cupboard, overall size 2600mm long x 600mm wide x 900mm high with and including inset for sink complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

58	Lockable cupboards, overall size 5800mm long x 600mm wide x 900mm high with shelves complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	4		
	<u>Fume Cupboards</u>				
59	Fume cupboard, overall size 800 x 500 x 2100mm High complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	4		
	<u>Counters</u>				
60	Counter open under, overall size 1340mm long x 600mm wide x 750mm high complete as per drawing (2020_073_3_GDT218 Rev 0)	No	1		
61	Counter open under, overall size 2000mm long x 600mm wide x 900mm high with one inset for sink complete as per drawing (2020_073_3_GDT223 Rev 0)	No	2		
62	Counter open under, overall size 2170mm long x 600mm wide x 750mm high with one inset for sink complete as per drawing (2020_073_3_GDT215 Rev 1)	No	4		
63	Counter open under, overall size 3500mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT219 Rev 0)	No	4		
64	Counter open under, overall size 6030mm long x 600mm wide x 900mm high with two insets for sinks complete as per drawing (2020_073_3_GDT215 Rev 1)	No	4		
65	Counter open under, overall size 8200mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT215 Rev 1)	No	4		
66	Counter open under, overall size 9640mm long x 600mm wide x 750mm high complete as per drawing (2020_073_3_GDT217 Rev 0)	No	1		
67	L-Shaped counter open, overall size 4000mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT215 Rev 1)	No	8		
68	L-Shaped counter open, overall size 6650mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

69	L-Shaped counter open under, overall size 5700mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
70	U-Shaped counter open under, overall size 4800mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
71	U-Shaped counter open under, overall size 12798mm long x 600mm wide x 900mm high complete as per drawing (2020_073_3_GDT219 Rev 0)	No	1		
<u>Reception Counters</u>					
72	L-Shaped reception counter, overall size 3200mm long x 600mm wide x 1100mm high complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
73	L-Shaped reception counter, overall size 6392mm long x 600mm wide x 750mm high complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
<u>Shelving</u>					
74	Shelving, overall size 500mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	2		
75	Shelving, overall size 1000mm long x 250mm wide x 470mm high (2 tier) complete as per drawing (2020_073_3_GDT219 - Rev 0)	No	2		
76	Shelving, overall size 1650mm long x 250mm wide x 470mm high complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	8		
77	Shelving, overall size 2050mm long x 250mm wide x 470mm high (2 tier) complete as per drawing (2020_073_3_GDT219 - Rev 0)	No	2		
78	Shelving, overall size 2100mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
79	Shelving, overall size 2290mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
Carried to Collection				R	
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80	Shelving, overall size 2435mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	4		
81	Shelving, overall size 2500mm long x 250mm wide x 470mm high complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
82	Shelving, overall size 2550mm long x 250mm wide x 470mm high complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
83	Shelving, overall size 2890mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
84	Shelving, overall size 3440mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	4		
85	Shelving, overall size 3500mm long x 250mm wide x 470mm high complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
86	Shelving, overall size 4170mm long x 300mm wide x 2100mm high (5 tier) complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
87	Shelving, overall size 4250mm long x 300mm wide x 2100mm high (5 tier) complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
88	Shelving, overall size 4250mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
89	Shelving, overall size 4935mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT216 - Rev 1)	No	1		
90	Shelving, overall size 5945mm long x 250mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT216 - Rev 1)	No	1		
91	L-Shaped shelving, overall size 3670mm long x 250mm wide x 900mm high complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

92	L-Shaped shelving, overall size 4000mm long x 250mm wide x 470mm high complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	8		
93	L-Shaped shelving, overall size 4300mm long x 300mm wide x 2100mm high (5 tier) complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
94	U-Shaped Shelving, overall size 4800mm long x 250mm wide x 470mm high complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
95	Island shelving, overall size 3000mm long x 600mm wide x 1800mm high (4 tier) complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
96	Island shelving, overall size 4500mm long x 600mm wide x 1500mm high (4 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	2		
97	Floor mounted shelving with counter, overall size 1990mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT219 - Rev 0)	No	1		
98	Floor mounted shelving with counter, overall size 2050mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT219 - Rev 0)	No	2		
99	Floor mounted shelving with counter, overall size 2100mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
100	Floor mounted shelving with counter, overall size 2435mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	4		
101	Floor mounted shelving with counter, overall size 2890mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
102	Floor mounted shelving with counter, overall size 3200mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

103	Floor mounted shelving with counter, overall size 3440mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT215 - Rev 1)	No	4		
104	Floor mounted shelving with counter, overall size 3960mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
105	Floor mounted shelving with counter, overall size 4250mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT223 - Rev 0)	No	2		
106	Floor mounted shelving with counter, overall size 4250mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT224 - Rev 0)	No	1		
107	Floor mounted shelving with counter, overall size 4470mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT219 - Rev 0)	No	1		
108	Floor mounted shelving with counter, overall size 4935mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT216 - Rev 1)	No	1		
109	Floor mounted shelving with counter, overall size 5945mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT216 - Rev 1)	No	1		
110	L-Shaped floor mounted shelving with counter, overall size 5490mm long x 600mm wide x 900mm high (2 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
111	L-Shaped floor mounted shelving with counter, overall size 8580mm long x 300mm wide x 900mm high (3 tier) complete as per drawing (2020_073_3_GDT217 - Rev 0)	No	1		
<u>Newspaper Stand</u>					
112	1700mm Long x 520mm wide x 865mm high newspaper stand complete as per drawing (2020_073_3_GDT217 - Rev)	No	1		
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Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

	<u>Folding Doors</u>				
113	1920 x 1200mm High serving hatch including folding doors complete as per drawing (2020_073_3_GDT218 - Rev 0)	No	1		
	<u>Seating</u>				
114	L-Shaped timber bench, overall size 1560mm long x 400mm wide complete as per drawings (2020_073_3_GDT222 - Rev 0 and 2020_073_3_GDT223 - Rev 0)	No	2		
115	L-Shaped timber bench, overall size 7090mm long x 400mm wide complete as per drawings (2020_073_3_GDT222 - Rev 0 and 2020_073_3_GDT223 - Rev 0)	No	2		
116	Seating (mezzanine level), overall size 24570mm long x 4620mm wide x 1680mm high complete as per drawing (2020_073_3_GDT350 - Rev 6 and 2020_073_3_GDT353 - Rev 6)	No	1		
	<u>Beds</u>				
117	Single beds as per Architects details and specifications	No	398		
118	Double Beds including base as per Architects details and specifications	No	18		
119	Bed frame (Induna Bed) as per Architects details and specifications	No	14		
120	Bed frame complete with lockable storage unit below (Induna Bed) as per Architects details and specifications	No	384		
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Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

**KITCHEN AND LAUNDRY EQUIPMENT
(PROVISIONAL)**

The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities

No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted

Kitchen Equipment

"Vulcan Catering Equipment" or equal and approved

121	400 x 330 x 230mm Knee operated hand washing sink - wall mounted complete with tap (Code: 2618109)	No	3
122	Platform scale - electronically operated platform scale shall have a platform size of 360 x 480mm providing a capacity of 150kg. The platform shall be manufactured from stainless steel which will be mounted onto an epoxy coated mild steel fabricated base complete with adjustable levelling feet. The platform shall be connected by means of a pillar to an indicating system with a capacity of 150kg by 50g increments (Code: PSE1150)	No	1
123	1050 x 650 x 910mm High SWB 1050 stainless steel table complete with 150mm high splashback to rear. Top constructed of 1.5mm Type 304 stainless steel, supported on 45mm diameter Type 304 stainless steel tubular legs (Code: 2525050)	No	1
124	1920 x 720 x 740mm - 74kg Double centre bowl sink c/w 150mm splashback to rear. Constructed of 1.2mm Type 304 stainless steel, 1920 x 720 x 740 - 74kg - crated (Code: 3044363)	No	2
125	1650 x 650 x 910mm High SWB1650 stainless steel table with 150mm rear splashback complete. Constructed of 1mm Type 430 stainless steel (Code: 3044703) including 1650mm galvanised solid undershelf (Code: 3344143)	No	1

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126	1650 x 450mm Stainless steel riser shelf double tier unheated	No	1		
127	1780 x 750 x 915mm Underbar fridge QUB6S/C 2.5 doors complete with 220v single phase (Code: 2729011)	No	1		
128	1850 x 450mm Stainless steel riser shelf double tier unheated	No	1		
129	1200 x 650 x 910mm High SWB1200 stainless steel table with 150mm rear splashback complete. Constructed of 1mm Type 430 stainless steel (Code: 3044100) including 1200mm galvanised solid undershelf (Code: 3344135)	No	1		
130	1200 x 450mm Stainless steel riser shelf double tier unheated	No	1		
131	1400 x 650 x 910mm High SWB1400 stainless steel table with 150mm rear splashback complete. Constructed of 1mm Type 430 stainless steel, 1320 x 720 x 575mm - 76kg - crated (Code: 3044101) including 1400mm galvanised solid undershelf (Code: 3344137)	No	1		
132	1400 x 450mm Stainless steel riser shelf double tier unheated	No	1		
133	690 x 440 x 1350mm Potato peeler "Franks" PPF-1012 - 12kg with timer up to 240kg/hour, overall size 750 x 500 x 1400mm - 58kg (Code: PPF0012)	No	1		
134	1800 x 750 x 915mm Pizza top underbar QUB6PZTS/C c/w stainless steel back including 10 x 1/6 x 150mm and lids complete with 220v single phase (Code: 2802216)	No	1		
135	1800 x 400mm Stainless steel riser shelf single tier	No	1		
136	370 x 540 x 300mm - 14kg Sandwich toaster Anvil - 9 slice TSA1009 complete (Code: 2707006)	No	2		
137	1785 x 750 x 915mm Unheated counter - C1800, 1870 x 820 x 1150mm - 196kg - crated (Code: 3018957A)	No	1		
138	1800 x 450mm Stainless steel wall mounted shelving	No	2		
139	542 x 329 x 461mm high 30L Capacity stainless steel microwave oven MWP 1050-30E, 1000 watts, digital display, 20 programs, 5 power levels, ceramic base complete (Code: 2615004)	No	2		
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Section No. 2 Building Works Bill No. 8 Carpentry and Joinery (Provisional)					

140	6500 x 1400 x 610mm high Stainless steel grade 304 Cyclovent Kitchen Extraction Canopy complete with cycloclean filters and grease cups, 2No. flush vapour proof lights, 1No. axial aerofoil fan/ motor 3 phase, 1No. sound attenuator, 1No. vertical discharge unit, 2No. flanges including all necessary galvanised ducting, hangers, fasters, etc	No	1		
141	382 x 758 x 1220mm Cecilware gas fryer 20L single pan LPFMS-403-HP gas operated excluding oil receiving pan c/w baskets (Code: 2610262)	No	1		
142	915 x 735 x 925mm - 128kg FTG-10/gas model six burner floor standing smooth frytop griddle complete with galvanised undershelf, 980 x 810 x 1040mm - 168kg - crated (Code: 3028201)	No	1		
143	910 x 660 x 990mm Four burner staggered boiling table complete, gas LPG - 18000BTU	No	1		
144	1350 x 900 x 900mm High FGT80 gas tilting pan (LPG) with swivel water filter complete, gas rating 56800KJ/HR (Code: 2704103A+)	No	1		
145	1050 x 947 x 950mm - 100kg Boiling pan, oil jacketed, 135L BP135 complete, 1190 x 990 x 1200mm - 162kg - crated. Shell heat transfer oil S2 Hi- Performance in 20L drum, electrics - 9KW, 380V, 3N, AC (Code: 3003321)	No	1		
146	847 x 771 x 1017mm Combi master 101E (size: 10 x 1/1 GN trays) with tray rack complete. Electrics - 19KW, 3N, AC, 380V (Code: 2611256). 1 x Stainless steel floor stand for CM and SCC61 and 101 unit with storage under (Code: 3060005) and 10 x GN 1/1 chrome grids (Code: 2715001)	No	1		
147	660 x 840 x 1725mm Brandon mobile food warming cabinet complete with 16XGN2/1 trays and grids 1/1 chrome, electric 2kw, 230v, single phase	No	3		
148	1850 x 650 x 910mm - 51kg DCBPS 1850 double centre bowl pot sink with 150mm splashback to rear. Constructed of 1.2mm Type 304 stainless steel, 1920 x 720 x 740mm - 74kg - crated (Code: 3044428)	No	1		
149	1800 x 450mm Stainless steel wall mounted pot rack	No	1		
150	1200 x 600 x 1450mm - 52kg Mobile pot rack complete, 1270 x 670 x 1660mm - 87kg - crated (Code: 3043447)	No	1		
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151	450mm Diameter x 630mm high - 85L mobile food refuse bin with lid complete with stainless steel dolley (Code: IBP1085)	No	1		
152	Double basket stainless steel grease trap GT500	No	2		
153	1150 x 620 x 950mm high Stainless steel dump table boxed edge, complete	No	1		
154	1000 x 620 x 915mm high Stainless steel pre-wash sink boxed edge, complete with mixer tap and overhead spray	No	1		
155	625 x 760 x 1460mm high Comenda PC07 hood type dishwasher complete, rack output/hour: 42/30/20 p/hr @ 100% operators efficiency, time cycles (seconds): 75/120/180, wash pump: 1.1Kw, 400v, 3 phase, 50hz, electrics: 9.1Kw, 400v, 3 phase, 50hz ROE (Code: 2614812)	No	1		
156	1150 x 620 x 915mm Stainless steel outlet table boxed edge, complete	No	1		
157	840 x 610 x 1650mm - 39kg MCR-4 Mobile crockery, capacity of approximately 400 assorted plates, cups, saucers and glasses. 910 x 770 x 1900mm - 62kg - crated (Code: 2745001)	No	1		
158	3600 x 2400 x 2800mm high Combination refrigeration and freezer room complete, 100mm polyurethane with chromadek in and out, floor insulation on both rooms - polystyrene and plastic, camlocks all round the walls, 1 x recessed light switch and 2 lights, 2 x swing doors on both rooms size: 2000 x 900mm 1.6mm galvanised floor in freezer room, 80mm step up into freezer room, 60mm step up into cold room, cold room: 1.5hp - 3 phase power includes motor/ installation and delivery	No	1		
159	850 x 500 x 1900mm High stainless steel five tier shelving	No	4		
160	1150 x 500 x 1900mm High stainless steel five tier shelving	No	10		
161	1000 x 900 x 300mm High stainless steel dunnage rack	No	1		
162	26/32cm Diameter plate OZTI plate lowerator OT143 Heated, 1.5kw complete (Code: 2618015)	No	2		
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<u>"Vulcan Catering Equipment" or equal and approved</u>					
Specifications and Inclusions					
1. Mild steel galvanised cage 2. 6 x 48kg Gas Cylinders 3. 3 x 3 Manifold with vent valve 4. 6 x Pigtails 5. 1 x High pressure regulator 6. Copper pipework 7. 2 x Low pressure regulator 8. 2 x Main shut off valves 9. 4 x Isolation valve 10. Colour coding of pipework 11. Mandatory signage 12. Testing and commissioning of gas line 13. Drawing of plans 14. Submission of plans to fire department 15. Meeting with local fire inspector 16. Issuing and Registration of compliance certificate 17. Drawing of plans for certificate of registration 18. Labour 19. Transportation					
174	Design, Supply, Installation and Commission of Exterior and Interior Gas Installation		Item		
<u>Laundry Equipment</u>					
<u>"Vulcan Catering Equipment" or equal and approved</u>					
175	1030 x 430 x 348mm Stainless steel wash trough c/w wall brackets	No	2		
176	650 x 711 x 1076mm Speed Queen washer - industrial NWNMN2SP, electric: single phase	No	2		
177	683 x 711 x 1080mm Speed Queen dryer - industrial NDEMN, electric: single phase	No	4		
178	205 x 115 x 320mm - 2.5L Hand held steam iron - heavy duty PEN 520	No	4		
179	1400 x 450 x 1900mm Gamma industrial ironing board	No	4		
180	1400 x 650 x 910mm High SWB1400 stainless steel table with 150mm rear splashback complete. Constructed of 1mm Type 430 stainless steel, 1320 x 720 x 575mm - 76kg - crated (Code: 3044101) including 1400mm galvanised solid undershelf (Code: 3344137)	No	2		
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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BUILDING WORKS</u>			
	<u>BILL NO. 9</u>			
	<u>CEILINGS, PARTITIONS AND ACCESS FLOORING (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p> <p><u>Descriptions:</u></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete</p>			
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	Section No. 2 Building Works Bill No. 9 Ceilings, Partitions and Access Flooring (Provisional)			

SUSPENDED CEILINGS

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT960 - REV 7
2. 2020_073_3_GDT961 - REV 7
3. 2020_073_3_GDT962 - REV 7
4. 2020_073_3_GDT963 - REV 7
5. 2020_073_3_GDT964 - REV 7
6. 2020_073_3_GDT965 - REV 7
7. 2020_073_3_GDT966 - REV 7
8. 2020_073_3_GDT967 - REV 7
9. 2020_073_3_GDT968 - REV 7
10. 2020_073_3_GDT969 - REV 7
11. 2020_073_3_GDT970 - REV 7
12. 2020_073_3_GDT971 - REV 7
13. 2020_073_3_GDT972 - REV 7
14. 2020_073_3_GDT973 - REV 7
15. 2020_073_3_GDT974 - REV 7

"Pelican" or equal and approved

600 x 600 x 15mm AMF Thermatex Star drop in ceilings tiles with square edge laid on and including Pelican Econogrid pre-painted white exposed tee grid system including fire safety punch outs. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/ steel pop rivets and to slab with 6 x 30mm express nails and washers. All to be installed to manufacturer's specification

1	Ceilings, suspended not exceeding 1.0m below concrete soffits/ timber roof trusses/ steel roof trusses	m2	4,508
2	Ceilings, suspended exceeding 1.0m and not exceeding 2.0m below concrete soffits/ timber roof trusses/ steel roof trusses	m2	1,503

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Ceilings, Partitions and Access Flooring (Provisional)

Supply and install 9mm JUMBO flush plaster ceiling board, main tees at 1200mm centres in one direction and 1200mm JUMBO cross tees at (400mm/500mm) centres perpendicular to main tees. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/ steel pop rivets and to slab with 6 x 30mm express nails and washers. Fit 9mm JUMBO Plasterboard to the underside of grid system with tapered edge of board facing down with 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster. All to be installed to manufacturer's specification

3	Ceilings, suspended not exceeding 1.0m below concrete soffits/ timber roof trusses/ steel roof trusses	m2	4,403
4	Ceilings, suspended exceeding 1.0m and not exceeding 2.0m below concrete soffits/ timber roof trusses/ steel roof trusses	m2	1,467
5	Extra over flush plastered ceilings for forming holes for 400mm diameter standard downlighters	No	407
6	Extra over flush plastered ceilings for forming holes including supply and installation of trap doors overall size 580 x 580mm complete	No	417
7	Extra over flush plastered ceilings for forming holes for light fittings overall size 600 x 600mm complete	No	362
8	Circular Cutting	m	507

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Ceilings, Partitions and Access Flooring (Provisional)

<u>Supply and install 12mm JUMBO MR flush plaster ceiling board, main tees at 1200mm centres in one direction and 1200mm JUMBO cross tees at (400mm/500mm) centres perpendicular to main tees. Main tees to be suspended at 1200mm centres by means of 25 x 25 x 0.6mm galvanised steel angle, hangers fixed to bulb of main tee with wafer tek screws/ steel pop rivets and to slab with 6 x 30mm express nails and washers. Fit 12mm JUMBO Plasterboard to the underside of grid system with tapered edge of board facing down with 25mm drywall screws at 150mm centres. Apply 50mm JUMBO tape to all joints and finish the entire ceiling with 3-5mm JUMBO Skimming Plaster. All to be installed to manufacturer's specification</u>					
9	Ceilings, suspended not exceeding 1.0m below concrete soffits/ timber roof trusses/ steel roof trusses	m2	554		
10	Ceilings, suspended exceeding 1.0m and not exceeding 2.0m below concrete soffits/ timber roof trusses/ steel roof trusses	m2	185		
11	Extra over flush plastered ceilings for forming holes for 400mm diameter standard downlighters	No	58		
12	Extra over flush plastered ceilings for forming holes including supply and installation of trap doors overall size 580 x 580mm complete	No	73		
13	Extra over flush plastered ceilings for forming holes for light fittings overall size 600 x 600mm complete	No	125		
14	Circular Cutting	m	125		
<u>Supply and install 25 x 20mm Pelican PS2 Shadowline pre-painted aluminium white Shadowline Wall Trim to perimeter of rooms fixed at 450mm centres with wall anchors. All to be installed to manufacturer's specification</u>					
15	Shadowline angle fixed according to Manufacturers instructions	m	9,493		
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	<u>"Isover" or equal and approved</u>				
	<u>IsoBoard high density 32-36kg/m3 rigid extruded polystyrene 100 % closed cell insulation board of 40mm thickness and 600mm width, tack fixed with recommended adhesive at 200 mm intervals to timber/steel branderling installed at maximum 700mm centres transversely to trusses, and edge-fixed with concealed ceiling clips screwed/ pop-riveted to timber/ steel branderling. Boards to be secured to perimeter branderling with drywall screws and washers at 300mm centres. All to be installed to manufacturer's specification</u>				
16	40mm Thick "Nail Up" ceilings complete to be installed to manufacturer's specification	m2	1,354		
	<u>"Rhino" gypsum plasterboard cornices</u>				
17	75mm Coved cornices	m	2,618		
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Section No. 2

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Bill No. 9

Ceilings, Partitions and Access Flooring (Provisional)

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Bill No. 9

Ceilings, Partitions and Access Flooring (Provisional)

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	<u>SECTION NO. 2</u>			
	<u>BUILDING WORKS</u>			
	<u>BILL NO. 10</u>			
	<u>FLOOR COVERINGS, WALL LININGS, ETC (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p> <p><u>Drawings and specifications</u></p> <p>The list of drawings applicable are as follows:</p> <ol style="list-style-type: none"> 1. 2020_073_3_GDT925 - REV 8 2. 2020_073_3_GDT926 - REV 8 3. 2020_073_3_GDT927 - REV 8 4. 2020_073_3_GDT928 - REV 8 5. 2020_073_3_GDT929 - REV 8 6. 2020_073_3_GDT930 - REV 8 7. 2020_073_3_GDT931 - REV 8 8. 2020_073_3_GDT932 - REV 8 9. 2020_073_3_GDT933 - REV 8 10. 2020_073_3_GDT934 - REV 8 11. 2020_073_3_GDT935 - REV 8 12. 2020_073_3_GDT936 - REV 8 13. 2020_073_3_GDT937 - REV 8 14. 2020_073_3_GDT938 - REV 8 15. 2020_073_3_GDT939 - REV 8 			
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	Floor Coverings, Wall Linings, Etc (Provisional)			

<u>VINYL FLOORING</u>					
<u>"FloorworX" or equal and approved</u>					
<u>Supply and fix 2.5mm Thick Superflex sheeting including vapour barrier, complete. Entire installation to be in accordance with Manufacturer's specification (Type A)</u>					
1	On floors	m2	909		
2	On treads and risers of stairs	m2	54		
<u>Supply and fix 2.5mm Thick Superflex tiles including vapour barrier, complete. Entire installation to be in accordance with Manufacturer's specification (Type B)</u>					
3	On floors	m2	3,179		
<u>Supply and fix 4.3mm Thick Flotex sheeting including vapour barrier, complete. Entire installation to be in accordance with Manufacturer's specification (Type C)</u>					
4	On floors	m2	611		
<u>Supply and fix 2.5mm Thick Allura planks including vapour barrier, complete. Entire installation to be in accordance with Manufacturer's specification (Type D)</u>					
5	On floors	m2	6,359		
6	On treads and risers of stairs	m2	172		
<u>SKIRTINGS, NOSINGS, ETC</u>					
<u>Skirtings, etc.</u>					
7	Extruda cove base vinyl skirting 70mm high, fixed in accordance with manufacturers instructions (MCB70)	m	2,216		
<u>Nosing, inserts, etc.</u>					
8	65 x 38mm High "MSN120" stair nosing	m	1,190		
<u>POLISH, SEALERS, ETC</u>					
9	Two coats wax polish on vinyl flooring	m2	11,284		
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Section No. 2 Building Works Bill No. 10 Floor Coverings, Wall Linings, Etc (Provisional)					

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Floor Coverings, Wall Linings, Etc (Provisional)

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Floor Coverings, Wall Linings, Etc (Provisional)

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	<u>BUILDING WORKS</u>				
	<u>BILL NO. 11</u>				
	<u>IRONMONGERY (PROVISIONAL)</u>				
	The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities.				
	No Claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted.				
	<u>HINGES, BOLTS, ETC</u>				
	<u>"Geze" or equal and approved</u>				
1	Stainless steel 4 ball bearing butt hinge 100 x 75 x 2.7mm (Code: 096/76/SS)	Pairs	559.0		
2	Stainless steel rising butt hinge 102 x 75 x 3 LH (Code: GERO20064L)	Pairs	108.0		
3	Stainless steel projection hinges 100 x 150 x 3mm (Code: QS4412/1)	Pairs	3.0		
4	Facility indicator bolt AA (Code: 170/83)	No	149		
5	Flush bolt 150mm ST/C (Code: 120/150)	No	40		
6	Exidor silver double panic bolt complete (Code: HA2850SR)	No	1		
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<u>LOCKS</u>					
<u>"Geze" or equal and approved</u>					
7	76mm Stainless steel euro profile cylinder sashlock (Code: 730/68)	No	254		
8	76mm Stainless steel euro profile cylinder deadlock (Code: 742/68)	No	95		
9	Stainless steel profile cylinder escutcheon (Code: ED908/CYL)	Pairs	49.0		
10	Rebate conversion set for 700 series lock (Code: 131/69)	No	17		
11	Stainless steel adjustable roller catch (Code: 661/32)	No	7		
12	43mm Nickel plated single cylinder master key CMK (Code: IG950933108M)	No	90		
13	66mm Nickel plated double cylinder master key CMK (Code: IG950933338M)	No	215		
14	66mm Nickel plated knob cylinder master key CMK (Code: IG955933338M)	No	40		
15	50mm Brass padlock master key CMK (Code: IG95800507MK)	No	66		
16	Hostel lock (Code: GZZW8569L)	No	66		
<u>HANDLES</u>					
<u>"Geze" or equal and approved</u>					
17	Stainless steel 160 x 160 x 1.6mm daytona lever cylinder C/O B/PL (Code: EDE101C69)	Pairs	178.0		
18	Stainless steel 160 x 75 x 1.6mm daytona lever cylinder C/O B/PL (Code: EDE101C75)	Pairs	10.0		
19	Stainless steel pull handle 160 x 160 x 1.6mm blank (Code: 075/160/B)	No	51		
20	Stainless steel bolt through pull handle 111 x 19 on 160 x 75 BPL (Code: 075/75)	No	2		
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21	Stainless steel pull handle 75 x 160 x 1.6mm blank (Code: 075/75/B)	No	149		
22	Helping hand (Code: 295/01)	No	12		
23	Stainless steel bolt through pull handle 330 x 305 x 25mm CTC (Code: JD213/305 BT)	No	24		
24	Exidor panic latch complete with cross bar (Code: HA2960SR)	No	30		
<u>PUSH PLATES, KICK PLATES, ETC</u>					
<u>"Geze" or equal and approved</u>					
25	1.6mm Stainless steel push plate 160 x 160mm (Code: 079/160)	No	51		
26	Stainless steel push plate 160 x 160 x 1.2mm E/ELE (Code: 079/160E/E)	No	16		
27	Stainless steel push plate 160 x 160 x 1.2mm E/FEMALE (Code: 079/160E/F)	No	20		
28	Stainless steel push plate 160 x 160 x 1.2mm E/FHR (Code: 079/160E/FHR)	No	7		
29	Stainless steel push plate 160 x 160 x 1.2mm E/MALE (Code: 079/160E/M)	No	18		
30	Stainless steel push plate 160 x 160 x 1.2mm E/PAR (Code: 079/160E/P)	No	12		
31	Stainless steel push plate 75 x 160 x 0.9mm (Code: 079/75)	No	2		
32	Stainless steel push plate 1.2mm custom size (Code: 079/SPEC)	No	8		
33	Stainless steel kickplate custom size (Code: 080/SPEC)	No	269		
<u>"Geze" or equal and approved: 2mm Thick stainless steel plates countersunk screwed along edges at not exceeding 200mm centres</u>					
34	900 x 813mm Kick plate	No	108		
35	900 x 950mm Kick plate	No	8		
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DOOR CLOSERS

"Geze" or equal and approved

36	TS2000V Door closer standard arm SR complete (Code: AZ2000SR), with and including patent screws (Code ND0501)	No	41
37	TS2000VP Door closer parallel arm complete (Code: AZ2001SR)	No	1
38	TS3000E - Integrated mechanical closing sequence control door closer INT select electrical mechanical hold open (Code: AZ3035SR)	No	6
39	TS4000P DEL action door closer parallel arm complete (Code: AZ4001DA)	No	12
40	TS5000L Opp hinge closer guide rail S (Code: AZ5007SR)	No	29
41	TS500 Stainless steel NV double action F/spring hold open complete (Code: BZ500NVSS)	No	4

PHOTOLUMINESCENT SIGNS

"Geze" or equal and approved

Wall Mounted signs

42	200 x 40mm Aluminium Slatz with vinyl lettering, plastic black ends screw-fixed to walls to suit slatz	No	215
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Door Mounted signs

43	150 x 150mm Aluminium Signage	No	101
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<u>SUNDRIES</u>					
<u>"Geze" or equal and approved</u>					
44	Stainless steel floor mounted doorstep (Code: 140/69)	No	295		
45	Stainless steel hat and coat hook with rubber buffer (Code: 154/69)	No	149		
46	BR/SC Ring flush pull 65 x 50mm (Code: 056/76)	No	47		
47	Exidor outside access device W/O cylinder (Code: HA3020SR)	No	31		
48	Exidor NP cylinder for Exidor 302 - OAD (Code: HB302C)	No	31		
49	250mm Stainless steel cabin hook (Code: 106-250/76)	No	1		
<u>PELMETS, CURTAIN TRACKS AND CURTAINS</u>					
<u>Design, Supply and Install Curtains, Tracks, Etc., Complete</u>					
50	Curtain including track complete to window, overall size 600 x 600mm high (WA04)	No	2		
51	Curtain including track complete to window, overall size 600 x 600mm high (WE06)	No	4		
52	Curtain including track complete to window, overall size 600 x 600mm high (WR02)	No	128		
53	Curtain including track complete to window, overall size 600 x 600mm high (WH07)	No	2		
54	Curtain including track complete to window, overall size 900 x 1200mm high (WB01)	No	22		
55	Curtain including track complete to window, overall size 900 x 1200mm high (WC03)	No	10		
56	Curtain including track complete to window, overall size 900 x 1200mm high (WE05)	No	25		
57	Curtain including track complete to window, overall size 900 x 1200mm high (WR01)	No	297		
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58	Curtain including track complete to window, overall size 1140 x 1200mm high (WE07)	No	1		
59	Curtain including track complete to window, overall size 1200 x 600mm high (WA01)	No	3		
60	Curtain including track complete to window, overall size 1200 x 600mm high (WC01)	No	5		
61	Curtain including track complete to window, overall size 1200 x 600mm high (WD01)	No	10		
62	Curtain including track complete to window, overall size 1200 x 600mm high (WE01)	No	5		
63	Curtain including track complete to window, overall size 1200 x 1200mm high (WC04)	No	12		
64	Curtain including track complete to window, overall size 1200 x 1200mm high (WR04)	No	20		
65	Curtain including track complete to window, overall size 1200 x 1700mm high (WH02)	No	13		
66	Curtain including track complete to window, overall size 1200 x 2400mm high (WH04)	No	14		
67	Curtain including track complete to window, overall size 1800 x 600mm high (WA03)	No	13		
68	Curtain including track complete to window, overall size 1800 x 600mm high (WC02)	No	4		
69	Curtain including track complete to window, overall size 1800 x 600mm high (WD03)	No	8		
70	Curtain including track complete to window, overall size 1800 x 600mm high (WE03)	No	7		
71	Curtain including track complete to window, overall size 1800 x 600mm high (WH01)	No	12		
72	Curtain including track complete to window, overall size 1800 x 1200mm high (WE04)	No	1		
73	Curtain including track complete to window, overall size 1800 x 1200mm high (WR03)	No	18		
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74	Curtain including track complete to window, overall size 1800 x 1200mm high (WR06)	No	4		
75	Curtain including track complete to window, overall size 2940 x 1200mm high (WE08)	No	1		
76	Curtain including track complete to window, overall size 3400 x 1200mm high (WH06)	No	5		
77	Curtain including track complete to window, overall size 3600 x 1200mm high (WA02)	No	24		
78	Curtain including track complete to window, overall size 3600 x 1200mm high (WB02)	No	8		
79	Curtain including track complete to window, overall size 3600 x 1200mm high (WC05)	No	2		
80	Curtain including track complete to window, overall size 3600 x 1200mm high (WD02)	No	12		
81	Curtain including track complete to window, overall size 3600 x 1200mm high (WE02)	No	18		
82	Curtain including track complete to window, overall size 5260 x 300mm high (WH05)	No	5		
83	Curtain including track complete to stage, overall size 18000 x 6700mm high	No	1		
<u>BATHROOM ACCESSORIES</u>					
<u>"Bonn" or equal and approved</u>					
84	600mm Chrome plated "Bonn" towel rail (Code: 7230)	No	402		
<u>"Mobility Solutions" or equal and approved</u>					
85	Heavy duty foldable shower seat (Code: MSShowSeatFold)	No	10		
<u>"Franke" or equal and approved</u>					
86	600mm Straight Shower grab rail (Code: CNTX600)	No	10		
87	Paraplegic grab rail (Code: CNTXPAR)	No	12		
88	Cistern back rail (Code: CNTXBR)	No	12		
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89	Hand dryer HF2400HD (Code: 2500001)	No	40
90	Soap dispenser RODX619 (Code: 2120095)	No	91
91	Double toilet roll holder RODX672 (Code: 2120101)	No	111
92	Sanitary bin RODX611 (Code: 2120070)	No	61
<u>SIGNAGE</u>			
<u>Directional Signage as per drawing (2020 073 3 GDT997 - Rev 0)</u>			
93	Directional signage (A), overall size 1100 x 1200mm high complete	No	3
94	Directional Signage (B), overall size 1100 x 1200mm high complete	No	3
95	Directional signage (C), overall size 600 x 1200mm high complete	No	4
<u>3mm Thick perspex lettering epoxy fixed to 5mm thick opaque perspex backing complete as per drawing (2020 073 3 GDT873 - Rev 0)</u>			
96	Entrance sign, overall size 2000 x 750mm high	No	1
97	Entrance sign, overall size 4000 x 1500mm high	No	1
<u>DRYING LINE ACCESSORIES</u>			
<u>White nylon coated wash-lines as per drawing (2020 073 3 GDT530 - Rev 0 and 2020 073 3 GDT531 - Rev 0)</u>			
98	White nylon coated wash-lines complete	m	510

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	<u>BUILDING WORKS</u>			
	<u>BILL NO. 12</u>			
	<u>STRUCTURAL STEELWORK</u>			
	<u>(PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted.</p>			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Descriptions:</u>			
	<p>Descriptions of bolts shall be deemed to include nuts and washers and should read grade 8,8 as specified.</p> <p>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.</p> <p>Grouting under base plates: SIKA 212 application as per approved product specification.</p>			
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Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete. Where anchor bolts are described as embedded in sides or soffits of concrete it shall be deemed to include holes through formwork.

All steel to be hot dipped galvanised

All nuts, bolts and washers to be hot dipped galvanised

HOT DIPPED GALVANISED ELECTRICAL HOIST BEAM

Welded beams in single lengths with flat bearer and connection plates, bolted to steel/concrete

1	254 x 146mm Universal beam fixed to rafters/concrete	t	0.41
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HOT DIPPED GALVANISED CONNECTION PLATES, BOLTS, PLATES, ETC.

Base plates, stiffener plates, holding down bolts, bolts etc.:

2	Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc	t	0.08
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HOT DIPPED GALVANISED STEEL COLUMNS, BEAMS, ETC.

Welded beams in single lengths with flat bearer and connection plates, bolted to steel/concrete

3	114.3 x 3mm Circular hollow sections in columns fixed to rafters/ concrete	t	9.55
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Structural Steelwork (Provisional)

**HOT DIPPED GALVANISED CONNECTION
PLATES, BOLTS, PLATES, ETC.**

**Base plates, stiffener plates, holding down bolts,
bolts etc.:**

- 4 Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc

t 1.91

**HOT DIPPED GALVANISED HALL STEEL
TRUSSES, ETC**

The list of drawings applicable are as follows:

1. 2025-S-HLL-006

- 5 Roof construction approximately 23 x 42m overall on plan x 2m high overall, including top chord, bottom chord, verticals, diagonals, gable rafters, overhang rafters, purlins, bracings, knee bracings and sag bars complete

t 22.00

**HOT DIPPED GALVANISED CONNECTION
PLATES, BOLTS, PLATES, ETC.**

**Base plates, stiffener plates, holding down bolts,
bolts etc.:**

- 6 Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc

t 4.40

**HOT DIPPED GALVANISED BLOCK E -
ENTRANCE STEEL CANOPY**

The list of drawings applicable are as follows:

1. 2025-S-BLE-100

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	<u>Welded beams in single lengths with flat bearer and connection plates, bolted to steel/concrete</u>				
7	IPE 120 Universal beams	t	2.17		
8	48.4 x 3mm CHS between beams	t	0.182		
	<u>HOT DIPPED GALVANISED CONNECTION PLATES, BOLTS, PLATES, ETC.</u>				
	<u>Base plates, stiffener plates, holding down bolts, bolts etc.:</u>				
9	Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc	t	0.47		
	<u>HOT DIPPED GALVANISED STUDENT ENTRANCE STEEL CANOPY</u>				
	The list of drawings applicable are as follows:				
	1. 2025-S-RES-400				
	<u>Welded beams in single lengths with flat bearer and connection plates, bolted to steel/concrete</u>				
10	IPE 160 Universal beams	t	1.07		
11	63.5 x 3mm CHS between beams	t	0.131		
	<u>HOT DIPPED GALVANISED CONNECTION PLATES, BOLTS, PLATES, ETC.</u>				
	<u>Base plates, stiffener plates, holding down bolts, bolts etc.:</u>				
12	Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc	t	0.24		
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HOT DIPPED GALVANISED HALL ENTRANCE STEEL CANOPY

The list of drawings applicable are as follows:

1. 2025-S-RES-400

Welded beams in single lengths with flat bearer and connection plates, bolted to steel/concrete

13	IPE 160 Universal beams	t	1.09
14	63.5 x 3mm CHS between beams	t	0.200

HOT DIPPED GALVANISED CONNECTION PLATES, BOLTS, PLATES, ETC.

Base plates, stiffener plates, holding down bolts, bolts etc.:

15	Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc	t	0.26
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HOT DIPPED GALVANISED STEEL STAIRCASES

The list of drawings applicable are as follows:

1. 2025-S-RES-300

Welded members of angle section rails, struts, braces, cleats, etc and flat section bearer, gusset and connection plates bolted to steel

16	254 x 146 x 31mm - I sections	t	24.446
17	60.3 x 3mm CHS	t	2.634
18	200 x 75mm Channel	t	26.866
19	IPE 140 Universal beams	t	1.48
20	6mm "Vastrap" plate floor panels to risers and treads	t	8.17

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Structural Steelwork (Provisional)

**HOT DIPPED GALVANISED CONNECTION
PLATES, BOLTS, PLATES, ETC.**

**Base plates, stiffener plates, holding down bolts,
bolts etc.:**

21	Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc	t	12.72		
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**HOT DIPPED GALVANISED STEEL WAGON
WHEEL**

The list of drawings applicable are as follows:

1. 2025-S-GHS-001

**Welded mebers of angle section rails, struts, braces,
cleats, etc and flat section bearer, gusset and
connection plates bolted to steel**

22	203 x 133 x 25mm - I section	t	1.296		
23	12mm Plate fixed to concrete	t	0.489		

**HOT DIPPED GALVANISED CONNECTION
PLATES, BOLTS, PLATES, ETC.**

**Base plates, stiffener plates, holding down bolts,
bolts etc.:**

24	Design, manufacture and install on site all fixing details including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc., as per Engineers detail drawings including end plates, bracing, plates, cleats, bolts, gussets, angles, anchors, stiffeners, etc	t	0.36		
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Structural Steelwork (Provisional)

Section No. 2
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Bill No. 13
Metalwork (Provisional)

<u>1000mm High hot dipped galvanised mild steel balustrade, formed of 38mm diameter galvanised mild steel posts as stanchions fixed to concrete slab side/ top complete, welded to continuous 60mm diameter hot dipped galvanised mild steel hollow section handrail, with and including 2No. 16mm diameter hot dipped galvanised mild steel rails between stanchions and 16mm diameter hot dipped galvanised mild steel rails as vertical slats with a maximum of 100mm centres fixed to mild steel rails all in accordance to Architects details and drawings (2020 073 3 GDT885 - Rev 6, 2020 073 3 GDT886 - Rev 6, 2020 073 3 GDT887 - Rev 6, 2020 073 3 GDT888 - Rev 7, 2020 073 3 GDT889 - Rev 7 and 2020 073 3 GDT890 - Rev 6)</u>						
1	1000mm High balustrading	m	663			
2	Ditto, but raking	m	435			
3	Extra over for stop ends	No	91			
4	Extra over for angles/ bends	No	155			
<u>60mm Diameter continuous hot dipped galvanised mild steel hollow section handrail fixed to brickwork/ concrete with 16mm diameter hot dipped galvanised mild steel thread rod epoxy fixed into reinforced concrete or brickwall with 60mm diameter hot dipped galvanised steel cover plate all in accordance to Architects details and drawings (2020 073 3 GDT885 - Rev 6, 2020 073 3 GDT886 - Rev 6, 2020 073 3 GDT887 - Rev 6, 2020 073 3 GDT888 - Rev 7, 2020 073 3 GDT889 - Rev 7 and 2020 073 3 GDT890 - Rev 6)</u>						
5	60mm Diameter hollow section continuous handrails	m	246			
6	Ditto, but raking	m	301			
7	Extra over for stop ends	No	88			
8	Extra over for angles/ bends	No	88			
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Metalwork (Provisional)						

WELDED SCREENS, GATES, ETC

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT978 - REV 7

Screens and gates

9	Single gate, overall size 900 x 2100mm high of 50 x 50 x 2mm hot rolled galvanised mild steel frame with 10 x 10mm solid bars at 100mm centres and 50 x 10mm horizontal support flat bars fixed with hinges to steel frame and the other side fixed to walls with bolts and lugs including dead bolts, padlock plate and padlock complete (Type 1)	No	18
10	Double gate, overall size 2000 x 2100mm high of 50 x 50 x 2mm hot rolled galvanised mild steel frame with 10 x 10mm solid bars at 100mm centres and 50 x 10mm horizontal support flat bars fixed with hinges to steel frame and the other side fixed to walls with bolts and lugs including dead bolts, padlock plate and padlock complete (Type 4)	No	7
11	Double gate, overall size 3640 x 2600mm high of 50 x 50 x 2mm hot rolled galvanised mild steel frame with 10 x 10mm solid bars at 100mm centres and 50 x 10mm horizontal support flat bars fixed with hinges to steel frame and the other side fixed to walls with bolts and lugs including dead bolts, padlock plate and padlock complete (Type 2)	No	1
12	Double gate, overall size 6000 x 2100mm high of 50 x 50 x 2mm hot rolled galvanised mild steel frame with 10 x 10mm solid bars at 100mm centres and 50 x 10mm horizontal support flat bars fixed with hinges to steel frame and the other side fixed to walls with bolts and lugs including dead bolts, padlock plate and padlock complete (Type 3)	No	1

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GALVANISED PRESSED STEEL DOOR FRAMES

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

1,6mm Thick hot dipped galvanised mild steel rebated frame suitable for half brick walls

13	Frame for door, overall size 813 x 2032mm high (Type 2)	No	11
14	Frame for door, overall size 600 x 2032mm high (Type 4)	No	1
15	Frame for door, overall size 813 x 2032mm high (Type 5)	No	12
16	Frame for door, overall size 800 x 2032mm high (Type 6)	No	6
17	Frame for door, overall size 400 x 2032mm high (Type 7)	No	1

1,6mm Thick hot dipped galvanised mild steel rebated frame suitable for one brick wall

18	Frame for door, overall size 813 x 2032mm high (Type 1)	No	159
19	Frame for door, overall size 813 x 2032mm high (Type 2)	No	43
20	Frame for door, overall size 600 x 2032mm high (Type 4)	No	7
21	Frame for door, overall size 813 x 2032mm high (Type 5)	No	79
22	Frame for door, overall size 813 x 2032mm high (Type 8)	No	8

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23	Frame for double door, overall size 1600 x 2032mm high (Type 9)	No	1
24	Frame for double door, overall size 1615 x 2032mm high (Type 12)	No	4
25	Frame for door, overall size 813 x 2032mm high (Type 13)	No	2
26	Frame for double door, overall size 1615 x 2032mm high (Type 14)	No	5
27	Frame for double door, overall size 1900 x 2032mm high (Type 15)	No	2
28	Frame for door, overall size 762 x 2032mm high (Type 16)	No	2
29	Frame for door, overall size 813 x 2032mm high (Type E1)	No	16
30	Frame for double door, overall size 1200 x 2032mm high (Type E2)	No	2

GALVANISED PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

Slatted louvre galvanised steel doors including door frames, manufactured and installed in strict accordance with the Electricity Department specifications

31	Single door, overall size 900 x 2400mm high (Type 10)	No	2
32	Double door, overall size 2000 x 2400mm high (Type 11)	No	2

ALUMINIUM LOUVRE UNITS

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<u>Drawings and specifications</u>				
The list of drawings applicable are as follows:				
1. 2020_073_3_GDT853 - REV 7				
2. 2020_073_3_GDT855 - REV 7				
3. 2020_073_3_GDT860 - REV 7				
4. 2020_073_3_GDT861 - REV 7				
5. 2020_073_3_GDT862 - REV 7				
6. 2020_073_3_GDT863 - REV 7				
<u>Aluminium louvre unit fixed to timber doors</u>				
33	600 x 600mm High aluminium louvre	No	45	
<u>ALUMINIUM WINDOWS, DOORS, ETC</u>				
<u>Drawings and specifications</u>				
The list of drawings applicable are as follows:				
1. 2020_073_3_GDT850 - REV 6				
2. 2020_073_3_GDT851 - REV 6				
3. 2020_073_3_GDT852 - REV 6				
4. 2020_073_3_GDT853 - REV 7				
5. 2020_073_3_GDT854 - REV 6				
6. 2020_073_3_GDT855 - REV 7				
<u>Powdercoated (Charcoal) aluminium windows complete with, glazing, sealing, etc and fixing to brickwork or concrete, Glazing to be 6.38mm SAFE-T-LITE Laminate Glass Low E. Aluminium Profile to be S1000</u>				
34	Window Type "WG01", overall size 600mm diameter	No	8	
35	Window Type "WA04", overall size 600 x 600mm high	No	2	
36	Window Type "WE06", overall size 600 x 600mm high	No	4	
37	Window Type "WR02", overall size 600 x 600mm high	No	128	
38	Window Type "WH07", overall size 600 x 600mm high	No	2	
39	Window Type "WB01", overall size 900 x 1200mm high	No	22	
40	Window Type "WC03", overall size 900 x 1200mm high	No	10	
41	Window Type "WE05", overall size 900 x 1200mm high	No	25	
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42	Window Type "WR01", overall size 900 x 1200mm high	No	297		
43	Window Type "WE09", overall size 900mm diameter	No	2		
44	Window Type "WH03", overall size 900mm diameter	No	10		
45	Window Type "WG01", overall size 900mm diameter	No	8		
46	Window Type "WR05", overall size 900mm diameter	No	4		
47	Window Type "WE07", overall size 1140 x 1200mm high	No	1		
48	Window Type "WA01", overall size 1200 x 600mm high	No	3		
49	Window Type "WC01", overall size 1200 x 600mm high	No	5		
50	Window Type "WD01", overall size 1200 x 600mm high	No	10		
51	Window Type "WE01", overall size 1200 x 600mm high	No	5		
52	Window Type "WC04", overall size 1200 x 1200mm high	No	12		
53	Window Type "WR04", overall size 1200 x 1200mm high	No	20		
54	Window Type "WH02", overall size 1200 x 1700mm high	No	13		
55	Window Type "WH04", overall size 1200 x 2400mm high	No	14		
56	Window Type "WA03", overall size 1800 x 600mm high	No	13		
57	Window Type "WC02", overall size 1800 x 600mm high	No	4		
58	Window Type "WD03", overall size 1800 x 600mm high	No	8		
59	Window Type "WE03", overall size 1800 x 600mm high	No	7		
60	Window Type "WH01", overall size 1800 x 600mm high	No	12		
61	Window Type "WE04", overall size 1800 x 1200mm high	No	1		
62	Window Type "WR03", overall size 1800 x 1200mm high	No	18		
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CURTAIN WALLS, SHOPFRONTS ETC

Powdercoated (Charcoal) aluminium shopfronts and doors complete with, glazing, sealing, etc and fixing to brickwork or concrete. Glazing to be 6.38mm SAFE-T-LITE Laminate Glass Low E. Aluminium Profile to be S1000 including all necessary ironmongery, complete

73	Shopfront Type "SHH04", overall size 900 x 2600mm high	No	1
74	Shopfront Type "SHH03", overall size 1800 x 2100mm high	No	1
75	Shopfront Type "SHE02", overall size 2400 x 2600mm high	No	1
76	Shopfront Type "SHG01", overall size 2900 x 2100mm high	No	1
77	Shopfront Type "SHR02", overall size 2340 x 3060mm high	No	2
78	Shopfront Type "SHR03", overall size 1500 x 2100mm high	No	8
79	Shopfront Type "SHR04", overall size 1800 x 2100mm high	No	2
80	Shopfront Type "SHE01", overall size 3640 x 2600mm high	No	1
81	Shopfront Type "SHH01", overall size 13060 x 2720mm high	No	1
82	Shopfront Type "SHH02", overall size 13060 x 2720mm high	No	1
83	Shopfront Type "SHR01", overall size 13060 x 3060mm high	No	1

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ROLLER SHUTTER DOORS, ETC

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

Galvanised steel powder coated roller shutters, fixed to brickwork or concrete

84	Chain operated slatted roller shutter door including door frame, overall size 3000 x 2600mm high (Type RSDW1)	No	1
85	Chain operated slatted roller shutter door including door frame, overall size 6000 x 2100mm high (Type RSDW2)	No	1
86	Chain operated slatted roller shutter door including door frame, overall size 1800 x 1000mm high (Type RSDH1)	No	1

STEEL RECORDROOM AND STRONGROOM DOORS, VENTILATORS, ETC

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT853 - REV 7
2. 2020_073_3_GDT855 - REV 7
3. 2020_073_3_GDT860 - REV 7
4. 2020_073_3_GDT861 - REV 7
5. 2020_073_3_GDT862 - REV 7
6. 2020_073_3_GDT863 - REV 7

"Mutual Safes" or equal and approved DS2 strongroom doors suitable for wall thickness fixed to brickwork or concrete, including door frame, complete. Manufactured and installed in strict accordance with architects details

87	Strongroom door and frame 870 x 1970mm high overall with a mass of 210kg, complete (SR1)	No	7
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BURGLAR BARS

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Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT976 - REV 6
2. 2020_073_3_GDT977 - REV 6
3. 2020_073_3_GDT978 - REV 7

Galvanised mild steel burglar bars fixed to internal face of window with rawl bolts

88	Burglar Bars Type "B1" (comprising of 8No. 32mm wide), overall size 900 x 1200mm high	No	32
89	Burglar Bars Type "B4" (comprising of 4No. 32mm wide), overall size 1200 x 600mm high	No	8
90	Burglar Bars Type "B3" (comprising of 4No. 32mm wide), overall size 1800 x 600mm high	No	13
91	Burglar Bars Type "B2" (comprising of 8No. 32mm wide), overall size 3600 x 1200mm high	No	16

ALUMINIUM SUN LOUVRES PANELS

Drawings and specifications

The list of drawings applicable are as follows:

1. 2020_073_3_GDT874 - REV 6
2. 2020_073_3_GDT875 - REV 6
3. 2020_073_3_GDT876 - REV 6
4. 2020_073_3_GDT877 - REV 6
5. 2020_073_3_GDT878 - REV 6
6. 2020_073_3_GDT894 - REV 6

Hunter Douglas 70S or equal and approved horizontal modular system comprising of sturdy Z-shaped panels, fixed to facade of building using modular system and rectangular hollow section. The entire system to be designed and installed by approved specialist, all in accordance with the manufacturer's recommendations

92	Panel Type "HL2", overall size 3600 x 1000mm wide (overhang)	No	2
93	Panel Type "HL1", overall size 9250 x 1000mm wide (overhang)	No	4

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	<u>Hunter Douglas 70S/132S or equal and approved vertical modular system comprising of sturdy Z-shaped panels, fixed to facade of building using modular system and rectangular hollow section. The entire system to be designed and installed by approved specialist, all in accordance with the manufacturer's recommendations</u>				
94	Panel Type "VL9", overall size 3400 x 1200mm high	No	5		
95	Panel Type "VL8", overall size 3400 x 2400mm high	No	4		
96	Panel Type "VL3", overall size 3500 x 945mm high	No	1		
97	Panel Type "VL5", overall size 3600 x 2800mm high	No	3		
98	Panel Type "VL4", overall size 10770 x 945mm high	No	1		
99	Panel Type "VL2", overall size 10845 x 2800mm high	No	1		
100	Panel Type "VL1", overall size 11535 x 2800mm high	No	2		
	<u>ALUMINIUM SUN SCREEN PANELS</u>				
	<u>Drawings and specifications</u>				
	The list of drawings applicable are as follows:				
	1. 2020_073_3_GDT980 - REV 6				
	2. 2020_073_3_GDT981 - REV 6				
	3. 2020_073_3_GDT982 - REV 6				
	<u>Aluminium sections comprising of lengths approximately 3510 x 200 x 50mm, 50 x 50 x 3mm galvanised mild steel "L" brackets, M16 rawl bolts fixed to the facade with epoxy including plastic end caps. The entire system to be designed and installed as per the Engineer's details (colour to be confirmed by Architect)</u>				
101	Panel size 5080 x 3510mm high, comprising of 32 sections equally spaced	No	2		
102	Panel size 5566 x 3510mm high, comprising of 38 sections equally spaced	No	1		
103	Panel size 6210 x 3510mm high, comprising of 37 sections equally spaced	No	2		
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104	Panel size 10160 x 3510mm high, comprising of 61 sections equally spaced	No	2		
105	Panel size 10348 x 3510mm high, comprising of 68 sections equally spaced	No	1		
106	Panel size 10364 x 3510mm high, comprising of 66 sections equally spaced	No	1		
107	Panel size 11023 x 3510mm high, comprising of 69 sections equally spaced	No	2		
<u>HIGH TENSILE CANOPY</u>					
<u>Design, Supply and Installation of High Tensile Canopy</u>					
108	Design, Supply and Installation of High Tensile Canopy including Galvanised Mild Steel Posts, overall size 9075 x 4000mm wide complete, as per drawing (2020_073_7_GDT500 - Rev 6)	No	1		
<u>GALVANISED MILD STEEL WEATHER RESISTANCE LOUVRES</u>					
<u>"Troxx" or equal and approved</u>					
109	Type WG, overall size 3000 x 600mm high	No	5		
<u>BOOM GATE TRAFFIC BARRIER</u>					
<u>Design, Supply and Installation of Boom Gate Traffic Barrier</u>					
110	Boom gate traffic barrier, overall length 9000mm long complete as per drawing (2020_073_3_GDT500 - Rev 6)	No	1		
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<u>GALVANISED MILD STEEL MESH</u>					
<u>50 x 50 x 1.8mm Thick galvanised mild steel mesh welded to 30 x 30mm galvanised mild steel frame complete</u>					
111	Galvanised mild steel mesh complete, as per drawing (2020_073_3_GDT521 - Rev 6 and 2020_073_3_GDT522 - Rev 6)	m2	53		
112	Galvanised mild steel mesh complete as per drawing (2020_073_3_GDT991 - Rev 6)	m2	559		
113	Galvanised mild steel mesh complete as per drawing (2020_073_3_GDT800 - Rev 6, 2020_073_3_GDT801 - rev 6 and 2020_073_3_GDT802 - Rev 6)	m2	419		
114	Galvanised mild steel mesh complete, overall size 1000 x 2100mm high as per drawing (2020_073_3_GDT520 - Rev 6, 2020_073_3_GDT521 - Rev 6 and 2020_073_3_GDT522 - Rev 6)	No	24		
<u>HOT DIPPED GALVANISED STEEL T POSTS</u>					
<u>80mm Diameter hollow section post approximately 1800mm high including 80mm diameter hollow section T approximately 500mm long with and including all necessary plates, bolts, etc complete as per drawing (2020_073_3_GDT530 - Rev 0 and 2020_073_3_GDT531 - Rev 0)</u>					
115	T Post approximately 500mm wide x 1800mm high complete	No	36		
<u>UN-TREATED METAL MESH FEATURE</u>					
<u>Un-treated metal mesh feature</u>					
116	Un-treated metal mesh feature left to corrode complete as per drawing (2020_073_7_GDT500 - Rev 6)	m2	122		
<u>FLAG POLE</u>					
<u>Design, Supply and Installation of Flag Pole complete including base, post, etc as per drawing (2020_073_3_GDT500 - Rev 7)</u>					
117	Flag pole complete	No	2		
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Building Works

Bill No. 13

Metalwork (Provisional)

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Section No. 2

Building Works

Bill No. 13

Metalwork (Provisional)

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SCREEDS

Screeds on concrete

7	25mm Thick on floors and landings	m2	15,248
8	Average 50mm thick on roofs to falls	m2	2,469
9	Average 50mm thick on shower floors to falls	m2	134

INTERNAL PLASTER

One coat cement plaster on brickwork or concrete

10	On walls	m2	31,901
11	On walls to receive tiles	m2	1,470
12	On narrow widths	m2	1,451
13	On chased walls for piping	m2	69
14	On concrete soffits	m2	1,665

EXTERNAL PLASTER

One coat cement plaster on brickwork or concrete

15	On walls	m2	4,043
16	On narrow widths	m2	538
17	On concrete soffits	m2	2,212

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Section No. 2
Building Works
Bill No. 14
Plastering (Provisional)

SPECIALIST CONCRETE HARDENING FLOOR

"C2 Hard" Advanced Economical Lithium-Silicate Hardener and Densifier of Concrete

Specifications for applying floor hardener

1. C2 Super Hard may be applied to freshly placed concrete after power floating and installation of the control joints.
2. Remove soft cut saw debris before application.
3. Surfaces must be clean, by remove all curing agents and construction debris.
4. Apply the Crete Colours surface prep cleaner prior to application of the hardener.
5. Remove the cleaner with a thorough water rinsing.
6. Application may begin as soon as the prepared surfaces are dry and free of ponded rinse water.
7. Apply with low pressure sprayer or microfiber pad. Fit sprayers with a 2,3 litres per minute application "fan" spray head.
8. Apply the surface hardener at a rate of 1 litre per 15 square metres of concrete flooring. Do not dilute, use as supplied by the manufacture.
9. Use a clean microfiber pad to spread product evenly and ensure uniform wetting.
10. Avoid spreading once drying begins. Scrubbing is not necessary.
11. If surfaces dry immediately, apply more product. Surface should remain wet for 5–10 minutes. Adjust rate of application to eliminate puddles.
12. Allow treated surfaces to dry.
13. Remove dried powder residue using stiff broom, power sweeper or floor scrubbing machine.
14. For immediate enhanced shine, buff the dry concrete surface in both directions using an orbital floor machine. This is a dry buffing operation.
15. Follow the manufacturers specifications for product storage and handling, cleaning of applicators etc.

18	On floors	m2	196
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CORNER PROTECTORS, DIVIDING STRIPS, ETC

19	3 x 25mm Flat brass dividing strips between different floor finishes	m	216
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Building Works
Bill No. 14
Plastering (Provisional)

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Building Works

Bill No. 14

Plastering (Provisional)

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Building Works

Bill No. 14

Plastering (Provisional)

Section No. 2
Building Works
Bill No. 15
Tiling (Provisional)

	<u>74 x 148mm Glass Listello tile by Tiletoria or equal and approved, colour: Dark Blue (Code: RN-95) fixed with GOLDSTAR 6 adhesive according to manufacturer's instructions and flush pointed with and including grout (T2)</u>				
4	On walls	m2	45		
	<u>74 x 148mm Glass Listello tile by Tiletoria or equal and approved, colour: Light Blue (Code: RN-1113) fixed with GOLDSTAR 6 adhesive according to manufacturer's instructions and flush pointed with and including grout (T3)</u>				
5	On walls	m2	54		
	<u>74 x 148mm Glass Listello tile by Tiletoria or equal and approved, colour: White (Code: RN-96) fixed with GOLDSTAR 6 adhesive according to manufacturer's instructions and flush pointed with and including grout (T4)</u>				
6	On walls	m2	26		
	<u>FLOOR TILING</u>				
	<u>600 x 600mm Full bodied porcelain floor tiles by Tiletoria or equal and approved, colour: Speckled Grey (Code: RN-BETGR) fixed with GOLDSTAR 6 adhesive according to manufacturer's instructions and flush pointed with and including grout (T1)</u>				
7	On floors	m2	1,310		
8	Skirting 100mm high	m	1,439		
9	Fair exposed cutting and fitting around pipe not exceeding 100mm external diameter	No	150		
	<u>Full bodied porcelain mosaic shower floor tiles by Tiletoria or equal and approved (Code: RN-4501) fixed with GOLDSTAR 6 adhesive according to manufacturer's instructions and flush pointed with and including grout (T6)</u>				
10	On shower floors	m2	134		
	<u>Edge trims</u>				
11	Aluminium straight edge trim, bedded in tile adhesive while tiles are laid	m	4,150		
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	Tiling (Provisional)				

Section No. 2

Building Works

Bill No. 15

Tiling (Provisional)

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Section No. 2

Building Works

Bill No. 15

Tiling (Provisional)

Item No	Quantity	Rate	Amount
<u>SECTION NO. 2</u>			
<u>BUILDING WORKS</u>			
<u>BILL NO. 16</u>			
<u>PLUMBING AND DRAINAGE (PROVISIONAL)</u>			
<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Bills of Quantities Descriptions</u>			
<p>The description of the items in this document is to be read in conjunction with the drawings and is intended as a means of locating and identifying the element only and are not intended as full descriptions and specifications of these items. Quantities contained in these Bills of Quantities are indicative only and shall not be used for ordering purposes. Tenderers shall allow for all costs in connection with the various items taking full cognisance of the drawings, specifications and the Bills of Quantities descriptions.</p>			
<u>Specifications</u>			
<p>Where specifications and descriptions in this Bill of Quantities are in conflict with any other specifications, then those in the Architect's drawings and/or schedules shall take preference.</p>			
Carried to Collection			
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Section No. 2 Building Works Bill No. 16 Plumbing and Drainage (Provisional)			

Materials

Generally

a) All fixtures to be free from imperfections, true to line, angles, curves and colours, smooth, watertight and complete in every respect.

b) All fixtures to be of vitreous ware shall be fired vitreous chinaware of the best quality, non-absorbent and burned so that the whole mass is thoroughly fused and vitrified, producing a material, white in colour, which when fractured shows a homogeneous mass, close grained and free from pores.

RAINWATER DISPOSAL

Seamless aluminium pre painted gutters and rainwater pipes, fixed in accordance with the manufacturer's instructions

1	100 x 100mm Purpose made gutter	m	41
2	185 x 165mm Purpose made gutter	m	624
3	75 x 75mm Downpipes fixed to wall with and including pre-painted downpipe cleats using nail-in anchor fixings	m	768
4	Extra over eaves gutter for outlet for 75 x 75mm downpipe	No	64
5	Extra over 150 x 150mm gutter for stopped ends	No	46
6	Extra over 75 x 75mm gutters for bends	No	128
7	Extra over 75 x 75mm downpipe for shoe	No	64
8	Extra over 75 x 75mm gutter for angle bends	No	4
9	Extra over 75 x 75mm gutter for spreader	No	8

PVC

10	100mm Diameter rainwater downpipe including fixing brackets	m	613
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Carried to Collection

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Section No. 2
Building Works
Bill No. 16
Plumbing and Drainage (Provisional)

**"Saint Gobain" or equal and approved roof outlets
cast into concrete**

11	100 x 180 Full flow outlet dome fullbore (Code: 3505) jointed to uPVC pipe	No	50
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GMS

12	382 x 102mm GMS Gutter with 110 diameter openings for rainwater downpipe	m	26
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SANITARY FITTINGS

"Grohe" or equal and approved

13	"Grohe BAU" white ceramic wall hung basin size 553 x 386mm with one taphole and overflow including fixing to wall using 10mm bolts (Code: GRO-39440000) and sealed with silicone sealant (Set AA - WHB Type 1)	No	129
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"Vaal" or equal and approved

14	"Vaal Bantam" White wall hung basin size 455 x 290mm with one taphole including fixing to wall using 10mm bolts (Code: VAA-703003) and sealed with silicone sealant (Set AB - WHB Type 2)	No	8
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15	"Vaal Orchid" Wall hung white WC fitted with white plastic seat (Code: CORBCCNN-2CO0413) fixed to wall (Set AC - WC Type 1)	No	101
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16	"Vaal Hibiscus" White vitreous china rounded basin size 510 x 405mm with one taphole including fixing to wall using 10mm bolts (Code: VAA-702303WH) and sealed with silicone sealant (Set DA - WHB Type 3)	No	12
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17	"Vaal Protea" Paraplegic white WC fitted with white plastic seat (Code: VAA-750246WH) complete (Set DB - WC Type 2)	No	12
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"Cobra" or equal and approved

18	"Cobra Junior Flushmaster" chrome plated complete (Code: COB-FJ2-100) (Set AC - WC Type 1)	No	101
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19	"Cobra Snug" White wall hung urinal (Code: COB- CSNURWH1-6DT01) (Set AD - Urinal)	No	25
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Carried to Collection

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Building Works
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Plumbing and Drainage (Provisional)

20	"Cobra Junior Flushmaster" Chrome plated complete (Code: COB-FJ6-000 and COB-FJT5-5) (Set AD - Urinal)	No	25		
21	"Cobra Standard Flushmaster" Chrome plated complete (Code: COB-FM2-100) with Cobra Extended Handle and flush valve (Code: COB-C-FM8-80) (Set DB - WC Type 2)	No	12		
	<u>"Franke" or equal and approved</u>				
22	"Franke Quinline QLX611" single bowl sink complete (Code: 820000) (Set SD - Sink Type 2)	No	10		
23	Franke Projectline Model PLN621 Grade 304 18/10 polished stainless steel double end bowl inset sink (Code: 1990031), overall size 1200 x 460mm with two 340 x 370 x 140mm deep bowls, fitted onto cupboard (elsewhere specified) including chromium plated bottletraps with 38mm waste fitting (Set SA - Sink Type 1)	No	5		
24	Franke stainless steel laboratory sink overall size 660 x 460mm complete (Code: 304BA) (Set LA - Sink Type 3)	No	16		
	<u>TAPS, VALVES, ETC</u>				
	<u>"Cobra" or equal and approved</u>				
25	"Cobra Tayrn" chrome plated metered tap (Code: COB- KM2-100FS) complete (Set AA - WHB Type 1, Set AB - WHB Type 2 and Set LA - Sink Type 3)	No	153		
26	15mm Chromium plated brass vandal proof shower head (Code: COB-KP2-6) (Set AE - Shower)	No	72		
27	"Medical Elbow Action" chromium plated pillar tap and elbow action lever (Code: COB-505-21B) (Set DA - Type 3)	No	12		
28	"Cobra" Chromium plated hand shower set (Code: COB- 007MULTI-CP) and Cobra shower arm connector (Code: COB-AP8-311) (Set DC - Shower)	No	10		
29	"Cobra" shower mixer chromium plated (Code: COB- NA-956LH) (Set DC - Shower)	No	10		
Carried to Collection				R	
Section No. 2 Building Works Bill No. 16 Plumbing and Drainage (Provisional)					

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Section No. 2

Building Works

Bill No. 16

Plumbing and Drainage (Provisional)

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Bill No. 16

Plumbing and Drainage (Provisional)

Section No. 2
Building Works
Bill No. 17
Glazing (Provisional)

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 2</u>			
	<u>BUILDING WORKS</u>			
	<u>BILL NO. 18</u>			
	<u>PAINTWORK (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p> <p><u>NOTES</u></p> <p><u>Materials</u></p> <p>All painting materials used in this contract shall be of the manufacture specified and shall comply with the manufacturer's application instructions</p> <p>When the Contractor's tender has been accepted, he shall submit to the Architect, for approval, a list of all painting and decorating materials he proposes to use. This list shall show the name of the manufacturer and the trade/brand name of the paint or other material. Only those paints and materials that have been approved by the Architect shall be brought on the site and used on the works. The Architect may inspect the paint so brought on and take samples from them for testing purposes</p> <p>On no account may paint from different manufacturers be mixed together</p>			
	Carried to Collection		R	
	Section No. 2 Building Works Bill No. 18 Paintwork (Provisional)			

Application of paint

exterior painting shall not be carried out during rainy, damp, frosty or other inclement weather or when such weather can reasonably be expected within the next 8 hours. Each coat of paint, irrespective of the method of application, shall be adequately and permanently keyed on to the previous coat or surface and shall be evenly distributed, continuous and shall dry to a film free of sags, runs or other imperfections. Each priming coat and undercoat of painting shall be inspected by the Architect before any subsequent undercoat or finishing coat is applied. Priming coats shall be well brushed in to obtain maximum penetration

Surface preparation and application to be as per Dulux specification

PAINTWORK ETC TO NEW WORK

ON INTERNAL FLOATED PLASTER SURFACES

Prepare surfaces and remove all loose material and apply one coat alkali resistant primer and two coats super quality acrylic emulsion paint for interior use

1	On walls	m2	33,316
2	On concrete soffits and beams	m2	1,665

ON EXTERNAL FLOATED PLASTER SURFACES

Prepare surfaces and remove all loose material and apply one coat alkali resistant primer and two coats super quality acrylic emulsion paint for exterior use

3	On walls	m2	4,511
4	On ceilings soffits and beams	m2	2,212

ON PLASTERBOARD SURFACES

Prepare surfaces and remove all loose material and apply one coat alkali resistant primer and two coats super quality acrylic emulsion paint for interior use

5	On ceilings	m2	6,609
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ON FIBRE-CEMENT BOARD SURFACES

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Section No. 2
Building Works
Bill No. 18
Paintwork (Provisional)

<u>Prepare surfaces and remove all loose material and apply one coat alkali resistant primer and two coats super quality acrylic emulsion paint for interior use</u>					
6	On internal sills	m2	247		
<u>Prepare surfaces and remove all loose material and apply one coat alkali resistant primer and two coats super quality acrylic emulsion paint for exterior use</u>					
7	On external fascias and bargeboards	m2	732		
<u>ON METAL SURFACES</u>					
<u>Prepare surfaces and remove all loose material and apply one coat primer, two coats universal undercoat and two coats non drip enamel paint</u>					
8	On door frames	m2	1,264		
9	On balustrades (both sides measured over the full flat area)	m2	2,196		
10	On burglar bars (both sides measured over the full flat area)	m2	248		
11	On handrails not exceeding 300mm girth	m	547		
12	On gates (both sides measured over the full flat area)	m2	194		
13	On screens (both sides measured over the full flat area)	m2	2,162		
<u>Internal Structural Steel</u>					
<u>Surface Preparation: Sweep Blast</u>					
<u>Coating System: 1 x full coat SigmaCover 350 with tint at 125um and 1 x full coat SigmaCover with tint at 125um</u>					
14	On structural steel members (Prices shall include for touching up on site after erection)	m2	914		
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Section No. 2 Building Works Bill No. 18 Paintwork (Provisional)					

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Paintwork (Provisional)

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Paintwork (Provisional)

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>EXTERNAL WORKS</u>			
	<u>BILL NO. 1</u>			
	<u>GENERAL SITEWORKS, ETC (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
	<u>GENERAL</u>			
1	Allow for watering the works by spraying to prevent any nuisance from dust, etc., and supply, erect and remove at completion all temporary dust screens, etc., required	Item		
2	Allow for protecting all existing work liable to suffer damage from damage during the building operations, alterations, etc., and make good all work damaged with new material to match existing to the approval of the Principal Agent	Item		
	<u>TEMPORARY BARRIERS, SCREENS, ETC</u>			
3	2100mm High IBR sheeting fixed to timber in gum pole posts at 4.5m centres	m	450	
4	Relocate IBR sheeting fixed to timber in gum pole posts as directed by Principal Agent	m	150	
5	Extra over for hollow core single door 813 x 2032mm high including steel frame, two-lever mortice lock, primer and two coats paint	No	10	
	Carried to Collection			
	Section No. 3			
	External Works			
	Bill No. 1			
	General Siteworks, Etc (Provisional)			

6	Allow for temporary directional safety, regulatory signage, etc., to barriers, screens, etc		Item		
<u>DEMOLITIONS, ETC</u>					
<u>Breaking up and removing</u>					
7	75mm Thick concrete paving on sand bed	m2	329		
8	Premix topping including layerworks overall 500mm thick	m2	398		
9	Palisade boundary walls approximately 2100mm high	m	438		
<u>Excavate, locate, take up and remove service, including backfilling and compaction, etc</u>					
10	Stormwater pipework not exceeding 1m deep	m	150		
11	Stormwater pipework exceeding 1m and not exceeding 2m deep	m	100		
12	Stormwater pipework exceeding 2m and not exceeding 3m deep	m	100		
13	Sewer pipework not exceeding 1m deep	m	150		
14	Sewer pipework exceeding 1m and not exceeding 2m deep	m	100		
15	Sewer pipework exceeding 2m and not exceeding 3m deep	m	100		
16	Water supply pipework not exceeding 1m deep	m	150		
17	Water supply pipework exceeding 1m not exceeding 2m deep	m	100		
18	Water supply pipework exceeding 2m and not exceeding 3m deep	m	100		
19	Electrical reticulation cabling, sleeves, etc., not exceeding 1m deep	m	150		
20	Electrical reticulation cabling, sleeves, etc., exceeding 1m and not exceeding 2m deep	m	100		
Carried to Collection				R	
Section No. 3					
External Works					
Bill No. 1					
General Siteworks, Etc (Provisional)					

21	Electrical reticulation cabling, sleeves, etc., exceeding 2m and not exceeding 3m deep	m	100		
22	Precast brick inspection chambers, manholes, etc., not exceeding 1m deep	No	30		
23	Precast brick inspection chambers, manholes, etc., exceeding 1m and not exceeding 2m deep	No	20		
24	Precast brick inspection chambers, manholes, etc., exceeding 2m and 3m deep	No	20		
<u>Take out and remove light poles</u>					
25	Take out and remove light poles, including light fittings	No	24		
<u>Take out and remove goal posts</u>					
26	Take out and remove goal posts	No	2		
<u>REMOVAL OF TREES, ETC</u>					
<u>Taking out and removing, grubbing up roots and filling in holes</u>					
27	Hedge not exceeding 1500mm high	m	75		
28	Trees exceeding 200mm and not exceeding 500mm girth	No	10		
29	Trees exceeding 500mm and not exceeding 1000mm girth	No	10		
Carried to Collection				R	
Section No. 3					
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Bill No. 1					
General Siteworks, Etc (Provisional)					

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Section No. 3
External Works
Bill No. 2
Bulk Earthworks, Etc (Provisional)

SITE CLEARANCE ETC

Protection of any existing trees will be indicated on site and marked by the Principal Agent.

The removal of all tree roots and hedges etc., with trunks of all sizes and backfilling shall be included within the site clearance. Site clearance shall include the removal of all obstructions including roads, roadwork layers, pavings, kerbs, bases, septic tanks, manholes, stormwater inlets, poles, fences, pipes, cables, scrap metal, rubble, rubbish and anything else encountered on site.

The Contractor is to locate and mark the positions of existing services affected by the excavations and demolition work.

Bulk excavation has been measured from the contours and platforms shown and Tenderers must satisfy themselves as to the accuracy of these levels and under the Site Clearance item must allow for all additional excavation required to clear and level the site to the true contours shown. Extra over excavation in different classes of materials will not be paid for under the Site Clearance item.

"Soft Rock and Intermediate Rock" has not been identified by way of separate measurement. The Contractor shall thus include within his pickable excavation rates for all materials encountered with the exception of "Hard Rock".

Site clearance

1	Allow for clearing the site of all rubbish, vegetation matter, grass, shrubs, bushes, small trees etc. not exceeding 200mm girth, remove from site to a dumping ground to be located by the Contractor.	m2	23,574
2	Stripping average 150mm thick layer of top soil and stockpiling on site	m2	23,574

Carried to Collection

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Section No. 3
External Works
Bill No. 2
Bulk Earthworks, Etc (Provisional)

<u>BULK EXCAVATION, FILLING, ETC.</u>					
<u>Open face excavation in earth over sloping site</u>					
3	Open face excavation to form platforms for buildings, roads, parking areas, etc.	m3	1,200		
<u>Excavation in earth not exceeding 2m deep</u>					
4	To form platform	m3	23,500		
<u>Extra over bulk excavation in earth for excavation in</u>					
5	Hard rock	m3	120		
<u>Extra over all excavations for carting away</u>					
6	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor	m3	23,500		
<u>Keeping excavations free of water</u>					
7	Keeping excavations free of all water other than subterranean water		Item		
<u>EARTH FILLING, ETC</u>					
<u>Earth filling obtained from the excavations and/or prescribed stockpiles on site compacted to 98% Mod. AASHTO density</u>					
8	Over site to form platforms for buildings, roads, parking areas, etc.	m3	600		
<u>Selected G7 filling material supplied by the contractor and carted onto site, consolidated in 150mm thick layers and compacted to 95% Mod. AASHTO maximum density</u>					
9	Over site to form platforms for buildings, roads, parking areas, etc	m3	23,500		
Carried to Collection				R	
Section No. 3 External Works Bill No. 2 Bulk Earthworks, Etc (Provisional)					

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Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>EXTERNAL WORKS</u>			
	<u>BILL NO. 3</u>			
	<u>RETAINING WALLS (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2008 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
	<u>EARTHWORKS</u>			
	<u>Excavation, Filling, etc other than bulk</u>			
	<u>Excavation in earth not exceeding 2m deep</u>			
1	Trenches	m3	661	
	<u>Extra over trench and hole excavations in earth for excavation in</u>			
2	Soft rock materials	m3	66	
3	Hard rock materials	m3	33	
	<u>Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density</u>			
4	Exceeding 1.5m and not exceeding 2m deep for placing and removing formwork to walls etc and building brick walls from excavated face	m2	661	
	Carried to Collection			R
	Section No. 3			
	External Works			
	Bill No. 3			
	Retaining Walls (Provisional)			

<u>Extra over all excavations for carting away</u>					
5	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	396		
<u>Risk of collapse of excavations</u>					
6	Sides of trench and hole excavations exceeding 1,5m deep	m2	1,321		
<u>Keeping excavations free of water</u>					
7	Keeping excavations free of all water other than subterranean water		Item		
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density</u>					
8	Backfilling to trenches, holes, etc	m3	265		
<u>Soil insecticide</u>					
9	To bottoms and sides of trenches etc	m2	1,688		
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>					
<u>Reinforced Concrete</u>					
<u>25MPa/19mm concrete</u>					
10	Infill in cavity walls	m3	79		
<u>Reinforced Concrete Cast Against Excavated Surfaces</u>					
<u>40MPa/19mm concrete</u>					
11	Strip footings	m3	110		
Carried to Collection				R	
Section No. 3					
External Works					
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Retaining Walls (Provisional)					

	<u>Test Blocks</u>				
12	Allow for all necessary concrete test cubes size 150 x 150 x 150mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Principal Agent	Sets	10.0		
	<u>Smooth Formwork (Degree of Accuracy II)</u>				
	<u>Smooth Finish formwork to sides</u>				
13	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	734		
	<u>Reinforcement (Provisional)</u>				
	<u>High tensile steel reinforcement to structural concrete work</u>				
14	Various diameter bars	t	17.01		
	<u>MASONRY</u>				
	<u>Foundations (Provisional)</u>				
	<u>Brickwork</u>				
	<u>Brickwork of NFP bricks in class II mortar</u>				
15	290mm Hollow walls of two half brick skin	m2	372		
16	340mm Hollow walls of two half brick skin	m2	179		
	<u>Brickwork Sundries</u>				
17	Closing 290mm cavities of hollow walls vertically with brickwork half brick wide	m	248		
18	Closing 340mm cavities of hollow walls vertically with brickwork half brick wide	m	119		
	<u>Joint forming material in movement joints</u>				
19	10mm Fibre board built in vertically through brick walls	m2	20		
	Carried to Collection			R	
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	External Works				
	Bill No. 3				
	Retaining Walls (Provisional)				

	<u>Brickwork reinforcement</u>				
20	150mm Wide reinforcement built in horizontally	m	2,202		
	<u>Face Brickwork</u>				
	<u>Face bricks purchase price of R 7,000/ 1000 VAT excluded delivered to site pointed with 10 x 10mm recessed horizontal and vertical joints</u>				
21	Extra over brickwork for face brickwork in foundations (Provisional)	m2	661		
	<u>Brick-on-edge header course coping, sills, etc., of face bricks purchase price of R 7,000/ 1000 VAT excluded delivered to site pointed with recessed joints on all exposed faces</u>				
22	290mm Copings on top cavity brick walls	m	290		
23	340mm Copings on top cavity brick walls	m	119		
	<u>Sundries</u>				
24	19mm Crushed stone encasing to pipes	m3	33		
25	Geofabric filter blanket wrapped around 300 x 300mm stone encasing with side and end laps, including stitching	m2	440		
	<u>Slotted PVC-U flexible drainage pipes</u>				
26	110mm Pipes laid in stone encasing (encasing elsewhere)	m	367		
	<u>PVC pipes not exceeding 100mm external diameter built in brick retaining walls</u>				
27	Pipes with one splay end exceeding 250mm and not exceeding 500mm long	No	367		
Carried to Collection				R	
Section No. 3 External Works Bill No. 3 Retaining Walls (Provisional)					

GABION BASKETS

**Gabion Baskets including foundations, layerworks,
complete as per drawing number
2020 073 3 GDT872 - REV 6**

28	Gabion Baskets 500mm wide	m2	79		
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Carried to Collection

<u>Keeping excavations free of water</u>					
5	Keeping excavations free of all water other than subterranean water		Item		
<u>De-watering</u>					
6	Allow for supplying a 50mm diameter submersible pump delivering 500 litres per minute with and including a minimum 50m length of discharge hose for pumping away of any subterranean water which may surface in foundation trenches, bases, etc	Hrs	160.00		
<u>Earth filling supplied by the contractor under pavings etc</u>					
7	Over site of G7 materials in accordance with SABS 1200 DM compacted to 93% AASHTO density	m3	994		
8	Over site of G5 material in accordance with SABS 1200 DM compacted to 95% Mod AASHTO density	m3	1,612		
9	Over site of G2 material in accordance with SABS 1200 DM compacted to 98% Mod AASHTO density	m3	1,289		
10	Selected imported dump rock material (maximum boulder size = 100mm and sufficient fines) is to be compacted in 150mm layers to refusal density bidim (included) to be placed before mass concrete is cast as per drawing (2020-S-GD-100 - Rev OB)	m3	205		
<u>Compaction of surfaces</u>					
11	Rip and scarify top of filled or excavated surfaces for a depth of 150mm, break down or remove oversize material, add suitable material where required and recompact to 95% Mod AASHTO density	m2	10,366		
<u>Prescribed density tests on filling</u>					
12	In-situ dry density (sand replacement) test in accordance with method A10 (a) of TMH 1	No	20		
13	Maximum dry density and optimum moisture content test in accordance with method A7 of TMH 1	No	10		
Carried to Collection				R	
Section No. 3 External Works Bill No. 4 Road Works (Provisional)					

	<u>Sundries</u>				
14	Apply Bromosoil or equal herbicide to river sand bedding under paving in strict accordance with the manufacturer's instruction	m2	9,501		
	<u>Bituminous premix road surfacing</u>				
15	25mm Thick paving to parking areas, roadways, etc including bitumen spray to base course (0.8l/m ²)	m2	500		
16	30mm Thick paving to parking areas, roadways, etc including bitumen spray to base course (0.8l/m ²)	m2	4,337		
17	40mm Thick paving to parking areas, roadways, etc including bitumen spray to base course (0.8l/m ²)	m2	429		
18	5300 x 2000mm "Speed Hump" as per drawing (2025_C_180 - Rev OB)	No	18		
	<u>PRECAST CONCRETE PAVING BLOCKS</u>				
	<u>Paving is to be laid in accordance with SABS 1200MJ, SABS 1058 and the Concrete Masonry Association's Specification</u>				
	The list of drawings applicable are as follows:				
	1. 2020_073_3_GDT880 - REV 6				
	2. 2020_073_3_GDT881 - REV 6				
	3. 2020_073_3_GDT882 - REV 6				
	4. 2020_073_3_GDT883 - REV 6				
	<u>"Corobrik" or equal and approved clay paver size 220 x 108.5 x 50mm chamfered and nibbed in colour "Burgundy" or equal and approved interlocking roadstone paving on and including 20mm thick layer of river sand</u>				
19	50mm Paving to parking areas etc to falls (LI)	m2	435		
	<u>"Corobrik" or equal and approved clay paver size 220 x 108.5 x 50mm chamfered and nibbed in colour "Nutmeg" or approved interlocking roadstone paving on and including 20mm thick layer of river sand</u>				
20	50mm Paving to parking areas etc to falls (LI)	m2	22		
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	Road Works (Provisional)				

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External Works
Bill No. 4
Road Works (Provisional)

29	Paralegic symbol exceeding 2m2 and not exceeding 4m2	No	2		
30	Numeral or letter not exceeding 2m2	No	17		
31	Traffic arrow exceeding 2m2 not exceeding 4m2	No	24		
32	"Yield Sign" exceeding 2m2 not exceeding 4m2	No	4		
33	"Loading Sign" exceeding 2m2 not exceeding 4m2	No	2		
34	"Speed Hump" size (5300 x 3500mm wide)	No	18		
	<u>Road signs</u>				
35	Standard "RMT1 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		
36	Standard "EXIT" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	1		
37	Standard "RMT2 YIELD" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	2		
38	Standard "RMT2 YIELD AND PEDESTRIAN CROSSING" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	2		
39	Standard "NO PARKING" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	1		
40	Standard "ENTRY" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	1		
	Carried to Collection			R	
	Section No. 3				
	External Works				
	Bill No. 4				
	Road Works (Provisional)				

41	Standard "15KM/H SPEED SIGN INCLUDING SPEED HUMP WARNING" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	3		
42	Standard "SCHOOL AHEAD WARNING" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	1		
43	Standard "DISABLED PARKING" sign with 50mm diameter galvanised mild steel post bedded in and including unreinforced concrete base, including any necessary excavation, paint finish, etc	No	1		
Carried to Collection					R
Section No. 3 External Works Bill No. 4 Road Works (Provisional)					

PRECAST KERBS

Precast concrete finished smooth on exposed surfaces including bedding, jointing and pointing

44	Kerb (SABS 927 figure 7) with 45 x 125mm unreinforced concrete footing, 250 x 250mm triangular concrete haunching at back of each joint and 300 x 150mm concrete infill in front with cement grouted joints, including excavations, backfilling, etc (LI)	m	1,962
45	Kerb (SABS 927 figure 7) but circular on plan not exceeding 4m radius formed with short lengths of straight kerb (LI)	m	195

Edge restraint beam

46	Reinforced concrete (25MPa/19mm) edge restraint beam 300 x 300mm high including excavation, backfilling, concrete, formwork, reinforcement (100kg/m3), steel floating, etc. (LI)	m	96
47	Wood float finish to falls to top of concrete to top of beams (LI)	m2	31

CONCRETE WALKWAYS AND APRONS (ALL TRADES)

CONCRETE, ETC.

Reinforced concrete cast against excavated surfaces

40MPa/19mm concrete

48	Surface beds cast in panels on waterproofing (LI)	m3	482
49	Aprons cast in panels (LI)	m3	92

Reinforced concrete cast in/ on smooth formwork

40MPa/19mm concrete

50	Columns	m3	6
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	<u>Test cubes</u>				
51	Allow for all necessary concrete test cubes size 150 x 150 x 150mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Principal Agent	Sets	10.0		
	<u>Finishing top surfaces of concrete smooth with a wood float</u>				
52	Surface beds, aprons etc (LI)	m2	2,265		
	<u>Formwork</u>				
	<u>Rough formwork (degree of accuracy III)</u>				
	<u>Rough formwork to sides</u>				
53	Edges, risers, ends and reveals not exceeding 300mm high or wide (LI)	m	2,687		
	<u>Smooth formwork (degree of accuracy III)</u>				
	<u>Smooth formwork to circular columns</u>				
54	500mm Diameter column 3.5m high	No	9		
	<u>Saw-cut joints</u>				
55	6 x 25mm Saw-cut joints in top of concrete	m	752		
	<u>Reinforcement</u>				
	<u>Mild tensile steel reinforcement to structural concrete work (Note: the following item has not been separated into various diameters and this principle will apply when remeasuring the item)</u>				
56	Various diameter bars not exceeding 13 meter lengths	t	17.90		
	<u>High tensile steel reinforcement to structural concrete work (Note: the following item has not been separated into various diameters and this principle will apply when remeasuring the item)</u>				
57	Various diameter bars not exceeding 13 meter lengths	t	17.90		
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	<u>Fabric reinforcement</u>				
58	Type 193 fabric reinforcement in concrete slabs (LI)	m2	2,265		
	<u>Waterproofing</u>				
59	One layer of 250 micron USB green waterproof sheeting sealed at laps with pressure sensitive tape under surface beds (LI)	m2	2,265		
	<u>Joint sealants, etc.</u>				
	<u>Two part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc.</u>				
60	6 x 25mm In saw-cut joints in floors	m	752		
	<u>PLASTERING</u>				
	<u>Un-tinted granolithic, on concrete</u>				
61	25mm Thick on floors, landings and ramps with a non-slip finish (LI)	m2	2,265		
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3	19mm Crushed stone encasing to pipes inclusive of A4 bidim wrapping as per drawing (2021_C_150 - Rev OB)	m3	182		
4	Coarse river sand filling supplied by the contractor to trenches	m3	85		
5	110mm Slotted uPVC agricultural pipes laid in stone encasing	m	2,024		
6	Extra for 110mm for 45 degree bend	No	22		
7	Extra for 110mm for 90 degree bend	No	42		
8	Extra for 110mm for 45 degree junction	No	28		
<u>STORMWATER DRAINAGE</u>					
<u>uPVC class 34 pipes</u>					
9	110mm Pipes laid in and including trenches not exceeding 1m deep (LI)	m	462		
10	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep (LI)	m	627		
11	110mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep (LI)	m	88		
<u>Extra over uPVC pipes for fittings</u>					
12	110mm for 90 degree Bend	No	116		
13	110mm for 45 degree junction plain	No	22		
14	110mm for Rodding eye	No	13		
<u>Class 50D to 100D spigot and socket pipes</u>					
15	300mm Pipes laid in and including trenches not exceeding 1m deep	m	11		
16	300mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	22		
17	300mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep	m	22		
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18	300mm Pipes laid in and including trenches exceeding 3m and not exceeding 4m deep	m	11		
19	375mm Pipes laid in and including trenches not exceeding 1m deep	m	44		
20	375mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	33		
21	375mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep	m	44		
22	375mm Pipes laid in and including trenches exceeding 3m and not exceeding 4m deep	m	44		
23	450mm Pipes laid in and including trenches not exceeding 1m deep	m	22		
24	450mm Pipes laid in and including trenches exceeding 1 and not exceeding 2m deep	m	242		
25	450mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep	m	231		
26	450mm Pipes laid in and including trenches exceeding 3m and not exceeding 4m deep	m	88		
	<u>Sumps, catchpits, inspection chambers, etc (gratings and covers elsewhere)</u>				
27	1000mm Diameter precast concrete circular inspection chamber not exceeding 1000mm deep internally (LI)	No	4		
28	1000mm Diameter precast concrete circular inspection chamber exceeding 1000mm and not exceeding 2000mm deep internally (LI)	No	20		
29	1000mm Diameter precast concrete circular inspection chamber exceeding 2000mm and not exceeding 3000mm deep internally (LI)	No	24		
30	1000mm Diameter precast concrete circular inspection chamber exceeding 3000mm and not exceeding 4000mm deep internally (LI)	No	10		
	<u>Inlets</u>				
31	1330mm Long x 1330mm wide grid inlets complete all as per drawing number 2025-C-125	No	12		
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32	3678mm Long x 1240mm wide x 1790mm deep kerb inlets complete all as per drawing number 2025-C-125	No	6		
33	4960mm Long x 910mm wide stormwater gratings complete all as per drawing number 2025-C-125	No	3		
	<u>"LG Green" or equal and approved gulleys</u>				
34	400 x 400mm Gulley complete	No	25		
	<u>Cast iron gratings, covers etc</u>				
35	700mm diameter Type 8B precast iron single seal manhole cover and frame	No	58		
36	Lifting key for manhole cover and frame	No	2		
	<u>Sundries</u>				
37	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rocks material	m3	11		
38	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock material	m3	6		
39	Supply and install submersible water pump complete with delivery of 3,45 m3/hr at a head of 20m set at a depth of approximately 90m			Item	
	<u>SOIL DRAINAGE</u>				
	<u>Heavy duty (Class 34) uPVC sewer and drain pipes</u>				
40	160mm Pipes vertically or ramped to cleaning eyes etc (no excavation) (LI)	m	22		
41	110mm Pipes laid in and including trenches not exceeding 1m deep (LI)	m	88		
42	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep (LI)	m	132		
43	110mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep (LI)	m	22		
44	160mm Pipes laid in and including trenches not exceeding 1m deep (LI)	m	198		
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45	160mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep (LI)	m	396		
46	160mm Pipes laid in and including trenches exceeding 2m and not exceeding 3m deep (LI)	m	418		
47	160mm Pipes laid in and including trenches exceeding 3m and not exceeding 4m deep (LI)	m	242		
<u>Extra over for heavy duty (Class 34) uPVC sewer and drain pipes for fittings</u>					
48	110mm for to 50mm Reducer	No	7		
49	160mm for to 110mm Reducer	No	13		
50	110mm for 90 degree Bend	No	22		
51	160mm for 90 degree Bend	No	26		
52	110mm for 90 degree plain bend	No	7		
53	160mm for 90 degree plain bend	No	9		
54	110mm for 90 degree inspection bend	No	7		
55	160mm for 90 degree inspection bend	No	9		
56	50mm for End cap	No	7		
57	110mm for End cap	No	22		
58	160mm for End cap	No	26		
59	110mm for 45 degree junction with inspection	No	13		
60	160mm for 45 degree junction with inspection	No	18		
61	110mm for 45 degree junction plain	No	7		
62	160mm for 45 degree junction plain	No	11		
63	160mm for to 110mm 45 degree access reducing junction	No	13		
64	110mm for 45 degree Rodding eye	No	7		
65	160mm for 45 degree Rodding eye	No	9		
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66	110mm for 90 degree Rodding eye	No	7		
67	160mm for 90 degree Rodding eye	No	9		
<u>Precast concrete circular inspection chambers (covers elsewhere)</u>					
68	Inspection chamber 1000mm diameter and not exceeding 1000mm deep internally including precast cover slab and cast iron steps (LI)	No	6		
69	Inspection chamber 1000mm diameter and exceeding 1000mm and not exceeding 2000mm deep internally including precast cover slab and cast iron steps (LI)	No	8		
70	Inspection chamber 1000mm diameter and exceeding 2000mm and not exceeding 3000mm deep internally including precast cover slab and cast iron steps (LI)	No	10		
71	Inspection chamber 1000mm diameter and exceeding 3000mm and not exceeding 4000mm deep internally including precast cover slab and cast iron steps (LI)	No	7		
<u>Cast iron covers etc</u>					
72	700mm diameter Type 8B cast iron single seal manhole cover and frame	No	31		
<u>Acid neutralizing tank</u>					
73	Acid neutralizing tank, approximate size 3870 x 1761 x approximately 2500mm deep complete all as per drawing (2020-C-153 - Rev OB)	No	1		
<u>"Calcamite" or equal and approved oil, grease and sand trap complete</u>					
74	Oil, grease and soil trap complete all as per drawing CAL/DBN/95/001 rev D	No	1		
75	Lifting key for manhole cover and frame	No	2		
<u>Sundries</u>					
76	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in intermediate material	m3	6		
77	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock material	m3	3		
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78	Unreinforced concrete encasing to horizontal pipe	m3	2		
79	100mm Cast iron "ABC" cleaning eye	No	5		
80	Cutting into side of existing inspection chamber for and connecting 160mm pipe including inserting 160mm channel junction and making good concrete benching	No	1		
81	Allow for testing the complete drainage installation by visual and air pressure test to the satisfaction of the Engineer (All defective work to be replaced at the Contractor's expense)			Item	
<u>WATER SUPPLIES</u>					
<u>"Plasson" or equal and approved Class 16 HDPE PN 16 pressure pipes</u>					
82	25mm Internal diameter pipes laid in and including trenches (LI)	m	143		
83	32mm Internal diameter pipes laid in and including trenches (LI)	m	253		
84	40mm Internal diameter pipes laid in and including trenches (LI)	m	396		
85	50mm Internal diameter pipes laid in and including trenches (LI)	m	283		
86	100mm Internal diameter pipes laid in and including trenches (LI)	m	759		
<u>Extra over HDPE PN 16 pressure pipes for "Plasson" type fittings</u>					
87	25mm Internal diameter to 16mm internal diameter reducer	No	3		
88	32mm Internal diameter to 25mm internal diameter reducer	No	5		
89	40mm Internal diameter to 32mm internal diameter reducer	No	5		
90	50mm Internal diameter to 40mm internal diameter reducer	No	5		
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91	100mm Internal diameter to 50mm internal diameter reducer	No	7		
92	25mm Internal diameter 11.5 degree bend	No	2		
93	25mm Internal diameter 22.5 degree bend	No	3		
94	25mm Internal diameter 45 degree bend	No	3		
95	25mm Internal diameter 90 degree bend	No	7		
96	32mm Internal diameter 11.5 degree bend	No	2		
97	32mm Internal diameter 22.5 degree bend	No	3		
98	32mm Internal diameter 45 degree bend	No	3		
99	32mm Internal diameter 90 degree bend	No	9		
100	40mm Internal diameter 11.5 degree bend	No	2		
101	40mm Internal diameter 22.5 degree bend	No	3		
102	40mm Internal diameter 45 degree bend	No	7		
103	40mm Internal diameter 90 degree bend	No	13		
104	50mm Internal diameter 11.5 degree bend	No	3		
105	50mm Internal diameter 22.5 degree bend	No	3		
106	50mm Internal diameter 45 degree bend	No	5		
107	50mm Internal diameter 90 degree bend	No	18		
108	100mm Internal diameter 11.5 degree bend	No	3		
109	100mm Internal diameter 22.5 degree bend	No	3		
110	100mm Internal diameter 45 degree bend	No	5		
111	100mm Internal diameter 90 degree bend	No	18		
112	25mm Internal diameter tee	No	2		
113	32mm Internal diameter tee	No	7		
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114	40mm Internal diameter tee	No	9		
115	50mm Internal diameter tee	No	9		
116	100mm Internal diameter tee	No	11		
117	16mm Internal diameter end cap	No	3		
118	25mm Internal diameter end cap	No	7		
119	32mm Internal diameter end cap	No	7		
120	40mm Internal diameter end cap	No	9		
121	50mm Internal diameter end cap	No	9		
122	100mm Internal diameter end cap	No	13		
	<u>Thrust Blocks</u>				
123	25mm MPa Unreinforced concrete in thrust blocks cast against sides of excavations, including all excavations, formwork, etc	m3	1.00		
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<u>TAPS, VALVES, ETC</u>							
<u>Polish Brass</u>							
124	25mm Valve, all as per Engineer's Drawing No 2025-C-151	No	3				
125	32mm Valve, all as per Engineer's Drawing No 2025-C-151	No	5				
126	40mm Valve, all as per Engineer's Drawing No 2025-C-151	No	5				
127	50mm Valve, all as per Engineer's Drawing No 2025-C-151	No	5				
128	100mm Valve, all as per Engineer's Drawing No 2025-C-151	No	9				
129	100mm Non-return valve	No	2				
130	100mm Pressure gauge	No	2				
<u>Testing</u>							
131	Provide all necessary apparatus water, etc. for and test the whole of the plumbing installation as required to the satisfaction of the Architect and the local authority and replace any defective work free of charge and leave perfect			Item			
<u>Sundries</u>							
132	Design, Supply, Installation and Commission of Water Meter, complete as per drawing (2025_C_141 - Rev 0B)	No	1				
<u>SLEEVES</u>							
<u>uPVC Sleeves for pipes exceeding 100mm and not exceeding 200mm diameter</u>							
133	110mm pipes inclusive of foam impregnation as per drawing (2020-C-141 - Rev OB)	m	11				
134	160mm pipe inclusive of foam impregnation as per drawing (2020-C-141 - Rev OB)	m	22				
<u>IRRIGATION SYSTEM</u>							
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	<u>High density polyethylene PN 16 class 16 type IV piping complying with SANS 533-1 with compression couplings</u>				
135	32mm Internal diameter pipes laid in and including trenches (LI)	m	132		
136	40mm Internal diameter pipes laid in and including trenches (LI)	m	264		
137	50mm Internal diameter pipes laid in and including trenches (LI)	m	814		
	<u>Extra over polyethylene type IV pipes for composite fittings comprising galvanised and compression components</u>				
138	40mm Internal diameter to 32mm Internal diameter reducer	No	9		
139	50mm Internal diameter to 40mm Internal diameter reducer	No	18		
140	32mm Internal diameter 11.5 degree bend	No	2		
141	32mm Internal diameter 22.5 degree bend	No	2		
142	32mm Internal diameter 45 degree bend	No	2		
143	32mm Internal diameter 90 degree bend	No	3		
144	40mm Internal diameter 11.5 degree bend	No	2		
145	40mm Internal diameter 22.5 degree bend	No	2		
146	40mm Internal diameter 45 degree bend	No	3		
147	40mm Internal diameter 90 degree bend	No	5		
148	50mm Internal diameter 11.5 degree bend	No	2		
149	50mm Internal diameter 22.5 degree bend	No	3		
150	50mm Internal diameter 45 degree bend	No	3		
151	50mm Internal diameter 90 degree bend	No	31		
152	32mm Internal diameter equal tee	No	3		
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153	40mm Internal diameter equal tee	No	3
154	50mm Internal diameter equal tee	No	20
155	32mm Internal diameter end cap	No	7
156	40mm Internal diameter end cap	No	22
157	50mm Internal diameter end cap	No	5
<u>Field Drainage</u>			
158	110mm Pipes including bidim, stone, etc laid in and including trenches not exceeding 1m deep as per drawing 2020-C-160 - Rev 0B (Field drainage detail) (LI)	m	176
<u>Water Tanks</u>			
159	5.5 Kilolitre circular tank 1.82m diameter x 2.255m high, approximately 170mm above ground level, complete as per drawing (2025-C-160 Rev 0B and 2025-C-123 Rev 0B)	No	3
160	10 Kilolitre circular tank 2.2m diameter x 3.15m high, approximately 170mm above ground level, complete as per drawing (2025-C-160 Rev 0B and 2025-C-123 Rev 0B)	No	10
<u>ATTENUATION TANK (PROVISIONAL)</u>			
<u>EARTHWORKS, FILLING, ETC</u>			
<u>Excavation in earth for basement</u>			
161	Basement excavation not exceeding 2m deep	m3	567
162	Basement excavation exceeding 2m and not exceeding 4m deep	m3	224
<u>Extra over excavation in earth for excavation in</u>			
163	Soft rock	m3	40
164	Hard rock	m3	79
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	<u>Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density</u>				
165	Exceeding 1.5m deep and not exceeding 3m deep for placing and removing formwork to walls etc, against excavated face	m2	164		
	<u>Extra over all excavations for carting away</u>				
166	Surplus material from stock piles on site to a dumping site to be located by the contractor	m3	791		
	<u>Risk of collapse of excavations</u>				
167	Sides of bulk excavations not exceeding 1.5m deep	m2	283		
168	Sides of bulk excavations exceeding 1.5m deep	m2	283		
	<u>Keeping excavations free of water</u>				
169	Keeping excavations free of all water other than subterranean water		Item		
	<u>De-watering</u>				
170	Allow for supplying a 50mm diameter submersible pump delivering 500 litres per minute with and including a minimum 50m length of discharge hose for pumping away of any subterranean water which may surface in foundation trenches, bases, etc	Hrs	80.00		
	<u>Earth filling supplied by the contractor under floors etc</u>				
171	Over site of G7 materials in accordance with SABS 1200 DM compacted to 93% AASHTO density	m3	43		
172	Over site of G5 material in accordance with SABS 1200 DM compacted to 95% Mod AASHTO density	m3	43		
	<u>Compaction of surfaces</u>				
173	Rip and scarify top of filled or excavated surfaces for a depth of 150mm, break down or remove oversize material, add suitable material where required and recompact to 95% Mod AASHTO density	m2	283		
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	<u>Rough formwork to circular and partly circular columns</u>				
183	300mm Diameter column 2m high	No	6		
	<u>Rough formwork to soffits</u>				
184	Slabs not exceeding 250mm thick propped up to a height not exceeding 3,5m	m2	263		
	<u>Rough formwork to sides and soffits</u>				
185	Beams propped up exceeding 1.5m and not exceeding 3.5m high	m2	6		
	<u>Rough formwork to form</u>				
186	Opening exceeding 2m and not exceeding 3m girth through not exceeding 300mm slab	No	2		
187	375mm Diameter opening through 250mm wall	No	1		
188	375mm Diameter opening through 300mm wall	No	1		
189	450mm Diameter opening through 300mm wall	No	2		
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	<u>Saw-cut joints</u>				
190	6 x 25mm Saw-cut joints in top of concrete	m	150		
	<u>Joint sealants, etc.</u>				
	<u>Two part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc.</u>				
191	6 x 25mm In saw-cut joints in floors.	m	150		
	<u>Reinforcement</u>				
	<u>Mild tensile steel reinforcement to structural concrete work (Note: the following item has not been separated into various diameters and this principle will apply when remeasuring the item)</u>				
192	Various diameter bars not exceeding 13 meter lengths	t	11.33		
	<u>High tensile steel reinforcement to structural concrete work (Note: the following item has not been separated into various diameters and this principle will apply when remeasuring the item)</u>				
193	Various diameter bars not exceeding 13 meter lengths	t	11.33		
	<u>Fabric Reinforcement</u>				
194	Type 193 fabric reinforcement in concrete surface beds, slabs, etc	m2	283		
	<u>Waterproofing</u>				
195	<u>One layer of 250 micron USB green waterproof sheeting under surface beds and to walls against earth</u>	m2	447		
	<u>Cast iron gratings, covers etc</u>				
196	700 x 700mm precast access manhole cover and frame as per civil engineers detail	No	2		
197	Lifting key for manhole cover and frame	No	2		
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<u>PLINTHS</u>					
<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>					
<u>Excavation in earth not exceeding 2m deep</u>					
198	Thickening under surface beds, etc	m3	28		
<u>Extra over trench and hole excavations in earth for excavation in</u>					
199	Soft rock	m3	3		
200	Hard rock	m3	6		
<u>Extra over all excavations for carting away</u>					
201	Surplus material from stock piles on site to a dumping site to be located by the contractor	m3	28		
<u>Risk of collapse of excavations</u>					
202	Sides of bulk excavations not exceeding 1.5m deep	m2	100		
<u>Keeping excavations free of water</u>					
203	Keeping excavations free of all water other than subterranean water			Item	
<u>Earth filling supplied by the contractor under floors etc</u>					
204	Over site of G7 materials in accordance with SABS 1200 DM compacted to 93% AASHTO density	m3	11		
205	Over site of G5 material in accordance with SABS 1200 DM compacted to 95% Mod AASHTO density	m3	11		
<u>Compaction of surfaces</u>					
206	Rip and scarify top of filled or excavated surfaces for a depth of 150mm, break down or remove oversize material, add suitable material where required and recompact to 95% Mod AASHTO density	m2	75		
<u>Prescribed density tests on filling</u>					
207	Modified AASHTO Density tests	No	13		
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<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>					
<u>Reinforced concrete cast against excavated surfaces</u>					
<u>30MPa/19mm concrete</u>					
208	Surface beds	m3	19		
<u>Test cubes</u>					
209	Allow for all necessary concrete test cubes size 150 x 150 x 150mm cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SABS Methods 861 and 863, including use of approved cube moulds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Principal Agent	Sets	4.0		
<u>Finishing top surfaces of concrete smooth with a wood float</u>					
210	Surface beds, etc	m2	75		
<u>Rough Formwork (Degree of Accuracy III)</u>					
<u>Rough formwork to sides</u>					
211	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	125		
<u>Boxing in rough formwork to form</u>					
212	25mm Chamfers along top edges	m	125		
<u>Reinforcement</u>					
<u>Fabric Reinforcement</u>					
213	Type 395 fabric reinforcement in concrete bases, etc	m2	75		
<u>Waterproofing</u>					
214	One layer of 250 micron USB green waterproof sheeting sealed at laps with pressure sensitive tape under surface beds	m2	75		
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Section No. 3

External Works

Bill No. 5

Plumbing and Drainage (Provisional)

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>EXTERNAL WORKS</u>			
	<u>BILL NO. 6</u>			
	<u>FENCING AND GATES (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
	<u>GALVANISED STEEL FENCING</u>			
	<u>Security fencing, gates, etc</u>			
1	1800mm High, "Galfan" or similar approve high density mesh fence including panels, posts, anti-burrowing/ anti-tunnelling, with and including spikes complete as per drawing (2020_073_3_GDT872 - Rev 6)	m	143	
2	2100mm High, "Galfan" or similar approve high density mesh fence including panels, posts, anti-burrowing/ anti-tunnelling, with and including spikes complete as per drawing (2020_073_3_GDT872 - Rev 6)	m	438	
3	Single gate overall size 1000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SPG1)	No	1	
4	Single gate overall size 1000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SPG3)	No	1	
5	Single gate overall size 1000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SPG4)	No	1	
6	Single gate overall size 1000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SPG5)	No	1	
	Carried to Collection			
	Section No. 3			
	External Works			
	Bill No. 6			
	Fencing and Gates (Provisional)			

7	Single gate overall size 1000 x 2400mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SPG2)	No	1		
8	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG1)	No	1		
9	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG2)	No	1		
10	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG3)	No	1		
11	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG5)	No	1		
12	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG6)	No	1		
13	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG7)	No	1		
14	Double gate overall size 3000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG8)	No	1		
15	Double gate overall size 3000 x 2400mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG9)	No	1		
16	Double gate overall size 5000 x 1800mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (DPG4)	No	1		
17	Sliding exit gate overall size 5400 x 2400mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SG1)	No	1		
18	Sliding entrance gate overall size 8000 x 2400mm high complete as per drawing (2020_073_3_GDT872 - Rev 6) (SG2)	No	1		
Carried to Collection					R
Section No. 3 External Works Bill No. 6 Fencing and Gates (Provisional)					

Section No. 3

External Works

Bill No. 6

Fencing and Gates (Provisional)

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External Works

Bill No. 6

Fencing and Gates (Provisional)

Section No. 3
External Works
Bill No. 7
Swimming Pool and Pumps (Provisional)

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 3</u>			
	<u>EXTERNAL WORKS</u>			
	<u>BILL NO. 8</u>			
	<u>LANDSCAPING (PROVISIONAL)</u>			
	<p>The Contractor must read each description throughout this bills of quantities in conjunction with and in the context of the obligations, requirements and specifications stated in the descriptions, the Model Preambles for Trades (2009 Edition) and any supplementary Preambles to the Model Preambles forming part of these Bills of Quantities</p> <p>No claim arising from brevity of description of items fully described in the said Model Preambles for Trades or Supplementary Preambles to Model Preambles will be granted</p>			
	<u>LANDSCAPING</u>			
	<u>Excavate in earth and dispose on site</u>			
1	Not exceeding 150mm deep to remove humps, form shallow ditches, etc	m2	6,515	
	<u>Ground preparation</u>			
2	Cultivation and preparation of areas to be planted	m2	6,515	
	<u>Import compost to landscape area</u>			
3	Compost to landscape area	m3	570	
4	Fertilizer to flowerbed areas	kg	900	
	<u>Flower beds</u>			
5	Ground covers at 8 per m2	m2	232	
	<u>Feature flower beds</u>			
6	Plugs	m2	4,000	
	Carried to Collection			R
	Section No. 3			
	External Works			
	Bill No. 8			
	Landscaping (Provisional)			

7	Ground covers (2L container)	No	3,000		
8	Small shrubs (3L container)	No	2,000		
9	Mid size shrubs (5L container)	No	1,000		
10	Large shrubs/ focal plants (10L container)	No	500		
	<u>Trees/ Hedges</u>				
11	Large trees at parking areas (100L container)	No	11		
12	Medium trees at building surrounds (50L container)	No	59		
13	Hedge planting at swimming pool (160L/M) (20L container)	No	370		
	<u>Grassing, ground covers, etc</u>				
14	Instant lawn	m2	3,040		
	<u>Maintenance</u>				
15	Allow for maintaining landscaping for a period of 3 months after practical completion, including watering, weeding, cutting, replacing dead plants, etc		Item		
Carried to Collection				R	
Section No. 3 External Works Bill No. 8 Landscaping (Provisional)					

Section No. 3

External Works

Bill No. 8

Landscaping (Provisional)

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External Works

Bill No. 8

Landscaping (Provisional)

Section No. 3
External Works
Bill No. 9
Outdoor Furniture (Provisional)

Section No. 3
External Works
Bill No. 10
Sports Field (Provisional)

<u>EARTH FILLING, ETC</u>							
<u>Selected G7 filling material supplied by the contractor and carted onto site, consolidated in 150mm thick layers and compacted to 95% Mod. AASHTO maximum density</u>							
3	Under floors, pavings, etc	m3	1,358				
<u>Selected topsoil obtained from prescribed stock piles on site, including spreading and levelling</u>							
4	Over landscape area	m3	453				
<u>Import compost to landscape area</u>							
5	Compost to landscape area	m3	905				
<u>Compaction of surfaces</u>							
6	Rip and scarify top of filled or excavated surfaces for a depth of 150mm, break down or remove oversize material, add suitable material where required and recompact to 93% Mod AASHTO density	m2	9,054				
<u>Additional soil tests to be carried out as directed by the Principal Agent</u>							
Note: Prices for soil tests must be included in the Contractor's rates for earthworks items							
7	Modified AASHTO Density tests	No	20				
<u>Grassing, ground covers, etc</u>							
8	Cynodon turf grassing	m2	3,018				
<u>Maintenance</u>							
9	Allow for maintaining sportfield for a period of 3 months after practical completion, including watering, weeding, cutting, replacing dead plants, etc		Item				
Carried to Collection						R	
Section No. 3 External Works Bill No. 10 Sports Field (Provisional)							

Section No. 3

External Works

Bill No. 10

Sports Field (Provisional)

SUMMARY

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External Works

Bill No. 10

Sports Field (Provisional)

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Section No. 8
Provisional Sums
Bill No. 1
Provisional Sums and Budgetary Allowances

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<u>FINAL SUMMARY</u>			
1	Preliminaries	29	
2	Building Works	151	
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4	Electrical, Solar and Generator Installation	207	
5	Electronic Installation	208	
6	Mechanical Installation	209	
7	Maritime Simulator Installation	210	
8	Provisional Sums	213	
	Sub-Total		R
	Allow 5% for contingencies to be used as directed and deducted in whole or in part if not required		R
	Add: Contract Price Adjustment Provision	Item	9,820,000.00
	Sub-Total		R
	Add: VAT @ 15%		R
Carried to Form of Offer and Acceptance			R

ELECTRICAL, SOLAR AND GENERATOR INSTALLATION

ELECTRICAL BILL10-Nov-21

	BILL NO. 1	Unit	Quantity	Supply and Install	TOTAL
1	SECTION 1 : DISTRIBUTION BOARDS				
	The Installation shall include the supply, install, connection, earthing and conduit terminations, cable terminations. New circuit breakers shall be supplied and shall be of the same supplier or brand, ABB/Legrand/Schneider to be preapproved by the engineer. Rates for distribution boards etc are to include for busbars, jumpers, earth bars, neutral bars, internal wiring and connections, circuit identification markers, control gear labels, circuit legend cards and working drawings				
	Substation Panel 1 Main Switch Section				
	New: 400V, 3PH+N+E, 50Hz, 30kA Panel				
	Refer to Ethewini Drawing DSS1T for details				
1,1	Complete 2mm mild steel epoxy powder coated IP54 panel complete with all Accessories. Panel to be installed in LV room in Substation Building Allow for terminate 185mm 1 C cable onto this panel. One neutral bar per phase per section plus common neutral bar, one earth bar per section Labelling to be included. Fault level 30kA. As per Main DB Drawing, providing two sections one for incomer and the other for outgoing feeders to load circuits. The incomer board to provide for transformer incomer, solar incomer, outgoing circuit to Diesel Generator ATS and the outgoing circuits to provide for Diesel Generator ATS incomer feeding 12 LV feeders. Circuit breakers list below.	Each	1		
1,2	800A 4P MCCB (36kA) D-Curve, Suitable to install in the new DB. One for Ethekeini supply and one for solar rooftop scheme. One incoming circuit from Diesel Generator ATS	Each	3		
1,3	250A 4P MCB with RCCD (30mA) D-Curve, Suitable to install in the new DB for Kitchen		1		
1,4	100A 4P MCB (16kA) D-Curve, Suitable to install in the new DB	Each	24		
1,5	63A 4P MCB with RCCD (30mA) D-Curve, Suitable to install in the new DB	Each	10		
1,6	63A 2P MCB with RCCD (30mA) D-Curve, Suitable to install in the new DB	Each	23		
1,7	63A 3P MCB with C-Curve (16kA), Suitable to install in the new DB	Each	9		
1,8	40A 3P MCB (6kA) C-Curve, Suitable to install in the new DB	Each	2		
1,9	20A 3P MCB (6kA) C-Curve. Suitable to install in the new DB	Each	15		
1,10	60A 3P ISOLATOR, Suitable to install at Kitchen & Laundry	Each	5		
1,11	40A 3P ISOLATOR, Suitable to install at the airconditioning, heat pumps, irrigation pumps outside DB (provided by others)	Each	21		
1,12	16A 4P MCB with RCCD (30mA) D-Curve, Suitable to install in the new DB	Each	4		
1,13	63A 1P MCB (6kA) C-Curve, Suitable to install in the new DB	Each	2		
1,14	20A 1P MCB (6kA) C-Curve, Suitable to install in the new DB	Each	510		
1,15	16A 1P MCB (15kA) C-Curve, Suitable to install in the new DB	Each	1		
1,16	32A 2P (30mA) RCCD, Suitable to install in the new DB	Each	3		
1,17	6A 1P MCB (6kA) C-Curve, Suitable to install in the new DB	Each	99		
1,18	Sub- DB Panel/enclosures as per the Single Line drawing and DB layout. Flush mounted, Din, 3Phase, 18Way. Separate 3phase and single phase sections. One neutral bar per phase per section plus common neutral bar, one earth bar per section. Circuit breakers provided above. ABB, Legrand or Schneider or alternative accepted by the Engineer	Each	17		

ELECTRICAL BILL**10-Nov-21**

	BILL NO. 1	Unit	Quantity	Supply and Install	TOTAL
1,19	Sub- DB Panel/enclosures as per the Single Line drawing and DB layout. Flush Mounted, 3Phase, incomer separate. One neutral bar per phase per section plus common neutral bar, one earth bar per section Circuit breakers provided above. ABB, Legrand or Schneider or alternative accepted by the Engineer	Each	11		
1,20	IP65 Sub- DB Panel for out door lights. ABB, Legrand or Schneider or CBI or alternative accepted by the Engineer	Each	3		
1,21	Blanking plates for MCBs as required.☐	Each	100		
1,22	Supply & Install warning label on DB cupboard door.☐	Each	30		
1,23	Padlocks and accessories for outdoor DB's	Each	3		
1,24	Labelling of all circuits☐	Each	750		
1,25	Surge Arrestors, 3Phase (3P&N) at each DB incomer. ABB, Legrand or Schneider or CBI or alternative accepted by the Engineer	Each	30		
1,26	Heavy Duty Cable trays to be installed in Ethekweni Substation	m	15		
1,27	Earth Bars to be installed in Ethekweni Substation as specified in Drawing DSS1T and separate earth busbar for LV room of same size.	Sum	1		
	SECTION 2: CONDUCTORS/CABLES ☐				
	Supply, deliver to site and store 1000/600 volt Cu / PVC / SWA/PVC cables. Laying in trenches, Install, rack, strap and testing of cables as per specification including clamps, ties and cable numbering system and shall include supply Install and testing of the IP54 glands with corrosion guard, making-off the cable, lugs, cable labels, gland plate, switchgear or appliance and final connection of cable tails into board or terminals. Rates to include for wastage. Contractor will only be reimbursed for installed cable measured on site between terminations. Cable bonding of all Earth Continuity Conductors from the incoming and outgoing cables will be properly crimped into cable lugs and bolted to their respective earth bars. Cables lengths are remeasurable. Cables to be installed directly in ground as per the requirements in per SANS10142 and as per Eskom Cable trench layout, DDT0854 SH5 and in sleeves at crossings, verandas				
2,1	185mm² 1C PVC Armoured Copper underground Cable	m	40		
2,2	185mm² 4C PVC Armoured Copper underground Cable	m	275		
2,3	35mm² 4C PVC Armoured Copper underground Cable	m	1275		
2,4	25mm² 4C PVC Armoured Copper underground Cable	m	550		
2,5	16mm² 4C PVC Armoured Copper underground Cable	m	55		
2,6	16mm² 4C PVC Armoured Copper underground Cable for Streetlight and outside lights	m	264		
2,7	4mm² 4C PVC Armoured Copper underground Cable for Streetlight and outside lights	m	156		
	SECTION 3: EXCAVATIONS				
	Allow for the following cable trenches as per the given categories as well as the covering of the trenches with suitable material as per SANS10142. All surfaces to be re-instated to condition prior to trenching. This allows for backfill to be imported if necessary				
3,1	Class A Trenching and laying of cable accordingly to specification and trench profile. Backfill to be as per SANS10142	m	570		
3,2	110mm Heavy Duty Sleeves for Road crossings, 6m lengths	Each	22		
3,3	110mm Corrugated Sleeves for Electronic services	m	346		
	SECTION 4: EARTHING AND LIGHTNING PROTECTION				
	Lightning and Earthing to fully comply with the SANS Codes of Practice SANS10142, SANS 10313 (2018) in conjunction with SANS 62305-1-2-3-4: 2011, as well as SANS 10199 (2016), SANS 1063 (2015) and SANS 62561: 1-7: 2012-2018. Risk assessment Report to be included. To be provided by specialist registered with ELPA				
4,1	Supply and install local Earth electrode and lightning protection at building per DB on ground floor, including earthing of the DB enclosure	Each	13		
4,2	Supply and install 12m long down conductor wire	Each	33		
4,3	Supply and install 8m long down conductor wire	Each	48		

ELECTRICAL BILL**10-Nov-21**

	BILL NO. 1	Unit	Quantity	Supply and Install	TOTAL
4,4	Supply and install 4m long down conductor wire	Each	2		
4,5	Supply and install roof ridge wire	m	78		
4,6	Air terminations	Each	8		
4,7	Soil Resistivity test, Risk Assessment and design Report by ELPA approved contractor	Each	1		
	SECTION 5 GENERATOR				
	Maximum 500kVA standby power at 230/400v @ 50Hz 1500rpm High quality and reliable six-cylinder 12.7l Scania/ Volvo turbodiesel engine, Silent canopy which can stand outside with lockable doors. Fuel tank to be built into the unit base to include enough of fuel for 1 day's operation. Automatic changeover (ATS) to include mains/solar/diesel generator inputs. Maintenance free batteries and trickle charger included. Four-way protection system included, H-specification insulation, brushless alternator with AVR provides stable output, digital controller with auto and manual start options, All sets must undergo a comprehensive testing/pre delivery inspection, prior to delivery and include one year/1000 hour warranty. Including first fuel fill, oil filters, fuel filters and all other consumables necessary for operation.				
5,1	500kVA standby diesel generator	Each	1		
5,2	3 year Maintenance period including labour and service parts.	Each	1		
	SECTION 6: ATTENDANCE, TESTING AND COMMISSIONING				
	NOTES: The Tenderer is advised to refer to the Preambles before pricing this Bill.				
6,1	CONSTRUCTION RECORD DRAWINGS				
	Allow for the marking up of prints of the entire Install for the production of construction drawing records. The Engineer shall produce the final drawings in CAD.	Item	1	R 2 000,00	R 2 000,00
6,2	ATTENDANCE				
	Provide attendance to Supply Authority Staff and other Contractors during Construction.	Sum			
6,3	SIGNS & LABELS				
	Supply and install all power, lighting and earthing signs. Labels as specified and in accordance with all OHS Act requirements as well as per Supply Authority requirements.	Sum	1		
6,4	TESTING & COMMISSIONING				
6.4.1	Test and commission the complete Install + Compliance Certificates, test results and quality documentation. To be issued per DB and per Block	Sum	32		
6.4.2	Post commissioning site visits	Sum			
6,5	OPERATION MANUALS	Sum			
	Supply as per project Specification (3 sets)	Sum			
6,6	36 MONTH MAINTENANCE				
	Supply of 36 month maintenance, after sales support and guarantee	Sum			
6,7	Training - to provide training to the Client Maintenance staff on the safe operation and maintenance of the equipment	Sum			
	TOTAL CARRIED TO SUMMARY				

ELECTRICAL BILL

10-Nov-21

	BILL NO. 2	Unit	Quantity	Supply and Install	TOTAL
	SECTION 7: LUMINAIRES				
	NOTES: The Tenderer is advised to refer to the Preambles before pricing this Bill.				
	Supply, deliver, accept and store the following luminaires, complete with lamps and control gear which are to be as specified or otherwise approved as specified in the schedule of light fittings. All surface mounted LED, fittings and downlighter to be supplied with 5A plugs and 3m cable. All luminaires shall be dimmable and have DALI ballasts with DALI cable connectors for easy disconnection of luminaires.				
	Erect, fix, connect and commission the following luminaires, including any galvanised additional supports and brackets which may be required. All interior lighting systems must have dimming capability (dimmable luminaires required).				
7,1	NORMAL LIGHTS				
7.1.1	RLS Luxon Prismatic panel 600x600 Dali dimable 36/40W, 4000K				
	Supply and Install	Each	805		
7.1.2	Luxon Round 9W, 4000K				
	Supply and Install- Toilet	Each	138		
7.1.3	Odin Round 16W, 4000K, with photocell				
	Supply and Install- Outside lights	Each	57		
7.1.4	RLS Sputnik 32w LED, with photocell				
	Supply and Install- Outside Garden	Each	12		
7.1.5	Street Light -Argo Post top Indirect lighting 54W Post top only LED, with photocell				
	Supply and Install- Outside	Each	11		
7.1.7	101/76MM 1 STEP GALVANISED STEEL POLE				
	Supply and Install- Outside	Each	11		
7.1.7	RLS Luxon Prismatic panel 600x1200 Dali dimable 50W Led panel, 4000K				
	Supply and Install- Dinning Hall	Each	28		
7.1.8	Holda Pro Suspended 1710mm 120 Degree Black 150W LED, 4000K				
	Supply and Install- HALL	Each	40		
7.1.9	Stage Lights				
	Supply and Install	Each	6		
7.1.10	EOS double light element - wall lights, with photocell				
	Supply and Install	Each	13		
7,2	EMERGENCY LIGHTS				
7.2.1	Indoor Emergency lights, 3W, 3 hour battery with exit route indicators				
	Supply and Install	Each	36		
7.2.2	Outdoor Emergency lights, 3W, 3 hour battery with exit route indicators. IP65				
	Supply and Install	Each	13		
7,3	SPORTS FIELD LIGHTS				
7.3.1	ISTRIA TRUNION, 100W 5000K				
7.3.2	Supply and Install on Pole	Each	44		
7.3.3	30m Sectionalised Galvanised Steel Pole	Each	4		
7.3.4	16mm ² 4C PVC Armoured Copper underground Cable for Lights. To be installed from Sports field DB	Each	264		
	Tauris Mega 5 Floodlight Trunion mounted RLS322 lens (27.5 degree) Black 409W LED 4000K 1050mA Non-dimmable				
7.3.4	Supply and Install	Each	4		
7,4	POOL LIGHTS				
7.4.1	ISTRIA TRUNION, 100W 5000K				
	Supply and Install onto adjacent building walls	Each	22		
7.4.2	16mm ² 4C PVC Armoured Copper underground Cable for Lights. TO be installed from Pool DB	Each	55		
8	SECTION 8: SWITCHES				
8,1	Supply and install - Single switch	Each	308		
8,2	Supply and Install - Double switch	Each	11		
8,3	Supply and install - Single switch, LED dimmable. Legrand or Schneider or preapproved equivalent	Each	42		

ELECTRICAL BILL**10-Nov-21**

	BILL NO. 2	Unit	Quantity	Supply and Install	TOTAL
8,4	Occupancy Sensor for Ceiling or corner				
	Supply and Install - Open plan area 15m range for boarding facility & Administrat	Each	20		
9	SECTION 9: APPLIANCES				
	SOCKET OUTLETS				
9,1	5 A three pin flush mounted un-switched socket outlet complete with PVC cover and metal and metal screws for extract fans, emergency exit signs and recessed light fitting. Legrand or pre-approved equivalent				
	Supply and Install	Each	113		
9,2	16 A. three pin normal switched double socket outlet for powerskirting including cover. OLD RSA Plus NEW RSA Combo. Legrand or preapproved equivalent				
	Supply and Install	Each	1539		
9,3	16 A. three pin normal switched socket outlet fans				
	Supply and Install	Each	249		
9,4	16 A. three pin normal switched socket outlet Water heaters				
	Supply and Install	Each	12		
9,5	16 A. three pin normal switched socket outlet hand dryers				
	Supply and Install	Each	40		
9,6	SINGLE USB, Legrand/Schneider				
	Supply and Install	Each	514		
9,7	SHUKO/ EURO PLUG, Legrand or Schneider				
	Supply and Install	Each	74		
9,8	Outdoor Old RSA Plug in enclosure mounted on building surface	Each	14		
9,9	Stove Isolators Legrand	Each	10		
9.10	Welding Plug for Mechanical Workshop	Each	5		
	SECTION 10: POWER SKIRTING				
	Supply, deliver and install 1 compartment powerskirting with covers, as detailed for laboratories, offices and wash up stores. CBI, Legrand or Schneider equivalent				
10,1	One Compartment Channel				
	Supply and Install	Each	385		
10,2	Cover Plate (Individual Compartment)				
	Supply and Install	Each	385		
	SECTION 11: CONDUIT, ACCESSORIES AND CONDUCTORS				
	NOTES: The tenderer is advised to refer to the Model Preambles before pricing this Bill				
11,1	CONDUIT AND ACCESSORIES AS SPECIFIED FOR SMALL POWER AND LIGHTING AND WIREWAYS FOR OTHERS.				
	Conduit placed in position for chasing in concrete or brickwork, and surface mounting in ceiling voids including bending, short lengths, drawboxes, couplings, bends, tees and saddles. 1mm galvanised draw wire shall be installed in wireways for other services.				
11.1.1	20 mm Diameter				
	Supply and install	m	3300		
11.1.2	20 mm Diameter for downwire to be installed inside the walls				
	Supply and install	m	789		

ELECTRICAL BILL**10-Nov-21**

	BILL NO. 2	Unit	Quantity	Supply and Install	TOTAL
11.1.3	110 mm Diameter (Light Duty)				
	Supply and install	m	495		
11.1.4	Box and Blank cover plate for 50 mm round box with metal screws.☐				
	Supply and install	Each	165		
11.1.5	Box and Blank cover plate for 50 x 100 mm box with metal screws.☐				
	Supply and install	Each	104		
11,2	CABLE TRAYS				
	Cable trays to be installed on each level and forms the backbone for the power and all network Cabling. Refer to drawing layout for details. Refer to Project technical specification for details on installation. Light Duty				
11.2.1	Power Ceiling Light Duty Cable Tray or Ladder Basket type open tray Power 150 mm				
	Supply and Install	m	3190		
11.2.2	P8000 or alternative for Lighting system. Complete with Plug socket				
	Supply and Install	m	1595		
	SECTION 12: CONDUCTORS/CABLES ☐				
	Supply, deliver to site and store 1000/600 volt Cu / PVC / SWA/PVC cables. Install, rack, strap and testing of cables as per specification including clamps, ties and cable numbering system and shall include supply Install and testing of the IP54 glands with corrosion guard, making-off the cable, gland plate, switchgear or appliance and final connection of cable tails into board or terminals. Rates to include for wastage. Contractor will only be reimbursed for installed cable measured on site between terminations. Cable bonding of all Earth Continuity Conductors from the incoming and outgoing cables will be properly crimped into cable lugs and bolted to their respective earth bars. Cables lengths are remeasurable. ☐				
12,1	1.5 mm ² 1C☐				
	Supply and install	m	50700		
12,2	1.5 mm ² 2C☐				
	Supply and install	m	2000		
12,3	2.5mm ² 2C☐				
	Supply and install	m	26950		
12,4	4mm ² 1C☐				
	Supply and install	m	1000		
12,5	Supply the following earth conductor☐				
12.5.1	2.5mm ² insulated☐				
	Supply and install	m	26950		
12.5.2	4mm ² insulated☐				
	Supply and install	m	110		
12.5.3	10 mm ² insulated☐				
	Supply and install	m	110		
12.5.4	70 mm ² insulated☐				
	Supply and install	m	330		

ELECTRICAL BILL10-Nov-21

	<u>BILL NO. 2</u>	Unit	Quantity	Supply and Install	TOTAL
	SECTION 13: BUILDING MANAGEMENT SYSTEM				
	Building Management System for Boarding Facility				
13,1	Legrand Netatmo Smart Switches complete with frame and cover plate	Each	231		
13,2	Legrand Netatmo Smart Master switch	Each	8		
	SECTION 14: ATTENDANCE, TESTING AND COMMISSIONING				
	NOTES: The Tenderer is advised to refer to the Model trade Preambles before pricing this Bill.				
14,1	CONSTRUCTION RECORD DRAWINGS				
	Allow for the marking up of prints of the entire Install for the production of construction drawing records. The Engineer shall produce the final drawings in CAD.	Sum	1		
14,2	ATTENDANCE				
	Provide attendance to Supply Authority Staff and other Contractors during Construction.	Sum			
14,3	SIGNS & LABELS				
	Supply and install all power, lighting and earthing signs. Labels as specified and in accordance with all OHS Act requirements as well as per Supply Authority requirements.	Each	38		
14,4	TESTING & COMMISSIONING				
	Test and commission the complete Install + Compliance Certificates, test results and quality documentation.	1	1		
	Post commissioning site visits	Sum			
14,5	OPERATION MANUALS				
	Supply as per project Specification (3 sets)	Sum			
14,6	36 MONTH MAINTENANCE				
	36 month maintenance, after sales support and guarantee	Sum			
	TOTAL CARRIED TO SUMMARY				

ELECTRICAL BILL10-Nov-21

	<u>BILL NO. 3</u>	No	Quantity	Supply and Install	TOTAL
	SECTION 15: SOLAR ROOFTOP SCHEME				
	NOTES: The Tenderer is advised to refer to the Preambles before pricing this Bill.☐				
	Supply, deliver, accept and store the following solar panels and associated equipment, which are to be as specified or otherwise approved. The rooftop solar system is to be sized to supply a minimum of 400A and maximum of 500A. Alternative designs to supply the required energy value will be considered. The rooftops to be utilised is only the boarding facilities. A model design must included in the tender.				
	Erect, fix, connect and commission the following solar panels and equipment, including any galvanised additional supports and brackets which may be required. All equipment to be rated for outdoor, coastal conditions.				
15,1	Solar Panels, Canadian Solar/Art Solar or preapproved				
	Supply and install, including craneage and rigging costs	Each	850		
15,2	Panel mounting system on Roof	Each	850		
	Supply and Install				
15,3	Inverters, ABB/Hauwei or preapproved. Capable of tying into the Grid and Diesel Generator				
	Supply and install	set	7		
15,4	Solar Cables - 4mm DC				
	Supply and install	m	8000		
15,5	Electrical connections & Switchgear, per scheme				
	Supply and install	set	5		
15,4	Earthing Cables - 16mm				
	Supply and install	m	400		
15,6	240mm ² 4C PVC Armoured Copper underground Cable from solar	m	500		
	Supply and install	set	1		
15,7	Metering				
	Supply and Install	set	1		
15,8	Construction management and monitoring				
	Supply and Install	set	1		
15,9	Design and solar modelling	Each	1		
	SECTION 16: ATTENDANCE, TESTING AND COMMISSIONING ☐				
	NOTES: The Tenderer is advised to refer to the Model trade Preambles before pricing this Bill.☐				
16,1	CONSTRUCTION RECORD DRAWINGS☐				
	Allow for the marking up of prints of the entire Install for the production of construction drawing records. The Engineer shall produce the final drawings in CAD.☐		1		
16,2	ATTENDANCE☐				
	Provide attendance to Supply Authority Staff and other Contractors during Construction.	Sum			
16,3	SIGNS & LABELS				
	Supply and install all power, lighting and earthing signs. Labels as specified and in accordance with all OHS Act requirements as well as per Supply Authority requirements.	Item	5		
16,4	TESTING & COMMISSIONING				
	Test and commission the complete Install + Compliance Certificates, test results and quality documentation.	Item	5		
	Post commissioning site visits ☐	Sum			
16,5	OPERATION MANUALS☐				
	Supply as per project Specification (3 sets)	Sum			
16,6	TRAINING				
	Supply as per project Specification (3 sets)	Sum			
16,7	36 MONTH MAINTENANCE				

ELECTRICAL BILL10-Nov-21

	<u>BILL NO. 3</u>	No	Quantity	Supply and Install	TOTAL
	36 month maintenance, after sales support and guarantee	Sum			
	<u>TOTAL CARRIED TO SUMMARY</u>				
	Note: All removed equipment is DOE Property till stated otherwise must be kept onsite.				

ELECTRICAL BILL SUMMARY	
DESCRIPTION	TOTAL
Bill 1	
Bill 2	
Bill3	
TOTAL CARRIED TO ELECTRICAL, SOLAR, GENERATOR INSTALLATION - BILL OF QUANTITIES (PAGE 211)	

ELECTRONIC INSTALLATION

MARITIME SCHOOL OF EXCELLENCE							
ELECTRONIC BILL							
No	Item Description	Part Number	Item	Quantity	Supply	Install	Total
	When pricing the BOQ it must be read complete with the design drawings and technical specification. It must be priced to include all scope of works in BOQ,design drawings and technical specification						
1	Smart Interactive Boards						
	24 standard class rooms allowed 65" smart boards .10 Labs/Multi-purpose room 86" smart boards allowed. Refer to technical specification for system details.Detail design,program,installation and layout to be done by contractor.						
	Huawei IdeaHub						
	65" Models						
1,1	HUAWEI IdeaHub S 65,HUAWEI IdeaHub(65-inch infrared screen,HD Camera,built-in microphone&speaker,cable assembly)	02313HLP	Each	13			
1,2	HUAWEI IdeaHub Pro 65,HUAWEI IdeaHub(65-inch infrared screen,HD Camera,built-in microphone&speaker,cable assembly)	02313HLN	Each	13			
	86" Models						
1,3	HUAWEI IdeaHub S 86,HUAWEI IdeaHub(86-inch infrared screen,HD Camera,built-in microphone&speaker,cable assembly)	02313HLS	Each	6			
1,4	HUAWEI IdeaHub Pro 86,HUAWEI IdeaHub(86-inch infrared screen,HD Camera,built-in microphone&speaker,cable assembly)	02313HLR	Each	6			
	Bracket / Stand						
1,7	HUAWEI IdeaHub 65 inch Rolling Stand	02312YNT	Each	13			
1,8	HUAWEI IdeaHub Wall Mount Bracket	02312YNU	Each	13			
1,9	HUAWEI IdeaHub 86 inch Rolling Stand	6060673	Each	12			
	Touch Pens						
1,10	HUAWEI IdeaHub Screen Touch Pen one box (including two pens)	02313FHE	Each	38			
1,11	Supply and install cat 6 cable LAN from server room to each smart board. Included wall box and patch lead to screen & Labour for each point. - incl cable	CAT 6A UV SHIELDED	Point	38			
	TOTAL CARRIED TO SUMMARY						
2	PA System and Bell System+Telephone						
	Complete PA system for all Classroom, Labs, Admin building ,Dorms and all back of house areas are covered.Refer to technical specification for system details. Detail design,program,installation and layout to be done by contractor.						
2,1	Remote Microphone with Active Alarm Button for VM-3000	RM-200M-AL	Each	1			
2,2	Voice Alarm System Amplifier 240W - 6 Zone	VM-3240VA CE D00	Each	1			
2,3	VM Extension Amplifier 240W	VM-3240E CE D00	Each	1			
2,4	1 Channel power amplifier @ 240W RMS per channel	VP-2241	Each	1			
2,5	Power amplifier input module (also for use with VM-3000)	VP-200VX	Each	1			
2,6	Emergency Power supply unit for Evac Systems (Supplies DC power to VX-2000 and VM-3000)	VX-2000DS ER D00	Each	1			
2,7	12 VOLT 65 A/H BATTERY (Special sealed battery certified for use with VA systems)	BATT1 (65 A/H)	Each	2			
2,8	Rack & Accessories	#RCK001	Each	1			
2,9	Firemans Microphone for VM-3000	RM-300MF	Each	1			
2,10	Ceiling speaker 5inch 6W, EN54	PC-1860EN F00	Each	89			
2,11	Wall Speaker Black - Certified BS and EN54-24 suitable for announcement and music.	BS-678BSB	Each	66			
2,12	10 W Reflex Horn Speaker (Complies with BS5839-8 requirements	SC-610MBS QS	Each	9			
2,13	Timer	TT-104B 301H	Each	1			
2,14	Speaker cable 1.5mm Square as per design	Spk-1.5	meter	3800			
2,15	Cat 6A - Network Cable	Cat 6A	meter	1500			
	Wireless-Telephone system						
2,16	Wireless Expandable Cordless phone system.1x main front end unit and 12x Handsets.x 2 sets	Vtect	Each	2			
	TOTAL CARRIED TO SUMMARY						

MARITIME SCHOOL OF EXCELLENCE							
ELECTRONIC BILL							
3	Intercom System						
	Complete Intercom system for all Classroom, Labs, Admin building.Refer to technical specfication for system details.Detail design,program,installation and layout to be done by contractor.						
3,1	IP Master Station	N-8600MS Y A00	Each	1			
3,2	4 Wire master station with handset	N-8410MS Y	Each	7			
3,3	4-wire Sub Station Interface Unit	N-8400RS CE	Each	3			
3,4	Indoor 4-wire substation for N-8400RS	RS-450	Each	44			
3,5	Back Box for RS-450,460,470,480 (indoor)	YC-822SA-G QS	Each	44			
3,6	Cat 6 - Network Cable	Cat 6A	Meter	2200			
3,7	LABOUR FOR RACK WORK	LABOUR RATE 1	Rate	18			
3,8	LABOUR FOR PROGRAMMING / SETUP/COMM	LABOUR RATE 2	Rate	9			
TOTAL CARRIED TO SUMMARY							
4	Hall Sound System+Projector system						
	Detail design and layout to be done by contractor.-Audio Recording, Audio Mixing desk and make allowance for snake cable.						
4,1	Unidirectional Microphone for Speech 10m phone plug cable	DM-1200	Each	1			
4,2	Desk Mic stand - 120mm - 175mm	ST-65	Each	1			
4,3	Wireless System - Handheld set (No amp interlink cable supplied) - 4 selectable frequencies and up	S4.04-HD-EB GD5	Each	2			
4,4	Microphone for Speech/Vocal 10m phone plug cable	DM-1300 A00	Each	1			
4,5	Microphone stand with boom	ST-301BSA QS	Each	2			
4,6	Xilica - Solaro QR1 DSP Frame	X-SOLARO QR1 QS	Each	1			
4,7	Xilica - Two-Channel Analog Audio Input Card	X-XC-SML QS	Each	2			
4,8	Xilica - Two-Channel Analog Audio Output Card	X-XC-SLO QS	Each	2			
4,9	Xilica - XWP Control 1.5" OLED Controller in Black	X-XWP-CTRL-US-BQS	Each	2			
4,10	Digital Amplifier 4 CH x 550w 20hz - 20khz	DA-550F CE301C00	Each	1			
4,11	2-Way Compact Speaker System Black Indoor Use 200W/600W	HX-5B EU	Each	2			
4,12	12" Black Sub-Woofer for use with HX-5 Series 600W	FB-120B EU	Each	1			
4,13	All Sundries and Accessories and cabling	Mis	Rate	15			
	Projector						
4,14	E Epson LSR Prj,WUXGA,16:10, 6000 lms,2.5M Cont, WLAN,VGA,HDMI	PROJECTOR	Each	1			
4,15	JK 173" 372.6 x 232.9 Electric Screen 16:10 aspect ratio	PROJECTOR	Each	1			
4,16	Vision TM-1200 Techmount Universal Brkt (1.1m pole	PROJECTOR	Each	1			
4,17	Vision Techmount 1200 Extension pole - 1 meter	PROJECTOR	Each	1			
4,18	Dtech 20m HDMI fibre cable,V1.4,4K@30Hz,YUV 422/420,EDID,CEC	PROJECTOR	Each	1			
4,19	VISION V3 VGA+3.5mm D module	PROJECTOR	Each	1			
4,20	VISION V3 1-Gang Surround	PROJECTOR	Each	1			
4,21	Blank Modules for round pull up sockets	PROJECTOR	Each	1			
4,22	VISION V3 HDMI module	PROJECTOR	Each	1			
TOTAL CARRIED TO SUMMARY							
5	IT Network - Data - coms						
	Complete Wi-fi and network points to all Classroom, Labs, Admin building.Refer to technical specification for system details.Detail design and layout to be done by contractor. -3 Main fibre feeds to be provide. All sever room compete supply of server and all accessories.□ -Data line – 200 mb line -Sip line -Back up line (Data) – different service provider-□Fibre cable links between server room – minimum 4 cores to allow for redundancy.-□Main backbone link from server room – Provide alternative route to core switch. Supply,install,program and layout of all server cabinets						
5,1	Supply and install cat 6 cable LAN from server room to each LAN point Inclued wall box and patch lead to device & Labour for each point.incl cable. Termination on field and server patch panel	CAT 6A UV SHIELDED	Point	192			
5,2	48 Port Gigabit PoE Managed Switch for each server room	Switch	Each	8			
5,3	12 Port SFP+ Router	Router	Each	8			
5,4	Wireless AP - Indoor	WIFI 5/6	Each	81			
5,5	Wireless AP - Outdoor	WIFI 5/6	Each	6			

MARITIME SCHOOL OF EXCELLENCE							
ELECTRONIC BILL							
5,6	24 port CAT6 shielded patch panel	Data	Each	16			
5,7	42U 1M Deep Cabinet and all accessories. Fans,shelves.	Data	Each	8			
5,7	Raised floor in each server room from cable routes	Data	Each	8			
5,8	8 Way C13 IEC Aluminium Rack Mount PDU-With surge protection	Data	Each	16			
5,9	6 Way Aluminium Rack Mount PDU- With surge protection	Data	Each	16			
5,10	Cat6 Flylead	Data	Each	192			
5,11	Fibre Patch Panel	Data	Each	8			
5,12	RJ45 Cat6 Shielded	Data	Each	55			
5,13	Cabinet Cage Nuts	Data	Each	216			
5,14	Direct Attached Copper 1m 10G SFP+	Data	Each	8			
5,15	Fibre Outdoor Uplink Cable LC-LC UPC 2Core	Data	Each	8			
5,16	Flylead LC-LC UPC SM 1M	Data	Each	8			
5,17	Fibre Midcoupler LC-LC UPC Duplex	Data	Each	8			
5,18	Single Mode 10G LC SFP+ (pair)	Data	Each	8			
5,19	300mm 19-inch Front Mount Tray	Data	Each	24			
5,20	2m Male - Female IEC Power Lead	Data	Each	22			
5,21	6KVA True Online Rackmount UPS – Power Backup + SNMP Card	Data	Each	4			
5,22	6KVA True Online Rackmount UPS – Power Backup + SNMP Card - For simulator Room	Data	Each	2			
5,23	6KVA True Online Rackmount UPS – Power Backup + SNMP Card - For computer Room	Data	Each	2			
5,24	6KVA True Online Rackmount UPS – Power Backup + SNMP Card - For doms Room	Data	Each	2			
5,25	Environment Monitoring Kit-In main server rooms	Data	Each	5			
5,26	4x4 Wall PVC wall boxes for all Data points - to be installed in wall	Data	Each	192			
5,27	4x4 RJ45 LAN point to be installed in 4x4 wall box	Data	Each	192			
5,28	Cat 6 fly patch lead - to each device from wall box	Data	Each	192			
5,29	20mm Conduit to install in ceiling/wall from cable tray to field point. Conduit must be installed in wall -no surface mounting	Data -meters	meter	3000			
5,30	Surface trunking - Legrand	Data- meters	meter	300			
TOTAL CARRIED TO SUMMARY							
6	CCTV Camera Network						
	Complete CCTV Network - Peri meter , Labs, Admin building.Refer to technical specification for system details.Detail design,program,installation and layout to be done by contractor.						
6,1	VIVOTEK Outdoor IK10 Bullet; 2MP; Remote Focus 2.8-12mm; 30M IR; WDR PRO	VIVOTEK IB9368-HT	Each	12			
6,2	Outdoor IK10 Dome; H.265 2MP; 2.8mm; 30M IR; WDR PRO; Lifetime Trend Micro.	VIVOTEK FD9360-H 2.8mm TM	Each	54			
6,3	Outdoor IK10 180 Degree; H.265 5MP; 15M IR; WDR PRO; Mic	VIVOTEK CC9381-HV	Each	6			
6,4	VIVOTEK License Plate Recognition Outdoor IK10 Bullet; 5MP; STOP and GO; 5M Max	VIVOTEK IB9387-LPR	Each	2			
6,5	VIVOTEK Outdoor IK10 Bullet; 5MP; 2.7.13.5mm Remote Focus; 50M IR; WDR PRO.	VIVOTEK IB9387-HT	Each	26			
6,6	Vivotek ND9541 32-Channel H.265 NVR	ND9541	Each	3			
6,7	RCT - POWER CORD (PC TO PLUG) - 3 Pin SA Plug to IEC C13	CB-POWER	Each	103			
6,8	VIVOTEK NVR Rack Mount Rails for ND9441; ND9541	AM-612	Each	3			
6,9	Cat 6A Shielded - Network Cable	Cat 6A	Meter	7150			
6,10	9M Sectionalised Galvanised steel pole. Powdercoated Black supplied with MCB and M24Bolt cage	Pole	Each	12			
TOTAL CARRIED TO SUMMARY							
7	Access Control						
	Access control to all Labs, Admin building.Refer to technical specification for system details.Detail design,program,installation and layout to be done by contractor.						
7,1	A10 Gate Motor	Access	Each	3			
7,2	Steel Rack	Access	Each	20			
7,3	Gate Motor Batteries	Access	Each	7			
7,4	Anit Theft Brackets	Access	Each	3			
7,5	G-Speak Ultra	Access	Each	4			

MARITIME SCHOOL OF EXCELLENCE							
ELECTRONIC BILL							
7,6	40m Saftey Beam	Access	Each	3			
7,7	Gate Loop	Access	Each	3			
7,8	7amp Battery	Access	Each	19			
7,9	Intercom Gooseneck	Access	Each	7			
7,10	Concrete Mix	Access	Each	10			
7,11	3amp Power Supply	Access	Each	12			
7,12	Empty Panel Box	Access	Each	15			
7,13	Sherlo Rx1 -150m	Access	Each	3			
7,14	Sherlo TX1	Access	Each	7			
7,15	RJ 45 Connector	Access	Each	33			
7,16	RJ 45 Boots	Access	Each	33			
7,17	cat5 Cable	Access	Meter	582			
7,18	Plug Top	Access	Each	3			
7,19	Cabtyre	Access	Each	1			
7,20	8 Core Cable	Access	Meter	400			
7,21	Rain Shield For G-speak	Access	Each	5			
7,22	No Touch Exit Button	Access	Each	15			
7,23	Door Closer	Access	Each	22			
7,24	Call Point	Access	Each	17			
7,25	Cisa Lock	Access	Each	1			
7,26	Maglock (LK118)	Access	Each	21			
7,27	Maglock Bracket	Access	Each	21			
7,28	0.5mm Rip Cord	Access	Meter	450			
7,29	0.2mm Rip Cord	Access	Meter	200			
7,30	Exit Button	Access	Each	4			
7,31	Nano Stations	Access	Each	2			
7,32	Nano Arm Bracket	Access	Each	2			
7,33	6.4amp Power Supply	Access	Each	3			
7,34	Glue	Access	Each	72			
7,35	16x25 Trunking	Access	Each	13			
7,36	C3-100 Door controller	Access	Each	14			
7,37	Cr10e usb	Access	Each	2			
7,38	kr601 Proximity Reader	Access	Each	25			
7,39	C3-200 Door Controller	Access	Each	7			
7,40	Mylar Cable 600m	Access	Meter	600			
7,41	24VAC Transformer	Access	Each	1			
7,42	Enclosure 4x2	Access	Each	18			
7,43	York Box	Access	Each	4			
7,44	Black Silicone	Access	Each	3			
7,45	Sundries	Access	Each	1			
	Entrance Boom Gate and Access Control						
7,46	GA84-10 Sector II DC Barrier 3m 316ss	Access-Boom	Each	2			
7,47	GA31-7 Loop Dectetor -Flux SA 1CH12/24 AC/DC	Access-Boom	Each	4			
7,48	CB64-Cable Silicon 1.5mm Red	Access-Boom	Each	2			
7,49	GA125-Traffic Light Kit	Access-Boom	Each	2			
7,50	GA125-1 Traffic Light Mounting Post	Access-Boom	Each	2			
7,51	Call Point	Access-Boom	Each	2			
7,52	Nano Stations	Access-Boom	Each	4			
7,53	Nano Station Bracket	Access-Boom	Each	4			
7,54	Albro 4 York Box	Access-Boom	Each	2			
7,55	Goose Necks	Access-Boom	Each	4			
7,56	C3-100 Door Controller ZKT 1	Access-Boom	Each	2			
7,57	Llk184-5 zkt Tag Reader	Access-Boom	Each	4			
7,58	ZKT Tag Reader Housing	Access-Boom	Each	4			
7,59	Rain Shield For G-Speak	Access-Boom	Each	4			
7,60	Saftey Beam	Access-Boom	Each	2			
7,61	Empty Panel Box	Access-Boom	Each	2			
7,62	Gel Batteries	Access-Boom	Each	2			
7,63	Sherlo RX	Access-Boom	Each	2			
7,64	Sherlo Remotes TX2	Access-Boom	Each	6			
7,65	Earth Spikes	Access-Boom	Each	2			
7,66	RJ 45 Boots	Access-Boom	Each	6			
7,67	RJ 45 Connectors	Access-Boom	Each	6			
7,68	Concreate mix	Access-Boom	Each	5			
7,69	60m 6Core Cable	Access-Boom	Meter	60			
7,70	Cat 5 Cable x60m	Access-Boom	Meter	60			
7,71	Cabtyre Cable x60m	Access-Boom	Meter	60			
7,72	Conduite x 60m	Access-Boom	Meter	60			
7,73	Joiners	Access-Boom	Each	20			
7,74	Saddles	Access-Boom	Each	16			
7,75	1 Way box	Access-Boom	Each	8			
7,76	Plug Top	Access-Boom	Each	2			
7,77	Black Silicoe	Access-Boom	Each	2			
	TOTAL CARRIED TO SUMMARY						

MARITIME SCHOOL OF EXCELLENCE							
ELECTRONIC BILL							
8	Intruder Alarm System						
	Intruder Alarm to all Labs, Admin building.Refer to technical specification for system details.Detail design,program,installation and layout to be done by contractor.						
8,1	Mag White	Alarm	Each	28			
8,2	Prosyst Plus enclosure	Alarm	Each	1			
8,3	Prosyst Plus Dialler & Ip (Kit)	Alarm	Each	1			
8,4	Power supply With Batteries	Alarm	Each	28			
8,5	Elegant Keypads	Alarm	Each	6			
8,6	RJ 45 Connector	Alarm	Each	20			
8,7	RJ 45 Boots	Alarm	Each	20			
8,8	Cat5	Alarm	Meter	500			
8,9	Lenghts 40*40Trunking	Alarm	Meter	200			
8,10	100m 4 Core cabtyre	Alarm	Meter	1500			
8,11	6 Core	Alarm	Meter	800			
8,12	Glue	Alarm	Each	204			
8,13	Output module	Alarm	Each	6			
8,14	8 Zone Exp	Alarm	Each	24			
8,15	Empty Panel Enclosure	Alarm	Each	24			
8,16	3 Core Cabtyre	Alarm	Meter	200			
8,17	Red Plug Top	Alarm	Each	26			
8,18	Armed Status	Alarm	Each	4			
8,19	Siren	Alarm	Each	7			
8,20	8 core	Alarm	Meter	1500			
8,21	12 Core	Alarm	Meter	250			
8,22	Emergency Call points Used as Panic Buttons	Alarm	Each	22			
8,23	Bware Dt PIR	Alarm	Each	36			
8,24	Smoke detector	Alarm	Each	1			
8,25	4 channel shelo RX	Alarm	Each	1			
8,26	1 Button Shelo Pendant Tx	Alarm	Each	6			
8,27	Lz 12 Relay	Alarm	Each	8			
8,28	Roller Shutter	Alarm	Each	1			
8,29	Heavy Duty Mag	Alarm	Each	1			
8,30	7am 12v battery	Alarm	Each	1			
8,31	Sundries	Alarm	Each	1			
TOTAL CARRIED TO SUMMARY							

Item No	Description	Total Ex Vat
1	Smart Interactive Boards	
2	PA System and Bell System+Telephone	
3	Intercom System	
4	Hall Sound System+Projector system	
5	IT Network - Data - coms	
6	CCTV Camera Network	
7	Access Control	
8	Intruder Alarm System	
	TOTAL CARRIED TO ELECTRONIC INSTALLATION - BILL OF QUANTITIES (PAGE 212)	

MECHANICAL INSTALLATION

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 1

AIR-CONDITIONING AND REFRIGERATION

- A This Bill needs to be read in conjunction with HVAC Layout for full project descriptions and supporting information.
Drawing Nos.: MSE-HVAC-GF-02; MSE-HVAC-F1-02; MSE-HVAC-F2-02
- B All products supplied for this installation must be SABS and/or appropriate EU/IEC Standard.
- C The installation of all supplied materials must be in accordance with the OEM requirements and the installer must be accredited by the OEM to conduct such installation.
- D Pricing of all these items must include for all transport, supply and labour.
- E Pricing of all these items must include for any building repair work that may be required as a result of the installation works.
- F All product and material specifications, and warranty (offering and conditions) to be provided in the Tender reply.
- G All Pricing to include for all copper tubing & trunking, housing, bracket connections, condensate drainage and electrical supply from socket point.
- H Condenser units to be positioned as per the layout drawing.
- I Product offering for AC units must be Carrier or equivalent.
- J All units to be single phase, 220V.
- K Corrosion protection must be suitable for the site proximity to the sea. It must include for appropriately galvanised / coated structural components and coils. Details must be provided.
- L The tender offer must include for a comprehensive 3 year service and maintenance plan. Details must be provided.
- M Cooling systems, materials, components and refrigerant type must comply with SANS 10147:2014

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	9 000 BTU - Invertor Type	No.	13		
	(Minimum COP = 3.4; R410a Gas)				
2	24 000 BTU - Invertor Type	No.	8		
	(Minimum COP = 3.4; R410a Gas)				
3	Combination Walk-in Cold Room and Freezer Room	No.	1		
	Cold Room Specifications				
	Volume = 14.2m ³				
	Maximum Thermal Conductivity = 0.022w/mk				
	Mechanical Cooling Capacity = 1.5kW				
	Minimum COP = 1.9				
	Freezer Room Specifications				
	Volume = 6.9m ³				
	Maximum Thermal Conductivity = 0.022w/mk				
	Mechanical Cooling Capacity = 2.5kW				
	Minimum COP = 1				
	TOTAL CARRIED TO SUMMARY				

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 2

MECHANICAL VENTILATION

- A This Bill needs to be read in conjunction with HVAC Layout for full project descriptions and supporting information.
Drawing Nos.: MSE-HVAC-GF-02; MSE-HVAC-F1-02; MSE-HVAC-F2-02
- B All products supplied for this installation must be SABS and/or appropriate EU/IEC Standard.
- C The installation of all supplied materials must be in accordance with the OEM requirements.
- D Pricing of all these items must include for all transport, supply and labour.
- E Pricing of all these items must include for any building repair work that may be required as a result of the installation works.
- F All product and material specifications, and warranty (offering and conditions) to be provided in the Tender reply.
- G All wall mounted fans to be single phase, 220V.
- H All wall mounted extraction fans to have back to back grills included.
- I Supply and extraction fans to be AMS or equivalent.
- J All pricing to be inclusive of Grills / Difusers & Covers.
- K Corrosion protection must be suitable for the site proximity to the sea. Details must be provided.
- L The tender offer must include for a comprehensive 3 year service and maintenance plan. Details must be provided.

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Fresh Air, Extraction Fans and Sound Attenuators				
	TDE-500 (1x932l/s-@200pa; 1x1134L/s-@200Pa)	No.	2		
	HIT-200 L (2x120L/s-@200Pa)	No.	2		
	HIT-200 H (3x204L/s-@150Pa)	No.	3		
	HIT-250B H (6x238L/s-@150Pa)	No.	6		
	HIT-315B L (6x275L/s-@125Pa)	No.	6		
	HV-150 AE (10x37L/s-@25Pa; 2x45L/s-@25Pa; 2x25L/s-@30Pa; 13x40L/s-@25Pa; 4x30L/s-@30Pa)	No.	31		
	HV-230 AE (24x95L/s-@30Pa; 2x70L/s-@40Pa)	No.	26		
	HV-300 AE (3x160L/s-@55Pa)	No.	3		
	S500 P1.5 (Sound Attenuator)	No.	4		
2	Stainless Steel Hoods and Assessories	Sum			
3	Ducting (Galvanised sheet metal)				
	150mm Diameter	m	90		
	250mmx250mm	m	85		
	200mmx200mm	m	8		
	300mmx150mm	m	9		
	400mmx400mm	m	8,5		
	450mmx400mm	m	9		
4	Flexible Ducting	Sum			
	TOTAL CARRIED TO SUMMARY				

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 4

HOT WATER

- A This Bill needs to be read in conjunction with Hot Water Layout for full project descriptions and supporting information.
Drawing Nos.: MSE-PW-AG-GF-02; MSE-PW-AG-F1-02; MSE-PW-AG-F2-02
- B All products supplied for this installation must be SABS and/or appropriate EU/IEC Standard.
- C The installation of all supplied materials must be in accordance with the OEM requirements.
- D Pricing of all these items must include for all transport, supply and labour.
- E Pricing of all these items must include for any building repair work that may be required as a result of the installation works.
- F All product and material specifications, and warranty (offering and conditions) to be provided in the Tender reply.
- G Heat Pump and Tank sets to be supplied complete. Product offering must be Sirac / Thermowise or equivalent.
- H All copper pipes to be chased into the building walls.
- I All pricing to include for 2m insulation on incoming cold water pipes and insulate all outgoing hot water pipes (including pipes chased into the walls). Product offering to be SANS 204 and XA compliant.
- J Pricing to include for necessary couplings between all pipes of similar and dissimilar materials, and between taps and valves.
- K All hot water reticulation connective fittings to be Compression Type (Cobra or equivalent).
- L Corrosion protection must be suitable for the site proximity to the sea. It must include for appropriately galvanised / coated structural components and coils. Details must be provided.
- M The tender offer must include for a comprehensive 3 year service and maintenance plan on the complete Heat Pump and Tank Installation. Details must be provided.

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Diameter 35mm CuCl ₂ Reticulation	m	81		
2	Diameter 28mm CuCl ₂ Reticulation	m	260		
3	Diameter 22mm CuCl ₂ Reticulation	m	350		
4	Diameter 15mm CuCl ₂ Reticulation	m	260		
5	Diameter 35mm Piping Insulation	m	81		
6	Diameter 28mm Piping Insulation	m	260		
7	Diameter 22mm Piping Insulation	m	350		
8	Diameter 15mm Piping Insulation	m	260		
9	Diameter 35mm Shut off valves	No.	4		
10	Diameter 28mm Shut off valves	No.	4		
11	Diameter 22mm Shut off valves	No.	16		
12	Diameter 15mm Shut off valves	No.	113		
13	Heat Pumps - 11,5 kW (Minimum COP = 4; R410a Gas)	No.	8		
14	Heat Pumps - 7,7 kW (Minimum COP = 4; R410a Gas)	No.	6		
15	Tanks (4500L)	No.	4		
16	Tanks (2500L)	No.	1		
17	Tanks (1000L)	No.	1		
18	KWIKOT Superline Geyser 50L	No.	10		
19	KWIKOT Superline Geyser 100L	No.	1		
20	Ducting (Heat Pumps)	Sum			
21	Compression Fittings	Sum			
	TOTAL CARRIED TO SUMMARY				

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 6

FIRE INSTALLATION (ABOVE GROUND)

- A This Bill needs to be read in conjunction with Fire Installation Layout for full project descriptions and supporting information.
Drawing Nos.: MSE-FI-AG-GF-02; MSE-FI-AG-F1-02; MSE-FI-AG-F2-02
- B All products supplied for this installation must be SABS and/or appropriate EU/IEC Standard.
- C The installation of all supplied materials must be in accordance with the OEM requirements.
- D Pricing of all these items must include for all transport, supply and labour.
- E Pricing of all these items must include for any building repair work that may be required as a result of the installation works.
- F All product and material specifications, and warranty (offering and conditions) to be provided in the Tender reply.
- G All pricing to include for bracket connections and hangers.
- H Pricing to include for necessary couplings between all pipes of similar and dissimilar materials, and between taps and valves.
- I Corrosion protection must be suitable for the site proximity to the sea. Details must be provided.
- J The tender must include for a 3 year service and maintenance plan.

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Fire Hose Reel Complete	No.	40		
2	Right Angle Fire Hydrant	No.	20		
3	4,5 kg DCP Fire Extinguisher	No.	108		
4	5 kg CO2 Fire Extinguisher	No.	12		
5	4,5 KG Merentee Backing Board	No.	108		
6	5 KG Merentee Backing Board	No.	12		
7	Diameter 100mm Mild Steel Medium Class	m	230		
8	Diameter 80mm Mild Steel Medium Class	m	20		
9	Diameter 32mm Mild Steel Medium Class	m	130		
10	Diameter 25mm Mild Steel Medium Class	m	60		
11	Twin Booster and Gauge	No.	1		
	TOTAL CARRIED TO SUMMARY				

SIGNAGE

- [illegible]

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 8

STORAGE TANK, POTABLE WATER & FIRE PUMP SETS

- A This Bill needs to be read in conjunction with Potable Water and Fire Installation Layouts for full project descriptions and supporting information.
Drawing No.: MSE-PL-01
- B All products supplied for this installation must be SABS and/or appropriate EU/IEC Standard.
- C The installation of all supplied materials must be in accordance with the OEM requirements.
- D Pricing of all these items must include for all transport, supply and labour.
- E Pricing of all these items must include for any building repair work that may be required as a result of the installation works.
- F All product and material specifications, and warranty (offering and conditions) to be provided in the Tender reply.
- G Corrosion protection must be suitable for the site proximity to the sea. Details must be provided.
- H The tender offer must include for a comprehensive 3 year service and maintenance plan on the Pump Sets and Control Panels. Details must be provided.

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Potable Pump Set (Duty and Standby)	No.	1		
2	Pump Control Panel	No.	1		
3	Fire Pump Set (Jockey and Primary)	No.	1		
4	Pump Control Panel	No.	1		
5	Abeco Tank	No.	1		
6	Diameter 35mm CuCl2	m	20		
7	Isolation valve, solenoid valve for level control, from ground supply to Abeco Tank.	Sum			
8	Compression Fittings (Diameter 35mm CuCl2)	Sum			
	TOTAL CARRIED TO SUMMARY				

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 10

FIRE DETECTION

- A This Bill needs to be read in conjunction with Fire Installation Layout for full project descriptions and supporting information.
Drawing Nos.: MSE-FI-AG-GF-02; MSE-FI-AG-F1-02; MSE-FI-AG-F2-02
- B All products supplied for this installation must be SABS and/or appropriate EU/IEC Standard.
- C The installation of all supplied materials must be in accordance with the OEM requirements.
- D Pricing of all these items must include for all transport, supply and labour.
- E Pricing of all these items must include for any building repair work that may be required as a result of the installation works.
- F All product and material specifications, and warranty (offering and conditions) to be provided in the Tender reply.
- G All Pricing to include for all tubing / trunking, housing, bracket connections / hangers and electrical supply to socket point.
- H Fire Suppression to be Stat-X Aerosol type or equivalent, inclusive of a control panel, battery back-up, optical smoke detectors, manual gas release, bell, beacon, signage, commissioning, testing and training.
- I The tender offer must include for a comprehensive 3 year service and maintenance plan on the Fire Installation and Systems. This must include for 25% of the Fire Detection System to be fully serviced and maintained every quarter, with a resultant 100% of the system over that year being serviced and maintained. Details must be provided.

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	AE-TC5202 2 Loop Addressable Control Panel c/w 2; Loop Card	No.	2		
2	AE-TC5404 4 Loop Addressable Control Panel c/w 4; Loop Card	No.	2		
3	AE-TC5101 1 Loop Addressable Control Panel c/w 1; Loop Card	No.	1		
	AE-TCP-009 Fault Tolerant Network Card	No.	5		
4	EL-B121 12 V DC 7.5AH Battery	No.	10		
5	AP-XP-O XP95 Optical Smoke Detector	No.	390		
6	AP-XP-H XP95 Fixed Temperature Heat Detector; Class A2/S (55°C)	No.	20		
7	AP-XP-B XP95 Mounting Base	No.	410		
8	AP-XPWDSO-SBR XP95 Open-Area Sounder Beacon Red (Sonos)	No.	77		
9	AP-XPWD-SBRWP XP95 Weatherproof Multi-Tone Open-Area; Sounder Beacon, Red	No.	50		
10	AP-DIS-MCP Discovery MCP with Isolator, Red (Surface)	No.	40		
11	KB-FLAP MCP Transparent Hinged Protective Flap	No.	40		
12	Fire Retardant braided screened 1,5mm stranded PH 30 red cable incl. terminations	m	8000		
13	Maglock for Fire Doors	No.	51		
14	Input / Output Relays (Low Voltage)	No.	42		

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

BILL NO. 10

FIRE DETECTION

NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
15	Gas Suppression				
	Server room (32m ³)	No.	2		
	Simulator 1 (20m ³)	No.	1		
	Simulator 2 (20m ³)	No.	1		
	Simulator 3 (20m ³)	No.	1		
	Simulation room (135m ³)	No.	1		
	Records (23m ³)	No.	1		
	TOTAL CARRIED TO SUMMARY				

MARITIME SCHOOL OF EXCELLENCE - BILL OF QUANTITIES

MECHANICAL BILL SUMMARY

BILL NO.	DESCRIPTION	TOTAL
BILL 1	AIR-CONDITIONING	
BILL 2	MECHANICAL VENTILATION	
BILL 3	POTABLE WATER (ABOVE GROUND)	
BILL 4	HOT WATER	
BILL 5	SEWAGE (ABOVE GROUND)	
BILL 6	FIRE INSTALLATION (ABOVE GROUND)	
BILL 7	SIGNAGE	
BILL 8	STORAGE TANK, POTABLE & FIRE PUMP SETS	
BILL 9	RAINWATER HARVESTING	
BILL 10	FIRE DETECTION	
	TOTAL CARRIED TO MECHANICAL INSTALLATION - BILL OF QUANTITIES (PAGE 213)	

MARITIME SIMULATOR INSTALLATION

Project: Maritime School of Excellence							
Project No.: RFP 277/2019							
Title: Cost estimate for simulator equipment and other equipment for Maritime Simulator Room							
Element:							
ITEM	REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	COMMENTS
		BILL NO. 1					
		<u>Maritime Simulator Room</u>					
	1	Simulators (1, 2, 3 and OCC)					
	1,1	Bridge Servers	sum	3			CPU: I7 7700 or better, 3,2GHz freq. (this is not in turbo mode) =>8Mb L2 cache; RAM: Minimum 8 GB (16GB recommended); GPU: Nvidia based, GT1050 or better; OS: Windows 10 pro or Windows 10 LTSC; HDD: Minimum 250GB (SSD recommended to improve loading time) LAN: 1 x 1Gige with WOL support (2 x 1GigE recommended)
	1,2	Instrument PC's	sum	8			CPU: I7 7700 or better, 3,2GHz freq. (this is not in turbo mode) =>8Mb L2 cache; RAM: Minimum 8 GB (16GB recommended); GPU: Nvidia based, GT1050 or better; OS: Windows 10 pro or Windows 10 LTSC; HDD: Minimum 250GB (SSD recommended to improve loading time) LAN: 1 x 1Gige with WOL support (2 x 1GigE recommended)
	1,3	Visual PC's	sum	4			CPU: I7 7700 or better, 3,2GHz freq. (this is not in turbo mode) =>8Mb L2 cache; RAM: Minimum 8 GB; GPU: Nvidia based, GTX1660 or better; OS: Windows 10 pro or Windows 10 LTSC; HDD: Minimum 500GB (SSD recommended to improve loading time) LAN: 1 x 1Gige with WOL support (2 x 1GigE recommended)
	1,4	24" monitors	sum	10			1080p resolution
	1,5	55" monitors	sum	4			1080p resolution
	1,6	Speaker sets	sum	3			
	1,7	Keyboard and Mouse	sum	7			
	1,8	Gaming Joystick	sum	1			
	1,9	DVI Extenders	sum	14			
	1,10	USB Extenders	sum	10			
	1,11	Cabling for monitors and LAN (provisional amount)	sum	28			
	1,12	Desks (chartwork)	sum	7			Minimum: 160cm (L) x 80cm (W) x 76cm (H) trapezoidal
	1,13	Chairs (office)	sum	10			
SUB-TOTAL CARRIED FORWARD TO SUMMARY:			Rounded				

Project: KZN Maritime School of Excellence							
Project No.: RFP 277/2019							
Title: Cost estimate for simulator equipment and other equipment for Maritime Simulator Room							
Element:							
ITEM	REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	COMMENTS
		BILL NO. 2					
		<u>Maritime Simulator Room</u>					
	2	Simulator Server Room (CBT and Simulator)					
	2,1	Main servers	sum	2			CPU: Xeon E-2236 or similar; Managed GigE switch; RAM: Minimum 8 GB (16GB recommended); HDD0: Minimum 500GB for OS and tools; HDD1: Minimum 2TB for exercises and replays LAN: 2 x 1Gige with WOL support; OS: Microsoft Server 2019; Managed GigE switch.
	2,2	24" monitors	sum	2			1080p resolution
	2,3	Keyboard and Mouse	sum	2			
	2,4	Cabling for monitors and LAN (provisional amount)	sum	4			
	2,5	Cabinet/Rack for PC's	sum	2			
	2,6	Large Desk	sum	4			Including Chartroom and publications storage area
	2,6	Office chairs	sum	4			Including Chartroom and publications storage area
	2,7	Chart storage draw unit	sum	2			
	2,8	Publications storage unit/cabinet	sum	2			
SUB-TOTAL CARRIED FORWARD TO SUMMARY:			Rounded				

Project: Maritime School of Excellence Project No.: RFP 277/2019 Title: Cost estimate for simulator equipment and other equipment for Maritime Simulator Room Element:							
ITEM	REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	COMMENTS
		BILL NO. 3					
		<u>Maritime Simulator Room</u>					
	3	CBT Training					
	3,1	CBT PC's	sum	9			CPU: I7 7700 or better, 3,2GHz freq. (this is not in turbo mode) =>8Mb L2 cache; RAM: Minimum 8 GB (16GB recommended); GPU: Nvidia based, GT1050 or better; OS: Windows 10 pro or Windows 10 LTSC; HDD: Minimum 250GB (SSD recommended to improve loading time) LAN: 1 x 1Gige with WOL support (2 x 1GigE recommended)
	3,2	24" monitors	sum	9			
	3,3	Speaker sets	sum	9			
	3,4	Keyboard and Mouse	sum	9			
	3,5	Cabling for monitors and LAN (provisional amount)	sum	18			
	3,6	Media projector	sum	1			UHD Projector
	3,7	CBT Desks	sum	9			
	3,8	CBT office chairs	sum	9			
	3,9	Chartwork Desks	sum	12			160cm (L) x 80cm (W) x 76cm (H) trapezoidal
	3,10	Classroom chairs	sum	12			
SUB-TOTAL CARRIED FORWARD TO SUMMARY:			Rounded				

Project: Maritime School of Excellence							
Project No.: RFP 277/2019							
Title: Cost estimate for simulator equipment and other equipment for Maritime Simulator Room							
Element: Simulation Software Provision							
<div></div> Accredited suppliers - note this will not be a local company.							
ITEM	REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	COMMENTS
		BILL NO. 4 <u>Maritime Simulator Room</u>					
	4	Simulators (1, 2, 3 and OCC)					
	4,1	Simulator software and licensing	sum	3			Licenses for 3 pcs. 40° desk-top simulator with LCD equipped visual theatre. Software for simulator for conventional ships. Includes Optional - Commercial handle box (telegraph, steering, thrusters). Software for Instruments (chart display). VHF /DSC. 12 pcs: Bathymetric and topographic databases; 10 pcs: Own ships from ship model Library of existing own ship models; 50 pcs: Traffic ships. Library of existing Traffic ship models. License for 1 pc. Operators control centre including Software, VHF communication and Replay functionality. Project management; Software installation; FAT/SAT remotely; Shipment; Installation and manuals. (Euro 197 000, 03052021). One year of support (warranty period) and maintenance.
	4,2	CBT software and licensing (Budget allowance)	sum	10			Licenses for 9 pcs. Software for CBT training. License for 1 pc. Operators control centre including Software. Installation and manuals.
SUB-TOTAL CARRIED FORWARD TO SUMMARY:			Rounded				

MARITIME BILL SUMMARY	
DESCRIPTION	TOTAL
Bill 1	
Bill 2	
Bill 3	
Bill 4	
TOTAL CARRIED TO ELECTRICAL, SOLAR, GENERATOR INSTALLATION - BILL OF QUANTITIES (PAGE 214)	