

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 1</u>			
	<u>BILL NO. 1</u>			
	<u>PRELIMINARIES</u>			
	The JBCC General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the JBCC Principal Building Agreement (Edition 6.2 - May 2018) shall be deemed to be incorporated in these bills of quantities Contractors are referred to the above mentioned documents for the full intent and meaning of each clause thereof These clauses are hereinafter referred to by clause number and heading only. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the above mentioned documents			
	<u>PREAMBLES FOR TRADES</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>PRICING OF PRELIMINARIES</u>			
	The contractor is required to submit a detailed breakdown, calculation and cash flow over the anticipated contract period for preliminaries with tender submission. This cash flow of preliminaries will not only be used for tender adjudication purposes on this specific project but will also serve as the basis for monthly valuation purposes (value of preliminaries included in the certificate)			
	Carried Forward		R	
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		R
<u>Measurement of works</u>		
Please note that all measurements according to Standard System of Measurement Building Work (Quantity Surveyors Addition)		
<u>SECTION A - PRINCIPAL BUILDING AGREEMENT</u>		
1	Clause 1.0 - Definitions and interpretation F:.....V:.....T:.....	Item
2	Clause 2.0 - Law, Regulations and notices F:.....V:.....T:.....	Item
3	Clause 3.0 - Offer and acceptance F:.....V:.....T:.....	Item
4	Clause 4.0 - Cession and assignment F:.....V:.....T:.....	Item
5	Clause 5.0 - Documents F:.....V:.....T:.....	Item
6	Clause 6.0 - Employer's Agents F:.....V:.....T:.....	Item
7	Clause 7.0 - Design Responsibility 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 - insurances F:.....V:.....T:.....	Item
11	Clause 11.0 - Securities F:.....V:.....T:.....	Item
12	Clause 12.0 - Obligations of the parties Clause 21.1 to be amended to read as follows: "The Employer will not issue a payment guarantee" F:.....V:.....T:.....	Item
13	Clause 13.0 - Setting out F:.....V:.....T:.....	Item
Carried Forward		R
Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

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	Brought Forward		R
14	Clause 14.0 - Nominated Subcontractors F:..... V:..... T:.....	Item	
15	Clause 15.0 - Selected Subcontractors F:..... V:..... T:	Item	
16	Clause 16.0 - Direct Contractors F:..... V:..... T:.....	Item	
17	Clause 17.0 - Contract instructions F:..... V:..... T:.....	Item	
18	Clause 18.0 - Interim Completion F:..... V:..... T:.....	Item	
19	Clause 19.0 - Practical Completion F:..... V:..... T:.....	Item	
20	Clause 20.0 - Completion in sections F:..... V:..... T:.....	Item	
21	Clause 21.0 - Defects liability period and final completion . F:..... V:..... T:.....	Item	
22	Clause 22.0 - Latent defects liability period F:..... V:..... T:.....	Item	
23	Clause 23.0 - Revision of the date for practical completion F:..... V:..... T:.....	Item	
24	Clause 24.0 - Penalty for late or non completion F:..... V:..... T:.....	Item	
25	Clause 25.0 - Payment clause 25.10 to be amended to read as follows:"The employer shall pay the contractor the amount certified in an issued payment certificate within thirty one (31) calendar days of the date of issue of the payment certificate F:..... V:..... T:.....	Item	
26	Clause 26.0 - Adjustment of the contract value and final account F:..... V:..... T:.....	Item	
27	Clause 27.0 - Recovery of expense and/or loss F:..... V:..... T:.....	Item	
28	Clause 28.0 - Suspension and termination F:..... V:..... T:.....	Item	
	Carried Forward		R
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
29	Clause 29.0 - Termination F:.....V:.....T:.....	Item
30	Clause 30.0 - Dispute resolution F:.....V:.....T:.....	Item
<u>SECTION B - PRELIMINARIES</u>		
<u>Definitions and interpretation</u>		
31	Clause 1.0 - Definitions and interpretation F:.....V:.....T:.....	Item
<u>Documents</u>		
32	Clause 2.1 - Checking of documents F:.....V:.....T:.....	Item
33	Clause 2.2 - Provisional bills of quantities These bills of quantities are provisional and will be re-measured in its entirety F:.....V:.....T:.....	Item
34	Clause 2.3 - Availability of construction information F:.....V:.....T:.....	Item
35	Clause 2.4 - Ordering of materials and goods F:.....V:.....T:.....	Item
<u>Previous work and adjoining properties</u>		
36	Clause 3.1 - Previous work - dimensional accuracy F:.....V:.....T:.....	Item
37	Clause 3.2 - Previous work - defects F:.....V:.....T:.....	Item
38	Clause 3.3 - Inspection of adjoining properties F:.....V:.....T:.....	Item
<u>The site</u>		
39	Clause 4.1 - Handover of site in stages F:.....V:.....T:.....	Item
40	Clause 4.2 - Enclosure of the works F:.....V:.....T:.....	Item
41	Clause 4.3 - Geotechnical and other investigation F:.....V:.....T:.....	Item

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Carried Forward

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Section No. 1
PRELIMINARIES
Bill No. 1
PRELIMINARIES AND GENERAL

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
42	Clause 4.4 - Encroachments F:.....V:.....T:.....	Item
43	Clause 4.5 - existing premises occupied F:.....V:.....T:.....	Item
44	Clause 4.6 - Services - known F:.....V:.....T:.....	Item
<u>Management of contract</u>		
45	Clause 5.1 - Deposits and fees F:.....V:.....T:.....	Item
46	Clause 5.2 - Progress meetings F:.....V:.....T:.....	Item
47	Clause 5.3 - Technical meetings F:.....V:.....T:.....	Item
<u>Samples, shop drawings etc</u>		
48	Clause 6.1 - Samples of materials F:.....V:.....T:.....	Item
49	Clause 6.2 - Workmanship samples F:.....V:.....T:..... .	Item
50	Clause 6.3 - Shop drawings F:.....V:.....T:.....	Item
51	Clause 6.4 - Compliance with manufacturer's instructions F:.....V:.....T:.....	Item
<u>Deposits and fees</u>		
52	Clause 7.1 - Deposits and fees F:.....V:.....T:.....	Item
<u>Temporary services</u>		
	Clause 8.1 - Water	

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Carried Forward

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
53	WATER - The contractor to provide all necessary labour and material to make suitable connections to the existing site water reticulation system to satisfy his requirements for the execution of the works. Meters are to be installed by the contractor and the cost of consumption will be for the contractor's account.F:.....V:.....T:..... Clause 8.2 - Electricity	Item	
54	ELECTRICITY - The contractor to provide all necessary labour and material to make suitable connections to the existing site electricity reticulation system to satisfy his requirements for the execution of the works. Meters are to be installed by the contractor and the cost of consumption will be for the contractor's account.F:.....V:.....T:..... Clause 8.3 -Ablution and welfare facilities	Item	
55	ABLUTIONS - The contractor to provide ablution facilities.F:.....V:.....T:..... Clause 8.4 - Communication facilities	Item	
56	The contractor to provide communication facilities.F:.....V:.....T:..... <u>Prime Cost amounts</u>	Item	
57	Clause 9.1 - Responsibility for prime cost amounts F:.....V:.....T:..... <u>Attendance on subcontractors</u>	Item	
58	Clause 10.1 - General attendance F:.....V:.....T:.....	Item	
59	Clause 10.2 - Special Attendance F:.....V:.....T:.....	Item	
	<u>General</u>		
60	Clause 11.1 - Protection of the works F:.....V:.....T:.....	Item	
	Carried Forward		R
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward	
61	Clause 11.2 - Protection/isolation of existing works and works occupied in sections F:.....V:.....T:.....	Item
62	Clause 11.3 - Security of the works F:.....V:.....T:.....	Item
63	Clause 11.4 - Notice before covering F:.....V:.....T:.....	Item
64	Clause 11.5 - Disturbance F:.....V:.....T:.....	Item
65	Clause 11.6 - Environmental disturbance F:.....V:.....T:.....	Item
66	Clause 11.7 - Works cleaning and clearing F:.....V:.....T:.....	Item
67	Clause 11.8 - Vermin F:.....V:.....T:.....	Item
68	Clause 11.9 - Overhand work F:.....V:.....T:.....	Item
69	Clause 11.10 - Tenant installations by direct contractors F:.....V:.....T:.....	Item
70	Clause 11.11 - Advertising F:.....V:.....T:.....	Item

SECTION C - SPECIFIC PRELIMINARIES

Temporary storage facilities

Section No. 1
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Carried Forward

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Brought Forward		
71	The contractor has to allow for sufficient storage facilities of at least One Office(6x3), board room(6x3) and two storage facilities (6x3)x4 for the full duration of the contract period. The facilities should be lockable and watertight with the necessary security features (inter alia security gates, burglar proofing, etc). A minimum of at least two storage containers(board room & office) is to be fitted with an HVAC to ensure a consistent temperature is maintained within the storage unit. Temporary containers will be accepted. A dedicated area will be earmarked and pointed out to the contractor after site handover. The area should be level, fenced off with sufficient and acceptable security fencing at least 2.1m high, with one double gate at least 4m wide and acceptable surfacing around the storage facility for large trucks and heavy vehicles to drive and turn. Storm water management within this dedicated area should be of such a nature to avoid muddy areas, ponding or storm water flooding the storage area. Temporary external security lights will be required.	Item
72	The contractor shall erect a MAIN NOTICE BOARD size 3m x 3m high containing the full description of the project, name of the client, name of the contractor and details of the professional team to the satisfaction of the Principal Agent	Item
C1.0 CONTRACT DRAWINGS		
73	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 Fixed: _____ Value related:_____ Time related:_____	Item
C2.0 GENERAL PREAMBLES		
74	Fixed: _____ Value related:_____ Time related:_____	Item
C3.0 TRADE NAMES		
Carried Forward		
Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		R
75	Wherever a trade name for any product has been described in the bills of quantities / lump sum document, the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders. If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for. Fixed: _____ Value related: _____ Time related: _____	Item
C4 ACCESS TO CONDOMS		
76	Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis. Fixed: _____ Value related: _____ Time related: _____	Item
C5.0 OCCUPATIONAL HEALTH AND SAFETY ACT		
77	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 / lump sum document. The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment. Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained. Fixed: _____ Value related: _____ Time related: _____	Item
C5.1 NOTIFICATION OF CONSTRUCTION WORK (Construction Regulation 3)		
Carried Forward		R
Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

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Brought Forward		R
78	The Contractor shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 3. The Contractor shall submit the notification in writing, on the appropriate form, prior to commencement of work Fixed: _____ Value related: _____ Time related: _____ C5.2 HEALTH AND SAFETY PLAN (Construction Regulation 5.4)	Item
79	The Contractor shall provide and demonstrate to the Principal Agent a suitable and sufficiently documented health and safety plan based on the Act, Construction Regulations and the health and safety specification, which shall be applied from the date of commencement of and for the duration of the construction work. The Contractor shall ensure that a copy of the health and safety plan is available on request to an employee, inspector, sub contractor or principal agent all in terms of Regulation 5 Fixed: _____ Value related: _____ Time related: _____ C5.3 REGISTRATION WITH THE COMPENSATION FUND (Construction Regulation 5.3 f)	Item
80	The Contractor shall provide proof of his registration and good standing with the Compensation Fund or a licensed compensation insurer prior to the commencement of work Fixed: _____ Value related: _____ Time related: _____ C5.4 HEALTH AND SAFETY FILE (Construction Regulation 5.7)	Item
81	The Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the health and safety specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Principal Agent or Inspector upon request. Upon completion of the works, the Contractor shall hand over a consolidated health and safety file to the principal agent Fixed: _____ Value related: _____ Time related: _____ C5.5 SUPERVISION OF CONSTRUCTION WORK (SAFETY OFFICER) (Construction Regulation 6)	Item
Carried Forward		R
Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

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	Brought Forward		R
82	The Contractor shall appoint a full-time competent employee in writing as the construction supervisor, with the duty of supervising the construction work. The Contractor shall appoint a full-time or part-time construction safety officer in writing to assist in the control of all safety related aspects on the site. Such appointments are required to ensure that at all times the requirements of the Act and Construction Regulations are adhered to. Refer to Regulation 6 Fixed: _____ Value related: _____ Time related: _____	Item	
	C5.6 RISK ASSESSMENT AND SAFETY POLICY (Construction Regulation 7)		
83	Before commencing work the Contractor shall prepare a risk assessment report to be performed by a competent person appointed in writing and the risk assessment shall form part of the health and safety plan. A copy of the risk assessment shall be available on site at all times for inspection. The Contractor shall at all time carry out the works in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. He shall take all precautions regarding training of employees in any hazards and the related work procedures, health and safety induction training of employees, visitors or any other persons entering the site and provide personal protective equipment to all employees and visitors to site which are necessary and adequate to eliminate any conditions which contribute to the risk of injury to persons or damage to property in terms of Regulation 7 Fixed: _____ Value related: _____ Time related: _____	Item	
	C5.7 SIGNIFICANT HAZARDS IDENTIFICATION RISK ASSESSMENT PREPARED BY THE DESIGN CONSULTANTS		
84	The contractor shall allow for additional financial provision, if any, to take the necessary precautions regarding the significant hazards and risks identified and assessed by the design consultants Fixed: _____ Value related: _____ Time related: _____	Item	
	C5.8 ADDITIONAL FINANCIAL PROVISION		
	Carried Forward		R
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
85	The Contractor shall allow for additional financial provision, if any, to comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993) and the Construction Regulations issued there under which have not been specifically elsewhere provided Fixed:_____ Value related:_____ Time related:_____ C5.9 FALL PROTECTION PLAN (Construction Regulation 8)	Item	
86	The contractor shall, before commencing any construction work submit a fall protection plan identified all steps to be taken in order to ensure the continued adherence to the fall protection plan and shall include a risk assessment of all work carried out from an relevant position. The fall protection plan shall form part of the health and safety plan and file Fixed:_____ Value related:_____ Time related:_____ C5.10 PHYSICAL AND PSYCHOLOGICAL FITNESS (Construction Regulation 8.2(b))	Item	
87	The contractor and sub-contractors shall before commencing any construction work submit proof of his employees that shall carried out work from an elevated position their physical and psychological fitness. And shall be recorded in the health and safety file Fixed:_____ Value related:_____ Time related:_____ C5.11 CONSTRUCTION VEHICLES AND MOBILE PLANT (Construction Regulation 21)	Item	
88	The contractor and sub-contractors shall ensure that all operated workers received training and been certified competent to operate such vehicle, and are physical and psychological fit to operate such construction vehicles and mobile plants. And shall be recorded in the health and safety file Fixed:_____ Value related:_____ Time related:_____ C5.12 TRAINING (Construction Regulation 8 (c))	Item	
89	The contractor and sub-contractors shall, before commencing any construction work, submit his training program of all his employees. This program shall from part of the health and safety plan Fixed:_____ Value related:_____ Time related:_____	Item	
	Carried Forward		R
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
	C5.13 DEMOLITION WORK (Construction Regulation 12)		
90	The contractor shall, before any demolition work shall carried out, submit all method of demolition to be used. This method shall form part of the health and safety plan and file. Fixed: _____ Value related: _____ Time related: _____	Item	
91	C5.14 OHS COMPLIANCE FOR COVID 19 REQUIREMENTS	Item	
	<u>OHS Act and construction Regulations (2014)</u>		
92	Review of OHS Plan for each assignment. Rate to Include for risk assessment specific to the COVID-19 Epidemic and other adjustment to ensure compliance for the assignment	Item	
93	Principal Contractor's Fixed Cost obligation in respect of the OHS Act and Constuction Regulations Signage-COVID - 19 Related	Item	
	<u>Provision of Personal protective equipment and protective clothing</u>		
94	Including but not restricted to Reflective Vests	No	250
95	Including but not restricted to Reflective Bibs	No	250
96	Including but not restricted to Hard Hats	No	250
97	Including but not restricted to Protective footwear	No	250
98	Including but not restricted to Earplugs	No	250
99	Including but not restricted to Dust Masks	No	250
100	Face Mask for Covid - 19 (respiratory protection (as required)	No	250
101	Surgical Gloves (for security and cleaning team)	No	250
102	Safety Goggles for Screening Person	No	250
103	Provision of full time construction Health & Safety Officer	Item	
	Carried Forward		R
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
	<u>Costs of medical certificate and medical surveillance</u>		
104	Initial (Baseline) medical examinations Screening for Employees with COVID-19 Symptoms	No	1,00
105	Exit examinations	No	1,00
106	Re-Induction Training for COVID-19		Item
107	Provision of First Aid Boxes		Item
108	Non contact thermometers	No	1
	<u>Fixed Charge items</u>		
109	Contractual requirements		Item
110	Facilities for Contractor including offices, storage sheds, workshops, laboratories, living accommodation, ablution and latrine facilities, tools and equipment, water supplies, electric power, communications, setting out of Works, security and dealing with water, traffic and access. Made COVID - 19 Safe		Item
	<u>Other fixed charge obligations for COVID 19</u>		
111	Hand sanitiser - 500ml	No	250
112	Cleaning and detergents for cleaning everyday	No	250
113	Daily logbook for above	No	250
	<u>Waste management for COVID 19</u>		
114	Waste bins		Item
115	Cleaning and detergents for cleaning everyday	No	450
	<u>GREEN BUILDING REQUIREMENTS</u>		
116	The contractor is to allow for Green building requirements F:.....V:.....T:.....		Item
	<u>CONTRACT PRICE ADJUSTMENT</u>		
117	Contract Price adjustment (Escalation) is applicable for this project		Item
	Carried Forward		R
	Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>PAYMENT OF PRELIMINARIES AND GENERAL</u>			
118	Payment of Preliminaries and General will be effected using Option B	Item	
<u>ADJUSTMENT OF PRELIMINARIES AND GENERAL</u>			
119	Adjustment of Preliminaries and General will be effected using Option A	Item	
<u>PROVISIONAL QUANTITIES</u>			
120	All the quantities in this Bills of Quantities provisional and subject to remeasurement	Item	
<u>HEALTH AND SAFETY REQUIREMENT</u>			
121	Site specific Health and Safety requirement - See separate document	Item	
<u>READY MIX CONCRETE</u>			
122	All concrete must be Ready mix concrete	Item	
Carried to Final Summary			R
Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL			

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 2</u>			
	<u>EARTHWORKS (PROVISIONAL)</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>SITE CLEARANCE ETC</u>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc, and trees not exceeding 200mm girth.	m2	4 920	
	<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
	<u>Excavation in earth not exceeding 2m deep</u>			
2	Trenches	m3	424	
	<u>SOFT AND HARD ROCK, ETC</u>			
	<u>Extra over trench and hole excavation</u>			
3	Soft rock	m3	35	
4	Hard rock	m3	25	
	<u>RISK OF COLLAPSE ETC</u>			
	<u>Risk of collapse of excavations</u>			
5	Sides of trench and hole excavations not exceeding 1,5m deep	m2	3 597	
	<u>FILLING ETC</u>			
	Carried Forward			R
	Section No. 2 BUILDING WORKS Bill No. 2 EARTHWORKS (PROVISIONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			
<u>Earth filling obtained from excavations and or prescribed stock piles on site compacted to 98% MOD AASHTO</u>			
6	Under floors, steps, paving	m3	1 822
7	Backfilling to trenches, holes, etc	m3	104
8	Around buildings	m3	78
<u>CARTING AWAY</u>			
<u>Extra over all excavations for carting away</u>			
9	Surplus material from stock piles on site to a dumping site to be located by the contractor	m3	424
<u>TESTS</u>			
10	Natural California Bearing Ratio test	No	1
11	Field Density test including "Optimum Moisture Content" (Four readings per test)	No	1
<u>KEEPING EXCAVATIONS FROM WATER</u>			
<u>Keeping excavations free from water</u>			
12	Keeping excavations free from all water other than subterranean water		Item
<u>COMPACTION</u>			
<u>Compaction of surfaces</u>			
13	Compaction of ground surface under surface beds, ramps etc., including scarifying for a depth of 150mm, breaking down oversize material, trimming and compacting to 93% Mod AASHTO density	m2	4 072
14	Compaction of ground surface in trenches including scarifying for a depth of 150mm, breaking down oversize material adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	1 335
<u>SOIL POISONING</u>			
Carried Forward			
Section No. 2 BUILDING WORKS Bill No. 2 EARTHWORKS (PROVISIONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>Soil insecticide</u>			
15	To bottoms and sides of trench and hole foundations etc., including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	5 188
16	Under floors etc. including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	4 072
Carried Forward to Summary of Section No. 2			R
Section No. 2			
BUILDING WORKS			
Bill No. 2			
EARTHWORKS (PROVISIONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 3</u>			
	<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>15MPa/19mm concrete</u>			
1	Surface blinding	m3	244	
	<u>20MPa/19mm concrete</u>			
2	Aprons	m3	71	
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>25MPa/19mm concrete</u>			
3	Surface beds etc. including thickenings	m3	445	
4	Ground beams	m3	488	
	<u>REINFORCED CONCRETE</u>			
	<u>25MPa/19mm concrete</u>			
5	Isolated beams	m3	77	
	<u>TEST CUBES</u>			
6	Making and testing 150 x 150 x 150mm concrete test cubes (Provisional)	Sets	24,0	
	Carried Forward			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 3			
	CONCRETE, FORMWORK AND REINFORCEMENT			

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
<u>CONCRETE SUNDRIES</u>		
<u>Finishing top surfaces of concrete smooth with a wood float</u>		
7	Surface beds, slabs, etc.	m2 4 072
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u>		
<u>Smooth formwork to sides, soffits, etc.</u>		
8	Isolated beams propped up exceeding 1.5m and not exceeding 3.5m high above bearing level	m2 692
9	Edges, risers, ends and reveals not exceeding 300mm high or wide	m 697
<u>REINFORCEMENT</u>		
<u>Mesh reinforcement</u>		
10	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2 4 072
<u>High tensile steel reinforcement</u>		
11	Steel reinforcement of various diameters Including all bending and fixing	t 20,00
<u>MOVEMENT JOINTS ETC</u>		
<u>10mm Expansion joints between vertical concrete surfaces</u>		
12	10mm Vertical joints between concrete slabs/beams and brickwork not exceeding 300mm high	m 680
<u>Slip joints between horizontal concrete and brick surfaces including cement mortar bed</u>		
13	Sliding joint of two layers 375 "Gunplas" plastic inside and two layers "Malthoid" outside on smooth surface not exceeding 300mm wide	m 680
Carried Forward to Summary of Section No. 2		
Section No. 2		
BUILDING WORKS		
Bill No. 3		
CONCRETE, FORMWORK AND REINFORCEMENT		

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
<u>Roan Satin FBX, manufactured in accordance with 227:2007, bedded and jointed in Class II mortar and pointed with recessed vertical and flush horizontal joints.</u>		
9	Extra over brickwork for face brickwork	m2 1 901
<u>Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces</u>		
10	Brick on edge coping to window sills	m 330
11	Extra over brickwork for brick-on-edge header course lintels 1 (One) course(s) 85mm high, pointed on face and 230mm Soffit	m 282
<u>Galvanised hoop iron cramps, ties, etc</u>		
12	30 x 1.2mm thick galvanised hoop iron bent around truss and fixed with 4 x 40mm x 2.8mm nails, built in six brick courses deep	No 1 132

Carried Forward to Summary of Section No. 2

Section No. 2
BUILDING WORKS
Bill No. 4
MASONRY

R

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 5</u>			
	<u>WATERPROOFING</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>DAMP-PROOFING OF WALLS AND FLOORS</u>			
	<u>One layer of 375 micron black embossed polyethylene damp-proof course (SANS 952-1985 Type B)</u>			
1	In walls, under windows, etc	m2	547	
	<u>One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</u>			
2	Under surface beds	m2	4 072	
	<u>WATERPROOFING TO SHOWERS & BALCONIES</u>			
	<u>Apply one coat of TAL "Superflex" waterproofing, in strict accordance with manufacturers specifications</u>			
3	On shower floors and walls and open patios	m2	513	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 5			
	WATERPROOFING			
			R	

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 6</u>			
	<u>ROOF COVERINGS</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>PROFILED METAL SHEETING AND ACCESSORIES</u>			
	<u>0.6mm Thick Galvanised roof sheeting with concealed fixings at 25 deg Pitch on 75x50mm purlins at a max 1600mm centres. On trusses at 1200mm max centres (maximum) on 38x114mm wall plate. All bolt holes are to be drilled</u>			
1	Roof coverings with pitch not exceeding 25 degrees fixed to timber purlins with 750mm c/c spacing	m2	5 700	
	<u>SHEET METAL FLASHINGS, LININGS, COPINGS, ETC.</u>			
	<u>0.6mm thick Galvanised roof sheeting with concealed fixings, accessories</u>			
2	Ridge flashing, attached on site to suit profile	m	254	
3	Hip flashing, attached on site to suit profile	m	302	
4	Valley flashing, attached on site to suit profile	m	163	
	<u>INSULATION</u>			
	<u>Alucushion FR206 bubble Foil insulation membrane laid on strain wires over the top of purlins from apex to eaves over the entire length of building, or equal approved</u>			
5	Insulation laid taut over rafters (at approximately 600mm centres) and fixed concurrent with tiling battens, purlins, etc	m2	5 700	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 6			
	ROOF COVERING			
			R	

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 7</u>			
	<u>CARPENTRY & JOINERY</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>ROOFS</u>			
	<u>TIMBER ROOF STRUCTURE</u>			
	<u>Prefabricated metal connector plate roof trusses (Complete Structure)</u>			
1	Design, supply and erection of timber rafter and purlin regular roof trusses including trusses, rafters, bracing, joists, connections, nails, wall plates, purlins, etc (measured flat) SA Pine timber truss with 38mm x 114mm (Grade 6) rafter at 17° pitch, 38mm x 114mm (Grade 6) web members, and 38mm x 152mm (Grade 6) tie-beam, secured to load-bearing walls with galv. steel hoop-iron straps at max. 1200mm c.c. spacing, all to manufacturer's and Engineer's Specification	m2	4 072	
	<u>FASCIAS, BARGEBOARDS, COVER PLATES ETC.</u>			
	<u>Tempered fibre-cement</u>			
2	12 x 225mm Fascia board countersunk screwed to roof timbers with two brass screws at maximum 1200mm centres and jointed with and including standard aluminium halfround cover strips at all joints	m	691	
	<u>SKIRTINGS</u>			
	Carried Forward		R	
	Section No. 2 BUILDING WORKS Bill No. 7 CARPENTRY AND JOINERY			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
	<u>Wrought meranti</u>	
3	20 X 75mm high Skirtings including 19mm quadrant beading fixed to walls in long lengths with splayed heading joints and mitred corners with screws and plugs at centres not exceeding 600mm	m 2 558
	<u>DOORS</u>	
	<u>Interior quality Solid two panel door with approved veneer both sides and two concealed edges, hung to steel frames (measured elsewhere)</u>	
4	40mm Single door 900 x 2125mm high (D3)	No 92
	<u>External quality emergency exit double door to Architect's approval and manufacturer's specifications, hung to steel frames (measured elsewhere)</u>	
5	40mm Double door 1500 x 2125mm high (D5)	No 4
	<u>Semi solid flush doors with 3mm tempered "Masonite" veneer on both sides with concealed hardwood edges, hung to steel frames (measured elsewhere)</u>	
6	40mm Single door 877 x 2125mm high (D6)	No 68
7	40mm Single door 1031 x 2125mm high (D7)	No 8
	<u>Solid core door with 2 panels, hung to steel frames (measured elsewhere)</u>	
8	40mm Double door 1500 x 2125mm high (D8)	No 7
Carried Forward to Summary of Section No. 2 Section No. 2 BUILDING WORKS Bill No. 7 CARPENTRY AND JOINERY		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 8</u>			
	<u>CEILINGS, PARTITIONS, ETC</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>NAILED UP AND SCREWED UP CEILINGS</u>			
	<u>6mm Everite Nutec Fibre Cement Ceiling complete with mild steel "H" profile junction strips . Fix with 32mm galvanised nails to 50x38mm ceiling battens fixed at right angles to trusses at a max. of 400mm c/c. Treat nails and metal joiners with a metal primer.</u>			
1	Ceilings suspended not exceeding 1m below timber and or steel purlins at 900mm centres	m2	884	
	<u>6.4mm Gypsum flush plaster ceiling on suspension system including rhinolite, main and cross tees, necessary hangers, grids, etc</u>			
2	Ceilings suspended not exceeding 1m below timber and or steel purlins at 900mm centres	m2	3 190	
3	Extra over ceilings for ceiling access panel 600 x 600mm	No	18	
	<u>Cornices to ceilings</u>			
4	50 x 19mm SA pine cornice	m	3 517	
	<u>50mm fibreglass insulation</u>			
5	On ceilings	m2	4 072	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 8			
	CEILINGS, PARTITIONS ETC			
			R	

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 9</u>			
	<u>FLOOR COVERINGS</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>FLOOR PREPARATION</u>			
	<u>Prepare for and apply one coat "iTeSLURRY" slurry coat, one coat "BONDiTe" primer and bonding agent and minimum 5mm thick "LEVELiTe F30" self levelling screed and levelling compound laid in strict compliance with the manufacturer's specifications to a grade 1 degree of accuracy (Manufacturer: iTe Products)</u>			
1	On concrete floors to receive vinyl sheeting	m2	3 190	
	<u>VINYL</u>			
	<u>300 x 300 x 2.5mm thick semi-flexible vinyl tiles. Laid according to manufacturer's instructions with a suitable approved adhesive for the substrate on to which the product will be installed and laid by an approved contractor. PATTERNS: Allow for two colour pattern.All in accordance with manufacturers recommendations and installed by an approved specialist flooring subcontractor</u>			
2	On floors	m2	3 190	
	Carried Forward to Summary of Section No. 2		R	
	Section No. 2			
	BUILDING WORKS			
	Bill No. 9			
	FLOOR COVERING			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No			Quantity	Rate	Amount
	<u>BILL NO. 10</u>				
	<u>IRONMONGERY</u>				
	<u>PREAMBLES FOR TRADE</u>				
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.				
	<u>HINGES, BOLTS, ETC</u>				
	<u>Union or similar</u>				
1	"37651 RH" Helping hand indicator bolt	No	8		
	<u>Dorman or similar approved</u>				
2	"DPS-SS-032" Stainless steel dust proof strike	No	6		
3	"DFB-SC-180" 153mm Satin chrome flush bolt with heel	No	6		
4	"DFB-SC-181" 305mm Satin chrome flush bolt with heel	No	6		
5	"DWC-006" Stainless steel WC indicator and turnknob	Sets	56,0		
	<u>CATCHES, CABIN HOOKS, ETC</u>				
	<u>"Dorma" or similar approved</u>				
6	DHC-SS-031B" Stainless steel hat and coat hook with rubber buffer	No	62		
	<u>LOCKS</u>				
	<u>"Dorma" or similar approved</u>				
7	"D038R NP" Rebate kit nickel plated	No	6		
8	"DMWC-SS-008" Stainless steel bathroom deadlock	No	56		
	Carried Forward				R
	Section No. 2 BUILDING WORKS Bill No. 10 IRONMONERGY				

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		
9	"DDC056001KD" Satin nickel 60mm Five pin euro-profile double cylinder	No	30
10	"DBC006001" Satin nickel 60mm euro-profile bathroom/privacy cylinder	No	6
11	"D036S SS" Stainless steel cylinder sash lock	No	133
12	"DKC106601MK" Satin nickel 65mm Five pin euro-profile knob cylinder master keyed	No	69
13	"DDC106601MK" Satin nickel 65mm Five pin euro-profile double cylinder master keyed	No	28
<u>HANDLES, ETC</u>			
<u>Dorma or equal approved</u>			
14	"CB30 CYL SC" Satin chrome lever handle on plate with cylinder cut out	No	6
15	"DHP-SS-BL 75X170mm" DPH301 Pull handle	No	56
16	"SH875 CYL S.S" Stainless steel lever on plate with cylinder cutout	Sets	98,0
17	"DPH301B" Stainless steel 325x25mm straight tubular pull handle flange fixing	No	16
<u>PUSH PLATES, KICKING PLATES ETC</u>			
18	"DPP-SS-BL 170x75mm" Brushed stainless steel blank push plate	No	56
19	DKP-SS-200 Kick plate size 1000 x 200 x 1.2mm	No	16
<u>SUNDRIES</u>			
<u>"Dorma" or equal approved</u>			
20	"DDS-NP-018" Nickel plated floor mounted door stop	No	148
<u>LETTER, NAMEPLATES, ETC</u>			
<u>"Dorma" or similar approved</u>			
21	DSS-133 P Stainless steel 150 x 150mm Disabled persons sign	No	8
22	"DSS-138 C" Stainless steel 150 x 150mm Cleaner sign	No	4

Carried Forward

Section No. 2
BUILDING WORKS
Bill No. 10
IRONMONERGY

R

R

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

		Brought Forward		R
	<u>DOOR CLOSERS</u>			
	<u>"Dorma" or similar approved</u>			
23	TS73V EN 2-4 Parallel arm DELAYED ACTION push side fixing including parallel arm bracket (Silver) mounted overhead door closer to door of width up to 950mm.	No	8	
	<u>BATHROOM FITTINGS</u>			
	<u>Approved</u>			
24	55mm Diameter chromium plated towel rail 900mm long including end brackets plugged	No	16	
	<u>CTM or similar approved</u>			
25	"Code TVWR3109" Corner soap basket	No	8	
	<u>"Franke" or similar approved satin finish stainless steel bathroom accessories fixed to walls in accordance with the manufacturer's specifications</u>			
26	"Code RODX672" Double toilet roll holder with spindle system	No	8	
	<u>STEEL CUPBOARDS</u>			
	<u>Approved steel lockers with standard baked enamel finish</u>			
27	G10 Double door steel cupboard 914 x 457 x 1828mm high with five shelves bolted to brickwork	No	185	
	<u>LETTERS, NAME PLATES, ETC</u>			
	<u>Approved 150x150x3mm thick PVC standard safety signage</u>			
28	Fire extinguisher sign plugged	No	8	
29	"Arrow" sign plugged	No	8	
	<u>SUNDRIES</u>			
30	Medical aid kit hung on wall (Allow a PC Sum of R2800.00 for a medical aid kit excluding vat and including delivery to site)	No	10	
	Carried Forward to Summary of Section No. 2			R
	Section No. 2			
	BUILDING WORKS			
	Bill No. 10			
	IRONMONERGY			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 11</u>			
	<u>METALWORK</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>PRESSED STEEL DOOR FRAMES</u>			
	<u>1.2mm Single rebated frames with two pair of hinges, suitable for half brick walls</u>			
1	Frame for door 900 x 2125mm high (D1, D2, D3)	No	8	
2	Frame for door 1031 x 2125mm high (D7)	No	8	
	<u>1.2mm Single rebated frames with two pairs of hinges, suitable for one brick walls</u>			
3	Frame for door 900 x 2125mm high (D1, D2, D3)	No	84	
	<u>1.2mm Single rebated frames with two pairs of hinges, suitable for 280mm cavity brick walls</u>			
4	Frame for door 877 x 2125mm high (D6)	No	68	
	<u>1.2mm Double rebated frames with two pairs of hinges, suitable for one brick walls</u>			
5	Frame for door 1500 x 2125mm high (D5, D8)	No	11	
6	Frame for door 3555 x 2125mm high (D4)	No	6	
	<u>GALVANISED STEEL WINDOWS, DOORS, ETC</u>			
	<u>Standard SSAF2/DDA-2xDSADAF2 External quality french door factory primed and painted to architect's approval (paint measured elsewhere)</u>			
7	Double door size 3555 x 2125mm high consisting of two fixed leafs of 1022 x 2125mm each (D4)	No	6	
	Carried Forward			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 11			
	METALWORK			

R

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>ALUMINIUM WINDOWS, ETC.</u>			
<u>60mm Powder coated, bronze aluminium framing NKCASA casement type for 16mm combinations as supplied by HBS systems or equally approved and to be fixed as per manufacturer's specifications glazed with 8.38mm (Double Glazing) clear float safety glazing Including Ironmongery)</u>			
Note: Final manufacturing dimensions to be obtained from on-site measurements.			
<u>Windows</u>			
8	2000 x 1540mm high overall, all as per architect's drawings (W07)	No	12
9	1022 x 949mm high overall, all as per architect's drawings (W08)	No	4
10	1302 x 1445mm high overall, all as per architect's drawings (W09)	No	116
11	5730 x 1445mm high overall, as per architects drawings (W14)	No	3
12	2515 x 1036mm high overall, all as per architect's drawings (W15)	No	2
13	1302 x 511mm high overall, all as per architect's drawings (W16)	No	11
<u>60mm Powder coated, bronze aluminium framing NKCASA casement type for 16mm combinations as supplied by HBS systems or equally approved and to be fixed as per manufacturer's specifications glazed with 8.38mm obscure float safety glazing including Ironmongery</u>			
<u>Windows</u>			
14	1511 x 654mm high overall, all as per architect's drawings (W11)	No	16
15	1022 x 654mm high overall, all as per architect's drawings (W12)	No	48
16	533 x 654mm high overall, all as per architect's drawings (W13)	No	14
<u>GRABRAILS</u>			
Carried Forward			R
Section No. 2 BUILDING WORKS Bill No. 11 METALWORK			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>Design, supply and install grab rails</u>			
17	Railman Grabrails or similar approved, Stainless steel 750x90mm 32mØ vertical / horizontal side grabrails (SR1) 300x300x300mm dog leg 32mmØ side grabrails (DL3) installed according to manufacturers specifications in positions as indicated on detailed room layouts.	m	8
<u>Shower doors</u>			
18	Allow a (PC Sum of R5 000.00 excluding vat installed and delivered to site) for new shower doors	No	28
Carried Forward to Summary of Section No. 2			R
Section No. 2			
BUILDING WORKS			
Bill No. 11			
METALWORK			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 12</u>			
	<u>PLASTERING</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>SCREEDS</u>			
	<u>Screeds on concrete</u>			
1	30mm Thick on floors and landings	m2	4 072	
	<u>INTERNAL PLASTER</u>			
	<u>One coat cement plaster on brickwork and concrete</u>			
2	On internal walls	m2	10 473	
3	On soffits and sides of beams, slabs, stairs, columns etc.	m2	346	
4	On narrow widths including window cills and reveals	m2	148	
	<u>EXTERNAL PLASTER</u>			
	<u>One coat cement plaster on brickwork and concrete</u>			
5	On soffits and sides of beams, slabs, stairs etc.	m2	346	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 12			
	PLASTERING			
			R	

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No	Quantity	Rate	Amount
<u>BILL NO. 13</u>			
<u>TILING</u>			
<u>PREAMBLES FOR TRADE</u>			
The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
<u>FLOOR TILING</u>			
<u>Floor Tile (PC Amount of R150 per m2) fixed with adhesive to screed</u>			
1	On floors	m2	884
2	100mm high skirting	m	1 020
<u>WALL TILING</u>			
<u>Wall tiles (PC Amount of R120 per m2) fixed with adhesive to plaster</u>			
3	On walls in ablutions, showers etc	m2	1 975
Carried Forward to Summary of Section No. 2 Section No. 2 BUILDING WORKS Bill No. 13 TILING			R

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 14</u>			
	<u>PLUMBING & DRAINAGE (PROVISIONAL)</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>WASTE & VENT PIPEWORK</u>			
	<u>uPVC pipes</u>			
1	38mm pipes	m	37	
2	50mm pipes	m	94	
3	110mm pipes	m	324	
4	110mm Pipes laid in and including trenches not exceeding 1m deep under surface beds	m	615	
	<u>Extra over uPVC pipes for fittings</u>			
5	38mm Bend	No	12	
6	38mm Junction	No	3	
7	38mm Access bend	No	3	
8	38mm Access junction	No	2	
9	50mm Bend	No	22	
10	50mm Junction	No	12	
11	50mm Access bend	No	12	
12	50mm Access junction	No	10	
13	50mm Access reducing junction	No	8	
	Carried Forward		R	
	Section No. 2 BUILDING WORKS Bill No. 14 PLUMBING AND DRAINAGE (PROVISIONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			
14	110mm Bend	No	32
15	110mm Junction	No	24
16	110mm Access bend	No	21
17	110mm Access junction	No	58
18	110mm Access reducing junction	No	15
19	110mm Pan connector	No	69
20	110mm "GI Two-way" vent valve	No	12
<u>uPVC Gulley</u>			
21	110mm gulley not exceeding 750mm deep including standard precast surround	No	49
<u>Testing</u>			
22	Testing waste pipe system		Item
<u>EXTERNAL WATER SUPPLIES</u>			
<u>Class 16 uPVC pressure pipes with solvent welded joints</u>			
23	32mm Pipes in and including trenches not exceeding 1m deep	m	390
24	50mm Pipes in and including trenches not exceeding 1m deep	m	274
25	110mm Pipes in and including trenches not exceeding 1m deep	m	230
<u>Extra over class 16 uPVC pipes with solvent welded joints</u>			
26	32mm Bend	No	82
27	32mm Tee	No	134
28	32mm Reducing tee	No	165
29	32mm End cap	No	52
Carried Forward			
Section No. 2 BUILDING WORKS Bill No. 14 PLUMBING AND DRAINAGE (PROVISONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

		Brought Forward		R
30	50mm Bend	No	29	
31	50mm Tee	No	32	
32	50mm Reducing tee	No	59	
33	50mm End cap	No	19	
34	110mm Bend	No	84	
35	110mm Tee	No	93	
36	110mm Reducing tee	No	105	
37	110mm End cap	No	15	
	<u>INTERNAL WATER SUPPLIES</u>			
	<u>Class 0 copper pipes</u>			
38	15mm Pipes	m	554	
39	22mm Pipes	m	215	
40	32mm Pipes	m	232	
41	42mm Pipes	m	132	
42	50mm Pipes	m	179	
	<u>Extra over class 0 copper pipes for capillary fittings</u>			
43	15mm Fittings	No	315	
44	22mm Fittings	No	79	
45	32mm Fittings	No	69	
46	42mm Pipes	m	29	
47	50mm Pipes	m	67	
	<u>Class 10 HDPE type IV pipes</u>			
48	25mm Diameter pipes in and including trenches	m	290	
	<u>Extra over class 10 HDPE type IV pipes for fittings</u>			
49	25mm Fittings	No	208	
	Carried Forward			R
	Section No. 2			
	BUILDING WORKS			
	Bill No. 14			
	PLUMBING AND DRAINAGE (PROVISIONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>Sundries</u>			
50	Unreinforced concrete (20Mpa) thrust blocks in trenches, at bends, tees, etc. including excavation, formwork, etc.	m3	2
<u>Testing</u>			
51	Testing waste pipe system	Item	
<u>SANITARY FITTINGS</u>			
<u>Sanitaryware - Please refer to the attached client sanitaryware specifications</u>			
52	Type 1 - WC - supply and install complete Vaal Hibiscus white vitreous china washdown suite comprising 90 degrees outlet open rim washdown pan (772654), matching 6/3 litre cistern with top dual flushing system (772656), including Cobra regulating valve (232-10) with 350mm flexi hose and jazz thermoset toilet seat with metal hinge (8531Z0)	No	52
53	Type 2 - WC - Supply and install complete Vaal Pearl Paraplegic white vitreous china semi close coupled suite with 90 degrees outlet pan (7300SC), matching 9 litre cistern with purpose made CP side-flush lever (left or right)(772656), including angle regulating valve (832/350F) with 350mm flexi hose and purpose made urea seat toilet seat and cover plate	No	8
54	Type 2 - WHB - supply and install complete Vaal Hibiscus 510 x 405mm white vitreous china rounded basin with one taphole, integrated overflow (7050), no chainstay hole, bolted to wall with two 10mm bolts (8448Z0), including 32mm Cobra cp basin waste (303), slotted without chain and stay configuration, white uPVC antivac bottle trap, Cobra Noka basin mixer tap with water saving aerator (NA-952 & P-WS/6), two 832/350F angle regulating valves and Cobra cp anti-theft plug (309-32)	No	12
Carried Forward			R
Section No. 2 BUILDING WORKS Bill No. 14 PLUMBING AND DRAINAGE (PROVISONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
55	Type 3 - WHB (disabled) - supply and install complete Vaal Hibiscus 510 x 405mm white vitreous china rounded basin with two tapholes, integrated overflow (7050), no chainstay hole, bolted to wall with two 10mm bolts (8448Z0), including 32mm Cobra cp basin waste (303), slotted without chain and stay configuration, white uPVC antivac bottle trap (DB20A/V), two Cobra medical square pattern elbow action pillar taps (505-21B), marked hot or cold with water saving aerator (PWS/6), two 832/350F angle regulating valves and Cobra cp anti-theft plug (309-32)	No	8
56	Vaal Sanitary ware ceramic fireclay 595 x 455mm "Cameo" oval self-rimming vanity basin with one tap hole and chain stay hole through the centre semi-punched tap hole, including 32mm Cobra cp basin waste (303), slotted without chain and stay configuration, white uPVC antivac bottle trap, Cobra Noka basin mixer tap with with water saving aerator (NA-952 & P-WS/6), two 832/350F angle regulating valves and Cobra cp anti-theft plug (309-32) colour: white	No	48
57	Type 1 - Urinal - supply and install complete Vaal Lavatera (705427) white vitreous china wall hung urinal 600x385x380mm, with concealed back inlet, supplied complete with 38mm cp domical grating (8787), including two hanger brackets (8127Z0). Flushing system: Cobra FJ6000 Junior Flushmaster, exposed type with ball-o-stop and wall flange, cp with FJT 5.4 urinal connection pipe and head. Trap, Cobra (345/50) cp with 75mm deep seal and adjustable telescopic pipe.	No	3
58	Shower - supply and install Cobra Stella cp shower set with two undertile stop taps (marked hot and cold), tubular shower arm and head, and Milga stainless steel shower trap with stainless steel grating	No	28
59	Bath - Coral White Built-in Straight Bath with Handles - 1700 x 700mm (Product code AQWH170003) with ITD Universal bath trap and overflow with cable operated pop up (Product code TVACSH1008)	No	4
	Carried Forward		R
Section No. 2 BUILDING WORKS Bill No. 14 PLUMBING AND DRAINAGE (PROVISONAL)			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
	<u>All stainless steel fitting to be supplied by Franke Kitchen Systems (Pty) Ltd</u>		
60	Washtrough - Franke Luxtub stainless steel drop-on washtrough (LDL) 500x600mm; fitted to wall on one pair of Franke Falcon brackets. Including two Cobra Star cp hose bibtaps (107EC-15) without hose union and tail; Cobra cp sink unslotted waste (316) with backnut, without plug and stirrup, chain and stay, 70mm flange, 45mm long shank; Cobra cp anti-theft plug (309-40) and 40x40mm uPVC white anti-vac bottle trap (DB22A/V).	No	20
61	Franke Projectline Double Kitchen Sink - 1160 x 460mm (Product code PLN621) Set in joinery worktop of cupboard, inclusive of sink waste 70mm flange, 45mm long shank, chrome plated (Product code 316) and Anti vac bottle trap 40 x 40mm (product type DE22A/V)	No	6
	<u>TAPS, VALVES, ETC.</u>		
	<u>Valves</u>		
62	100mm Brass fullway wheel valve	No	12
63	Cast iron meter or valve box type 2B, including brick chamber below, 600mm deep internally	No	4
	<u>RAINWATER TANK</u>		
	<u>Rain water tank</u>		
64	5000 (Five thousand) liter water tank, Jojo or equally approved	m	25
	<u>RAINWATER DISPOSAL</u>		
	<u>0,6mm Powder coated mild steel seamless square profile gutters and downpipes</u>		
65	100 x 100mm galvanised gutter	m	691
66	Extra over for angle	No	57
67	Extra over for eaves gutter for outlet Four ten diameter pipe	No	73
68	Extra over for closed end	No	15
69	100 x 750mm galvanised steel rainwater downpipe	m	90
70	Extra over outlet downpipe	No	30
	Carried Forward		R
	Section No. 2 BUILDING WORKS Bill No. 14 PLUMBING AND DRAINAGE (PROVISONAL)		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		
71	Extra over for shoe	No	30
	<u>WASTE UNIONS</u>		
	<u>"Cobra Watertech" or equal approved</u>		
72	38mm "Cobra 316" unslotted waste and plug with chain	No	92
	<u>"Vaal" or equal approved</u>		
73	Code "8794Z0" chromium plated waste and plug with chain	No	39
74	Code "8790Z0" acid resistant waste and plug with chain	No	58
	<u>TRAPS</u>		
	<u>"Marley" or equal approved</u>		
75	40 x 300mm Sink combination for double bowl with deepseal "P" trap	No	18
	<u>"Cobra Watertech" or equal approved</u>		
76	Code "8790Z0" acid resistant waste and plug with chain	No	58
	<u>TAPS, VALVES, ETC</u>		
	<u>"Cobra Watertech" or equal approved</u>		
77	Code COB-LO-214-15 chrome plated pillar tap fixed into brickwall	No	39
78	Cobra Watertech 15mm MI x FI x 75mm long extension piece with sliding wall flange (Code: 059-15).	No	31
79	"Cobra Ref. 232/350" Angle regulating valve	No	162
80	Cobra Ref. 296 One hole 1mm mixer with swivel outlet.	No	24
81	Cobra Watertech chrome plated 15mm outlet x 215mm long with 27mm offset urinal flush pipe (Code: FJT5.5).	No	34
82	Cobra Watertech exposed urinal chrome plated Junior Flushmaster flushvalve (code: FJ6.000) with non-hold open feature, wall flange and 20mm "Ball-o-Stop" control inlet.	No	17
83	Code COB-505-21B Elbow action tap	No	59
	Carried Forward		
	Section No. 2		
	BUILDING WORKS		
	Bill No. 14		
	PLUMBING AND DRAINAGE (PROVISONAL)		

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
<u>GEYSERS, ETC</u>		
<u>"Kwikot" or other equally approved</u>		
84	250 Litres Kwikot Geyser as per Architects drawings including all accessories	No 16
<u>Sundries</u>		
85	22mm Brass gate valve	No 16
86	32mm Brass gate valve	No 16
87	35mm Cobra watertech 1050 strainer	No 16
88	PB1. 10RB Vacuum breaker	No 16
89	PA1. 1RB "Kwikflo" 400kpa pressure reducing valve	No 16
90	Tray	No 16
91	22mm Overflow pipe 500mm girth twice bent	No 16
<u>FIRE APPLIANCES, ETC</u>		
<u>"Chubb" or other equally approved</u>		
92	4.5kg Dry chemical Fire extinguisher fixed to wall	No 18
93	9kg Dry chemical Fire extinguisher fixed to wall	No 29
94	30m long Hose reel including accessories (SABS approved) fixed to the wall	No 25
Carried Forward to Summary of Section No. 2		
Section No. 2		
BUILDING WORKS		
Bill No. 14		
PLUMBING AND DRAINAGE (PROVISONAL)		

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 15</u>			
	<u>GLAZING</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>GLAZING PANELS TO TIMBER DOORS</u>			
	<u>6mm Clear Double Glazing glass</u>			
1	Panes exceeding 0,1m2 and not exceeding 0,5m2	m2	46	
	<u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u>			
	<u>6mm Silvered float glass copper backed mirrors with 10mm bevelled and polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u>			
2	Mirror 900 x 600mm high with four screws	No	46	
	Carried Forward to Summary of Section No. 2			
	Section No. 2			
	BUILDING WORKS			
	Bill No. 15			
	GLAZING			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO. 16</u>			
	<u>PAINTWORK</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>ON FLOATED PLASTER & CONCRETE</u>			
	<u>One coat plaster primer and two coats PVA paint (Plascon Broken White VEL 17)</u>			
1	On internal plastered walls	m2	7 848	
2	On internal plastered soffits and sides of beams, slabs, stairs etc.	m2	346	
3	On narrow widths including window cills and reveals	m2	148	
	<u>One coat plaster primer and two coats PVA paint</u>			
4	On external plastered soffits and sides of beams, slabs, stairs etc.	m2	346	
	<u>ON CEILINGS & PARTITIONS</u>			
	<u>Prepare surfaces and apply one coat plaster primer two coats PVA paint (Colour: Black)</u>			
5	On ceilings and bulkheads	m2	3 190	
	<u>ON FIBRE-CEMENT</u>			
	<u>Prepare surfaces by treating nails and joints with one coat zinc chromate and apply one coat alkaline base, one universal undercoat and two coats enamel paint all as per manufacturer's specifications and application instructions</u>			
6	On ceilings	m2	884	
	Carried Forward			R
	Section No. 2			
	BUILDING WORKS			
	Bill No. 16			
	PAINTWORK			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			
<u>ON WOOD</u>			
<u>Three coats superior quality clear eggshell varnish</u>			
7	Skirtings, rails, etc not exceeding 300mm girth	m	3 441
<u>Apply one coat primer for wood, one universal undercoat and two coats 'plascon' velvagio</u>			
8	On doors	m2	806
<u>ON METAL</u>			
<u>One coat NAMELCOTE* zinc chromate primer UC 53. One coat PLASCON GALVOGRIP* metal primer. Two coats VELVAGLO* poyutherane enamel</u>			
9	On doors (both sides measured over the full flat area)	m2	105
10	On door frames	m2	246
<u>One coat zink chromate primer, and two coats Plascon super enamel</u>			
11	On gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	695
Carried Forward to Summary of Section No. 2			
Section No. 2			
BUILDING WORKS			
Bill No. 16			
PAINTWORK			

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

SECTION SUMMARY - BUILDING WORKS					Amount
Bill No		Page No			
1	ALTERATIONS	16			
2	EARTHWORKS (PROVISIONAL)	19			
3	CONCRETE, FORMWORK AND REINFORCEMENT	21			
4	MASONRY	23			
5	WATERPROOFING	24			
6	ROOF COVERING	25			
7	CARPENTRY AND JOINERY	27			
8	CEILINGS, PARTITIONS ETC	28			
9	FLOOR COVERING	29			
10	IRONMONERGY	32			
11	METALWORK	35			
12	PLASTERING	36			
13	TILING	37			
14	PLUMBING AND DRAINAGE (PROVISIONAL)	45			
15	GLAZING	46			
16	PAINTWORK	48			
Carried to Final Summary				R	
Section No. 2 BUILDING WORKS					

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>BILL NO.1</u>			
	<u>EXTERNAL WORKS</u>			
	<u>COVERED WALKWAYS, ASSEMBLY POINT AND PAVING IN BETWEEN BUILDINGS</u>			
	<u>EARTHWORKS</u>			
	<u>SITE CLEARANCE ETC</u>			
	<u>Site clearance</u>			
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth	m2	71	
	<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
	<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
2	Trenches	m3	12	
	<u>SOFT AND HARD ROCK, ETC</u>			
	<u>Extra over trench and hole excavations in earth other than bulk for excavation in:</u>			
3	Soft Rock	m3	3	
4	Hard Rock	m3	2	
	<u>CARTING AWAY</u>			
	<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	18	
	<u>RISK OF COLLAPSE ETC</u>			
	<u>Risk of collapse of excavations</u>			
6	Sides of trench and hole excavations not exceeding 1,5m deep	m2	33	
	<u>KEEPING EXCAVATIONS FROM WATER</u>			
	Carried Forward		R	
	Section No. 3			
	EXTERNAL WORKS			
	Bill No. 1			
	EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
	<u>Keeping excavations free of water</u>		
7	Keeping excavations free of all water other than subterranean water	Item	
	<u>G5 or approved material filling supplied by the contractor, compacted to 95% Mod AASHTO density</u>		
8	Under floors, steps, pavings, etc	m3	30
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 85% Mod AASHTO density</u>		
9	Backfilling to trenches, holes, etc	m3	120
	<u>SOIL POISONING</u>		
	<u>Soil insecticide in accordance with SANS 5859</u>		
10	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	71
11	To bottoms and sides of trenches etc	m2	33
	<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>		
	<u>25MPa/19mm reinforced concrete cast against excavated surfaces</u>		
12	Strip footings	m3	35
	<u>15MPa/19mm reinforced concrete cast against excavated surfaces</u>		
13	Surface beds	m3	25
	<u>Test Cubes</u>		
14	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No	2
	<u>CONCRETE SUNDRIES</u>		
	<u>Finishing top surfaces of concrete smooth with a wood float</u>		
15	Surface beds, slabs, etc.	m2	252
	Carried Forward		R
	Section No. 3		
	EXTERNAL WORKS		
	Bill No. 1		
	EXTERNAL WORKS		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

			Brought Forward	
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u>				
<u>Saw-cut joints</u>				
16	3 x 10mm Saw-cut joints in top of concrete with bevelled top corners in top of concrete	m		82
<u>REINFORCEMENT</u>				
<u>Mesh reinforcement</u>				
17	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2		252
<u>Mild steel reinforcement to structural concrete work</u>				
18	12mm Diameter bars	t		2,00
<u>MASONRY</u>				
<u>FOUNDATIONS (PROVISIONAL)</u>				
<u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar</u>				
19	One brick walls	m2		98
<u>Roan Satin FBX, manufactured in accordance with 227:2007, bedded and jointed in Class II mortar and pointed with recessed vertical and flush horizontal joints.</u>				
20	Extra over brickwork for face brickwork	m2		98
21	Coping on top of one brick wall	m		233
<u>BRICKWORK SUNDRIES</u>				
<u>Brickwork reinforcement</u>				
22	150mm Wide reinforcement built in horizontally	m		1 150
<u>60mm Thick 25MPa precast concrete interlocking block paving of 200 x 100mm grey paving blocks in accordance with SANS 1058, laid to falls on and including 20mm thick sand layer with joints filled in with sand, compacted with a vibration compactor</u>				
23	Paving of 60mm thick blocks including edge blocks	m2		698
Carried Forward				
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS				

Brought Forward

R

SMOOTH FORMWORK (DEGREE OF ACCURACY I)

Saw-cut joints

16	3 x 10mm Saw-cut joints in top of concrete with bevelled top corners in top of concrete	m	82
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REINFORCEMENT

Mesh reinforcement

17	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	252
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Mild steel reinforcement to structural concrete work

18	12mm Diameter bars	t	2.00
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MASONRY

FOUNDATIONS (PROVISIONAL)

Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar

19	One brick walls	m2	98
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Roan Satin FBX, manufactured in accordance with 227:2007, bedded and jointed in Class II mortar and pointed with recessed vertical and flush horizontal joints.

20	Extra over brickwork for face brickwork	m2	98
----	---	----	----

21	Coping on top of one brick wall	m	233
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BRICKWORK SUNDRIES

Brickwork reinforcement

22	150mm Wide reinforcement built in horizontally	m	1 150
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60mm Thick 25MPa precast concrete interlocking block paving of 200 x 100mm grey paving blocks in accordance with SANS 1058, laid to falls on and including 20mm thick sand layer with joints filled in with sand, compacted with a vibration compactor

23	Paving of 60mm thick blocks including edge blocks	m2	698
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Carried Forward

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Section No. 3
EXTERNAL WORKS
Bill No. 1
EXTERNAL WORKS

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward			R
	Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasion 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m²			
24	Under paving etc	m2	698	
	<u>WATERPROOFING</u>			
	<u>One layer 250 micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape</u>			
25	Under surface beds	m2	63	
	<u>One layer of 375 micron "Consol Plastics Brikgrip DPC" or other equal and approved embossed damp proof course</u>			
26	In walls	m2	13	
	<u>ROOF COVERINGS ETC</u>			
	<u>PROFILED METAL SHEETING AND ACCESSORIES</u>			
	<u>0.6mm Thick Galvanised roof sheeting with concealed fixings at 25 deg Pitch on 75x50mm purlins at a max 1600mm centres. On trusses at 1200mm max centres (maximum) on 38x114mm wall plate. All bolt holes are to be drilled</u>			
27	Roof covering with pitch not exceeding 25 degrees	m2	69	
	<u>STRUCTURAL STEELWORK</u>			
	<u>Welded columns in single lengths with flat base, mitred bearer and welded connection to beams (beams measured elsewhere), bolted to concrete</u>			
28	89 x 3mm circular hollow section columns	t	0,55	
29	Extra on last for mitred corners	No	17	
30	Base plates 150mm x 150mm x 6mm thick, holed four times and welded to columns (columns measured elsewhere)	No	17	
	Carried Forward			R
	Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
<u>Welded beams in single lengths with mitred corners and welded connection to columns (columns measured elsewhere)</u>		
31	89 x 3mm circular hollow section beams cranked in the middle to give a 3 degree pitch	t 0,12
<u>BOLTS, FASTENERS, ETC</u>		
32	M12 chemical anchor bolts	No 67
<u>Purlins welded to steel</u>		
33	60 x 40 x 2.5mm thick rectangular hollow section mild steel purlins	t 0,77
<u>CONCRETE STORMWATER CHANNELS</u>		
<u>EARTHWORKS (PROVISIONAL)</u>		
<u>SITE CLEARANCE ETC</u>		
<u>Site clearance</u>		
34	Stripping average 100mm thick layer of top soil and depositing material in prescribed stock piles on site	m2 63
<u>COMPACTION</u>		
<u>Compaction of surfaces</u>		
35	Compaction of ground surfaces under concrete channels by wetting and compacting with vibratory roller	m2 63
<u>SOIL POISONING</u>		
<u>Soil insecticide</u>		
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>		
36	Soil insecticide in accordance with SANS 5859, under floors	m2 11
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>		
Carried Forward		
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS		

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
	<u>15MPa/19mm concrete</u>		
37	15MPa insitu concrete channels of 600mm width, laid to even falls of 225 x 225 x 50mm deep and 75mm stopped ends on each side, cast in panels of size 1800 x 600mm	m	92
38	20MPa insitu concrete channels of 600mm width, laid to even falls of 225 x 225mm x 50mm deep and 75mm stopped ends on each side, cast in panels of size 1800 x 600mm	m	35
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>		
39	25MPa insitu concrete channels of 600mm width, laid to even falls of 225 x 225mm x 50mm deep and 75mm stopped ends on each side, cast in panels of size 1800 x 600mm	m	35
40	20MPa concrete ramp to falls on	m3	0,3
41	20MPa concrete surface bed	m3	0,2
	<u>CONCRETE SUNDRIES</u>		
	<u>Finishing top surfaces of concrete smooth with a wood float</u>		
42	Finishing tops of concrete channel surface with wood float to falls	m2	66
43	6mm thick fibre cement permanent shuttering	m2	2
	<u>REINFORCEMENT</u>		
	<u>Mesh reinforcement</u>		
44	Standard square fabric mesh Ref 245 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	2
	<u>MASONRY</u>		
	<u>SUPERSTRUCTURE</u>		
	<u>Brickwork of NFP clay bricks in class II mortar</u>		
45	Brickwork of NFX bricks (14 MPa nominal compressive strength) in class II mortar for brick-on-edge 1 course high	m	7
	Carried Forward		R
	Section No. 3		
	EXTERNAL WORKS		
	Bill No. 1		
	EXTERNAL WORKS		

Brought Forward			
<u>DRINKING FOUNTAIN</u>			
<u>EARTHWORKS (PROVISIONAL)</u>			
<u>SITE CLEARANCE ETC</u>			
<u>Site clearance</u>			
46	Stripping average 150mm thick layer of top soil and depositing material in prescribed stock piles on site	m2	2
<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
<u>Excavation in earth not exceeding 2m deep</u>			
47	Excavation in earth not exceeding 2m deep for holes size 300 x 300 x 300mm deep	No	1
<u>COMPACTION</u>			
<u>Compaction of surfaces</u>			
48	Compaction of ground surfaces under concrete channels by wetting and compacting with vibratory roller	m2	2
49	100mm thick (Class D) concrete to falls to grating over gulley	m2	1
<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
<u>15MPa/19mm concrete</u>			
50	15MPa concrete footing of size 300 x 300 x 300mm deep	No	1
<u>CONCRETE SUNDRIES</u>			
<u>Finishing top surfaces of concrete smooth with a wood float</u>			
51	Finishing tops of concrete surface with wood float to falls	m2	1
<u>REINFORCEMENT</u>			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>Mesh reinforcement</u>			
52	Standard square fabric mesh Ref 193 with nominal 6,3mm thick wires and 200 x 200mm pitch complying with SANS 1024/2006 requirements	m2	1
<u>PLUMBING & DRAINAGE (PROVISIONAL)</u>			
<u>uPVC pipes</u>			
53	300mm uPVC Gulley not exceeding 500mm deep, including 300 x 300mm steel light duty square dished grating and frame set in concrete	No	1
54	100 x 50 x 11mm mild steel hot dipped galvanised formed channel of overall 3500mm girth, mitred at two corners and welded together, including welding to two mildsteel hot dipped galvanised plates cast into concrete footing	No	1
55	20mm Galvanised steel water pipes with screwed and sockets joints	m	1
56	Extra over galvanised steel pipes for 90 degree bend	No	1
57	20mm Cast iron brass in-line strainer	No	1
58	20mm Cast iron brass fullway gate valve	No	1
59	20mm Hose bib-tap with lockshield and loose key with 20mm hose union	No	1
60	20mm 111-20CP pillar tap	No	2
<u>WATER RETICULATION</u>			
<u>EARTHWORKS</u>			
<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
61	Excavation in earth not exceeding 2m deep for pipe trenches	m3	91
<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 85% Mod AASHTO density</u>			
62	Backfilling to pipe trenches compacted to 95% Mod AASHTO density	m3	73
Carried Forward			R
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward			R
63	Selected granular filling in bedding under and filling around pipes	m3	145	
	<u>PN10 Marley Megatuff HDPe pipe system or similar with electro fusion couplings for every joint</u>			
64	75mm Pipes laid in trenches not exceeding 2m deep	m	63	
	<u>Extra over HDPe pipes for fittings</u>			
65	75mm Fittings	No	9	
	<u>Sundries</u>			
66	Unreinforced concrete in thrust blocks in trenches at bends, tees, etc including extra excavation, formwork, etc	m3	0,1	
67	Cast iron valve box or similar of SABS Type 3B, with 160mm diameter uPVC pipe and non-rising spindle of left-hand closing, capped top to SABS 664 including 20MPa 400 x 400 x 300mm deep pre-cast concrete block with 10MPa 400 x 400 x 200mm concrete base with ground filling properly compacted	No	0,2	
	<u>Testing</u>			
68	Testing water pipe system		Item	
	<u>SEWER NETWORK</u>			
	<u>EARTHWORKS</u>			
69	Backfilling to pipe trenches compacted to 95% Mod AASHTO density	m3	44	
70	Selected granular filling in bedding under and filling around pipes	m3	27	
	<u>Heavy duty (Class 34) uPVC sewer and drain pipes</u>			
71	110mm Pipes laid in and including trenches not exceeding 1m deep	m	16	
72	110mm Pipes laid in and including trenches exceeding 1m deep and not exceeding 2m deep	m	14	
73	110mm Pipes laid in and including trenches exceeding 2m deep and not exceeding 3m deep	m	9	
	Carried Forward			R
	Section No. 3			
	EXTERNAL WORKS			
	Bill No. 1			
	EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward			R
74	110mm Pipes laid in and including trenches exceeding 3m deep and not exceeding 4m deep	m	5	
75	110mm Pipes laid in and including trenches exceeding 4m deep and not exceeding 5m deep	m	2	
76	160mm Pipes laid in and including trenches not exceeding 1m deep	m	1	
77	160mm Pipes laid in and including trenches exceeding 1m deep and not exceeding 2m deep	m	31	
78	160mm Pipes laid in and including trenches exceeding 2m deep and not exceeding 3m deep	m	9	
79	160mm Pipes laid in and including trenches exceeding 3m deep and not exceeding 4m deep	m	5	
80	160mm Pipes laid in trenches (trenches elsewhere) exceeding 4m deep and not exceeding 5m deep	m	14	
	Extra over uPVC for fittings			
81	110mm Pipe fittings	No	6	
82	160mm Pipe fittings	No	6	
	Construct sewer manhole complete from a single length HDPe (minimum 8kN/m2 ring stiffness) manhole pipe shaft of 1000mm diameter comprising excavation in all materials; preparation of formation; 25MPa/19mm cast in-situ concrete base slab; supply, installation and jointing of precast concrete manhole rings to required depth; junction of concrete ring beam to pipe; factory-manufactured HDPe channel and benching units complete with smooth finished surfaces, formed to suit incoming and outgoing pipe diameters and gradients; factory-fitted HDPe steps at 300mm vertical centres; cutting of pipe openings and making good with 10MPa/13mm concrete'backfilling around manhole compacted to 93% Mod AASHTO density in 150mm layers using approved material; ploy-sulphide seal or cement slurry bedding where required; adaptor slab; heavy-duty precast concrete manhole cover and frame (SABS 558/SANS 555) including concrete coverslab; finishing to paving or surrounding surface complete; all in accordance with drawings, specifications and Engineer's instructions			
83	Manhole 0m to 1m deep	No	0,1	
	Carried Forward			R
	Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

		Brought Forward		R
84	Manhole 0m to 1.5m deep	No	1	
85	Manhole 0m to 2m deep	No	0,2	
86	Manhole 0m to 2.5m deep	No	0,3	
87	Manhole 0m to 3m deep	No	0,1	
88	Manhole 0m to 3.5m deep	No	0,1	
89	Manhole 0m to 4m deep	No	0,1	
	Testing			
90	Testing soil drainage system		Item	
	<u>SEWER TREATMENT PLANT</u>			
	<u>EARTHWORKS</u>			
	<u>Site clearance</u>			
91	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth	m2	14	
92	Stripping average 150mm thick layer of top soil and depositing material in prescribed stock piles on site	m2	14	
	<u>Excavation in earth other than bulk not exceeding 2m deep</u>			
93	Trenches	m3	0,4	
	<u>Extra over trench and hole excavations in earth other than bulk for excavation in:</u>			
94	Soft Rock	m3	0,1	
95	Hard Rock	m3	0,1	
	<u>Extra over all excavations for carting away</u>			
96	Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor	m3	0,4	
	Carried Forward			R
	Section No. 3			
	EXTERNAL WORKS			
	Bill No. 1			
	EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
<u>Risk of collapse of excavations</u>		
97	Sides of trench and hole excavations not exceeding 1,5m deep	m2 0,4
<u>Keeping excavations free of water</u>		
98	Keeping excavations free of all water other than subterranean water	Item
<u>G7 or approved material filling supplied by the contractor, compacted to 95% Mod AASHTO density dry density at optimum moisture density</u>		
99	Under floors, steps, pavings, etc	m3 2
<u>Soil insecticide in accordance with SANS 5859</u>		
100	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2 2
101	To bottoms and sides of trenches etc	m2 0,4
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>		
<u>25MPa/19mm reinforced concrete cast against excavated surfaces</u>		
102	Slabs including beams and inverted beams	m3 3
<u>Finishing top surfaces of concrete smooth with a wood float</u>		
103	Surface beds, slabs, etc.	m2 11
<u>Test Cubes</u>		
104	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	No 0,2
<u>Grooves, channels, mortices, sinkings, etc in concrete including sealant</u>		
105	20 x 20mm Grooves in top	m 4
<u>Rough formwork to sides</u>		
106	Edges, risers, ends and reveals not exceeding 300mm high or wide	m 2
Carried Forward		
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS		

R

R

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>Mild steel reinforcement to structural concrete work</u>			
107	Various diameter bars	t	0,38
<u>High tensile steel dowel bars</u>			
108	16mm Diameter dowel bar 350mm long with one end embedded 175mm deep in side of concrete at expansion joint and other end greased with Bond breaker and wrapped in polythene sheeting, including hole through formwork	No	7
<u>ROOF COVERINGS</u>			
<u>PALRUF 0100 Industrial corrugated PVC sheeting fixed to steel purlins all in accordance with manufacturer's specifications</u>			
109	Roof covering with pitches not exceeding 25 degrees	m2	10
110	Extra roof covering for turbine ventilator opening of 500 x 500mm size	No	3
111	Side cladding	m2	15
<u>STRUCTURAL STEELWORK</u>			
<u>COLUMNS, BEAMS, ETC</u>			
<u>Welded and bolted connection column and beam roof construction</u>			
112	305 x 165 x 54mm (54kg/m) I section columns	t	0,20
113	203 x 133 x 25mm (25kg/m) I section beam	t	0,05
<u>STEEL PORTAL FRAMES</u>			
<u>Welded portal frames with flat bearer, gusset and connection plates, bolts, angle cleats etc bolted to concrete or steel</u>			
114	Double pitched portal frames 15,5m wide x 2,292m high extreme of 305 x 165 x 46mm 46.1kg/m I-section rafters beam	t	0,52
115	Extra over rafter beam for haunch cut beam section of 500 x 200mm high	No	1
116	Extra over rafter beam for haunch cut beam section of 750 x 200mm high	No	1
Carried Forward			R
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>PURLINS, GIRTS, BRACING, ETC</u>			
<u>Purlins and girts bolted to steel</u>			
117	100 x 75 x 20 x 2.5mm Cold framed lipped channel (5.79kg/m)	t	0,32
<u>Steel plates, welded on both sides</u>			
118	303 x 150mm x 10mm Thick plate with 4no holes of 18mm diameter each	No	1
119	332 x 172 x 16mm Thick plate with 4no holes of 18mm diameter each	No	0,2
120	538 x 167 x 10mm Thick plate with 12no of 22mm diameter each	No	0,2
121	597 x 178 x 10mm Thick plate with 4no holes of 22mm diameter each	No	0,3
<u>Bolts to columns, beams, etc</u>			
122	M16 Bolts (Grade 4.8)	No	3
123	M20 bolts(Grade 4.8)	No	3
<u>400 wide x 4mm thick APEX Exclusive Balledge strip curtains installed using stainless steel brackets (Colour: TBC), all in accordance with manufacturer's specifications</u>			
124	Size 4220 x 3000mm high	No	0,1
<u>ROADWORK, PARKING AREAS AND PAVING</u>			
<u>Site clearance</u>			
125	Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth	m2	361
<u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u>			
<u>Excavation in earth not exceeding 2m deep</u>			
126	Over site between buildings, retaining walls, etc to reduce levels and dispose in prescribed stock piles on site	m3	191
Carried Forward			R
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward				R
<u>Extra over bulk excavation in earth for excavation in</u>				
127	Soft rock	m3	13	
128	Hard rock	m3	10	
<u>CARTING AWAY</u>				
<u>Extra over all excavations for carting away</u>				
129	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	191	
<u>KEEPING EXCAVATIONS FROM WATER</u>				
<u>Keeping excavations free of water</u>				
130	Keeping excavations free of water other than subterranean water		Item	
<u>COMPACTION</u>				
<u>Earth filling supplied by the contractor under parking areas, roadways, etc</u>				
131	Filling of approved cohesion-less material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	7	
132	Base course of imported C4 material in accordance with SABS 1200 ME, stabilised to attain UCS>1,0 MPa after seven days and compacted to 95% Mod AASHTO density	m3	45	
133	Base course of imported G5 material in accordance with SABS 1200 ME, stabilised to attain UCS>1.0 Mpa after seven days and compacted to 95% Mod AASHTO density	m3	9	
134	Sub-base course of imported G5 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	45	
135	Sub-base course of imported G7 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	9	
136	Upper selected filling of imported G7 material in accordance with SABS 1200 DM, compacted to 95% Mod AASHTO density	m3	41	
Carried Forward				R
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS				

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			
137	Road bed course in accordance with SABS 1200 ME, compacted to 90% Mod AASHTO density	m3	95
<u>Compaction of surfaces</u>			
138	Compaction of ground surfaces under pavings etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2	456
<u>SOIL POISONING</u>			
<u>Weedkiller (active ingredients metalaclor 102,8 g/l, terbitilasien 248,6 g/l and atrasien 248,6 g/l) mixed in the proportion of 100 ml weedkiller to 100 l water and applied at a rate of 10 l/m²</u>			
139	Under paving etc	m2	456
<u>TESTS</u>			
<u>Additional tests required by the engineer</u>			
140	CBR test in accordance with method A8 of TMH1	No	1
<u>REINFORCEMENT CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
<u>80mm Thick 25MPa precast concrete interlocking block paving of 200x100mm grey paving blocks in accordance with SANS 1058, laid to fall on and including 20mm thick sand layer with joints filled in with sand, compacted with a vibration compactor</u>			
141	Paving to parking area etc to 1 degreee	m2	267
142	Paving to parking areas etc to 3 degree falls	m2	53
<u>Precast concrete kerbs finished smooth on exposed surfaces, including bedding, jointing and pointing</u>			
143	Fig 8C Blitz kerbs with unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc	m	78
<u>Paintwork</u>			
Carried Forward			
Section No. 3 EXTERNAL WORKS Bill No. 1 EXTERNAL WORKS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>SECTION 3</u>			
	<u>ELECTRICAL</u>			
	<u>BILL 1</u>			
	<u>PROVISIONAL AND GENERAL ITEMS</u>			
	<u>GENERAL COSTS</u>			
1	Loading and off loading of material and equipment.	Item		
2	Technical submittals	Item		
3	Transport	Item		
4	Compliance With Health and Safety Regulations	Item		
5	Development of workshop drawings, according to the specification	Item		
6	CADDED "As Installed" drawings, marking up drawings, as specified	Item		
7	Testing ,Load bancing and commissioning of complete Works to engineer and client satisfaction.	Item		
8	End User Training	Item		
9	Inspection and handing over of fully operational electrical and electronic installation.	Item		
10	Compilation of detail operational manuals and maintenance Manuals(with all test results), according to engineer's specification(3 sets) and 1 memeory stick	Item		
11	Marking and labeling of all cabling for all equipment installed	Item		
12	Comprehensive 12 months Maintenance after practical	Item		
13	Complete on-site secured electrical equipment storage facility, as specified	Item		
14	Submission certificate of compliances	No	5	
	Carried Forward		R	
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL			

Brought Forward			R
<u>POWER AND LIGHTING INSTALLATION HO STELS</u>			
<u>Provisional Sum</u>			
15	Electrical provision for Laundry equipments	Item	
<u>ELECTRICAL DISTRIBUTION BOARD</u>			
<u>Supply, Installation and commissioning of the specified Distribution Boards, including making off all wire connections and circuit breakers included (external wiring, conduit, armoured cable and terminations given elsewhere) as per the Distribution Board drawings and listed below.</u>			
<u>HOSTEL BLOCK 01</u>			
<u>Hostel Block Main DB</u>			
16	DB Board without equipment .	Item	
17	200A Triple pole circuit breaker	No 1	
18	100A Triple pole circuit breaker	No 3	
19	80A Triple pole circuit breaker	No 1	
20	125A Triple pole circuit breaker	No 1	
21	63A double pole earthleakage unit, 5kA	No 3	
22	30A Single pole circuit breaker, 5kA	No 6	
23	20A Single pole circuit breaker, 5kA	No 14	
24	10A Single pole circuit breaker, 5kA	No 14	
25	Class I surge protection device	No 1	
<u>Hostel Block Sub DB1</u>			
26	DB Board without equipment .	Item	
27	125A Triple pole circuit breaker	No 1	
28	100A Triple pole circuit breaker	No 3	
Carried Forward			R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
	<u>Supply, installation, ,termination including connection of conductors, cable lugs, captive glands shrouds, cable management labeling, and handing fully compliant and operational 660/1000V multi-core PC insulated, armoured feeder cables in accordance with SANS 10142-1 & 2:2021; SANS 1507, SANS 10119: 2004, SANS 10982, as revised, SANS10400, municipality electrical regulations,Eskom regulations and electrical engineer's specification for the following LV cable sizes:</u>		
47	Complete 95mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	55
48	Complete 95mm ² x 4 core electrical Cable ends	No	10
49	Complete 50mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable, as specified.	No	53
50	Complete 50mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	101
51	Complete 50mm ² x 4 core electrical Cable ends	No	10
52	Complete 25mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable, as specified.	m	101
53	Complete 25mm ² x 4 core cable - in ducts, trenches or on cable tray, as specified	m	280
54	Complete 25mm ² x 4 core electrical Cable ends	No	12
55	Complete 16mm ² Bare cu Earthwire run in parallel with above cables including the terminations either end of cable, as specified.	m	280
	<u>EQUIPMENT CONNECTIONS</u>		
56	Complete 6mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	78
57	Complete 6mm ² x 3 core electrical Cable ends	No	13
58	Complete 10mm ² x 3 core cable - in ducts, trenches or on cable tray, as specified	m	54
59	Complete 10mm ² x 3 core electrical Cable ends	No	9
	Carried Forward		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward			R
60	Complete 4mm ² x 2 core cable - in ducts, trenches or on cable tray, as specified	m	35	
61	Complete 2.5mm ² x 2 core cable - in ducts, trenches or on cable tray, as specified	m	41	
62	Complete 4mm ² x 2 core electrical Cable ends	No	3	
63	Complete 2.5mm ² x 2 core electrical Cable ends	No	3	
<u>LUMINARIES</u>				
<u>Supply, install and connect luminaires complete with lamps, fixings, brass screws, washers, etc. (all light fittings samples shall be approved by the electrical engineer prior to placing orders).</u>				
<u>HOSTEL BLOCK</u>				
64	Type B1: Complete Ceiling mounted IP65 rated interior bulkhead complete with 22W LED lamp with wire guard, control gear, similar or equal and approved.	No	145	
65	Type F2: Complete 1200mm 2 lamp 2x28W open channel luminaire with LED energy saving lamps.	No	142	
66	Type B2: Complete Ceiling mounted IP65 rated interior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved.	No	33	
67	Type B3: Complete Wall mounted IP65 rated exterior bulkhead complete with 22W LED lamp, control gear, similar or equal and approved. Black Trim.	No	42	
<u>TRENCHING</u>				
<u>Supply and installation of cable sleeves as specified, in trenches or cast in concrete, excluding trenching or backfilling</u>				
68	Complete 600mm deep x 450mm wide, soft excavation	m	240	
69	Complete 600mm deep x 450mm wide, intermediate excavation	m	240	
70	Complete 600mm deep x 450mm wide, hard excavation(hard rock)	m	240	
Carried Forward				R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL				

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			
<u>CABLE SLEEVES</u>			
<u>Supply and Installation of Cable Sleeves as specified, in trenches or cast in concrete, excluding trenching or backfilling.</u>			
71	Complete 110mm Ø Cable Sleeve	m	1 520
72	Complete 50mm Ø Cable Sleeve	m	1 520
<u>CONDUCTORS</u>			
<u>PVC insulated copper conductors drawn into conduit, wiring trunking or powerskirting</u>			
73	4mm² PVC Twin & Earth cable, including terminations	m	12 130
74	2.5mm² PVC Twin & Earth cable, including terminations	m	21 500
<u>CONDUIT</u>			
<u>Supply and install conduit including cutting, threading, bending, reaming, short lengths, 1-1/2-3-4-way boxes, bushes, locknuts, couplings saddles, screws etc.</u>			
<u>Installed on surface in ceiling space:</u>			
75	20mm PVC	m	4 090
76	25mm PVC	m	2 100
<u>Chased into brickwork:</u>			
77	20mm PVC	m	1 895
78	25mm PVC	m	950
79	32mm PVC	m	1 200

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Carried Forward

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Section No. 4
ELECTRICAL AND MECHANICAL
Bill No. 1
ELECTRICAL

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward			R
	<u>Terminations onto conduit boxes or DB's</u>			
80	20mm PVC	m	900	
81	25mm PVC	m	650	
	<u>Supply and installation of 60mm Dia round 1-4 way ceiling boxes including connection of conduit and extension rings</u>			
82	20mm PVC	No	200	
83	25mm PVC	No	180	
84	Supply and install 1,6mm diameter steel galvanised draw wires drawn into conduit/sleeves:	m	3 000	
	<u>Supply and installation of galvanised pressed boxes flush in wall, including bushes, locknuts and box extensions where required:</u>			
85	Complete 100x100x50mm outlet box complete with cover lid, as specified	No	181	
86	Complete 100x50x50mm outlet box complete with cover lid, as specified	No	126	
87	Supply and installation a complet galvanised P8000 trunking.	m	238	
	<u>LIGHT SWITCHES</u>			
	<u>Supply, fitting and electrical connection of a flush or surface mounted 16A switch in 100 x 50 excluding box (for flush type) and conduit connections, but including cover plates.</u>			
88	Complete 16A 1-lever / 1-way on 100x50x50mm, as specified	No	110	
89	Complete 16A 1-lever / 2-way on 100x50x50mm, as specified	No	12	
90	Complete 16A 2-lever / 1-way on 100x50x50mm, as specified	No	15	
91	Complete 16A intermidiate switch on 100x50x50mm, as specified	No	23	
	Carried Forward			R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
92	Complete Motion ensor light switch	No	38
93	Complete Photo Cell Switch	No	5
	<u>POWER SOCKET OUTLETS</u>		
	<u>Supply, fitting and electrical connection of flush or surface mounted switched or un-switched socket in either 100 x 100, x 50, round box or wiring channel, excluding box (for flush type) and conduit connections, but including cover plate.</u>		
94	Complete 16A switched socket outlet in accodance with SANS 164-1 and SANS 164-2 on 100x100x50mm outlet as specified.	No	168
95	Complete 16A double switched socket on 100x100x50mm outlet	No	15
	<u>ISOLATORS</u>		
	<u>Supply and install isolator in wall box complete with cover plate.</u>		
96	Complete 10A 1-pole surfaced mount Isolators .	No	18
97	Complete 20A 2-pole External water tight surfaced mount Isolators .	No	32
98	Complete 20A 2-pole surfaced mount Isolators .	No	8
99	Complete 20A 3-pole surfaced mount Isolators .	No	9
100	Complete 30A 2-pole surfaced mount Isolators.	No	7
101	Complete 40A 3-pole surfaced mount Isolators.	No	11
102	Complete 60A 2-pole surfaced mount Isolators .	No	43
103	Complete 60A 3-pole surfaced mount Isolators .	No	43
104	Complete 30A 3-pole surfaced mount Isolators .	No	7
105	Complete 80A 3-pole surfaced mount Isolators .	No	9
106	Complete 100A 3-pole surfaced mount Isolators .	No	5
	Carried Forward		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>POWER SKIRTING INSTALLATION</u>			
107	Supply and install power skirting including cutting, ends, covers, elbows, T's, short lengths, screws ect. 2-Compartment as specified.:	m	53
108	Complete white 16A single socket outlet	No	10
109	Complete white 16A single socket outlet (SANS 164-2-1)	No	10
110	Data outlet on powerskirting	No	10
111	Dedicated red 16A single socket outlet	No	9
112	outlet for fax and printer on powerskirting	No	9
113	Supply and install telephone outlets on power skirting with cradles and telephone sockets.	No	7
114	Supply and install a flush mounted telephone board complete with frame, door, wallbox, fixings including termination of all conduits 450mm x 450mm x 150mm deep	No	6
115	Supply and install a 5Kva fully online UPS complete with by-pass switch and 30min back up time as specified	No	6
116	Parking area 4,5 Meter Solar lights- similar or equal to Beka SOLARPOLE Post top vision	No	8
<u>LIGHTNING PROTECTION INSTALLATION</u>			
<u>Supply, install and test a complete lightning protection installation, including aluminium and copper conductors, test joints, PVC conduit, earth electrodes for the following building but not limited to: -</u>			
117	Hostel block	No	1
<u>EARTHING AND BONDING</u>			
118	Earthing of all buildings to comply with the latest SANS 10142 1, as revised B168d. Bonding of all hot, cold and waste pipes complete with 12,5mm x 1mm thick solid or perforated copper tape including terminations.	Item	
Carried Forward			R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward			R
119	12 Month Guarantee and Maintenance after practical completion	Item		
	<u>TESTING AND COMMISSIONING</u>			
120	TESTING AND COMMISSIONING Inspections, testing and handing over of the complete installation in the presence of the Engineer and certify the results on the Certificate of compliance by an accredited person.:	Item		
	<u>FIRE DETECTION INSTALLATION FOR TWO HOSTEL BLOCKS</u>			
	<u>Supply & Install the following equipment including all connectors, terminal screws:in the Boys and Girls Hostels</u>			
121	Complete surface mount analogue addressable 4 loop Fire detection panel with panel printer, paper roll/ribbon(plus spare set) and 12V AH batteries back-up, as specified	Item		
122	Complete surface mount Fire detection reaper panel.	Item		
123	Complete ceiling mounted addressable optical smoke detector with recessed mounting base unit, as specified	No	100	
124	Complete ceiling void addressable optical smoke detector with recessed mounting base unit, as specified	No	50	
125	Complete ceiling mount addressable detector base loop sounder, as specified	No	28	
126	Complete addressable heat smoke detector with ceiling mounting base, as specified	No	11	
127	Complete addressable red break-glass unit (with cover lid), as specified.	No	10	
128	Complete addressable line relay unit for electronically controlled fire escape doors, as specified.	No	3	
129	Complete fire retardant cabling as specified	m	1 750	
130	Complete electronic FST lock for fire escape interfaced to fire detection system nd modification to fire escape door as specified.	No	11	
	Carried Forward			R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
131	Power supply for FTS locks for electronically held closed fire escape doors.	Item	
132	Complete 25mm Pvc conduit as specified	m	2 000
133	Complete round boxes as specified	No	117
134	Inspections, testing,commissioning and handing over of the complete installation in the presence of the Engineer and certify the results on the Certificate of compliance by an accredited person.:	Item	
135	12 Month Guarantee and Maintenance after practical completion	Item	
<u>PUBLIC EVACUATION INSTALLATION FOR TWO HOSTEL BLOCKS</u>			
<u>Supply & Install the following equipment including all connectors, terminal screws: in the Boys and Girls Hostel Blocks</u>			
136	Voice Alarm System Amplifier 360W - 6 Zone, similar or Equal to TOA VM-3360VA CE D00	No	1
137	Remote Microphone connects to the VM-3240VA, VM-3360VA, VM-2120 and VM-2240 for the purpose of making emergency/general broadcast announcements.	No	1
138	Complete 48U 19" Wall mount swing equipment deep rack with extraction fans,power duct and DIN circuit breaker rail,mounted brackets cable management and brushes as specified	No	1
139	Complete interface to fire detection panel for automatic Evacuation on confirm fire alarm condition,as specified	Item	
140	Complete interface to fire detection panel for automatic Evacuation on confirm fire alarm condition,as specified		SUM
141	Ceiling speaker 5inch 6W, 200 Hz - 20 kHz, firedome, Ceramic terminal, thermal fuse, EN54, BS similar or Equal to TOA PC-1865BS F00	No	100
Carried Forward			R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
142	Emergency Power supply unit for Evac Systems (Supplies DC power to VX-2000 and VM-3000)	No	3
143	12 VOLT 65 A/H BATTERY (Special sealed battery certified for use with VA systems)	No	6
144	Complete 25mm Pvc conduit as specified	m	1 000
145	Complete round boxes as specified	No	100
146	Complete fire retardant cabling as specified	m	1 750
147	Inspections, testing,commissioning and handing over of the complete installation in the presence of the Engineer and certify the results on the Certificate of compliance by an accredited person.:	No	1
148	12 Month Guarantee and Maintenance after practical completion.		Item
149	12 Month Guarantee and Maintenance after practical completion.		SUM
	<u>SOLAR BACKUP</u>		
150	Provide the sum of R1 500, 000 (One million Five hundred rands) for Solar backup		Item
	Carried Forward to Summary of Section No. 4		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 1 ELECTRICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No			Quantity	Rate	Amount
	<u>MECHANICAL WORKS</u>				
	<u>BILL 1</u>				
	<u>PRELIMINARY AND GENERAL</u>				
1	Workshop Drawings and Technical submittals		Item		
2	Rigging, Lifting and Transport		Item		
3	Compliance With Health and Safety Regulations (attached to the mechanical sp		Item		
4	Training of Operators and Maintenance staff		Item		
5	Operating & Maintenance Manuals and As Built	Sets	4,0		
6	Testing and Commissioning c/w Pressure Testing		Item		
7	P & G'S		Item		
8	Maintenance & Servicing on Mechanical Equipment		Item		
	<u>LAUNDRY EQUIPMENT ITEMIZED</u>				
	Special Note To Tenderer's: This Bill Must Be Priced In Conjunction With Drwaing and Detailed Specifications				
9	Item 1 - Barrier Washing Machine 26kg	No	2		
10	Item 3 - Tumble drier 35kg	No	2		
11	Item 4 - Heavy duty sinngle roller ironer	No	2		
12	Item 5 - Heay duty 7 position height adjustable traditional ironing board white with sleeve iron board bottle & hanger support	No	4		
13	Item 6 - Stainless steel folding table	No	4		
14	Item 7 - Receiving counter	No	2		
15	Item 8 - Wet/Dry polyethylene 50kg Laundry Trolley - blue	No	4		
16	Item 9 - Linen Bank Shelving Unit	No	12		
	Carried Forward				R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL				

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		
17	Item 10 - Electronic platform scale	No	4
18	Item 11 - 2,2 litre steam generator iron	No	4
<u>AIR CONDITIONING AND VENTILATION INSTALLATION</u>			
<u>PRELIMINARY AND GENERAL</u>			
19	Technical Submissions		Item
20	Workshop Drawings		Item
21	Transport		Item
22	Rigging		Item
23	Compliance With Health and Safety Regulations		Item
24	Attendance		Item
25	Site Establishment		Item
<u>Project Engineering Management and Quality Control</u>			
26	Testing, balancing, commissioning and handover of air conditioning units and fans including compilation of submitted to the Engineer for approval.		Item
27	Operation and Maintenance Instruction Manuals	Sets	3,0
28	User Training	Hrs	1,00
29	Sets of "as built" drawings hard and soft copies(3 sets)	Sets	3,0
30	12 Months free maintenance		Item
31	Any other item necessary that might have been omitted (allow 5%)		Item
<u>HOSTEL</u>			
<u>Air Conditioning Indoor Units</u>			
<u>Split Units Inverter Type.</u>			
32	Ceiling Cassette Unit Four(4)-Way airflow at 5.6kW Cooling Capacity and 6.3kW Heating Capacity.	No	6
Carried Forward			
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL			

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
33	Ceiling Cassette Unit Four(4)-Way airflow at 4.5kW Cooling Capacity and 5kW Heating Capacity.	No 12
<u>Cassette Panels</u>		
34	2k - 10k Cassette panel	No 18
<u>Refrigerant Pipes</u>		
35	Diameter 6.35mm copper pipe	m 165
36	Diameter 12.7mm copper pipe	m 165
37	Diameter 15mm copper	m 50
38	Diameter 19mm copper pipe	m 45
<u>Pipe Insulation</u>		
39	Diameter 6.35mm copper pipe	m 165
40	Diameter 12.7mm copper pipe	m 165
41	Diameter 15mm copper	m 50
42	Diameter 19mm copper pipe	m 45
43	Diameter 22mm copper pipe	m 55
44	Diameter 25mm copper pipe	m 61
<u>VENTILATION</u>		
<u>FRESH AIR SUPPLY IN- DUCT FANS(WOODS or 'SIMILAR APPROVED)</u>		
45	Diameter 400mm toilet exctraction fan with a volume flow rate 'of 0.60 m³/s at a pressue of 250 Pa c/w two(2) x sound attenuators.	No 6
46	Diameter 450mm toilet exctraction fan with a volume flow rate 'of 0.68 m³/s at a pressue of 250 Pa c/w two(2) x sound attenuators.	No 6
47	Diameter 500mm Fresh Air Fan with a volume flow rate 'of 0.68 m³/s at a pressue of 250 Pa c/w two(2) x sound attenuators.	No 3
Carried Forward		
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL		

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		
<u>FAN CONTROLS</u>		
48	Fresh Air Supply fan timers for the running period of: 06:00 - 10:00 hrs 12:30 - 14:30 hrs 16:00 - 18:00 hrs	No 6
<u>VENTILATION DUCTS (FRESH AIR SUPPLY)</u>		
Installation of Ducts shall include all fixing to complete the installation.		
<u>Fresh Air Ducts, Fittings and Accessories</u>		
49	Category 1 Ducting	m2 225
50	Category 1 Duct Fittings	No 200
<u>Toilet Ducts, Fittings and Accessories</u>		
51	Category 1 Ducting	m2 105
52	Category 1 Duct Fittings	No 92
<u>AIR TERMINALS</u>		
<u>Install and connect with all necessary fittings and accessories</u>		
53	Extract Air disc valves with neck diameter 150mm	No 52
54	Extract Air disc valves with neck diameter 200mm	No 16
55	400X300 Door Grilles	No 10
56	300X300 Door Grilles	No 4
57	Flexible Ducts 150mm Dia.	m 80
58	Flexible Ducts 200mm Dia.	m 24
<u>Electrical Installations & connections</u>		
59	Cabling, power supply and all electrical work related to HVAC installation on this project	Item
<u>FIRE PROTECTION</u>		
<u>PRELIMINARY AND GENERAL</u>		
60	Technical Submissions	Item
Carried Forward		
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL		

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
61	Workshop Drawings	Item	
62	Scaffolding	Item	
63	Transport	Item	
64	Rigging	Item	
65	Compliance With Health and Safety Regulations	Item	
66	Attendance	Item	
67	Site Establishment	Item	
<u>Project Engineering Management and Quality Control</u>			
68	Testing, balancing, commissioning and handover of air conditioning units and fans including compilation of submitted to the Engineer for approval.	Item	
69	Operation and Maintenance Instruction Manuals	Sets	4,0
70	User Client Training	No	1
71	Three Sets of "as built" drawings hard copies "including 1 memory stick"	No	4
72	12 Months free maintenance	Item	
73	Any other item necessary that might have been omitted (allow 5%)	Item	
<u>HOSTELS BLOCK 1 FIRE PROTECTION</u>			
<u>supply, deliver, install & commission all items below: all prices must include clamping, thermal lagging and supporting mechanism. All underground piping and fittings to be HDPE Fusion welded.</u>			
Carried Forward			R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			R
<u>HDPE polyethelene class 16 pipe with O-ring screw type fittings</u>			
74	100mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	150
75	100mm Diameter SSN couplings	No	50
76	100mm Diameter 90° Bends	No	5
77	Drawings (3 Hard copies & 1 electronic copy on USB)	No	10
78	100mm Diameter Tee's	No	5
79	75mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	100
80	75mm Diameter SSN couplings	No	20
81	75mm Diameter 90° Bends	No	3
82	75mm Diameter 45° Bends	No	3
83	75mm Diameter Tee's	No	5
84	50mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	100
85	50mm Diameter SSN couplings	No	10
86	50mm Diameter 90° Bends	No	3
87	50mm Diameter 45° Bends	No	3
88	50mm Diameter Tee's	No	5
Carried Forward			R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
89	32mm Diameter class 16 pipe laid in ground to falls on and including class b bedding (SABS 1200LB) and selected fill blanket, including excavation not exceeding 1000mm deep and backfilling to 95% modified AASHTO density in 150mm layers, including carting away surplus excavated material, risk of collapse, dewatering of trenches, etc.	m	155
90	50mm Diameter SSN couplings	No	5
91	50mm Diameter 90° Bends	No	5
92	50mm Diameter 45° Bends	No	10
93	50mm Diameter Tee's	No	5
	<u>Medium class galvanised mild steel screwed and socketed piping in accordance with BS 1387</u>		
94	75mm diameter pipe	m	30
95	50mm diameter pipe	m	30
96	32mm diameter pipe	m	30
97	25mm diameter pipe	m	150
98	100mm HDPE to Galvanised adaptor	No	2
99	Drawings (3 Hard copies & 1 electronic copy on USB)	No	2
100	100 x 75mm Reducer	No	5
101	100mm Ball isolating valve with lever handle	No	3
102	75mm 90° bend	No	5
103	75 x 50mm Eccentric reducer	No	2
104	75mm Nipple	No	5
105	75mm Union	No	15
106	75mm Ball isolating valve with lever handle	No	2
107	50mm 90° bend	No	3
108	50mm Nipple	No	5
	Carried Forward		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward			
109	50mm Union	No	5
110	50mm Ball isolating valve with lever handle	No	2
111	50 x 32mm Eccentric reducer	No	3
112	50 x 25mm Eccentric reducer	No	5
113	32mm 90° bend	No	3
114	32m Nipple	No	5
115	32mm Union	No	5
116	32mm Tee's	No	2
117	32 x 25mmmm Eccentric reducer	No	5
118	25mm 90° bend	No	30
119	25m Nipple	No	30
120	25mm Union	No	30
121	25mm Tee's	No	5
122	Approved fire and escape route signages	No	80
123	75mm diameter Fire Twin booster valves	No	1
124	75mm diameter Fire hydrant encased in concrete block as per SANS	No	3
125	Approved hose reel c/w 30m of 19mm hose all to SABS 543 incorporating 25mm chromium plated gunmetal gate valve and connection for and joint to supply pipe with brackets bolted to wall with and including four 8mm bolts with plate washers built 100mm into brickworkin cement mortar.	No	15
126	Approved 4.5Kg DCP cylindrical fire extinguisher fixed on and including backing boards to walls	No	20
127	5Kg CO2 Fire Extinguishers	No	3
<u>WASTE WATER DRAINAGE</u>			
Carried Forward			
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward				R
<u>HOSTELS BLOCK 1 COLD WATER SYSTEM</u>				
supply, deliver, install & commission all items below: all prices must include clamping and supporting mechanism				
<u>COLD WATER SUPPLY</u>				
<u>Class O hard drawn copper pipes complying with SABS 460:</u>				
128	15mm Diameter pipe	m	315	
129	15mm Tee	No	200	
130	15mm Female to female couplings	No	200	
131	22mm x 15mm Eccentric reducer	No	125	
132	22mm Diameter pipe	m	125	
133	22mm Bend	No	70	
134	22mm Tee	No	70	
135	22mm Female to female couplings	No	70	
136	28mm x 22mm Eccentric reducer	No	50	
137	28mm Diameter pipe	m	50	
138	28mm Bend	No	50	
139	28mm Tee	No	50	
140	28mm Female to female couplings	No	50	
141	35mm x 28mm Eccentric reducer	No	50	
142	35mm Diameter pipe	m	20	
143	35mm Bend	No	15	
144	35mm Tee	No	15	
145	35mm Female to female couplings	No	15	
146	42mm x 35mm Eccentric reducer	No	15	
147	42mm Diameter pipe	m	25	
Carried Forward				R
Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL				

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
148	42mm Bend	No	8
149	42mm Tee	No	8
150	42mm Female to female couplings	No	30
151	48mm x 42mm Eccentric reducer	No	8
152	48mm Diameter pipe	m	15
153	48mm Bend	No	8
154	48mm Tee	No	8
155	48mm Female to female couplings	No	30
156	54mm x 48mm Eccentric reducer	No	8
157	54mm Diameter pipe	m	15
158	54mm Bend	No	8
159	54mm Tee	No	8
160	54mm Female to female couplings	No	8
	<u>Extra over copper pipes for soldered capillary fittings:</u>		
161	15mm Fittings	No	8
162	22mm Fittings	No	10
163	28mm Fittings	No	10
164	35mm Fittings	No	10
165	42mm Fittings	No	10
166	48mm Fittings	No	10
167	54mm Fittings	No	10
168	15mm Compression rings	No	300
169	22mm Compression rings	No	200
170	28mm Compression rings	No	180
	Carried Forward		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
171	35mm Compression rings	No	100
172	42mm Compression rings	No	80
173	48mm Compression rings	No	30
174	54mm Compression rings	No	30
	supply, deliver, install & commission all items below: all prices must include clamping, thermal lagging and supporting mechanism		
	<u>HOT WATER SUPPLY</u>		
	supply, deliver, install & commission all items below: all prices must include clamping, thermal lagging and supporting mechanism		
	<u>HOT WATER SUPPLY</u>		
	<u>Class O hard drawn copper pipes complying with SABS 460:</u>		
175	15mm Diameter pipe	m	150
176	15mm Bend	No	100
177	Drawings (3 Hard copies & 1 electronic copy on USB)	No	75
178	15mm Female to female couplings	No	50
179	22mm x 15mm Eccentric reducer	No	50
180	22mm Diameter pipe	m	50
181	22mm Bend	No	50
182	22mm Tee	No	50
183	22mm Female to female couplings	No	50
184	28mm x 22mm Eccentric reducer	No	50
185	28mm Diameter pipe	m	50
186	28mm Bend	No	50
187	28mm Tee	No	40
	Carried Forward		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

		Brought Forward		R
188	28mm Female to female couplings	No	40	
189	35mm x 28mm Eccentric reducer	No	40	
190	35mm Diameter pipe	m	15	
191	35mm Bend	No	10	
192	35mm Tee	No	10	
193	35mm Female to female couplings	No	10	
194	42mm x 35mm Eccentric reducer	No	10	
195	42mm Diameter pipe	m	20	
196	42mm Bend	No	10	
197	42mm Tee	No	10	
198	42mm Female to female couplings	No	20	
199	48mm x 42mm Eccentric reducer	No	10	
200	48mm Diameter pipe	m	10	
201	48mm Bend	No	10	
202	48mm Tee	No	10	
203	48mm Female to female couplings	No	20	
204	54mm x 48mm Eccentric reducer	No	10	
205	54mm Diameter pipe	m	10	
206	54mm Bend	No	10	
207	54mm Tee	No	10	
208	54mm Female to female couplings	No	10	
	<u>Extra over copper pipes for soldered capillary fittings:</u>			
209	15mm Fittings	No	10	
210	22mm Fittings	No	10	
		Carried Forward		R
	Section No. 4			
	ELECTRICAL AND MECHANICAL			
	Bill No. 2			
	MECHANICAL			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		R
211	28mm Fittings	No	10
212	35mm Fittings	No	10
213	42mm Fittings	No	10
214	48mm Fittings	No	10
215	54mm Fittings	No	10
216	15mm Compression rings	No	500
217	22mm Compression rings	No	300
218	28mm Compression rings	No	250
219	35mm Compression rings	No	150
220	42mm Compression rings	No	100
221	48mm Compression rings	No	50
222	54mm Compression rings	No	50
	<u>Electric and Solar Water Heaters</u>		
223	#NB: prices should include corresponding isolating valves, 400kpa expansion valves, PRV, gauges, electrical connection, strainers, non-return valves ect... to make the system work. 150L Horizontal Indirect Solar water heater mounted flat on the roof c/w supporting structucter, solar collector panel, corresponding valves,fittings, thermal pipe lagging, drip tray c/w drain pipe and accessories for Teachers houses	No	11
	<u>HOSTELS BLOCK 1 SANITATION</u>		
	supply, deliver, install & commission all items below: all prices must include clamping, thermal lagging and supporting mechanism. All underground piping and fittings to be HDPE Fusion welded.		
	<u>HOSTEL'S ABLUTIONS</u>		
	<u>uPVC soil and waste piping with seal ring joints in accordance with SABS 967 fixed to walls, concrete soffits, etc.</u>		
224	50mm Diameter pipe	m	500
	Carried Forward		R
	Section No. 4 ELECTRICAL AND MECHANICAL Bill No. 2 MECHANICAL		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

	Brought Forward		
225	110mm Diameter pipe	m	140
	<u>Extra over uPVC pipes for fittings:</u>		
226	50mm Diameter x 22.5° bend	No	200
227	50mm Diameter x 45° bend	No	200
228	50mm Diameter x 90° bend	No	150
229	50mm Couplings	No	300
230	50mm Bend with inspection eye	No	60
231	50mm Junction	No	50
232	50mm Junction with inspection eye	No	15
233	50mm Reducer	No	15
234	110mm SSN couplings	No	10
235	110mm Cast iron pan connector	No	10
236	Shower floor drains	No	30

Carried Forward to Summary of Section No. 4

Section No. 4
ELECTRICAL AND MECHANICAL
Bill No. 2
MECHANICAL

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

SECTION SUMMARY - ELECTRICAL AND MECHANICAL				Amount
Bill No		Page No		
1	ELECTRICAL	78		
2	MECHANICAL	92		
Carried to Final Summary			R	
Section No. 4 ELECTRICAL AND MECHANICAL				

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Item No		Quantity	Rate	Amount
	<u>SECTION 3</u>			
	<u>BILL NO. 1</u>			
	<u>PROVISIONAL SUMS</u>			
	<u>PREAMBLES FOR TRADE</u>			
	The General Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained The following "Supplementary Preambles" are incorporated in this bill to satisfy the requirements of the project and shall take precedence over the provisions of the said General Preambles.			
	<u>Burglar proofing</u>			
1	Provide the sum of R5, 800, 000 (Five Million, Eight Hundred Thousand Rands) for burglar proofing	Item		
2	Allow for profit	Item		
3	Allow for attendance	Item		
	<u>Equipment</u>			
4	Provide the sum of R6 000, 000 (Six million rands) for all equipment	Item		
5	Allow for profit	Item		
6	Allow for profit on above if required	Item		
	<u>Joinery Fitting</u>			
7	Provide the sum of R5 000, 000 (Five million rands) for the Joinery fitting	Item		
8	Allow for profit	Item		
9	Allow for attendance	Item		
	Carried Forward		R	
	Section No. 5			
	PROVISIONAL SUMS			
	Bill No. 1			
	PROVISIONAL SUMS			

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

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CONSTRUCTION OF JTG SCHOOL - PHASE 3A

Brought Forward		R
<u>Community Liason Officer</u>		
25	Provide the sum of R270, 000 (Two hundred and seventy thousand rands) for Community Liason Officer	Item
<u>Contract Price Adjustment Provision</u>		
26	Provide the sum of R7 524, 000 (Seven million, Five Hundred and Twenty-Four Thousands rands) for Contract Price Adjustment Provision	Item
Carried to Final Summary		R
Section No. 5 PROVISIONAL SUMS Bill No. 1 PROVISIONAL SUMS		

CONSTRUCTION OF JTG SCHOOL - PHASE 3A

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