Item No		Quantity	Rate	Amount

SECTION NO.1

BILL NO.1

PRELIMINARIES AND GENERAL

BUILDING AGREEMENT AND PRELIMINARIES

The JBCC Series 2000 Edition 4.1 Code 2101 March 2005 2005 edition prepared by the Joint Building Contracts Committee, shall be the agreement, amended as hereinafter described

The Preliminaries for use with the JBCC Series 2000 Principal Building Agreement (May 2005 edition) prepared by the Joint Building Contracts Committee, 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

Where any item is not relevant to this specific contract such item is marked N/A, signifying "not applicable"

Notwithstanding anything to the contrary contained in any of the contract documents including the Principal Building Agreement and the Preliminaries, the provision of the "Preliminaries" as hereinafter set forth shall prevail and shall take precedence

Carried Forward R

Brought Forward	R	

PREAMBLES FOR TRADES

The Model Preambles for Trades (1999 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claim arising from brevity of description of items fully described in the said Model Preambles for Trades will be entertained

Supplementary preambles to the Model Preambles covering clauses of a general nature, clauses pertaining to specific materials and amendments to clauses in the Model Preambles are incorporated in these bills of quantities to satisfy the requirements of this project

The contractor's prices for all items throughout these bills of quantities must take account of and include for all of the obligations, requirements and specifications given in the Model Preambles and in any supplementary preambles

GENERAL

If Alternative A as set out in clause B10.3 hereinafter is to be used for the adjustment of the preliminaries each item priced is to be allocated to one or more of the three categories "F", "T" or "V" as the case may be below such item, where "F" denotes a fixed amount (amount not to be varied), "T" denotes an amount variable in proportion to time and "V" denotes an amount variable in proportion to value

SECTION A - PRINCIPAL BUILDING AGREEMENT

Definitions (A1)

Carried Forward	R	

	Brought Forward		R	
	Objective and Preparation (A2 to A14)			
	The principal agent shall:			
	- monitor and control progress and scheduling			
	- monitor all contract conditions, and			
	- coordinate the efforts of the employer's agents, the contractor and subcontractors			
	The powers conferred on the principal agent in terms of this clause and/or the exercising of these powers shall not be construed as removing or diminishing any of the obligations of the Contractor in terms of the Principal Building Agreement, whether financial, contractual or otherwise, nor shall the exercising of these powers create any privity of contract as between the Employer or his agents on the one part and the Contractor or subcontractors or suppliers on the other part			
	The principal agent reserves the right to attend and participate in all contractor/subcontractor's meetings, to invite other employer's agents to attend such meetings at his discretion and to converse and chair any such meetings if the contractor is derelict in his duty in arranging such meetings to the degree of frequency and comprehensiveness dictated in the opinion of the project manager by the circumstances and exigencies of the construction process			
1	NO CLAUSE	N/A		
	Execution (A15-A23)			
	The contractor shall notify the principal agent if any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc exist in order that the necessary arrangements may be made for the rectification of any such encroachments			
	The contractor shall not cede his rights or delegate his obligations in terms of this agreement unless specifically called for by the employer			
	Carried Forward		R	

Brought Forward		R
Written proof is required from subcontract tenderers at tendering that they can meet the JBCC Selected Subcontract Agreement or other tender agreements and provide security in terms of the agreement. If the above is not provided the tender may not be accepted		
All amounts allowed under Provisional Amounts are intended to be awarded to Selected Subcontractors		
Completion (A24-A30)		
The removal and replacement of materials and/or workmanship that do not conform to specification or drawings shall not constitute grounds for an extension of the construction period nor for an adjustment to the contract sum (clause 29.3)		
Payment (A31 - A35)		
Where prices are submitted by the contractor or nominated/selected subcontractors during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the contract and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the final certificate, it will be in writing		
The employer shall not pay any interest on amounts payable to the contractor for one hundred and forty two (142) days after the date of issue of the certificate of practical completion		
The employer shall, however, pay interest to the contractor at the rate stipulated in clause 34.11 on any amounts payable to the contractor more than one hundred and forty two (142) days after the date of issue of the certificate of practical completion but only for such period as the settlement of the final account is delayed by the non-performance of the principal agent or the employer or his agents. In evaluating non-performance for purposes of this clause a reasonable time shall be allowed to the employer or his agents to respond to any matter brought to his/their attention and which may affect the settlement of the final account		
Cancellation (A36-A39)		
Carried Forward		R

Brought Forward		R
Dispute (A40)		
Substitute Provisions (A41)		
Information necessary for the completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder		
THE SCHEDULE		
Information necessary for completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder		
42.1 CONTRACTING AND OTHER PARTIES		
42.1.1 Employer: As per infomation on the tender data		
42.1.2 Principal Agent: As per the infomation on the Tender data		
42.1.3 Architect:		
Mont Consulting Engineers (Pty) Ltd		
42.1.4 Quantity Surveyor:		
Epilite 398 cc - Quantity Surveyors		
Structural :		
Mont Consulting Engineers (Pty) Ltd		
42.1.5 Civil:		
Mont Consulting Engineers (Pty) Ltd		
42.1.6 Electrical Engineer:		
Carried Forward		R

Brought Forward		R
42.1.6 Mechanical Engineer:		
42.2 CONTRACT DETAILS		
42.2.1 Works Description: Construction of sanitation facilities		
42.2.2 Site Description: as per the infomation on the tender data		
42.2.3 Work or installations by direct contractors: N/A		
42.2.4 This agreement is for a government contract where there are specific options that are applicable to a **State** organ only *Yes*		
42.2.5 Date on which possession of the site is intended to be given: UNKNOWN		
42.2.6 Period for the commencement of the works after the contractor takes posse		
42.2.7 For the works **as a whole.** Intended date of practical completion and the penalty per calendar day		
3 months after contractual commencement date *Date* *Penalty Amount* *The penalty per **calender day** shall be **0.1%** of the tenderd amount (inclusive of value added tax)*		
Carried Forward		R

Brought Forward	R	
42.2.8 For the works in **sections**: Intended date of practical completion and the penalty per calender day **Section 1** .N/A..... *Date* R.N/A..... Penalty Amount		
42.2.9 The **law** applicable to this **agreement** shall be that of *South Africa (country)*		
42.3 INSURANCES		
42.3.1 Contract works insurance to be effected by: *Contractor:* *For the Sum of R Contract Amount + 20.00 %* *With a deductible of - to be determined by the contractor*		
42.3.2 Supplementary insurance is required *No*		
42.3.3 Public liability insurance to be effected by: *Contractor:* *For the Sum of R 2 500 000-00* *With a deductible of - to be determined by the contractor*		
42.4 DOCUMENTS		
42.4.1 Waivers of **contractors lien** or right of continuing possession is required Yes		
42.4.2 Number of construction document copies to be supplied to the **contractor** free of charge: 3 Number of		
Carried Forward	R	

	Brought Forward		R	
	42.4.3 **Bills of Quantities/Lump sum document** schedule of rates drawn up in accordance with: "Standard System of Measuring Builders' Work"			
	42.4.4 On acceptance of the tender the bills of quantities/lump sum document is to be submitted within **working days** *The priced bills of quantities must be handed in with the tender*			
	42.4.5 JBCC Engineering General Conditions are to be included in the **contract documents:** *Yes*			
	42.4.6 The contract value is to be adjusted using escalation adjustment indices *No* Where **JBCC CPAP** is to be used *Base Month* **August 2017**			
	42.4.7 Details of changes made to the provision of JBCC standard documentation:			
	SECTION B: PRELIMINARIES			
	Definitions and interpretation (B1)			
	Documents (B2)			
2	Provisional bills of quantities (B2.2) F:..... V:..... T:.....		N/A	
	The site (B3)			
	Existing premises occupied (B3.4) F:..... V:..... T:.....			
	Carried Forward		R	

	Brought Forward		R	
	Previous work - dimensional accuracy (B3.5)			
	F:..... V:..... T:.....			
	Previous work - defects (B3.6)			
	F:..... V:..... T:.....			
	Management of contract (B4)			
3	Management of the works (B4.1)			
	F:..... V:..... T:.....	Item		
	Samples, Shop Drawings and Manufacturer's Instructions (B5)			
	Temporary works and plant (B6)			
4	Subcontractors' notice board (B6.6)			
	F:..... V:..... T:.....	N/A		
	Temporary services (B7)			
	Prime cost amounts (B8)			
	Attendance on N/S Subcontractors (B9)			
	Financial aspects (B10)			
	General (B11)			
	Schedule of variables (B12)			
	12.1.1 Provisional bills of quantities (B2.2) The quantities are provisional:	No		
	Carried Forward		R	

Brought Forward		R
12.1.2 Availability of construction documentation (B2.3) Construction documentation is not complete *No*		
12.1.3 Interest of agents (B2.4)		
12.1.4 Defined works area (B3.1)		
12.1.5 Geotechnical investigation (B3.2) N/A		
12.1.6 Existing premises occupied (B3.4)		
12.1.7 Previous work - dimensional accuracy (B3.4)		
12.1.8 Previous work - defects (B3.5)		
12.1.9 Services - known (B3.7)		
12.1.10 Protection of trees (B3.9) All trees should be protected and only on instruction of the Principal Agent may any trees be removed		
12.1.12 Enclosure of the works (B6.2)		
12.1.11 Inspection of adjoining properties (B3.11)		
12.1.13 Offices (B6.4.3) An office for the clerck of works should be provided		
Carried Forward		R

Brought Forward		R	
12.1.14 Main notice board (B6.5) *YES*			
12.1.15 Subcontractors notice board (B6.6) A notice board is required *No*			
12.1.16 Water (B7.2) Alternative Selected: A			
12.1.17 Electricity (B7.3) Alternative selected: A			
12.1.18 Telecommunications (B7.4)			
12.1.19 Ablution facilities (B7.5) Alternative selected: A			
12.1.20 Protection of existing/sectionally occupied works (B11.2)			
12.1.21 Special attendance (B9.2) Subcontractor (1) details: N/A			
12.1.22 Protection of the works (B11.1) N/A			
12.1.23 Disturbance (B11.5) N/A			
12.1.24 Environmental Disturbance (B11.6) N/A			
<u>Post tender information (B12.2)</u>			
12.2.1 Payment of preliminaries Alternative selected: B			
Carried Forward		R	

Brought Forward		R
12.2.2 Adjustment of preliminaries Alternative selected: A		
12.2.3 Additional agreed preliminaries items N/A		
SECTION C: SPECIFIC PRELIMINARIES		
Any special items to meet the particular circumstances of a specific project are embodied in this section. Where required for an aspect of the works to be executed according to a design by a consulting engineer, a recital of the headings to the individual clauses of the JBCC Engineering General Conditions are included		
The contractor shall take delivery of, handle, store, use, apply and/or fix all proprietary branded products in strict accordance with the manufacturers' instructions after consultation with the manufacturer's authorised representative		
Contract instructions issued on site are to be recorded in triplicate in a contract instruction book which is to be supplied and maintained on site by the contractor		
At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number and descriptions of tradesmen and labourers employed by him and all subcontractors on the works each day of that week		
At the end of each week the contractor shall provide the principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools used on the works each day of that week		
Carried Forward		R

Brought Forward		R
Where guarantees are called for, the contractor shall obtain a written guarantee, addressed to the employer, from the firm supplying the materials and/or doing the work and shall deliver same to the principal agent on the certified completion of the contract. The guarantee shall state that workmanship, materials and installation are guaranteed for a specified period from the date of certified completion of the contract, and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work, upon written notice from the principal agent to do so. This guarantee will not be enforced if the work is damaged by defects in the construction of the building in which case the responsibility for replacement shall rest entirely with the contractor. The principal agent shall be the sole judge of the cause responsible for defects in the work and his decision shall be final and binding in terms of clause 40.2 of the agreement		
Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the contractor unless the principal agent has specifically authorised, in writing, prior to execution thereof, that costs for such overtime are to be borne by the employer		
It is specifically agreed that the contractor accepts the obligation of assisting the professional consultants in implementing proper cost management. The contractor will be advised by the principal agent of all cost management procedures which will be implemented to ensure that the final building cost does not exceed the budget. The quantity surveyor undertakes to make available to the contractor all budgetary allowances and cost assessments/reports to enable the proper procedures to be implemented and the contractor will attend all cost plan review and cost management meetings. The contractor undertakes to extend these procedures in regard to all subcontractors		
Any Principal Contractor entering into a contract with The Developer must achieve an acceptable level of Occupational Health and Safety performance. Refer to "Project Specification" and "Safety, Health and Environmental Evaluation Questionaire" The contractor to comply with all provisions of the above and to be enforced on all selected and or other sub-contractors, as no claim afterwards will be entertained		
Carried Forward		R

Brought Forward	R	

SUMMARY OF CATEGORIES

Category : Fixed R.....

Category : Value R.....

Category : Time R.....

Carried to Final Summary	R	

Section No. 1
Preliminaries and Generals
Bill No. 1
Preliminaries and General

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO.1				
	DEMOLITIONS				
	Note Unless otherwise stated, all usable material from the demolitions should be kept safely and handed over to the school governing body or the school principal who shall sign for all material received. The builder should allow for the removal of all debris from site at all times and keeping the site clean at all times.				
	Taking down and removing				
1	Steel diamond mesh fence 1.8m high with steel posts and droppers	m	770		
2	Steel tank stand with 6m long legs, constructed for 10kl tank including taking our the legs and concrete an making good	No	4		
	REMOVAL OF EXISTING WORK				
	Taking out and removing sanitary fittings, tanks, geysers, etc, including disconnecting from pipes, traps, etc and making good floor and wall finishes				
3	Waterborne pan with cistern and flush pipe and prepare an make good for new.	No	24		
4	Remove ceilings and prepare an make good for new.	m2	192		
5	Removal of 2.5m Urinal Pan size 2.5 x 1.2m high and disconnecting all the piping and prepare an make good for new.	No	2		
6	Removal of Windows not exceeding 2.5m2 and prepare an make good for new.	No	24		
	Carried Forward			R	

				R	
	Brought Forward				
7	Remove wash hand basins and prepare an make good for new.	No	8		
8	Removal of Mirrors and prepare an make good for new.	No	10		
	REFURBISHMENT OF EXISTING BUILDINGS				
	CEILING CONSTRUCTION, CORNICES, ETC.				
	CORNICES				
	Gypsum plasterboard cornices				
9	75mm Cornice plugged and screwed to wall	m	88		
	CEILINGS				
	6.4mm Gypsum Rhinoboard clout nailed with 12mm wide H-profile primed steel jointing cover strips over joints				
10	Ceilings including 38 x 50mm brandering at maximum 400mm centres	m2	192		
11	Extra over ceiling for opening for 610 x 610mm trap door of 50 x 76mm wrought softwood rebated framing with one 38 x 38mm sawn softwood cross brander covered with ceiling board and fitted flush in opening	No	2		
	TILING				
	CERAMIC FLOOR TILING				
	Ceramic floor tiles none slip with a PC Amount of R 280 delivered to site , as approved by the Architect, fixed with adhesive in strict accordance with the manufacturer's recommendations, including pointing, jointing, all square cutting and waste and cleaning on completion to:				
12	Floor tiles	m2	192		
	CARPENTRY AND JOINERY				
	EAVES, VERGES, ETC				
	Carried Forward			R	

				R	
	Brought Forward				
	"Everite FC77" pressed fibre-cement				
13	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	72		
	DOORS, ETC				
	Wrought meranti doors hung to steel frames				
14	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	2		
15	44mm Purpose made Framed batten door 813 x 1882mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	24		
	PLASTERING				
	INTERNAL PLASTER				
	Cement plaster on brickwork				
16	On walls	m2	174		
17	On narrow widths	m2	8		
	PLUMBING AND DRAINAGE				
	SANITARY FITTINGS				
	Vaal or similar approved				
	White glazed fireclay or vitreous china coupling with SABS specification 497 in				
18	"Vaal or similar approved duct LL LYNX Cistern complete with pan and rubber flushpipe connector.Installation method will be instructed by Engineer on site.	No	24		
19	"Vaal hibiscus" wash hand basin bolted to wall including all fittings and necessary pipework	No	9		
	Carried Forward			R	

				R	
	Brought Forward				
20	"Vaal or similar approved urinal fixed to wall including fittings and necessary pipework SABS specification.	No	6		
	TAPS, VALVES, ETC				
	Manufactured by "Cobra Watertech" or other and approved				
21	32mm CP waste plastic plug and chain	No	9		
22	15mm cobra 503-21B elbow action pillar cold water tap	No	12		
	WASTE UNIONS ECT				
	Manufactured by " cobra Watertech"				
23	15mm "232/350CP" angle regulating valve with 350mm long service connection	No	6		
24	15mm Stopcock	No	6		
25	22mm Non-return valve	No	6		
26	22mm 700RB high pressure float valve including ball	No	9		
27	PBI.10RB 22mm vacuum breaker	No	9		
	TRAPS ETC				
28	32mm x 40mm bottle trap	No	9		
	Pre-cast concrete wash trough				
29	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	3		
	FITTINGS				
	"Walker Crosweller" or Similar				
30	15mm chrome plated push button taps to wash troughs with internal flow control, strainer, no hold feature and water saving shut-off	No	9		
	Carried Forward			R	

				R	
	Brought Forward				
31	32mm CP waste plastic plug and chain	No	9		
	"Kimberley - Clark" or Similar				
32	21 Litre Stainless-steel SHE-BIN plugged to wall with dimensions 505 x 280 x 180mm,fill volume size 12L, including hand operated lid.	No	12		
	DRAINAGE				
	Upvc Pipes				
33	110mm Upvc diameter pipe laid in ground not exceeding 1mm, but n.e 1.5m deep,including trenches.	m	40		
34	50mm Upvc pipe	m	20		
	Extra over Upvc pipes for fittings				
35	110mm Junction with inspection eyes	No	3		
36	110mm bend	No	12		
37	110mm pan connector	No	9		
38	110mm Junction	No	12		
39	110mm x 50mm Reducer	No	9		
40	50mm bend	No	8		
41	50mm access bend	No	12		
	PVC-U soil and vent pipes				
42	110mm vent pipe	No	9		
43	50mm vent pipe	No	9		
44	15mm Service pipe 350mm girth	No	9		
	GLAZING				
	GLAZING TO STEEL WITH PUTTY				
	Carried Forward			R	

				R	
	Brought Forward				
	6.38mm Obscure safety glass				
45	Panes not exceeding 0,1 m2	m2	9		
	PAINTWORK				
	PAINTWORK, ETC TO NEW WORK				
	ON FIBRE-CEMENT				
	Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint				
46	On fascias and barge boards	m2	22		
	ON METAL				
	Spot priming defects in pre-primed surfaces with metal primer and apply two finishing coats high gloss enamel paint				
47	On door frames	m2	26		
48	On gates (Measured over the full flat area of both sides)	m2	14		
49	On gutters and down pipes	m	33		
	ON WOOD				
	Sand smooth, seal knots prime with wood primer and apply two finishing coats gloss enamel paint				
50	On doors (Internal)	m2	85		
51	On doors (External)	m2	7		
	Spot prining defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel				
52	On windows with burglar bars	m2	14		
	ON FLOATED PLASTER				
	Prepare and prime with Plaster Primer and apply two finishing coat matt finish paint				
53	On internal walls	m2	381		
	Carried to Final Summary			R	

Section No. 2
Alterations
Bill No. 1
Alterations

Item No		Quantity	Rate	Amount

SECTION NO.3

BILL NO.1

FOUNDATIONS (PROVISIONAL)

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW371"

SUPPLEMENTARY PREAMBLES

Nature of ground

Classification of excavated material

A soils investigation has been carried out on site by the Principal Agent and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured

Filling (General)

It will be, at all times, required from the Contractor to apply and execute strict quality control on all filling material used

All filling obtained from a commercial source should comply to minimum G6 standard

Samples of potential fill material obtained from excavations, trench excavations, etc.are to be submitted to and approved by the Principal Agent prior the re-use thereof as "filling"

Should any material be found unsuitable and the use thereof be disapproved, such material shall be disposed and approved material must be sourced and imported from an approved commercial source

Filling in general shall be compacted to the prescibed percentage Mod AASHTO density

Carried Forward R

Brought Forward		R
Backfilling described as: - **"filling in pipe trenches, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described - **"filling behind retaining walls, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described **Filling in sub-layers, under floors, etc** All filling in layers under surface beds, in sub-layers, to form earth mattresses, etc. shall be done with materials specified and according to methods prescribed by the SABS 1200ME Sub-base Specification The aforesaid specification was drawn up to cover activities normally encountered on civil engineering work, which is equally applicable on the filling details and requirements prescribed for this project The said specification, although not issued with, shall be regarded to form part of these Bills of Quantities. The Contractor shall obtain a copy of the said specification from the South African Bureau of Standards and be kept on site at all times **CBR and indicator tests** Density tests for monitoring filling shall be done at the minimum prescribed frequencies per each 150mm thick layer of filling placed The Contractor is to note that all necessary tests (i.e. CBR and indicator tests, etc.) are to be conducted for all filling material, whether obtained from the excavations or to be imported from an approved commercial source Results of these tests are to be submitted to and approved by the Principal Agent prior commencement of any placement thereof and/or filling done therewith **Density tests** It will be required from the Contractor to execute density tests for monitoring filling at the following minimum frequencies per each filling layer placed:		
Carried Forward		R

Brought Forward		R	
- **Filling under surface beds, aprons, channels, etc:** 1 Test per 125m² plan area per each 150mm thick layer			
- **Filling behind retaining walls:** 1 Test per each 150mm thick layer per each 15m length of retaining wall			
Results of density tests executed are to be submitted to and approval obtained from the Principal Agent prior commencement of any subsequent fill layers and/or other work			
A seperate item has been measured for density tests in this Bill			
No additional claims in this regard will afterwards be entertained			
Carting away of excessive and/or unsuitable excavated material			
Descriptions for "carting away excessive or unsuitable excavated material from site" shall, unless specifically otherwise described, be deemed to include the loading and hauling of excessive or unsuitable excavated material to a suitable dumping site, which has to be located by the Contractor, off the construction site			
The location of the intended dumping site will be subjected to the prior written approval of the Principal Agent			
The Contractor will also be liable to, upon completion, rehabilitate all those areas of the dumping site used for dumping/spoiling by grading the area to follow the adjacent ground contours and afterwards compacted to 80% Mod. AASHTO density, all to the full satisfaction of the Principal Agent			
Tendered rates must make provision for the above-mentioned as no additional claims in this regard will afterwards be entertained			
Carried Forward		R	

				R	
	Brought Forward				
	Measurement and payment				
	Measurement and payment clauses as described in the above-mentioned specification, Standardized Specification for Civil Engineering Construction, shall not apply to the work as set out in this Bill				
	Mixing of concrete				
	No hand mixing of concrete will be allowed on site				
	Supplementary preambles and full descriptions of materials, items, work, etc.				
	The Contractor is referred to the next Bill No 2, Concrete, Formwork and Reinforcement, and Bill No 3, Masonry, for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this Bill, unless specifically otherwise described				
	Demolitions				
	Note:				
	Unless otherwise stated, all usable material from the demolitions should be kept safely and handed over to the school governing body or the school principal who shall sign for all material received.				
	The builder should allow for the removal of all debris from site at all times and keeping the site clean at all times.				
	SITE CLEARANCE				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs,bush and trees not exceeding 200mm girth, etc.	m2	162		
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	162		
	EXCAVATION, FILLING, ETC				
	Carried Forward			R	

Section No. 3
Type - SFD10
Bill No. 1
Foundation

				R	
	Brought Forward				
	Excavation in earth or compacted platforms not exceeding 2m deep				
3	Trenches	m3	30		
4	For aprons thickenning	m3	1		
	Extra over trench and hole excavations in earth for excavation:				
5	Soft rock	m3	2		
6	Hard rock	m3	5		
	Extra over all excavations for carting away				
7	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	38		
	Risk of collapse of excavations				
8	Sides of trench and hole excavations not exceeding 1,5m deep	m2	87		
	Keeping excavations free of water				
9	Keeping excavations free of water		Item		
	Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density				
10	Under floors, steps, pavings, etc.	m3	11		
11	Backfilling to trenches, holes, etc.	m3	8		
	Compaction of surfaces				
12	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	41		
13	Compaction of ground surface to pits etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	24		
	Carried Forward			R	

Section No. 3
Type - SFD10
Bill No. 1
Foundation

				R	
	Brought Forward				
14	Compaction of ground surface to aprons etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	36		
	Prescribed density tests on filling				
15	"Modified AASHTO Density" test	No	5		
	SOIL POISONING				
	All soil poisoning and insecticide to be applied under a *five year* guarantee by an approved firm of Specialists. Soil insecticides shall comply with *SABS Specification 1165*. Work shall be carried out in accordance with "The application of soil insecticides for the protection of buildings" - *SABS Code of Practice 0124*				
	Casting of concrete floors to start within 24 hours after the application of soil poisoning				
	Pest control applicators must provide : 1. Proof of pesticides and insecticides (data sheets) 2. Toxicants must be registered with the Departement of Agriculture 2. Proof that they are qualified to perform the work 3. Five year guarantee certificate				
	Soil poisoning and insecticide				
16	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	41		
17	To bottoms and sides of trenches, etc	m2	36		
18	To bottom of concrate aprons	m2	112		
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	UNREINFORCED CONCRETE, ETC				
	25MPa/19mm concrete				
19	Strip footings	m3	7		
	Carried Forward			R	

Section No. 3
Type - SFD10
Bill No. 1
Foundation

				R	
	Brought Forward				
20	Ditto, but surface bed in pit	m3	2		
21	Aprons cast in panels	m3	3		
22	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	22		
23	Thickening down apron on edge 110mm deep x 200mm wide	m	36		
	TEST CUBES				
24	Allow for preparing a set of three test cubes each size 150x150x150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	Sets	6		
	CONCRETE SUNDRIES				
	Finishing top surfaces of concrete smooth with a steel trowel				
25	Aprons and pavings to falls	m2	28		
26	Suface beds, slabs, etc.	m2	53		
	ROUGH FORMWORK (DEGREE OF ACCURACY III)				
	Rough formwork to sides				
27	Edges of surface beds not exceeding 300mm high or wide	m	25		
	REINFORCEMENT (PROVISIONAL)				
	Mesh reinforcement				
28	Ref 395 Mesh steel fabric reinforcement laid in concrete surface beds minimum 150mm along edges and ends (Measured net)	m2	53		
	BRICKWORK IN FOUNDATIONS				
	Brickwork of NFX bricks in class I mortar				
29	One brick walls	m2	11		
	Carried Forward			R	

Section No. 3
Type - SFD10
Bill No. 1
Foundation

				R
	Brought Forward			
	BRICKWORK SUNDRIES			
	Brickwork reinforcement			
30	150mm Wide reinforcement built in horizontally	m	36	
	FACE BRICKWORK			
	Face Bricks (PC Amount R 5,500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints			
31	Extra over brickwork for face brickwork in foundation	m2	12	
	Carried Forward to Summary of Section No. 3			R

Section No. 3
Type - SFD10
Bill No. 1
Foundation

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 2				
	MASONRY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW371"				
	SUPPLEMENTARY PREAMBLES				
	Sizes in descriptions				
	Where sizes in descriptions are given in brick units, "one-brick" shall represent the length and "half-brick" the width of a brick				
	Face bricks				
	Bricks shall be ordered timeously to obtain uniformity in size and colour				
	Pointing				
	Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
	SUPERSTRUCTURE				
	FACE BRICKWORK				
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints				
1	Half brickwork for face brick walls pointed both sides	m2	40		
2	One brickwork for face brick walls pointed both sides	m2	163		
3	Extra over brickwork for face brickwork in beamfilling	m2	5		
4	Fair raking and cutting	m	8		
	Carried Forward			R	

				R
	Brought Forward			
	Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces			
5	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	11	
6	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	9	
7	Fair cutting and fitting around pipe not exceeding 100mm diameter.	m	9	
	BRICKWORK SUNDRIES			
	Brickwork reinforcement			
8	75mm Wide reinforcement built in horizontally	m	158	
9	150mm Wide reinforcement built in horizontally	m	285	
	"Fabcon" prestressed fabricated lintels			
10	110 x 75mm Lintels in lengths not exceeding 3m	m	10	
	Turning pieces			
11	110mm Wide turning piece to lintels etc	m	10	
12	220mm Wide turning piece to lintels etc	m	11	
	Galvanised hoop iron cramps, ties, etc			
13	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	28	
	Prestressed fabricated lintels			
14	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	15	
	Ventillation bricks			
15	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	6	
	Carried Forward to Summary of Section No. 3			R

Section No. 3
Type - SFD10
Bill No. 2
Masonry

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO.3				
	WATERPROOFING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	DAMP-PROOFING OF WALLS AND FLOORS				
	One layer of 375 micron "Consol Plastic Brikgrip DPC" embossed damp proof course				
1	In walls	m2	6		
	One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape				
2	Under surface beds	m2	60		
	FLOOR AND WALLS SEALERS				
	Secomastic non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight:				
3	Around steel windows and door frames.	m	45		
	Carried Forward to Summary of Section No. 3			R	

Section No. 3
Type - SFD10
Bill No. 3
Waterproofing

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.4

ROOF COVERINGS ETC

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

General

All roof coverings, etc, to be with a covering of Z275 galvanising

The roof coverings shall be roll-formed in continuous lengths from certified steel complying with ASTM 446 Grade E (3t) and shall carry Agrement Certification

All holes to be drilled and not punched

Where described as with "Globalcoat" finish, all sheets, flashings, etc., shall be with "Globalcoat" silicone polyester paint for exterior use

Sizes

All items are measured net unless otherwise described

Flashings, trimming plates, etc

Prices to include for all cutting and waste and relevant fixing material, unless otherwise described

All rates for flashings, trimmings, etc., to include for forming drips and closed ends to troughs of sheet steel roof covering where applicable

All items are unless otherwise described measured net

PROFILED METAL SHEETING AND ACCESSORIES

Carried Forward R

				R	
	Brought Forward				
	0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)				
	NOTE:				
	A written guarantee stating that the roofs including the flashings, are guaranteed to be waterproof for a period of 12 months must be submitted and handed over to the Principal Agent				
1	Roof covering with pitch not exceeding 25 degrees	m2	60		
	Sundries				
2	12" Thermal resistance sisalition laid on purlins	m2	60		
	Carried Forward to Summary of Section No. 3			R	

Section No. 3
Type - SFD10
Bill No. 4
Roof Covering, ETC

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.5

CARPENTRY AND JOINERY

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

Pre-fabricated metal connected timber roof trusses

All trusses shall be fabricated by an approved truss manufacturer who holds a current Certificate of Competence awarded by the Institute for Timber Construction

Timber

Timber for trusses to be South African softwood and shall be in accordance with the grades as defined in SANS Specification No 563 or as defined in SANS Specification No 1460

Bolts

Bolts shall be in accordance with BS 4190 or SANS 135

Shear plates, tooth connectors and split rings

Shear plates, tooth connectors and split rings shall be in accordance with BSS 1759 : 1960 and installed in accordance with the CSIR Publication HOUT 468, "The Design, Manufacturing and Erection of Timber Trusses"

Washers

Square or round washers of the following dimensions shall be used with all bolts:

1 Bolts up to 8mm diameter:
Washers shall be minimum 25mm wide of minimum 2,50mm thickness

Carried Forward R

Brought Forward		R	
2 Bolts up to 12mm diameter: Washers shall be minimum 36mm wide of minimum 4,00mm thickness			
3 Bolts up to 20mm diameter: Washers shall be minimum 60mm wide of minimum 5,00mm thickness			
Metal connector plates			
Metal connector plates shall be fabricated out of not less than 1mm thick drawn quality galvanised steel			
The steel shall have a minimum yield strength of 228MPa and a minimum ultimate tensile strength of 330MPa. The corrosion resisting coating shall be not less than 275g/m2 commercial class hot dipped galvanising as per SANS 934 before stamping			
All connector plates shall have been tested by the CSIR and be of a size capable of transmitting the forces between members of a truss without exceeding the design values published in the CSIR report			
Truss construction			
Trusses shall be constructed in jigs specially designed to unsure the correct profile, overhangs and cambers			
Where metal connector plates are used all joints are to be close fitted butt joints made by precision pressing of the metal connector plates into each side of the joint			
Truss design			
All trusses shall be designed by a registered Professional Engineer in accordance with SANS 0163 ("Design of Timber Structures") and Code 0160 ("Loadings")			
The truss centres shall be less than or equal to that as described in this bill for each respective truss			
Truss spacing			
Carried Forward		R	

Brought Forward		R	
Truss pitch The truss pitch shall be as described in this bill for each respective truss type			
Truss loading Trusses shall be designed for a live load of 0,50kN/m2 and dead load as specified under the sub-heading "Specific load specifications for roof trusses"			
Shop drawings, design and erection guarantee certificates It will be expected from the Contractor to timeously prepare, submit and obtain the necessary approvals from the Principal Agent in respect of the required shop drawings, design and erection guarantee certificates as specified			
Dimensions All dimensions given in the descriptions of the trusses are nominal and actual measurements are to be obtained by actual measurements taken on the site before design or fabrication commences			
Erection All trusses are to be hoisted and erected strictly in accordance with the procedures and recommendations of the manual "The Erection and Bracing of Timber roof Trusses" as published by the Institute for Timber Construction and the CSIR, or the SABS Code of Practice "The Design, Manufacture and Erection of Timber Roof Trusses", or as designed and detailed by the designer			
Design system The design system as documented in this bill is based on the "MiTek" system and all references given in the descriptions are related to specific type of trusses based on this design system However, Contractors are to note that any design system of similar quality may be used subject to the prior written approval of the Principal Agent			
Carried Forward		R	

Brought Forward		R	
Specific specifications for roof trusses			
Unless otherwise described, the following specifications will apply:			
1 All trusses to be with a 17° pitch at approximately 1000mm centres			
2 The dead load consists of 0,6mm "Corrugated Iron Roof Truss" heavy industrial galvanised finish, 50 x 76mm purlins at approximately 1150mm centres, 6mm fibre-cement nailed-up ceilings on 50 x 38mm brandering at 400mm centres and 50mm glass fibre insulation blanket laid on top of ceilings			
Rates			
Tendered rates to include for the complete roof construction, including the design of the roof construction, all timber of required grade and type shown on the design, all cutting and waste, cutting to the exact lengths and end angles to manufacture the respective truss type, supply of all connector plates, fabrication of trusses, checking the completed truss for quality, loading up, transporting to the site of the works and off loading, storing under cover and protecting from the weather, hoisting up in position and erection of the roof truss structure, necessary supervision, submission of all shop drawings, design and erection guarantee certificates, etc. as specified			
Particle board			
Particle board shall comply with the following specifications:			
a) SANS 1300 Particle board: exterior and flooring type			
b) SANS 1301 Particle board: interior type			
Joinery			
Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc			
Carried Forward		R	

				R	
	Brought Forward				
	Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes				
	Fixing				
	Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
	Decorative laminate finish				
	Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish				
	Items described as with "Formica" on one side shall include a "CPL" treated brown backer on other side and "Vaposeal" sealer. All cut edges and exposed particle board to be sealed with one coat acrylic sealer and then with allche				
	ROOFS, ETC.				
	The following in plate nailed timber roof truss construction				
	The following is applicable in respect of roof trusses				
	The references given in the descriptions are to the respective types of trusses detailed on the architect's drawings annexed to these bills of quantities/accompanying these bills of quantities for tender purposes				
	Prices for rafters and trusses to include all "Hurricane" clips, steel M-runners and "Permfix" plates, screws, nails, wires, sundry material, etc (bracing, wallplates, purlins and gangboarding are measured seperately)				
	Sawn softwood				
1	38 x 114mm Rafters in lengths exceeding 3,9m ans not exceeding 6,6	m	67		
2	76 x 38mm wall plates	m	20		
3	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	54		
	Carried Forward			R	

				R
	Brought Forward			
	Sundries			
4	Two coats creosote on sawn timbers	m2	17	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	28	
6	Hurricane clips	No	15	
	EAVES, VERGES, ETC			
	"Everite FC77" pressed fibre-cement			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	30	
	DOORS, ETC			
	Wrought meranti doors hung to steel frames			
8	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	1	
9	44mm Purpose made Framed batten door 813 x 1882mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	10	
10	44mm Purpose made Framed batten door 915 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D3)	No	1	
	Carried Forward to Summary of Section No. 3			R

Section No. 3
Type - SFD10
Bill No. 5
Carpentry and Joinery

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 6				
	IRONMONGERY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Finishes to ironmongery				
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
	CATCHES, CABIN HOOKS, ETC				
	Approved				
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	2		
	LOCKS				
	"EN-SUITE" LOCKS				
	The following locks are to be suitable for master and grand master key operation				
	Carried Forward			R	

				R
	Brought Forward			
	"Dorma"			
2	Indicator lockset	No	10	
3	Three lever mortice lockset	No	2	
	SUNDRIES			
	"Dorma"			
4	38mm Diameter rubber door stop plugged	No	2	
	LETTERS, NAME PLATES, ETC			
	Union or similar approved			
5	75 x 150mm Natural anodised aluminium plate with male, female or paraplegic symbol	No	3	
	BATHROOM FITTINGS			
	Kimberley-Clarkor Simlilar			
6	Kimberly Clark SQ2 code 405607B white lockable toilet roll holder	No	11	
	Vaal Paragon or equal approved			
7	32mm Type 8 side grab rail 900mm long pluged	No	1	
8	32mm Type 8 back grab rail 800mm long plugged	No	1	
	Carried Forward to Summary of Section No. 3			R

Section No. 3
Type - SFD10
Bill No. 6
Ironmongery

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 7				
	METALWORK				
	PREAMBLES				
	For preambles see " Specification of materials and method to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Descriptions				
	Descriptions of bolts shall be deemed to include nuts and washers				
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
	Metalwork described as"holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described				
	WELDED SCREENS, GATES, ETC				
	Steel gates and frames				
1	Purpose made square hallow section mild steel security gate, size 813 x 2032mm High	No	1		
2	Purpose made square hallow section mild steel security gate, size 915 x 2032mm High	No	1		
	PRESSED STEEL DOOR FRAMES				
	1,2mm Double rebated frames suitable for half brick walls (with no paint finish)				
3	Frame for door 813 x 2032mm high	No	10		
	1,6mm Double rebated frames suitable for one brick walls				
4	Frame for door 813 x 2032mm high	No	1		
	Carried Forward			R	

				R	
	Brought Forward				
5	Frame for door 915 x 2032mm high	No	1		
	STEEL WINDOWS, DOORS, ETC				
	Standard "Durowin" galvanised industrial type windows				
6	Window type NE1, 533 x 654mm high including burglar bars	No	11		
7	Window type NE 7,1022 x 654mm high including burglar bars	No	5		
	Carried Forward to Summary of Section No. 3			R	

Section No. 3
Type - SFD10
Bill No. 7
Metalwork

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 8				
	PLASTERING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SCREEDS				
	Screeds steel trowelled on concrete				
1	30mm thick on floors	m2	58		
	FLOOR AND WALLS SEALERS				
	Minimum two coats approved epoxy coat:				
2	On screed	m2	58		
	Carried Forward to Summary of Section No. 3			R	

Section No. 3
Type - SFD10
Bill No. 8
Plastering

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO. 9

PLUMBING AND DRAINAGE

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

uPVC pipes and fittings

Soil, waste and vent pipes and fittings shall be solvent weld jointed

uPVC pressure pipes and fittings

Pipes for water supply shall be of the class stated

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

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

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground

Carried Forward R

Brought Forward		R	
Fixing of pipes **Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level**			
Reducing fittings Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained			
Wire gratings Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings			
Flush pans Flush pans shall have straight or side outlets and "P" or "S" traps as necessary			
Stainless steelbasins, sinks, wash troughs, urinals, etc. Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable			
Waste unions Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings			
SANITARY FITTINGS Vaal or similar approved			
Carried Forward		R	

				R	
	Brought Forward				
	White glazed fireclay or vitreous china coupling with SABS specification 497 in				
1	"Vaal or similar approved duct LL LYNX Cistern complete with pan and rubber flushpipe connector.Installation method will be instructed by Engineer on site.	No	10		
2	"Vaal hibiscus" wash hand basin bolted to wall including all fittings and necessary pipework	No	4		
3	"Vaal or similar approved Paraplegic vitreous china floor mounted coupling with SABS specification.	No	1		
	TAPS, VALVES, ETC				
	Manufactured by "Cobra Watertech" or other and approved				
4	32mm CP waste plastic plug and chain	No	8		
5	15mm cobra 503-21B elbow action pillar cold water tap	No	12		
	WASTE UNIONS ECT				
	Manufactured by " cobra Watertech"				
6	15mm "232/350CP" angle regulating valve with 350mm long service connection	No	8		
7	15mm Stopcock	No	8		
8	22mm Non-return valve	No	8		
9	22mm 700RB high pressure float valve including ball	No	10		
10	PBI.10RB 22mm vacuum breaker	No	10		
	TRAPS ETC				
11	32mm x 40mm bottle trap	No	8		
	Carried Forward			R	

				R	
	Brought Forward				
	Pre-cast concrete wash trough				
12	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	4		
	FITTINGS				
	"Walker Crosweller" or Similar				
13	15mm chrome plated push button taps to wash troughs with internal flow control, strainer, no hold feature and water saving shut-off	No	8		
14	32mm CP waste plastic plug and chain	No	8		
	"Kimberley - Clark" or Similar				
15	21 Litre Stainless-steel SHE-BIN plugged to wall with dimensions 505 x 280 x 180mm,fill volume size 12L, including hand operated lid.	No	11		
	DRAINAGE				
	Upvc Pipes				
16	110mm Upvc diameter pipe laid in ground not exceeding 1mm, but n.e 1.5m deep,including trenches.	m	40		
17	50mm Upvc pipe	m	20		
	Extra over Upvc pipes for fittings				
18	110mm Junction with inspection eyes	No	3		
19	110mm bend	No	12		
20	110mm pan connector	No	9		
21	110mm Junction	No	12		
22	110mm x 50mm Reducer	No	9		
23	50mm bend	No	8		
24	50mm access bend	No	12		
	Carried Forward			R	

				R
	Brought Forward			
	PVC-U soil and vent pipes			
25	110mm vent pipe	No	9	
26	50mm vent pipe	No	9	
27	15mm Service pipe 350mm girth	No	9	
	WATER SUPPLY			
	Class O copper pipe			
28	15mm Pipes	m	20	
29	22mm Pipes	m	20	
	Extra over class O copper fittings			
30	15mm fittings	No	30	
31	22mm fittings	No	30	
32	Copper overflow and service pipes	No	30	
	Galvanised pipes and fittings			
33	15mm Pipes	m	30	
34	22mm Pipes	m	30	
	Extra over Galvanised pipes for fittings			
35	15mm Fitting	No	30	
36	22mm Fitting	No	30	
37	15mm Service pipe 350mm girth	No	12	
	32mm Diameter Class 10 HDPE pipe			
38	32mm HDPE Class 10 HDPE Pipes, including excavation in earth, from the existing connection point to the washing troughs	m	50	
	Testing			
39	Testing water pipe system		Item	
	Carried Forward to Summary of Section No. 3			R

Section No. 3
Type - SFD10
Bill No. 9
Plumbing and Drainage (Provisional)

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 10				
	GLAZING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	GLAZING TO STEEL WITH PUTTY				
	6.38mm Obscure safety glass				
1	Panes not exceeding 0,1 m2	m2	3		
	Carried Forward to Summary of Section No. 3			R	

Section No. 3
Type - SFD10
Bill No. 10
Glazing

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 11				
	PAINTWORK				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	PAINTWORK, ETC TO NEW WORK				
	ON FIBRE-CEMENT				
	Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint				
1	On fascias and barge boards	m2	34		
	ON METAL				
	Spot priming defects in pre-primed surfaces with metal primer and apply two finishing coats high gloss enamel paint				
2	On door frames	m2	16		
3	On gates (Measured over the full flat area of both sides)	m2	14		
4	On gutters and down pipes	m	25		
	ON WOOD				
	Sand smooth, seal knots prime with wood primer and apply two finishing coats gloss enamel paint				
5	On doors (Internal)	m2	4		
6	On doors (External)	m2	35		
	Spot prining defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel				
7	On windows with burglar bars	m2	14		
	Carried Forward to Summary of Section No. 3			R	

Section No. 3
Type - SFD10
Bill No. 11
Paintwork

SECTION SUMMARY - Type - SFD10

Bill No		Page No		Amount
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	Carried to Final Summary		R	

Section No. 3
Type - SFD10

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.1

FOUNDATIONS (PROVISIONAL)

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW371"

SUPPLEMENTARY PREAMBLES

Nature of ground

Classification of excavated material

A soils investigation has been carried out on site by the Principal Agent and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured

Filling (General)

It will be, at all times, required from the Contractor to apply and execute strict quality control on all filling material used

All filling obtained from a commercial source should comply to minimum G6 standard

Samples of potential fill material obtained from excavations, trench excavations, etc.are to be submitted to and approved by the Principal Agent prior the re-use thereof as "filling"

Should any material be found unsuitable and the use thereof be disapproved, such material shall be disposed and approved material must be sourced and imported from an approved commercial source

Filling in general shall be compacted to the prescibed percentage Mod AASHTO density

Carried Forward R

Brought Forward		R
Backfilling described as: - **"filling in pipe trenches, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described - **"filling behind retaining walls, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described **Filling in sub-layers, under floors, etc** All filling in layers under surface beds, in sub-layers, to form earth mattresses, etc. shall be done with materials specified and according to methods prescribed by the SABS 1200ME Sub-base Specification The aforesaid specification was drawn up to cover activities normally encountered on civil engineering work, which is equally applicable on the filling details and requirements prescribed for this project The said specification, although not issued with, shall be regarded to form part of these Bills of Quantities. The Contractor shall obtain a copy of the said specification from the South African Bureau of Standards and be kept on site at all times **CBR and indicator tests** Density tests for monitoring filling shall be done at the minimum prescribed frequencies per each 150mm thick layer of filling placed The Contractor is to note that all necessary tests (i.e. CBR and indicator tests, etc.) are to be conducted for all filling material, whether obtained from the excavations or to be imported from an approved commercial source Results of these tests are to be submitted to and approved by the Principal Agent prior commencement of any placement thereof and/or filling done therewith **Density tests** It will be required from the Contractor to execute density tests for monitoring filling at the following minimum frequencies per each filling layer placed:		
Carried Forward		R

Section No. 4
Type - SFD4
Bill No. 1
Foundation

Brought Forward		R	
- **Filling under surface beds, aprons, channels, etc:** 1 Test per 125m² plan area per each 150mm thick layer			
- **Filling behind retaining walls:** 1 Test per each 150mm thick layer per each 15m length of retaining wall			
Results of density tests executed are to be submitted to and approval obtained from the Principal Agent prior commencement of any subsequent fill layers and/or other work			
A seperate item has been measured for density tests in this Bill			
No additional claims in this regard will afterwards be entertained			
Carting away of excessive and/or unsuitable excavated material			
Descriptions for "carting away excessive or unsuitable excavated material from site" shall, unless specifically otherwise described, be deemed to include the loading and hauling of excessive or unsuitable excavated material to a suitable dumping site, which has to be located by the Contractor, off the construction site			
The location of the intended dumping site will be subjected to the prior written approval of the Principal Agent			
The Contractor will also be liable to, upon completion, rehabilitate all those areas of the dumping site used for dumping/spoiling by grading the area to follow the adjacent ground contours and afterwards compacted to 80% Mod. AASHTO density, all to the full satisfaction of the Principal Agent			
Tendered rates must make provision for the above-mentioned as no additional claims in this regard will afterwards be entertained			
Carried Forward		R	

				R	
	Brought Forward				
	Measurement and payment				
	Measurement and payment clauses as described in the above-mentioned specification, Standardized Specification for Civil Engineering Construction, shall not apply to the work as set out in this Bill				
	Mixing of concrete				
	No hand mixing of concrete will be allowed on site				
	Supplementary preambles and full descriptions of materials, items, work, etc.				
	The Contractor is referred to the next Bill No 2, Concrete, Formwork and Reinforcement, and Bill No 3, Masonry, for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this Bill, unless specifically otherwise described				
	Demolitions				
	Note:				
	Unless otherwise stated, all usable material from the demolitions should be kept safely and handed over to the school governing body or the school principal who shall sign for all material received.				
	The builder should allow for the removal of all debris from site at all times and keeping the site clean at all times.				
	SITE CLEARANCE				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs,bush and trees not exceeding 200mm girth, etc.	m2	67		
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	63		
	EXCAVATION, FILLING, ETC				
	Carried Forward			R	

				R	
	Brought Forward				
	Excavation in earth or compacted platforms not exceeding 2m deep				
3	Trenches	m3	14		
4	For aprons thickenning	m3	4		
	Extra over trench and hole excavations in earth for excavation:				
5	Soft rock	m3	1		
6	Hard rock	m3	2		
	Extra over all excavations for carting away				
7	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	38		
	Risk of collapse of excavations				
8	Sides of trench and hole excavations not exceeding 1,5m deep	m2	74		
	Keeping excavations free of water				
9	Keeping excavations free of water		Item		
10	Backfilling to trenches, holes, etc.	m3	10		
	Compaction of surfaces				
11	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	34		
12	Compaction of ground surface to aprons etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	29		
	Prescribed density tests on filling				
13	"Modified AASHTO Density" test	No	20		
	Carried Forward			R	

				R	
	Brought Forward				
	SOIL POISONING				
	All soil poisoning and insecticide to be applied under a *five year* guarantee by an approved firm of Specialists. Soil insecticides shall comply with *SABS Specification 1165*. Work shall be carried out in accordance with "The application of soil insecticides for the protection of buildings" - *SABS Code of Practice 0124*				
	Casting of concrete floors to start within 24 hours after the application of soil poisoning				
	Pest control applicators must provide : 1. Proof of pesticides and insecticides (data sheets) 2. Toxicants must be registered with the Departement of Agriculture 2. Proof that they are qualified to perform the work 3. Five year guarantee certificate				
	Soil poisoning and insecticide				
14	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	22		
15	To bottoms and sides of trenches, etc	m2	22		
16	To bottom of concrete aprons	m2	121		
	BILL NO.2				
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	UNREINFORCED CONCRETE, ETC				
	25MPa/19mm concrete				
17	Strip footings	m3	4		
18	Aprons cast in panels	m3	2		
19	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	25		
20	Thickening down apron on edge 110mm deep x 200mm wide	m	33		
	Carried Forward			R	

				R	
	Brought Forward				
	REINFORCED CONCRETE, ETC				
	TEST CUBES				
21	Allow for preparing a set of three test cubes each size 150x150x150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	Sets	2		
	CONCRETE SUNDRIES				
	Finishing top surfaces of concrete smooth with a steel trowel				
22	Aprons and pavings to falls	m2	33		
23	Suface beds, slabs, etc.	m2	22		
	ROUGH FORMWORK (DEGREE OF ACCURACY III)				
	Rough formwork to sides				
24	Edges of surface beds not exceeding 300mm high or wide	m	33		
	REINFORCEMENT (PROVISIONAL)				
	Mesh reinforcement				
25	Ref 395 Mesh steel fabric reinforcement laid in concrete surface beds minimum 150mm along edges and ends (Measured net)	m2	22		
	BRICKWORK IN FOUNDATIONS				
	Brickwork of NFX bricks in class I mortar				
26	One brick walls	m2	10		
	BRICKWORK SUNDRIES				
	Brickwork reinforcement				
27	150mm Wide reinforcement built in horizontally	m	177		
	FACE BRICKWORK				
	Carried Forward			R	

				R	
	Brought Forward				
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints				
28	Extra over brickwork for face brickwork in foundation	m2	27		
	Carried Forward to Summary of Section No. 4			R	

Section No. 4
Type - SFD4
Bill No. 1
Foundation

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 2				
	MASONRY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW371"				
	SUPPLEMENTARY PREAMBLES				
	Sizes in descriptions				
	Where sizes in descriptions are given in brick units, "one-brick" shall represent the length and "half-brick" the width of a brick				
	Face bricks				
	Bricks shall be ordered timeously to obtain uniformity in size and colour				
	Pointing				
	Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
	SUPERSTRUCTURE				
	FACE BRICKWORK				
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints				
1	Half brickwork for face brick walls pointed both sides	m2	40		
2	One brickwork for face brick walls pointed both sides	m2	161		
3	Extra over brickwork for face brickwork in beamfilling	m2	13		
4	Fair raking and cutting	m	66		
	Carried Forward			R	

				R
	Brought Forward			
	Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces			
5	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	7	
6	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	7	
7	Fair cutting and fitting around pipe not exceeding 100mm diameter.	m	8	
	BRICKWORK SUNDRIES			
	Brickwork reinforcement			
8	75mm Wide reinforcement built in horizontally	m	131	
9	150mm Wide reinforcement built in horizontally	m	538	
	Turning pieces			
10	110mm Wide turning piece to lintels etc	m	4	
11	220mm Wide turning piece to lintels etc	m	11	
	Galvanised hoop iron cramps, ties, etc			
12	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	17	
	Prestressed fabricated lintels			
13	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	7	
	Ventillation bricks			
14	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	7	
	Carried Forward to Summary of Section No. 4			R

Section No. 4
Type - SFD4
Bill No. 2
Masonry

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO.3				
	WATERPROOFING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	DAMP-PROOFING OF WALLS AND FLOORS				
	One layer of 375 micron "Consol Plastic Brikgrip DPC" embossed damp proof course				
1	In walls	m2	7		
	One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape				
2	Under surface beds	m2	22		
	FLOOR AND WALLS SEALERS				
	Secomastic non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight:				
3	Around steel windows and door frames.	m	79		
	Carried Forward to Summary of Section No. 4			R	

Section No. 4
Type - SFD4
Bill No. 3
Waterproofing

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.4

ROOF COVERINGS ETC

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

General

All roof coverings, etc, to be with a covering of Z275 galvanising

The roof coverings shall be roll-formed in continuous lengths from certified steel complying with ASTM 446 Grade E (3t) and shall carry Agrement Certification

All holes to be drilled and not punched

Where described as with "Globalcoat" finish, all sheets, flashings, etc., shall be with "Globalcoat" silicone polyester paint for exterior use

Sizes

All items are measured net unless otherwise described

Flashings, trimming plates, etc

Prices to include for all cutting and waste and relevant fixing material, unless otherwise described

All rates for flashings, trimmings, etc., to include for forming drips and closed ends to troughs of sheet steel roof covering where applicable

All items are unless otherwise described measured net

PROFILED METAL SHEETING AND ACCESSORIES

Carried Forward R

				R	
	Brought Forward				
	0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)				
	NOTE:				
	A written guarantee stating that the roofs including the flashings, are guaranteed to be waterproof for a period of 12 months must be submitted and handed over to the Principal Agent				
1	Roof covering with pitch not exceeding 25 degrees	m2	81		
	Sundries				
2	12" Thermal resistance sisalition laid on purlins	m2	81		
	Carried Forward to Summary of Section No. 4			R	

Section No. 4
Type - SFD4
Bill No. 4
Roof Covering, ETC

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.5

CARPENTRY AND JOINERY

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

Pre-fabricated metal connected timber roof trusses

All trusses shall be fabricated by an approved truss manufacturer who holds a current Certificate of Competence awarded by the Institute for Timber Construction

Timber

Timber for trusses to be South African softwood and shall be in accordance with the grades as defined in SANS Specification No 563 or as defined in SANS Specification No 1460

Bolts

Bolts shall be in accordance with BS 4190 or SANS 135

Shear plates, tooth connectors and split rings

Shear plates, tooth connectors and split rings shall be in accordance with BSS 1759 : 1960 and installed in accordance with the CSIR Publication HOUT 468, "The Design, Manufacturing and Erection of Timber Trusses"

Washers

Square or round washers of the following dimensions shall be used with all bolts:

1 Bolts up to 8mm diameter:
Washers shall be minimum 25mm wide of minimum 2,50mm thickness

Carried Forward R

Brought Forward		R	
2 Bolts up to 12mm diameter: Washers shall be minimum 36mm wide of minimum 4,00mm thickness			
3 Bolts up to 20mm diameter: Washers shall be minimum 60mm wide of minimum 5,00mm thickness			
Metal connector plates			
Metal connector plates shall be fabricated out of not less than 1mm thick drawn quality galvanised steel			
The steel shall have a minimum yield strength of 228MPa and a minimum ultimate tensile strength of 330MPa. The corrosion resisting coating shall be not less than 275g/m2 commercial class hot dipped galvanising as per SANS 934 before stamping			
All connector plates shall have been tested by the CSIR and be of a size capable of transmitting the forces between members of a truss without exceeding the design values published in the CSIR report			
Truss construction			
Trusses shall be constructed in jigs specially designed to unsure the correct profile, overhangs and cambers			
Where metal connector plates are used all joints are to be close fitted butt joints made by precision pressing of the metal connector plates into each side of the joint			
Truss design			
All trusses shall be designed by a registered Professional Engineer in accordance with SANS 0163 ("Design of Timber Structures") and Code 0160 ("Loadings")			
The truss centres shall be less than or equal to that as described in this bill for each respective truss			
Truss spacing			
Carried Forward		R	

Brought Forward		R	
Truss pitch The truss pitch shall be as described in this bill for each respective truss type			
Truss loading Trusses shall be designed for a live load of 0,50kN/m2 and dead load as specified under the sub-heading "Specific load specifications for roof trusses"			
Shop drawings, design and erection guarantee certificates It will be expected from the Contractor to timeously prepare, submit and obtain the necessary approvals from the Principal Agent in respect of the required shop drawings, design and erection guarantee certificates as specified			
Dimensions All dimensions given in the descriptions of the trusses are nominal and actual measurements are to be obtained by actual measurements taken on the site before design or fabrication commences			
Erection All trusses are to be hoisted and erected strictly in accordance with the procedures and recommendations of the manual "The Erection and Bracing of Timber roof Trusses" as published by the Institute for Timber Construction and the CSIR, or the SABS Code of Practice "The Design, Manufacture and Erection of Timber Roof Trusses", or as designed and detailed by the designer			
Design system The design system as documented in this bill is based on the "MiTek" system and all references given in the descriptions are related to specific type of trusses based on this design system However, Contractors are to note that any design system of similar quality may be used subject to the prior written approval of the Principal Agent			
Carried Forward		R	

Brought Forward		R	
Specific specifications for roof trusses			
Unless otherwise described, the following specifications will apply:			
1 All trusses to be with a 17° pitch at approximately 1000mm centres			
2 The dead load consists of 0,6mm "Corrugated Iron Roof Truss" heavy industrial galvanised finish, 50 x 76mm purlins at approximately 1150mm centres, 6mm fibre-cement nailed-up ceilings on 50 x 38mm brandering at 400mm centres and 50mm glass fibre insulation blanket laid on top of ceilings			
Rates			
Tendered rates to include for the complete roof construction, including the design of the roof construction, all timber of required grade and type shown on the design, all cutting and waste, cutting to the exact lengths and end angles to manufacture the respective truss type, supply of all connector plates, fabrication of trusses, checking the completed truss for quality, loading up, transporting to the site of the works and off loading, storing under cover and protecting from the weather, hoisting up in position and erection of the roof truss structure, necessary supervision, submission of all shop drawings, design and erection guarantee certificates, etc. as specified			
Particle board			
Particle board shall comply with the following specifications:			
a) SANS 1300 Particle board: exterior and flooring type			
b) SANS 1301 Particle board: interior type			
Joinery			
Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc			
Carried Forward		R	

				R	
	Brought Forward				
	Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes				
	Fixing				
	Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
	Decorative laminate finish				
	Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish				
	Items described as with "Formica" on one side shall include a "CPL" treated brown backer on other side and "Vaposeal" sealer. All cut edges and exposed particle board to be sealed with one coat acrylic sealer and then with allche				
	ROOFS, ETC.				
	The following in plate nailed timber roof truss construction				
	The following is applicable in respect of roof trusses				
	The references given in the descriptions are to the respective types of trusses detailed on the architect's drawings annexed to these bills of quantities/accompanying these bills of quantities for tender purposes				
	Prices for rafters and trusses to include all "Hurricane" clips, steel M-runners and "Permfix" plates, screws, nails, wires, sundry material, etc (bracing, wallplates, purlins and gangboarding are measured seperately)				
	Sawn softwood				
1	38 x 114mm Rafters in lengths exceeding 3,9m ans not exceeding 6,6	m	56		
2	76 x 38mm wall plates	m	19		
3	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	57		
	Carried Forward			R	

Section No. 4
Type - SFD4
Bill No. 5
Carpentry and Joinery

				R
	Brought Forward			
	Sundries			
4	Two coats creosote on sawn timbers	m2	10	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	38	
6	Hurricane clips	No	38	
	EAVES, VERGES, ETC			
	"Everite FC77" pressed fibre-cement			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	33	
	DOORS, ETC			
	Wrought meranti doors hung to steel frames			
8	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	1	
9	44mm Framed batten door 915 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D3)	No	1	
10	44mm Purpose made Framed batten door 813 x 1882mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed (door raised by 120mm from bottom) (D2)	No	4	
	Carried Forward to Summary of Section No. 4			R

Section No. 4
Type - SFD4
Bill No. 5
Carpentry and Joinery

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 6				
	IRONMONGERY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Finishes to ironmongery				
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
	CATCHES, CABIN HOOKS, ETC				
	Approved				
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	2		
	LOCKS				
	"EN-SUITE" LOCKS				
	The following locks are to be suitable for master and grand master key operation				
	Carried Forward			R	

				R
	Brought Forward			
	"Dorma"			
2	Three lever mortice lockset	No	2	
3	Indicator lockset	No	4	
	SUNDRIES			
	"Dorma"			
4	38mm Diameter rubber door stop plugged	No	6	
	LETTERS, NAME PLATES, ETC			
	Union or similar approved			
5	75 x 150mm Natural anodised aluminium plate with male or female symbol	No	2	
	BATHROOM FITTINGS			
	Kimberley-Clarkor Simlilar			
6	Kimberly Clark SQ2 code 405607B white lockable toilet roll holder	No	5	
	SUNDRIES			
	Vaal Paragon or equal approved			
7	32mm Type 8 side grab rail 900mm long pluged	No	1	
8	32mm Type 8 back grab rail 800mm long plugged	No	1	
	Carried Forward to Summary of Section No. 4			R

Section No. 4
Type - SFD4
Bill No. 6
Ironmongery

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 7				
	METALWORK				
	PREAMBLES				
	For preambles see " Specification of materials and method to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Descriptions				
	Descriptions of bolts shall be deemed to include nuts and washers				
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
	Metalwork described as"holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described				
	WELDED SCREENS, GATES, ETC				
	Steel gates and frames				
1	Purpose made square hallow section mild steel security gate, size 813 x 2032mm High Type G1	No	2		
	PRESSED STEEL DOOR FRAMES				
	1,2mm Double rebated frames suitable for half brick walls (with no paint finish)				
2	Frame for door 813 x 2032mm high	No	4		
3	Frame for door 915 x 2032mm high	No	1		
	1,6mm Double rebated frames suitable for one brick walls				
4	Frame for door 950 x 2032mm high	No	1		
	Carried Forward			R	

				R	
	Brought Forward				
5	Frame for door 915 x 2032mm high	No	1		
	STEEL WINDOWS, DOORS, ETC				
	Standard "Durowin" galvanised industrial type windows				
6	Window type NE1, 533 x 654mm high including burglar bars	No	5		
7	Window type NE 7,1022 x 654mm high including burglar bars	No	3		
	Carried Forward to Summary of Section No. 4			R	

Section No. 4
Type - SFD4
Bill No. 7
Metalwork

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 8				
	PLASTERING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SCREEDS				
	Screeds steel trowelled on concrete				
1	30mm thick on floors	m2	34		
	FLOOR AND WALLS SEALERS				
	Minimum two coats approved epoxy coat:				
2	On screed	m2	34		
	Carried Forward to Summary of Section No. 4			R	

Section No. 4
Type - SFD4
Bill No. 8
Plastering

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO. 9

PLUMBING AND DRAINAGE

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

uPVC pipes and fittings

Soil, waste and vent pipes and fittings shall be solvent weld jointed

uPVC pressure pipes and fittings

Pipes for water supply shall be of the class stated

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

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

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground

Carried Forward R

	Brought Forward			R	
	Fixing of pipes				
	Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level				
	Reducing fittings				
	Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained				
	Wire gratings				
	Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings				
	Flush pans				
	Flush pans shall have straight or side outlets and "P" or "S" traps as necessary				
	Stainless steelbasins, sinks, wash troughs, urinals, etc.				
	Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable				
	Waste unions				
	Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings				
	SANITARY FITTINGS				
	Vaal or similar approved				
	White glazed fireclay or vitreous china coupling with SABS specification 497 in				
1	"Vaal or similar approved Paraplegic vitreous china floor mounted coupling with SABS specification.	No	1		
	Carried Forward			R	

				R	
	Brought Forward				
2	"Vaal or similar approved duct LL LYNX Cistern complete with pan and rubber flushpipe connector.Installation method will be instructed by Engineer on site.	No	4		
3	"Vaal hibiscus" wash hand basin bolted to wall including all fittings and necessary pipework	No	4		
	TAPS, VALVES, ETC				
	Manufactured by "Cobra Watertech" or other and approved				
4	32mm CP waste plastic plug and chain	No	5		
5	15mm cobra 503-21B elbow action pillar cold water tap	No	12		
	WASTE UNIONS ECT				
	Manufactured by " cobra Watertech"				
6	15mm "232/350CP" angle regulating valve with 350mm long service connection	No	6		
7	15mm Stopcock	No	6		
8	22mm Non-return valve	No	6		
9	22mm 700RB high pressure float valve including ball	No	9		
10	PBI.10RB 22mm vacuum breaker	No	9		
	TRAPS ETC				
11	32mm x 40mm bottle trap	No	6		
	Pre-cast concrete wash trough				
12	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	1		
	FITTINGS				
	"Walker Crosweller" or Similar				
	Carried Forward			R	

				R	
	Brought Forward				
13	15mm chrome plated push button taps to wash troughs with internal flow control, strainer, no hold feature and water saving shut-off	No	6		
14	32mm CP waste plastic plug and chain	No	6		
	"Kimberley - Clark" or Similar				
15	21 Litre Stainless-steel SHE-BIN plugged to wall with dimensions 505 x 280 x 180mm,fill volume size 12L, including hand operated lid.	No	4		
	DRAINAGE				
	Upvc Pipes				
16	110mm Upvc diameter pipe laid in ground not exceeding 1mm, but n.e 1.5m deep,including trenches.	m	40		
17	50mm Upvc pipe	m	20		
	Extra over Upvc pipes for fittings				
18	110mm Junction with inspection eyes	No	3		
19	110mm bend	No	12		
20	110mm pan connector	No	9		
21	110mm Junction	No	12		
22	110mm x 50mm Reducer	No	9		
23	50mm bend	No	8		
24	50mm access bend	No	12		
	PVC-U soil and vent pipes				
25	110mm vent pipe	No	9		
26	50mm vent pipe	No	9		
27	15mm Service pipe 350mm girth	No	9		
	WATER SUPPLY				
	Carried Forward			R	

				R
	Brought Forward			
	Class O copper pipe			
28	15mm Pipes	m	20	
29	22mm Pipes	m	20	
	Extra over class O copper fittings			
30	15mm fittings	No	30	
31	22mm fittings	No	30	
32	Copper overflow and service pipes	No	30	
	Galvanised pipes and fittings			
33	15mm Pipes	m	30	
34	22mm Pipes	m	30	
	Extra over Galvanised pipes for fittings			
35	15mm Fitting	No	30	
36	22mm Fitting	No	30	
37	15mm Service pipe 350mm girth	No	12	
	32mm Diameter Class 10 HDPE pipe			
38	32mm HDPE Class 10 HDPE Pipes, including excavation in earth, from the existing connection point to the washing troughs	m	50	
	Testing			
39	Testing water pipe system		Item	
	Carried Forward to Summary of Section No. 4			R

Section No. 4
Type - SFD4
Bill No. 9
Plumbing and Drainage (Provisional)

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 10				
	GLAZING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	GLAZING TO STEEL WITH PUTTY				
	6.38mm Obscure safety glass				
1	Panes not exceeding 0,1 m2	m2	5		
	Carried Forward to Summary of Section No. 4			R	

Section No. 4
Type - SFD4
Bill No. 10
Glazing

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 11				
	PAINTWORK				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	PAINTWORK, ETC TO NEW WORK				
	ON FIBRE-CEMENT				
	Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint				
1	On fascias and barge boards	m2	7		
	ON METAL				
	Spot priming defects in pre-primed surfaces with metal primer and apply two finishing coats high gloss enamel paint				
2	On door frames	m2	8		
3	On gates (Measured over the full flat area of both sides)	m2	8		
4	On gutters and down pipes	m	30		
	ON WOOD				
	Sand smooth, seal knots prime with wood primer and apply two finishing coats gloss enamel paint				
5	On doors (Internal)	m2	20		
6	On doors (External)	m2	7		
	Spot prining defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel				
7	On windows with burglar bars	m2	5		
	Carried Forward to Summary of Section No. 4			R	
	Section No. 4 Type - SFD4 Bill No. 11 Paintwork				

SECTION SUMMARY - Type - SFD4

Bill No		Page No		Amount
1	Foundation	60		
2	Masonry	62		
3	Waterproofing	63		
4	Roof Covering, ETC	65		
5	Carpentry and Joinery	71		
6	Ironmongery	73		
7	Metalwork	75		
8	Plastering	76		
9	Plumbing and Drainage (Provisional)	81		
10	Glazing	82		
11	Paintwork	83		
	Carried to Final Summary		R	

Section No. 4
Type - SFD4

Item No		Quantity	Rate	Amount

SECTION NO.4

BILL NO.1

FOUNDATIONS (PROVISIONAL)

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW371"

SUPPLEMENTARY PREAMBLES

Nature of ground

Classification of excavated material

A soils investigation has been carried out on site by the Principal Agent and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured

Filling (General)

It will be, at all times, required from the Contractor to apply and execute strict quality control on all filling material used

All filling obtained from a commercial source should comply to minimum G6 standard

Samples of potential fill material obtained from excavations, trench excavations, etc.are to be submitted to and approved by the Principal Agent prior the re-use thereof as "filling"

Should any material be found unsuitable and the use thereof be disapproved, such material shall be disposed and approved material must be sourced and imported from an approved commercial source

Filling in general shall be compacted to the prescibed percentage Mod AASHTO density

Carried Forward R

Brought Forward		R
Backfilling described as: - **"filling in pipe trenches, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described - **"filling behind retaining walls, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described **Filling in sub-layers, under floors, etc** All filling in layers under surface beds, in sub-layers, to form earth mattresses, etc. shall be done with materials specified and according to methods prescribed by the SABS 1200ME Sub-base Specification The aforesaid specification was drawn up to cover activities normally encountered on civil engineering work, which is equally applicable on the filling details and requirements prescribed for this project The said specification, although not issued with, shall be regarded to form part of these Bills of Quantities. The Contractor shall obtain a copy of the said specification from the South African Bureau of Standards and be kept on site at all times **CBR and indicator tests** Density tests for monitoring filling shall be done at the minimum prescribed frequencies per each 150mm thick layer of filling placed The Contractor is to note that all necessary tests (i.e. CBR and indicator tests, etc.) are to be conducted for all filling material, whether obtained from the excavations or to be imported from an approved commercial source Results of these tests are to be submitted to and approved by the Principal Agent prior commencement of any placement thereof and/or filling done therewith **Density tests** It will be required from the Contractor to execute density tests for monitoring filling at the following minimum frequencies per each filling layer placed:		
Carried Forward		R

Brought Forward		R	
- **Filling under surface beds, aprons, channels, etc:** 1 Test per 125m² plan area per each 150mm thick layer			
- **Filling behind retaining walls:** 1 Test per each 150mm thick layer per each 15m length of retaining wall			
Results of density tests executed are to be submitted to and approval obtained from the Principal Agent prior commencement of any subsequent fill layers and/or other work			
A seperate item has been measured for density tests in this Bill			
No additional claims in this regard will afterwards be entertained			
Carting away of excessive and/or unsuitable excavated material			
Descriptions for "carting away excessive or unsuitable excavated material from site" shall, unless specifically otherwise described, be deemed to include the loading and hauling of excessive or unsuitable excavated material to a suitable dumping site, which has to be located by the Contractor, off the construction site			
The location of the intended dumping site will be subjected to the prior written approval of the Principal Agent			
The Contractor will also be liable to, upon completion, rehabilitate all those areas of the dumping site used for dumping/spoiling by grading the area to follow the adjacent ground contours and afterwards compacted to 80% Mod. AASHTO density, all to the full satisfaction of the Principal Agent			
Tendered rates must make provision for the above-mentioned as no additional claims in this regard will afterwards be entertained			
Carried Forward		R	

	Brought Forward			R	
	Measurement and payment				
	Measurement and payment clauses as described in the above-mentioned specification, Standardized Specification for Civil Engineering Construction, shall not apply to the work as set out in this Bill				
	Mixing of concrete				
	No hand mixing of concrete will be allowed on site				
	Supplementary preambles and full descriptions of materials, items, work, etc.				
	The Contractor is referred to the next Bill No 2, Concrete, Formwork and Reinforcement, and Bill No 3, Masonry, for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this Bill, unless specifically otherwise described				
	Demolitions				
	Note:				
	Unless otherwise stated, all usable material from the demolitions should be kept safely and handed over to the school governing body or the school principal who shall sign for all material received.				
	The builder should allow for the removal of all debris from site at all times and keeping the site clean at all times.				
	SITE CLEARANCE				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs,bush and trees not exceeding 200mm girth, etc.	m2	113		
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	63		
	EXCAVATION, FILLING, ETC				
	Carried Forward			R	

				R	
	Brought Forward				
	Excavation in earth or compacted platforms not exceeding 2m deep				
3	Trenches	m3	10		
4	For aprons thickenning	m3	4		
	Extra over trench and hole excavations in earth for excavation:				
5	Soft rock	m3	1		
6	Hard rock	m3	2		
	Extra over all excavations for carting away				
7	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	38		
	Risk of collapse of excavations				
8	Sides of trench and hole excavations not exceeding 1,5m deep	m2	74		
	Keeping excavations free of water				
9	Keeping excavations free of water		Item		
10	Backfilling to trenches, holes, etc.	m3	10		
	Compaction of surfaces				
11	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	34		
12	Compaction of ground surface to aprons etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	29		
	Prescribed density tests on filling				
13	"Modified AASHTO Density" test	No	5		
	Carried Forward			R	

				R	
	Brought Forward				
	SOIL POISONING				
	All soil poisoning and insecticide to be applied under a *five year* guarantee by an approved firm of Specialists. Soil insecticides shall comply with *SABS Specification 1165*. Work shall be carried out in accordance with "The application of soil insecticides for the protection of buildings" - *SABS Code of Practice 0124*				
	Casting of concrete floors to start within 24 hours after the application of soil poisoning				
	Pest control applicators must provide : 1. Proof of pesticides and insecticides (data sheets) 2. Toxicants must be registered with the Departement of Agriculture 2. Proof that they are qualified to perform the work 3. Five year guarantee certificate				
	Soil poisoning and insecticide				
14	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	34		
15	To bottoms and sides of trenches, etc	m2	121		
16	To bottom of concrate aprons	m2	33		
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	UNREINFORCED CONCRETE, ETC				
	25MPa/19mm concrete				
17	Strip footings	m3	5		
18	Ditto, but surface bed in pit	m3	2		
19	Aprons cast in panels	m3	2		
20	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	25		
21	Thickening down apron on edge 110mm deep x 200mm wide	m	33		
	Carried Forward			R	

				R	
	Brought Forward				
	REINFORCED CONCRETE, ETC				
	TEST CUBES				
22	Allow for preparing a set of three test cubes each size 150x150x150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	Sets	6		
	CONCRETE SUNDRIES				
	Finishing top surfaces of concrete smooth with a steel trowel				
23	Aprons and pavings to falls	m2	33		
24	Suface beds, slabs, etc.	m2	34		
	ROUGH FORMWORK (DEGREE OF ACCURACY III)				
	Rough formwork to sides				
25	Edges of surface beds not exceeding 300mm high or wide	m	33		
	REINFORCEMENT (PROVISIONAL)				
	Mesh reinforcement				
26	Ref 395 Mesh steel fabric reinforcement laid in concrete surface beds minimum 150mm along edges and ends (Measured net)	m2	34		
	BRICKWORK IN FOUNDATIONS				
	Brickwork of NFX bricks in class I mortar				
27	One brick walls	m2	13		
28	One brick walls in pit	m2	26		
29	Half brick corbelling in pit	m2	22		
	BRICKWORK SUNDRIES				
	Carried Forward			R	

				R
	Brought Forward			
	Brickwork reinforcement			
30	150mm Wide reinforcement built in horizontally	m	81	
	FACE BRICKWORK			
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints			
31	Extra over brickwork for face brickwork in foundation	m2	27	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Type - GRD3
Bill No. 1
Foundation

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 2				
	MASONRY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW371"				
	SUPPLEMENTARY PREAMBLES				
	Sizes in descriptions				
	Where sizes in descriptions are given in brick units, "one-brick" shall represent the length and "half-brick" the width of a brick				
	Face bricks				
	Bricks shall be ordered timeously to obtain uniformity in size and colour				
	Pointing				
	Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
	SUPERSTRUCTURE				
	FACE BRICKWORK				
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints				
1	Half brickwork for face brick walls pointed both sides	m2	41		
2	One brickwork for face brick walls pointed both sides	m2	141		
3	Extra over brickwork for face brickwork in beamfilling	m2	13		
4	Fair raking and cutting	m	66		
	Carried Forward			R	

				R
	Brought Forward			
	Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces			
5	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	11	
6	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	9	
7	Fair cutting and fitting around pipe not exceeding 100mm diameter.	m	7	
	BRICKWORK SUNDRIES			
	Brickwork reinforcement			
8	75mm Wide reinforcement built in horizontally	m	131	
9	150mm Wide reinforcement built in horizontally	m	538	
	"Fabcon" prestressed fabricated lintels			
10	110 x 75mm Lintels in lengths not exceeding 3m	m	1	
	Turning pieces			
11	220mm Wide turning piece to lintels etc	m	11	
	Galvanised hoop iron cramps, ties, etc			
12	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	17	
	Prestressed fabricated lintels			
13	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	7	
	Ventillation bricks			
14	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	7	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Type - GRD3
Bill No. 2
Masonry

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO.3				
	WATERPROOFING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	DAMP-PROOFING OF WALLS AND FLOORS				
	One layer of 375 micron "Consol Plastic Brikgrip DPC" embossed damp proof course				
1	In walls	m2	7		
	One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape				
2	Under surface beds	m2	34		
	FLOOR AND WALLS SEALERS				
	Secomastic non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight:				
3	Around steel windows and door frames.	m	79		
	Carried Forward to Summary of Section No. 5			R	
	Section No. 5 Type - GRD3 Bill No. 3 Waterproofing				

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.4

ROOF COVERINGS ETC

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

General

All roof coverings, etc, to be with a covering of Z275 galvanising

The roof coverings shall be roll-formed in continuous lengths from certified steel complying with ASTM 446 Grade E (3t) and shall carry Agrement Certification

All holes to be drilled and not punched

Where described as with "Globalcoat" finish, all sheets, flashings, etc., shall be with "Globalcoat" silicone polyester paint for exterior use

Sizes

All items are measured net unless otherwise described

Flashings, trimming plates, etc

Prices to include for all cutting and waste and relevant fixing material, unless otherwise described

All rates for flashings, trimmings, etc., to include for forming drips and closed ends to troughs of sheet steel roof covering where applicable

All items are unless otherwise described measured net

PROFILED METAL SHEETING AND ACCESSORIES

Carried Forward R

				R	
	Brought Forward				
	0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)				
	NOTE:				
	A written guarantee stating that the roofs including the flashings, are guaranteed to be waterproof for a period of 12 months must be submitted and handed over to the Principal Agent				
1	Roof covering with pitch not exceeding 25 degrees	m2	29		
	Sundries				
2	12" Thermal resistance sisalition laid on purlins	m2	29		
	Carried Forward to Summary of Section No. 5			R	

Section No. 5
Type - GRD3
Bill No. 4
Roof Covering, ETC

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO.5

CARPENTRY AND JOINERY

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

Pre-fabricated metal connected timber roof trusses

All trusses shall be fabricated by an approved truss manufacturer who holds a current Certificate of Competence awarded by the Institute for Timber Construction

Timber

Timber for trusses to be South African softwood and shall be in accordance with the grades as defined in SANS Specification No 563 or as defined in SANS Specification No 1460

Bolts

Bolts shall be in accordance with BS 4190 or SANS 135

Shear plates, tooth connectors and split rings

Shear plates, tooth connectors and split rings shall be in accordance with BSS 1759 : 1960 and installed in accordance with the CSIR Publication HOUT 468, "The Design, Manufacturing and Erection of Timber Trusses"

Washers

Square or round washers of the following dimensions shall be used with all bolts:

1 Bolts up to 8mm diameter:
Washers shall be minimum 25mm wide of minimum 2,50mm thickness

Carried Forward R

Brought Forward		R	
2 Bolts up to 12mm diameter: Washers shall be minimum 36mm wide of minimum 4,00mm thickness			
3 Bolts up to 20mm diameter: Washers shall be minimum 60mm wide of minimum 5,00mm thickness			
Metal connector plates			
Metal connector plates shall be fabricated out of not less than 1mm thick drawn quality galvanised steel			
The steel shall have a minimum yield strength of 228MPa and a minimum ultimate tensile strength of 330MPa. The corrosion resisting coating shall be not less than 275g/m2 commercial class hot dipped galvanising as per SANS 934 before stamping			
All connector plates shall have been tested by the CSIR and be of a size capable of transmitting the forces between members of a truss without exceeding the design values published in the CSIR report			
Truss construction			
Trusses shall be constructed in jigs specially designed to unsure the correct profile, overhangs and cambers			
Where metal connector plates are used all joints are to be close fitted butt joints made by precision pressing of the metal connector plates into each side of the joint			
Truss design			
All trusses shall be designed by a registered Professional Engineer in accordance with SANS 0163 ("Design of Timber Structures") and Code 0160 ("Loadings")			
The truss centres shall be less than or equal to that as described in this bill for each respective truss			
Truss spacing			
Carried Forward		R	

Brought Forward		R	
Truss pitch The truss pitch shall be as described in this bill for each respective truss type			
Truss loading Trusses shall be designed for a live load of 0,50kN/m2 and dead load as specified under the sub-heading "Specific load specifications for roof trusses"			
Shop drawings, design and erection guarantee certificates It will be expected from the Contractor to timeously prepare, submit and obtain the necessary approvals from the Principal Agent in respect of the required shop drawings, design and erection guarantee certificates as specified			
Dimensions All dimensions given in the descriptions of the trusses are nominal and actual measurements are to be obtained by actual measurements taken on the site before design or fabrication commences			
Erection All trusses are to be hoisted and erected strictly in accordance with the procedures and recommendations of the manual "The Erection and Bracing of Timber roof Trusses" as published by the Institute for Timber Construction and the CSIR, or the SABS Code of Practice "The Design, Manufacture and Erection of Timber Roof Trusses", or as designed and detailed by the designer			
Design system The design system as documented in this bill is based on the "MiTek" system and all references given in the descriptions are related to specific type of trusses based on this design system However, Contractors are to note that any design system of similar quality may be used subject to the prior written approval of the Principal Agent			
Carried Forward		R	

Brought Forward		R	
Specific specifications for roof trusses			
Unless otherwise described, the following specifications will apply:			
1 All trusses to be with a 17° pitch at approximately 1000mm centres			
2 The dead load consists of 0,6mm "Corrugated Iron Roof Truss" heavy industrial galvanised finish, 50 x 76mm purlins at approximately 1150mm centres, 6mm fibre-cement nailed-up ceilings on 50 x 38mm brandering at 400mm centres and 50mm glass fibre insulation blanket laid on top of ceilings			
Rates			
Tendered rates to include for the complete roof construction, including the design of the roof construction, all timber of required grade and type shown on the design, all cutting and waste, cutting to the exact lengths and end angles to manufacture the respective truss type, supply of all connector plates, fabrication of trusses, checking the completed truss for quality, loading up, transporting to the site of the works and off loading, storing under cover and protecting from the weather, hoisting up in position and erection of the roof truss structure, necessary supervision, submission of all shop drawings, design and erection guarantee certificates, etc. as specified			
Particle board			
Particle board shall comply with the following specifications:			
a) SANS 1300 Particle board: exterior and flooring type			
b) SANS 1301 Particle board: interior type			
Joinery			
Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc			
Carried Forward		R	

				R	
	Brought Forward				
	Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes				
	Fixing				
	Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
	Decorative laminate finish				
	Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish				
	Items described as with "Formica" on one side shall include a "CPL" treated brown backer on other side and "Vaposeal" sealer. All cut edges and exposed particle board to be sealed with one coat acrylic sealer and then with allche				
	ROOFS, ETC.				
	The following in plate nailed timber roof truss construction				
	The following is applicable in respect of roof trusses				
	The references given in the descriptions are to the respective types of trusses detailed on the architect's drawings annexed to these bills of quantities/accompanying these bills of quantities for tender purposes				
	Prices for rafters and trusses to include all "Hurricane" clips, steel M-runners and "Permfix" plates, screws, nails, wires, sundry material, etc (bracing, wallplates, purlins and gangboarding are measured seperately)				
	Sawn softwood				
1	38 x 114mm Rafters in lengths exceeding 3,9m ans not exceeding 6,6	m	56		
2	76 x 38mm wall plates	m	11		
3	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	40		
	Carried Forward			R	

				R
	Brought Forward			
	Sundries			
4	Two coats creosote on sawn timbers	m2	10	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	38	
6	Hurricane clips	No	38	
	EAVES, VERGES, ETC			
	"Everite FC77" pressed fibre-cement			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	27	
	DOORS, ETC			
	Wrought meranti doors hung to steel frames			
8	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	1	
9	44mm Framed batten door 915 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D3)	No	1	
10	Custom Made Door, 44mm Framed batten door 813 x 1200mm high of Braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard, Including wooded frame fixed to the wall. (Custom Made Door for Grade R')	No	3	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Type - GRD3
Bill No. 5
Carpentry and Joinery

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 6				
	IRONMONGERY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Finishes to ironmongery				
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
	CATCHES, CABIN HOOKS, ETC				
	Approved				
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	2		
	LOCKS				
	"EN-SUITE" LOCKS				
	The following locks are to be suitable for master and grand master key operation				
	Carried Forward			R	

				R
	Brought Forward			
	"Dorma"			
2	Three lever mortice lockset	No	2	
	SUNDRIES			
	"Dorma"			
3	38mm Diameter rubber door stop plugged	No	2	
	LETTERS, NAME PLATES, ETC			
	Union or similar approved			
4	75 x 150mm Natural anodised aluminium plate with male, female or paraplegic symbol	No	2	
	BATHROOM FITTINGS			
	Kimberley-Clarkor Simlilar			
5	Kimberly Clark SQ2 code 405607B white lockable toilet roll holder	No	4	
	Vaal Paragon or equal approved			
6	32mm Type 8 side grab rail 900mm long pluged	No	1	
7	32mm Type 8 back grab rail 800mm long plugged	No	1	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Type - GRD3
Bill No. 6
Ironmongery

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 7				
	METALWORK				
	PREAMBLES				
	For preambles see " Specification of materials and method to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Descriptions				
	Descriptions of bolts shall be deemed to include nuts and washers				
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
	Metalwork described as"holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described				
	WELDED SCREENS, GATES, ETC				
	Steel gates and frames				
1	Purpose made square hallow section mild steel security gate, size 813 x 2032mm High	No	1		
2	Purpose made square hallow section mild steel security gate, size 915 x 2032mm High	No	1		
	PRESSED STEEL DOOR FRAMES				
	1,2mm Double rebated frames suitable for half brick walls (with no paint finish)				
3	Frame for door 813 x 2032mm high	No	2		
	1,6mm Double rebated frames suitable for one brick walls				
4	Frame for door 915 x 2032mm high	No	1		
	Carried Forward			R	

				R	
	Brought Forward				
	STEEL WINDOWS, DOORS, ETC				
	Standard "Durowin" galvanised industrial type windows				
5	Window type NE1, 533 x 654mm high including burglar bars	No	4		
6	Window type NE 7,1022 x 654mm high including burglar bars	No	3		
	Carried Forward to Summary of Section No. 5			R	

Section No. 5
Type - GRD3
Bill No. 7
Metalwork

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 8				
	PLASTERING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SCREEDS				
	Screeds steel trowelled on concrete				
1	30mm thick on floors	m2	21		
	FLOOR AND WALLS SEALERS				
	Minimum two coats approved epoxy coat:				
2	On screed	m2	34		
	Carried Forward to Summary of Section No. 5			R	

Section No. 5
Type - GRD3
Bill No. 8
Plastering

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO. 9

PLUMBING AND DRAINAGE

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

uPVC pipes and fittings

Soil, waste and vent pipes and fittings shall be solvent weld jointed

uPVC pressure pipes and fittings

Pipes for water supply shall be of the class stated

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

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

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground

Carried Forward R

	Brought Forward			R	
	Fixing of pipes				
	Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level				
	Reducing fittings				
	Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained				
	Wire gratings				
	Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings				
	Flush pans				
	Flush pans shall have straight or side outlets and "P" or "S" traps as necessary				
	Stainless steelbasins, sinks, wash troughs, urinals, etc.				
	Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable				
	Waste unions				
	Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings				
	SANITARY FITTINGS				
	Vaal or similar approved				
1	"Vaal Potteries" Protea Din low level junior wash down suite (Code 750611) with Duranite 9 litre White Shire Manx cistern complete with all fittings, including flush pipe and concealed bracket fittings, heavy duty double flap solid white plastic seat, etc.	No	4		
	Carried Forward			R	

				R	
	Brought Forward				
2	510 x 405mm Wall mounted junior basin with one taphole, including integrated overflow attachment (code 8784ZO) and chainstay hole including floor mounted pedestal	No	4		
	TAPS, VALVES, ETC				
	Manufactured by "Cobra Watertech" or other and approved				
3	32mm CP waste plastic plug and chain	No	4		
4	15mm cobra 503-21B elbow action pillar cold water tap	No	4		
	WASTE UNIONS ECT				
	Manufactured by " cobra Watertech"				
5	15mm "232/350CP" angle regulating valve with 350mm long service connection	No	4		
6	15mm Stopcock	No	4		
7	22mm Non-return valve	No	4		
8	22mm 700RB high pressure float valve including ball	No	4		
9	PBI.10RB 22mm vacuum breaker	No	4		
	TRAPS ETC				
10	32mm x 40mm bottle trap	No	3		
	Pre-cast concrete wash trough				
11	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	2		
	FITTINGS				
	"Walker Crosweller" or Similar				
12	15mm chrome plated push button taps to wash troughs with internal flow control, strainer, no hold feature and water saving shut-off	No	4		
	Carried Forward			R	

				R	
	Brought Forward				
13	32mm CP waste plastic plug and chain	No	3		
	"Kimberley - Clark" or Similar				
14	21 Litre Stainless-steel SHE-BIN plugged to wall with dimensions 505 x 280 x 180mm,fill volume size 12L, including hand operated lid.	No	2		
	DRAINAGE				
	Upvc Pipes				
15	110mm Upvc diameter pipe laid in ground not exceeding 1mm, but n.e 1.5m deep,including trenches.	m	40		
16	50mm Upvc pipe	m	20		
	Extra over Upvc pipes for fittings				
17	110mm Junction with inspection eyes	No	3		
18	110mm bend	No	12		
19	110mm pan connector	No	9		
20	110mm Junction	No	12		
21	110mm x 50mm Reducer	No	9		
22	50mm bend	No	8		
23	50mm access bend	No	12		
	PVC-U soil and vent pipes				
24	110mm vent pipe	No	9		
25	50mm vent pipe	No	9		
26	15mm Service pipe 350mm girth	No	9		
	WATER SUPPLY				
	Class O copper pipe				
27	15mm Pipes	m	20		
	Carried Forward			R	

				R
	Brought Forward			
28	22mm Pipes	m	20	
	Extra over class O copper fittings			
29	15mm fittings	No	30	
30	22mm fittings	No	30	
31	Copper overflow and service pipes	No	30	
	Galvanised pipes and fittings			
32	15mm Pipes	m	30	
33	22mm Pipes	m	30	
	Extra over Galvanised pipes for fittings			
34	15mm Fitting	No	30	
35	22mm Fitting	No	30	
36	15mm Service pipe 350mm girth	No	12	
	32mm Diameter Class 10 HDPE pipe			
37	32mm HDPE Class 10 HDPE Pipes, including excavation in earth, from the existing connection point to the washing troughs	m	50	
	Testing			
38	Testing water pipe system		Item	
	Carried Forward to Summary of Section No. 5			R

Section No. 5
Type - GRD3
Bill No. 9
Plumbing and Drainage (Provisional)

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 10				
	GLAZING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	GLAZING TO STEEL WITH PUTTY				
	6.38mm Obscure safety glass				
1	Panes not exceeding 0,1 m2	m2	4		
	Carried Forward to Summary of Section No. 5			R	
	Section No. 5 Type - GRD3 Bill No. 10 Glazing				

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 11				
	PAINTWORK				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	PAINTWORK, ETC TO NEW WORK				
	ON FIBRE-CEMENT				
	Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint				
1	On fascias and barge boards	m2	6		
	ON METAL				
	Spot priming defects in pre-primed surfaces with metal primer and apply two finishing coats high gloss enamel paint				
2	On door frames	m2	7		
3	On gates (Measured over the full flat area of both sides)	m2	7		
4	On gutters and down pipes	m	30		
	ON WOOD				
	Sand smooth, seal knots prime with wood primer and apply two finishing coats gloss enamel paint				
5	On doors (External)	m2	4		
	Spot prining defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel				
6	On windows with burglar bars	m2	3		
	Carried Forward to Summary of Section No. 5			R	
	Section No. 5 Type - GRD3 Bill No. 11 Paintwork				

SECTION SUMMARY - Type - GRD3

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	Carried to Final Summary		R	

Section No. 5
Type - GRD3

Item No		Quantity	Rate	Amount

SECTION NO.5

BILL NO.1

FOUNDATIONS (PROVISIONAL)

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW371"

SUPPLEMENTARY PREAMBLES

Nature of ground

Classification of excavated material

A soils investigation has been carried out on site by the Principal Agent and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured

Filling (General)

It will be, at all times, required from the Contractor to apply and execute strict quality control on all filling material used

All filling obtained from a commercial source should comply to minimum G6 standard

Samples of potential fill material obtained from excavations, trench excavations, etc.are to be submitted to and approved by the Principal Agent prior the re-use thereof as "filling"

Should any material be found unsuitable and the use thereof be disapproved, such material shall be disposed and approved material must be sourced and imported from an approved commercial source

Filling in general shall be compacted to the prescibed percentage Mod AASHTO density

Carried Forward R

Brought Forward		R
Backfilling described as: - **"filling in pipe trenches, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described - **"filling behind retaining walls, etc."**, all backfilling shall be done with approved backfilling compacted to 93% Mod. AASHTO density, unless otherwise described **Filling in sub-layers, under floors, etc** All filling in layers under surface beds, in sub-layers, to form earth mattresses, etc. shall be done with materials specified and according to methods prescribed by the SABS 1200ME Sub-base Specification The aforesaid specification was drawn up to cover activities normally encountered on civil engineering work, which is equally applicable on the filling details and requirements prescribed for this project The said specification, although not issued with, shall be regarded to form part of these Bills of Quantities. The Contractor shall obtain a copy of the said specification from the South African Bureau of Standards and be kept on site at all times **CBR and indicator tests** Density tests for monitoring filling shall be done at the minimum prescribed frequencies per each 150mm thick layer of filling placed The Contractor is to note that all necessary tests (i.e. CBR and indicator tests, etc.) are to be conducted for all filling material, whether obtained from the excavations or to be imported from an approved commercial source Results of these tests are to be submitted to and approved by the Principal Agent prior commencement of any placement thereof and/or filling done therewith **Density tests** It will be required from the Contractor to execute density tests for monitoring filling at the following minimum frequencies per each filling layer placed:		
Carried Forward		R

Brought Forward		R	
- **Filling under surface beds, aprons, channels, etc:** 1 Test per 125m² plan area per each 150mm thick layer			
- **Filling behind retaining walls:** 1 Test per each 150mm thick layer per each 15m length of retaining wall			
Results of density tests executed are to be submitted to and approval obtained from the Principal Agent prior commencement of any subsequent fill layers and/or other work			
A seperate item has been measured for density tests in this Bill			
No additional claims in this regard will afterwards be entertained			
Carting away of excessive and/or unsuitable excavated material			
Descriptions for "carting away excessive or unsuitable excavated material from site" shall, unless specifically otherwise described, be deemed to include the loading and hauling of excessive or unsuitable excavated material to a suitable dumping site, which has to be located by the Contractor, off the construction site			
The location of the intended dumping site will be subjected to the prior written approval of the Principal Agent			
The Contractor will also be liable to, upon completion, rehabilitate all those areas of the dumping site used for dumping/spoiling by grading the area to follow the adjacent ground contours and afterwards compacted to 80% Mod. AASHTO density, all to the full satisfaction of the Principal Agent			
Tendered rates must make provision for the above-mentioned as no additional claims in this regard will afterwards be entertained			
Carried Forward		R	

				R	
	Brought Forward				
	Measurement and payment				
	Measurement and payment clauses as described in the above-mentioned specification, Standardized Specification for Civil Engineering Construction, shall not apply to the work as set out in this Bill				
	Mixing of concrete				
	No hand mixing of concrete will be allowed on site				
	Supplementary preambles and full descriptions of materials, items, work, etc.				
	The Contractor is referred to the next Bill No 2, Concrete, Formwork and Reinforcement, and Bill No 3, Masonry, for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this Bill, unless specifically otherwise described				
	Demolitions				
	Note:				
	Unless otherwise stated, all usable material from the demolitions should be kept safely and handed over to the school governing body or the school principal who shall sign for all material received.				
	The builder should allow for the removal of all debris from site at all times and keeping the site clean at all times.				
	SITE CLEARANCE				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs,bush and trees not exceeding 200mm girth, etc.	m2	90		
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	90		
	EXCAVATION, FILLING, ETC				
	Carried Forward			R	

				R	
	Brought Forward				
	Excavation in earth or compacted platforms not exceeding 2m deep				
3	Trenches	m3	6		
4	For aprons thickenning	m3	2		
	Extra over trench and hole excavations in earth for excavation:				
5	Soft rock	m3	1		
6	Hard rock	m3	2		
	Extra over all excavations for carting away				
7	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	18		
	Risk of collapse of excavations				
8	Sides of trench and hole excavations not exceeding 1,5m deep	m2	36		
	Keeping excavations free of water				
9	Keeping excavations free of water		Item		
	Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density				
10	Under floors, steps, pavings, etc.	m3	8		
11	Backfilling to trenches, holes, etc.	m3	7		
	Compaction of surfaces				
12	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	25		
13	Compaction of ground surface to pits etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	4		
	Carried Forward			R	

Section No. 6
Type - GR4
Bill No. 1
Foundation

				R	
	Brought Forward				
14	Compaction of ground surface to aprons etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	23		
	Prescribed density tests on filling				
15	"Modified AASHTO Density" test	No	4		
	SOIL POISONING				
	All soil poisoning and insecticide to be applied under a *five year* guarantee by an approved firm of Specialists. Soil insecticides shall comply with *SABS Specification 1165*. Work shall be carried out in accordance with "The application of soil insecticides for the protection of buildings" - *SABS Code of Practice 0124*				
	Casting of concrete floors to start within 24 hours after the application of soil poisoning				
	Pest control applicators must provide : 1. Proof of pesticides and insecticides (data sheets) 2. Toxicants must be registered with the Departement of Agriculture 2. Proof that they are qualified to perform the work 3. Five year guarantee certificate				
	Soil poisoning and insecticide				
16	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	25		
17	To bottoms and sides of trenches, etc	m2	13		
18	To bottom of concrate aprons	m2	20		
	UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES				
	UNREINFORCED CONCRETE, ETC				
	25MPa/19mm concrete				
19	Strip footings	m3	2		
	Carried Forward			R	

Section No. 6
Type - GR4
Bill No. 1
Foundation

				R	
	Brought Forward				
20	Aprons cast in panels	m3	2		
21	Extra over concrete in surface beds for thickening 85mm deep the bottom including all excavation, backfilling etc.	m	10		
22	Thickening down apron on edge 110mm deep x 200mm wide	m	7		
	REINFORCED CONCRETE, ETC				
	25MPa/19mm concrete				
23	Slabs	m3	2		
	TEST CUBES				
24	Allow for preparing a set of three test cubes each size 150x150x150mm, sending them to an approved testing laboratory for testing and paying all charges in connection therewith.	Sets	6		
	CONCRETE SUNDRIES				
	Finishing top surfaces of concrete smooth with a steel trowel				
25	Aprons and pavings to falls	m2	23		
26	Suface beds, slabs, etc.	m2	23		
	ROUGH FORMWORK (DEGREE OF ACCURACY III)				
	Rough formwork to sides				
27	Edges of surface beds not exceeding 300mm high or wide	m	19		
	REINFORCEMENT (PROVISIONAL)				
	Mesh reinforcement				
28	Ref 395 Mesh steel fabric reinforcement laid in concrete surface beds minimum 150mm along edges and ends (Measured net)	m2	14		
	BRICKWORK IN FOUNDATIONS				
	Carried Forward			R	

				R
	Brought Forward			
	Brickwork of NFX bricks in class I mortar			
29	One brick walls	m2	8	
	BRICKWORK SUNDRIES			
	Brickwork reinforcement			
30	150mm Wide reinforcement built in horizontally	m	82	
	FACE BRICKWORK			
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints			
31	Extra over brickwork for face brickwork in foundation	m2	3	
	Carried Forward to Summary of Section No. 6			R

Section No. 6
Type - GR4
Bill No. 1
Foundation

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO. 2				
	MASONRY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW371"				
	SUPPLEMENTARY PREAMBLES				
	Sizes in descriptions				
	Where sizes in descriptions are given in brick units, "one-brick" shall represent the length and "half-brick" the width of a brick				
	Face bricks				
	Bricks shall be ordered timeously to obtain uniformity in size and colour				
	Pointing				
	Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
	SUPERSTRUCTURE				
	FACE BRICKWORK				
	Face Bricks (PC Amount R 5 500.00 per thousand bricks delivered to site excl. VAT) pointed with square recessed horizontal and vertical joints				
1	Half brickwork for face brick walls pointed both sides	m2	3		
2	One brickwork for face brick walls pointed both sides	m2	42		
3	Extra over brickwork for face brickwork in beamfilling	m2	3		
4	Fair raking and cutting	m	11		
	Carried Forward			R	

				R
	Brought Forward			
	Brick-on-edge header course copings, sills, etc of face bricks pointed with recessed joints on all exposed faces			
5	Extra over brickwork for brick-on-edge header course lintels pointed on two sides and 110mm soffit	m	5	
6	Face brick-on-edge window sill 220mm wide pointed on two side and on top and set at a angle	m	4	
7	Fair cutting and fitting around pipe not exceeding 100mm diameter.	m	4	
	BRICKWORK SUNDRIES			
	Brickwork reinforcement			
8	75mm Wide reinforcement built in horizontally	m	66	
9	150mm Wide reinforcement built in horizontally	m	275	
	"Fabcon" prestressed fabricated lintels			
10	110 x 75mm Lintels in lengths not exceeding 3m	m	9	
	Turning pieces			
11	220mm Wide turning piece to lintels etc	m	2	
	Galvanised hoop iron cramps, ties, etc			
12	6mm Diameter roof tie 2m girth bent double with one end fixed to timber and other built into brickwork	No	12	
	Prestressed fabricated lintels			
13	Pair of 110 x 75mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	9	
	Ventillation bricks			
14	Set of two 22 x 155mm high terra cotta clay vermin proof air bricks including making good reveals and gauze	No	6	
	Carried Forward to Summary of Section No. 6			R

Section No. 6
Type - GR4
Bill No. 2
Masonry

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO.3				
	WATERPROOFING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	DAMP-PROOFING OF WALLS AND FLOORS				
	One layer of 375 micron "Consol Plastic Brikgrip DPC" embossed damp proof course				
1	In walls	m2	4		
	One layer of 250 micron waterproof sheeting and sealed at overlaps with pressure sensitive tape				
2	Under surface beds	m2	30		
	FLOOR AND WALLS SEALERS				
	Secomastic non setting mastic sealant applied cold with a hand pressure caulking gun and leave perfectly watertight:				
3	Around steel windows and door frames.	m	11		
	Carried Forward to Summary of Section No. 6			R	
	Section No. 6 Type - GR4 Bill No. 3 Waterproofing				

Item No		Quantity	Rate	Amount

SECTION NO.4

BILL NO.4

ROOF COVERINGS ETC

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

General

All roof coverings, etc, to be with a covering of Z275 galvanising

The roof coverings shall be roll-formed in continuous lengths from certified steel complying with ASTM 446 Grade E (3t) and shall carry Agrement Certification

All holes to be drilled and not punched

Where described as with "Globalcoat" finish, all sheets, flashings, etc., shall be with "Globalcoat" silicone polyester paint for exterior use

Sizes

All items are measured net unless otherwise described

Flashings, trimming plates, etc

Prices to include for all cutting and waste and relevant fixing material, unless otherwise described

All rates for flashings, trimmings, etc., to include for forming drips and closed ends to troughs of sheet steel roof covering where applicable

All items are unless otherwise described measured net

PROFILED METAL SHEETING AND ACCESSORIES

Carried Forward R

				R	
	Brought Forward				
	0,6mm "Kliplok" roof sheeting in chromadek finish fixed to timber purlins (elsewhere)				
	NOTE:				
	A written guarantee stating that the roofs including the flashings, are guaranteed to be waterproof for a period of 12 months must be submitted and handed over to the Principal Agent				
1	Roof covering with pitch not exceeding 25 degrees	m2	23		
	Sundries				
2	12" Thermal resistance sisalition laid on purlins	m2	23		
	Carried Forward to Summary of Section No. 6			R	

Section No. 6
Type - GR4
Bill No. 4
Roof Covering, ETC

Item No		Quantity	Rate	Amount

SECTION NO.4

BILL NO.5

CARPENTRY AND JOINERY

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

Pre-fabricated metal connected timber roof trusses

All trusses shall be fabricated by an approved truss manufacturer who holds a current Certificate of Competence awarded by the Institute for Timber Construction

Timber

Timber for trusses to be South African softwood and shall be in accordance with the grades as defined in SANS Specification No 563 or as defined in SANS Specification No 1460

Bolts

Bolts shall be in accordance with BS 4190 or SANS 135

Shear plates, tooth connectors and split rings

Shear plates, tooth connectors and split rings shall be in accordance with BSS 1759 : 1960 and installed in accordance with the CSIR Publication HOUT 468, "The Design, Manufacturing and Erection of Timber Trusses"

Washers

Square or round washers of the following dimensions shall be used with all bolts:

1 Bolts up to 8mm diameter:
Washers shall be minimum 25mm wide of minimum 2,50mm thickness

Carried Forward R

Brought Forward		R
2 Bolts up to 12mm diameter: Washers shall be minimum 36mm wide of minimum 4,00mm thickness		
3 Bolts up to 20mm diameter: Washers shall be minimum 60mm wide of minimum 5,00mm thickness		
Metal connector plates		
Metal connector plates shall be fabricated out of not less than 1mm thick drawn quality galvanised steel		
The steel shall have a minimum yield strength of 228MPa and a minimum ultimate tensile strength of 330MPa. The corrosion resisting coating shall be not less than 275g/m2 commercial class hot dipped galvanising as per SANS 934 before stamping		
All connector plates shall have been tested by the CSIR and be of a size capable of transmitting the forces between members of a truss without exceeding the design values published in the CSIR report		
Truss construction		
Trusses shall be constructed in jigs specially designed to unsure the correct profile, overhangs and cambers		
Where metal connector plates are used all joints are to be close fitted butt joints made by precision pressing of the metal connector plates into each side of the joint		
Truss design		
All trusses shall be designed by a registered Professional Engineer in accordance with SANS 0163 ("Design of Timber Structures") and Code 0160 ("Loadings")		
The truss centres shall be less than or equal to that as described in this bill for each respective truss		
Truss spacing		
Carried Forward		R

Brought Forward		R	
Truss pitch The truss pitch shall be as described in this bill for each respective truss type			
Truss loading Trusses shall be designed for a live load of 0,50kN/m2 and dead load as specified under the sub-heading "Specific load specifications for roof trusses"			
Shop drawings, design and erection guarantee certificates It will be expected from the Contractor to timeously prepare, submit and obtain the necessary approvals from the Principal Agent in respect of the required shop drawings, design and erection guarantee certificates as specified			
Dimensions All dimensions given in the descriptions of the trusses are nominal and actual measurements are to be obtained by actual measurements taken on the site before design or fabrication commences			
Erection All trusses are to be hoisted and erected strictly in accordance with the procedures and recommendations of the manual "The Erection and Bracing of Timber roof Trusses" as published by the Institute for Timber Construction and the CSIR, or the SABS Code of Practice "The Design, Manufacture and Erection of Timber Roof Trusses", or as designed and detailed by the designer			
Design system The design system as documented in this bill is based on the "MiTek" system and all references given in the descriptions are related to specific type of trusses based on this design system However, Contractors are to note that any design system of similar quality may be used subject to the prior written approval of the Principal Agent			
Carried Forward		R	

Brought Forward		R
Specific specifications for roof trusses		
Unless otherwise described, the following specifications will apply:		
1 All trusses to be with a 17° pitch at approximately 1000mm centres		
2 The dead load consists of 0,6mm "Corrugated Iron Roof Truss" heavy industrial galvanised finish, 50 x 76mm purlins at approximately 1150mm centres, 6mm fibre-cement nailed-up ceilings on 50 x 38mm brandering at 400mm centres and 50mm glass fibre insulation blanket laid on top of ceilings		
Rates		
Tendered rates to include for the complete roof construction, including the design of the roof construction, all timber of required grade and type shown on the design, all cutting and waste, cutting to the exact lengths and end angles to manufacture the respective truss type, supply of all connector plates, fabrication of trusses, checking the completed truss for quality, loading up, transporting to the site of the works and off loading, storing under cover and protecting from the weather, hoisting up in position and erection of the roof truss structure, necessary supervision, submission of all shop drawings, design and erection guarantee certificates, etc. as specified		
Particle board		
Particle board shall comply with the following specifications:		
a) SANS 1300 Particle board: exterior and flooring type		
b) SANS 1301 Particle board: interior type		
Joinery		
Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc		
Carried Forward		R

	Brought Forward			R	
	Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes				
	Fixing				
	Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete				
	Decorative laminate finish				
	Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish				
	Items described as with "Formica" on one side shall include a "CPL" treated brown backer on other side and "Vaposeal" sealer. All cut edges and exposed particle board to be sealed with one coat acrylic sealer and then with allche				
	ROOFS, ETC.				
	The following in plate nailed timber roof truss construction				
	The following is applicable in respect of roof trusses				
	The references given in the descriptions are to the respective types of trusses detailed on the architect's drawings annexed to these bills of quantities/accompanying these bills of quantities for tender purposes				
	Prices for rafters and trusses to include all "Hurricane" clips, steel M-runners and "Permfix" plates, screws, nails, wires, sundry material, etc (bracing, wallplates, purlins and gangboarding are measured seperately)				
	Sawn softwood				
1	38 x 114mm Rafters in lengths exceeding 3,9m ans not exceeding 6,6	m	33		
2	76 x 38mm wall plates	m	19		
3	50 x 76mm Purlins in lengths exceeding 3,9m and not exceeding 6,6m	m	42		
	Carried Forward			R	

Section No. 6
Type - GR4
Bill No. 5
Carpentry and Joinery

				R
	Brought Forward			
	Sundries			
4	Two coats creosote on sawn timbers	m2	23	
5	6mm Diameter galvanised wire tie 3000mm girth wrapped around rafter and purlin with ends tied together	No	10	
6	Hurricane clips	No	18	
	EAVES, VERGES, ETC			
	"Everite FC77" pressed fibre-cement			
7	15 x 230mm Fascias and barge boards including galvanised steel H-profile jointing strips	m	18	
	DOORS, ETC			
	Wrought meranti doors hung to steel frames			
8	44mm Framed batten door 813 x 2032mm high of 44 x 150mm top rail and stiles, 22 x 150mm middle ledge and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard (D1)	No	2	
9	Custom Made Door, 44mm Framed batten door 813 x 1200mm high of Braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding and including weatherboard, Including wooded frame fixed to the wall. (Custom Made Door for Grade R')	No	4	
	Carried Forward to Summary of Section No. 6			R

Section No. 6
Type - GR4
Bill No. 5
Carpentry and Joinery

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO. 6				
	IRONMONGERY				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Finishes to ironmongery				
	Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded				
	CATCHES, CABIN HOOKS, ETC				
	Approved				
1	150mm Cabin hook and eye including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	2		
	LOCKS				
	"EN-SUITE" LOCKS				
	The following locks are to be suitable for master and grand master key operation				
	Carried Forward			R	

				R
	Brought Forward			
	"Dorma"			
2	Three lever mortice lockset	No	2	
	SUNDRIES			
	"Dorma"			
3	38mm Diameter rubber door stop plugged	No	2	
	LETTERS, NAME PLATES, ETC			
	Union or similar approved			
4	75 x 150mm Natural anodised aluminium plate with male or female symbol	No	2	
	BATHROOM FITTINGS			
	Kimberley-Clarkor Simlilar			
5	Kimberly Clark SQ2 code 405607B white lockable toilet roll holder	No	4	
	Carried Forward to Summary of Section No. 6			R

Section No. 6
Type - GR4
Bill No. 6
Ironmongery

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO. 7				
	METALWORK				
	PREAMBLES				
	For preambles see " Specification of materials and method to be used - PW 371"				
	SUPPLEMENTARY PREAMBLES				
	Descriptions				
	Descriptions of bolts shall be deemed to include nuts and washers				
	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
	Metalwork described as"holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described				
	WELDED SCREENS, GATES, ETC				
	Steel gates and frames				
1	Purpose made square hallow section mild steel security gate, size 813 x 2032mm High	No	2		
	PRESSED STEEL DOOR FRAMES				
	1.6mm Double rebated frames suitable for one brick walls				
2	Frame for door 813 x 2032mm high	No	2		
	STEEL WINDOWS, DOORS, ETC				
	Carried Forward			R	

				R	
	Brought Forward				
	Standard "Durowin" galvanised industrial type windows				
3	Window type NE1, 533 x 654mm high including burglar bars	No	4		
4	Window type NE 7,1022 x 654mm high including burglar bars	No	2		
	Carried Forward to Summary of Section No. 6			R	

Section No. 6
Type - GR4
Bill No. 7
Metalwork

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO. 8				
	TILING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW371"				
	SUPPLEMENTARY PREAMBLES				
	Descriptions				
	Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding				
	FLOOR TILING				
	300 x 300 External high traffic non-slip floor tiles (PC R 250.00 per square meter delivered to site) on 20mm bedding on concrete and flush pointed with tinted waterproof jointing compound.				
1	On Floors	m2	14		
	Carried Forward to Summary of Section No. 6			R	

Section No. 6
Type - GR4
Bill No. 8
Tiling

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO. 9				
	PLASTERING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	SCREEDS				
	Screeds steel trowelled on concrete				
1	30mm thick on floors	m2	23		
	FLOOR AND WALLS SEALERS				
	Minimum two coats approved epoxy coat:				
2	On screed	m2	23		
	Carried Forward to Summary of Section No. 6			R	

Section No. 6
Type - GR4
Bill No. 9
Plastering

Item No		Quantity	Rate	Amount

SECTION NO.2

BILL NO. 9

PLUMBING AND DRAINAGE

PREAMBLES

For preambles see " Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

uPVC pipes and fittings

Soil, waste and vent pipes and fittings shall be solvent weld jointed

uPVC pressure pipes and fittings

Pipes for water supply shall be of the class stated

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

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

Copper pipes

Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground

Carried Forward R

	Brought Forward			R	
	Fixing of pipes				
	Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level				
	Reducing fittings				
	Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained				
	Wire gratings				
	Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings				
	Flush pans				
	Flush pans shall have straight or side outlets and "P" or "S" traps as necessary				
	Stainless steelbasins, sinks, wash troughs, urinals, etc.				
	Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable				
	Waste unions				
	Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings				
	SANITARY FITTINGS				
	Vaal or similar approved				
1	"Vaal Potteries" Protea Din low level junior wash down suite (Code 750611) with Duranite 9 litre White Shire Manx cistern complete with all fittings, including flush pipe and concealed bracket fittings, heavy duty double flap solid white plastic seat, etc.	No	4		
	Carried Forward			R	

				R	
	Brought Forward				
2	510 x 405mm Wall mounted junior basin with one taphole, including integrated overflow attachment (code 8784ZO) and chainstay hole including floor mounted pedestal	No	2		
	TAPS, VALVES, ETC				
	Manufactured by "Cobra Watertech" or other and approved				
3	32mm CP waste plastic plug and chain	No	4		
4	15mm cobra 503-21B elbow action pillar cold water tap	No	4		
	WASTE UNIONS ECT				
	Manufactured by " cobra Watertech"				
5	15mm "232/350CP" angle regulating valve with 350mm long service connection	No	4		
6	15mm Stopcock	No	4		
7	22mm Non-return valve	No	4		
8	22mm 700RB high pressure float valve including ball	No	4		
9	PBI.10RB 22mm vacuum breaker	No	4		
	TRAPS ETC				
10	32mm x 40mm bottle trap	No	3		
	Pre-cast concrete wash trough				
11	Supply and install pre-cast concrete double wash-trough, complete with all necessary pipework including soakaway size 1000 x 1000 x 1000mm covered with "bidim"	No	1		
	FITTINGS				
	"Walker Crosweller" or Similar				
12	15mm chrome plated push button taps to wash troughs with internal flow control, strainer, no hold feature and water saving shut-off	No	4		
	Carried Forward			R	

				R	
	Brought Forward				
13	32mm CP waste plastic plug and chain	No	3		
	DRAINAGE				
	Upvc Pipes				
14	110mm Upvc diameter pipe laid in ground not exceeding 1mm, but n.e 1.5m deep,including trenches.	m	40		
15	50mm Upvc pipe	m	20		
	Extra over Upvc pipes for fittings				
16	110mm Junction with inspection eyes	No	3		
17	110mm bend	No	12		
18	110mm pan connector	No	9		
19	110mm Junction	No	12		
20	110mm x 50mm Reducer	No	9		
21	50mm bend	No	8		
22	50mm access bend	No	12		
	PVC-U soil and vent pipes				
23	110mm vent pipe	No	9		
24	50mm vent pipe	No	9		
25	15mm Service pipe 350mm girth	No	9		
	WATER SUPPLY				
	Class O copper pipe				
26	15mm Pipes	m	20		
27	22mm Pipes	m	20		
	Extra over class O copper fittings				
28	15mm fittings	No	30		
	Carried Forward			R	

				R
	Brought Forward			
29	22mm fittings	No	30	
30	Copper overflow and service pipes	No	30	
	Galvanised pipes and fittings			
31	15mm Pipes	m	30	
32	22mm Pipes	m	30	
	Extra over Galvanised pipes for fittings			
33	15mm Fitting	No	30	
34	22mm Fitting	No	30	
35	15mm Service pipe 350mm girth	No	12	
	32mm Diameter Class 10 HDPE pipe			
36	32mm HDPE Class 10 HDPE Pipes, including excavation in earth, from the existing connection point to the washing troughs	m	50	
	Testing			
37	Testing water pipe system		Item	
	Carried Forward to Summary of Section No. 6			R

Section No. 6
Type - GR4
Bill No. 10
Plumbing and Drainage (Provisional)

Item No			Quantity	Rate	Amount
	SECTION NO.2				
	BILL NO. 11				
	GLAZING				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	GLAZING TO STEEL WITH PUTTY				
	6.38mm Obscure safety glass				
1	Panes not exceeding 0,1 m2	m2	3		
	Carried Forward to Summary of Section No. 6			R	

Section No. 6
Type - GR4
Bill No. 11
Glazing

Item No			Quantity	Rate	Amount
	SECTION NO.4				
	BILL NO. 12				
	PAINTWORK				
	PREAMBLES				
	For preambles see " Specification of materials and methods to be used - PW 371"				
	PAINTWORK, ETC TO NEW WORK				
	ON FIBRE-CEMENT				
	Prepare and brush to remove all loose contaminations, apply one coat primer and two coats PVA emulsion paint				
1	On fascias and barge boards	m2	4		
	ON METAL				
	Spot priming defects in pre-primed surfaces with metal primer and apply two finishing coats high gloss enamel paint				
2	On door frames	m2	6		
3	On gates (Measured over the full flat area of both sides)	m2	11		
4	On gutters and down pipes	m	9		
	ON WOOD				
	Sand smooth, seal knots prime with wood primer and apply two finishing coats gloss enamel paint				
5	On doors (Internal)	m2	10		
6	On doors (External)	m2	9		
	Carried Forward			R	

	Brought Forward			R	
	Spot prining defects in prime surface with zinc chromate primer and apply one universal undercoat and two coats EPWP, golden brown gloss enamel paint on steel				
7	On windows with burglar bars	m2	5		
	Carried Forward to Summary of Section No. 6			R	

Section No. 6
Type - GR4
Bill No. 12
Paintwork

SECTION SUMMARY - Type - GR4

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	Carried to Final Summary		R	

Section No. 6
Type - GR4

Item No			Quantity	Rate	Amount
	SECTION NO.6				
	BILL NO. 1				
	WALKWAYS - PAVING, ETC (PROVISIONAL)				
	SUPPLEMENTARY PREAMBLES				
	NOTE: For preambles see "Specifications of materials and methods to be used - PW 371"				
	SITE CLEARANCE				
1	Digging up and removing rubbish, debris, vegetation, hedges, shrubs,bush and trees not exceeding 200mm girth, etc.	m2	1,026		
2	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	1,026		
	EXCAVATION, FILLING, ETC				
	Excavation in earth or compacted platforms not exceeding 2m deep				
3	Trenches	m3	103		
	Keeping excavations free of water				
4	Keeping excavations free of water		Item		
	Compaction of surfaces				
5	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	412		
	Carried Forward			R	

				R
	Brought Forward			
	SOIL POISONING			
	All soil poisoning and insecticide to be applied under a *five year* guarantee by an approved firm of Specialists. Soil insecticides shall comply with *SABS Specification 1165*. Work shall be carried out in accordance with "The application of soil insecticides for the protection of buildings" - *SABS Code of Practice 0124*			
	Casting of concrete floors to start within 24 hours after the application of soil poisoning			
	Pest control applicators must provide : 1. Proof of pesticides and insecticides (data sheets) 2. Toxicants must be registered with the Departement of Agriculture 2. Proof that they are qualified to perform the work 3. Five year guarantee certificate			
	Soil poisoning and insecticide			
6	To bottoms and sides of trenches, etc.	m2	228	
7	Under pavement	m2	412	
	Supply and laying of 60mm Thick 35MPa concrete interlocking block paving of 200 x 80mm 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			
8	Paving to walkways areas etc to falls	m2	412	
9	Extra over for straight edge blocks Precast concrete finished smooth on exposed surfaces, including bedding, jointing and pointing	m	460	
10	75 x 250mm High kerbs (SANS 927 fig 11) with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, including excavation, backfilling, etc	m	460	
11	One layer 250 micron green polyethylene waterproof sheeting	m2	412	
	Carried Forward to Summary of Section No. 7			R

Section No. 7
External Works
Bill No. 1
Walkways - Paving

Item No		Unit	Quantity	Rate	Amount

SECTION NO. 6

BILL NO. 2

FENCING, ETC (PROVISIONAL)

PREAMBLES

For preambles see "Specification of materials and methods to be used - PW 371"

SUPPLEMENTARY PREAMBLES

Supplementary preambles and full descriptions of materials, items, work, etc. applicable to Section No. 3

The Contractor is referred to the previous Section 2 for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this Bill, unless specifically otherwise described

GENERAL SPECIFICATION FOR SECURITY FENCING

General

The Contractor shall supply, deliver and erect fencing where shown on the drawings or as directed by the Principal Agent to the specifications as described hereunder

Pegs indicating the extent of the fence and the route thereof will be placed by the Principal Agent. Alternatively a drawing indicating the pegs, detailed measurements and directions of the fence will be provided by the Principal Agent

The Contractor shall be entirely responsible for maintaining a true and straight line between these pegs and all deviations there from shall be rectified by the Contractor at his own expense

Carried Forward R

Brought Forward			R	
Materials All materials to be used for this work shall be new, of sound quality and suitable for their intended purposes. The use of second hand/grade material will not be permitted				
Clearing the fence line Although the clearing of the line fence is measured elsewhere under "general site clearance", it will be regarded the Contractor's responsibility to ensure that the ground surface along the fence line is at all times throughout the contract period kept and maintained cleared for a width of not less than 1m wide on each side of the fence and shall include for the digging up and removal of all rubbish, debris, vegetation, shrubs, bush, trees not exceeding 200mm diameter girth, etc., including levelling of the ground to ensure that the maximum and minimum clearances (as specified hereinafter) between the bottom strand and the ground is not exceeded All excessive surface irregularities shall be graded so that the fence will follow the general contour of the ground The cleared ground shall be kept clean and maintained throughout the construction period				
Concrete Concrete bases shall be placed in neatly formed excavations and shall be well rammed around posts and stays. The top of concrete bases shall be at a level of 25mm below ground level				
Mixing of concrete No hand mixing of concrete will be allowed on site				
Galvanised All references to "galvanised" shall mean ***hot dipped galvanised*** to the relevant specified SABS specification				
Wire mesh Wire mesh to be in accordance with SANS 1373				
Carried Forward			R	

Brought Forward			R
Wire mesh shall be of type, height and wire diameter as specified and tied to each straining wire with of 2mm diameter galvanised mild steel binding wire			
Vertical ends of wire mesh shall be tied to each straining post with 2mm diameter galvanized mild steel binding wire taken around the post and through each weld mesh opening			
All wire mesh shall be in long strips. The use of short and off-cut lenghts will not be permitted			
Wire (General)			
All wire to be galvanised in accordance with SANS 675			
Straining wires			
All wire to be galvanised in accordance with SANS 675 and of type as specified			
Straining wires shall be tied to 10mm diameter straining eye bolts at one end with other end four times wrapped around and tied to straining, corner, draw, end and gate posts			
Barbed wires			
All barbed wire to be galvanised in accordance with SANS 675 and of type as specified			
Barbed wires shall be tied to eyebolts at one end with other end four times wrapped around and tied to straining, corner, draw, end and gate posts			
Bolts, etc			
All bolts, nuts and washers shall be of galvanised mild steel			
Eyebolts			
Eyebolts for fixing straining wires to straining, corner, draw, end and gate posts shall be 12mm diameter and 300mm long overall of galvanised mild steel, with one end threaded, complete with nut and washer			
Carried Forward			R

Brought Forward			R	
Posts, standards, stays, etc All posts, stays and standards, etc. to: a) be of galvanised round mild steel tubular section in accordance with SANS 763; b) have a 2mm thick domed pressed steel end caps welded to top ends of posts; c) have a base plate with size and thickness as specified welded to bottom ends of posts; d) have holes drilled for wires in correct positions as specified				
Gates All gates to: a) be of galvanised round mild steel tubular section in accordance with SANS 763; b) be with all joints welded all round the construction at intersections; c) descriptions of gates shall be deemed to include all necessary hinges, washers, bolts, locking bolts, plates and chains, etc				
Tendered rates Tendered rates shall include for the supply and delivery of all materials, labour, erection of fence, all earthwork activities, concrete, shuttering, tools, plant, paintwork and anything else necessary to complete the fence No additional claims in this regard will afterwards be entertained				
Concrete bases All posts and stays shall be embedded in 15MPa/19mm concrete bases of not less than the following dimensions: a) Strainer, corner, draw, end and gate posts: 400 x 400 x 900mm deep b) Stays: 300 x 300 x 450mm deep				
Carried Forward			R	

				R
	Brought Forward			
	Palisade Steel security fencing as per architect's drawing			
1	Steel Palisade Fencing-Panels 3 x 1.8m high. Fence Bearers: 40 x 40 x 2mm angle iron placed at 300mm from top of paling and 300 from bottom of paling. (35mm from ground level). This to be welded flash with the back of the post. Palings "Devil fork" - 21 palings per panel. 30 x 30 x 2mm steel angle iron paling 1.8m high. Palings to be inserted and firmly welded to the bearers at 133mm centre to centre. Top of the paling to provide Devil Fork" effect and the bottom will have a dove tail. Posts - 76 x 76 x 2mm steel square tubing with closing pyramid caps on top. Post must have 2.4m high and 600mm will be planted into concrete footing to engineers design	m	770	
2	Pedestrian Gate - Steel Palisade Single Swing Gate size 1.5m x wide x 1.8m high. 40 x 40 x 2mm angle iron palings welded to a minimum 50 x 25 x 1.6mm rectangular tubing bearer frame. Palings to be placed at 133mm apart from each other centre to centre	No	1	
3	Double Gate - Steel Palisade Double Swing Gate size 4.0 m x wide x 1.8m high. 40 x 40 x 2mm angle iron palings welded to a minimum 50 x 25 x 1.6mm rectangular tubing bearer frame. Palings to be placed at 133mm apart from each other centre to centre, including concrete 600mm deep as per engineer.	No	1	
	ON METAL			
	Spot priming defects in pre-primed surfaces with one coat red oxide zinc chromate primer, one coat universal undercoat and two coats high gloss enamel paint on steel. The colour of the Gloss enamel paint shall be Traffic Green unless directed otherwise by the Limpopo Department of Education (not school)			
4	On gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m2	6	
	Carried Forward to Summary of Section No. 7			R

Section No. 7
External Works
Bill No. 2
Fencing

Item No			Quantity	Rate	Amount
	SECTION NO. 3				
	BILL NO. 2				
	WATER TANK, ETC (PROVISIONAL)				
	PREAMBLES				
	For preambles see "Specification of materials and methods to be used - PW 371"				
	Water Tanks as per DWA Standards,				
1	10 000 Litre polyethylene water tank (Jo Jo make or equivalent). (2980mm high x 2 200mm diameter). Tank complete with 50 x 40 DN nylon bushes sealed into all inlets and outlets. Include for anchorage onto tank stand platform with 4mm diameter galvanized steel wire (bloudraad). (2 Strands/Anchor)	No	5		
	Fabricated steel tank stand with 6m long legs, constructed complete as per details on drawing for 10kl tank				
2	Fabricated steel tank stand with 6m long legs, constructed complete as per details on drawing for 10kl tank	No	5		
	SITE CLEARANCE				
3	Digging up and removing rubbish, debris, vegetation, hedges, shrubs,bush and trees not exceeding 200mm girth, etc.	m2	112		
4	Stripping average 100mm thick layer of top soil and stockpiling on site	m2	112		
	EXCAVATION, FILLING, ETC				
	Excavation in earth or compacted platforms not exceeding 2m deep				
5	Trenches	m3	20		
	UNREINFORCED CONCRETE, ETC				
	Carried Forward			R	

				R	
	Brought Forward				
	25MPa/19mm concrete				
6	Concrete footings	m3	20		
	Outlet and overflow Pipe Schedule				
7	a) 1½" to 50mm MALE ELBOW (Plasson)	No	7		
8	b) 50mm Ø HDPE PIPE CLASS 10	No	7		
9	b) 50mm Ø HDPE PIPE CLASS 10	m	42		
10	c) 50mm Ø PLASSON ELBOW	No	7		
11	d) 50mm Ø MALE ADAPTER (Plasson)	No	7		
12	f) 50mm Ø x 3000 GMS STAND PIPE	m	21		
13	g) 50mm Ø BRASS BALL VALVE (COBRA)	No	7		
14	h) 50mm Ø GMS NIPPLE	No	7		
15	i) 50mm Ø GMS UNION	No	7		
16	k) 50mm Ø GMS PIPE 6000 LONG	No	7		
17	l) 50mm Ø GMS ELBOW F/F	No	7		
18	m) 50mm Ø GMS STAND PIPE 300 long (400mm long in sandy conditions)	No	7		
19	n) 50mm Ø GMS STAND PIPE 700 long	No	7		
20	o) 50mm Ø GMS SOCKET	No	7		
21	p) 50mm Ø GMS STAND PIPE 150mm	No	7		
22	Connect to reticulation	No	7		
	Inlet pipe schedule (pump)				
23	a) 1½ "TO 40mm MALE ELBOW (Plasson)	No	7		
24	b) 40mm Ø HDPE PIPE CLASS 10	m	42		
25	c) 40mm Ø PLASSON ELBOW	No	7		
	Carried Forward			R	

				R	
	Brought Forward				
26	d) 40mm Ø MALE ADAPTER (Plasson)	No	7		
27	k) 40mm Ø GMS PIPE 6000 LONG	No	7		
28	l) 40mm Ø GMS ELBOW F/F	No	7		
29	m) 40mm Ø GMS STAND PIPE 300 long (400mm long in sandy conditions)	No	7		
30	o) 40mm Ø Galvanised socket	No	7		
31	p) 40mm Ø Galvanised standpipe 150 mm long	No	7		
	Inlet pipe schedule (School)				
32	a) 1½" to 40mm MALE ELBOW (Plasson)	No	7		
33	b) 40mm Ø HDPE PIPE CLASS 10	m	42		
34	c) 40mm Ø PLASSON ELBOW	No	7		
35	d) 40mm Ø MALE ADAPTER (Plasson)	No	7		
36	f) 40mm Ø x 3000 GMS STAND PIPE	m	42		
37	g) 40mm Ø BRASS BALL VALVE (COBRA)	No	7		
38	h) 40mm Ø GMS NIPPLE	No	7		
39	i) 40mm Ø GMS UNION	No	7		
40	k) 40mm Ø GMS PIPE 6000 LONG	No	7		
41	l) 40mm Ø GMS ELBOW F/F	No	7		
42	m) 40mm Ø GMS STAND PIPE 300 long (400mm long in sandy conditions)	No	7		
43	n) 40mm Ø GMS STAND PIPE 700 long	No	7		
44	o) 40mm Ø GMS SOCKET	No	7		
45	p) 12 mm Ø X 50mm long S/S bolt and nut	No	7		
46	q) 40mm Ø full face gasket (table D)	No	7		
47	r) 40mm Ø Brass Gate Valve (COBRA)	No	7		
	Carried Forward			R	

				R	
	Brought Forward				
48	s) 40mm Ø GMS Union	No	7		
49	t) 40mm Ø GMS Nipple	No	7		
50	u) 40mm Ø High Pressure Mechanical float valve (COBRA)	No	7		
51	v) 40mm Ø Galvanised socket	No	7		
52	w) 40mm Ø Galvanised standpipe 150 mm long	No	7		
53	Connect to rising main	No	7		
	Carried Forward to Summary of Section No. 7			R	

Section No. 7
External Works
Bill No. 3
Water Tank

Item No		Quantity	Rate	Amount

SECTION NO. 3

BILL NO. 3

STORMWATER, SOIL DRAINAGE AND WATER SUPPLY, ETC (PROVISIONAL)

PREAMBLES

For preambles see "Specification of materials and methods to be used - PW371

SUPPLEMENTARY PREAMBLES

Fusion welded bends and tees shall include jointing to pipes with PVC rubber ring double Z joint couplers

Branch tees shall include flanged and bolted joints to "Polycop" branch pipes in addition and for brass compression male iron to copper straight couplers

Concrete pipes

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

uPVC pipes, etc

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

uPVC pipes and fittings

Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings

Soil, waste and vent pipes and fittings shall be solvent weld jointed

Reducing fittings

Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use

Carried Forward R

				R	
	Brought Forward				
	other fittings and bushes or reducers he may do so in the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained				
	Exposed concrete surfaces				
	Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catchpits, inspection chamber, etc shall be finished smooth with plaster				
	Excavations				
	No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling				
	"Soft rock" and " hard rock" shall be as defined in "Earthworks"				
	Laying, backfilling, bedding, etc of pipes				
	Pipes shall be laid and beeded and trenches shall be carefully backfilled in accordance with manufacturers' instructions				
	Where no manufacturerers' instructions exist pipes shaa be laid in accordance with clauses 5.1 and 5.2 of each of the following:				
	SABS 1200 L: Medium pressure pipelines LD: Sewers LE: Stormwater drainage Pipe trenches, etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB: Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB: Bedding (Pipes) Unless otherwise described bedding of rigid pipes shall be class B bedding				
	STORMWATER DRAINAGE				
	Site Clearance				
1	Clear and grub up vegetation up to 1m wide for pipelines in areas not cleared	m	200		
	Carried Forward			R	

	Brought Forward			R	
	Trench Excavation				
	Excavate in all materials for trenches (including intermediate material), backfill and compact to 95% MOD AASHTO Density (100 % if sand) including disposal of surplus materials as directed for:				
	V Drain				
	15Mpa Unreinforced				
2	Concrete in Retaining wall trench & Apron/V drain	m3	48		
	Manholes				
	Construct precast concrete manholes (1.5m ND) complete as details on drawing				
	Over and up to				
3	1.5m 2.0m	No	2		
4	2.0m 3.0m	No	1		
	Connection to septic tank				
5	Connection to septic tank, manholes and chambers complete including labour and materials to complete connections			SUM	
	WATER RETICULATION				
	Site Clearance				
6	Clear and grub up vegetation up to 1m wide for pipelines in areas not cleared	m	200		
	Trench Excavation				
	Excavate in all materials for trenches (including intermediate material), backfill and compact to 95% MOD AASHTO Density (100 % if sand) including disposal of surplus materials as directed for:				
	Water mains up to 110mm diameter for depths				
	Over and up to				
	Carried Forward			R	

	Brought Forward			R
7	0m 1m	m	200	
	Bedding			
8	Selected granular materials	m3	9	
9	Selected fill material	m3	9	
	Pipework			
	Supply, lay, joint, bed (bedding for flexible pipes) test and disinfect pipes complete with couplings:			
10	40 DN Class 10	m	200	
	Pipe Specials			
	Extra-over items D7 for supplying, laying and bedding of specials complete with couplings for:			
	Class 10			
11	40 mm OD 45 deg	No	25	
12	40 mm OD 90 deg	No	20	
	Tees p.e (FBE coated)			
13	40mm diameter	No	25	
	Standpipes			
14	Construct standpipes as per drawing:	No	8	
	Connection to elevated water tank			
	Connect to water pipelines including all labour and materials to complete the connections			
15	110mm diameter			SUM
	Carried Forward to Summary of Section No. 7			R

Section No. 7
External Works
Bill No. 4
Stormwater, Soil Drainage and Water Supply

Item No		Unit	Quantity	Rate	Amount
	SECTION NO.6				
	BILL NO.5				
	BOREHOLE (PROVISIONAL)				
	PREAMBLE				
	For preambles see "Specification of materials and methods to be used - PW 371"				
	BOREHOLE EQUIPPING				
	Submersible pumpset and appurtenant fittings				
1	Pump Element(Q=1.2l/sec @ 18 hours per day, H=100m-120m)	No	1		
2	40 DN 'Plasson' compression male adapters	No	1		
3	40mm Class 10 HDPE Type IV riser column	m	145		
4	25mm Class 6 HDPE Type IV borehole dipper tube strapped to riser column at 1.5m centrs with 280mm x 7.8mm cable ties and protruding 100mm through borehole cover plate with stop end.	m	145		
5	40mm pressed steel base plate with 26mm diameter hole drilled for dipper tube	No	1		
6	40 DN MGI barrel nipple	No	1		
7	40 DN x 90° MGI female elbow	No	1		
8	40 x 25 DN MGI reducing socket	No	1		
9	25 DN 'Invensys' / 'Kent' domestic water meter (refer to plan HSD1001)	No	1		
10	40 x 25 DN MGI reducing bush	No	1		
11	40mm cobra brass Ball valve	No	1		
12	40 DN x 600mm long galvanised steel pipe piece (threaded both ends)	No	1		
	Carried Forward			R	

				R	
	Brought Forward				
13	Orifice plate (3mm-6mm), manufactured from 304 stainless steel	No	1		
14	25mm Ø PLASSON STOP END FOR DIP TUBE	No	1		
15	4-core submersible electric cable size 4mm² (incl. cable ends)	m	145		
16	4mm² 4-core armoured PVC SWA PVC 1000V cable (incl. cable ends) and 2.5mm2 bare copper earth wire complete with danger tape.	m	175		
17	Pratley no.1 cable joint kit for submersible conditions	No	2		
18	7mm diameter Poly Propylene safety Rope	m	145		
19	Watertight CCG box	No	1		
20	Info plate as per data sheet installed in lockable manhole	No	1		
21	Lockable steel manhole complete, cast into concrete, as detailed on	No	1		
22	50mm Brass "key-alike" lock with hardened shackle, complete with 2 keys per set for lockable manhole (thus 2 locks and 4 key-alike keys)			SUM	
	ELECTRICAL PUMP CONTROL				
	ELECTRICAL PUMP CONTROL PANEL				
	Three Phase Automatic Control Panel				
23	Pump Control Box (655mm high x 540mm wide x 250mm deep)	No	1		
24	Motor Scope 0 – 5,6Kw Three Phase Trio Panel	No	1		
25	60 Amp T/Pole Isolator ABB 5Ka	No	1		
26	60 Amp S/Pole Earth Leakage ABB 5Ka	No	1		
27	20 Amp T/Pole Circuit Breaker ABB 3Ka	No	1		
28	25 Amp S/Pole C/B ABB 5Ka	No	1		
	Carried Forward			R	

	Brought Forward			R	
29	Surge arrestor ABB	No	1		
30	Wire and accessories:			SUM	
31	Pin Lugs 4mm2 Yellow	No	1		
32	Pin Lugs 2,5mm2 Blue	No	1		
33	Pin Lugs 1,5mm2 Red	m	1		
34	Round Lugs 4mm2 Yellow	No	1		
35	Cradles	No	1		
36	Runlock Straps	No	1		
	Terminals:				
37	Terminals 10mm Phunix	No	1		
38	Terminals Ends Phunix	No	1		
39	Terminal Rail	No	1		
40	Terminal Stoppers	No	1		
41	Self Trapping Screws	No	1		
	Labels:				
42	In case of emergency	No	1		
43	Mains	No	1		
44	Pump	No	1		
45	Earth Leakage	No	1		
46	Plug	No	1		
47	Surge Arrestor	No	1		
48	Glue	No	1		
	Control gear:				
49	1 x Float switch	No	1		
	Carried Forward			R	

	Brought Forward			R	
50	4 x Galvanised Pipes	No	1		
51	4 x 4 Socket outlet	No	1		
52	Labour to wire control box			SUM	
53	COC (Electircal & Mechamical) Certificate After commissioning			SUM	
	Carried Forward to Summary of Section No. 7			R	

Section No. 7
External Works
Bill No. 5
Borehole

SECTION SUMMARY - External Works

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3	Water Tank	161		
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5	Borehole	169		
	Carried to Final Summary		R	

Section No. 7
External Works

FINAL SUMMARY

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1	Preliminaries and Generals	14		
2	Alterations	20		
3	Type - SFD10	52		
4	Type - SFD4	84		
5	Type - GRD3	116		
6	Type - GR4	150		
7	External Works	170		
	SUB TOTAL (A)		R	
	Provide 10% (Ten Percent) on Sub-total (A) as contingency to be deducted in whole or in part if not required		R	
	SUB TOTAL (B)		R	
	Provision for Value-Added Tax VAT @ 15%		R	
	Note:			
	Tenderers must submit their tenders on the official form supplied for this purpose.			
	Carried to Form of Tender		R	