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NOTICE TO TENDERERS

GENERALLY

These Bills of Quantities comprising Bill numbers 2 to 14, contain 42 pages numbered consecutively, and the Preliminary and Generally, Bill No.1, contains 19 pages numbered consecutively.

These Bills of quantities are to be read in conjunction with, and all workmanship and materials, unless otherwise described, shall comply with the Ministry of Local Government, Public Works and National Housing's "General Specification" revised in January 1978.

It is hereby made a condition that the Contractor's submission of a tender based on these Bills of Quantities shall be accepted as proof that he was in possession of the above mentioned General Specification at the time of tendering and that his tendered price was based on the requirements of such General Specification.

The Contractor is required to check the number of pages of all the documents, and all references thereto in Summary and the Collections. Should any pages be missing or duplicated, or the figures or typing be indistinct, or the descriptions be ambiguous, he is to apply at once to Ministry of Local Government, Public Works and National Housing, and have the same rectified.

Any errors or claims arising through the Contractor's failing to comply with the above will not be admitted after the submission of his tender.

These Bills of Quantities are to be priced by the Contractor and returned, fully priced out in ink, only when his Tender is being considered for acceptance, and when called for by Ministry of Local Government, Public Works and National Housing

SYSTEM OF MEASUREMENT

The method of measurement of these Bills of Quantities is in accordance with the general principles laid down in the System of Measurement of Building Work in Zimbabwe, third Edition, dated 1st May 1985, as issued by the Zimbabwe Institute of Quantity Surveyors and the Construction Industry Federation of Zimbabwe. This system may be modified in certain respects as described in these Bills of Quantities and it is to be understood that the system of measurement adopted in these Bills of Quantities is the only system which will be recognised in connection with this Contract.

TRADE NAMES, ETC

Where trade names, manufacturer's catalogue or reference numbers, etc., are used in these bills of Quantities, the items referred thereto shall be of equal and approved quality, specification and mass in all respects to those specified and approval for any substitution shall be obtained in writing from Ministry of Local Government, Public Works and National Housing before the submission of tenders, otherwise the specified materials, fittings, etc., will be assumed to have been allowed for in the tender.

DRAWINGS

The following drawings have been used in the preparation of these Bills of Quantities, and may be seen at the offices of Ministry of Local Government, Public Works and National Housing.

Architectural drawings:

Structural drawings:

Mechanical drawings

Electrical drawings

<u>BILL NO.2</u>				
<u>FOUNDATIONS (PROVISIONAL)</u>				
<u>(For Preambles see General Specification)</u>				
<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>Note:</u> Foundations have been measured to top of surface bed.			
	<u>EXCAVATION</u>			
	<u>Pumping and bailing</u>			
A	Allow for the keeping excavations free of storm, surface and mud by pumping and bailing.	item		
	<u>Excavate in pickable earth for</u>			
B	Reducing levels under floors not exceeding 300 mm deep.	m ³	60	
C	Redig surface trenches not exceeding 2 metres deep.	m ³	77	
D	Extra over excavation in pickable material for excavation in hard pickable material.	m ³	8	
E	Ditto excavation in rock.	m ³	4	
	<u>Planking and strutting</u>			
F	Allow for maintaining and supporting sides of all excavations and making good all slips.	m ²	229	
	Carried to collection			

SOIL STABILIZATION

G	Soil stabilisation testing	item	1
H	Scarify in situ material to bottom of trenches, saturate in water overnight and compact to 93% HCE.	m ²	92
I	Backfill 500mm thick of 5% cement stabilised excavated material compacted in layers to 95% HCE .	m ²	46
J	50mm thick loose presaturated fill under floor slabs	m ²	24
<u>Disposal</u>			
K	Redig from spoil heap, return, fill and well compact selected excavated material around foundations.	m ³	40
L	Redig from spoil heap and cart off site.	m ³	66
<u>Formation</u>			
M	Selected imported inert material, spread, level and compact in maximum 150 mm layers to make up levels under floors to 95% H.C.E. density.	m ³	24

Carried to collection

A	150 mm thick hardcore material under floors.	m ³	24	
	<u>SUNDRIES</u>			
B	250 Micron black polythene sheeting well lapped at joints including all cutting and waste (measured nett) laid over filling to receive concrete.	m ²	157	
	<u>TERMITES</u>			
C	Termite treatment as described to top of filling and walls.	m ²	185	
	<u>PLAIN CONCRETE</u>			
	<u>Unreinforced concrete (Grade 10 - 20 mm stone)</u> <u>in</u>			
D	50mm thick blinding under floor slabs	m ²	157	
	<u>STRUCTURAL CONCRETE</u>			
	<u>Structural reinforced concrete (Grade 25 - 20 mm stone)</u> <u>in</u>			
E	Surface beds.	m ³	16	
F	Footings.	m ³	21	
	Carried to collection			

	<u>Sundries</u>			
A	Strike off and cure top of concrete.	m ²	157	
	<u>Precast concrete</u>			
	<u>Precast concrete (Grade 20-20 mm stone) finished fair on all exposed surfaces</u>			
B	450 x 450 x 50 mm paving slabs bedded and pointed in cement mortar (1:4) on and including 50 mm water consolidated sand bed to falls.	m ²	67	
	<u>REINFORCEMENT</u>			
	<u>Welded fabric reinforcement of approved manufacture including all cutting, tying, placing in position with necessary temporary supports and minimum 300 mm laps both ways (measured nett)</u>			
C	Ref. S193 (mass of 1.93 kg/square metre) in top reinforcement to slab.	m ²	157	
D	High yield deformed bars exceeding 8mm	kg	1,211	
E	High yield deformed bars exceeding 8mm but not exceeding 12mm	kg	4,792	
F	High yield deformed bars exceeding 12mm but not exceeding 16mm	kg	28	
	<u>BRICKWORK</u>			
	<u>Brickwork in approved common bricks in cement mortar as described</u>			
G	Half brick wall.	m ²	22	
H	One brick wall.	m ²	106	
	Carried to collection			

<u>Reinforcement</u>				
<u>Brickforce lapped at joints and junctions and building in as the work proceeds (measured nett)</u>				
A	Ref. C1 in half brick walls.	m	87	
B	Ref. C2 in one brick walls.	m	417	
<u>Expansion jointS</u>				
C	20 mm expansion joint formed of "filleboard" or approved expansion joint sheeting and maintain in position against previous construction in narrow widths.	m ²	10	
D	Rake out 20 mm expansion joint sheeting 10 mm deep, prime and seal with "thioflex 600" sealer, vertically.	m	0.30	
Carried to collection				
<u>COLLECTION</u>			<u>PAGE</u>	
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<u>BILL NO.2: FOUNDATIONS (PROVISIONAL)</u>				
<u>CARRIED TO SUMMARY</u>				-

BILL NO.3

CONCRETE, FORMWORK AND REINFORCEMENT

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>PLAIN CONCRETE</u>			
	<u>Unreinforced concrete (Grade 20-20 mm stone) in</u>			
A	Raisings.	m ³	0.28	
	<u>STRUCTURAL CONCRETE</u>			
	<u>Vibrated reinforced concrete (Grade 25 - 20 mm stone) in</u>			
B	Ring beam.	m ³	7	
	<u>Sundries</u>			
C	Strike off and cure top of concrete.	m ²	31	
	<u>Formwork Class A as described to</u>			
D	Soffit of beams.	m ²	25	
E	Sides of beams.	m ²	60	
	Carried to collection			

REINFORCEMENT

Steel bar reinforcement

A	High yield deformed steel reinforcement bars exceeding 12 mm but not exceeding 30 mm diameter.	kg	89
B	High yield deformed steel reinforcement bars exceeding 8 mm but not exceeding 12 mm diameter.	kg	540
C	High yield deformed steel reinforcement bars not exceeding 8 mm diameter.	kg	142

PRECAST CONCRETE

D	Rainwater dripstone 200 mm wide and 120 mm thick and 800 mm long with segmental channel formed in top and place in position.	no.	8
E	230 mm copping laid on top of parapet walls.	m	66

TESTING

F	Allow for carrying out slump tests when directed as described.	item	
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Carried to collection

COLLECTION

PAGE

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BILL NO.3: CONCRETE, FORMWORK AND REINFORCEMENT
CARRIED TO SUMMARY

BILL NO.4

BRICKWORK

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
<u>SAMPLES</u>				
A	Allow for providing samples of all bricks as described.	item		
<u>BRICKWORK</u>				
<u>Brickwork in approved common bricks in cement mortar as described</u>				
B	Half brick wall.	m ²	58	
C	Half brick dwarf wall.	m ²	4	
D	Half brick in beam filling.	m ²	7	
<u>Brickwork in approved common bricks in cement mortar as described</u>				
E	One brick wall.	m ²	333	
<u>SUNDRIES</u>				
F	Rough raking cutting to brickwork.	m ²	12	
Carried to collection				

A	Bed wall plate in cement mortar.	m	30	
B	Bed Harvey concrete roofing tiles on top of brick walls in cement mortar.	m ²	7	
C	Rake out joints of brickwork for and point sheet iron flashings.	m	30	
D	Ditto stepped flashings.	m	25	
E	Build end of roof timber through one brick wall.	no.	66	
F	1,25 mm Galvanised hoop iron tie 25 mm wide and 1000 mm long one end built into brickwork or cast into concrete and other end wrapped around and spiked to wall plate and foot of truss.	no.	66	
<u>DAMP PROOF COURSE</u>				
<u>One layer of three ply bituminous felt sheeting as damp proof course as described, well lapped at joints and junctions (measured nett)</u>				
G	On walls.	m ²	30	
H	Under cills.	m ²	2	
J	Under concrete coping.	m ²	15	
Carried to collection				
<hr/> <hr/>				

REINFORCEMENT

Brickforce lapped at joints and junctions and bedding in as the work proceeds (measured nett)

A Ref. C1 in half brick walls. m 171

B Ref. C2 in half brick walls. m 979

Expansion joint

C 20 mm expansion joint formed of "filleboard" or approved expansion joint sheeting and maintain in position against previous construction in narrow widths. m² 41

D Rake out 20 mm expansion joint sheeting 10 mm deep, prime and seal with "thioflex 600" sealer, vertically. m 18

BUILDING IN

E Set up in position, cross brace and build in pressed steel door frame not exceeding 5 square metres. no. 4

F Set up in position, cross brace and build in pressed steel cupboard door frame exceeding 5 square metres. no. 4

G Set up in position, cross brace and build in aluminium sliding door frame not exceeding 5 square metres. no. 4

H Set up in position and build in steel window and frame not exceeding 5 square metres. no. 8

Carried to collection

A	230 x 150 mm Terra Cotta louvred and gauze backed external air brick and building into brick wall.	no.	8	
B	230 x 150 mm cast plaster internal air brick and building into opening in plastered wall.	no.	8	
<u>FACINGS</u>				
C	Brick-on-edge bullnose external window cills, set sloping and pointing on top, front edge and projecting soffit.	m	10	
Carried to collection				
<u>COLLECTION</u>				
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<u>BILL NO.4: BRICKWORK CARRIED TO SUMMARY</u>				

BILL NO.5

ROOF COVERINGS

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>Concrete roofing tiles fixed on 38 x 38 mm tile battens in accordance with the manufacturer's printed instructions.</u>			
A	Concrete roofing tiles.	m ² 173		
B	Extra for adjusting gauge of botttom three courses to allow full tile at apex.	m 30		
<u>BILL NO.5: ROOF COVERINGS</u>				
<u>CARRIED TO SUMMARY</u>				

BILL NO.6

CARPENTRY

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>ROOF TIMBERS</u>			
	<u>Sawn softwood</u>			
A	38 x 114 mm softwood wall plate.	m	30	
B	38 x 38 mm tile battens	m	266	
	<u>Roof trusses</u>			
	<u>Engineered designed roof truss system designed and supplied by an approved manufacturer, truss members to be merchantable grade sized to matching thickness and jointed only at node points. The manufacturer will be deemed to have inspected all the relevant drawings before tendering and shall verify the design with the Architect before manufacture (calculations to be submitted if required). The roof truss system is designed to carry concrete roofing tiles.</u>			
C	Supply, hoist and fix roof truss system approximately 3000 mm above ground floor level, designed to carry concrete roof tiles at 20 degree pitch .	item		
	Carried to collection			

EAVES AND VERGES

A 225 x 25 mm softwood fascia or bargeboard to ends of trusses.

m

56

Carried to collection

COLLECTION

PAGE

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BILL NO.6: CARPENTRY
CARRIED TO SUMMARY

BILL NO.7

JOINERY AND IRONMONGERY

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
<u>CEILINGS AND CORNICES</u>				
A	Rhinoboard ceiling with close butt joints on and including 38 x 38 mm brandering at 400 mm centres one way to underside of trusses with joints to receive plaster (elsewhere measured)	m ² 157		
B	Extra for trimming for and forming trap door size 750 x 750 mm in clear with 50 x 76 mm rebated softwood frame and 19 mm wrot softwood quadrant all round.	no. 4		
C	76 mm coved cornice including mitres, etc.	m 200		
<u>DOORS</u>				
<u>Hollow core internal quality flush doors with veneer suitable for painting both sides</u>				
D	44 mm Door. Size 813 x 2030 mm.	no. 4		
<u>Solid core external quality flush doors with venner suitable for painting both sides.</u>				
E	44 mm Door. Size 813 x 2030 mm.	no. 4		
Carried to collection				

CUPBOARD DOORS

Hollow core internal quality flush doors with veneer suitable for painting both sides

A	44 mm Door. Size 685 x 495 mm.	no.	4
B	44 mm Door. Size 685 x 2030 mm.	no.	4
C	44 mm Door in two equal leaves with rebated meeting stiles. Size overall 1360 x 495 mm.	no.	4
D	Ditto. Size overall 1360 x 2030 mm.	no.	4

FITTINGS

The following in shelving to cupboards

Commercial quality blockboard

E	19 mm shelf and division.	m ²	16
F	6 mm Wrot hardwood edge strip glued and pinned to edge of 19 mm blockboard.	m	11

Wrot Softwood

G	25 x 50 mm bearer.	m	8
H	25 x 50 mm bearer plugged to wall.	m	34

Carried to collection

<u>IRONMONGERY</u>			
A	Chromium plated hat and coat hook.	no.	4
B	75 mm chromium plated barrel bolt and keep in floor.	no.	4
C	Union No.CZ 5574 CH or other equal and approved dummy handle.	no.	24
D	Plastic grip cupboard catch.	no.	8
E	Union 64 mm brass cupboard lock with thread escutcheon to wood.	no.	8
F	20 mm diameter chromium plated tubular handing rail with pair of end brackets one plugged and screwed to plastered wall, other fixed on, 1400 mm long.	no.	4
G	20 mm diameter chromium plated tubular towel rail 700 mm with two socket end brackets screwed to and including plugs in wall.	no.	4
H	Union No. CZ682-24-95CH two lever mortice lockset.	no.	4
J	Union No. CZ682-24-77CH three lever mortice lockset.	no.	4
<u>Sundries</u>			
K	38 mm diameter rubber door stop screwed to plug in wall or floor.	no.	8
Carried to collection			

Double chaser aluminium window/door curtain track complete with runners to suit the following window sizes:

A Size 1741 mm.

no. 4

B Ditto 1730 mm.

no. 4

Carried to collection

COLLECTION

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BILL NO.7: JOINERY AND IRONMONGERY
CARRIED TO SUMMARY

BILL NO.8

METALWORK

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
<u>DOOR FRAMES</u>				
<u>Standard full profile pressed steel door frames with chromium plated striking plates where appropriate (building in elsewhere measured)</u>				
<u>To suit half brick wall (P.B.S.) for</u>				
A	44 mm Door size 813 x 2030 mm.	no.	4	
<u>To suit one brick wall (P.B.S.) for</u>				
B	44mm Door size 813 x 2030 mm.	no.	4	
<u>CUPBOARD FRAMES</u>				
<u>Standard pressed steel cupboard door frames (building in elsewhere measured)</u>				
C	Cupboard frame type CBC3.	no.	4	
Carried to collection				

METAL WINDOWS AND FRAMES AS DESCRIBED
(BUILDING IN ELSEWHERE MEEASURED)

Metal windows in standard residential section with
aluminium permavents where specified and fitted with
chromium plated handles and sliding stays including
buglar bars to opening sections

A	Window type E7. Size 1022 x 654 mm.	no.	4
B	Window type C4F. Size 1511 x 951 mm.	no.	4
C	Aluminium sliding door complete with lockset with 6mm laminated clear glass. Size overall 3000 x 2100 mm.	no.	4

Carried to collection

COLLECTION

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BILL NO.8: METALWORK
CARRIED TO SUMMARY

BILL NO.9

PLASTERING AND WALL LININGS

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>EXTERNALLY</u>			
	<u>One coat cement plaster as described including all labours with a fine woodfloat finish on</u>			
A	Walls.	m ² 241		
B	Ditto in narrow widths.	m ² 20		
	<u>INTERNALLY</u>			
	<u>Render one coat cement plaster and set in Rhinoset plaster including all labours with a steel trowel finish on</u>			
C	Walls.	m ² 340		
D	Ditto in narrow widths.	m ² 8		
E	Sides of ring beam.	m ² 30		
F	Soffits of beams.	m ² 8		
	Carried to collection			

	<u>Render in Rhinobond and set in Rhinoset plaster including all labours with a steel trowel finish on</u>			
A	Rhinoboard ceilings.	m ²	157	
	<u>WALL TILING</u>			
	<u>150 x 150 x 6 mm white glazed wall tiles with continuous horizontal and vertical joints bedded in cement mortar (1:4) on and including cement and sand (1:4) screed and point in white cement, on completion clean down to approval on</u>			
B	Walls.	m ²	173	
C	Walls in narrow widths.	m ²	4	
D	Extra for access panel two tiles wide and two tiles high secured with approved adhesive on and including 6 mm asbestos cement backing and four times drilled for and screwed with chromium plated capped screws to and including 38 x 50 mm wrot softwood frame plugged.	no.	4	
E	150 mm semi-recessed Recesso pattern soap dish and build into and including forming pocket in tiled wall.	no.	4	
F	150 mm semi-recessed Recesso pattern toilet tissue roll holder complete with spring loaded wooden roller and build into and including forming pocket in tiled wall.	no.	4	
	Carried to collection			

A	Cut and fit tiling around small pipe.	no.	20
B	Cut and fit tiling around large pipe.	no.	4
Carried to collection			
COLLECTION			PAGE
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<u>BILL NO.9: PLASTERING AND WALL LININGS CARRIED TO SUMMARY</u>			

BILL NO.10**PAVINGS, FLOOR COVERINGS, PLASTIC LININGS, ETC**

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>SCREEDS</u>			
	<u>Cement and sand (1:4) screed as described</u>			
A	40 mm (Nominal) screed to receive ceramic wall tiles.	m ²	148	
	<u>Tinted granolithic finish as described including all labours</u>			
B	20 mm finish to top of cupboard raising.	m ²	5	
	<u>FOOR TILES</u>			
	<u>200 x 200 x 8 mm ceramic non slip tiles on and including cement sand (1:5) screed to an overall thickness of 40 mm and point in cement mortar 91:3) with ruled joints all straight cutting (Note: top of tiles to have one coat of linseed oil before laying) and on completion clean down to approval</u>			
C	Paving.	m ²	148	
D	Cut and fit tiles around W.C.	no.	4	
E	100 mm high ceramic tile skirting.	m	49	
<u>BILL NO.10: PAVINGS, FLOOR COVERINGS, PLASTIC LININGS, ETC</u>				
<u>CARRIED TO SUMMARY</u>				

BILL NO.11

PLUMBING (PROVISIONAL)

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>RAINWATER DISPOSAL AND FLASHINGS</u>			
	<u>0.6 mm galvanised sheet iron as described in</u>			
A	Apron or cover flashings.	m	31	
B	Stepped cover flashings.	m	27	
C	125 x 100 mm rectangular section eaves gutter on brackets as described to wood.	m	30	
D	Extra for stopped end.	no.	16	
E	Ditto outlet with nozzle for and joint to 100 x 75 mm rainwater down pipe.	no.	8	
F	100 x 75 mm rainwater pipe fixed 38 mm clear of wall with holderbats.	m	22	
G	Extra for shoe.	no.	8	
H	Ditto eaves offset.	no.	8	
	Carried to collection			

SANITARY FITTINGS

A	510 x 405 mm white glazed vitreous china wash hand basin with concealed brackets, complete with integral overflow, chromium plated outlet, plug and chain, pair of 15 mm chromium plated colour coded pillar taps, bolt to brackets to wall and connect up.	no.	5
B	Approved low level W.C. Suite comprising white glazed vitreous china pan with "P" trap, plastic double flap seat , 14 litre cistern and white plastic flush pipe, bolt to cistern to wall, fix pan to concrete floor and connect up.	no.	4
C	1000 x 1000 mm Shower glass cubicle with 2100mm height, 30mm shower tray,backwall with integrated overhead shower,thermostat mixer diverter and hand shower, sliding glass door equipped with aesthetic rails, set uplevel and fix in position to concrete floor and connect up.	no.	4

SANITARY PLUMBING

"Promat" or equal rigid P.V.C. waste piping with solvent cement and joints and fitting as described

D	110 mm diameter pipe laid in ground including excavating in trench not exceeding 2 metres deep and fill in and ram and cart off site surplus material.	m	58
<u>Extra on P.V.C. piping for</u>			
E	50 mm bend.	no.	20
F	50 mm pipe.	m	14

Carried to collection

A	110 mm inspection pipe.	no.	6	
B	110 mm bend.	no.	12	
C	110 mm inspection bend.	no.	4	
D	110 mm junction.	no.	12	
E	110 mm inspection junction.	no.	12	
F	110 mm straight pan connector and joint to W.C. pan.	no.	4	
G	110 mm bent pan connector and joint to W.C. pan.	no.	4	
H	110 mm P.V.C. vent cowl and fixing to top of 110 mm diameter pipe.	no.	4	
J	Assembled gulley trap with 110 mm diameter outlet connected to drain and gulley head with universal back inlet and removable grate.	no.	8	
K	Joint small pipe to gulley.	no.	12	
L	Ditto large pipe to gulley.	no.	12	
	Carried to collection			

	<u>Traps</u>		
A	32 - 40 mm diameter "Flexitrap" or equal "P" trap and joint to fitting and P.V.C. pipe.	no.	16
	<u>WATER INSTALLATION</u>		
	<u>Connection</u>		
B	Excavate in pickable material not exceeding 1 metre deep for and cut into 75 mm diameter P.V.C. Main for and provide and insert reducing tee and joint to new 25 mm diameter steel service including any necessary additional fittings and return, fill and ram.	no.	1
	<u>Galvanised mild steel as described</u>		
C	15 mm diameter pipe fixed to walls.	m	25
D	15 mm ditto to walls in and including chase.	m	7
E	20 mm diameter pipe fixed to walls.	m	12
F	15 mm reducer.	no.	5
G	15 mm elbow.	no.	6
H	15 mm tee.	no.	4
	Carried to collection		

A	20 mm reducer.	no.	8	
B	20 mm elbow.	no.	12	
C	20 mm reducing tee.	no.	6	
D	20 mm socket union.	no.	8	
<u>Copper tubing as described</u>				
E	15 mm diameter pipe fixed to walls.	m	14	
F	15 mm ditto to walls in and including chase.	m	8	
G	22 mm diameter pipe fixed to walls.	m	22	
H	22 x 15 mm reducer.	no.	8	
J	15 mm elbow.	no.	16	
K	22 mm elbow.	no.	7	
L	22 mm tee.	no.	4	
M	22 x 15 x 22 mm tee.	no.	4	
Carried to collection				
<hr/> <hr/> <hr/>				

A	22mm socket union.	no.	6	
B	15 mm diameter bent connector	no.	4	
C	15 mm swivel elbow.	no.	4	
	<u>Brasswork</u>			
D	15 mm diameter brass high pressure screw down stop cock and joints to copper pipe.	no.	4	
E	25 mm diameter brass or equal high pressure undertile stopcock, and joint to copper pipe.	no.	4	
	<u>BUILDER'S WORK IN CONNECTION WITH PLUMBING (PROVISIONAL)</u>			
F	Chase brickwork for small pipe and flush up in cement mortar (1:3).	m	32	
	<u>Hole for small pipe including making good through</u>			
G	Half brick wall.	no.	8	
H	One brick wall.	no.	16	
	Carried to collection			

	<u>Hole for large pipe including making good through</u>			
A	Half brick wall.	no.	1	
B	One brick wall.	no.	4	
	<u>TESTING</u>			
C	Allow for the testing of all the Plumber's work to the satisfaction of the Engineers and for the retesting after making good defects.	item		
	Carried to collection			
	<u>COLLECTION</u>		<u>PAGE</u>	
			29	
			30	
			31	
			32	
			33	
			34	
			35	
	<u>BILL NO.11: PLUMBING (PROVISIONAL)</u>			
	<u>CARRIED TO SUMMARY</u>			

BILL NO.12

GLAZING

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>Glazing to metal with putty.</u>			
A	3 mm clear glass.	m ² 6		
B	3-4 mm obscure glass.	m ² 3		
	<u>Mirrors</u>			
D	6 mm clear float quality glass silvered and sealed mirror with bevelled edges sprayed on back with clear lacquer before fixing four times drilled for and plugged and screwed to plastered walls with and including chromium plated capped mirror screws and rubber washers, size 600 x 600 mm.	no. 4		
<u>BILL NO.12: GLAZING</u> <u>CARRIED TO SUMMARY</u>				

BILL NO.13

PAINTING

(For Preambles see General Specification)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Rate</u>	<u>Amount</u>
	<u>ON PLASTER, ETC</u>			
	<u>Prepare and apply three coats external quality P.V.A. emulsion paint externally on</u>			
A	Fine woodfloat plastered walls.	m ² 241		
B	Fine woodfloat plastered walls in narrow widths.	m ² 20		
	<u>Prepare and apply three coats internal quality P.V.A. emulsion paint internally on</u>			
C	Steel trowelled plastered walls.	m ² 167		
D	Ditto in narrow widths.	m ² 8		
E	Steel trowelled plastered sides ring beams.	m ² 30		
F	Steel trowelled plastered sides and soffits of lintols.	m ² 8		
	Carried to collection			

	<u>Prepare and apply two coats ceiling white P.V.A. emulsion paint on</u>			
A	Steel trowel plastered rhinoboard ceilings.	m ²	157	
	<u>ON METAL</u>			
	<u>Clean down, touch up priming coat and apply one undercoat and two finishing coats high gloss enamel paint on</u>			
B	Pressed door frames.	m ²	24	
C	Windows and frames (both sides measured flat overall).	m ²	17	
	<u>ON WOOD, ETC</u>			
D	Carbolineum saturate sawn softwood wall plate before fixing.	m ²	7	
	<u>Clean down, prime, stop and apply one undercoat and two finishing coats high gloss enamel pain on</u>			
E	General surfaces of doors.	m ²	26	
F	General surfaces of roof timbers.	m ²	7	
	Carried to collection			

LEAVE CLEAN

A Allow for touching up all work throughout, clean off all paint, oil, cement or other stains or marks, floors, ceilings, glass, etc. and leave all surfaces in full and proper working order.

item

Carried to collection

COLLECTION

PAGE

37

38

39

BILL NO.13: PAINTING
CARRIED TO SUMMARY

BILL NO.14

SPECIALIST SERVICES

PRIME COST AND PROVISIONAL SUMS

The following Provisional and Prime Cost Items are nett:

The following Provisional Sums are to be spent as directed by the Architect or deducted in whole or in part if not required (No profit is to be added)

KITCHEN CUPBOARDS

A Provide the sum of US\$ (.....
for Kitchen cupboards (Monarch type) and Built in cupboards item

Add Profit %

Add Attendance %

CURTAINS AND CURTAIN RAILS

B Provide the sum of US\$ (.....
for Curtains (to be approved by Architect) and aluminium rails or rods item

Add Profit %

Add Attendance %

SCREENS AND BURGLER BARS

C Provide the sum of US\$ (.....
for burglar bars (to be approved by Architect) and screen doors to clients"s approval item

Add Profit %

Add Attendance %

D Provide the sum of US\$ (.....
for Project Management team cellphones item

**BILL NO.13: SPECIALIST SERVICES
CARRIED TO SUMMARY**

SUMMARY

<u>Bill No.</u>	<u>Trade</u>	<u>Page</u>
1	PRELIMINARY AND GENERALLY (SEPARATE DOCUMENT)	19
2	FOUNDATIONS (PROVISIONAL)	8
3	CONCRETE, FORMWORK AND REINFORCEMENT	11
4	BRICKWORK	15
5	ROOF COVERINGS	16
6	CARPENTRY	18
7	JOINERY AND IRONMONGERY	22
8	METALWORK	24
9	PLASTERING AND WALL LININGS	27
10	PAVINGS, FLOOR COVERINGS, PLASTIC LININGS, ETC	28
11	PLUMBING (PROVISIONAL)	35
12	GLAZING	36
13	PAINTING	39
14	SPECIALIST SERVICES	40
<u>CONTINGENCIES</u>		
Provide the provisional sum for contingencies to be used as directed and deducted in whole or in part if not required.		10,000.00
Add: VAT @ 15%		
<u>TOTAL CARRIED TO MAIN SUMMARY</u>		
.....		
SIGNATURE OF CONTRACTOR		
.....		
DATE		

MAIN SUMMARY

Bill No.	Trade	Page	
	<u>SECTION A</u>		
1	PRELIMINARY AND GENERALLY	x1	
	<u>SECTION B</u>		
2	BUILDERS WORKS	x1	
	<u>SECTION C</u>		
3	MECHANICAL WORKS	x1	
	<u>SECTION D</u>		
4	ELECTRICAL WORKS	x1	
	<u>SECTION E</u>		
5	CIVIL WORKS	x1	
	<u>CONTINGENCIES</u>		
	Provide the provisional sum for contingencies to be used as directed and deducted in whole or in part if not required.		10,000.00
	Add: VAT @ 14.5 %		
	<u>TOTAL CARRIED TO FORM OF TENDER</u>		
		
	SIGNATURE OF CONTRACTOR		
		
	DATE		

BILL NO. 1

PRELIMINARIES

NOTES TO TENDERERS

- A The following Preliminaries shall apply to all tenders whether based on Bills of Quantities or on a Specification, issued by the Ministry of Local Government and Public Works.

- B In the case of a tender based on Bills of Quantities the Tenderer should allow for all costs incurred in complying with these Preliminaries in the money column of this Bill and carry the total (if any) to the appropriate Summary in the Main Bills of Quantities, or as otherwise instructed in the Tender Documents.

- C In the case of a Tender based on a Specification, the Tenderer should include for all costs and expenses in complying with these Preliminaries in his lump sum Tender figure for the work.

- D In the case of a Contract based on a Specification those Preliminaries which refer to "Bills of Quantities", shall apply only where such term is synonymous with the term "Specification".

- E The Specification or Bills of Quantities are to be read in conjunction with, and all workmanship and material, unless otherwise described, shall comply with the current edition of the Ministry of Local Government and Public Works "General Specification of Materials and Workmanship" and with any amendments thereto. It is hereby made a condition that the submission of a tender based on Bills of Quantities or a Specification issued by the Ministry of Local Government and Public Works shall be accepted as proof that the Tenderer was in possession of a copy of this "General Specification" and amendments thereto at the time of tendering and that his tender price was based upon the requirements of such "General Specification" and amendments thereto.

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A No representation, explanation or statement which in any way alters the tender or contract documents, made prior to the acceptance of a tender or during the progress of the contract shall bind the Secretary for Local Government and Public Works unless such explanation, statement or alteration be made and confirmed under the signature of the Secretary for Local Government and Public Works.

B Should there be any doubt or obscurity as to the meaning of any particulars in the Specification, Bills of Quantities or Tender Documents, the Tenderer must obtain an explanation as to the true intent and meaning in writing from the Secretary for Local Government and Public Works before submitting his tender. No claim for extras arising from any doubt or obscurity will be admitted after the delivery of his tender.

C The Tenderer is required to check the number of pages in the Specification (and in the case of Bills of Quantities all pages and references thereto in the "Collections" and Summary), and should any pages or references thereto be missing or duplicated or the figures or typing be indistinct, he is to apply at once to the Secretary for Local Government and Public Works and have the same rectified. Any errors arising through the Tenderer failing to do this will not be admitted after the submission of his tender.

D The Contractor shall, when requested by the Secretary for Local Government and Public Works, deposit his Bills of Quantities fully priced out in ink with the Secretary for Local Government and Public Works, and on the basis of this Bill of Quantities all extras and omissions will be valued. The Secretary for Local Government and Public Works shall be at liberty to call for such adjustments of individual rates and rectify discrepancies as he considers necessary provided that the Tendered Amount is not altered.

CONDITIONS OF CONTRACT

E The Tenderer is referred to the "Conditions of Contract" and if he considers any of the clauses (or any amplification thereof given below) in such Conditions involves expense not included elsewhere, he should include for same.

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- A Should the Tenderer not be in possession of the Ministry of Local Government and Public Works Standard Conditions of Contract, two copies will be issued to him on application being made.
- B A Tenderer's failure to obtain a copy of the Conditions of Contract will not absolve him from complying with such Conditions.
- C Clause No. 1: Scope of Contract.
- D Clause No. 2: Drawings, Specifications and Bills of Quantities, etc.
- E Clause No. 3: Local and Other Authorities' Notices and Fees.
- F Clause No. 4: Setting Out of Works.
- G Clause No.5: Materials and Workmanship to Conform to Description.
- H Clause No. 6: Foreman.
- J Clause No. 7: Access for Architect to Works.
- K Clause No. 8: Clerk of Works.
- L Clause No. 9: Ascertainment of Prices for Variations.
- M Clause No. 10: Bills of Quantities.

Should the Contractor not affix any figures in the money column against any particular items, he shall write hyphens thus:- - against such items.

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All measurements, sizes and quantities throughout the Bills of Quantities are taken nett and should be held to mean the finished measurement and sizes, unless otherwise stated. The Quantities represent the actual nett quantities left in the building. The Contractor must allow in his prices for all cutting and waste, etc.

The Bills of Quantities are not to be used for the ordering of materials except at the Contractor's own risk. They have been prepared in order to enable the Contractor to furnish an estimate for the work and to provide unit rates for adjustment of variations.

No alterations, erasures or additions are to be made by the Tenderer in the text of the Bills of Quantities, and should any such alterations or additions be made the same will not be recognised and the text of the Bills of Quantities will be adhered to.

To assist the Tenderer in casting the various trades in these Bills of Quantities, sufficient space has been left at the end of each trade to enable him to cast each page separately, and carry the same to a column on the page in question under the heading of "Collection".

A Clause No. 11: Unfixed Materials when taken into account to be Property of the Government.

B Clause No. 12: Defects After Completion.

C Clause No. 13: Assignment or Sub-letting.

D Clause No. 14: Injury to Persons or Property.

(a) Injury to Persons: The Contractor is to allow for all costs and charges in taking out an Insurance Policy covering THIRD PARTY RISKS, in the joint names of the Government and the Contractor.

(b) Workmen's Compensation.

(c) Injury to Property.

(d) Damage resulting from riot or civil commotion.

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A Clause No. 15: Insurance. The Contractor is to allow for all costs and charges in insuring the building against fire, for the full amount of the Contract plus 12½% to cover professional fees, from the commencement of work until the building is handed over. The policy is to be deposited with the Secretary for Local Government and Public Works and payments to the Contractor may be withheld until this Clause has been complied with.

B Clause No. 16: Occupation.

C Clause No. 17: Date of Possession and Completion.

D Clause No. 18: Damages for Non-completion.

E Clause No. 19: Delay and Extension of Time.

F Clause No. 20: Determination by Government.

G Clause No. 21: Determination by Contractor.

H Clauses No. 22 and 23: Nominated Sub-contractors and Suppliers.

Where the Government becomes the nominated sub-contractor or the nominated supplier no cash discount will be allowed.

When during the course of the contract the Government omits Provisional Sums included in the Bills of Quantities, Specification or Tender Documents for nominated sub-contractors or nominated suppliers and negotiates a separate contract for such work to be paid direct by the Government, the main Contractor shall allow such facilities and he shall be entitled to payment of profit and attendance at the rates included by him in the Bills of Quantities against the respective items, adjusted pro rata on the amount paid direct by the Government, but shall not be entitled to claim cash discount or compensation for loss thereof.

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In the event of Provisional Sums for nominated sub-contractors' or suppliers' work being omitted in whole or in part, and such work not being otherwise carried out during the period of this contract all cash discount, profit and attendance shall be similarly omitted in whole, or in part pro rata.

A Clause No. 24: Artists, Tradesmen and Works Outside the Contract.

The Government reserves the right at all times during the progress of the contract to let separate contracts for Specialists' work, or any other similar work not included in the Bills of Quantities, Specification or Tender Documents, and the main Contractor must grant access, and all facilities to such artists, tradesmen and others so engaged by the Government and such persons shall not be regarded as sub-contractors under this contract and no builders' discount or profit in respect thereof shall be payable to the Main Contractor, but in the event of attendance and making good being required payment will be made on a fair valuation of the services performed.

To assist the Contractor in arranging any attendance required, the Government may, when there is prior knowledge of specialist work, state in the Specification or Bills of Quantities the approximate value of such intended or existing separate contracts, but the inclusion of this information is for the Contractor's guidance only and shall not be deemed to be an amount included in the value of the Contract.

B Clause No. 25: Certificates and Payment

The Contractor when requiring a progress payment, shall furnish the Secretary for Local Government and Public Works with an approximate statement of the work executed, detailed and priced under trades and based on his original tender.

In all cases where the Contractor requires payment for unfixed materials on the site, the application for a progress payment must be accompanied by a complete list of all such materials, signed by the Contractor and countersigned by the Clerk of Works. All such material shall become the property of the Government and shall not be taken away (except for use in the building) without the written permission of the Secretary for Local Government and Public Works.

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Not more than 80% of the value of any materials on site will be included in progress payments and such payments will only be made for materials which are properly protected from weather and theft, and which have not, in the opinion of the Quantity Surveyor, been brought prematurely upon the site.

All monies due to the nominated sub-contractors or suppliers and which are included in the contractor's certificate shall be paid to the sub-contractors or suppliers by the Contractor within 21 days after the date of the certificate in which the sum due is included. in the event of such payment not being made within the above stipulated time, the Contractor shall lose all right to claim any cash discount on the monies involved and the Secretary for Local Government and Public Works reserves the right to deduct ALL sums of maney that are due to the said sub-contractors or suppliers from the Contractor's next certificate and pay them direct to the sub-contractors or suppliers.

It is a condition of this contract that the Government shall not be bound to pay (except under an Order of the Court) any monies due or to become due hereunder to any persons save the Contractor who shall not have the right to assign his rights to payment to any third party without first obtaining the written consent of the Government to such assignment.

A Clause No. 26: Wages

B Clause No. 27: Non-Payment of Certificates

Notwithstanding the provisions of Clause 25 of the "Conditions of Contract", the Government reserves the right to withhold retention money beyond the retention period until the Contractor has submitted to the Secretary for Local Government and Public Works all receipts in respect of monies due to nominated sub-contractors and nominated suppliers which have been included in payments made to the Contractor, and in the event of the Contractor failing to produce within 14 days of being asked in writing, conclusive evidence that such amounts have been fully paid, the Government shall have the right to make final payment direct to such sub-contractors or suppliers and to deduct the value thereof from the retention money, or other monies due under the Contract.

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A Clause No.28: Surety Bond
The Contractor is to allow for all costs and charges in taking out the surety bond.

B Clause No. 29: Corrupt Gifts and Payments of Commission.

C Clause No. 30: Photographs.

D Clause No. 31: Articles of Value or Antiquity.

E Clause No. 32: Patent Rights and Royalties.

F Clause No. 33: Arbitration.

PRELIMINARIES AND GENERAL

The tenderer is referred to section B, Preliminaries and General, Pages B.1 to B.9 of the General Specification and if he considers that any of the clauses or any amplification thereof given below involves expense not elsewhere included, he should include for same hereunder.

Clause B.1 Public Liability.

G 1.1 Noise control.

H 1.2 Nuisance.
The Contractor shall make adequate provision by spraying, erecting screens or other suitable methods, against nuisance or damage by dust to all works under this Contract, to persons or property in the vicinity, and he will be held solely responsible for any complaints, damage or claims in this connection.

J 1.3 Adjoining owners.
The Contractor shall not in the execution of the Works enter upon or otherwise make use of any lands adjoining the site of the Works as demarcated on the site plan, without the consent in writing of the Secretary for Local Government and Public Works or without the consent of the owners of such adjoining lands, having been previously obtained, but shall (except with such consent) confine his operations within the site of the Works. No trespassing beyond the limits as

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above described will be allowed.

- A 1.4 Adjoining property.
- B 1.5 Police regulations.
- C 1.6 Statutory obligations.
- D 1.7 Notices, fees and charges.

Clause B.2 Prevention of Damage or Loss

- E 2.1 Locate existing services.
- F 2.2 Protect existing services.
- G 2.3 Damage to services.
- H 2.4 Fire precautions.
- J 2.5 Damage to roads.
- K 2.6 Repairs to roads.
- L 2.7 Clear roads
Nothing shall be done by the Contractor or anyone employed by him that shall in anyway interfere with the free use by the public of any of the roads, gravel drives, paths, etc., within or approaching the site.
- M 2.8 Protect trees and shrubs.
- N 2.9 Replace trees and shrubs.
- O 2.10 Existing features.
Make good or reinstate at the Contractor's expense all damage which may occur to gates, fences, buildings or other Government property existing upon the site.
- P 2.11 Existing damage.

Clause B.3 Management/administration Procedures

- Q 3.1 Programme.
- R 3.2 Submit.
- S 3.3 Submission

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A	3.4	Receipt.	
B	3.5	Monitoring. The Contractor shall provide on site a carbon copy record book which shall provide one original and two copies in which shall be recorded all site visits and daily record of work done.	
C	3.6	Safety, health and welfare.	
D	3.7	Use of site.	
E	3.8	Site meetings.	
F	3.9	Minutes.	
G	3.10	Measurements.	
H	3.11	Labour return.	
J	3.12	Daywork vouchers.	
K	3.13	Order materials.	
		<u>Clause B.4 Resources/Temporary Works and Services</u>	
L	4.1	Locations.	
M	4.2	Temporary works.	
N	4.3	Roads.	
O	4.4	Buildings.	
P	4.5	SO's site office.	
Q	4.6	Storage for cement and lime.	
R	4.7	Sanitary accommodation for supervisory staff.	
S	4.8	Sanitary accommodation for artisan staff.	
T	4.9	Hoardings, gantries and scaffolding.	
U	4.10	Name boards.	
V	4.11	Telephones.	
W	4.12	Water. Allow for providing all water for the Works and for	
		Carried to Collection	\$

sub-contractors, pay all fees and charges legally demandable and provide all necessary piping, taps and other fittings, storage tanks, etc.

If this Contract embodies work at a Government building or institution where water is already laid on, the Contractor may by agreeing in writing with the Secretary for Local Government and Public Works, use the water from this supply. (Any connection to or extensions of the existing supply pipes must be provided at the Contractor's expense.)

If permission be thus obtained and the Contractor uses the water from this source, he shall pay the Government (by deduction from the amount due under the contract) a sum equal to one quarter percent ($\frac{1}{4}\%$) of the final completed cost of the work executed under this contract as disclosed in the final statement, and shall allow in his price for water such amount as he considers necessary to cover this cost.

The use of water from a Government supply is granted subject to the condition that the water used by the Contractor shall be for building purposes only and should the Government be satisfied that the Contractor is unduly wasting water and/or using water for any subsidiary purpose such as providing for living accommodation of his workmen on the site, the Government reserves the right to deduct from monies due under the contract their assessment of all such additional water used.

- A 4.13 Lighting and power.
It is entirely the Contractor's responsibility to ascertain before tendering the availability of electricity and all costs and charges thereof, and no claim arising out of this clause will be considered after the submission of a tender.
- B 4.14 Plant.
- C 4.15 Sole use of plant.
- D 4.16 Removal of plant.
- E 4.17 Plant to comply.
- F 4.18 Protective clothing.

Clause B.5 Nominated Firms/Public Bodies

- G 5.1 Prime cost or provisional sums.
Where Provisional and Prime Cost Sums are included
Carried to Collection

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for works to be performed, or materials supplied by nominated sub-contractors or suppliers, the Secretary for Local Government and Public Works will invite tenders (or may request the Contractor to obtain not less than three tenders) and direct the Contractor to accept a tender from a sub-contractor who will then become a nominated sub-contractor or supplier in terms of the Conditions of Contract: Clauses 22 and 23". The main Contractor will be entirely responsible for the proper and timely execution of the sub-contract and no contract will exist between the will nominated sub-contractor or supplier and the Government, and it is the responsibility of the main Contractor to ensure that the sub-contractor indemnifies the Contractor against the same obligations in respect of the sub-contract, as those for which the Contractor is liable in respect of the main contract.

The Contractor shall not order any materials for which Provisional or Prime Cost Sums are included without first receiving instructions in writing from the Secretary for Local Government and Public Works so to do.

The Contractor will be required to produce all receipted invoices, if demanded by the secretary for Local Government and Public Works for the adjustment of accounts.

If items are reserved for work of a nature usually carried out by the Contractor in the course of his business, the Government may give the Contractor an opportunity of tendering for the same without prejudice to the Government's right to reject the lowest or any tender.

- A 5.2 Sub-contractors.
The names of all sub-contractors (other than nominated) whom the Contractor proposes to employ shall be submitted to the Secretary for Local Government and Public Works for approval before the signing of the Contract. Such approval shall not be unreasonably withheld.
- B 5.3 General Attendance.
Wherever the words "allow for attendance" occur, it shall be deemed to cover all the Contractor's costs involved in the following:-
(a) For giving the sub-contractor every facility to enable him to execute his work in a workmanlike manner and in proper order and sequence.

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- (b) For allowing the sub-contractor free use of all scaffolding and plant as may be reasonably required by him, and for erecting, shifting and removing as necessary such scaffolding and plant free of charge to the sub-contractor.
- (c) For providing water or electricity required by the sub-contractor.
- (d) For receiving, unloading, checking, and removing to store all the sub-contractor's materials, articles and fittings on arrival at the site, and where necessary for providing proper storage accommodation for the prevention of pilferage, damage, etc., returning all empties and packing of same carriage paid, and for hoisting or lowering materials, articles, or fittings to the requisite levels and positions in the the building.
- (e) For agreeing with the sub-contractor proper and accurate working dimensions and other particulars and for obtaining from the sub-contractor full data and particulars as to the sub-contractor's requirements, with particular regard to chases, recesses, mortices, notchings, holes, perforations, etc., and for obtaining full information from the sub-contractor to enable the Contractor to make proper arrangements and provisions during the general execution of the work for the reception of the sub-contractor's work. The cost of any alterations consequent upon the non fulfilment of the foregoing stipulations will be at the Contractor's sole expense.
- (f) For all items, conditions or requirements with regard to the sub-contractor's work mentioned or described in the general Conditions of Contract, Specification and Preliminaries not specifically stated in the foregoing.

A 5.4 Supervision.

B 5.5 Programme.

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Clause B.6 Quality/Testing/Approvals.

- A 6.1 Commodities.
- B 6.2 Manufacturer's Recommendations.
- C 6.3 Standards.
- D 6.4 Single Sources.
- E 6.5 Samples of commodities.
- F 6.6 Samples of work.

Clause B.7 Accuracy/Setting Out.

- G 7.1 Set out the works.
- H 7.2 Profiles.
- J 7.3 Permanency.
- K 7.4 Instruments.
- L 7.5 Check all dimensions.
- M 7.6 Dimensions.

Clause B.8 Protection.

- N 8.1 Safeguard the site.
Provide all necessary barriers, hoardings, footways, etc., and provide all necessary watching and lighting as required for the protection of the Works and materials and plant on the site, and for the protection of the public. The Contractor will be held responsible for all injury or accident that may happen through failure to provide adequate protection and lighting.
- O 8.2 Inclement weather.
- P 8.3 Stormwater and surface water.
The Contractor must satisfy himself as to the quantities of subsoil and surface water to be dealt with and is to keep the building foundations and work generally clear of surface, subsoil and stormwater by baling, pumping or otherwise. Provide for dealing with springs, underground streams, etc., which may be opened up and provide all necessary pipes and machinery sufficient for the above purposes, and an ample supply

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of power, and apply the same as necessary to enable all operations to be promptly and efficiently performed, including night and day attendance and work as necessary.

A 8.4 Overloading.

B 8.5 Cleanliness.

C 8.6 Damage by sunlight.

D 8.7 Datum.

Clause B.9 Prefabricated Elements.

E 9.1 Delivery.

F 9.2 Check fixings.

G 9.3 Authorise erection.

H 9.4 Notice.

Clause B.10 Work at Completion.

J 10.1 Clean the works.

K 10.2 Cleaning.

L 10.3 Remove.

M 10.4 Painted surfaces.

N 10.5 Moving parts.

O 10.6 Security at completion.

P 10.7 Making good defects.

Q 10.8 Maintenance instructions.

Clause B.11 Miscellaneous.

R 11.1 Photographs.

S 11.2 Articles of value or antiquity.

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A VISIT SITE

The Contractor must visit the site of the Works before submitting his tender and carefully examine the conditions that exist, and he is to satisfy himself as to the nature of the materials to be excavated as well as all natural conditions, water and light services, transport facilities, etc. No allowance will be made in the event of conditions being different from what he expected.

B FLUCTUATIONS IN COSTS

1) Where applying to nominated sub-contractors or suppliers

Where the following provisions for fluctuations in wages, cost of living allowances or prices of materials are applicable to a nominated sub-contractor or nominated supplier, the additional payments to them are to be regarded as a reimbursement of expense only, upon which the contractor shall not be entitled to claim any additional pro rata profit in terms of Clause 25 (e) of the conditions of contract.

2) Fluctuations in wages and cost of living allowances

The Contractor is to pay not less than the recognised Standard Rate of wages and Allowances to all employees.

If at any time between the date of delivery of the Contractor's tender and the date for the completion of the Works any statutory fluctuation (i.e. any specific increase or decrease stipulated by the Government Gazette) takes place in the Standard Rate of Wages, Cost of Living Allowances, or other statutory compulsory contribution in respect of the men employed on the Works covered by this Contract, whether on the site or in the workshops or yards of the Contractor or sub-contractors (but not in respect of merchants or suppliers), the Contractor is to submit WEEKLY to the Secretary for Local Government and Public Works receipted time sheets, together with a weekly return of the number of hours worked, signed by the Foreman and countersigned by the Clerk of Works, and the contract price shall be adjusted in accordance with the statutory fluctuation. Variations, if any, made under this clause shall be a nett increase or increase or decrease, and no allowance will be made for any profit whatsoever. No claims will be admitted in respect of labour employed after the expiration of the contract completion date or any amendments thereto under Clause 19 of the Conditions of contract.

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3) Fluctuations in prices of materials

Should any statutory fluctuation (i.e. any specified increase or decrease in control prices of materials stipulated by notices published in the Government Gazette) take place after the date of delivery of the Contractor's tender, the Contractor is to submit invoices for such materials certified by the Clerk of Works and the contract price shall be adjusted in accordance with the statutory fluctuation. Such variations, if any, made under this clause shall be a net increase or decrease, and no allowance will be made for any profit whatsoever.

The term "statutory fluctuation" is accepted to cover variation in custom duty or other Government tax, duty or surcharge only when detailed in the relevant Act of Parliament or statutory notices as payable direct on specified building materials and items incorporated in a building structure but will not be accepted to cover any indirect variation of costs or overheads, etc., of the Contractor, sub-contractors, merchants or suppliers, arising from fluctuations in such items as railage, shipping rates, insurance, postage, dock dues, clearance charges, transport, power and fuel costs, etc., whether arising directly or indirectly from Government action.

No claims will be admitted under this Clause for statutory fluctuations coming into effect after the expiration of the contract completion date or any amendments - thereto under Clause 19 of the Conditions of Contract.

If the Contractor wishes to be protected against fluctuations in cost of any basic materials he is to attach to the Form of Tender a list of such materials and prices in respect of which he wishes to be protected. Such prices to be those upon which he bases his tender.

In support of these prices, the Contractor is to furnish with his tender bona fide current merchants quotations (for quantities as required for the job).

The prices actually paid must be substantiated by receipted invoices, and all adjustment will be net with no allowance for profit, provided that if the variations are positive then the Contractor may add not more than 5% to the net amount.

At completion of the works the Contractor will be required to substantiate the quantities used and the prices actually paid for all items listed in order that Government may benefit for any decrease in price that may have occurred.

Carried to Collection

\$

Orders for materials as listed shall have been placed within a reasonable time after the date of acceptance of the tender, otherwise no adjustment will be made. Such time to be mutually agreed when the tender is provisionally accepted.

All delivery notes for materials as listed must be certified by the Clerk of Works as having been delivered to the site, and shall be submitted to the Secretary for Local Government and Public Works failing which no adjustment will be made.

Where no materials have been listed the tender shall be treated as a firm tender.

Dumping duties are not acceptable as fluctuations, and it is a condition of the tender that any dumping duty levied at an time on items and goods incorporated in this contract shall be payable by the successful tenderer, and not recoverable from the government.

A AGREED WORKING HOURS

No work of any kind or description shall be done outside the agreed working hours of the building industry except such as shall be unavoidable or absolutely necessary for the saving of life or property, or the safety and protection of the works. Should the Contractor desire to execute any work outside the agreed working hours of the building industry, he shall first obtain the permission of the Secretary for Local Government and Public Works and any work executed outside such hours without the written permission having been first obtained will not be paid for, or if the Secretary for Local Government and Public Works desires the same taken out or pulled down and removed.

B DISMISSAL OF INCOMPETENT WORKMEN

The Contractor shall on the request of the Secretary for Local Government and Public Works immediately dismiss from the works any persons employed thereon who may, in the opinion of the Secretary for Local Government and Public Works be incompetent or misconduct himself, or is likely to cause or who has caused strikes, disturbances or delays, and such persons shall not again be employed on the works without permission from the Secretary for Local Government and Public Works.

Carried to Collection

\$

COLLECTION

PAGE

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BILL NO. 1: PRELIMINARIES
CARRIED TO SUMMARY PAGE OF MAIN BILL

\$

.....
SIGNATURE OF CONTRACTOR

.....
DATE



THE REPUBLIC OF ZIMBABWE

MINISTRY OF FINANCE

SPECIFICATION

FOR

THE SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF

VENTILATION AND AIR CONDITIONING SYSTEM

AT

MAITENGWE BORDER POST ZIMRA STAFF ACCOMMODATION

IN

MATABELELAND NORTH PROVINCE

CONTENTS

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TECHNICAL SPECIFICATION

1.0 GENERAL

The contract will cover the supply, delivery, installation, testing and handing over in full working order with a 12-month guarantee of four (4) 24 000 Btu/hr. Air Conditioning ceiling cassette units and four (4) extract fans at Maitengwe Border Post staff accommodation in Matabeleland North.

1.1 REGULATIONS

All mechanical equipment shall conform to the requirements of the Zimbabwe Factory and Works regulations, published under the government notice No: 279 of 1976 or any amendments promulgated subsequently.

1.2 DRAWINGS

Drawing No:is supplied, but the contractor is required to provide detailed installation drawings and As-installed drawings after installation is completed.

1.3 CONTRACTOR'S DRAWINGS

The successful Tenderer shall have all his layout and assembly drawings approved in writing by the Engineer before work is commenced on the contract.

1.4 TYPE OF INSTALLATIONS

The air-conditioning subcontractor will carry out the following: supply, delivery, installation, testing, commissioning and provide a 12month guarantee for the items listed below: four (4) 24 000 Btu/hr. Air Conditioning ceiling cassette units and four (4) extract fans at Maitengwe Border Post staff accommodation in Matabeleland North.

1.5 NOISE LEVEL

The noise level in the rooms shall not exceed noise rating 50dB at 1000Hz centre frequency of octave band.

1.6 FIXING TO STRUCTURES

Fixing of all brackets etc to the structure shall be by means of expansion bolts of redheads shooting will not be allowed into pre-stressed concrete.

1.7 PIPEWORK

All pipe work to be concealed and welded except where otherwise specified.

- a) All pipe work shall be installed in such a manner as to maintain maximum headroom and shall be parallel to or right-angled to adjacent walls.
- b) No section of the pipe-work insulation shall be permanently closed up or insulated until it has been tested and approved as called elsewhere in this specification.
- c) Final connection to equipment shall be flanged over 50mm diameter and made with spherical seated unions up to 50mm. Where a connection is made to equipment, the flange shall be the same as the equipment e.g. pump.
- d) Screw fitting may be banded or pattern and shall be of the taper screw type BS21.
- e) All flanges shall be machined full face and welded to the pipe work as specified. Flange joints shall be made with the approved full face joint rings and compound all bolts shall be

have 15mm free thread when the joint is fully made.

- f) All pipes shall remain capped during installation.
- g) All pipe work shall be installed so as to allow for expansion to eliminate undue stress to either pipe work or equipment.
- h) All pipe work going through wall beams to be sleeved.
- i) Jointing tapes/ compound to be used on all joints.

1.8 ITEM 2: Air conditioning unit, ceiling cassette type

QTY - 4

- The air conditioning units will be used for heating and cooling and moisture removal in the building.

Features on the units include:

- Cooling capacity of 24 000 Btu/hr
- Power input of 4.2 kW
- Running current of 13A
- Power supply: 1phase, 220-240V,50Hz
- Moisture removal of 3.8l/hr
- Noise level of 43-50dB
- Approximate weight indoor unit: 20kg.
- Refrigerant: R410A

1.9 ITEM 3: Extract fan

QTY - 4

The extraction fan shall be installed as indicated on the drawing. The capacity shall be 85m³/hr. The sound level shall not exceed 50dB when the fan is working. Dampers should be installed to minimize noise and vibration.

- Required capacity – 300m³/hr.
- Flow rate – 0.15m³/s.
- Peak power – 0.08kw.
- Rated motor power – 0.08kw, 240v, 50Hz, single phase
- Full load current – 1.45A
- Starting current – 2.2

2.3 MAINTENANCE

The successful tenderer shall also quote for the maintenance costs that are not covered by the guarantee period.

2.4 TRAINING

The successful tenderer shall also quote for basic O&M training for two people. The training shall cover the theory, servicing and simple troubleshooting of the installed equipment.

2.5 ACCEPTANCE TESTING

The contractor also provides an acceptance test document showing the installed equipment, spares, faults and normal operation. The ministry will be involved in these tests and commissioning will only be done when these are successfully conducted.

2.6 TOTAL COST OF ALL EQUIPMENT AND SERVICES (Exclusive of VAT) TO BE CARRIED OVER TO SECTION 10 US \$.....

VARIATIONS AND OMISSIONS TO SPECIFICATION

All omissions and variations to the specification shall be set out below making reference to the corresponding clause numbers in the specification in serial order. If the tender is completely in accordance with the specification, the tenderer shall state 'Nil'.

SCHEDULE OF TECHNICAL PARTICULARS

The generation of the equipment to be used in the installation should be less than 2 years at the time of bidding.

The tenderer shall complete the schedule below giving the manufacturers of the equipment or materials proposed to be used on which the tender is based. Illustrations and catalogues of the equipment covered by the tender must be provided at the time of tendering.

No alteration to the equipment or materials offered or the information given will be permitted in the execution of the works unless such alteration is approved by the engineer.

3.0 SUPPLY PARTICULARS

3.1 AIR CONDITIONING ceiling cassette type

Type – ceiling cassette

Cooling capacity – 24 000 BTU/hr

Makers Name

Country of origin.....

Model and type.....

Cooling capacity.....

Heating capacity.....

Air circulation.....

Power rating.....

- a) Current rating of units (max).....
- b) Phases of supply required (max).....

REFRIGERANT

- a) type/name of refrigerant.....
- b) Saturation vapor density.....

3.2 EXTRACT FAN

Makers Name

Country of origin.....

Model and type.....

Fan speed.....

Peak power.....

Rated motor power.....

Current rating of units (max).....

Phase of supply required (max).....

SCHEDULE OF MATERIALS AND BASIC PRICES

- 4.1 Orders for purchase of materials shall be placed with all of the contractor's suppliers *within four weeks from date of receipt of verbal or provisional acceptance letter*. Photocopies of these orders shall immediately be submitted to the project Engineer and shall be the basis for claims of fluctuation in prices.

It is brought to the attention of the contractor that he shall only change suppliers with the Written authority of the Project Engineer upon submission of documents from the original supplier (at time of tender) stating his grounds for failure to meet his obligations.

4.2 ESCALATIONS FOR MATERIALS

The following is a schedule listing basic prices supplied to the Ministry by suppliers. These prices shall be used as a basis for adjustments of any increases in cost of materials irrespective of the tenderer's basic price during the duration of the contract. The successful tenderer shall substantiate such increases with receipted invoices, dated and having the contract number on them. The claim for such escalation shall be made within three (3) months of their being incurred failing of which such claims shall be disallowed. The Ministry does not accept the contractor's stores requisitions and these cannot be used to claim for price increases.

4.3 NOTE

No material increases shall be paid unless accompanied by the supplier's invoices.
No increased labour costs shall be paid unless accompanied certified copies of workers time sheets.
All claims for payment should be certified by the Mechanical Inspector before they are passed to the Mechanical Engineer for processing.

ESCALATIONS FOR LABOUR

- 5.1 The contractor shall complete a schedule of his labour rates for professional, skilled and unskilled workers. The schedule shall clearly show the number of each category of workers he intends to employ during the contract period.

Such numbers shall be changed with the approval of the engineer from time to time due to fluctuations in workload during the course of the construction period. The contractor shall also clearly show the build up of his worker's wages i.e. he shall stimulate the National Employment Council (NEC) for the Construction Industry of Zimbabwe contributions such as pensions and general funds. The rates so specified shall be the basis for escalations for labour rates, however if no rates are specified the current labour rates stipulated by the NEC shall be applied. No contributions shall be applied to temporary or casual labourers.

5.2	CLASSIFICATION	No. of Workers	Rate (US\$ per hour)
	General hands		
	Installation Wireman		
	Worker grade 4		
	Worker grade 3		
	Worker grade 2		
	Worker grade 1		
	Fitter/electrician		
	Worker grade 4		
	Worker grade 3		
	Worker grade 2		
	Worker grade 1		
	Foreman/charge hand		
	Any other (specify)		

- 5.3 The contractor is required to keep a record of all employees on site. Time sheets showing hours worked and amount paid per hour should be signed by the employees and the clerk of works. The number of hours worked per week by each employee should not exceed forty-four hours unless permission is granted by the Engineer to do so. A copy of the time sheets should be sent to the project Engineer before submitting your claims.

TENDER SUMMARY

6.1. Cost of all material as specified US\$.....

SERVICES

6.2 Delivery cost US \$.....

6.3 Installation cost US \$.....

6.4 Commissioning cost US\$.....

6.5 Services Cost US \$.....

6.6 Sub- Total US\$.....

6.7 Add 15% VAT US\$.....

6.8 Sub- Total US\$.....

6.9 Add 10% contingency US\$.....

6.10 Total to be carried over to Summary US\$.....

Amount to be carried over to Form of Tender in Words.....

6.11 CONTRACT PERIOD

Tenders shall state herewith the period in days/weeks required to effect delivery of all equipment, installation and commissioning.

- Delivery
- Installation
- Acceptance Testing
- Commissioning
- **Total time required (Contract period)**

6.12 Liquidation and ascertain damages shall be at the rate of 0.05% of contract sum per week

**OPERATING MANUAL, MAINTENANCE MANUAL,
AND AS FITTED DRAWINGS**

7.1 OPERATING & MAINTENANCE MANUALS

The successful tenderer shall provide a minimum of three copies of all operating and maintenance manuals and as fitted drawings to be provided to the client at the time of handover.

7.2 The operating and maintenance manuals shall give full details of the following: -

- (a) A description of the operation of all items of the plant, including any necessary diagrams
- (b) Instructions on how to stop and start the plant and make any adjustments to the operating conditions. Attention should be drawn to any safety precautions and requirements.
- (c) Details of all materials required in the maintenance of the equipment, including any lubricants, replacement filters, etc.
- (d) Schedule of routine and planned preventive maintenance.
- (e) Maintenance checklist.
- (f) Details of each item of plant, including name and address of manufacturer and agent/stockiest, type and serial number and also duty rating.

TECHNICAL SPECIFICATION

AND

**BILLS OF QUANTITIES FOR THE
ELECTRICAL ENGINEERING SERVICES INSTALLATION**

AT

**THE PROPOSED ZIMRA MAITENGWE
4 BEDROOM STAFF COTTAGES**

IN

MAITENGWE, ZIMBABWE

PROJECT ENGINEERS

Ministry of Local Government, Public Works
and National Housing
Private Bag 7706,
Causeway.
Harare

Telephone: +263 4 700850/704567

ELECTRICAL INSTALLATION AND RETICULATION

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		PAGE NUMBER
Section 1	Bill of Quantities (BOQ)	3
Section 2	Summary	5

PROPOSED ZIMRA MAITENGWE 4 BEDROOM
STAFF COTTAGES
ELECTRICAL BILL OF QUANTITIES

Item	Description	Unit	Qty [A]	Unit Price US\$	Rate/Installed Unit Price [B] US\$	Total Installed Price [B x A] US\$
1.1	ELECTRICAL SERVICES INSTALLATION [FOR ONE FOUR BEDROOMED STAFF COTTAGE]					
1.1.1	3 Phase Weatherproof Lockable Distribution Feeder Pillar c/w main switch, trunking, switch gear and pre-paid metering accessories [See Dwg. No /E/02]	Nos	1			
1.1.2	Fush Mounted Lockable Sub Distribution Board [DB] wired c/w switch gear [See Dwg. No /E/02]	Nos	4			
1.1.3	45A 6' x 6' MK or similar approved type Cooker Control Unit c/w flush mounting metal box and accessories	Nos	4			
1.1.4	35sqmm 4C PVCSWAPVC CAFCA or similar approved type cable [Provisional Length]	m	25			
1.1.5	16sqmm 3C PVCSWAPVC CAFCA or similar approved type cable	m	50			
1.1.6	No. 3 Cable gland and shroud	Nos	8			
1.1.7	No. 5 Cable gland and shroud	Nos	2			
1.1.8	6sqmm CAFCA or similar approved type s/c cable red	100m roll	0.2			
1.1.9	6sqmm CAFCA or similar approved type s/c cable black	100m roll	0.2			
1.1.10	2.5sqmm CAFCA or similar approved type s/c cable red	100m roll	6			
1.1.11	2.5sqmm CAFCA or similar approved type s/c cable black	100m roll	6			
1.1.12	1.5sqmm CAFCA or similar approved type s/c cable red	100m roll	6			
1.1.13	1.5sqmm CAFCA or similar approved type s/c cable black	100m roll	4			
1.1.14	2.5sqmm CAFCA or similar approved type SBCC	m	600			
1.1.15	6sqmm CAFCA or similar approved type SBCC	m	20			
1.1.16	25sqmm CAFCA or similar approved type SBCC	m	25			
1.1.17	1.4m earth rod c/w clamp	Nos	2			
1.1.18	10A 3' x 3' MK or similar approved type shaver socket outlet	Nos	4			
1.1.19	10A 3' x 3' MK or similar approved type extract fan isolator	Nos	4			
1.1.20	20A 3' x 3' MK or similar approved type air-conditioning isolator	Nos	4			
1.1.21	13A 6' x 3' MK or similar approved type double switched socket outlet	Nos	24			
1.1.22	15A 3' x 3' MK or similar approved type single switched socket outlet	Nos	4			
1.1.23	5A 3' x 3' MK or similar approved type one gang one way switch	Nos	12			

Item	Description	Unit	Qty [A]	Unit Price US\$	Rate/Installed Unit Price [B] US\$	Total Installed Price [B x A] US\$
1.1.24	5A 3' x 3' MK or similar approved type two gang one way switch	Nos	4			
1.1.25	20mm PROPLASTICS or similar approved type pvc conduit	4m lengths	50			
1.1.26	32mm CLASS E PROPLASTICS or similar approved type PVC duct	6m lengths	2			
1.1.27	75mm CLASS E PROPLASTICS or similar approved type PVC duct	6m lengths	8			
1.1.28	75mm CLASS E PROPLASTICS or similar approved type PVC 90 degree bend	Nos	4			
1.1.29	20mm PROPLASTICS or similar approved type PVC nipples	Nos	100			
1.1.30	20mm PROPLASTICS or similar approved type PVC couplings	Nos	200			
1.1.31	3' x 3' PROPLASTICS or similar approved type PVC boxes	Nos	40			
1.1.32	6' x 3' pvc boxes	Nos	25			
1.1.33	PROPLASTICS or similar approved type PVC round boxes	Nos	50			
1.1.34	PROPLASTICS or similar approved type PVC extension round boxes	Nos	32			
1.1.35	20mm BE saddles	Nos	25			
1.1.36	4.0 x 35mm wood screws	Box	3			
1.1.37	500ml solvent cement	Nos	2			
1.1.38	20mm Sprague tube	m	16			
1.1.39	20mm Sprague tube connectors	Nos	8			
1.1.40	20mm dome cover	Nos	4			
1.1.41	S6 fisher plugs	Box	2			
1.1.42	Insulation tape	Rolls	3			
1.1.43	Perforated copper bonding strip	m	25			
1.1.44	15x20mm Verandar Bolts and Nuts	Nos	50			
1.1.45	Cable Warning tape [Provisional length]	m	125			
1.1.46	Cable Warning tile	Nos	3			
1.1.47	Type 1 - Brass Battern Holders c/w 1x15W Compact Fluorescent Lamp, B22 Lamp Holder	Nos	16			
1.1.48	Type 2 - Weatherproof Rectangular Bulkhead fitting c/w 1x15W Compact Fluorescent Lamp, B22 Lamp Holder	Nos	4			
1.1.49	Type 2 - Weatherproof Rectangular Bulkhead fitting with metal base c/w 1x15W Compact Fluorescent Lamp, B22 Lamp Holder	Nos	4			
1.1.50	15W Philips Compact Fluorescent Spare Lamps	Nos	40			
1.1.51	Any other accessories required to complete the works [Itemise]	lot	1			
Bill 1 carried to summary						

SECTION 2

ELECTRICAL PRICE SUMMARY

Brought forward from Bill No.1 **[FOR ONE FOUR BEDROOM STAFF COTTAGE]**

.....

TOTAL CARRIED TO SUMMARY

.....

MINISTRY OF LOCAL GOVERNMENT PUBLIC WORKS & NATIONAL HOUSING

CIVIL ENGINEERING BOQ

**SEWER & WATER RETICULATION BOQ FOR
MAITENGWE STAFF HOUSE
(SEPTIC TANK, PIPEWORK & WATER CONNECTION)**

BILL OF QUANTITIES FOR MAITENGWE STAFF HOUSE

MAITENGWE HOUSE - SEWER & WATER RETICULATION

ITEM	DESCRIPTION	UNIT	QNTY	RATE	AMOUNT
	BALANCE BROUGHT FORWARD				
D7	<u>100 PERSONS SEPTIC TANK (ONE ONLY)</u>				
D7.1	Excavate for 100 persons septic tank	m ³	37		
D7.2	Supply and pour G20 concrete for base slabs of septic tank including screed	m ³	1.7		
D7.3	Supply and erect brickwork & include plaster	m ²	33		
D7.4	Supply and fix shattering for s.tank slab.	m ²	15.1		
D7.5	Supply and fix steel reinforcement as detailed.	kg	120		
D7.6	Supply pour G30 concrete to s.tank slab.	m ³	1.86		
D7.7	Provide and fix manhole covers complete with frames(600*450)	no	3		
D7.8	Excavate for soakaway (30m*0.9m*3m depth)	m ³	81		
D7.9	Provide and fill soakaway with boulders from elsewhere.	m ³	36		
D7.10	Provide and cover soakaway with old corrugated iron sheets.	m ²	20		
D7.11	Allow for 150mm suitable backfill material.	m ³	2.7		
D7.12	Provide 38mm aggregates at beginning of soakaway	m ³	1		
	PIPEWORK				
D7.13	Excavate trenches for sewer pipe.	m ³	6		
D7.14	Supply and lay 110mm Upvc sewer pipe.	m	12		
D7.15	Supply and spread 100mm sand bedding.	m ³	2		
D7.16	Backfill and compact fill material	m ³	6		
D7.17	Supply and lay 110mm perforated Upvc sewer in soakaway.	m	3		
	WATER CONNECTION				
D7.18	Allow for connecting water to the staff house from a suitable nearby connection point.include for all accessories and fittings.(use 15mm pvc pipes)	sum	1		
TOTAL CARRIED TO SUMMARY					-