

**BILL NR. 2: CONSTRUCTION OF
BUILDING FOR AFRICA CENTRE OF
EXCELLENCE FOR MYCOTOXIN AND**

SUBSTRUCTURE

(All Provisional)

GROUNDWORK

Excavating and Filling

Site Preparation

A	Clearing site of vegetation comprising of bushes, hedges and small trees, with and including removal of obstacles and the likes as expressly required	1,258	m ²	200.00	251,600.00
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Excavating

B	Topsoil for preservation average 150mm deep	1,258	m ²	350.00	440,300.00
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**Commencing surfaces of excavation starting from
stripped level i.e. underside of topsoil**

C	Pits, maximum depth not exceeding 2.00metres	251	m ³	1,500.00	376,500.00
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D	Trenches exceeding 300mm, starting from stripped level, maximum depth not exceeding	296	m ³	1,100.00	325,600.00
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	Disposal				
E	Excavated topsoil material and deposit at locations as specified on site for reuse.	189	m ³	600.00	113,400.00
F	Surplus excavated material and deposit at locations as specified off site.	159	m ³	600.00	95,400.00
	Filling				
G	To excavations, average thickness exceeding 250mm, arising from the excavation well compacted and consolidated	378	m ³	600.00	226,800.00
	To Collection				1,829,600.00
	<u>SUBSTRUCTURE (Cont'd)</u>				
	<u>GROUNDWORKS (Cont'd)</u>				
	Filling Cont'd				
A	To make up levels, average thickness not exceeding 450mm, obtained off-site, lateritic soil well compacted and consolidated in 100mm thick layers	357	m ³	5,400.00	1,927,800.00

B	To make up levels, average thickness not exceeding 300mm, obtained off-site, rock boulders with and including associated hand- Surface Treatment	238	m ³	5,800.00	1,380,400.00
C	Apply herbicides and antitermite solution to surfaces of excavation as specified in specifications	676	m ²	300.00	202,800.00
D	Compacting bottom of excavation to relieve foundation <u>WATERPROOFING</u> Damp Proofing	247	m ²	400.00	98,800.00
E	Damp proof membrane, Visqueen gauge 20 polyethene, laid on laterite hardcore filling (measured separately). <u>IN SITU CONCRETE</u> <u>Plain concrete (1:10) in:</u>	791	m ²	350.00	276,850.00
F	Blinding, 50mm thick, poured against face of excavation. <u>Plain concrete (1:3:6 - 38mm aggregate) grade C20 in:</u>	246	m ²	3,500.00	861,000.00

G	Foundation in trenches, poured against faces of excavation.	59	m ³	42,000.00	2,478,000.00
	To Collection				7,225,650.00
	<u>SUBSTRUCTURE (Cont'd)</u>				
	<u>WATERPROOFING</u>				
	<u>IN SITU CONCRETE</u>				
	<u>Reinforced concrete (1:2:4 - 19mm aggregate) grade C25 in:</u>				
A	Column bases	75	m ³	48,500.00	3,637,500.00
B	Columns in foundation	11	m ³	48,500.00	533,500.00
C	Slab 150mm thick, laid on hardcore (measured separately)	125	m ³	48,500.00	6,062,500.00
D	Groundbeam	66	m ³	48,500.00	3,201,000.00
	<u>Bar Reinforcement</u>				
	<u>High yield reinforcement bars hot rolled, deformed and round to BS 4449, straight, curve and bend:</u>				
E	16mm in column bases.	5.20	ton	645,000.00	3,354,000.00

F	10 - 25mm in columns & column bases	4.80	ton	645,000.00	3,096,000.00
G	10mm- 16mm in groundbeam.	5.20	ton	645,000.00	3,354,000.00
	<u>Fabric Reinforcement to BS 4483, BRC Type A165 weighing 2.29kg/m² laid to 150mm side and end laps (measured nett) in:</u>				
H	Beds	791	m ²	1,300.00	1,028,300.00
	<u>Formwork for in situ Concrete</u>				
	<u>Sawn formwork plain vertical to:</u>				
J	Sides of column bases, height exceeding 250mm but not exceeding 500mm	450	m	900.00	405,000.00
K	Sides of column starters in foundation exceeding 500mm	154	m ²	3,500.00	539,000.00
L	Edges of slabs, height not exceeding 250mm	192	m	900.00	172,800.00
M	Sides of ground beams, height exceeding 250 - 500mm	286	m ²	3,500.00	1,001,000.00
	To Collection				26,384,600.00
	<u>SUBSTRUCTURE (Cont'd)</u>				
	<u>GROUNDWORKS (Cont'd)</u>				

	<u>Block Walling</u>				
	<u>Hollow sandcrete blockwork laid stretcher bedded and jointed in cement mortar (1:3) filled solid with lean concrete in:</u>				
A	Walls, 230mm thick	535	m ²	6,400.00	3,424,000.00
	<u>Accessories/Sundry items for block walling</u>				
B	Damp proof course, width not exceeding 250mm in cement sand (1:3) mortar laid horizontal	96	m ²	1,000.00	96,000.00
C	Forming cavities as expansion joint, in hollow walls, 50mm wide, filled with bitumenous material as specified by the engineer	67	m ²	900.00	60,300.00
D	Allow the sum of 2,000,000 for Additional work in foundation				2,000,000.00
	To Collection below				5,580,300.00
	COLLECTION				
	ACE/Page 1				1,829,600.00
	ACE/Page 2				7,225,650.00

ACE/Page 3

26,384,600.00

ACE/Page 4

5,580,300.00

SUBSTRUCTURE
Carried to Summary

41,020,150.00

FRAME

IN SITU CONCRETE/LARGE PRECAST
CONCRETE

In situ Concrete

Reinforced concrete (1:2:4 - 19mm aggregate)
grade C25 in:

A	Column	53	m ³	48,500.00	2,570,500.00
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B	Beams	94	m ³	48,500.00	4,559,000.00
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Bar Reinforcement

UPPER FLOORS

**IN SITU CONCRETE/LARGE PRECAST
CONCRETE**

In situ Concrete

Reinforced concrete (1:2:4 - 19mm aggregate)
grade C25 in:

A	Suspended floors 175mm thick	213	m ³	48,500.00	10,330,500.00
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Bar Reinforcement

High yield reinforcement bars hot rolled,
deformed and round to BS 4449, straight, curve
and bend:

B	10mm -12mm diametre bars	16.60	ton	645,000.00	10,707,000.00
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Formwork for in situ Concrete

Sawn formwork plain to:

C	Soffits of suspended slabs, exceeding 300mm wide	1135	m ²	3,500.00	3,972,500.00
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D	Ditto to edges of the slab	324	m	900.00	291,600.00
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	<u>Accessories/Sundry items</u>				
E	Forming cavities as expansion joint in reinforced concrete suspended slabs, 50mm wide, filled with bitumenous material not exceeding 200mm high, as specified by the engineer	40	m	1,200.00	48,000.00
	<u>UPPER FLOORS</u> <u>Carried to Summary</u>				25,349,600.00
	<u>STAIRS AND RAMPS</u>				
	<u>STAIR STRUCTURE</u>				
	<u>IN SITU CONCRETE/LARGE PRECAST CONCRETE</u>				
	<u>In situ Concrete</u>				

	<u>Reinforced concrete (1:2:4 - 19mm aggregate) grade C25 in:</u>				
A	Steps with and including waist and landing	14	m ³	48,500.00	679,000.00
B	Beams	3	m ³	48,500.00	145,500.00
C	Ramps, including landings		m ³	48,500.00	0.00
	<u>Bar Reinforcement</u>				
	<u>High yield reinforcement bars hot rolled, deformed round bar to BS 4449, straight and bend</u>				
D	12 - 16mm diameter bars in stairs and beams	2.41	ton	645,000.00	1,554,450.00
E	12mm diameter bars in ramp	0.00	ton	645,000.00	0.00
	<u>Formwork for in situ Concrete</u>				
	<u>Sawn formwork to:</u>				
F	Sloping soffit of stairs	36	m ²	3,500.00	126,000.00
G	Soffit of landing	28	m ²	3,500.00	98,000.00
H	Sides of stairs waist including cutting to profile not exceeding 300mm wide	39	m	900.00	35,100.00
J	Edges of risers not exceeding 150mm high	58	m	900.00	52,200.00
K	Edges of landing not exceeding 150mm high	13	m	900.00	11,700.00

L	Sides and soffits of beams	18	m ²	3,500.00	63,000.00
M	Sloping soffit of ramp/landing		m ²	3,500.00	0.00
	To Collection				2,764,950.00
	<u>STAIRS (Cont'd)</u>				
	<u>STAIRS FINISHES</u>				
	<u>SURFACE FINISHES</u>				
	<u>Sand cement screeds</u>				
	<u>Cement and sand (1:3) treated with an approved admixture, trowelled/floated smooth laid on concrete and/or blockwork in:</u>				
A	Sloping soffits of stairs and ramps, width exceeding 300mm, 15mm thick	19	m ²	1,400.00	26,600.00
B	Soffits of landing and beams, width exceeding 300mm, 15mm thick	28	m ²	1,400.00	39,200.00
C	Floors, level and to falls only, 25mm thick laid in bays	10	m ²	1,400.00	14,000.00
D	Treads, 300mm wide 25mm thick	132	m	600.00	79,200.00

E	Risers, 150mm height, 15mm thick	96	m	600.00	57,600.00
F	Sides of stairs waist and edges including cutting to profile not exceeding 300mm wide	67	m	600.00	40,200.00
	<u>Marble tiling</u>				
	<u>Marble tiling, 8mm thick in approved contemporary colours, and laid on sand cement screed in:</u>				
G	Treads 300mm wide	132	m	9,000.00	1,188,000.00
H	Risers, plain, 150mm high	96	m	9,000.00	864,000.00
	To Collection				2,308,800.00
	<u>STAIRS FINISHES CONT'D</u>				
	<u>SURFACE FINISHES CONT'D</u>				

	<u>Marble tiling, 8mm thick in approved contemporary colours, and laid on sand cement screed in:</u>				
A	Floors	48	m ²	17,500.00	840,000.00
B	Sides of stairs waist and edges of ramp including cutting to profile not exceeding 300mm wide	67	m	8,500.00	569,500.00
	<u>Painting/Clear Finishing</u>				
	<u>Prepare and apply one undercoat and two finishing coats of emulsion paint to general surfaces of stair exceeding 300mm wide on:</u>				
C	Soffit and sides of stair and beam	28	m ²	1,000.00	28,000.00
	<u>Prepare and apply one undercoat and two finishing coats of gloss paint to general surfaces of balustrades and handrails:</u>				
D	Sides of handrails and balusters	86	m	1,200.00	103,200.00
	<u>Isolated Hand Rails and Grab Rails</u>				
E	1200 high; comprising 42 diameter High impact Mild Steel and brass trim balusters at 600 centres. plugged and screwed to concrete, in accordance with architectural detail drawing	86	m	20,000.00	1,720,000.00
	To Collection				3,260,700.00

COLLECTION

ACE/Page 7

2,764,950.00

ACE/Page 8

2,308,800.00

ACE/Page 9

3,260,700.00

STAIRS AND RAMPS

Carried to Summary

8,334,450.00

EXTERNAL & INTERNAL WALLS

MASONRY

Block Walling

Hollow sandcrete blockwork in 450 x 230mm
nominal size laid stretcher bedded and jointed in
cement mortar (1:3) in:

A	Walls, 230mm thick, externally	1,374	m ²	5,400.00	7,419,600.00
B	Ditto walls, but internally	1,304	m ²	5,400.00	7,041,600.00
C	Walls, 150mm thick	0	m ²	4,700.00	0.00

EXTERNAL AND INTERNAL WALLS
Carried to Summary

14,461,200.00

WINDOWS AND DOORS

	<u>IN SITU CONCRETE/PRECAST CONC</u>				
	<u>In situ Concrete</u>				
	<u>Reinforced concrete (1:2:4 - 19mm aggregate) grade C25 in:</u>				
A	Lintels	49	m ³	48,500.00	2,376,500.00
	<u>Bar Reinforcement</u>				
	<u>High yield reinforcement bars hot rolled, deformed round bar to BS 4449, straight and bend</u>				
B	10 - 12mm diameter bars in lintel	4.92	ton	645,000.00	3,173,400.00
	<u>Formwork for in situ Concrete</u>				
C	Sawn to sides and soffit of lintels and sills	396	m ²	3,500.00	1,386,000.00
	<u>WINDOWS/DOORS</u>				
	<u>Metal Windows/Screens</u>				
	<u>Supply and fix the following in OMNIA or other equal and approved heavy duty powdered coated aluminium anodised windows, complete with frames 6mm silver reflective glazing with and including insect screen, building-in and pinning lugs into walls and treating all joints in contact with walls with mastic sealant as per architectural details in:</u>				
D	Window unit; size 1800 x 1200mm high, 3-panel sliding	20	Nr	44,000.00	880,000.00

E	Window unit; size 1500 x 1200mm high, 3-panel sliding	17	Nr	39,000.00	663,000.00
F	Window Size 1800 x 1200mm high Double panel outward swing casement	23	Nr	57,000.00	1,311,000.00
G	Ditto; Size 900 x 1800mm high	22	Nr	52,000.00	1,144,000.00
H	Ditto; Size 1800 x 600mm high	6	Nr	48,000.00	288,000.00
J	Ditto; Size 1800 x 2400mm high	6	Nr	98,000.00	588,000.00
K	Ditto; Size 900 x 600mm high	1	Nr	24,000.00	24,000.00
L	Window size 3400 x 1800mm high. Double panel outward swing Projecting	1	Nr	150,000.00	150,000.00
To Collection					11,983,900.00
<u>WINDOWS AND DOORS (Cont'd)</u>					
<u>Supply and fix the following in OMNIA or other equal and approved heavy duty powdered coated aluminium anodised curtain walls, complete with frames 6mm silver reflective glazing with and including insect screen, building-in and pinning lugs into walls and treating all joints in contact with walls with mastic sealant as per architectural details in:</u>					
A	Ditto; 1200 x 5700mm high	1	Nr	190,000.00	190,000.00
B	Ditto; 900 x 9300mm high	1	Nr	205,000.00	205,000.00
C	Ditto; 4000 x 3400mm high	3	Nr	240,000.00	720,000.00
D	Ditto; 1800 x 2400mm high	2	Nr	110,000.00	220,000.00
E	Ditto; 4600 x 5700mm high	1	Nr	355,000.00	355,000.00

	<u>Burglary Proof</u>				
F	Mild steel burglary proofing to curtain walls and windows including one coat red oxide protective covering and two coat gloss painting to approved pattern by engineers	290	m ²	11,500.00	3,335,000.00
	<u>Timber Doors/Shutters</u>				
	<u>Supply and fix solid core American hardwood panel door, heavy duty Type, 44mm thick, fire resistant, complete with frames and ironmongeries covered with high quality external plywood, lipped all round with hardwood strip and blocked out for mortise lock and touching up timber surfaces with polyuethane finish in:</u>				
G	Door 750 x 2100mm high single leave	24	Nr	48,000.00	1,152,000.00
	<u>Supply and fix high security doors comprising all necessary ironmongeries; including building-in and pinning lugs into walls and treating all joints in contact with walls with mastic sealant in:</u>				
H	Entrance Door 1800 x 2400 high security door; comprising of 900 x 2400mm double leaf single swing	2	Nr	255,000.00	510,000.00
J	Ditto; Door size 1200 x 2400mm high double leaf swing door	8	Nr	130,000.00	1,040,000.00
K	Ditto; Door size 900 x 2400mm high single leaf swing door	31	Nr	70,000.00	2,170,000.00

To Collection

9,897,000.00

WINDOWS AND DOORS (Cont'd)

Metal Doors/Shutters

Supply and fix purpose-made metal grills as described

A Size 1000 x 3300mm high 4 Nr 45,000.00 180,000.00

A I- Channel Steel canopy Size 9810 x 2850mm long 2 Nr 100,000.00 200,000.00

To Collection

380,000.00

COLLECTION

ACE/Page 11 11,983,900.00

ACE/Page 12 9,897,000.00

ACE/Page 13 380,000.00

WINDOWS AND DOORS

Carried to Summary

22,260,900.00

ROOF

ROOF STRUCTURE

IN SITU CONCRETE/PRECAST CONC

In situ Concrete

Reinforced concrete (1:2:4 - 19mm aggregate)
grade C25 in:

A	Beams, attached deep	19	m ³	48,500.00	921,500.00
B	Upstand beams	13	m ³	48,500.00	630,500.00
C	Roof decking		m ³	48,500.00	0.00
D	Roof gutters	38	m ³	48,500.00	1,843,000.00
E	Coping	7	m ³	48,500.00	339,500.00
	<u>Bar Reinforcement</u>				
	<u>High yield reinforcement bars hot rolled, deformed and round to BS 4449, straight, curve and bend:</u>				
F	10 - 16mm in beams , decking and gutters	9.10	ton	645,000.00	5,869,500.00
	<u>Formwork for in situ Concrete</u>				
	<u>Sawn formwork plain vertical to:</u>				
G	Sides and soffit of beams	164	m ²	3,500.00	574,000.00
H	Upstand beams	113	m ²	3,500.00	395,500.00
J	Soffits of roof deck		m ²	3,500.00	0.00
K	Soffits of roof gutter	361	m ²	3,500.00	1,263,500.00
L	Sides and edges of coping	380	m	900.00	342,000.00
	<u>Block Walling</u>				

	<u>Hollow sandcrete blockwork in 450 x 230mm nominal size laid stretcher bedded and jointed in cement mortar (1:3) filled solid with lean concrete in:</u>				
M	Parapet Walls, 230mm thick, externally	380	m ²	6,400.00	2,432,000.00
	To Collection				14,611,000.00
	<u>ROOF (Cont'd)</u> <u>WATERPROOFING</u>				
	<u>Mastic Asphalt Damp proof membranes</u> <u>Paralon NT4 4mm thick, surfaced with grey slate chipping, laid to levels and falls only, side lap 80 - 100mm and end lap 120 - 150mm on screeded bed (measured sepapately) in accordance with manufacturer's specifications and instructions in:</u>				
A	Gutter and roof deck, exceeding 300mm,	336	m ²	5,000.00	1,680,000.00
B	Ditto but vertically	342	m ²	5,000.00	1,710,000.00
	<u>STRUCTURAL/CARCASSING METAL</u>				
	<u>Structural Steel Framing</u>				

	<u>The following in fabricated steel roof framed trusses comprising of 60 x 60 x 5mm angle steel sections; 60 x 60mm struts and ties; 150 x 50 x 1.78mm thick Zed (3.90Kg/m) Purlins all fixed in accordance with engineer's specifications in 10 numbers, with and including anti-rust surface treatment and erection:</u>				
C	2 x 60 x 60 x 5mm; Top chord	2.62	ton	660,000.00	1,729,200.00
D	2x60 x 60 x 5mm; Bottom chord	2.56	ton	660,000.00	1,689,600.00
D	Ditto: 2x50 x 50 x 5mm; Top and Bottom chord	4.86	ton	660,000.00	3,207,600.00
E	60 x 60 x 5mm Strut and ties	3.40	ton	660,000.00	2,244,000.00
F	Ditto: 50 x 50 x 5mm Strut and ties	6.80	ton	650,000.00	4,420,000.00
G	152 x 51 x 2.5mm; Z - purlins	3.39	ton	550,000.00	1,864,500.00
	<u>Assembling Accessories</u>				
H	Allow for the supply and assembling of accessories consisting of steel angle cleats, connector plates, base plates and holding down bolts grouted one side in concrete work, bolts and nuts etc complete with erection on site all as per engineer's drawings and specification to be executed complete and expended as directed	20	ton	40,000.00	800,000.00
	To Collection				19,344,900.00

ROOF (Cont'd)

ROOF COVERING

CLADDING/COVERING

Aluminium sheet Covering/Flashing

0.7mm QUEENSWAY Longspan aluminum roofing sheets complete fixed to Z-purlins (measured separately) with hooks and/or built into concrete or block work in accordance with manufacturer's instructions

A	Roof covering	712	m ²	13,000.00	9,256,000.00
	Ditto, Cladding	205	m ²	12,500.00	2,562,500.00
B	Flashings, girth 230mm, to top of parapets	190	m	4,500.00	855,000.00

Sand cement screeds

Cement and sand (1:3) treated with an approved admixture, trowelled/floated smooth laid on concrete and/or blockwork in:

C	Walls, width exceeding 300mm, 15mm thick	684	m ²	1,400.00	957,600.00
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ROOF DRAINAGE

DISPOSAL SYSTEMS

Rainwater Pipework/Gutter

	<u>The following in unplasticised PVC pipework to BS 4660 and fittings to BS 4514 with spigot and socket joints clipped to walls:</u>				
D	Pipes, straight 150mm diameter	105	m	1,600.00	168,000.00
E	Extra over 150mm pipe for bends	42	Nr	3,500.00	147,000.00
F	Pipe ancilaries, grating to outlet and rainwater head	12	Nr	17,000.00	204,000.00
	<u>ACRYLIC DAMPALON CANOPY</u>				
G	<u>Allow for Fabrication and installation of a translucent Dampalon roof at the entrance canopies fixed on lattice garder tubular steel structure complete with all accessories in accordance with the Architect's working drawings</u>				
			Sum		1,000,000.00
	To Collection				15,150,100.00
	<u>ROOF (Cont'd)</u>				
	COLLECTION				
	ACE/Page 14				14,611,000.00
	ACE/Page 15				19,344,900.00

ACE/Page 16

15,150,100.00

ROOF
Carried to Summary

49,106,000.00

WALL FINISHES

INTERNAL WORKS

CLADDING/COVERING

SURFACE FINISHES

Plastered/Rendered/Roughcast Coating

Cement and sand (1:4) rendering, 15mm thick finished fair and smooth to block/concrete surfaces in:

A	Walls, width exceeding 300mm	3,982	m ²	1,400.00	5,574,800.00
B	Wall, width not exceeding 300mm	549	m	600.00	329,400.00

Sand cement/Concrete/Screeds

Plaster of Paris cement floated backing, 12mm thick finished fair to block surfaces in:

C	Walls, width exceeding 300mm	3,982	m ²	1,400.00	5,574,800.00
D	Wall, width not exceeding 300mm	549	m	500.00	274,500.00
<u>Stone/Concrete/Ceramic Tiling</u>					
<u>Ceramic tiling in patterned unglazed coloured wall tiles 250 x 500 x 6mm in size; with cushion edges and spacer lugs, bedded in adhesive, jointed and pointed with matching cement mortar in straight joint both ways</u>					
E	Walls, width exceeding 300mm	363	m ²	4,200.00	1,524,600.00
F	Wall, width not exceeding 300mm	112	m	1,300.00	145,600.00
<u>Marble Tiling</u>					
G	Walls, width exceeding 300mm at Entrance	45	m ²	17,500.00	787,500.00
H	Walls, width exceeding 300mm at Stair Walls	217	m ²	17,500.00	3,797,500.00
To Collection					18,008,700.00
 <u>WALL FINISHES (Cont'd)</u>					
 <u>INTERNAL WORKS (Cont'd)</u>					
 <u>SURFACE FINISHES (Cont'd)</u>					

Painting/Clear Finishing

Prepare and apply one undercoat and two finishing coats Sandtex or other equal and approved emulsion paint on general surfaces of an approved colour in accordance with manufacturer's instructions:

A	Rendered surfaces of wall	3,467	m ²	1,000.00	3,467,000.00
B	Walls but not exceeding 300mm	549	m	500.00	274,500.00

(End of Internal Works)

EXTERNAL WORKS

CLADDING/COVERING

SURFACE FINISHES

Plastered/Rendered/Roughcast Coating

Cement and sand (1:4) rendering, 15mm thick finished fair and smooth as before described in:

C	Walls, width exceeding 300mm	1,374	m ²	1,400.00	1,923,600.00
D	Wall, width not exceeding 300mm	642	m	600.00	385,200.00

Stone/Concrete/Ceramic Tiling

	<u>Facing bricks/tiles fixed with adhesive, straight butt joints, flush pointing with grout; to architect's working drawings</u>				
E	Walls, width exceeding 300mm	300	m ²	5,500.00	1,650,000.00
F	Wall, width not exceeding 300mm	75	m	1,200.00	90,000.00
	To Collection				7,790,300.00
	<u>WALL FINISHES (Cont'd)</u>				
	<u>EXTERNAL WORKS (Cont'd)</u>				
	<u>SURFACE FINISHES (Cont'd)</u>				
	<u>Painting/Clear Finishing</u>				
	<u>Prepare and apply one undercoat and two finishing coats Sandtex Matt or other equal and approved on general surfaces of an approved colour in accordance with manufacturer's instructions:</u>				
A	Rendered surfaces of wall; exceeding 300mm	1374	m ²	1,400.00	1,923,600.00
B	Walls but not exceeding 300mm	642	m	600.00	385,200.00
	To Collection below				2,308,800.00

COLLECTION

ACE/Page 18

18,008,700.00

ACE/Page 19

7,790,300.00

ACE/Page 20

2,308,800.00

WALL FINISHES
Carried to Summary

28,107,800.00

FLOOR FINISHES

INTERNAL WORKS

CLADDING/COVERING

SURFACE FINISHES

SURFACE FINISHES

Sand cement/Concrete/Screeds

Granite Tiles 8mm thick in Cement and sand (1:3) screeded bed; floated finished, to level and falls only, on concrete slab to receive in:

A	Floors; 35mm thick (all lobbies and reception area)	393	m ²	11,100.00	4,362,300.00
	<i>Ditto Marble at entrance Steps</i>	25	m ²	17,500.00	437,500.00
	<u>In situ terrazzo in approved contemporary colours; aggregate/chippings size random; laid in bays 1500 x 1500mm, divided with ebonite strip both sides, with and including polishing on completion:</u>				
B	Floor; 25mm thick, level and falls only; to screed	0	m ²	5,000.00	0.00
	<u>Terrazzo tiles to BS 4131; 600 x 150 x 15mm; chipping size random, ground, grouted and polished; bedded in cement mortar (1:3); 19mm thick; to rendered surfaces; pointing in neat matching cement</u>				
C	Skirtings; 150mm high	0	m	1,700.00	0.00

	<u>Glazed vitrified ceramic floor tiles to BS 6431; fully vitrified; in approved colour; 600 x 600 x 15mm; laid in a approved pattern, fixing with thick bed cement and sand screeding(1:4)</u>				
D	Floor, level and falls only; to screed	1619	m ²	6,000.00	9,714,000.00
E	Skirting; 150mm high; fixed to rendered wall	465	m	1,500.00	697,500.00
	To Collection				15,211,300.00
	<u>SURFACE FINISHES CONT'D</u>				
	<u>Vinyl floor in approved colour; 8mm; laid in a approved pattern, and well fixed in accordance to specifications and instructions</u>				
A	Floor, level and falls only; to screen	104	m ²	9,000.00	936,000.00
B	Skirting; 150mm high; fixed to rendered wall	56	m	2,500.00	140,000.00
	<i>(End of Internal Works)</i>				
	<u>EXTERNAL WORKS</u>				

<u>SURFACE FINISHES</u>					
	<u>In situ terrazzo in approved contemporary colours; aggregate/chippings size random; laid in bays 1500 x 1500mm, divided with ebonite strip both sides, with and including polishing on completion:</u>				
C	Floor; 25mm thick, level and falls only; to screed	0	m ²	5,000.00	0.00
	<u>Terrazzo tiles to BS 4131; 600 x 150 x 15mm; chipping size random, ground, grouted and polished; bedded in cement mortar (1:3); 19mm thick; to rendered surfaces; pointing in neat matching cement</u>				
D	Skirtings; 150mm high	0	m	1,700.00	0.00
	To Collection				1,076,000.00
	COLLECTION				
	ACE/Page 21				15,211,300.00
	ACE/Page 22				1,076,000.00
	<u>FLOOR FINISHES</u>				
	<u>Carried to Summary</u>				16,287,300.00

CEILING FINISHES

SURFACE FINISHES

Plastered/Rendered/Roughcast Coating

Cement and sand (1:4) rendering, 15mm thick finished fair and smooth to concrete surfaces; over hand work in:

A	Ceilings; width exceeding 300mm	1,135	m ²	1,400.00	1,589,000.00
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Sand cement/Concrete/Screeds

Plaster of paris cement floated backing, 15mm thick finished fair to soffits of suspended floor surfaces in:

B	Walls, width exceeding 300mm	1,135	m ²	1,400.00	1,589,000.00
	Ditto P.O.P. Ceiling	60	m ²	6,300.00	378,000.00

Painting/Clear Finishing

Prepare and apply one undercoat and two finishing coats approved Dulux emulsion paint on general surfaces of an approved colour in accordance with manufacturer's instructions; over

B	Marker posts; in reinforced concrete size 200 x 750mm high; setting in concrete in ground	26	Nr	650.00	16,900.00
<u>ENGINEERING SERVICES</u>					
Pipelines					
<u>Unplasticised PVC pipework to BS 4660 and fittings to BS 4514 with spigot and socket joints in trenches and blockwork including fittings and fixtures over pipework(elbows,reducers, unions connectors, etc) :</u>					
C	Pipes; straight; 25mm nominal size	78	m	2,000.00	156,000.00
D	Pipes; straight; 19mm nominal size	386	m	1,400.00	540,400.00
E	Pipes; straight; 13mm nominal size	439	m	1,000.00	439,000.00
<u>DISPOSAL INSTALLATIONS</u>					
<u>Sanitary Appliances/Fittings</u>					
<u>Supply, assemble and fix the following sanitary appliances and accessories, including all joints to cold water supply and discharge pipes:</u>					

F	Water closet suite, TWYFORD or other equal and approved; low level, white vitreous china pedestal; closed couple washdown; double plastic ring seat; 9 litres flushing cistern on pair of galvanised mild steel concealed brackets with and including screwing pedestal to floor	23	Nr	47,000.00	1,081,000.00
To Collection					2,377,300.00
<u>PLUMBING & MECHANICAL SERVICES</u>					
<u>DISPOSAL INSTALLATIONS CONT'D</u>					
Sanitary Appliances/Fittings Cont'd					
<u>Supply, assemble and fix the following sanitary</u>					
A	Wash hand basin; TWYFORD or other equal and approved; to BS 1188, with pedestal in white vitreous china; 590 x 495mm; complete with 2Nr silver plated pillar taps, lift type; waste fitting, chain, stay and plug and fixing to pair of wall bracket and to floors	23	Nr	26,000.00	598,000.00
B	Wall mirror; 600 x 600mm size; Pilkinton silver coated glass	23	Nr	5,000.00	115,000.00
C	URINALS, TWYFORD or other equal and approved; flushing cistern on pair of galvanised mild steel concealed brackets with and including screwing pedestal to Wall	4	Nr	30,000.00	120,000.00

BUILDING FABRIC SUNDRIES

Trenches

E	Excavating trenches; for service pipes not exceeding 200mm nominal size; 500 - 750mm average depth	156	m	1,200.00	187,200.00
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F	Marker posts; in reinforced concrete size 200 x 750mm high; setting in concrete in ground	53	Nr	1,000.00	53,000.00
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Pipelines

Unplasticised PVC pipework to BS 4660 and fittings to BS 4514 with spigot and socket joints in trenches and blockwork including fittings and fixtures over pipework(elbows,reducers, unions

G	100mm diameter pipe	420	m	1,850.00	777,000.00
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H	50mm diameter pipe	690	m	1,150.00	793,500.00
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J	Floor drain 'Fulbora' or other equal and approved; complete with bottle trap and all necessary fittings set in concrete slab	25	Nr	13,000.00	325,000.00
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To Collection					2,968,700.00
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PLUMBING & MECHANICAL SERVICES

DISPOSAL INSTALLATIONS (Cont'd)

Chambers/Soaways and Septic Tanks

A	Inspection chamber size 600 x 600mm (average) internally	15	Nr	25,000.00	375,000.00
B	Soakaway tank size 1500 x 2000 x 2000mm deep (average) internally with nr 600 x 600mm chambers comprising of; 100mm thick reinforced concrete grade 15 bed,solid blockwork, rendering to soffits of blockwork, and all associated works as specified and detailed by the Engineer	2	Nr	300,000.00	600,000.00
C	Septic tank size 2500 x 1500 x 2000mm deep (average) internally comprising of; 100mm thick reinforced concrete grade 15 bed,solid blockwork, rendering to soffits of blockwork, and all associated works as specified and detailed by the Engineer	2	Nr	400,000.00	800,000.00

FIRE FIGHTING INSTALLATIONS

FURNITURE/EQUIPMENT

Fire fighting Equipment

Supply, install, test and commission the following fire fighting equipment and items as indicated in the drawings and specification, to the entire satisfaction of the client and engineer:

D	Fire warning alarm panel, 8 - Zone digital type, complete with zone indicator panel, pilot lamps, associated accessories etc battery charger, 6 Volts battery etc	4	Nr	170,000.00	680,000.00
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E	Electronic sounder and manual call point	4	Nr	6,500.00	26,000.00
F	Ionisation smoke detector	40	Nr	6,500.00	260,000.00
G	Fire alarm break glass switch	6	Nr	6,500.00	39,000.00
H	'GEEPEE' or equal and approved overhead PVC cylindrical water tank of 3000 liters capacity with and including mounting on concrete decked roof top about 7m high, complete with 3 no. gate valves, overflow pipe, cover and all other necessary accessories	2	Nr	210,000.00	420,000.00
J	2.5HP 'SEAR' or equal and approved quality booster pumping machine mounted in accordance to manufacturer's details one duty and one standby	1	No	125,000.00	125,000.00
	To Collection				3,325,000.00
<u>PLUMBING & MECHANICAL SERVICES</u>					
<u>FIRE FIGHTING INSTALLATIONS</u>					
<u>CONT'D</u>					
A	Hose reel, swing type, 20mm diameter, 30m long complete with pumps and control panels	4	Nr	170,000.00	680,000.00
B	Fire hydrant valve, 75mm flanged	4	Nr	30,000.00	120,000.00
C	Gate valve, 75mm flanged	4	Nr	14,000.00	56,000.00

D	Fire extinguisher, 9kg Dry Type, for Class A, B and C fire to BS 1382 complete with holder bracket fixed to blockwork or concretework	5	Nr	36,000.00	180,000.00
	Ditto; 6Kg carbon dioxide (CO2)	5	Nr	26,000.00	130,000.00
	Pipelines				
E	Install pipes for fire fighting gadgets, complete with all necessary fittings and fixtures e.g. elbows, reducer tees, control valves, union connectors etc all to be executed complete and expended as directed	800	m	1,200.00	960,000.00
	<u>AIR-CONDITIONING & VENTILATING INSTALLATIONS</u>				
	<u>FURNITURE/EQUIPMENT</u>				
	Air Conditioning System				
	<u>Supply, install, connect and test the following SKYRUN or any equal and approved air-conditioning equipment, from an approved manufacturer, at locations indicated on the Engineer's drawings and as specified, all to the entire satisfaction of the Client and Engineer:</u>				
F	Split unit; 24,000 BTU/h split		Nr		0.00
G	Ditto; 18,000 BTU/h	13	Nr	310,000.00	4,030,000.00

H	Ditto; 12,000 BTU/h	17	Nr	225,000.00	3,825,000.00
J	Ditto; 9,000 BTU/h	0	Nr	195,000.00	0.00
	To Collection				9,981,000.00
	COLLECTION PAGE				
	ACE/Page 24				2,377,300.00
	ACE/Page 25				2,968,700.00
	ACE/Page 26				3,325,000.00
	ACE/Page 27				9,981,000.00
	<u>MECHANICAL SERVICES</u>				
	<u>Carried to Summary</u>				18,652,000.00

ELECTRICAL SERVICES
INCOMING SERVICES

Poles

	<u>The following 8500mm long overall pre-cast pre-stressed concrete poles (as directed) including all necessary excavation, backfilling and removal of surplus excavated material</u>				
A	Intermediate type, 1No pole with No 100mm x100mm x6mm x1800mm long galvanized steel cross arm bolted on, with twisted galvanized steel brackets, and set of 3No porcelains 11kV pin insulators as in diagram.	6	No	50,000.00	300,000.00
B	Drop pole, 2No, ditto, but 1No set of 3No disc insulators including 2No 10m long x70mm2 galvanized steel stay wire and stay insulator, complete with adjustable locknut, including all necessary excavations for in-situ concrete stay wire anchor, backfilling and removal of surplus as in diagram	2	No	25,000.00	50,000.00
	<u>Drop cable</u>				
C	120mm2 single core XLPE copper conductor drawn into UPVC duct partially exposed and partially buried underground	100	m	2,600.00	260,000.00
D	100mm diameter UPVC pipe buried underground including all necessary excavation 600mm deep, backfilling with clean river sharp sand and removed surplus excavated material	100	m	850.00	85,000.00
	<u>Overhead cable</u>				

E	ACAR 150mm ² single core Aluminium conductors connected between poles in four wire LT distribution to the building connected from the nearest available source	120	m	4,700.00	564,000.00
	To Collection				1,259,000.00
	<u>POWER SUPPLY & DISTRIBUTION</u>				
	<u>ENGINEERING SERVICES</u>				
	EQUIPMENTS				
	<u>Supply, install, connect and test the following power distribution and control equipment, all from an approved manufacturer, at locations indicated on the Engineer's drawings and as specified:</u>				
A	Mechanical floor standing change over switch, 250A TPN complete with fuse and metering device	1	Nr	210,000.00	210,000.00
B	MV Panel, 250A TP&N 18 - Ways MCCB manufactured by `ADSWITCH' or other approved manufacturer complete with and including all necessary supports and brackets, connectors tap-off units and cable glands, floor mounted	1	Nr	750,000.00	750,000.00

C	Distribution board, 60A 8 - Ways, with 63A ELCB, TP &N	5	Nr	50,000.00	250,000.00
	Cables, Wiring and Trunking				
	Supply and Install the following NOCACO cables				
D	Cables; 4 - core 70mm ² PVC/SWA/PVC underground armoured, with copper conductor	65	m	14,000.00	910,000.00
E	Ditto; 25mm ² PVC/SWA/PVC amoured ; drawn into walls and floors	80	m	11,200.00	896,000.00
F	Ditto; 16mm ² PVC/SWA/PVC armoured	80	m	8,000.00	640,000.00
G	Cables; 4 - core 4mm ² PVC/SWA/PVC	506	m	3,700.00	1,872,200.00
H	Cables; 4 - core 2.5mm ² PVC/SWA/PVC;	920	m	2,700.00	2,484,000.00
J	Cables; 4 - core 1.5mm ² PVC/SWA/PVC	1240	m	1,200.00	1,488,000.00
	To Collection				9,500,200.00
	<u>ELECTRICAL SERVICES (Cont'd)</u>				

POWER SUPPLY & DISTRIBUTION (Cont'd)

ENGINEERING SERVICES (Cont'd)

Final Sub-Circuit

PVC conduit concealed in slab and/or walls from distribution boards to lighting switches, lighting and power; internet connections and fire fighting installation points including junction boxes etc but **excluding** Luminaries, lamps and accessories (both measured separately):

A	20mm diameter pvc pipe	1300	m	910.00	1,183,000.00
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Luminaries and Lamps

Supply and fix the following luminaries complete with all the necessary fitting as per Engineer's drawings and specifications:

B	Luminaire, 1 x 10W, Compact LED, ceiling mounted light fitting, water and dust proof	18	Nr	8,000.00	144,000.00
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C	Luminaire, 1 x 12W, Compact LED, ceiling recessed light fitting, water and dust proof	142	Nr	12,000.00	1,704,000.00
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D	Luminaire 2 x 18W, Compact LED, ceiling recessed light fitting, water and dust proof	34	Nr	8,500.00	289,000.00
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E	Luminaire, 1 x 36W, decorative wall lamp energy saving satin blow glass and frosted ceiling cup	6	Nr	11,500.00	69,000.00
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F	Luminaire, 1 x 26W, compact LED vandal resistant bulk head lighting fitting	38	Nr	11,000.00	418,000.00
G	Luminaire, 2 x 10W, Compact LED, ceiling recessed light fitting, water and dust proof <u>Supply and fix the following accessories to lighting points; complete with and including knock-out boxes, ceiling rose etc and fixing (plugged and screwed) to blockwork and/or concretework:</u>	8	Nr	9,000.00	72,000.00
H	Lighting switch; 10Amp 1 gang 1 way, flushed plastic type	24	Nr	1,300.00	31,200.00
	To Collection				3,910,200.00
	<u>ELECTRICAL SERVICES (Cont'd)</u>				
	<u>POWER SUPPLY & DISTRIBUTION (Cont'd)</u>				
	<u>ENGINEERING SERVICES (Cont'd)</u>				
A	Ditto but 2 - Way 2 - Gang <u>Supply and fix the following accessories to power points; as before described:</u>	33	Nr	1,500.00	49,500.00

B	13Amp single switched socket outlet, 3 pin shuttered flushed plastic type	30	Nr	1,300.00	39,000.00
C	Ditto but twin Type	90	Nr	1,600.00	144,000.00
D	15 Amp switch socket outlet	40	Nr	2,000.00	80,000.00
E	1400mm Newlime ceiling fan with regulator	55	Nr	36,000.00	1,980,000.00
F	Electric Hand Dryer	8	Nr	30,000.00	240,000.00
G	Extractor fan	23	Nr	30,000.00	690,000.00
<u>Computer Networking and Internet</u>					
H	Computer Networking and Internet System to be executed complete with and including surface trunking, cabling and all associated fittings and fixtures for LAN points, including Networking equipment e.g. Router, data hubs, Cisco switches Splitter antenna etc, all in accordance to Engineer's details and specifications	1	Nr	1,500,000.00	1,500,000.00
<u>INCIDENTAL WORKS</u>					
<u>Builder's Work</u>					

J	Allow for all builder's work in connection with electrical services, including excavations, construction of cable ducts, sleeves, chambers, bedding, pointing, cutting and pinning equipment, components and units, cutting away and making good lighting points, socket outlets, fittings, making holes, chases etc	735	nr	350.00	257,250.00
	To Collection				4,979,750.00
	<u>ELECTRICAL SERVICES (Cont'd)</u>				
	<u>POWER SUPPLY & DISTRIBTN (Cont'd)</u>				
	<u>ENGINEERING SERVICES (Cont'd)</u>				
	COLLECTION PAGE				
	ACE/Page 29				1,259,000.00
	ACE/Page 30				9,500,200.00
	ACE/Page 31				3,910,200.00
	ACE/Page 32				4,979,750.00

ELECTRICAL SERVICES

Carried to Summary

19,649,150.00

Summary

Substructure	41,020,150.00
Frames	31,361,900.00
Upper Floors	25,349,600.00
Staircase & Ramp	8,334,450.00
Walls	14,461,200.00
Windows and Doors	22,260,900.00
Roof	49,106,000.00
Wall Finishes	28,107,800.00
Floor Finishes	16,287,300.00
Ceiling Finishes	10,003,000.00
Mechanical Services	18,652,000.00
Electrical Services	19,649,150.00
External works	5,000,000.00

**BUILDING FOR AFRICA CENTRE OF
EXCELLENCE FOR MYCOTOXIN AND
FOOD SAFETY.**
Carried to General Summary

289,593,450.00

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<u>GENERAL SUMMARY</u>	
Bill Nr. 1: Preliminaries	7,000,000.00
Bill Nr. 2: CONSTRUCTION OF BUILDING FOR AFRICA CENTRE OF EXCELLENCE FOR MYCOTOXIN AND FOOD SAFETY.	289,593,450.00
Sub - Total	296,593,450.00
Add: Contingency Sum	7,359,800.00
Sub-Total	303,953,250.00
Add: VAT (7.5%)	22,796,493.75
Sub-Total	326,749,743.75
<u>ESTIMATED TOTAL COST (ACE) CARRIED TO GRAND SUMMARY</u>	326,749,743.75