

PROPOSED RESIDENTIAL DEVELOPMENT

AT

MAITAMA, ABUJA

INTERNAL WORKING DOCUMENT FOR BLOCK 4NR TERRACE APARTMENT

JUNE, 2015

Prepared by:



el-Rufai & Partners Ltd.
Chartered Quantity Surveyor & Management Consultants



ABUJA:

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LAGOS:

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**BILL NR 2
MAIN BUILDING
(INTERNAL WORKING DOCUMENTS)**

	unit	qty	Material	
<u>D GROUNDWORK (ALL PROVISIONAL)</u>				
A	Topsoil excavation 150 average depth	m2	636	636
B	Pit excavation max depth ne 2.00m	m3	118	118
C	Trench excavation max dpth ne 2.00m	m3	136	136
D	Disposal of excavated material; off site	m3	112	112
E	Filling around excavation Av thkness excding 0.25m	m3	142	142
F	Approved laterite filling	m3	69	18 18 1/2
G	Approved hardcore filling	m3	135	36 36 1/7
H	Applying dieldrax to excavated surfaces	m2	915	19 18 2/3

GROUNDWORKS
Carried to Summary

			Material Analysis		
			Cement	Sand	Aggregate
<u>E IN SITU CONCRETE/LARGE PRECAST CONCRETE</u>					
A	Grade 15; Blinding ne150 thk	m3	12	42	2 3
B	Grade 20; Strip Foundation	m3	31	136	5 7
<u>REINFORCED: GRADE 25</u>					
C	Column bases	m3	32	198	5 7
D	Isolated columns	m3	33	205	5 7
E	Bed Slab 150-450mm thick	m3	85	527	12 19
F	Suspended slab	m3	84	521	12 19
G	Wordrobe slab; not exceeding 150mm	m3	2	12	2/7 4/9
H	Attached beams	m3	24	149	3 5
J	Lintel	m3	13	81	2 3
K	Roof	m3	9	56	1 2
L	Stairs and landing	m3	6	37	1 1

<u>E20 FORMWORK FOR IN SITU CONCRETE</u>						
<u>FORMWORK: SAWN TO</u>						
			Plank	Bracer	Props	
M	Column bases Plain vertical	m	351	99	12	
N	Edges of ground slab Plain vertical	m	183	52	6	
P	Sides of columns; Rectangular section	m2	517	488	326	
A	Soffit of suspended slab	m2	547	517	97	215
B	ditto; edges	m	162	46	6	
	Total		571.3	563	103	215
C	Soffit of wardrobe slab	m2	13	12	2	4
D	ditto; edges	m	23	7	1	
	Total		16.45	19	3	4
E	Attached beams	m2	287	271	52	79
F	Lintel	m2	160	151	29	44
G	Roof beams	m2	116	110	21	32
Staircase						
H	Landing Slab thickness ne 200mm	m2	7	7	1	3
J	Edges of landing; not exceeding 250mm high	m	8	2	2/7	
	Total		8.2	9	2	3
K	Sloping soffit of staircase slab thickness ne 200mm	m2	22	21	8	9
L	Sides of strings to stairs and steps	m2	7	7	2	
M	Riser 150mm high	m	72	20	10	
	Total Area		1915.7			
	Mould Oil		98			
	Nails		8	3"	4"	
				6	2	
<u>E30 REINFORCEMENT FOR INSITU CONCRETE</u>						
<u>COLUMN BASES</u>						
N	16mm nominal size; High yield steel bars	t	0.86	46		
P	12mm nominal size; High yield steel bars	t	0.96	92		
	Total Kg			1820.00		

COLUMNS

Q	20mm nominal size; High yield steel bars	t	1.97	68
R	16mm nominal size; High yield steel bars	t	2.04	110
S	12mm nominal size; High yield steel bars	t	0.87	83
T	10mm nominal size; Mild yield steel bars	t	1.53	211
		Total Kg		6410.00

SUSPENDED SLAB

U	12mm nominal size; High yield steel bars	t	4.54	435
V	10mm nominal size; High yield steel bars	t	1.21	167
		Total Kg		5750.00

To Collection

WARDROBE SLAB

A	10mm nominal size; High yield steel bars	t	0.24	33
		Total Kg		240.00

FLOOR BEAMS

B	25mm nominal size; High yield steel bars	t	0.34	8
C	20mm nominal size; High yield steel bars	t	0.61	21
D	16mm nominal size; High yield steel bars	t	1.17	63
E	12mm nominal size; High yield steel bars	t	0.36	35
F	10mm nominal size; Mild yield steel bars	t	0.99	136
		Total Kg		3470.00

LINTEL

G	12mm nominal size; High yield steel bars	t	0.91	87
H	10mm nominal size; Mild yield steel bars	t	0.52	72
		Total Kg		1430.00

ROOF BEAMS

J	12mm nominal size; High yield steel bars	t	0.70	67
K	10mm nominal size; Mild yield steel bars	t	0.44	61
		Total Kg		1140.00

STAIRCASES AND LANDING

L	12mm nominal size; High yield steel bars	t	0.29	28
M	10mm nominal size; Mild yield steel bars	t	0.12	17
				410.00

Total Kg 34

FABRIC REINFORCEMENT: TO BS 4483

N Fabric reference A124 m2 569 3

To Collection
COLLECTION

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IN SITU CONCRETE/LARGE PRECAST CONCRETE
Carried to Summary

F MASONRY

			Blocks		Mortar		Filled Solid Concrete		
					Cement	Sand	Cement	Sand	Aggregate
A	230mm thick; filled solid with weak concrete	m2	287	2927	43	1	164	5	9
B	230mm thick hollow blocks	m2	1503	15331	223	8			
C	150mm thick hollow blocks	m2	33	337	4	1/8			
D	230mm thick; Parapet wall	m2	69	704	10	1/3	39	1	2
E	100 thick hollow blocks	m2	32	326	3	1/9			
				Total	283	10			

MASONRY
Carried to Summary

G STRUCTURAL/CARCASSING METAL/TIMBER

<u>G20</u>	<u>CARPENTRY/TIMBER FRAMING /FIRST FIXING</u>			Lengths	Area
A	100x150mm hardwood timber (wall plate)	m	111	31	57
B	50x150mm hardwood timber (tie beams)	m	704	199	287
C	50x150mm hardwood timber (Rafters)	m	565	160	231
D	50x100mm hardwood timber (struts)	m	592	168	181
E	50x75mm hardwood timber (purlins)	m	994	282	253
F	50x50mm hardwood timber (nogginns)	m	1830	519	373
G	25x300mm hardwood timber (fascia board)	m	120	34	80
			Nails	6	
			Solignum		164

STRUCTURAL/CARCASSING METAL/TIMBER

Carried to Summary

H CLADDING/COVERING

H31 METAL PROFILED/FLAT SHEET

CLADDING/COVERINGS/SIDING

"Danpalon or equal approved", 12mm thick Polycarbonate roof covering at entrance; colour to Architect specification; fix complete on 50mm diameter C.H.S steel pipes welded to the specification to the engineer; with, hooks, drive screws, felt and washers

A	over 300mm wide	m2	22	1	Sheets
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H72 ALUMINIUM SHEET COVERINGS/FLASHINGS

Corrugated longspan aluminium roofing sheets, 0.55mm thick; colour to Architect instruction; single lap covering; 150mm minimum end laps; fixing complete with, hooks, drive screws, felt and washers

B	Roof coverings; over 300mm wide; fixed to hardwood purlins (measured separately)	m2	551	551	
C	Ridge; 600mm girth; matching profile to roof covering	m	34	34	
D	Hipped plate; 600mm girth; matching profile to roof covering	m	35	35	
E	Valley plate; 600mm girth; matching profile to roof covering	m	27	27	
F	Eaves sheet; 300mm girth; matching profile to roof covering	m	118	118	

CLADDING/COVERING

Carried to Summary

J WATERPROOFING

J40 FLEXIBLE SHEET TANKING/DAMP PROOFING MEMBRANES

Tanking and damp proofing

A	1200 gauge polythene sheet single layer with 150mm side and end laps; laid; horizontally over 300mm wide	m2	569	8
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WATERPROOFING
Carried to Summary

K LININGS/SHEATHING/DRY PARTITIONING

K10 PLASTERED BOARD DRY LINING

Plaster of Paris (POP) ceiling boards:with and including cornices and accessories in accordance to specification

Ceilings;

A	Suspension 150 - 500mm deep Internally as specified (Internally)	m2	1045	Cement 576	Filleas 8
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K13 RIGID SHEET LINING

Particle board ceiling: 2400x1200mm wide fix on hardwood noggins (measured seperately) patterned in accordance with Architects' specification

Ceilings;

B	externally; over 300mm wide	m2	55	tiles 19
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LININGS/SHEATHING/DRY PARTITIONING
Carried to Summary

L WINDOWS/DOORS/STAIRS

L11 METAL WINDOWS/ROOFLIGHTS/SCREENS/LOUVRES

Nr

Sliding windows

A	Overall size 2400x1500mm high	nr	4	4
B	Overall size 1800x1500mm high	nr	4	4
C	Overall size 1500x1500mm high	nr	24	24
D	Overall size 1200x1200mm high	nr	3	3
E	Overall size 900x600mm high	nr	16	16

L20 TIMBER DOORS/SHUTTERS/HATCHES

High standard flush doors, BS 459 part 2: including frame and architrave and lipping edges with hardwood and blocking for ironmongery.

F	Overall size 900x2100mm high	nr	24	24
G	Overall size 750x2100mm high	nr	24	24

L21 METAL DOORS/SHUTTERS/HATCHES

Solid cored HPI Security steel door complete with ironmongery and other accessories deemed for a complete installation in accordance with Architect's specifications

Swing doors

H	Overall size 1200x2100mm high	nr	8	8
J	Overall size 900x2100mm high	nr	8	8

Powder coated bronzed anodised aluminium doors; glazed with 5mm thick reflective glass; neoprene gasket; including cutting and pinning of building in lugs to blockwork or concretework and pointing all round both with approved mastic

Sliding doors

k	Overall size 3000x2100mm high	nr	8	8
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Purposed made steel door complete with all necessary accessories in accordance with Architect detail specification

L	Overall size 750x2100mm high	nr	8	8
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To Collection

Steel burglary bars

Mild steel: 25x25mm hollow square vertical and horizontal bars, spaced at 150mm centres; in accordance with Architect's later details all butt welded together; plugged and screwed to concretework or blockwork; complete with all necessary accessories

Lengths

A	Overall size 2400x1500mm high	nr	4	57
B	Overall size 1800x1500mm high	nr	4	44
C	Overall size 1500x1500mm high	nr	24	220
D	Overall size 1200x1200mm high	nr	3	18
E	Overall size 900x600mm high	nr	16	35

Aluminium horizontal louvres complete matching Aluminium angle frame with insect screen net and all necessary fittings and accessories ; including lugging, pinning and pointing in lugs to blockwork or concretework and pointing all round both with approved mastic;

Aluminium Louvres

F	Overall size 450 x 6380mm high	m2	35	111
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L31 METAL STAIRS / WALKWAYS / BALUSTRADES

G	Stainless steel C.H.S balustrades at staircase area or approved equal to the later Architects' specification	m	24	24
H	Stainless steel C.H.S balustrades at lobby and balcony areas or approved equal to the later Architects' specification	m	26	26

Collection

COLLECTION

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WINDOWS/DOORS/STAIRS

Carried to Summary

M SURFACE FINISHES

**M10 SAND CEMENT /CONCRETE/ GRANOLITHIC
SCREEDS /FLOORING**

**CEMENT-SAND (1:3) BEDS AND BACKINGS; TO
RECEIVE SUBSEQUENT FINISH**

			Qty	Cement	Sand
Walls; internally					
A	Backing; over 300mm wide; 12mm thick to receive ceramic wall tiles	m2	400	400	500
B	ditto; but not exceeding 300mm wide	m	191 443	43 5	
Floors					
C	Level and to falls only not exceeding 15 degrees from horizontal; 42 thick average; screeded bed; to receive vitrified ceramic floor tiles	m2	66	3	
D	Level and to falls only not exceeding 15 degrees from horizontal; 42mm thick average, screeded bed; to receive marble floor tiles	m2	824	35	
E	12mm thick average; screeded backing to receive marble ceramic floor tiles skirtings not exceeding 300mm wide	m	890 968	3	
			9.68	41	
Treads					
F	42 thick average; screeded bed; to receive marble floor tiles not exceeding 300m wide	m	65	1	
			16.25		
Risers					
G	12 thick average; screeded backing; to receive marble floor tiles; 150mm high	m	72	0	
			10.8	1	
			<u>47</u>		

M20 PLASTERED/RENDERED/ ROUGHCAST COATINGS 1369

CEMENT-SAND (1:3); PLAIN RENDERING; FINISHING TROWELLED SMOOTH

Walls			Qty	Cement	Sand
H	over 300 wide; internal	m2	2132	2132	466 16
J	ditto; but not exceeding 300mm wide	m	781	234	
K	over 300 wide; external	m2	694	694	
L	ditto; but not exceeding 300mm wide	m	260	78	
Soffit of slabs;					
M	over 300mm wide	m2	487	487	
N	Soffit of Landing	m2	7	7	
P	Sloping Soffit of staircase	m2	22	22	
Q	Sloping edge of staircase; horizontal not exceeding 3.00m high	m2	7	7	
			3661		

To Collection

M40 STONE/CONCRETE/QUARRY/CERAMIC TILING/MOSAIC

High Quality GLAZED CERAMIC WALL tiling; 150x150x5.5mm; on cement and screeded backing (Measured Separately); Straight butt joints; flush pointing

Walls			Tiles	cement
A	Plain; over 300 wide; internal	m2	400	400 11 14
B	Plain: note exceeding 300mm wide; internal	m	191	57 457

High quality VITRIFIED CERAMIC FLOOR tiling; 250X250X8mm; On cement and sand screeded bed; butt joints; flush pointing with white cement

Floors; internally

C	Level and to falls only not exceeding 15 degrees from horizontal; Plain;	m2	66	66	4	5
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High quality MARBLE FLOOR tiling; 250X250X8mm; On cement and sand screeded bed; butt joints; flush pointing with white cement

Floors

D	Level and to falls only not exceeding 15 degrees from horizontal; Plain;	m2	824	824	86	110
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E	Skirting not exceeding 100mm high	m	968	97		
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Treads

F	300mm wide	m	65	20		
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Risers

G	150mm high	m	72	11		951
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To Collection

M 60 PAINTING /CLEAR FINISHING

Painting Render; Prepare and Apply one prime coat and two finishing coats of SUPERIOR EMULSION paint; Berger, CAPL, Meyer or other equally approved

Qty Paint

Walls; Internally

A	Walls; over 300mm wide	m2	1732	1732	18	
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B	Ditto; surfaces not exceeding 300mm	m	590	177		1909
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Soffit of slabs					
C	over 300mm wide; horizontal; height to soffit not exceeding 3.00m	m2	487	487	10
D	Soffit of landing; horizontal; height to soffit not exceeding 3.00m	m2	7	7	
E	Sloping soffit of staircase; horizontal; height to soffit not exceeding 3.00m	m2	22	22	
F	Sloping edge of staircase; horizontal; height to soffit not exceeding 3.00m	m2	7	7	
			523	1623	
<u>Painting Render ; Apply one prime coat and and finish with two full coats of TEXTURED or other equally approved</u>					
Walls; externally					
G	Walls; over 300mm wide	m2	753	753	5
H	Ditto; surfaces not exceeding 300mm	m	260	78	
				831	
<u>Prepare and Apply one prime coat and and finish with two full coats of GLOSS PAINTS or other equally approved</u>					
General surfaces					
J	Wrot hardwood not exceeding 300mm girth	m	118	35	11
K	General metal surfaces	m2	174	174	
				209	

To Collection

COLLECTION

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M SURFACE FINISHES:

Carried to Summary

N FURNITURE AND EQUIPMENT**N10 GENERAL FIXTURES / FURNISHING / EQUIPMENT**

A	"Maple" or other approved equal; Base Cabinet overall size 6270x820x550mm high complete with matching screws and all necessary accessories	nr	4	4
B	"Maple" or other approved equal; Drawer unit overall size 450x820x550mm high complete with matching screws and all necessary accessories	nr	4	4
C	"Maple" or other approved equal; Column Unit overall size 600x2160x550mm high complete with matching screws and all necessary accessories	nr	4	4
D	"Granite top" or other approved equal; overall size 6270x600x20mm high complete with matching screws and all necessary accessories	nr	4	4
E	"Maple" or other approved equal; Upper Cabinet overall size 5270x680x32mm high complete with matching screws and all necessary accessories	nr	4	4
F	"Maple" or other approved equal; Store Shelf overall size 3330x2100mm high complete with matching screws and all necessary accessories	nr	4	4
G	"Cherry" or other approved equal; Guest Wardrobe overall size 1500x2100mm high complete with drawers units and mirror fix with matching screws and all necessary accessories	nr	4	4
H	"Cherry" or other approved equal; Master Wardrobe overall size 2200x2100mm high complete with drawer units and mirror fix with matching screws and all necessary accessories	nr	4	4
J	"Cherry" or other approved equal; Bedroom Wardrobe overall size 2500x2100mm high complete with a drawer units and mirror fix with matching screws and all necessary accessories	nr	8	8
K	"Cherry" or other approved equal; Glass cover Shelf overall size 1270x2100mm high complete with matching screws and all necessary accessories	nr	4	4
L	"Cherry" or other approved equal; Open Shelf overall size 750x2100mm high complete with matching screws and all necessary accessories	nr	8	8

N FURNITURE/EQUIPMENT

Carried to Summary

P BUILDING FABRIC SUNDRIES

P21 IRONMONGERY

A	"UNION" or other approved equal; double cylinder upright mortise lock; complete with pair of stainless steel lever handle furniture; fixed to hardwood or metal; complete with matching screws and all necessary accessories	nr	48	48
B	100mm pair of brass hinges	nr	48	48

BUILDING FABRIC SUNDRIES

Carried to Summary

SUMMARY

WORK PACKAGE

- D GROUND WORK
- E INSITU CONCRETE/LARGE PRECAST CONCRETE
- F MASONRY
- G STRUCTURAL/CARCASSING METAL/TIMBER
- H CLADDING/COVERING
- J WATERPROOFING
- K LININGS/SHEETING/DRY PARTITIONING
- L WINDOWS/DOORS/STAIRS
- M SURFACE FINISHES
- N FURNITURE/EQUIPMENT
- P BUILDING FABRIC SUNDRIES

BUILDER'S WORK

Carried to General Summary

MECHANICAL INSTALLATIONS**N13 SANITARY APPLIANCES/FITTINGS**

Sanitary appliances/fittings; fittings equipment and appliances associated with services; supply, assemble and fix in positions indicating in drawings; including jointing to galvanized mild steel water supply and uPVC discharge pipes as necessary;

A	Water closet low level suite, Twyford 'P'-trap or other approved equal; flush down type pedestal and double plastic ring seats flushing cistern; complete with all fittings and accessories or equal approved.	nr	20	20
B	Wash hand basin; wall mounted; white glazed fireclay; 510 x 410mm; fixed on and including pair of galvanized mild steel cantilever brackets; complete with all fittings and accessories equal approved	nr	20	20
C	Coloured enamelled cast iron bath tub; size 1676 x 711mm or equal approved	nr	16	16
D	Kitchen sink; double drainer; double bowl; stainless steel; 1800 x 700mm; fixed to kitchen cabinet unit (measured separately); complete with all fittings and accessories as per Engineer's specification	nr	4	4
E	Floor drain; stainless steel; mounted flush with floor finish; with galvanized wire strainer and 50mm low level S-trap	nr	24	24
F	Toilet roll holder; stainless steel with a plastic thief proof holder fixed to wall.	nr	20	20
G	Towel rail; chrome plated steel rail and holder, screwed to wall with and including drive screws	nr	20	20
H	Stainless steel soap dish fixed to wall	nr	16	16
J	Mirror; 4mm silvered float glass; 460 x 610mm with arrised edges and mounted on wall.	nr	20	20

N13 SANITARY APPLIANCES/FITTINGS

Carried to Summary

R11 FOUL DRAINAGE ABOVE GROUND

Pipes; straight; uPVC; push-fit jointed; in ducts, chases, floor screeds, and trenches; as per Engineer's specification; clause 405

QTY

A.	100mm; soil stack; in ducts; fixed to wall with and including galvanised mild steel adjustable brackets at 1200mm centres	m	43	43	7
B	100mm; discharge pipe; in walls and floors	m	22	22	4
C	38mm; discharge; ditto	m	37	37	6
D	32mm; discharge; ditto	m	38	38	6
Extra over pipework; uPVC pipe; 100mm					
E	90 degrees bend; 100 x 100mm	nr	7	7	
F	"Y" junction; 100 x 100 x 100mm	nr	12	12	
G	WC connector sleeve; 100 x 100mm	nr	20	20	
H	Tee; 100x 100x 100mm	nr	16	16	
J	Tee; 100x 100x 38mm	nr	1	1	
Extra over pipework; uPVC pipe; 38mm					
K	90 degrees bend; 38x 38mm	nr	16	16	
L	Tee; 38x 38x 38mm	nr	2	2	
M	"Y" junction; 38 x 38 x 38mm	nr	12	12	
Extra over pipework; uPVC pipe; 32mm					
N	90 degrees bend; 32x 32mm	nr	32	32	
Pipework ancillaries;					
P	Vent cowl; 100mm wire ballon; to fit pipe; at roof level	nr	8	8	

R11 FOUL DRAINAGE ABOVE GROUND
Carried to Summary

R12 DRAINAGE BELOW GROUND

Pipes; straight; uPVC; push-fit jointed; in trenches; to falls; rate to include for connection to gully traps; inspection chambers, soakaway pits and septic tanks (measured separately - to be executed by the Main Contractor)

A.	100mm; drain pipe	m	86	86	15
				151	
	Pipework ancillaries;				
B	150mm access bend	nr	4	4	

Y11 PIPELINE ANCILLARIES

ANCILLARIES AND ASSOCIATED FITTINGS AND ACCESSORIES; FIXING TO PIPEWORK AS SPECIFIED; AS ENGINEER'S SPECIFICATION

Accessories in precast concrete; top set in with rodding eye and stopper; cement and sand (1:2) joint to pipe;

materials analysis

C	Inspection Chamber size 450x450x600mm deep(average); internally constructed of 150mm plain insert concrete grade 15 base; 150mm plain hollow sandcrete blockwork filled solid with plain concrete and capped with 75mm thick pre-cast concrete grade 20 cover slab reinforced with single layer B.R.C nr 65 mesh ; with 225mm (average) concrete grade 15 benching and forming 150mm half round diameter in and same rendering on sides in water proof cement mortar (1:3) with and including all necessary excavation, earthworks and formwork	nr	8	8	blk 88	Benching 0.24	Bed & Cover 0.86	Render 0.13	Void Concrete 1	Mortar 0.0864
					Cement	1	5	1	4	1
					Sand	0	0	0.12	0	0.11
					Aggregate	0	0		0	

R12 DRAINAGE BELOW GROUND

Carried to Summary

S10 COLD WATER

PIPELINES

Pipes; straight; medium gauge galvanized mild steel; screw jointed with rope yarn; in ducts, trenches, chases, floor screeds and insitu concrete; as per Engineer's specification;

length

A	Water supply ditribution; 25mm; in concrete floors and blockwork; fixed with holder bats	m	58	58	10
B	Water supply; riser; 19mm; in floor and walls; fixed with holder bats	m	27	27	5
C	Water distribution; 13mm; in floor and walls	m	98	98	17
Extra over; galvanized mild steel pipe; 25mm;					
D	25 x 25mm; 90 degrees bend	nr	4	4	
E	25 x 19 x 19mm; Tees	nr	1	1	
E	25 x 13 x 13mm; Tees	nr	12	12	
F	25 x 25mm; socket	nr	7	7	
Extra over; galvanized mild steel pipe; 19mm;					
G	19 x 13mm; 90 degrees bend	nr	2	2	
H	19 x 19 x 13mm; Tees	nr	2	2	
J	19 x 19mm; Union connector	nr	4	4	
K	19 x 19mm; Nipple	nr	2	2	
Extra over; galvanized mild steel pipe; 13mm;					
L	90 degrees bend; 13 x 13mm	nr	137	137	
M	13 x 13 x 13mm; Tees	nr	63	63	
N	13x 13mm; Union connector	nr	12	12	
P	13x 13mm; Nipple	nr	4	4	

To Collection

S10 COLD WATER (Cont'd)

PIPELINE ANCILLARIES

Pipework ancillaries;

A	Non-return valve; 13mm	nr	4	4
B	Stop cork; 13mm	nr	20	20
C	Non-return valve; 19mm	nr	3	3
D	Non-return valve; 25mm	nr	12	12

To Collection

COLLECTION

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S10 COLD WATER
Carried to Summary

S11 HOT WATER

PIPELINES

Pipes; straight; medium gauge galvanized mild steel; screw jointed with rope yarn; in chases;

A.	Water distribution; 13mm; in walls	m	73	73	12
Extra over; galvanized mild steel pipe; 13mm;					
B	90 degrees bend; 13 x 13mm	nr	100	100	
C	Tee; 13 x 13 x 13mm	nr	16	16	
D	Union connector; 13mm	nr	24	24	
E	Nipple; 13mm	nr	18	18	

PIPELINE ANCILLARIES

Pipework ancillaries;

F	Non-return valve; 13mm	nr	20	20	24
G	Flexible connectors; 13mm	nr	20	20	

GENERAL PIPELINE EQUIPMENT

Equipment; supply, assemble and install the following equipment; rate to include for all connections to galvanized mild steel pipework; supplied with all fittings, accessories and ancillaries deemed necessary for a complete installation

H	Water heater; electrical; 50 litre capacity; mounted to wall with and including pair of galvanized mild steel concealed brackets; with on/off neon indicator lamp, thermostat, and temperature gauge; supply with 1200mm long 2.4mm ² PVC insulated and sheathed three-core copper cable	nr	20	20	
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S11 HOT WATER
Carried to Summary

Y59 SUNDRY COMMON MECHANICAL ITEMS

- | | |
|--|------|
| A. Marking positions; holes, mortises, chases, and the like; in the structure; for the Piped Supply Systems installation | Item |
| B. Loose ancillaries; keys, tools and spares; as described in the Engineer's specification; for the Employer | Item |

Y59 SUNDRY COMMON MECHANICAL ITEMS
Carried to Summary

SUMMARY

N13 SANITARY APPLIANCES/FITTINGS

R11 FOUL DRAINAGE ABOVE GROUND

R12 DRAINAGE BELOW GROUND

S10 COLD WATER

S11 HOT WATER

Y59 SUNDRY COMMON MECHANICAL ITEMS

MECHANICAL INSTALLATIONS
Carried to General Summary

ELECTRICAL INSTALLATIONS

V20 LV DISTRIBUTION

CONDUIT AND CABLE TRUNKING

Conduits; unplasticised PVC; bends, fixings and supports; suitable for concealed or exposed installation; include to excavation and earthwork associated with installation; forming holes, conduit entry, draw wires, components for earth continuity and all accessories and ancillaries deemed necessary for a complete installation

A 45mm diameter (Provisional) m 171

HV/LV CABLES AND WIRING

Cables; copper; PVC insulated and colour coded; in pipe sleeves, conduits and tray; rate to include cable connections, cable joints, cable termination glands, and all other cable accessories and ancillaries deemed necessary for a complete installation;

B 1x10mm² 4-core PVC/SWA/PVC (Provisional) m 181 181 Drum 2

LV SWITCHGEAR AND DISTRIBUTION BOARDS

Miniature circuit breaker distribution board; stove enameled; sheet steel case; flush recessed in wall; removable screw fixed front cover with latch openable access door; as specified

415/240V; 50HZ; TP & N

					Coil	Conduit	
				1.5	12	400	
				2.5	9	420	
C	60A; 6-way TPN incomer; 2nr 30A, 7nr 20A, 2nr 5A and 7nr spares outgoing	nr	4	4	4	10	208
					6	1	52
D	60A; 6-way TPN incomer; 1nr 45A, 2nr 30A, 5nr 20A, 2nr 5A and 8nr spares outgoing	nr	2	2	10	1/5	4
							120
E	60A; 6-way TPN incomer; 1nr 45A, 2nr 30A, 5nr 20A, 3nr 5A and 7nr spares outgoing	nr	2	2			116
							140
							168
							32
F	45A TP&N	nr	8	8			

V20 LV DISTRIBUTION

Carried to Summary

V21 GENERAL LIGHTING

CONDUIT AND CABLE TRUNKING

Cables and conduits in final circuits; radial main sub circuit; PVC insulated and colour coded cable to BS 6004 table 1A; drawn into and including 20mm diameter heavy guage galvanised mild steel conduit; rate to include for all cable ancillaries deemed necessary for a complete installation

1x1.5mm², 2nr-single core cables

LUMINAIRES AND LAMPS

Luminaires and lamps; THORN, RAAK, PZ or other approved equal; with specified and approved rated lamps; supply complete with conduit boxes, pattresses, ceiling roses, connector blocks, flexible cords, starters, chokes and capacitors, shades, diffusers and reflectors, lampholders, conduit or chain suspension, other suspension system as and where necessary; Luminaires are to be fixed to backgrounds as shown in the relevant Engineer's drawings or other position as subsequently specified; (All provisional)

Number

Flourescent;

K	1 x 36W recessed mounted flourescent newclime type or approved equal	nr	8	8
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To Collection

LUMINARIES AND LAMPS (Cont'd)

Ceiling mounted;

A	1 x 100W, ceiling mounted fitting type thorn Cat No. or approved equal	nr	64	64
B	1 x 60W screw neck fitting type Cat No. or approved equal	nr	24	24
C	1 x 60W ceiling mounted recessed fitting type thorn Cat No. or approved equal	nr	20	20

Wall mounted;

D	1 x 60W wall bracket fitting type Marlin Cat No. MV219P09 or approved equal	nr	100	100
E	1 x 20W mirror/wall mounting with shaver's outlet enclosed, aluminium bodied, flourescent unit for use in Bathrooms/toilets and complete with on/off pull switch.or approved equal	nr	20	20
F	1 x 100W Bulkhead fitting (Roller) thorn Cat No. R0RLV2264L or approved equal	nr	14	14
G	1x 60W wall mounted bedhead reading lamp or approved equal	nr	16	16

Pendant fittings;

H	Newclime High quality fan with 5-speed regulator	nr	12	12
J	1 gang 1 way; MEM or approved equal	nr	36	36
K	1 gang 2 way; MEM or approved equal	nr	48	48
L	2 gang 1 way; MEM or approved equal	nr	36	36

To Collection

COLLECTION

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V21 GENERAL LIGHTING

Carried to Summary

V22 GENERAL LV POWER

CONDUIT AND CABLE TRUNKING

Conduits: unplasticised PVC; bends, fixings and supports; suitable for concealed or exposed installation; include to excavation and earthwork associated with installation; forming holes, conduit entry, draw wires, components for earth continuity and all accessories and ancillaries deemed necessary for a complete installation

A	20mm diameter (Provisional)	m	250	250
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HV/LV CABLES AND WIRING

Cables: copper; PVC insulated and colour coded; in pipe sleeves, conduits and tray; rate to include cable connections, cable joints, cable termination glands, and all other cable accessories and ancillaries deemed necessary for a complete installation;

B	1x6.0mm ² 3-core PVC copper cable (provisional)	m	39	39
C	1x4.0mm ² 3-core PVC copper cable (provisional)	m	232	232

CONDUIT AND CABLE TRUNKING

Cables and conduits in final circuits; radial main sub circuit; PVC insulated and colour coded cable to BS 6004 table 1A; drawn into and including 20mm diameter heavy gauge galvanised mild steel conduit; rate to include for all cable ancillaries deemed necessary for a complete installation

3Nr Single core, 2.5mm² cables
 3Nr Single core, 6.0mm² cables

ACCESSORIES FOR ELECTRICAL SERVICES

Accessories; low voltage power outlet switches and conductors; flush mounted; fixed to and including galvanized steel knock-out box set in mortises in walls

L	13A single switched socket outlet; MK CAT 5231 PCR or approved equal	nr	266	266
M	13A twin switched socket outlet; MK CAT 5232 PCR or approved equal	nr	450	450
N	15A switched socket outlet; MK CAT 5233 PCR or approved equal	nr	1 308	1308

To Collection

ACCESSORIES FOR ELECTRICAL SERVICES (Cont'd)

A	45A cooker control unit; comprised of cooker power supply point and 1nr 13A single switched socket outlet; complete with 2nr control switches and 2nr "ON/OFF" neon indicator lamps for cooker and socket outlet each; MEM or approved equal	nr	3	3
B	75W ceiling rose for water heater	nr	20	20
C	TV socket outlet; MEM or approved equal	nr	273	273
D	Telephone socket outlet; MEM or approved equal	nr	273	273

To Collection

COLLECTION

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V22 GENERAL LV POWER

Carried to Summary

SUMMARY

V20 LV DISTRIBUTION

V21 GENERAL LIGHTING

V22 GENERAL LV POWER

Y82 IDENTIFICATION AND SUNDRY COMMON
ELECTRICAL ITEMS

OTHER SPECIALIST WORKS

ELECTRICAL INSTALLATIONS
Carried to General Summary

GENERAL SUMMARY

- 1 BUILDER'S WORK
- 2 MECHANICAL INSTALLATIONS
- 3 ELECTRICAL INSTALLATIONS

**TOTAL
CARRIED TO GRAND SUMMARY**