

PROPOSED CIVIL WORKS AT MALINDI 33/11 KV SUBSTATION					
BILL OF QUANTITIES					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION. 1					
Preliminaries					
A	Allow for a temporary site office ,notice board, shelves and , store for materials and tools storage. To accomodate 7 people and all furniture and meeting accesories	ITEM	1		
B	Allow for clean water on site for the works	ITEM	1		
C	Allow for all the necessary statutory approvals for the works by relevant county authorities ;Replication of drawings to required formats by county government; Endorsement by relevant proffesional persons; and submit a set of approved drawings before commencement and as built drawings to client on completion,including site registration & NCA registration fees.	ITEM	1		
D	Allow for temporary sign post for the proposed works and permanent sign post as described.	ITEM	1		
E	Allow for security and insurance for the proposed works	ITEM	1		
F	Allow for supply of power connection for use for the works.	ITEM	1		
G	Allow for a qualified personel conservant with Kenya Power safety regulations for the entire contract period; with capacity to receive safety permits and double up a 'safety officer'	ITEM	1		
H	Allow for prompt communication and updates facilitation to client supervision team including communication and project data storage,laptops,hard drives,airtime etc	ITEM	1		
I	Allow for PERMANENT sign post for the proposed works as per KPLC specifications after completion of the works	ITEM	1		
TOTAL THIS PAGE					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION. 2				
	<u>SWITCHYARD REHABILITATION & REINSTATEMENT</u>				
1	<u>Switch yard 1200 SM</u>				
A	Clear working area of all the site of existing ballast and rubbles	ITEM	1		
B	Scoop loose top soil by cutting average 400mm deep to recieve imported fill	SM	1,200		
C	Provide average 500 mm thick selected well compacted imported murrum fill, compacted in layers of 150mm thick using a plate compactor to achieve slope	CM	650		
D	Prepare and apply Gladiator 4TC or equal and approved insecticide to surfaces of blinding as per Manufacturer's written instructions	SM	1,200		
E	Apply suitable weed killer, herbicide to surfaces of blinding as per the Manufacture's written instructions	SM	1,200		
F	1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with weltd laps of 200mm wide.	SM	1,200		
G	Supply and spread uniformly 150mm thick 'one inch' (25-40mm) ballast in switch yard to match existing-re use existing ballast where not sufficent top up with new supply	SM	1,200		
H	Precast concrete channel 200mm high at the ballast perimeter to prevent ballast spill over as restraint	LM	160		
I	RE-use existing ballast,clean,sieve and spread uniformly 100mm thick 'one inch' (1") ballast in outer yard ;TOP up new ballast supply where not adequate	ITEM	1		
2	<u>Cable ducts</u>				
J	Supply and install 150mm diameter medium gauge PVC pipes as ducts. with and including 150mm thick concrete class 20 surround and murrum compaction underlying pipe bases and all this merge with road level	LM	50		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION. 3				
1	SWITCHYARD PLINTHES Conversion of switchgear wooden poles to foundation plinthes as per the General arrangement drawing(GA) and all to structural engineers details.-Total 45 no.plinths				
A	Excavate foundation pits commencing fro reduced level but not eexceeding 1.50 m deep	CM	150		
B	Ditto but not exceeding 3.0m deep	CM	24		
C	Backfill excavated material	CM	55		
D	Removing materials from Site	CM	120		
E	Disposal of water	ITEM	1		
F	Imported filling in foundations and compaction in 150mm layers - red soil before earthing	CM	21		
G	Blinding mix (1:4:8 - 50 mm)	SM	85		
H	Class 25(20) in foundations	CM	27		
I	Class 25(20) in stub col bases	CM	48		
J	steel 8 to16mm to bases and column	KG	3046		
K	Shuttering to columns stubs	SM	265		
L	Edges; 75 to 300 mm to plinths	LM	243		
M	grouting bolts /inserts and the like by holding in position when poruing concrete not exceeding 600mm long-bolts supplied by client	NO	228		
N	surface finish smooth trowelled	SM	45		
2	Cable ducts				
O	Supply and install 150mm diameter medium gauge pvcpipes as ducts. To control room-a set of 12 each not exceeding 4m	LM	55		
P	Vibrated mass concrete class 20/25 (1:2:4) in pvc cable duct	CM	2		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3	2 NO. TRANSFORMER PLINTHES				
A	Excavate pit foundations not exceeding 2.2 metres deep from reduced levels	CM	150		
B	Return fill and ram suitable excavated material to the sides of the plinths	CM	25		
C	Cart away from site surplus excavated materials	CM	125		
D	blinding 1:3:6 to footing	SM	80		
	<u>Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-</u>				
E	Base	CM	6		
F	PEDESTALS	CM	15		
G	COVER SLAB-300mm thick	CM	10		
	<u>High Tensile Steel Reinforcement Bars;</u> <u>Cold Worked to BS 4461 (Provisional)</u>				
H	8 mm diameter	KG	750		
I	12 mm diameter	KG	2400		
	<u>Fairface Formwork to:-</u>				
J	Sides of base 225-300mm wide	LM	45		
K	Ditto slab	LM	38		
L	Vertical sides of footing	SM	265		
	<u>Hardcore filling</u>				
M	Approved hardcore filling compacted to Engineer's approval	CM	45		
N	Blind surface of hardcore with fine material	SM	38		
O	1000 gauge polythene sheet laid over hardcore	SM	38		
4	SUMP RCC WALLING				
	<u>Mass insitu concrete (1:4:8) in:-</u>				
P	Strip footing	SM	16		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-</u>				
	Base				
A	Walling finished fair face	CM	18		
	Formwork				
B	Vertical sides of footing	SM	58		
C	Vertical sides of walling	LM	56		
	<u>High Tensile Steel Reinforcement Bars; Cold Worked to BS 4461 (Provisional)</u>				
D	8 mm diameter	KG	253		
E	10 mm diameter	KG	65		
F	Supply and place 1.5" porous ballast around the plinth to Engineer's approval	CM	56		
G	Supply fabricated heavy duty grating of deformed R16 at 20mm c/c, welded on 50x50x4mm angle lines anchored to concrete with 10mm inserts; well primered base coat and final zinc-chromate paint to cover the transformer oil spillage sump	NO	2		
H	OIL sump chamber 3m x 5m x 3m deep; perimeter 200mm thick block walling; internal plaster complete with niru finish; with ring beam at every 2m interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm spacing; cover slab with manhole opening 150mm reinforced with 8mm steel bothways at 150mm spacing; heavy duty steel cover; including pvc pipe 4"connecting with the main transformer pit not exceeding 6m away.-in two compartments	ITEM	1		
I	Provide galvanized 300 x 100x8mm "I" beam welded to triangular shape (1.5x1.2x1.9metres); insitu in reinforced concrete size, 1.0x1.0metres), with approx. 350mm of the tip exposed above the concrete, including 50mm diameter hole drilled on exposed section.	NO	2		
	<u>SECTION. 4</u>				
	<u>DRAINAGE WORKS</u>				
I	<u>PERIMETER OPEN DRAIN</u>				
J	Excavate on site drain trench not exceeding 1.5m deep including plucking and strutting, disposal of soil to receive drainage channels and forming sloping sides in well compacted murrum bed. (hydraulic depth 1m ,Trapezoidal area 0.9sm)	LM	140		
K	Lay (600mm) dia precast concrete invert block drains to a suitable fall with grooved edge and tongued joints filled with cement/sand mortar (1:3) and laid on 50mm thick plain concrete bed 100mm	LM	130		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Supply and lay on sides of sloped trench (75x230mm wide) precast concrete slabs jointed in 1:3 cement sand mortar,including proper joint treatment with waterproof mortar;	SM	420		
B	Extra over for allowing inlet openings from collection chambers 150mm with PVC pipe;all including surface treatment and joint sealant max 40 inlet ponts	ITEM	1		
3	HEADWALL AND CULVERT <u>Precast concrete Class 20 (mix 1:2:4) 20-15mm aggregate as described finished fair on all exposed surfaces including bedding, jointing and pointing in cement and sand (1:3) mortar</u>				
C	Culvert Type; 600mm diameter (internal) concrete pipe; including all excavations and disposal; with murrum compaction in culvert bases murrum compacted backfill rammed in layers;INCLUDING ALL CONCRETE works,steel work,formwork and all builders work asociated with it.	LM	8		
D	1500 x 200mm Thick Solid Concrete block work Winged Endwall for Storm Drainage Line, including all materials and labor for installation, including excavation, backfilling and compaction as per as per engineer's detailed drawing	NO	2		
E	Stone pitching with bedding in 1:2 motar to terminate at drains	LM	140		
F	MASONRY BLOCK RETAINING WALL Construct 225mm thick wall with pillars at every 2.5 metres to project 600mm opposite the earth fill 400mm wide with whoop iron at every two courses,overlying mass concrete base 600mm wide ,200mm thick with final surface plaster finishes and 2 coats of black bituminous with 4"weep holes at each panel	LM	65		
4	REHABILITATION WORKS				
G	Rehabilitate existing trenches by hacking all edges ,making 1150x300mm grooves at 500m spacing,and casting lean concrete in 1/2" INC H concrete class 20 and raise level by average 300mm;including all formwork and steel anchoring	LM	75		
H	Rehabilitate existing boundary walls including all repairs and painting with two coats of kplc cooperate colours	ITEM	1		
I	Rehabilitate existing guard house and Toilet including replacing all worn out and damaged fittings,panes,lighting system and painting with two coats of kplc cooperate colours	ITEM	1		
J	CABLE TRENCH(EXTERNAL) <i>Trench (1200x900mm deep) length approx.65metres and 80M for 600x600mm</i> BULK excavation for trench 1.8m wide from reduced level not exceeding 1.5 m deep.	CM	107		
TOTAL THIS PAGE					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Ditto but for 600x600mm cable trench depth n.e 900mm	CM	57		
B	Load, cart away from site excavated materials and dispose at areas designated by local authority.	CM	100		
C	Fill in and ram selected backfill materials around trench.	CM	65		
	Trench bed				
D	50mm plain concrete(1:4:8) blinding on cable trench bed 1.5m wide	SM	103		
E	Ditto but for 600x600mm cable trench bed 900mm wide	SM	58		
	Vibrated reinforced concrete class				
	20/20 1:2:4 as described in;				
F	In 150mm thick trench base	CM	24		
G	In 150mm thick retaining walls	CM	36		
	Steel form work to				
H	Sides of trench wall	SM	160		
I	150mm blockwalls permanent formwork on outer trench wall	SM	130		
	Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461				
J	Y 8mm in cable trench	KG	2,015		
K	50x50x4mm angle line embedded in concrete cable trench edges	LM	290		
	POLYMER RESIN trench covers (external cable trenches)				
L	Provide and fix heavy duty galvanized (1500x450x50mm) composite polymer resin cover(medium weight/ m2 ultimate load capacity) .	NO	250		
M	Ditto but for 600x600mm cable trench (900x450x50mm)	NO	300		
N	Ditto for existing trenches	LM	75		
	Cable trays				
O	Alluminium perforated cable trays 1200mm x40mm complete with all bends,angle turn cleats and screws	LM	165		
P	Ditto but600mm x40mm complete with all bends,angle turn cleats and screws	LM	120		
	TOTAL THIS PAGE				

	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.3				
A	OIL sump chamber 6m x 5m x 3m deep; perimeter 200mm thick block walling; internal plaster complete with niru finish; with ring beam at every 2m interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm spacing; cover slab with manhole opening 150mm reinforced with 8mm steel bothways at 150mm spacing; heavy duty steel cover; including pvc pipe 4"connecting with the main transformer pit not exceeding 6m away.-in two compartments	ITEM	1		
	ROAD REHABILITATION				
	ACCESS ROAD				
2	<i>Paving blocks (Access road)</i>				
B	Excavate for 4m wide access road depth not exceeding 750mm and cart away the spoil	SM	220		
C	Average 300mm thick selected well compacted hardcore fill, compacted in layers of 150mm thick using 10 tonne vibrating roller to receive paving blocks	CM	70		
D	300mm approved compacted murrum fill in 150mm layers	CM	70		
E	50mm thick approved and well compacted quarry dust blinding on hardcore	SM	220		
F	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid to slope on quarry dust and compacted	SM	220		
G	125 x 250mm splayed kerb to BS 340 including 125 x 100mm channel : on and including concrete Class "E" foundation and 100mm haunching to back of kerb including all necessary excavation, formwork and disposal	LM	120		
H	Ditto but curved	M	40		
3	Painting				
I	Prepare and apply approved gloss paint to kerblines; 125mm girth; colour to engineer's approval	LM	120		
	CHAINLINK				
J	(2.4m highx12.5 gauge chainlink) fence on precast cobcrete posts complete with 4 strands of 3mm galvanised steel wire passing through holes drilled on overall height of 2.4m high and crank with 2 strands of 12.5 gauge barbed wire including securing chainlink to wire strands.	LM	120		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Fabricate and fix a primary sustation gate as per the provided drawing SK. No. 07044/B but fully panneled.	NO	2		
B	Extra over for galvanizing all steel work to 85 microns	ITEM	1		
C	Rehabilitate existing gate by checking all connections,bushes and priming with 3 coarts of paint	ITEM	1		
D	Demolish existing control room and hand over selected materials to client and cart away all debris including levelling,backfilling all trenches and make good to switchyard standards	ITEM	1		
E	Allow for trimming,felling and/or pruning existing trees, branches and hew ,arrange in packed lots at disignated area in station yard	ITEM	1		
F	Allow to clear and remove debris where necessary and unblock all external drains around substation premises with liase with county government	ITEM	1		
	<i>Supply and fix Razor Wire at the top of boundary wall & chainlink conforming to the following specifications.</i>				
G	Coil size-450mm diameter, Blade profile-ripper razor wire,Stretch factor-maximum of 10m per coil and secured to CHAINLINK FENCE and wall with galvanised steel plates at 1m centers.	LM	170		
	ELEMENT NO.4				
	CONTROL BUILDING				
1	Substructure				
H	Excavate oversite vegetable soil average depth 150mm and cart away	SM	258		
I	Excavate for foundation trench 1m wide commencing at reduced level and not exceeding 1.5m deep.	CM	173		
J	Ditto exceeding 1.5m but n.e 3m.	CM	100		
K	Excavations for column base size	CM	44		
L	Ditto exceeding 1.5m but n.e 3m.	CM	10		
M	Extra over excavation for excavating in hard rock.	CM	5		
N	Allow for keeping all excavations water free by pumping,bailing or otherwise.	ITEM	1		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Fill in and ram selected imported materials around foundations and column bases.	CM	250		
B	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	81		
C	900mm thick bed of selected hard-core well-compacted in layers n.e. 150mm thick blinded with fine material 50mm thick to receive damp proof membrane (m.s)	CM	312		
D	50mm thick approved murrum blinding well compacted, watered and rolled to satisfaction	SM	258		
E	Gradiator 4TC or equal and approved insecticide treatment to hardcore blinded surface and around entire building	SM	288		
F	1000 gauge polythene or other equal and approved mebrane as damp proof laid on blinded hardcore.(m.s) with welted laps of 200mm wide.	SM	258		
G	50mm thick plain concrete(1:4:8) blinding under strip and columns foundations.	SM	138		
	<u>Vibrated reinforced concrete class</u>				
	<u>20/25 1:2:4/25 as described in:</u>				
H	Strip foundation (600x250)mm	CM	17		
I	Column bases size (1250x1250x250)mm	CM	10		
J	Columns size (250X250)mm	CM	6		
K	150mm thick concrete slab on damp proof membrane (m.s)	CM	39		
	<u>Steel reinforcement bars including tying bending</u>				
	<u>spacer blocks tying wires and fixing high tensile</u>				
	<u>bars to BS 4461 to strips,columns and bases</u>				
L	Y8-16mm	KG	1720		
M	Steel wire fabric mesh reinforcement to B.S.4483 Ref BRC No.A142 in concrete bed (M.S) including 200mm laps, all necessary tying wire and supporting as required.	SM	246		
	<u>Sawn formworks to</u>				
N	Sides of column size 250 x 250 mm	SM	86		
O	Sides of floor slab 150-200mm girth.	LM	71		
	<u>Foundation walling</u>				
P	225mm thick approved natural stone walling bedded and jointed in mortar (1:3)	SM	414		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.6				
	SUPERSTRUCTURE				
1	Walling				
A	Pluvex No.1 or other equal and approved bituminous damp proof course to B.S.743. 225mm wide under walling (m.s) including for 200mm long laps (measured net no allowance included for the laps)	LM	138		
B	225mm thick approved smooth hand dressed natural stone walling in cement mortar (1:4) including for hoop iron in every alternate course.	SM	518		
C	PRIMING all elevated substructure masonry surfaces with black bituminous paint 3 coats	SM	50		
	Vibrated reinforced concrete class				
	20/25 1:2:4/25 as described in;				
D	In columns size 250x250mm	CM	8		
E	In ring beam and upstand size 450-600x200mm	CM	21		
F	In 150mm thick suspended slab	cm	39		
G	In 100mm thick canopies over all openings and hood	cm	10		
H	In lintols 300x200mm	CM	2		
	Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461 in upstands,ringbeam and slab,canopies				
I	Y 8mm-16MM	KG	5620		
	Sawn form work to				
J	Sides and soffits of ring beam	SM	288		
K	Sides of columns	SM	132		
L	Soffits of suspended slab	SM	258		
M	canopies and the like	SM	22		
	ELEMENT NO. 7				
1	ROOF CONSTRUCTION AND COVERING				
	The following in 7 no trusses spanning 11.00m and hoisted 4m high above finished floor level				
N	100x50x6mm rolled steel RHS in rafters	LM	207		
O	Ditto 50x50mm in struts	LM	196		
P	Supply and fix in concrete ring beam 28no. 16mm bolts	ITEM	1		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	(200x200x6mm thick M.S plate cleats with 2no. holes welded to truss.	NO	16		
B	Supply and erect MS purlin cleats welded to truss at 1800 cc	NO	92		
C	Supply and erect 150x51x2mm Z purlins bolted to rafters primed with one coat of red oxide	LM	288		
D	Gauge 26 pre-painted IT 5 roof covering sheet including for 2no. side corrugations and 300mm long end laps	SM	403		
E	Ditto for side cladding AND UNDERSIDE AND GABLES	SM	163		
F	26gauge matching ridge cap.	LM	35		
G	50x50x6mm RHS fascia support	LM	78		
H	50x50x6mm angle iron fascia support	LM	150		
I	Supply and fix cleats welded to fascia support	NO	33		
J	26 gauge 100x100mm corner edging	LM	138		
K	14 gauge galvanised M.s in gutters	lm	69		
L	Extra over for stopped ends	NO	7		
M	Ditto for 100mm outlet	NO	9		
N	50x50mm thick timber bearers	LM	65		
O	100x50mm thick timber cornice	LM	65		
	Down pipes				
P	100mm down pipes 24 gauge secured to wall with brackets at 900mm c/c	LM	48		
Q	E.O for swan neck	NO	12		
R	Prepare surfaces , prime and apply two coats of first quality aluminium panit to all rainwater goods	ITEM	1		
	ELEMENT NO.8				
1	Windows				
	Composite purpose made fixed glass steel casement window frame made out of (50x25x3mm thick) RHS ,Z-sections and flats complete with fixed glass in approved putty, stays and fasteners all to client's approval.				
S	ALLUMINIUM SLIDING size (1200 x 1500mm) high overall	NO	2		
T	CASEMENTsize size (1200 x 1500mm)	NO	12		
U	Window size (450 x 600mm) high	NO	4		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Doors				
	Purpose made steel casement double leaf door divided into equal leafs made out of 75x50mm frame with four permanent louvred ventillation made from (25x3mm) flat bars whole door hinged to and including (100x100x6mm) angle line built to wall with brackets in sizes				
	NOTE: All external doors to be as per provided drawing SK No. 06249 Sheet 1				
A	Door size (1800x3000mm) double leaf	NO	2		
B	Door size (1000x2500mm) single leaf leaf	NO	7		
C	Door size (900x2500mm) double leaf	NO	2		
D	(600x400mm) permanent louvre ventilations made from (25mmx3mm) flats	NO	23		
E	(150x50mm) prime grade cypress door frame	LM	81		
F	45mm thick solid STEEL light weight door overall size (900x2500mm) with fan light above size (400x900mm)	NO	8		
G	4mm thick clear glass as fanlight (40x25mm)	SM	20		
H	Allow for priming all metal and flash doors surfaces and apply two coats of 1st quality paint to all doors and frames	SM	173		
I	E.O for supply and fixing panic locks to all external exit doors to k[plc standards	NO	8		
	ELEMENT NO.9				
	FINISHES				
I	Floor finishes				
J	25mm thick cement sand screed prepared to receive granolithic paving.	SM	299		
K	Ditto for ceramic tiles	SM	58		
L	terazo paving to wood floated floor screed including all the necessary strips	SM	299		
M	100mm skirting ditto	LM	173		
N	12mm thick internal quality lime plaster finished smooth with steel trowel to all walls and suspended slab	SM	748		
O	External plaster with 12mm render including profile pointing on stone joint	SM	300		
P	Prepare surface and apply undercoat and 3 coats of 1st quality silk vinyl emulsion paint to plastered walls internally and externally.	SM	1300		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	12mm plaster to window and door head, cill and jambs 200-300mm girth	LM	115		
B	Prepare surface, apply undercoat and 2 coats of 1st quality silk vinyl emulsion paint to plastered surfaces 200-300mm girth	LM	1300		
C	200X250mm wall tiles bedded in cement grout pointed in colour cement to match colour of tiles	SM	65		
D	Ditto 300x300mm floor tiles	SM	69		
2	Kitchen				
E	100mm thick 1:2:4 concrete in kitchen work top	SM	6		
F	Y 10 reinforcement bars at 200 C/C	KG	230		
G	150mm block wall	SM	23		
H	12mm 1:3 cement sand plaster	SM	69		
I	Single drain single bowl stainless sink	NO	1		
J	Bricon or approved kitchen mixer	NO	1		
K	400mm wide 25mm thick block veneered offwhite cream board shelves fixed with brackets to wall	LM	35		
L	Ditto in locable cupboards including hinges, fasteners	LM	35		
M	600x600mm PCC paving slabs along control room perimeter and spalash aprons and all other areas stipulated by eng ,including bedding and jointing with 1:3 mortar	SM	100		
	ELEMENT NO.10				
	DRAINAGE AND PLUMBING WORKS				
1	Plumbing works				
N	Twyfords Hindustan vitreous china wash hand basin size 500x400mm fixed on semi-concealed brackets	NO	2		
O	Ref. No. 1200 complete with 2No. Approved 12mm. chrome plated taps	NO	2		
P	150x150mm semi- recessed "Twyfords" white toilet roll holder	NO	2		
Q	White Twyfords classic WC suite comprising pan, heavy duty plastic seat and cover, ceramic cistern, flush pipe and trap.	NO	2		
R	Supplly and fix compact auto dryer satin chrome 2.2KW	NO	2		
S	12mm gate valve as per peglar	NO	12		
T	Ditto 15mm		9		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	15mm class B pipes including all necessary fittings including all the necessary excavations and casing in wall	LM	200		
B	12mm class B pipes including all necessary fittings including all the necessary excavations and chasing in wall	LM	210		
C	allow for repair to good condition the entry channel at gate	ITEM	1		
D	1200x800mm resin stone shower tray 40mm CP unslotted waste and trap.	NO	1		
E	100mm CP metal shower head , 15mm CP angled shower arm ,15mm riser pipe,exposed shower mixer valve.	NO	2		
F	Semi-countertop wash basins with tap hole and chain stay 32mm chrome plated bottle trap waste etc.	NO	2		
G	1800 x 500mm single drain double bowl sink c/w 1No. 15mm dia. CP mixer pillar tap with swivel spout, 2No. 40mm waste	NO	1		
H	Vitreous china semi-recessed toilet roll holder	NO	3		
I	1000x600x6mm thick plate glass mirror with bevelled edges.	PC	3		
J	Soap dish.	NO	2		
K	Towel rail.	NO	4		
	SOAKPIT				
L	Excavate soakpit 1800mm dia to seepage depth min 15m,equip and construct protective wall and cover including all builders work,concrete and steel work-TYP	ITEM	1		
	SEPTIC TANK				
M	Septic tank 3.6m x 2.1m x 3m deep; perimeter 200mm thick block walling; internal plaster complete with niru finish; with ring beam at every 2m interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm spacing; cover slab with manhole opening 150mm reinforced with 8mm steel bothways at 150mm spacing; heavy duty steel cover; including pvc pipe 4"connecting with the sewerage and foul drainage-in two compartments	ITEM	1		
	WATER SUPPLY SYSTEM				
N	Connect piped water using 1"G.I.class B pipe to the substation by liaising with the relevant water body; including excavation of water pipe water trench, backfilling, all connections and accessories.	ITEM	1		
O	Supply and install 6000 litres an approved plastic water tank, approved 3/4" watertap and concrete platform including all necessary required fittings and connections-GROUND MOUNTED -extra over to include roof water harvesting system with gutters ,PVC downpipes and BENDS	ITEM	1		
P	supply and install 2000lt rectangular plastic (BOX) tank on top of control building including all float valves,connectoions and maintainance access provision on facia cladding;connect to piped mains and sanitary units	ITEM	1		
Q	Concrete door ramp				
	Insitu Vibrated reinforced concrete class 20/25 1:2:4/25 ramp 2m x2.5m size in; Steel wire fabric mesh reinforcement to B.S.4483 Ref BRC No.A142 in concrete bed (M.S) including 200mm laps, all necessary tying wire and supporting as required; overlying on 225mm thick wall, filled with approved hardcore compacted in layers and slab resting on damp proof membrane.	ITEM	2		
R	600x600x50mm thick precast paving blocks embeded on well compacted 50mm murrum, jointed with cement/sand mortar (1:4)	SM	58		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
ELECTRICAL INSTALLATIONS WORKS					
A	Electrical builders work to power supply points and distribution board lighting points; sockets; including chasing and making good all works as described	ITEM	1		
B	Electrical distribution board, Electrical lighting work and accessories, fluorescent bulbs, socket outlets, switches AS Follows 12nos 4 feet fluorescent lamps; 4 nos ball fittings, 16nos 13 amp sockets, cooker unit sockets 1 no.; provision for data and TV cable in all operator room, CCTV with 6 no cameras and VDU in controller room	ITEM	1		
C	Supply and install 110volts DC distribution board with technical specifications as attached in the technical spec document	ITEM	1		
SUBSTATION LIGHTING					
D	Supply 240 watt AC (LIGHT DEPENDENT TYPE) bucky head floodlight with energy saver 100 watts sodium metal halide lamps to be hoisted on mast supplied by kplc including all connections	ITEM	6		
	Supply and fix emergency chargeable lights in the control room to client approval.	NO	2		
ELEMENT NO. 7- SMOKE DETECTORS					
E	Allow for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor-merchant OR approved type	NO	7		
F	Allow for general attendance on specialist contractor	Item	1		
G	Builder's work in connection with Smoke detector installations; cut away for and attend in all trades on the sub-contractor installing the following points in a mainly concealed system; including chases, holes and recess notching in timber etc; and making good all finishes for cut in boxes, electrical wiring, mounting brackets, smoke detector feeds, fire alarm points etc	Item	1		
ELEMENT NO. 8 - AIR CONDITIONING					
Air conditioning					
Supply and fix air conditioners complete with all fixing accessories to control room temperatures from approved suppliers					
H	24000 BTU	NO	3		
I	Ditto but Air Extractor	NO	1		
ELEMENT NO. 9 - FIRE EXTINGUISHERS					
J	Supply and fix controlled discharge 9 litre carbon dioxide gas fire extinguisher manufactured to BS EN 3-9:2006, BS 7863:2009, BS 5306-4:2001 and the cylinder manufactured to BS 5045 complete with the following:	No	6		
K	Charge and fixing bracket, Pictorial instructions, Colour code, Servicable on site, discharge horn and hose, Brass hot stamping, Operating valve, Local Fire Brigade approval				
L	Ditto but DRY powder fire extinguishers	No	6		
M	Ditto fire blanket 6' x 4' container	no	2		

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.5				
	CABLE TRENCH(INTERNAL)				
	<i>Trench (1200x900mm deep) length approx.40metres and 60M for 600x600mm</i>				
A	BULK excavation for trench 1.5m wide from reduced level not	CM	66		
B	Ditto but for 600x600mm cable trench depth n.e 900mm	CM	43		
C	Load, cart away from site excavated materials and dispose at areas designated by local authority.	CM	90		
D	Fill in and ram selected backfill materials around trench.	CM	40		
	Trench bed & wall				
E	50mm plain concrete(1:4:8) blinding on cable trench bed 1.5m wide	SM	72		
F	Ditto but 900mm wide	SM	48		
	Vibrated reinforced concrete class				
	20/20 1:2:4 as described in:				
G	In 150mm thick trench base	CM	16		
H	In 150mm thick retaining walls	CM	25		
	Steel form work to				
I	Sides of trench wall	SM	190		
J	150mm blockwalls permanent formwork on outer trench wall	SM	80		
	Steel reinforcement bars including tying bending				
	spacer blocks tying wires and fixing high tensile				
	bars to BS 4461				
K	Y 8mm in cable trench	KG	1385		
L	50x50x4mm m/s angles embedded on concrete trench edges	lm	200		
	1200x600mmx5mm thick chequered plate trench covers				
M	reinforced with 40x40mmx3mm thick SHS all round primed and apply 3 coats of first quality gloss paint.	NO	67		
N	Ditto but 600x600mmx5mm thick chequered plate trench covers	NO	100		
	Cable trays				
O	Alluminium perforated cable trays 1200mm x40mm complete with all bends,angle turn cleats and screws	lm	100		
P	Ditto but600mm x40mm complete with all bends,angle turn cleats and screws	LM	100		
	TOTAL THIS PAGE				

