

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
Item No.	Description	Unit	Qty	Rate	Amount (Kshs)
PRELIMINARIES					
Location and access to the Site					
A	The Chemosit 132/33 kv Substation is located along Kericho-Sotik Road at Ikonge Ngoina road junction. The bidder is advised to visit Site, to familiarize himself with the nature and position of the Site. No claims arising from the Contractor's failure to do site visit will be entertained.				
Pricing items of preliminaries					
B	Prices SHALL BE INSERTED against items of "preliminaries" in the tenderer's priced Bills of Quantities. The Contractor is advised to read and understand all preliminary items. The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all cost involved in complying with all the requirements for the proper execution of the whole of the Works in the Contract				
Prevention of Accidents, damage or loss.					
C	The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal system operation activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.				
Existing Services					
D	Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services. The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services, and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the Client.				
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
Safety Personnel					
A	Contractor should allow for a qualified Safety Officer conversant with Kenya Power contractors safety regulations for the entire contract period who will be responsible for receiving Daily Work Permits in daily basis The working hours shall be those generally given by the client in accordance with the safety regulations. No work shall start in the absence of the safety person having received permit to work from the relevant authorizing officer.	ITEM	1		
Insurance					
B	Allow for Insurance Cover for the proposed works and workers.	ITEM	1		
Site Security					
C	The Contractor shall be entirely responsible for the security of all the Works, stores, materials, plant, personnel, etc, both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.	ITEM	1		
Sign Boards					
D	The Contractor shall allow for provision to erect publicity, project details, directional, safety, etc sign boards, maintaining and later clearing away on completion of work such sign board. The positioning, the size, type of construction and lettering shall be to client's approval.	ITEM	1		
Power for the Works					
E	Allow for adequate Capacity Generator or apply for power connection on site for the supply of power for use for the works.	ITEM	1		
Approvals					
F	Allow a Provisional Sum of Kes. 1,500,000.00 for facilitation for project manager, project engineer, and project supervisors on communications and data for both electronic and print. (Allow markup as necessary)	ITEM	1		
Visitor's Book and Site Diary					
G	The Contractor shall keep on the Site a visitors' book for recording the names of all persons who visit the site for the purpose of the project. He shall also maintain on the Site a diary in which he shall record site activities on a daily basis and particularly any occurrence which bears on the progress of the Works in any way. The visitors' book and the diary shall be surrendered to the Client at the completion of the project or at any other time that he may be directed.	ITEM	1		
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
SWITCHYARD BALLASTING					
A	Scope existing ballast in the substation switchyard and heap for re-use as directed.	ITEM	1		
B	Excavate approx. 100mm thick deep on existing ground and cart away.	ITEM	1		
C	Supply and spread approved murrum/gravel, 150mm thick to make levels, compacted to 95% MDD to receive cleaned heaped ballast(m.s).	ITEM	1		
D	Prepare and apply an approved weedicide and herbicide to surfaces of compacted switching yard as per the Manufacture's written instructions and of 5 years and beyond guarantee.	M ²	5500		
E	Supply and lay 1000 gauge polythene or other equal and approved membrane laid on compacted switchyard ground and treated with welted laps of 200mm wide.	M ²	5500		
F	Clean the heaped 1" ballast and cartaway the debris.	ITEM	1		
K	Spread uniformly 75mm thick cleaned heaped 1" ballast on treated and membrane covered switchyard (m.s).	M ²	5500		
H	Supply and spread supplied 75mm thick uniformly and well graded 75mm thick ballast size; 30mm - 40mm, in switchyard.	M ²	5500		
132KV EQUIPMENT FOUNDATIONS					
I	Excavate foundation pits commencing from ground level and not exceeding 1.5m deep	M ³	65		
J	Ditto but over 1.5m but not exceeding 3.0m	M ³	15		
K	Extra -Over for excavating in all classes of rock	M ³	15		
L	Allow for all necessary plunking and strutting	ITEM	1		
M	Allow for disposal of general water by pumping, bailing or otherwise	ITEM	1		
N	Return, ram and fill selected excavated, and approved borrow materials around the foundations	M ³	44		
O	Load and Cart-Away surplus excavated materials from site to County Government Approved dumping site	M ³	71		
Blinding(Plain Concrete Class 15)					
P	50mm thick (1:3:6) Concrete blinding to pit bottoms	M ²	45		
Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:					
Q	Bases	M ³	12		
R	Stub columns	M ³	30		
S	15mm thick average to plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	M ²	17		
High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.					
T	D8-16mm	KG	1600		
Fair - Face Formwork to:					
U	To vertical sides of stub-Columns	M ²	150		
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
TRANSFORMER PLINTH					
A	Demolish the existing transformer plinths as directed in site approximately 50m ² each to recreate space for construction of the new ones, cart away the debris and make good the disturbed area.	ITEM	1		
B	Excavate transformer pit commencing from demolished level but not exceeding 1.5 metres deep	M ³	64		
C	Ditto but over 1.5m but not exceeding 3.0m	M ³	4		
D	Cart away from site surplus excavated materials to designate County dumping site.	M ³	68		
E	Plain concrete 50mm thick blinding 1:4:8 to footing	M ²	45		
<u>Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-</u>					
F	Base	M ³	21		
T	Pedestalls	M ³	13		
H	Cover slab	M ³	5		
I	Sump walling	M ³	15		
High Yield deformed Reinforcement Bars, to BS 4449 including cutting, bending, tying, fixing, and spacer blocks.					
J	D 8	KG	56		
K	D 12&10	KG	1746		
<u>Hardcore filling</u>					
L	Approved hardcore filling compacted to Engineer's approval	M ³	22		
M	50mm thick blinding to surface of hardcore with lean concrete	M ²	27		
N	1000 gauge polythene sheet	M ²	36		
O	15mm thick average to plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	M ²	36		
<u>Formwork</u>					
P	Vertical sides of pedestal walling	M ²	106		
Q	Vertical sides of sump walling	M ²	24		
	Vertical sides of top cover walling	M ²	7		
<u>Supply and fix fabricated GALVANIZED grating, of 50x50x3mm SHS framing filled with spaced 50x4mm thick flat bar welded vertically at 50mm centres, and with spacers size; 50x4mm thick, in between the welded flat bar to keep equal spacing uniformly as described;</u>					
R	Fabricated grating in 1.0x1.0m pices along sump perimeter	ITEM	2		
S	50x50x4mm angle line embedded in concrete sump walling to receive grating	LM	30		
T	Provide galvanized 150 x 75x6mm U Channels welded to triangular shape (2.0x1.0x1.8metres); placed in a D12 reinforced cage of size 1.8x1.8x1.8mm concrete stub; including excavation, backfilling, carting away, formwork and finishes, with the tip exposed above the concrete, including 50mm diameter hole drilled.	NO	2		
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
CABLE TRENCHES				
Cable Trenches (600x600mm deep)				
A	Excavate for cable trench 900mm wide and commencing from ground level not exceeding 1.5m metres deep.	M ³	54	
B	Load and cart- away excess excavated materials from site to County Government Approved dumping site	M ³	54	
C	50mm thick Plain concrete blinding (1:3:6)mix (Class 15/20 mm Aggregate)	M ²	90	
Vibrated reinforced concrete class 20/25 1:2:4 as described in:				
D	100mm thick trench bed	M ²	14	
E	150mm thick trench walls with fairly smooth face finish.	M ²	20	
Road Crossing				
F	Excavate trench across existing access road, approx. 7.0x 1.2x0.9mm deep and cart away the excavated materials.	ITEM	1	
G	Supply and lay 6No. lines of 150mm diameter UPVC class 41 ducts at road crossings.	LM	84	
H	50mm thick Plain concrete (1:3:6)mix (Class 15/20 mm Aggregate in:	M ²	15	
I	Concrete surround on laid UPVC ducts	M ³	7	
J	Cast and put in place precast concrete cable trench covers reinforced with D8 bars spaced at 100mm both ways with fair face finish on both sides. Size; (900x400x75mm) thick [Note: The concrete used for precast covers shall be Class 30]	NO	180	
K	Ditto but 1300x400x100mm thick.	NO	70	
L	Supply and fix 14 Gauge galvanized perforated steel cable trays; 300mm wide and 50mm deep including mounting on the trench on well secured hangers/support (ms) and all jointed by welds and banded as appropriate to client satisfactory.	LM	65	
M	Ditto but 500mm wide	LM	50	
N	Supply and fix steel fabricated cable tray support structure of 40x25x3mm thick; girth 900mm, to receive/support cable tray (ms) fixed with rowl bolts or welded on 150mm long M.S fish-tail inserts in the vertical sides of concrete cable trench wall at 1000mm centres and well primed with gloss primer paint and two coats of 1 st grade gunmetal gloss paint.	NO	70	
O	Ditto but girth 2000mm	NO	30	
High yielded steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.				
P	D 8 in cable trench 150mm centres both ways	KG	600	
Fair Face - Form work to:				
Q	Vertical sides of trench walls.(Internally and Externally)	M ²	300	
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
A	50mm thick average screeding in cable trench, sloping to drain run-off water including making outlet holes and supply and fix PVC outlet pipes.	M ²	130		
REFURBISHMENT OF EXSISTING CABLE TRENCH					
B	Rehabilitate existing cable trenches where applicable by hacking reinforced concrete to expose reinforcement and repair the cracked or worn out concrete to Engineer's satisfactory.	ITEM	1		
C	Provide and put in place (900x400x75mm) thick precast concrete cable trench covers reinforced with D8 bars spaced at 100mm both ways with fair face finish on both sides. [Note: The concrete used for precast covers shall be Class 30]	NO	330		
D	Ditto but (800x400x75mm)	NO	50		
E	Ditto but (700x400x75mm)	NO	280		
F	Ditto but (500x400x75mm)	NO	180		
Cable Ducts					
G	Supply and lay 150mm diameter CLASS 41 UPVC ducts as cable ducts	LM	90		
H	Ditto but 90° and 45° bends	NO	10		
I	Allow for chiseling 110mm diameter holes on masonry wall to receive PVC pipe for weep holes (ms)	NO	8		
J	100mm thick concrete (1:3:6) bed and surround to; 150mm diameter pipe, allowing for all necessary excavations and formwork.	LM	90		
Road Crossing(chequered plate)					
K	Remove the existing concrete covers on the road and cart away debris.	ITEM	1		
L	Make good the disturbed area on the road crossing cable trench.	ITEM	1		
M	Supply and fix 6mm Chequer plate trench cover size;400x900mm reinforced underneath with 50 x 50 x3mm SHS, 3000mm girth :	NO	20		
N	Prepare and apply undercoat of zinc chromate primer and two coats of gloss aluminium paint to all general metal surfaces.	M ³	30		
FENCING REHABILITATION					
O	Remove the existing chainlink wire fence, plain wire strands carefully and store for re-use.	ITEM	1		
P	Uproot the existing precast concrete fencing post and cart away the debris to designated county government dumping site.	ITEM	1		
Q	Excavate strip foundation and fencing posts pits commencing from ground level and not exceeding 1.5m deep and cart away the debris to designated county government dumping site.	M ³	70		
R	50mm thick (1:3:6) Concrete blinding to pit bottoms and strip foundation	M ²	157		
S	Mass concrete class 15mm aggregate mix (1:3:6) in:-column pits 600mm×600mm×1meter.	M ²	75		
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
A	225mm thick quarry natural stone bedded and jointed in cement and sand(1:3) mortar, including 20 gauge × 25mm hoop iron in every alternate course.	M ²	340		
B	15mm average thickness of render finish of stone walling.	M ²	640		
C	Allow for chieseling 110mm diameter holes on masonry wall to receive PVC pipe for weep holes (ms)	ITEM	1		
D	Supply and fix 110mm diameter 225mm long PVC ducts for weep holes, including provision of filter material on the open side.	NO	200		
E	Prepare and apply two coats of first grade bituminous paint.	M ²	340		
F	Supply and fix R.H.S 75×50×3mm fencing posts	NO	170		
G	Ditto but struts	NO	30		
A	Fix firmly the stored chainlink and plain strands	LM	460		
H	Provide 200×150mm high fair face plain concrete strip (1:3:6) mix to anchor the chainlink on natural stone wall (m.s).	LM	460		
	GATE				
I	Remove and secure the existing substation gate to prepare for raising the ground.	ITEM	1		
J	Excavate pits for gate coulumn commencing from ground levels and cart away the spoil.	M ³	8		
K	Plain concrete (1:4:8-20mm aggregates) in 50mm thick blinding for gate coulumn bases.	M ²	6		
L	Vibrated reinforced concrete class 20/20 (1:2:4/25) for gate coulumn bases	M ³	1		
M	Ditto but 400x400mm gate coulumn with fair face finish.	M ³	2		
N	Fair face formwork to sides of gate coulumn	M ²	8		
O	High yield mild steel reinforcement 8mm,12mm and 16mm bar including cutting, bending, spacers, tying wire and fixing to BS 4449 in, coulumn bases and coulumn	KG	340		
P	Fabricate and fix a primary substation gate as per the provided drawing No.	NO	1		
Q	Prepare and apply 1st grade gloss paint on metal surface of the gate.	M ²	29		
R	Ditto but silicone paint to concrete coulumn surfaces.	M ²	29		
	REFURBISHMENT OF EXSISTING CONTROL BUILDING				
S	Cut in existing wall to provide space for a window approximately 900mm×600mm,supply and fix a complete window in accordance of engineers satisfactoryand make good the disturbed area.	ITEM	1		
T	Refurbish lighting in the existing control room to working condition .	ITEM	1		
U	Supply and fix first grade emergency panic lock on the1500mm wide doors to client approval.	ITEM	1		
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
A	Rehabilitate the existing toilet,bathroom,urinal and make good	ITEM	1	
B	Create a 2m×2.5m entry access ramp	ITEM	1	
Painting works				
Prepare and apply three coats PVA matt vinyl emulsion paint : on				
C	Exsisting plasterd walls, columns and beams.	M ²	250	
D	Ditto but soffit of suspended slab	M ²	150	
Prepare and apply three coats first grade external quality paint : to				
E	Walls,Columns and beams	M ²	180	
Prepare and apply three coats bituminous paint : to				
F	Plinth area and edges of floor bed	M ²	70	
Prepare and apply gloss paint to general surfaces ;				
G	Steel doors; both sides measured	M ²	30	
Rainwater Goods				
H	Rehabilitate water gutters	ITEM	1	
I	Supply and fix 110mm diameter downpipe.	NO	6	
J	Ditto swan neck including, tightly secured with sandle clips at 750mm cenetres.	NO	2	
L	Ditto for shoe	NO	2	
Painting generally.				
L	Prepare and apply 2 coats of red oxide primer and apply 2 coats of alluminium finish on rainwater goods	M ²	1	
M	Prepare and apply two coats black bituminous paint in rainwater gutters internally.	M ²	55	
DRAINAGE WORKS				
N	Rehabilitate existing drainage to have a smooth flow to the substation road drainage approx. 145 metres.	ITEM	1	
O	Excavate, cut and shape in a V formation storm drainage.	M ³	280	
P	Load and Cart-Away surplus excavated materials from site to County Government Approved damping site.	M ³	280	
Q	Allow for all necessary plunking and strutting.	ITEM	1	
R	Allow for disposal of general water by pumping, bailing or otherwise.	ITEM	1	
S	Supply and spread approx.50mm thick selected wall compacted imported and approved murrum bed to receive inverted block drain.	M ²	375	
T	Supply and lay 400mm diameter (600mm×750mm×350mm) invert block drain. All jointed in 1:3 cement/sand mortar.	LM	500	
U	Supply and lay precast concrete paving block side slabs (600mm ×275mm×75mm). All jointed in 1:3 cement/sand mortar.	LM	6	
V	50mm thick Plain concrete blinding (1:3:6)mix (Class 15/20 mm Aggregate)	M ²	375	
W	Create 2No. bell mouth drainage outlets in 200mm thick stone walling including carting away debris, base and side concrete approximately 1.5m wide and 1.0m high wide.	ITEM	1	
X	Supply and fix fabricated grating to the bell mouth opening in wall opened for drainage out-lets.	ITEM	1	
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
ACCESS ROAD, DRIVEWAY & PARKING					
A	Excavate to 250mm deep commencing from stripped level and cart away to designated dumping area by the County Government.	M ³	45		
Filling					
B	300mm thick handpacked hardcore, filling leveled, well rammed and consolidated in 150mm thick layers	M ²	180		
C	50mm Thick quarry dust blinding on compacted hardcore (ms)	M ²	1680		
D	250 x 125mm High pre-cast concrete kerb bedded and jointed in cement and sand (1:4) mortar including 325x100mm thick mass concrete class 20/20 in foundation and haunching at the back, all necessary formwork and excavations.	LM	510		
E	Extra-over ditto for curved on plan to various radii	LM	90		
F	250 x 125mm High pre-cast concrete channels	LM	510		
G	Extra-over ditto for curved on plan to various radii	LM	90		
H	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid in herringbone pattern laid to slope on quarry dust (measured separately) and compacted	M ²	1500		
STEEL GALVANIZED STRUCTURES					
'SUPPLY ONLY' Fabricated Steel Structures for 66kV equipment including Bus Bars, Voltage and Current transformers, Surge Diveters, Post Insulators and Isolators. The steel structures shall be manufactured from hot-rolled structural steel sections of tensile strength of 430-460N/mm², yield strength of 255N/mm², density of 7860kg/mm² galvanizing thickness of >110 microns as per drawings attached including all welding and nuts and bolts connections, stiffener plates, washers, etc, including transport and delivery to site in well coded manner handed over to client ready for erection.					
Notes: 1) All Holes To Be 18mm diameter where applicable for M16 Bolts unless otherwise stated. 2) All Steelwork to Be Free From Rust, Rust, Dust Burrs E.T.C Then Galvanised By Hot Dip. Process, Thickness and Quality of Zinc Coating to Withstand Test of 729. 3) Assembly Bolts, Nuts and washers to Conform TO BSS 916 and the Quantity Supplied to Include 10% Spare Allowance. 4). Fabricators Are To Designate All Steelwork Items and Provide Erection Mark Plans.5) All Individual Steel Parts to Be Marked - KPLC					
I	CTs Structure; size 150x150x6mm thick SHS and 2.40m long - Approx. 180 Kgs each.	PCS	6		
J	NCTs Structure; size 150x150x6mm thick SHS and 2.40m long - Approx. 180 Kgs each.	PCS	2		
K	Isolator (Air break switch); size 150x150x6mm thick and 3.0m high; two-legged -Approx.500kg each.	PCS	4		
L	Busbar Structure 33KV -1.8Tonnes	UNIT	1		
M	Street light structures; size 100mm diameter x 6mm thick and 5.0m high; Approx.500kg each.	PCS	7		
N	Supply and fix all galvanized steel bolts min M25x600mm long Including poring anchoring holding in position and allowing for all bolts nuts washers and bottom plates.	No.	120		
O	Allow a provisional sum of Ksh.600,000.00 for factory visit, inspection and tests before, during and after, in workshop/factory fabrication and galvanization. All require tests shall be carried out by client Inspection Team/Engineers to Accept/Reject every process, Quality, Workmanship etc before delivery to site as specified in Technical Specifications for steel structures, including all facilitation/transport and communication for 6no.(CIT members ,PE,PM)-Allow necessary mark ups	ITEM	1		
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
CONTROL BUILDING				
SUBSTRUCTURES				
Excavations				
General excavations to include excavating in loam, clay, Black cotton soil, red soil or any soil which does not require ripping or use of compressor tools				
A	Excavate average 150mm deep to remove top soil and dispose.	M ²	290	
B	Excavate trenches for wall foundations: commencing from ground level and not exceeding 1.5 metres deep.	M ³	81	
C	Excavate pits for column bases	M ³	48	
D	Ditto over 1.5m deep but not exceeding 3.0m deep	M ³	10	
E	Ditto but cable trenches but not exceeding 1.5mm deep.	M ³	20	
F	Extra over excavation for excavating in hardrock all classes.	M ³	33	
Backfilling around foundations				
G	Backfill around foundation : selected excavated material : placed in 200mm thick layers : well watered and compacted to 98% MDD	M ³	55	
Disposal of Excavated Material				
H	Surplus excavated material : remove and deposit in spoil heaps on site	M ³	250	
Disposal of water				
I	Keep excavations free from all water by baling, pumping or otherwise	ITEM	1	
Planking and strutting				
J	Planking and strutting to sides of all excavations : keep excavation free from all fallen materials	ITEM	1	
Imported Hardcore				
K	Approved quarry stone hardcore : 450mm thick (overall) : hand packed and well compacted in 150mm thick layers	M ³	167	
Murram Blinding				
L	50mm Murram blinding to surface of hardcore	M ²	214	
Antitermite Treatment				
M	Chemical antitermite treatment to murram filling ; Dragnet 30% EC or equal and approved : provide 5 year guarantee	M ²	214	
50mm thick Blinding insitu Concrete : Class 15/25mm				
N	Strip foundations.	M ²	65	
O	Ditto but column bases.	M ²	32	
P	Ditto cable trenches	M ²	43	
Insitu concrete : class 25/20 : vibrated : reinforced in;				
Q	Strip foundations	M ³	13	
R	Column bases.	M ³	10	
S	Column stubs./footings	M ³	4	
T	Cable trenches bed	M ²	43	
U	Cable trenches walls	M ²	52	
V	150mm thick floor bed	M ²	223	
W	Ramp	M ³	3	
Mesh fabric reinforcement to BS 4483 : 200mm laps				
X	Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds	M ²	223	
High yield steel bar reinforcement to BS 44461 in Substructure.				
Y	D 8	KG	219	
Z	D 10	KG	436	
A1	D 12	KG	438	
B1	D 16	KG	556	
Fair face formwork : to				
C1	Vertical sides : column stubs	M ²	48	
A1	Ditto sides of cable trench walls	M ²	130	
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PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
A	Ditto but side of ramp	M ²	3	
A1	Vertical edge of ground floor bed	LM	42	
B	Extra-over for boxing size 400 x 400x600mm deep to form control panel grooves on 150mm thick concrete slab.	No	15	
	<u>Quarry natural stone bedded and jointed in cement and sand (1:3)mortar : 20 gauge x 25mm hoop iron in every alternate course</u>			
C	225mm thick Walling	M ²	136	
D	One layer 1000 gauge polythene sheet damp proof membrane : under beds : 300mm laps.	M ²	223	
E	Makes 100mm diameter holes on walling	No	3	
	Ditto 50mm diameter holes on walling	No	2	
X	Supply and lay 100mm diameter heavy duty PVC ducts as cable sleeves	LM	4	
G	Ditto but 50mm diameter	LM	4	
H	100mm Thick concrete (1:3:6) bed and surround to; 200mm diameter pipe, allowing for all necessary formwork.	LM	3	
I	6mm Chequer plate trench cover to 600mm wide trench of average size 700x800mm, welded to 25 x 25 x 3mm RHS a frame .	M ²	8	
J	Ditto but 1000mm wide trench	M ²	18	
K	Ditto but 900mm wide trench	M ²	20	
L	Ditto but 400x400mm control panel grooves.	M ²	3	
M	40x40x 3mm Angle frame set in fillet in concrete sides of open channel : 12mm Dia. Bar; 150mm long at 1000mm centres with fish tail ends cast into concrete	LM	80	
N	Prepare and apply undercoat of zinc chromate primer to all general metal surfaces.	M ²	113	
O	Ditto but two coats of gloss aluminium paint.	M ²	113	
P	Supply and fix 14 Gauge galvanized perforated steel cable trays; 300mm wide and 50mm deep including mounting on the trench on well secured hangers/support structure (ms) and all jointed by welds and bended as appropriate to client satisfactory.	LM	40	
Q	Ditto but two layers 600mm wide in 1000x 900mm deep cable trench	LM	40	
R	Ditto but two layers 600mm wide in 900x900mm deep cable trench	LM	40	
S	Supply and fix steel fabricated cable tray support structure in 1000mm and 900mm wide cable trenches, size, 40x25x3mm thick; girth 2200mm, to receive/support cable tray (ms) fixed with rowl bolts or welded on 150mm long M.S. inserts in the vertical sides of concrete cable trench wall at 900mm centres and well primed with gloss primer paint and two coats of 1 st grade aluminium gloss paint.	NO	50	
T	Ditto but girth 1000mm in 600m wide trench	NO	38	
U	Provide 50x50x3mm angle iron embeded on the edges of cable trench with 10mm long insertion to receive chequer plate covers(ms)	LM	92	
CONCRETE IN SUPERSTRUCTURE				
In situ concrete: class 25/20 : vibrated reinforced in;				
V	Columns	M ³	8	
W	Ring beams	M ³	14	
X	Lintels	M ³	1	
Y	Ditto but 150 mm thick suspended slab	M ²	252	
Z	High yield deformed bar reinforcement in beams and suspended slab to BS 44461, including, cutting, bending,tying wire and spacer blocks;			
A1	D 8	KG	888	
B1	D 10	KG	1771	
C1	D 12	KG	97	
D1	D 16	KG	1920	
TOTAL CARRIED TO SUMMARY PAGE				

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
WALLING				
Fair face formwork : to				
A	Vertical sides of columns	M ²	106	
B	Sides and soffits of Ring beams	M ²	122	
C	Ditto : lintels	M ²	11	
D	Ditto: soffits suspended slab	M ²	220	
E	Ditto: sides of suspended slab	LM	42	
<u>Machine cut natural stone blocks or other equal and approved building blocks: minimum compressive strength 7N/mM2 : regular coursed walling of uniform colour : bedded and jointed in cement and sand (1:3) mortar : 20 gauge x 25mm hoop iron in every alternate course</u>				
G	200mm Walling	M ²	430	
<u>Damp proof courses ; bituminous felt : bedded in cement mortar (1:4) : 300mm laps</u>				
H	Horizontal : 200mm wide	LM	109	
WINDOWS				
<u>Aluminium</u>				
<u>Medium duty anodized aluminium windows complete with all necessary framing, million, transome, mosquito proofed hooded permanent vents, all necessary pegs, prime, quality handle, pointing with approved mastic sealant all round, 6mm thick laminated glass</u>				
I	Window overall size 1200 x 1500 mm high; 2No. Sliding leaves	NO	14	
J	Ditto but size 0.6 x 0.9m high	NO	2	
<u>Burglar proofing</u>				
K	12mm Diameter round mild bars welded to each other at 150mm centres both ways with every alternate bars welded to window frames (m.s)	M ²	28	
<u>Window Cills</u>				
L	200 x 150 x 30 mm thick concrete window cill with one curved edge including bedding and pointing in cement and sand mortar (1:3) mortar	LM	21	
M	Prepare and apply two coats of brick red paint	M ²	26	
DOORS				
<u>Steel Doors</u>				
<u>Supply and fix the following purpose -made steel doors, including fixing lugs, once shop primed with one coat red oxide primer before delivery to site, complete with frames and including all ironmongery to Client approval and as per Door drawing: SK NO. 06449</u>				
BAT AND INSECT PROOFING				
<u>Mild steel Bat and insect proofing screens panels in louver opening, including 13 x13 x 3mm flat frame in panels; welded one face with and including coffee tray gauge wire mesh: one shop coat red oxide primer : to</u>				
N	Double leaf door overall size 2000 x 3000mm high	NO	2	
O	Ditto but Single leaf door overall size, 1200 x 2500mm high	NO	1	
P	Ditto but Single leaf door overall size, 1000 x 2500mm high	NO	4	
<u>Aluminium Door</u>				
Q	Medium duty aluminium door overall size 1000 x 2500mm high complete with locking devices and housing on top all to Client's approval.	No	6	
RS	Supply and fix first grade emergency panic lock on the 1200mm wide doors to client approval.	NO	1	
T	Prepare and apply gloss paint to general surfaces ; steel doors; both sides measured	M ²	54	
TOTAL CARRIED TO SUMMARY PAGE				

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
FINISHES				
Floor finishes				
Cement and sand (1:4) trowelled screeds : on concrete : to				
A	25mm Floor screed to receive terazzo including plastic diving strips	M ²	223	
Polished Terrazzo Floor Finishes on concrete				
B	30mm thick terrazzo floor finish	M ²	223	
C	Ditto 25mm thick Skirting 150mm high:	LM	200	
Wall finishes				
12mm lime plaster in two coats : steel trowelled finish : on concrete or blockwork : to				
D	Walls and columns	M ²	633	
Prepare and apply three coats PVA matt vinyl emulsion paint : on				
E	Plastered walls, columns and beams.	M ²	633	
F	Ditto but soffit of suspended slab	M ²	228	
G	200 x 300 x 4mm Thick glazed ceramic wall tiles : fixed with approved quality adhesive in accordance with the manufacturers instructions : on and including 12mm thick cement and sand screed backing : jointed, pointed and grouted in matching colour coloured cement grout and Plastic corner strips to edges of tiled surfaces	M ²	35	
H	Key pointing in cement sand (1:3) in horizontal joints.	M ²	274	
I	Plinth walls and edges of floor bed	M ²	35	
Prepare and apply three coats first grade external quality paint : to				
J	Columns and beams	M ²	7	
Prepare and apply three coats bituminous paint : to				
K	Plinth area and edges of floor bed	M ²	35	
PAVING SLABS				
L	150mm thick Hardcore bed : deposited, spread, levelled and compacted : to receive sand bed(ms)	M ²	89	
M	50mm Sand bed : levelled and compacted to receive paving slabs	M ²	89	
N	50x 600 x 600mm precast concrete (class 20) paving slabs : laid on sand bed (ms) : jointed and pointed in cement mortar (1:4)	M ²	89	
KITCHEN				
O	100mm thick 1:2:4 concrete in kitchen work top	SM	2	
P	Y 10 reinforcement bars at 150 centres	KG	25	
Q	150mm block wall	M ²	3	
R	12mm thick mix 1:3 cement sand plaster	M ²	6	
S	Single drain single bowl stainless approved kitchen sink	NO	1	
T	Bricon or approved kitchen mixer tap	NO	1	
U	900x600mm wide 20mm thick MDF board bottom cabinets comprising of 2No. Cabinets, 4No. Drawers including fixing, mouver hinges, rails, handles and approved finishes.	ITEM	1	
V	Ditto in locable overhed cabinets but with 3No. open shelves	ITEM	1	
W	10mm thick granito tiles finishes on the kitchen work top fixed with approved quality adhesive in accordance with the manufacturers instructions : on and including 12mm thick cement and sand screed backing : jointed, pointed and grouted in matching colour coloured cement grout and alluminium corner strips to edges of tiled surfaces	M ²	2	
TOTAL CARRIED TO SUMMARY PAGE				

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
DRAINAGE AND PLUMBING WORKS					
	<u>To supply and install the following Sanitary fittings including all the necessary joints to service overflow and waste pipes, jointings and motices, plugs, screws bolts and making good. Sanitary Fittings will be to Client's approval of the relevant samples</u>				
A	Approved Standard white countertop wash hand basin size: 585x430mm on with one center tap hole and a 2 nd RHS tap hole for Basin top mounted under counter soap dispenser .Cobra single lever mixer tap with pop up waste: and plastic bottle trap 32mm dia with seal.	NO	2		
B	Approved standard WC white wall concealed cistern white seat & cover unit to have short siphon internal overflow and wide mouth WC P-trap waste outlet.	NO	2		
C	Stainless steel toilet roll holder with top flap cover.	NO	2		
D	Stainless Steel basket soap dish size 200x150mm.	NO	2		
E	Approved standard hand drier with infrared sensor and DP Switch with wiring	NO	2		
F	Aluminium coat/towel hook complete with screw to wall fixtures and rubber door stopper	NO	2		
G	Approved standard basin mounted push action stainless steel liquid soap dispenser with 0.5 litre under counter soap holder.	NO	2		
H	"Bevelled" Mirror to Client's approval fixed on wall with chrome plated dome headed screws. Mirror size 600 x 800mm high	NO	2		
Internal Plumbing Water Suddlv					
I	To supply & install PP-R (PN 20) stable tubing (pipes) of various size a necessary and tenderer must allow for jointing, clipping reducers' couolina, bends, reducers, tees, sockets, approved gate valves, flexible connectors floor traps, angle valves etc. necessary for the proper and satisfactory functioning of the installation when pricing.	ITEM	1		
FIRE FIGHTING EQUIPMENT					
	<u>Supply and fix controlled 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: Charge and fixing bracket, Pictorial instructions, Colour code, Servicable on site, Brass hot stamping and Operating valve as described</u>				
J	9 litres forme fire extinguisher complete with re-fills, discharge horn and fittings to wall bracket, as manufactured by Angus or equal and approved.	No.	6		
K	9Kg dry powder multi-purposed fire class A'B and C as manufactured by Angus Fire Armour ABC multi-purpose model AP 9 K or equal and approved.	No.	6		
L	Fire blanket in canvas as Angus Fire Armour	No.	1		
M	5Kg Co2 Powder Fire Extinguisher as Angus Fire Armour.	No.	6		
SMOKE DETECTORS					
N	Allow for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor	ITEM	1		
O	Allow for general attendance on specialist contractor	ITEM	1		
P	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		
TOTAL CARRIED TO SUMMARY PAGE					

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING					
ELECTRICAL INSTALLATIONS WORKS					
A	Allow for electrical installations to be carried out by a nominated sub-contractor as per electrical Drawing No SK No. 08280/B Sheet 1C - lumpsum and to comprising the following ,1No. 12 way 3-phase 415V distribution board rated 100Amps complete with 3 phase MCBS, 32Amps -2set and six 1Phase way MCBS 16Amps.	ITEM	1		
B	Ditto 1No. Consumer unit rated 60Amps , 6 ways each MCBS rated 32 and 16Amps.	ITEM	1		
SUBSTATION LIGHTING					
C	Supply 6 No. approved standard street light steel posts,300W, LED Floodlights fittings complete with control gear and lamps complete with wiring in twin with earth 2.5mm ² wiring to each lamp including post foundations, 1No. 6 ways consumer unit, 2No. 40A double pole contactor, 3No.15A miniature circuit breakers, 1No, 40A current operated earth leakage circuit breaker with rated leakage current of 0.5A, 2No. dawn to dusk timer switch with manual overriding switch for the street lights	ITEM	1		
D	Earthing comprising of 6.0mm ² earth lead and 1500mm long by 15mm diameter copper earth electrode with driving tip and clamp in a 300mm by 300mm concrete manhole with removable cover, 1No. 63A MCB with enclosure,	No.	1		
E	10.0mm ² x 2core PVC/SWA/PVC copper cable to connect power from the gate house to the respective lighting posts including cable glands to terminate the underground cable	LM	160		
F	Trenching, cable laying, ducting and back filling	LM	160		
G	Ditto but at the gate pillars approved standard.	NO	1		
H	Supply and fix emergency chargeable lights in the control room to client approval.	NO	4		
Fumes Extractor Fan					
I	Supply and fix 450x450mm extractor fan in the battery room including the wiring accessories.	NO	1		
Door Bell					
J	Supply, install, test and commission door bell between the controller room and gate house including all the necessary wiring accessories.	ITEM	1		
ROOFING & RAINWATER DISPOSAL					
Structural Steel work					
<u>The following in framed structural steelwork : complete with and including all welded and bolted connections : delivery to site and erection with and including one shop coat of zinc plumbate primer</u>					
K	7 No. structural steel roof trusses spanning 10500 mm girth : hoisting and fixing approximate 4.5 M above ground level :				
L	100 x 50 x 4 mm thick RHS rafters	LM	85		
M	50 x 50 x 3 mm SHS tie beam	LM	72		
N	50 x 50 x 3 mm SHS struts and ties	LM	121		
O	150 x 150 x 6 mm thick base plate welded to truss : drilled with 4No. holes for 12 mm diameter bolts	No	14		
P	Supply and fix 150x51x2mm 'Z' - purlins with welded cleats and bolted to rafters primed	LM	205		
Q	Fabricate steel framework comprising of SHS 40x40x3mm thick to form vertical fascia cladding, comprising of vertical and horizontal members, bracings, struts runners all adequately and including fixing into position in to client satisfaction.	LM	310		
R	Supply and fix BP760 box profile factory pre-painted gauge 28 full length roofing sheets to an approved colour laid with 94mm side laps and fixed to steel 'Z' purlin (m/s) including self tapping screws/bolts as necessary.	M ²	328		
TOTAL CARRIED TO SUMMARY PAGE					

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
A	Ditto but vertical sides of fascia cladding framework and gable sides	M ²	90	
B	Ditto but eave covering	M ²	38	
C	Supply and fix 28Gx320mm with stiffed ridge caps	LM	26	
Rainwater Goods				
D	Supply and fix 14 gauge Stainless sheet purpose made box water gutter, 1200mm girth; to sit and fixed on eave cover framework as described (ms) and to rafters	LM	52	
E	Extra over for stopped ends.	NO	4	
F	Ditto 100mm diameter holes in gutter	NO	4	
G	100mm diameter down pipe	LM	16	
H	Extra-over down pipe for 900mm girth swanck including, tightly secured with sandle clips at 750mm centres.	NO	4	
I	Extra over downpipe for 300mm shoe	NO	4	
EXTERNAL WORKS				
Gound Mounted Water Tank Plinth				
J	Excavate Pit for water tank not exceeding 1.50 metres deep	M ³	8	
K	Remove surplus excavated material from site	M ³	7	
L	Return fill and well ram selected excavated materials around foundations	M ³	1	
Concrete work:-				
50mm thick plain blinding concrete mix (1:4:8) class 10-15mm				
aggregates in:-				
M	Foundations	M ²	10	
Guaranteed strength vibrated reinforced concrete mix (1:11/2:3) class 25-20mm aggregate in:-				
	Base.	M ³	3	
N	Ditto but curved 250mm thick walling	M ²	2	
O	Ditto but curved 300mm thick top cover	M ³	2	
Reinforcements				
High yield deformed bars to B.S. 4461				
P	D 8	KG	31	
Q	D 12	KG	635	
Wrot Formwork to:-				
R	Curved base 225-300mm high	M ²	11	
S	Curved edges of walling	18	18	
Fillings				
T	Approved hardcore of 100-200mm diameter fillings	M ³	4	
ELEVATED WATER STORAGE TANK STEEL TOWER				
U	Excavate for column pits 1.5m deep commencing from stripped level but not exceeding 1.5 m deep.	M ³	6	
V	Extra over excavation in rock of all classes.	M ³	2	
W	Remove surplus excavated material from site	M ³	4	
X	Return fill and well ram selected excavated materials around foundations	M ³	2	
Y	50mm thick 1:4:8 blinding to column bases	M ²	4	
Vibrated reinforced concrete class 20/20 1:2:4 as described in:				
Z	Colomn bases	M ³	1	
A1	Stubs	M ³	1	
High Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 44461				
B1	D 12	KG	104	
C1	D 8	KG	18	
D1	Allow for accurately setting 16 No. 20mm diameter galvanised steel foundation bolts at 250mm centres on foundation column plinths.	ITEM	1	
S	Fair face formwork to sides of columns	M ²	2	
E1	Bases	M ²	5	
F1	Vertical sides of stub	M ²	7	
TOTAL CARRIED TO SUMMARY PAGE				

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
A	10mm thick top finish of cement/sand screed	M ²	4	
	<u>The following in steel work tower 2000x2000mm wide x6000m high fixed 1500mm deep in ground including cutting and welding or bolting as necessary finished, with 3 coats of red oxide primer</u>			
B	300 x 300 x 10mm thick base plate with 4no. 18mm diameter holes spaced at 250mm centres and welded to the bottom of tower column	NO	4	
C	100x100x8mm mild steel SHS in main framework, welded to base plates and reinforced with 32No. Cleats	LM	24	
D	Ditto decking 100x50x6mm RHS	LM	11	
E	Ditto decking 100x50x4mm RHS	LM	22	
F	Ditto (50x50x6mm) in bracing and struts	LM	68	
G	Class A 42mm diameter balustradings	LM	12	
H	Ditto but handrail and cross member	LM	22	
I	4mm thick galvanised chequered plate welded on decking	M ²	8	
J	Allow for water storage tank 6.0m high access ladder with 50x50x4mm main frame with 16mm rods spaced at 300mm c/c	ITEM	1	
K	Apply two coats of gloss paint to tower	Item	1	
L	Supply and install 3500 litres capacity APPROVED PLASTIC TANK including hoisting to position and applying two coats of brilliant white gloss paint on its outer surface	NO	1	
M	Ditto but 6000 litres placed on concrete water tank plinth (separately measured)	NO	1	
N	Allow for connecting piped water to both elevated storage and ground mounted water tanks using 25mm PN20 pipes including accessories, gate valves, foot valves, non-return valves	ITEM	1	
O	Supply and connect water control fittings including fully installed 0.5hp booster pump.	ITEM	1	
P	Prepare apply two coats of zinc chromate paint to general surfaces of metal	ITEM	1	
	FOUL DRAINAGE			
	Septic Tank : 1No.			
	Excavation and Earthworks			
Q	Excavate pit for Septic Tank depth not exceeding			
R	1.50 metres deep commencing from reduced level	M ³	26	
S	Ditto between 1.50m-3.00m deep	M ³	25	
T	Extra-over ditto for excavating in rock	M ³	17	
U	Remove surplus excavated material from site	M ³	68	
	Concrete Work:-			
	Mass concrete mix (1:3:6) class 10-15mm aggregate in;			
V	50mm Thick blinding laid to slope not exceeding 15 degrees from horizontal	M ²	17	
	Guaranteed strength vibrated reinforced concrete mix (1:11/2:3) class 25/20mm aggregate in:-			
W	200mm Thick base	M ²	18	
X	100mm Thick baffles to walls	M ²	5	
Y	150mm Suspended slabs	M ²	18	
Z	150mm Benching to form channels	M ²	1	
A1	200mm Thick walls	M ²	54	
	Reinforcement			
	High yield square reinforcement bars to B.S. 44461			
B1	Assorted bars	KG.	335	
	BRC Ref. type A193 including 200mm laps in:-			
C1	Floor bed	M ²	18	
D1	Walls and baffles	M ²	6	
	Wrot formwork to:-			
E1	Horizontal soffits of suspended slabs	M ²	18	
F1	Vertical sides of baffles walls	M ²	10	
G1	Edges of suspended slab 75-150 mm high	LM	18	
	TOTAL CARRIED TO SUMMARY PAGE			

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
A	Vertical edges of beds over 75-150mm high.	LM	20	
B	Extra-over boxing size 600 x 450mm to form opening through 150mm thick reinforced concrete slab	NO.	2	
C	Ditto size 600 x 800mm ditto	NO.	2	
12mm Water proofed cement and sand (1:3) render: steel trowelled smooth to:-				
D	Base	M ²	18	
E	Suspended slab	M ²	18	
F	Walls	M ²	54	
Manhole Covers				
G	Cast iron medium duty manhole cover and frame size 600 x 450mm to B.S 497: frame set into cement and sand ((1:4) mortar: cover set in grease	NO.	2	
H	Ditto size 600 x 800mm ditto	NO.	2	
Step Irons				
I	200mm Wide galvanised step iron: twice bent and morticed into concrete walls	NO.	8	
Class 41 PVC soil water vent pipes built into concrete				
J	100mm Diameter pipes 200mm long.	NO.	1	
K	Extra for bend with mosquito gauze soldered on	NO.	2	
L	Extra for equal tee	NO.	1	
M	Extra for nipple	NO.	2	
N	Extra for flange	NO.	1	
O	150mm Diameter stand pipe 800mm long	NO.	2	
GATE HOUSE & TOILETS				
SUBSTRUCTURES				
Site Preparation				
Excavations				
General excavations to include excavating in loam, clay. Black cotton soil, red soil or any soil which does not require ripping or use of compressor tools				
P	Excavate average 200mm deep to remove top soil: deposit heaps where directed on site for landscaping.	M ²	12	
Q	Excavate trenches for wall foundations: commencing from reduced level and not exceeding 1.5 metres deep	M ³	16	
R	Extra over excavation for excavating in hardrock all classes.	M ³	3	
Filling				
S	Filling to make up levels : selected excavated material : placed in 200mm thick layers : well watered and compacted to 98% MOD	M ³	5	
Backfilling around Foundations				
T	Backfill around foundation : selected excavated material: placed in 200mm thick layers : well watered and compacted to 98% MDD	M ³	4	
Disposal of excavated materials				
U	Surplus excavated material: remove and deposit in spoil heaps on site	M ³	8	
Disposal of water				
V	Deep excavations free from all water by baling, pumping or otherwise	Item	1	
Planking and strutting				
W	Planking and strutting to sides of all excavations: keep excavation free from all fallen materials	Item	1	
Imported Hardcore				
X	Approved quarry stone hardcore : 300mm thick (overall) : hand packed and well compacted in 150mm thick layers	M ³	3	
TOTAL CARRIED TO SUMMARY PAGE				
Murram Blinding				
A	50mm Murram blinding to surface of hardcore	M ²	9	
Insitu Concrete : Class 15/25mm				
B	50mm Blinding layer : under wall foundations	M ²	11	
Insitu concrete : class 25/20 : vibrated: reinforced				

PROPOSED CIVIL & BUILDING WORKS FOR CHEMOSIT 132/33 KV SUBSTATION UPRATING				
C	Foundations in trenches	M ³	2	
	High yield square twisted bar reinforcement to BS 4461			
D	D10 bars	kg	59	
	Sawn formwork : to			
E	Ditto : strip foundations	M ²	7	
F	Vertical edge of floor bed : over 150 but not exceeding 225mm wide	LM	36	
	Quarry natural stone bedded and jointed in cement and sand (1:3) mortar : 20 gauge x 25mm hoop iron in every alternate course			
G	200mm thick substructure Walls	M ²	27	
	Labour and sundries			
H	One layer 1000 gauge polythene sheet damp proof membrane ; under beds ; 300mm laps	M ²	9	
	CONCRETE SUPERSTRUCTURE			
	In situ concrete : Class 25/20mm : vibrated : reinforced			
I	Ring beams	M ³	1	
	High yield deformed bar reinforcement to BS 4461			
J	D 12	KG	60	
K	D 8	KG	30	
	Fair face formwork : to			
L	Sides and soffits: beams	M ²	13	
	WALLING			
	Medium chisel dressed natural stone blocks or other equal and approved building blocks: minimum compressive strength 7N/mM2: regular coursed walling of uniform colour : bedded and jointed in cement and sand (1:3) mortar : 20 gauge x 25mm hoop iron in every alternate course			
M	200mm Walling	M ²	40	
	Damp proof courses : bituminous felt: bedded in cement mortar (1:4) : 300mm laps			
N	Horizontal: 200mm wide	LM	14	
	ROOFING			
	Structural Steel work			
	The following in framed structural steelwork : complete with and including all welded and bolted connections : delivery to site and erection with and including one shop coat of zinc plumbate primer			
O	3No. structural steel roof trusses spanning 2200 mm girth : hoisting and fixing approximate 3.0 M above ground level :			
J	50x 50 x 4 mm thick RHS rafters	LM	12	
K	40 x40 x 3 mm SHS struts and ties	LM	13	
L	50 x 50 x 3 mm SHS tie beam	LM	7	
M	100 x 100 x 6 mm thick base plate welded to truss : drilled with 4No. holes for 12 mm diameter bolts	NO	6	
N	Supply and fix 150x51x2mm 'Z' - purlins with welded cleats and bolted to rafters primed	LM	30	
O	Fabricate steel framework comprising of SHS 40x40x4mm thick to form vertical fascia cladding, comprising of vertical and horizontal members, bracings, struts runners all adequately and including fixing into position in to client satisfaction.	LM	78	
P	Supply and fix BP760 box profile factory pre-painted gauge 28 full length roofing sheets to an approved colour laid with 94mm side laps and fixed to steel 'Z' purlin (m/s) including self tapping screws/bolts as necessary.	M ²	24	
	TOTAL CARRIED TO SUMMARY PAGE			

