

ENGINEERING SERVICES

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>SITE CLEARANCE</u>				
A	Search and excavate for termite nest and remove queen out and hand over to supervising officer for record and treat the surface of excavation with anti-termite solution consisting one part Termidan to fifty parts of water to be applied as specified in the general specification.	item			
B	Clear area of plots of all grass, shrubs and trees of less than 150mm girth.	32491	m ²		-
	Site clearance total carried to summary				-
			1		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>ROADS AND STORM WATER DRAINAGE</u>				
A	Clear area of road reserve including removal of natural and artificial articles, grass, shrubs and and tress of less than 300mm girth.	12976	m ²		-
B	Strip the soil in line of roads average 100mm thick, including stacking on site, filling in low areas all as specified and as directed by the Engineer.	5061	m ²		-
C	Extra over for excavating in hard rock which can not be removed by a bull dozer and where the Engineer approves blasting (provisional)	79	m ³		-
D	Ditto-do- but using pneumatic tools.	66	m ³		-
E	Backfill with selected excavated materials in layers not exceeding 150mm thick (provisional)	1947	m ³		-
F	Trim to formation level, average 75mm thick to roads and roll. Allow for dressing to camber to achieve a density of not less than 95% modified AASHO.	5061	m ²		-
G	Provide and spread water and compact 159mm thick bed of laterite as described base course, rolled and compacted to falls and camber to provide a density of not less than 98% modified AASHO.	5061	m ²		-
H	Excavate shallow trenches for 'V' drains 600mm wide x 200mm average depth along roads. Bottom graded to falls, get out part, back fill and level surplus earth on site as directed.	347	m		-
J	Excavate trenches to form " T " drains (trapezoidal drains) along roads average cross section area one square meter varying in depth from 450mm to 1.5m.	670	m		-
K	Extra over for excavating in hard rock including the use of pneumatic tools. (provisional).	34	m ³		-
L	Ditto-do- but involving blasting (provisional)	16	m ³		-
	Total to collection.				-
			2		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>Stormwater drainage cont'd</u>				
A	Excavate for culverts and catch pits not exceeding 1.5m deep get out, part return, fill, water and ram and cart away surplus materials to tips on site as directed by the Engineer.	5	m ³		-
B	Extra over for excavating in hard rock where blasting is required. (provisional)	1	m ³		-
C	Splash pads on access roads all as specified and detailed.	5	No.		-
D	Provision for jointing of 450mm diameter x 7.20 m long class " X " reinforced spun concrete culvert,laying in trenches and back filling and complete with concrete block head walls plastered both sides and painted with lime wash all as specified.	12	No.		-
E	150mm Stone pitching to "T " drains all as specified and to grades average C.S.A. 0.50 square meter as directed by the Engineer.	72	m ²		-
	Total to collection.				-
	<u>COLLECTION.</u>				
	Page 2				
	Page 3				
	Roads and water storm drainage total carried to summary.				-
			3		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>SEWER RETICULATION (Provisional)</u>				
	<u>Preamble</u>				
	<u>Excavate in earth for sewer trenches and get out. Price to include for dealing with under ground and surface water, provision of pump sets, shoring and strutting, back filling ramming and removal of surplus excavated materials to a place of deposit (distance not exceeding 4 km)as directed by the Engineer.</u>				
A	Trenches for 150mm nominal diameter A/C sewer pipe to depth not exceeding 1.5m from existing ground level.	100	m		-
B	Ditto to depth exceeding 1.5m but not exceeding 2.0m -do.	127	m		-
C	Ditto to depth exceeding 2.0m but not exceeding 3.0m -do.	196	m		-
D	Extra over for excavating in hard rock where blasting is required in line of sewer as approved in writing by the Architect / Engineer (irrespective of depth) get out segregate loose soil from rock, load and dispose rock to places directed by the Architec / Engineer.	64	m ³		-
E	Ditto - do- for soft rock using pneumatic tools. (provisional)	30	m ³		-
F	Excavate in pits for manhole,backdrops etc not exceeding 1.5m deep, get out part return fill and ram including all necessary form work as described.	5	m ³		-
G	Ditto depth exceeding 2.0m but not exceeding 3.0m-do.	31	m ³		-
H	Extra over for excavating in haed rock using pneumatic tools.	5	m ³		-
	Total to collection.				-
			4		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>Sewer reticulation cont'd</u>				
	<u>Supply, lay, joint and test complete A/C pipe to required gradients and levels all as specified including preparing bed to trench with granular materials to support the whole length of pipe and building in pipe at man holes all as described.</u>				
A	150mm Diameter A/C pipe.	423	m		-
B	Extra over for providing and placing 150mm thick concrete surround to pipe work where directed.	item			
	<u>Supply materials and construct solid block work manholes 1.20m x 0.70m internal diamensions, grade 20/20 concete base, concrete bedding including channel formation, build in pipe (pipe measured seperately). 15mm rendering to walls finished smooth with wood flout,medium duty iron cover and frame (total weight 40kg all as described.</u>				
C	Manhole with depth exceeding 1.50m but not exceeding 2.0m.	4	No.		-
D	Manhole with depth exceeding 2.0m but not exceeding 3.0m.	4	No.		-
E	Allow for breaking into existing manhole 150mm dia A/C sewer pipe including all necessary excavations,dealing with existing flow and all works to the bedding etc to the entire satisfaction of the Engineer.	item			
F	Extra over for excavating in existing roads and making good disturbed work including giving notices,fees and signs as required by law all as described.	item			
G	Allow for testing as described and leave the same in a perfect working order and make good all disturbed works to entire satisfation of the Architect / Engineer.	item			
	Total to collection.				-
			5		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>Sewer reticulation cont'd</u>				
	<u>COLLECTION</u>				
	Page 4				
	Page 5				
	Sewer reticulation total carried to summary.				-
			6		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>WATER RETICULATION (Provisional)</u>				
A	Excavate in trenches for 100mm diameter A/C pressure water pipe average depth 1.0m get out part return, fill, ram, curaway to places directed by the Archtect / Engineer all as described.	475	m		-
B	Provide,lay and joint 100mm dia A/C pressure pipe class C including trimming bed of trenche and supporting pipe all as described.	475	m		-
C	Provide and fix 100mm diameter cast iron sluice valve complete with valve box, marker post and plates all as described.	6	No.		-
D	Provide and fix 100mm Diameter cast iron screw down fire hydrant complete with hydrant chamber marker post and plates all as described.	2	No.		-
E	Ditto but for 150mm x 150mm x 100mm Cast iron tee.	1	No.		-
F	Ditto but for 100mm x 100mm x 100mm Cast iron tee.	6	No.		-
G	Ditto but for 100mm x 90 Pressure bend.	1	No.		-
H	Supply and fix cast iron saddle to 100mm A/C pipe.	9	No.		-
J	Drill saddle and fix 19mm barrel nipple to 100mm A/C pipe.	9	No.		-
K	Extra over for providing 19mm galvanised tee.	9	No.		-
L	Extra over for providing 19mm galvanised bend.	1	No.		-
M	Extra over for 100mm diameter end cap.	1	No.		-
N	Provide concrete thrust block to all bends, tees end caps etc including any necessary excavation and formwork as described.	item			-
P	Provide 100mm diameter steel sleeves to 100mm A/C pipes.	3	No.		-
	To collection				-
			7		

ITEM	DESCRIPTIONS	QTY	UNIT	RATE	AMOUNT
	<u>Water reticulation cont'd</u>				
A	Extra over for excavating in hard rock which require the use of pneumatic tools.	17	m ³		-
B	Allow for testing the entire pipe work to the satisfaction of the Engineer.	item			
C	Allow for disinfecting the entire pipe work to the satisfaction of the Engineer.	item			
	To collection.				-
	<u>COLLECTION</u>				
	Page 7				
	Page 8				
	Water reticulatio total carried to summary.				-
	<u>SUMMARY</u>				
	SITE CLEARANCE				
	ROADS AND STORM WATER DRAINAGE				
	SEWER RETICULATION				
	WATER RETICULATION				
	Add Ps & Gs.			5%	-
	Add Contingency.			10%	-
	Add V.A.T				-
	TOTAL COST OF WORKS.				-
			8		

NAME OF TENDERER.....

BILLS OF QUANTITIES (All Provisional)

FOR

ENGINEERING SERVICES

FOR

17 No. HIGH COST SERVICED PLOTS

AT

IBEX HILL LUSAKA

FOR

**NATIONAL HOUSING AUTHORITY
P.O BOX 50074
LUSAKA.**

TEL: 251311

JULY,2006

BILL OF QUANTITIES

FOR

ENGINEERING SERVICES.

AT

IBEX HILL

FOR

**NATIONAL HOUSING AUTHORITY
P.O BOX 50073
LUSAKA.**

The agreement of building contract entered into on the date of the signature of the undersigned parties includes this priced Bill of Quantities consisting of pages from 1 to 8 inclusive, prepared in accordance with Engineering drawings and collateral and any further drawings that may be supplied and shall be read and construed as part of the contract.

Employer.....

Contractor.....

Date.....

Date.....

Signature of witness.....

Signature of witness.....

Name and address.....

Name and address.....

.....

.....

.....

.....