



# COUNTY GOVERNMENT OF KIAMBU

LANDS, HOUSING, PHYSICAL PLANNING, MUNICIPAL,  
ADMINISTRATION AND URBAN DEVELOPMENT

## SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2)

**RFB No: .....**

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS,  
WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA, AND KIANG'OMBE  
IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN  
KIAMBU COUNTY.

## Vol 3 of 3 – BILL OF QUANTITIES

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **PREAMBLE TO THE BoQ**

COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

<b><u>PREAMBLE TO THE BILLS OF QUANTITIES</u></b>	
<b>1.0</b>	The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, Technical Specifications and Drawings.
<b>2.0</b>	The brief description of the items in the Bill of Quantities is purely for the purpose of identification, and in no way, modifies or supersedes the detailed descriptions given in the conditions of Contract and Specifications for the full direction and description of work and materials.
<b>3.0</b>	The quantities given in the Bill of Quantities are estimated and provisional and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
<b>4.0</b>	There is no guarantee to the Contractor that he will be required to carry out all the quantities of work indicated under any one particular item or group of items in the Bill of Quantities.
<b>5.0</b>	The price and rates entered in the Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all constructional plant to be used, labour, insurance, supervision, compliance testing, materials, erection, maintenance of works, overheads and profits, taxes and duties together with all general risks, liabilities and obligations set out or implied in the Contract, transport, electricity and telephones, water, use and replenishment of all consumables, including those required under the Contract by the Engineer and his staff.
<b>6.0</b>	A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
<b>7.0</b>	Any entry of "nil" or any other price or rate that shall render the Bid unresponsive in accordance with Clause 29 of the instructions to Bidders, unless deemed justifiably covered elsewhere in the Bills of Quantities, may lead to the entire Bid being rejected.
<b>8.0</b>	The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bill of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
<b>9.0</b>	General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.

COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

<b>10.0</b>	Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Clause 13 of the Conditions of Contract.																																				
<b>11.0</b>	The method of measurement of completed work for payment shall be in accordance with Standard Specification for Road and Bridge Construction of the Ministry of Transport and Communications, 1986.																																				
<b>12.0</b>	"Authorised" "Directed" or "Approved" shall mean the authority, direction or approval of the Engineer																																				
<b>13.0</b>	Unless otherwise stated, all measurements shall be net taken on the finished work carried out in accordance with the details shown on the drawings or instructed, with no allowance for extra cuts or fills, waste or additional thickness necessary to obtain the minimum finished thickness or dimensions required in this contract. Any work performed in excess of the requirements of the plans and Specifications will not be paid for, unless ordered in writing by the Engineer.																																				
<b>14.0</b>	Errors will be corrected by the Employer for any arithmetic errors in computation or summation as follows:																																				
	(a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and																																				
	(b) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer, there is an obviously gross misplacement of the decimal point in the unit price, in which event the total amount as quoted will govern and the unit rate will be corrected.																																				
<b>15.0</b>	(a) Hard material, in this Contract, shall be defined as the material which, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledge hammers, or the use of compressed air drilling for their removal, and which cannot be extracted by ripping with a dozer tractor of at least 300 kilowatt powers with a single, rear-mounted, hydraulic ripper. Boulders of more than 0.2m <sup>3</sup> occurring in soft material shall be classified as hard material																																				
	(b) Soft material shall be all material other than hard material.																																				
<b>16.0</b>	The Contractor shall be entitled to payments due in respect of: -																																				
	i) Equipment employed on Daywork basis on the rental rates entered by him in the "schedule of Dayworks: Plant"																																				
	ii) That Labour (ordinary) employed on daywork basis at the rates entered by him in the "Schedule of Daywork: Labour"																																				
	iii) Materials used on daywork at the rates entered by him in the "Schedule of Dayworks: Materials".																																				
<b>17.0</b>	Units of Measurement and Abbreviations used herein shall have the following meanings;																																				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Unit</th> <th style="width: 25%;">Abbreviation</th> <th style="width: 25%;">Unit</th> <th style="width: 25%;">Abbreviation</th> </tr> </thead> <tbody> <tr> <td>Cubic meter</td> <td>m<sup>3</sup></td> <td>Millimeter</td> <td>mm</td> </tr> <tr> <td>Hectare</td> <td>ha</td> <td>Month</td> <td>mth</td> </tr> <tr> <td>Hour</td> <td>hr</td> <td>Number</td> <td>No.</td> </tr> <tr> <td>Kilogram</td> <td>kg</td> <td>Provisional sum</td> <td>P.S.</td> </tr> <tr> <td>Kilometre</td> <td>km</td> <td>Square meter</td> <td>m<sup>2</sup></td> </tr> <tr> <td>Lump sum</td> <td>L.S.</td> <td>Square millimeter</td> <td>mm<sup>2</sup></td> </tr> <tr> <td>Meter</td> <td>m</td> <td>Vehicle</td> <td>veh</td> </tr> <tr> <td>Metric ton (1,000kg)</td> <td>t</td> <td>Week</td> <td>wk</td> </tr> </tbody> </table>	Unit	Abbreviation	Unit	Abbreviation	Cubic meter	m <sup>3</sup>	Millimeter	mm	Hectare	ha	Month	mth	Hour	hr	Number	No.	Kilogram	kg	Provisional sum	P.S.	Kilometre	km	Square meter	m <sup>2</sup>	Lump sum	L.S.	Square millimeter	mm <sup>2</sup>	Meter	m	Vehicle	veh	Metric ton (1,000kg)	t	Week	wk
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CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **GRAND SUMMARY**

COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN  
KIAMBU COUNTY

**COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2  
PROPOSED CONSTRUCTION OF ROADS FOR KIAMBU COUNTY SETTLEMENTS**

**BILLS OF QUANTITIES GRAND SUMMARY**

BILL No.	ITEM DESCRIPTION	AMOUNT (KES)
1	Preliminary & General Items	
2	Kiangombe Roads - Thika	
3	Misri Roads - Limuru	
4	Riverside - Githurai	
5	Umoja Roads - Thika	
6	Fort Jesus Roads -Ruiru	
7	Kiambu County Settlement Street Lighting	
8	Dayworks	
9	Environmental and Social Safeguards	
<b>A</b>	<b>SUB -TOTAL 1</b>	
<b>B</b>	<b>Add the sum of 10% of sub-total 1 for contingencies</b>	
<b>C</b>	<b>SUB -TOTAL 2 (A+B)</b>	
<b>D</b>	<b>16% VAT</b>	
<b>E</b>	<b>GRAND TOTAL (C+D)</b>	

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN, BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **SERIAL No.1: PRELIMINARIES AND GENERAL ITEMS**

COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

<b>BILL No.1: PRELIMINARIES AND GENERAL</b>					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>CONTRACTUAL REQUIREMENTS</b>					
<b>Performance Securities and Insurances</b>					
1.01	Provision of Performance Security in accordance with GCC Clause 52.1 (FIDIC 1999)	L Sum	1		
1.02	Provision of Insurance of Works, Plant and Materials in accordance with GCC Clause 13.1 (a)	L Sum	1		
1.04	Provision of Insurance of Contractor's Equipment in accordance with GCC Clause 13.1 (b)	L Sum	1		
1.05	Provision of Third Party Insurance in accordance with GCC Clause 13.1 (c)	L Sum	1		
1.06	Provision of Insurance of Contractor's Personnel in accordance GCC Clause 13.1 (d)	L Sum	1		
<b>Dispute Adjudication/Avoidance Board</b>					
1.07	Prime Cost Sum for Employer's contribution towards fees and expenses for appointment of Dispute Avoidance/Adjudication Board (DAAB) in accordance with GCC/PCC Clause 23 and Clause 24	PC Sum	1	1,000,000.00	1,000,000.00
1.08	Add Contractor's profits and overheads on Item 1.07	%	1,000,000.00		
<b>SPECIFIED REQUIREMENTS</b>					
<b>Offices for the Engineer's staff</b>					
1.11	Prime Cost Sum for leasing offices for Engineer's supervision staff, including provision of furniture, equipment and consumables for entire duration of the Contract, in accordance with the General and Special Specifications Clause 132.	PC Sum	1	2,000,000.00	2,000,000.00
1.12	Add Contractor's profits and overheads on Item 1.11	%	2,000,000.00		
<b>Services for the Engineer's staff</b>					
<b>Employer's Conterpart Staff Costs</b>					
1.13	Prime Cost Sum for costs of the Employer's counterpart staff assigned to the Project including transport, communication, meeting allowances, etc. as instructed by the Engineer.	PC Sum	1	2,000,000.00	2,000,000.00
1.14	Add Contractor's profits and overheads on Item 1.13	%	2,000,000.00		
<b>Equipment for use by the Engineer's Staff</b>					
1.15	Prime Cost Sum for provision of Survey Equipment as specified in the Standard and Special Specifications Clause 132, for exclusive use by the Engineer, to revert to Employer at end of the Contract.	PC Sum	1	1,440,000.00	1,440,000.00
1.16	Add Contractor's profits and overheads on Item 1.15	%	1,440,000.00		
<b>Testing of Materials</b>					
1.17	Provisional Sum for testing of materials as instructed by the Engineer in approved independent testing laboratory	Prov Sum	1	2,000,000.00	2,000,000.00
1.18	Add Contractor's profits and overheads on Item 1.17	%	2,000,000.00		
<b>TOTAL PAGE 1 OF 2 TO COLLECTION</b>					



COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

<b>BILL No.1: PRELIMINARIES AND GENERAL</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE (KShs)</b>	<b>AMOUNT (KShs)</b>
	<b><u>Capacity building for Employer's Staff</u></b>				
1.19	Prime Cost Sum for capacity building efforts for skills and knowledge transfer to Employer's staff during construction, testing and commissioning of the Works in accordance with the Special Specifications Clause 144.	PC Sum	1	2,000,000.00	2,000,000.00
1.20	Add Contractor's profits and overheads on Item 1.19	%	2,000,000.00		
	<b><u>Project Sign Boards</u></b>				
1.21	Provision, erection and maintenance of Project Sign Boards at locations instructed by the Engineer in accordance with the Standard Special Specifications Clause 131 and the Drawings - FINAL WORDING ON THE SIGN BOARD TO BE DECIDED IN CONSULTATION WITH THE EMPLOYER. The rate quoted by the Contractor to include for payment of all statutory charges to the relevant Authority and removal after completion of the Project.	No.	5		
	<b><u>Progress Reports and Photographs, "As Built" Drawings and O&amp;M Manuals</u></b>				
1.22	Provision of monthly progress reports and photographs in accordance with the GCC Clause 28 and the Standard and Special Specifications Clause 106, Clause 115 and Clause 130.	L Sum	1		
1.23	Provision of "As Built" Drawings and Operating and Maintenance Manuals in accordance with the GCC Clause 58 and the Standard and Special Specifications Clause 106 and Clause 115.	L Sum	1		
	<b><u>METHOD-RELATED CHARGES</u></b>				
	<b><u>Contractor's Camp, Offices, and other facilities and services</u></b>				
1.31	Mobilisation, operation and maintainance of Contractor's camps, offices, laboratories, stores, services and plant, and Temporary Works, for execution of the Works for the entire Contract Period, and demobilisation and necessary reinstatement works upon Completion, all in accordance with the Specifications and General Conditions. The Employer has no available land to offer for the above. Identification and procurement of suitable area of land, whether rented or purchased, is the responsibility of the Contractor. Contractor to provide in his bid cost breakdown for (i) the mobilisation, (ii) the operation and maintenance, (iii) the demobilisation and (iv) the reinstatement works for each of the camps, offices, laboratories, stores, services, plant and Temorary Works.	L Sum	1		
	<b><u>PROVISIONAL SUMS</u></b>				
	<b><u>Supplementary Charges</u></b>				
1.41	Provisional Sum for payments demanded by the Authorities for relocation / diversion of existing services (water, sewer, power, telecom etc.) in accordance with the General and Special Specifications Clause 121.	Prov Sum	1	2,000,000.00	2,000,000.00
1.42	Add Contractor's profits and overheads on Item 1.41	%	2,000,000.00		
	<b><u>Other Provisional Sums</u></b>				
1.43	The Contractor shall describe in detail hereunder other items of works, obligations or things which may be referred to in the Specifications or which he may consider to have been omitted from the Bills of Quantities and for which he desires to enter a separate charge (the charge to be carried direct to the amount column). If no separate charge is made hereunder, the rates in the Bills of Quantities will be held as covering all expenses for all such Works.	L Sum	1		
	<b>TOTAL PAGE 2 OF 2 TO COLLECTION</b>				

COUNTY GOVERNMENT OF KIAMBU  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

<b>BILL No.1: PRELIMINARIES AND GENERAL</b>				
<b>S/NO</b>	<b>Page Particulars</b>			<b>Amount</b>
1	Page 1 of 2 Totals			
2	Page 2 of 2 Totals			
<b>BILL 1 TOTAL CARRIED TO SUMMARY</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS  
IN SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
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## **SERIAL No.2: KIANG'OMBE SETTLEMENT - THIKA**

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS  
IN SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **KIANG'OMBE ROAD 01**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	4,459.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	891.80		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	38		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	31.20		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	3.12		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	1,427.60		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	142.76		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	668.85		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,337.70		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	401.31		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	401.31		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	318.50		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	318.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	560		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	280		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	917		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	229		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	560		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	100		
8.07	b) 900 mm diameter	m	40		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	91		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	257		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	127		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.32		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	238.88		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.64		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	677.21		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	677.21		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	4204.2		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	4204.2		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	236.5		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	127		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	127		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	3		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	15		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	637		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	32		
20.11C	Channel blocks 125mm x 100mm	m	1,274		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.637km)		
	<b>KIANG'OMBE ROAD 01 (KYA-RD 01)-0.637 KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Kyang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS  
IN SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **KIANG'OMBE ROAD 02**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	2,912.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	582.40		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	25		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	33.21		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	3.32		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	788.46		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	78.85		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	436.80		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	873.60		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	262.08		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	262.08		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	208.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	208.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	560		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	280		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	599		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	150		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	560		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	100		
8.07	b) 900 mm diameter	m	40		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	91		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	157		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	83		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.21		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	156.00		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.42		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	442.26		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	442.26		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	2745.6		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	2745.6		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	154.4		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	83		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	83		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	2		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	9		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	416		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	21		
20.11C	Channel blocks 125mm x 100mm	m	832		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.416km)		
	<b>KIANG'OMBE ROAD 02 (KYA-RD 02)-0.416KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Kyang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS  
IN SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **KIANG'OMBE ROAD 03**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	3,584.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	716.80		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	31		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	163.36		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	16.34		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	488.31		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	48.83		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	537.60		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,075.20		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	322.56		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	322.56		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	256.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigeneous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	256.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	600		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	300		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	737		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	184		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	600		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	110		
8.07	b) 900 mm diameter	m	40		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	97		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	31		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	197		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	102		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.26		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	192.00		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.51		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	544.32		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	544.32		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03			
			50 A.C			
			150 Stone Base			
			150 Gravel Subbase			
			300 Sub Grade Material (0.512km)			
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>					
	Kiambu County - Kiang'ombe Informal Settlement					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
15.01	<b>Prime Coat and Tack coat</b>					
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3379.2			
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3379.2			
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>					
	Kiambu County - Kiang'ombe Informal Settlement					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines					
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	190.1			
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	102		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	102		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	3		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	12		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	512		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	26		
20.11C	Channel blocks 125mm x 100mm	m	1,024		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.512km)		
	<b>KIANG'OMBE ROAD 03 (KYA-RD 03)-0.512 KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Kyang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS  
IN SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **KIANG'OMBE ROAD 04**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	1,449.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	289.80		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	12		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	5.54		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.55		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	465.73		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	46.57		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	217.35		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	434.70		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	130.41		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	130.41		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	103.50		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	103.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	480		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	240		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	298		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	75		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	480		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	80		
8.07	b) 900 mm diameter	m	40		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	80		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	26		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	75		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	41		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.10		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	77.63		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.21		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	220.07		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	220.07		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1366.2		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1366.2		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County - Kiang'ombe Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	76.8		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County - Kiang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	41		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	41		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	4		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	207		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	10		
20.11C	Channel blocks 125mm x 100mm	m	414		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			KYA-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.207km)		
	<b>KIANG'OMBE ROAD 04 (KYA-RD 04)-0.207 KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Kyang'ombe Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **SERIAL No.3 - MISRI SETTLEMENT - LIMURU**



CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **MISRI ROAD 01**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	<b>MISRI ROAD 01 (MSR-RD 01)-0.456KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	2,736.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	547.20		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	27		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	<b>MISRI ROAD 01 (MSR-RD 01)-0.456KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b><u>Fill in Soft Material</u></b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	198.04		
	<b><u>Fill in Hard Material</u></b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	19.80		
	<b><u>Spoil in Soft Material</u></b>				
5.03	Cut to spoil in soft material	m <sup>3</sup>	3,474.39		
	<b><u>Spoil in Hard Material</u></b>				
5.04	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	347.44		
	<b><u>Compaction of Existing Ground</u></b>				
5.05	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	478.80		
5.06	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	957.60		
5.07	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	287.28		
5.08	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	287.28		
	<b><u>Topsoil</u></b>				
5.09	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	228.00		
	<b><u>Grassing</u></b>				
5.10	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	228.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	MISRI ROAD 01 (MSR-RD 01)-0.456KM				
<b>BILL NO.7</b>	<b>EXCAVATION AND FILLING FOR STRUCTURES</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b><u>Excavation</u></b>				
	<b><u>Erosion Protection and Slope Protection</u></b>				
	<b><u>Excavate for Gabions in Soft Material</u></b>				
7.01	Excavation in soft material to any depth, compaction of the surfaces to receive the gabions, backfilling with the excavated material or hauling to spoil excavated material all in accordance with the Specification and in conformity with the RE Instructions	m <sup>3</sup>	45.00		
7.02	Extra over Item 708 in hard material	m <sup>3</sup>	11.25		
	<b><u>Gabion Mesh (Commercial galvanized wires-2 x 1 x 1m basket)</u></b>				
7.30	Providing and fixing the mesh including diaphragms; all in accordance with the Specification and in conformity with the RE instructions, include for french drains	No	450.00		
	<b><u>Rockfill to Gabions</u></b>				
7.40	Providing, and placing the rock; in accordance with the secification and in conformity with the RE's instruction	m <sup>3</sup>	3,600.00		
7.50	200mm thick dry stone pitching	m <sup>2</sup>	182		
7.60	Extra over Item 7.05 for grouting to stone pitching	m <sup>2</sup>	182		
	<b>TOTAL FOR BILL 7 CARRIED GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	<b>MISRI ROAD 01 (MSR-RD 01)-0.456KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	680		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	340		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	657		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	164		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	680		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	100		
8.07	b) 900 mm diameter	m	70		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	118		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	38		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	183		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	91		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	<b>MISRI ROAD 01 (MSR-RD 01)-0.456KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.23		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	171.00		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.46		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	MISRI ROAD 01 (MSR-RD 01)-0.456KM				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	507.87		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	507.87		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material		
			(0.456km)		
	<b>MISRI ROAD 01 (MSR-RD 01)-0.456KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3009.6		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3009.6		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	MISRI ROAD 01 (MSR-RD 01)-0.456KM				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	169.3		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	<b>MISRI ROAD 01 (MSR-RD 01)-0.456KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	91		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	91		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	2		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	10		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	502		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	23		
20.11C	Channel blocks 125mm x 100mm	m	1,003		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.456km)		
	MISRI ROAD 01 (MSR-RD 01)-0.456KM				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
7	Excavation and Filling for Structures				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **MISRI ROAD 02**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	2,815.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	563.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	28		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	23.76		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	2.38		
	<b>Spoil in Soft Material</b>				
5.03	Cut to spoil in soft material	m <sup>3</sup>	1,362.59		
	<b>Spoil in Hard Material</b>				
5.04	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	136.26		
	<b>Compaction of Existing Ground</b>				
5.05	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	591.15		
5.06	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,182.30		
5.07	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	354.69		
5.80	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	354.69		
	<b>Topsoil</b>				
5.90	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	281.50		
	<b>Grassing</b>				
5.10	Planting of sprigs of approved indigeneous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	281.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	640		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	320		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	811		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	203		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	640		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	100		
8.07	b) 900 mm diameter	m	60		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	109		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	35		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base,average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	231		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	113		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.28		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	211.13		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.56		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	627.04		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	627.04		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3715.8		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3715.8		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	209.0		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b><u>Priority Signs</u></b>				
20.02	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	113		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	113		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	3		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	13		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	563		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	28		
20.11C	Channel blocks 125mm x 100mm	m	1,126		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.563km)		
	<b>MISRI ROAD 02 (MSR-RD 02)-0.563KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **MISRI ROAD 04**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	<b>MISRI ROAD 04 (MSR-RD 04)-0.030KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	150.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	30.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	2		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	MISRI ROAD 04 (MSR-RD 04)-0.030KM				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b><u>Fill in Soft Material</u></b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.95		
	<b><u>Fill in Hard Material</u></b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.20		
	<b><u>Spoil in Soft Material</u></b>				
5.03	Cut to spoil in soft material	m <sup>3</sup>	59.31		
	<b><u>Spoil in Hard Material</u></b>				
5.04	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	5.93		
	<b><u>Compaction of Existing Ground</u></b>				
5.05	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	31.50		
5.06	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	63.00		
5.07	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	18.90		
5.80	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	18.90		
	<b><u>Topsoil</u></b>				
5.90	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	15.00		
	<b><u>Grassing</u></b>				
5.10	Planting of sprigs of approved indigeneous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	15.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	<b>MISRI ROAD 04 (MSR-RD 04)-0.030KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	43		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	11		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	9		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	6		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	MISRI ROAD 04 (MSR-RD 04)-0.030KM				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	33.41		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	33.41		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	<b>MISRI ROAD 04 (MSR-RD 04)-0.030KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	198.0		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	198.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	MISRI ROAD 04 (MSR-RD 04)-0.030KM				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	11.1		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.030km)		
	<b>MISRI ROAD 04 (MSR-RD 04)-0.030KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	6		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	6		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	30		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	2		
20.11C	Channel blocks 125mm x 100mm	m	60		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 04			
			50 A.C			
			150 Stone Base			
			150 Gravel Subbase			
			300 Sub Grade Material (0.030km)			
	MISRI ROAD 04 (MSR-RD 04)-0.030KM					
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>					
	<b>Kiambu County- Misri Informal Settlement</b>					
ITEM	DESCRIPTION					AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping					
5	Earthworks					
8	Culverts and Drainage Works					
12	Natural Material Subbase and Base					
15	Bituminous Surface Treatments					
16	Bituminous Mixes					
20	Road Furniture					
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>					

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **MISRI ROAD 05**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	MISRI ROAD 05 (MSR-RD 05)-0.032KM				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	160.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	32.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	2		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	MISRI ROAD 05 (MSR-RD 05)-0.032KM				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.06		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.11		
	<b>Spoil in Soft Material</b>				
5.03	Cut to spoil in soft material	m <sup>3</sup>	71.08		
	<b>Spoil in Hard Material</b>				
5.04	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	7.11		
	<b>Compaction of Existing Ground</b>				
5.05	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	33.60		
5.06	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	67.20		
5.07	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	20.16		
5.80	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	20.16		
	<b>Topsoil</b>				
5.90	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	16.00		
	<b>Grassing</b>				
5.10	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	16.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	<b>MISRI ROAD 05 (MSR-RD 05)-0.032KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Excavate for Culverts and Subsoil Drains in Soft Material</b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	46		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	12		
	<b>Selected backfill material</b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b>In-situ culverts</b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b>Concrete Class 15/20 to Beds, Surrounds</b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b>Concrete Class 25/20 For Covered Rectangular Drain structure</b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	10		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	6		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	MISRI ROAD 05 (MSR-RD 05)-0.032KM				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	35.64		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	35.64		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material		
			(0.032km)		
	MISRI ROAD 05 (MSR-RD 05)-0.032KM				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	211.2		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	211.2		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	MISRI ROAD 05 (MSR-RD 05)-0.032KM				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	11.9		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	<b>MISRI ROAD 05 (MSR-RD 05)-0.032KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	6		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	6		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	32		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	2		
20.11C	Channel blocks 125mm x 100mm	m	64		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.032km)		
	MISRI ROAD 05 (MSR-RD 05)-0.032KM				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **Bill No.4 - MISRI ROAD 06**



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.044km)		
	<b>MISRI ROAD 06 (MSR-RD 06)-0.044KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	220.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	44.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	2		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.044km)		
	MISRI ROAD 06 (MSR-RD 06)-0.044KM				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b><u>Fill in Soft Material</u></b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.76		
	<b><u>Fill in Hard Material</u></b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.18		
	<b><u>Spoil in Soft Material</u></b>				
5.03	Cut to spoil in soft material	m <sup>3</sup>	120.32		
	<b><u>Spoil in Hard Material</u></b>				
5.04	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	12.03		
	<b><u>Compaction of Existing Ground</u></b>				
5.05	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	46.20		
5.06	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	92.40		
5.07	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	27.72		
5.80	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	27.72		
	<b><u>Topsoil</u></b>				
5.90	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	22.00		
	<b><u>Grassing</u></b>				
5.10	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	22.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.044km)		
	<b>MISRI ROAD 06 (MSR-RD 06)-0.044KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	176		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	88		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	63		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	16		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	176		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	24		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	31		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	10		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	14		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	9		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.044km)		
	MISRI ROAD 06 (MSR-RD 06)-0.044KM				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	46.78		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	49.01		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material		
			(0.044km)		
	MISRI ROAD 06 (MSR-RD 06)-0.044KM				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	290.4		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	290.4		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.044km)		
	MISRI ROAD 06 (MSR-RD 06)-0.044KM				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	16.3		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06	50 A.C		
			150 Stone Base			
			150 Gravel Subbase			
			300 Sub Grade Material			
			(0.044km)			
	<b>MISRI ROAD 06 (MSR-RD 06)-0.044KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>					
	<b>Kiambu County- Misri Informal Settlement</b>					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
	<b>Warning Signs</b>					
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1			
	<b>Priority Signs</b>					
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions					
20.02A	750mm size	No.	1			
20.02B	1000 mm size	No.	1			
	<b>Mandatory Signs</b>					
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1			
	<b>Standard Informatory Signs</b>					
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions					
20.04A	500x600mm	No.	1			
20.04B	600x600mm	No.	1			
	<b>Non Standard Informatory Signs</b>					
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions					
20.05A	Less than 1 sq.m	No.	1			
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1			
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1			
	<b>Road Marking painting</b>					
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions					
20.06A	White paint	m <sup>2</sup>	9			
20.07	As Item 2007 but 250mm wide					
20.07A	a) White paint	m <sup>2</sup>	9			
	<b>Concrete Kerbs</b>					
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions					
20.11A	Kerbs 125 mm x 250 mm straight	m	44			
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	2			
20.11C	Channel blocks 125mm x 100mm	m	88			
	<b>Trees</b>					
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5			
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 06		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material		
			(0.044km)		
	MISRI ROAD 06 (MSR-RD 06)-0.044KM				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				



CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **MISRI ROAD 07**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.036km)		
	<b>MISRI ROAD 07 (MSR-RD 07)-0.036KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	180.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	36.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	2		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.036km)		
	MISRI ROAD 07 (MSR-RD 07)-0.036KM				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	0.13		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.01		
	<b>Spoil in Soft Material</b>				
5.03	Cut to spoil in soft material	m <sup>3</sup>	98.63		
	<b>Spoil in Hard Material</b>				
5.04	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	9.86		
	<b>Compaction of Existing Ground</b>				
5.05	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	37.80		
5.06	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	75.60		
5.07	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	22.68		
5.80	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	22.68		
	<b>Topsoil</b>				
5.90	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	18.00		
	<b>Grassing</b>				
5.10	Planting of sprigs of approved indigeneous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	18.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.036km)		
	<b>MISRI ROAD 07 (MSR-RD 07)-0.036KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	176		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	88		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	52		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	13		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	176		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	24		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	31		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	10		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	11		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	7		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.036km)		
	MISRI ROAD 07 (MSR-RD 07)-0.036KM				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Misri Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	38.27		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	40.10		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07			
			50 A.C			
			150 Stone Base			
			150 Gravel Subbase			
			300 Sub Grade Material (0.036km)			
	MISRI ROAD 07 (MSR-RD 07)-0.036KM					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>					
	Kiambu County- Misri Informal Settlement					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
15.01	<b>Prime Coat and Tack coat</b>					
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	237.6			
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	237.6			
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07			
			50 A.C			
			150 Stone Base			
			150 Gravel Subbase			
			300 Sub Grade Material (0.036km)			
	<b>MISRI ROAD 07 (MSR-RD 07)-0.036KM</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>					
	<b>Kiambu County- Misri Informal Settlement</b>					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines					
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	13.4			
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.036km)		
	<b>MISRI ROAD 07 (MSR-RD 07)-0.036KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	7		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	7		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	36		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	2		
20.11C	Channel blocks 125mm x 100mm	m	72		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			MSR-RD 07		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.036km)		
	MISRI ROAD 07 (MSR-RD 07)-0.036KM				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Misri Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **SERIAL No.4 - RIVERSIDE SETTLEMENT - GITHURAI**

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **RIVERSIDE ROAD 01**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Riverside Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	7,236.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	1,447.20		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	72		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Riverside Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification and road prism.	m <sup>3</sup>	70.19		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	7.02		
	<b>Fill in Expansive Clay Areas</b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	2,532.60		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	3,376.80		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	2,863.97		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	286.40		
5.06	<b>Spoil in Expansive Clay Areas</b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	8,442.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	189.95		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	379.89		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	113.97		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	2,532.60		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	603.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	603.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
				<b>RVRS-RD 01</b>		
				<b>50 A.C</b>		
				<b>150 Stone Base</b>		
				<b>150 Gravel Subbase</b>		
				<b>300 Improved Sub Grade</b>		
				<b>(1.206km)</b>		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>					
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>					
	<b>Kiambu County- Riverside Informal Settlement</b>					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>					
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	840			
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	420			
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>					
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	1,737			
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	434			
	<b><u>Selected backfill material</u></b>					
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	840			
	<b><u>In-situ culverts</u></b>					
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions					
8.06	a) 600 mm diameter (for use at minor junctions only)	m	150			
8.07	b) 900 mm diameter	m	60			
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>					
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	137			
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>					
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	44			
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>					
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	498			
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	241			
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.60		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	452.25		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	1.21		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Riverside Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	1,282.13		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	1,282.13		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	7959.6		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	7959.6		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	447.7		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b>Priority Signs</b>				
20.02	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b>Standard Informatory Signs</b>				
20.04	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b>Non Standard Informatory Signs</b>				
20.05	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b>Road Marking painting</b>				
20.06	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	241		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	241		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	6		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	29		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	1,206		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	60		
20.11C	Channel blocks 125mm x 100mm	m	2,412		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade		
			(1.206km)		
	<b>RIVERSIDE ROAD 01 (RVRS-RD 01)-1.206KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **RIVERSIDE ROAD 02**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Riverside Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	845.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	169.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	10		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	5.69		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.57		
	<b>Fill in Expansive Clay Areas</b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	354.90		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	473.20		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	425.40		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	42.54		
5.06	<b>Spoil in Expansive Clay Areas</b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	1,183.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	35.49		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	70.98		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	21.29		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	354.90		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	84.50		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	84.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	224		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	112		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	243		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	61		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	224		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	36		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	38		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	12		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	68		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	34		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.08		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	63.38		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.17		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	179.67		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	179.67		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1115.4		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1115.4		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	62.7		
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	34		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	34		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	3		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	169		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	8		
20.11C	Channel blocks 125mm x 100mm	m	338		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.169km)		
	<b>RIVERSIDE ROAD 02 (RVRS-RD 02) - 0.169KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **RIVERSIDE ROAD 03**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Riverside Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	1,120.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	224.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	13		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	131.52		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	13.15		
	<b>Fill in Expansive Clay Areas</b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	470.40		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	627.20		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	352.70		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	35.27		
5.06	<b>Spoil in Expansive Clay Areas</b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	1,568.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	47.04		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	94.08		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	28.22		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	470.40		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	112.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	112.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	272		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	136		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	323		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	81		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	272		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	48		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	44		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	14		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base,average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	90		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	45		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.11		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	84.00		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.22		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	238.14		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	238.14		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1478.4		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1478.4		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	83.2		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	45		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	45		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	5		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	224		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	11		
20.11C	Channel blocks 125mm x 100mm	m	448		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RVRS-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.224km)		
	<b>RIVERSIDE ROAD 03 (RVRS-RD 03) - 0.224KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Riverside Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **SERIAL No.5- UMOJA SETTLEMENT - THIKA**

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **UMOJA ROAD 01**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	1,120.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	224.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	10		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	0.00		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	220.50		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	22.05		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	168.00		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	336.00		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	100.80		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	100.80		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	80.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	80.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	200		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	100		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	230		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	58		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	200		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	30		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	35		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	11		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base,average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	72		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	32		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.08		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	60.00		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.16		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	184.80		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus jointing and 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	184.80		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	1040.0		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to road and junctions	m <sup>2</sup>	1040.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	32		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	32		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	3		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	160		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	8		
20.11C	Channel blocks 125mm x 100mm	m	320		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 01		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.160km)		
	<b>UMOJA ROAD 01 (UMJ-RD 01) - 0.160KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
13	CONCRETE PAVING BLOCK SURFACE TREATMENT				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **UMOJA ROAD 02**



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	924.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	184.80		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	8		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.03		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.10		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	158.62		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	15.86		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	138.60		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	277.20		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	83.16		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	83.16		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	66.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	66.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	190		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	48		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	59		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	26		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.07		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	49.50		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.13		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	152.46		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	152.46		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread and Compact jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	858.0		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to road and junctions	m <sup>2</sup>	858.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	26		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	26		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	2		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	132		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	7		
20.11C	Channel blocks 125mm x 100mm	m	264		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 02		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.132km)		
	<b>UMOJA ROAD 02 (UMJ-RD 02) - 0.100KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	770.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	154.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	7		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.44		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.14		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	176.72		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	17.67		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	115.50		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	231.00		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	69.30		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	69.30		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	55.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	55.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	158		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	40		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	50		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	22		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.06		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	41.25		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.11		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	127.05		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	127.05		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread and Compact jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	715.0		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to road and junctions	m <sup>2</sup>	715.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	22		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	22		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	2		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	110		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	6		
20.11C	Channel blocks 125mm x 100mm	m	220		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 03		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.110km)		
	<b>UMOJA ROAD 03 (UMJ-RD 03) - 0.110KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				



CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **UMOJA ROAD 04**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04 60mm C.P.B. 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.075km)		
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	525.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	105.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	5		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.075km)		
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.44		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.14		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	176.72		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	17.67		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	78.75		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	157.50		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	47.25		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	47.25		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	37.50		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	37.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.075km)		
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	108		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	27		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	34		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	15		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04 60mm C.P.B. 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.075km)		
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b> Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.04		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	28.13		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.08		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04			
			60mm C.P.B.			
			150 Stone Base			
			150 Gravel Subbase			
			300 Sub Grade Material (0.075km)			
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>					
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>					
	<b>Kiambu County- Umoja Informal Settlement</b>					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)	
	<u>Natural Gravel Subbase and Base</u>					
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	86.63			
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	86.63			
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.075km)		
	UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM				
<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread and Compact jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	487.5		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to road and junctions	m <sup>2</sup>	487.5		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.075km)		
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b><u>Priority Signs</u></b>				
20.02	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b><u>Standard Informatory Signs</u></b>				
20.04	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b><u>Non Standard Informatory Signs</u></b>				
20.05	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b><u>Road Marking painting</u></b>				
20.06	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	15		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	15		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	0		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	1		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	75		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	4		
20.11C	Channel blocks 125mm x 100mm	m	150		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 04		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.075km)		
	<b>UMOJA ROAD 04 (UMJ-RD 04) - 0.075KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **UMOJA ROAD 05**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	350.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	70.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	3		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.44		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.14		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	176.72		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	17.67		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	52.50		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	105.00		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	31.50		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	31.50		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	25.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigineous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	25.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	72		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	18		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	23		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	10		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.03		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	18.75		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.05		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	57.75		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	57.75		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread and Compact jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	325.0		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to road and junctions	m <sup>2</sup>	325.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	10		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	10		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	0		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	0		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	50		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	3		
20.11C	Channel blocks 125mm x 100mm	m	100		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 05		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.050km)		
	<b>UMOJA ROAD 05 (UMJ-RD 05) - 0.050KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **UMOJA ROAD 06**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	882.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	176.40		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	8		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.				
	Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)				
	The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	1.44		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.14		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	176.72		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	17.67		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	132.30		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	264.60		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	79.38		
5.10	Provide, lay and compact 300mm sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	79.38		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	63.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigeneous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	63.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	<b>UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	160		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	80		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	181		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	45		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	160		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	20		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	29		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	9		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	57		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	25		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	<b>UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.06		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	47.25		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.13		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	<b>UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	140.33		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	140.33		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM				
<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Umoja Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread and Compact jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	819.0		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to road and junctions	m <sup>2</sup>	819.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	<b>UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	25		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	25		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	1		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	2		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	126		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	6		
20.11C	Channel blocks 125mm x 100mm	m	252		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			UMJ-RD 06		
			60mm C.P.B.		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.126km)		
	UMOJA ROAD 06 (UMJ-RD 06) - 0.126KM				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Umoja Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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**SERIAL No.6 - FORT JESUS SETTLEMENT - RUIRU**

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **FORT JESUS ROAD 01A**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	3,200.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	672.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	38		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b><u>Fill in Soft Material</u></b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	486.29		
	<b><u>Fill in Hard Material</u></b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	48.63		
	<b><u>Fill in Expansive Clay Areas</u></b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	1,344.00		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	1,792.00		
	<b><u>Spoil in Soft Material</u></b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	1,831.29		
	<b><u>Spoil in Hard Material</u></b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	183.13		
5.06	<b><u>Spoil in Expansive Clay Areas</u></b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	4,480.00		
	<b><u>Compaction of Existing Ground</u></b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	100.80		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	201.60		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	60.48		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,411.20		
	<b><u>Topsoil</u></b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	320.00		
	<b><u>Grassing</u></b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	320.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	90		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	30		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	13		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	5		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	36		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	107		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	85		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	15		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	230		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	20		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.32		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	240.00		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.64		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	680.40		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	680.40		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	4224.0		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	4224.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	237.6		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	128		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	128		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No.	3		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	15		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	704		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	32		
20.11C	Channel blocks 125mm x 100mm	m	1,408		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01A		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.640km)		
	<b>FORT JESUS ROAD 01 (RRU-RD 01A)-0.640KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **FORT JESUS ROAD 01B**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
	<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	1,125.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	236.25		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	14		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
	<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	486.29		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	48.63		
	<b>Fill in Expansive Clay Areas</b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	472.50		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	630.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	307.17		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	30.72		
5.06	<b>Spoil in Expansive Clay Areas</b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	1,575.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	35.44		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	70.88		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	21.26		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	496.13		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	112.50		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigeneous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	112.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>					
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	40		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	14		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	5		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	2		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	16		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	57		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	38		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	7		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base,average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	60		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	20		
<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
	<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.11		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	84.38		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.23		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
	<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	239.20		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	239.20		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1485.0		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1485.0		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	83.5		
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
	<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	45		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	45		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	5		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	248		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	11		
20.11C	Channel blocks 125mm x 100mm	m	495		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 01B		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.225km)		
	<b>FORT JESUS ROAD 01B (RRU-RD 01B)-0.225KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **FORT JESUS ROAD 03**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	300.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	60.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	4		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	17.22		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	1.72		
	<b>Fill in Expansive Clay Areas</b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	126.00		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	168.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	420.00		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	42.00		
5.06	<b>Spoil in Expansive Clay Areas</b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	126.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	12.60		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	25.20		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	7.56		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	126.00		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	30.00		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	30.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	21		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	7		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	2		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	1		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	9		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	15		
8.07	b) 900 mm diameter	m	10		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	20		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	104		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	24		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	10		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.03		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	22.50		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.06		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	63.79		
12.02	Provide,place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	63.79		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03 50 A.C 150 Stone Base 150 Gravel Subbase 300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	396.0		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	396.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	22.3		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b>Priority Signs</b>				
20.02	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	12		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	12		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	0		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No.	1		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	66		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	3		
20.11C	Channel blocks 125mm x 100mm	m	132		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m -Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.060km)		
	<b>FORT JESUS ROAD 03 (RRU-RD 03)-0.60KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **FORT JESUS ROAD 04**



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
	<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Site Clearance</b>				
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	3,025.00		
	<b>Removal of Topsoil</b>				
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	605.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	36		
	<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
	<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b>Fill in Soft Material</b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	9.38		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.94		
	<b>Fill in Expansive Clay Areas</b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	1,270.50		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	1,694.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	4,235.00		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	211.75		
5.06	<b>Spoil in Expansive Clay Areas</b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	1,270.50		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	95.29		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	190.58		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	57.17		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,270.50		
	<b>Topsoil</b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	302.50		
	<b>Grassing</b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	302.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
	<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Excavate for Culverts and Subsoil Drains in Soft Material</u></b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	86		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	29		
	<b><u>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</u></b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	13		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	5		
	<b><u>Selected backfill material</u></b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	35		
	<b><u>In-situ culverts</u></b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	73		
8.07	b) 900 mm diameter	m	20		
	<b><u>Concrete Class 15/20 to Beds, Surrounds</u></b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	81		
	<b><u>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</u></b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	14		
	<b><u>Concrete Class 25/20 For Covered Rectangular Drain structure</u></b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	252		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	20		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
	<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Construction of Deviations in maximum lengths of 2 km sections</u></b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.30		
	<b><u>Gravel Wearing Course</u></b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	226.88		
9.03	<b><u>Maintenance the passage of traffic</u></b>	Lump Sum	1.00		
	<b><u>Provide Signs and Barriers</u></b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.61		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		

<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>					

<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Kiambu County- Fort Jesus Informal Settlement				

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<u>Natural Gravel Subbase and Base</u>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	857.59		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	643.19		
<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>					

<b>BILL NO.13A</b>	<b>CONCRETE PAVING BLOCK SURFACE TREATMENT</b>				
	Kiambu County- Fort Jesus Informal Settlement				

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: No overhaul will be paid for these items as it shall be deemed to have been included in the Contractor's rates.</b>				
	<b>Jointing Sand</b>				
13.01A	Supply, lay and appropriately spread and Compact jointing sand 10-20mm thick to Concrete paving blocks to the road and junctions all in accordance with the specifications or as directed by the Engineer	m <sup>2</sup>	952.9		
	<b>Concrete block paving including all cuttings</b>				
13.02A	Provide and lay approved 60mm thick medium duty pre-cast concrete paving blocks with minimum strength of 35N/mm <sup>2</sup> to BS 6717 Part 1 of 1986 to footpaths and as directed by the Engineer	m <sup>2</sup>	952.9		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3993.0		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	3993.0		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	224.6		
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>Warning Signs</u></b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
	<b><u>Priority Signs</u></b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b><u>Mandatory Signs</u></b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
	<b><u>Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
	<b><u>Non Standard Informatory Signs</u></b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
	<b><u>Road Marking painting</u></b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	121		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	121		
	<b><u>Speed reduction bituminous bumps at junctions</u></b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	3		
	<b><u>Rumble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No	14		
	<b><u>Concrete Kerbs</u></b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	666		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	30		
20.11C	Channel blocks 125mm x 100mm	m	1,331		
	<b><u>Trees</u></b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m - Open Fields or Wet Lands	No.	5		
<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 04		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.605km)		
	<b>FORT JESUS ROAD 04 (RRU-RD 04)-0.605KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
13A	CONCRETE PAVING BLOCK SURFACE TREATMENT				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				



CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **FORT JESUS ROAD 05**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>					
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<p><b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b></p>					
<u>Site Clearance</u>					
4.01	Clearing existing road of all trees, vegetation, debris and rubbish of any nature; including the grubbing of stumps and roots and the disposal from the area of all spoil materials resulting from clearing and grubbing all in accordance with the specifications.	m <sup>2</sup>	1,500.00		
<u>Removal of Topsoil</u>					
4.02	Stripping vegetable soil from the roadway, and disposal to approved stockpile areas all in accordance with the Specification and in conformity with the RE instructions average depth 200mm.	m <sup>3</sup>	300.00		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	18		
<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
	<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>NOTE: All costs and charges connected with haulage are to be included within the unit rates entered by tenderers against the items described in this Bill of Quantities. No separate items for overhaul are included in any section of this Bill and no additional payment whatsoever will be made for haulage. Tenderers are therefore deemed to have included, in the unit rates entered against an item, for all costs and charges associated with haulage.</b>				
	<b>Material used for earthworks (fill below bottom sub-grade) shall be minimum soil class S2 quality and be compacted to 95% MDD (AASHTO T99)</b>				
	<b>The upper 300mm of subgrade shall be compacted to 100% MDD (AASHTO T99) while the rest shall be compacted to 95% MDD (AASHTO T99).</b>				
	<b><u>Fill in Soft Material</u></b>				
5.01	Excavating the material, transportation and filling in embankment, including watering and rolling; all in accordance to specification	m <sup>3</sup>	9.38		
	<b><u>Fill in Hard Material</u></b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.94		
	<b><u>Fill in Expansive Clay Areas</u></b>				
5.03	Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.3m	m <sup>3</sup>	630.00		
5.03(a)	Excavate from borrow, transport over any distance and fill in hard material, including watering and compaction but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 0.4m	m <sup>3</sup>	840.00		
	<b><u>Spoil in Soft Material</u></b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	2,100.00		
	<b><u>Spoil in Hard Material</u></b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	105.00		
5.06	<b><u>Spoil in Expansive Clay Areas</u></b>				
	As Item 5.04 but for excavation in expansive clay areas to remove unsuitable materials				
5.06A	up to a maximum depth of 1.0 m	m <sup>3</sup>	630.00		
	<b><u>Compaction of Existing Ground</u></b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	47.25		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	94.50		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	28.35		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	630.00		
	<b><u>Topsoil</u></b>				
5.11	Topsoiling prior to grassing; minimum compacted thickness of top soil shall be 50mm; all in accordance with the specifications	m <sup>2</sup>	150.00		
	<b><u>Grassing</u></b>				
5.12	Planting of sprigs of approved indigenous grass types; to embankments, cuttings or where directed by the RE in accordance with the Specification, including tending, watering and cutting until the grass is firm established or for 6 months	m <sup>2</sup>	150.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
	<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Excavate for Culverts and Subsoil Drains in Soft Material</b>				
8.01	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	49		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	17		
	<b>Excavate for Inlet, Outfall, Mitre and Catchwater Drains in soft material</b>				
8.03	Excavation in soft material to any depth, compaction of the invert of excavation, backfilling with excavated materials or removing excavated material to spoil; in accordance with the Specification and in conformity with the RE's instructions	m <sup>3</sup>	7		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	3		
	<b>Selected backfill material</b>				
8.05	Providing, backfilling to any depth all in accordance with the Standard Specifications and in conformity with the instructions of the RE	m <sup>3</sup>	20		
	<b>In-situ culverts</b>				
	Provide for in-situ culvert all in accordance with the Specification and in conformity with the RE instructions				
8.06	a) 600 mm diameter (for use at minor junctions only)	m	36		
8.07	b) 900 mm diameter	m	20		
	<b>Concrete Class 15/20 to Beds, Surrounds</b>				
8.09	Providing and placing the concrete; all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	46		
	<b>Concrete Class 20/20 headwalls, trash racks, aprons other drainage structures</b>				
8.10	Providing and placing the concrete, reinforcement and formwork class F2 all in accordance with the Specification and in conformity with the RE instructions	m <sup>3</sup>	8		
	<b>Concrete Class 25/20 For Covered Rectangular Drain structure</b>				
8.11	Provide all materials and construct 500mm(Bottom width) wide (internal dimension) rectangular concrete drains 150mm thick walls and bottom base, average height of 0.8m, class 25/20, including slotted top cover of 100mm thick. Include the steel reinforcement and formwork for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	115		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	20		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
	<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Construction of Deviations in maximum lengths of 2 km sections</b>				
9.01	All the operations connected with the initial construction of temporary deviations, appropriate width, to allow passage of traffic during the Works; all in accordance with the Specification	km	0.15		
	<b>Gravel Wearing Course</b>				
9.02	Provision, laying and compacting of gravel wearing course to deviations, 5m wide, 150mm thick, where directed by the RE and in accordance with the Specification	m <sup>3</sup>	112.50		
9.03	<b>Maintenance the passage of traffic</b>	Lump Sum	1.00		
	<b>Provide Signs and Barriers</b>				
9.04	Provision, erection and maintenance of temporary signs, barriers, lights, traffic lights, etc., along deviations constructed: all in accordance with Specification and in conformity with the RE instructions	Km	0.30		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
	<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Natural Gravel Subbase and Base</b>				
12.01	Provide, lay and compact subbase in 150mm thick natural gravel material in carriageway, bus bays, footpaths, shoulders and junctions from the designated quarries listed in the Special Specification in accordance with the Specification and in conformity with the RE instructions (Stabilisation paid in Bill 14)	m <sup>3</sup>	318.94		
12.02	Provide, place and compact 150mm Thick handpacked hardcore in one layer (150mm ) plus 50mm blinding layer of quarry dust. This Includes 12 tonne vibrating roller (min 8 passes)	m <sup>3</sup>	318.94		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
15.01	<b>Prime Coat and Tack coat</b>				
15.01A	MC 30 prime coat on Cement treated material at nominal rate of 0.8 - 1.2 ltr/m <sup>2</sup> to base course on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1980.0		
15.01B	K1-80 cationic emulsion tack coat on primed treated base at nominal rate of 0.4 - 1.0 ltr/m <sup>2</sup> to base course on on carriageway, bus bays, footpaths, shoulders and junctions	ltr	1980.0		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Kiambu County- Fort Jesus Informal Settlement				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
16.00	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, Lay and spread evenly 50mm thick Asphalt Concrete Type II covering the carriageway and the shoulders. The grading of the mixture of coarse and fine aggregates shall be within and approximately parallel to the grading envelopes given in table 16B-1 of the Standard Specification for Road and Bridge Construction for Type II, 0/14mm wearing course .The coarse aggregate class for the asphalt concrete shall be Class C. 80/100 penetration grade bitumen for the asphalt concrete.	M <sup>3</sup>	111.4		
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
	<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>Warning Signs</b>				
20.01	Excavation for, providing and erecting warning signs size 750mm including backfill and concrete 15/20 to bases all in accordance with the Specification and in conformity with the RE instructions	No.	1		
20.02	<b>Priority Signs</b>				
	Excavating for, providing and erecting priority signs including back filling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.02A	750mm size	No.	1		
20.02B	1000 mm size	No.	1		
	<b>Mandatory Signs</b>				
20.03	Excavating for, providing and erecting prohibitory signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions 1000mm size	No.	1		
20.04	<b>Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.04A	500x600mm	No.	1		
20.04B	600x600mm	No.	1		
20.05	<b>Non Standard Informatory Signs</b>				
	Excavating for, providing and erecting information signs including backfilling and concrete 15/20 to bases; all in accordance with the Specification and in conformity with the RE instructions				
20.05A	Less than 1 sq.m	No.	1		
20.05B	Equal or more than 1 sq.m but less than 2 sq.m	No.	1		
20.05C	Equal or more than 2 sq.m but less than 5 sq.m	No.	1		
20.06	<b>Road Marking painting</b>				
	Preparing road surface, supplying approved road marking paint, 100mm wide marking out and painting, all in accordance with the Specification and in conformity with the RE instructions				
20.06A	White paint	m <sup>2</sup>	60		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	60		
	<b>Speed reduction bituminous bumps at junctions</b>				
20.09	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	No	2		
	<b>Rumble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the drawings and RE instructions	No	7		
	<b>Concrete Kerbs</b>				
20.11	Provision, transport, handling, mixing and placing all materials in accordance with Specification and in conformity with the RE instructions				
20.11A	Kerbs 125 mm x 250 mm straight	m	330		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	15		
20.11C	Channel blocks 125mm x 100mm	m	660		
	<b>Trees</b>				
20.12	Planting of approved indigenous types of trees where instructed, in accordance with the Specification, minimum height 1.5m - Open Fields or Wet Lands	No.	5		
	<b>TOTAL OF BILL 20 CARRIED TO SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			RRU-RD 05		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade (0.300km)		
	<b>FORT JESUS ROAD 05 (RRU-RD 05)-0.300KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Kiambu County- Fort Jesus Informal Settlement</b>				
ITEM	DESCRIPTION				AMOUNT (KSHS)
4	Site Clearance and Top Soil Stripping				
5	Earthworks				
8	Culverts and Drainage Works				
9	Passage of Traffic				
12	Natural Material Subbase and Base				
15	Bituminous Surface Treatments				
16	Bituminous Mixes				
20	Road Furniture				
	<b>SUB TOTAL-1 CARRIED TO SUMMARY PAGE</b>				

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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**SERIAL No.7 - STREET LIGHTING**  
**- KIANG'OMBE, UMOJA, MISRI, RIVERSIDE & FORT JESUS SETTLEMENTS**

COUNTY GOVERNMENT OF KIAMBU KISIP 2					
KIANG'OMBE, UMOJA, MISRI, RIVERSIDE & FORT JESUS SETTLEMENTS - THIKA, LIMURU, JUJA & RUIRU MUNICIPALITY					
PROPOSED SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF SOLAR PV STREET LIGHTS					
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>STREET LIGHTING SUPPLY, INSTALLATION AND COMMISSIONING:</b>				
1.0	An integrated solar street light fitting with 42Ah, 12.8V LiFePO4 Battery type; 18V 65W, Mono-Crystalline Solar Panel. The luminaire to be of LED type 150W Solar 3030 LED 144PCS 3000K-6500K LED Lamp, 160lm/W; complete with mounting accessories as AllTop Light or approved equivalent.	No	395		
2.0	10m round-section tapering concrete column to KS 1933 standard complete with all accessories to meet 8m mounting height requirements as shown in the drawings and in the Technical Specifications.	No	395		
3.0	Galvanised column universal clamps, anti-vandal, anti-theft, and anti-climbing features and all accessories to meet 8m mounting height requirements as shown in the drawings and in the Technical Specifications.	No	395		
4.0	1200mm bracket with 0 degrees tilt angle manufactured from Class C galvanised steel pipe	No	395		
	<b>CIVIL WORKS:</b>				
5.0	Allow for excavation of pit for mounting of columns at 1500mm depth below the finished surface complete with concrete backfill and compact to natural ground level, as shown in the drawings.	No	395		
	<b>OTHER GENERAL ITEMS:</b>				
6.0	Allow for all costs in connection with testing and commissioning of entire PV system including making arrangements for testing of materials, goods etc, as stipulated in the Specification, obtaining test reports and submitting same to the Employer's Representative	Item	1.0		
	<b>Total carried forward to Collection Page</b>				



CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **SERIAL No.8 - DAYWORKS - KIAMBU COUNTY**

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>BILL No.22: DAYWORKS (PROVISIONAL SUM)</b>					
	<b>Plant</b>				
22.01	Crawler Dozers with Dozer and Hydraulic Ripper Attachments:				
	a) 100 - 135 kW rated flywheel power	hr	10		
	b) 136 - 185 kW rated flywheel power	hr	10		
	c) 186-250 kw rated flywheel power	hr.	10		
22.02	Motorized rubber tyred single engine scrapers				
	a) up to 16m <sup>3</sup> heaped capacity	hr.	10		
	b) 17 - 26m <sup>3</sup> heaped capacity	hr.	10		
22.03	Motorized rubber tyred twin engine scrapers				
	a) up to 16m <sup>3</sup> heaped capacity	hr.	10		
	b) 17 - 26m <sup>3</sup> heaped capacity	hr.	10		
22.04	Motor graders complete with Hydraulic Ripper or scarifier				
	a) 80-110 kw rated flywheel power	hr.	10		
	b) 111-120 kw rated flywheel power	hr.	10		
	c) 121-160 kw rated flywheel power	hr.	10		
22.05	Rollers - Towed Vibratory Including Tractor:				
	a) 6.5 - 8.8 t unballasted wt.	hr	10		
	b) 8.9 - 11.7 t unballasted wt.	hr	10		
22.06	Rollers - Road Deadweight (steel three wheel):				
	a) 6.1 - 8.5 t unballasted wt.	hr	10		
22.07	Rollers - Rubber Tyred Self-Propelled:				
	a) up to 1.0 t per wheel	hr	10		
22.08	Rollers - Vibratory Single Roll Rubber Tyred:				
	a) 8.3 - 10.5 t unballasted wt.	hr	10		
22.09	Rollers - Vibratory Pedestrian Operated Twin Roller:				
	a) 651 kg - 1.3 t un-ballasted weight	hr	10		
22.10	Vibrating Plate Compactor:				
	a) 114 - 200 kg operating weight.	hr	10		
22.11	Compressors - Rated by Normal Delivery of Free Air per min at 7 kg per cm <sup>2</sup> Complete with all Tools, Hoses, Steel etc.				
	a) 6.0 - 7.4m <sup>3</sup> /min	hr	10		
	b) 7.5 - 9.7m <sup>3</sup> /min	hr	10		
	(c) 9.8-25.5m <sup>3</sup> /min	hr.	10		
22.12	Cranes - Mobile Rubber Tyred Rough Terrain Type:				
	a) 23.0 - 40.0 t max working load	hr	10		
22.13	Cranes - Excavator Cranes Tracked:				
	a) 20.0 - 28.0t max working load	hr	10		
22.14	Small Dumpers:				
	a) 751kg - 1.2t maker's rated payload	hr	10		
22.15	Excavator - hydraulic crawler or wheel mounted, full circle slew (back actor):				
	a) 14.0-17.0t nominal wt of machine	hr	10		
22.16	Excavators - hydraulic wheeled dual purpose (backhoe/loader):				
	a) 14.0-17.0t nominal wt of machine	hr	10		
22.17	Pumps (inclusive of all hoses):				
	a) 50 - 76mm delivery	hr	10		
	(b) 77-101mm delivery	hr.	10		
22.18	Tractors - Rubber Tyred Including Trailer:				
	a) 50 - 70 kW rated flywheel power	hr	10		
	<b>Loaders</b>				
	<i>The basis of loader classification is the society of Automotive Engineers of America (SAE) rated capacity of the bucket. The classification is based on the largest general purpose bucket by the manufacturer or the bucket size adopted by the Contractor whichever is lesser</i>				
22.19	Wheeled Loaders - 4 wheel drive, articulated:				
	a) 50 - 70 kW rated flywheel power	hr	10		
	b) 2.01 - 3.40m <sup>3</sup> SAE rated capacity	hr	10		
22.20	Crawler Loader:				
	a) 0.80 - 1.30m <sup>3</sup> SAE rated capacity	hr	10		
	b) 1.31 - 1.90m <sup>3</sup> SAE rated capacity	hr	10		
<b>TOTAL PAGE 1 OF 3 TO COLLECTION</b>					

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>BILL No.22: DAYWORKS (PROVISIONAL SUM)</b>					
22.21	Concrete mixers (wet capacity)				
	(a) up to 100 litres	hr.	10		
	(b) 101-200 litres	hr.	10		
	(c) 201-300 litres	hr.	10		
22.22	Transit Mixer 4.5 m3/hour	hr.	10		
22.23	Concrete pump of 4.5 and 30m3 capacity	hr.	10		
22.24	Concrete Vibrator (poker type):	hr	10		
22.25	Lorries - Flatbed				
	(a) up to 7.5t gross vehicle weight	hr.	10		
	(b) 7.6-12.0t gross vehicle weight	hr.	10		
22.26	Lorries -Tipper:				
	a) up to 11.0t gross vehicle wt	hr	10		
	b) 11.1 - 17.0t gross vehicle wt	hr	10		
22.27	Van, Pick-up or Similar Utility Vehicle:				
	a) up to 1.0t carrying capacity	hr	10		
22.28	Water or Fuel Tanker - Self Propelled:				
	a) 3500 - 4550 litre capacity	hr	10		
	b) 4551 - 7000 litre capacity	hr	10		
	(c) 7001-12000 litre capacity	hr.	10		
22.29	Pressure Bitumen Distributor:				
	a) 3500 - 4550 litre capacity	hr	10		
	(b) 4551-9000 litre capacity	hr.	10		
22.30	Hot mix plant - 60 tonnes per hour	hr.	10		
22.31	Wet mix plant - 60 tonnes per hour	hr.	10		
22.32	Hydrostatic paver & finisher with sensor control	hr.	10		
22.33	Batching and mixing plant 15-20 m' capacity	hr.	10		
22.34	Chip spreader	hr.	10		
22.35	Mechanical Broom	hr	10		
22.36	Bitumen Hands Sprayer of 200 litres carrying capacity	hr.	10		
22.37	Road marking machine	hr.	10		
22.38	Electric generator				
	(a)100KVA	hr.	10		
	(b) 125 KVA	hr.	10		
22.39	Crusher Plant	hr.	10		
22.40	Pulvimixer	hr.	10		
22.41	Oxy-acetylene cutting and welding set including oxygen and acetylene gases.	hr.	10		
22.42	Electrical welding set including electrodes	hr.	10		
	<b>Labour</b>				
22.50	Unskilled Labour	hr	10		
22.51	Skilled Labour	hr	10		
22.52	Artisan	hr	10		
22.53	Plant Operator	hr	10		
22.54	Driver	hr	10		
22.55	Foreman	hr	10		
22.56	Site Surveyor	hr	10		
22.57	Chainman	hr	10		
22.58	Watchman (all round surveillance)	hr.	10		
22.59	Blaster (Certified)	hr.	10		
22.60	Office attendants	hr.	10		
<b>TOTAL PAGE 2 OF 3 TO COLLECTION</b>					

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>BILL No.22: DAYWORKS (PROVISIONAL SUM)</b>					
	<b>Materials</b>				
22.80	Ordinary Portland Cement	t	1		
22.81	Hydrated Lime	t	1		
22.82	Mild steel				
	a) up to and including 16mm dia.	t	1		
	b) over 16mm dia.	t	1		
22.83	High tensile steel				
	a) up to and including 16mm dia.	t	1		
	b) over 16mm dia.	t	1		
22.84	Aggregate for concrete				
	a) fine	t	10		
	b) coarse	t	10		
22.85	Concrete:				
	a) Class 15/20	m3	10		
	b) Class 20/20	m3	10		
	c) Class 25/20	m3	10		
22.86	d) Class 30/20	m3	10		
22.87	Formwork				
	a) F1	m2	10		
	b) F2	m2	10		
	c) F3	m2	10		
22.88	150mm Blockwork	m2	100		
22.89	200mm Blockwork	m2	100		
22.90	Bitumen and emulsions				
	a) 80/100 penetration grade bitumen	litre	1000		
	b) MC 3000 cut-back bitumen	litre	1000		
	a) MC 70 cut-back bitumen	litre	1000		
	d) K1-70 bitumen emulsion	litre	1000		
22.91	Chippings				
	a) nominal size 6/10	m3	10		
	a) nominal size 10/14	m3	10		
22.92	Gabion Size 2.0 x 1.0 x 1.0m	m2	100		
22.93	Rock fill to gabions	m3	10		
22.94	Imported Fill (marrum)	m3	100		
22.95	Imported fill (Hardcore)	m3	100		
<b>TOTAL PAGE 3 OF 3 TO COLLECTION</b>					



CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>BILL No.22: DAYWORKS (PROVISIONAL SUM)</b>					
<b>BILL 22 COLLECTION</b>					
<b>S/NO</b>	<b>Page Particulars</b>				<b>Amount (Kes)</b>
1	Page 1 of 3 Totals				
2	Page 2 of 3 Totals				
3	Page 2 of 3 Totals				
<b>BILL 22 TOTAL CARRIED TO SUMMARY</b>					

CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING INFRASTRUCTURE WORKS IN  
SELECTED INFORMAL SETTLEMENTS OF UMOJA AND KIANG'OMBE IN THIKA TOWN, GITAMBAYA/FORT JESUS IN RUIRU TOWN,  
BOSNIA/RIVERSIDE IN GITHURAI AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.

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## **SERIAL No.9 - ENVIRONMENTAL AND SOCIAL SAFEGUARDS – KIAMBU COUNTY**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>BILL NO.28</b>	<b>ENVIRONMENTAL &amp; SOCIAL SAFEGUARDS</b>				
<b>28.01</b>	<b>Allow for a provisional sum for obtaining necessary licences and approvals except for the ESIA for the project</b>				
	a. ESIA for borrow pits/material sites, campsites, Batchment plants etc and decommissioning certificate	Lump Sum	6		
	b. Water abstraction licenses/approvals	Lump Sum	6		
	c. OSHA work place registration	Lump Sum	6		
	d. Others ( where applicable): Effluent Discharge Licernce, Excessive Noise and Vibration, Bulk Petroleum Storage/Handling, NCA Registration, Raw Materials Haulange permits etc.	Lump Sum	6		
<b>28.02</b>	<b>Allow a provisional sum for creating awareness on E&amp;S risks among the communities and workers</b>				
	a. Awareness on environmental and social risks to communities before works commencement and during works	PC Sum	6	75,000.00	450,000.00
	b. HIV/Aids Awareness and prevention measures	PC Sum	6	75,000.00	450,000.00
	c. Gender : Gender Based Violence (GBV), Sexual Exploitation, Abuse and Harrassment(SEAH)	PC Sum	6	50,000.00	300,000.00
	d. Climate Resilience and disaster management	PC Sum	6	50,000.00	300,000.00
	e. Operation and maintenance : Solid waste management	PC Sum	6	50,000.00	300,000.00
	E.O. item 28.02(a) to 28.02(e) for the contractor's overheads and profit.	%	1,800,000.00		
<b>28.03</b>	<b>Allow for a provisional sum to undertake stakeholder engagment activities</b>				
	a. Community meetings ( with SEC and GRCs )	PC Sum	6	75,000.00	450,000.00
	b. Facilitate SECs and GRCs where necessary to deliver on their mandates	PC Sum	6	100,000.00	600,000.00
	c. Meetings with County- CPCTs and other stakeholders	PC Sum	6	200,000.00	1,200,000.00
	d.O. item 28.03(a) to 28.03(c) for the contractor's overheads and profit.	%	2,250,000.00		
<b>28.04</b>	<b>Allow for the implementation of actions in the ESMP</b>				
	a. Allow for the preparation and quarterly reviews of site-specific ESMP	Item	6		
	b. Traffic management- awareness, traffic marshalls, signage, diversions etc.	Item	6		
	c. Occupational health and safety - Inudction, training/awareness, First Aiders, Fire Marshals, safety committees, supervisors, Safety Officers access rumps etc.	Item	12		
	d. Capcity building and support of the project Management and HS Officer to implement and Report Climate Mainstreaming actions	Item	6		
	e. Provision of personal protective equipments	Item	250		
	f. Dust/noise and excessive vibrations control	Item	13		
	g. Facilities e.g. toilets and bathrooms, drinking water etc.	Item	6		
	h. Disposal of construction waste	Item	6		
<b>28.05</b>	<b>Provide for rehabilitation and restoration of disturbed environments</b>				
	a. Rehabilitation of material sites	item	6		
	b. Revegetation of cleared areas	item	6		
	c. Restoration of impacted community assets	item	6		
<b>28.06</b>	<b>Allow for a provisional sum for the project closure Environmental audit and sybmission to NEMA</b>				
	a. Project closure Environmental audit	PC Sum	1	500,000.00	500,000.00
	b. Submission of the report and approval by NEMA	PC Sum	1	100,000.00	100,000.00
	E.O. item 28.06(a) to 28.06(b) for the contractor's overheads and profit.	%	600,000.00		
	<b>TOTAL FOR BILL 28 CARRIED TO GRAND SUMMARY PAGE</b>				