



# **NYANDARUA COUNTY GOVERNMENT**

**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 HURUMA IN  
OL KALAU AND NJABINI WITHIN NYANDARUA 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 HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **PREAMBLE**

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

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NYANDARUA 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 NYANDARUA  
COUNTY DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NYANDARUA 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 HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **GRAND SUMMARY**

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

**BILLS OF QUANTITIES GRAND SUMMARY**

No.	ITEM DESCRIPTION	(KES)
1	Preliminary & General Items	
2	Njabini Roads - Nyandarua	
3	Huruma Roads - Nyandarua	
4	Nyandarua County Settlement Street Lighting	
5	Environmental & Social Safeguards	
6	Dayworks	
<b>A</b>	<b>SUB -TOTAL 1</b>	
	<b>Add the sum of 10% of sub-total 1 for contingencies</b>	
<b>B</b>	<b>GRAND TOTAL</b>	

**CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING  
INFRASTRUCTURE WORKS IN SELECTED INFORMAL SETTLEMENTS OF HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **PRELIMINARY AND GENERAL ITEMS**

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

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

<b>BILL No.1: PRELIMINARIES AND GENERAL</b>					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b><u>CONTRACTUAL REQUIREMENTS</u></b>				
	<b><u>Performance Securities and Insurances</u></b>				
A110	Provision of Performance Security in accordance with GCC Clause 52.1 (FIDIC 1999)	L Sum	1		
A120	Provision of Insurance of Works, Plant and Materials in accordance with GCC Clause 13.1 (a)	L Sum	1		
A130	Provision of Insurance of Contractor's Equipment in accordance with GCC Clause 13.1 (b)	L Sum	1		
A140	Provision of Third Party Insurance in accordance with GCC Clause 13.1 (c)	L Sum	1		
A150	Provision of Insurance of Contractor's Personnel in accordance GCC Clause 13.1 (d)	L Sum	1		
	<b><u>Dispute Adjudication/Avoidance Board</u></b>				
A160	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	2,000,000.00	2,000,000.00
A160.1	Add Contractor's profits and overheads on Item A160	%	2,000,000.00		
<b>A2</b>	<b><u>SPECIFIED REQUIREMENTS</u></b>				
	<b><u>Offices for the Engineer's staff</u></b>				
A211	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	4,000,000.00	4,000,000.00
A211.1	Add Contractor's profits and overheads on Item A211	%	4,000,000.00		
	<b><u>Services for the Engineer's staff</u></b>				
	<b><u>Engineer's Miscellaneous Account</u></b>				
A223	Prime Cost Sum for Engineer's miscellaneous account as specified in the Standard Specifications Clause 139.	PC Sum	1	1,500,000.00	1,500,000.00
A223.1	Add Contractor's profits and overheads on Item A223	%	1,500,000.00		
	<b><u>Equipment for use by the Engineer's Staff</u></b>				
A233	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	3,000,000.00	3,000,000.00
A233.1	Add Contractor's profits and overheads on Item A223	%	3,000,000.00		
	<b><u>Testing of Materials</u></b>				
A250	Provisional Sum for testing of materials as instructed by the Engineer in approved independent testing laboratory	Prov Sum	1	1,000,000.00	1,000,000.00
A250.1	Add Contractor's profits and overheads on Item A250	%	1000000		
	<b>TOTAL PAGE 1 OF 2 TO COLLECTION</b>				



COUNTY GOVERNMENT OF NYANDARUA  
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KENYA INFORMAL SETTLEMENT IMPROVEMENT PROJECT, PHASE 2

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NYANDARUA 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>				
A260	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	5,000,000.00	5,000,000.00
A260.1	Add Contractor's profits and overheads on Item A260	%	5,000,000.00		
	<b><u>Project Sign Boards</u></b>				
A272	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.	nr	2		
	<b><u>Progress Reports and Photographs, "As Built" Drawings and O&amp;M Manuals</u></b>				
A291	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		
A292	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>				
A311	Mobilisation, operation and maintenance 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 Temporary Works.	L Sum	1		
	<b><u>PROVISIONAL SUMS</u></b>				
	<b><u>Supplementary Charges</u></b>				
A417	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	5,000,000.00	5,000,000.00
A418	Add Contractor's profits and overheads on Item A417	%	5,000,000.00		
	<b><u>Other Provisional Sums</u></b>				
A420	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			
	<b>TOTAL PAGE 2 OF 2 TO COLLECTION</b>				

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

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NYANDARUA 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 HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **HURUMA SETTLEMENT – OL KALOU**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>					
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Nyandarua County- Huruma 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>	4,354.00		
	<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>	870.80		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	44		
<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
	<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Nyandarua County- Huruma 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>	82.25		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	8.23		
	<b>Fill in Expansive Clay Areas</b>				
5.03	As per Item 5.01 but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 1.0m	m <sup>3</sup>	4,354.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	1,558.25		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	155.83		
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>	4,354.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	653.10		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,306.20		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	391.86		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,306.20		
	<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>	311.00		
	<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>	311.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
	<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Nyandarua County- Huruma 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>	240		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	120		
	<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>	896		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	224		
	<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>	240		
	<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	40		
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>	40		
	<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>	13		
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 for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	261		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	124		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
	<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Nyandarua County- Huruma 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	0.31		
	<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>	233.25		
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	0.62		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>					
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Nyandarua County- Huruma 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>	653.10		
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>	653.10		
<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>					



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01			
			50 A.C			
			150 Stone Base			
			150 Gravel Subbase			
			300 Improved Sub Grade (0.622km)			
<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>						
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>					
	Nyandarua County- Huruma 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	3732.0			
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	3732.0			
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>						
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>					
	Nyandarua County- Huruma 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>	223.1			
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>						

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Nyandarua County- Huruma 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	25,000.00	<b>25,000.00</b>
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>	124		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	124		
	<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>Rubble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	m	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	622		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	31		
20.11C	Channel blocks 125mm x 100mm	m	1,244		
	<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)
			HRM-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.622km)		
	<b>HURUMA ROAD 01 (HRM-RD 01)-0.622KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Nyandarua County- Huruma 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>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.684km)		
<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>					
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Nyandarua County- Huruma 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>	4,788.00		
	<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>	957.60		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	48		
<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.684km)		
	<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Nyandarua County- Huruma 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>	146.81		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	14.68		
	<b>Fill in Expansive Clay Areas</b>				
5.03	As per Item 5.01 but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 1.0m	m <sup>3</sup>	4,788.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	1,188.21		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	118.82		
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>	4,788.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	718.20		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,436.40		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	430.92		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,436.40		
	<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>	342.00		
	<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>	342.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.684km)		
	<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Nyandarua County- Huruma 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>	280		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	140		
	<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>	985		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	246		
	<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>	280		
	<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	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>	53		
	<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>	17		
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 for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	287		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	137		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.684km)		
	<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	<b>Nyandarua County- Huruma 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	0.34		
	<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>	256.50		
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	0.68		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.684km)		
	<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Nyandarua County- Huruma 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>	718.20		
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>	718.20		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY		RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (0.684km)			
<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>						
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>					
	Nyandarua County- Huruma 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	4104.0			
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	4104.0			
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>						
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>					
	Nyandarua County- Huruma 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>	245.4			
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>						

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 02 50 A.C 150 Stone Base 150 Gravel Subbase 300 Improved Sub Grade (0.684km)		
	<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Nyandarua County- Huruma 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>	137		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	137		
	<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>Rubble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	m	16		
	<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	684		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	34		
20.11C	Channel blocks 125mm x 100mm	m	1,368		
	<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)
			HRM-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.684km)		
	<b>HURUMA ROAD 02 (HRM-RD 02)-0.684KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Nyandarua County- Huruma 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>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>					
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Nyandarua County- Huruma 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>				
	<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>	3,542.00		
	<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>	708.40		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	35		
<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
	<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Nyandarua County- Huruma 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>	20.13		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	2.01		
	<b>Fill in Expansive Clay Areas</b>				
5.03	As per Item 5.01 but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 1.0m	m <sup>3</sup>	3,542.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	2,147.27		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	214.73		
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>	3,542.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	531.30		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,062.60		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	318.78		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,062.60		
	<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>	253.00		
	<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>	253.00		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>					
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Nyandarua County- Huruma 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>	280		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	140		
	<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>	729		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	182		
	<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>	280		
	<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	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>	53		
	<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>	17		
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 for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	213		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	101		
<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>					
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Nyandarua County- Huruma 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	0.25		
	<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>	189.75		
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	0.51		
<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>					
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Nyandarua County- Huruma 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>	531.30		
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>	531.30		
<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>					



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Nyandarua County- Huruma 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	3036.0		
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	3036.0		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Nyandarua County- Huruma 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>	181.5		
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Nyandarua County- Huruma 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>	101		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	101		
	<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>Rubble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	m	12		
	<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	506		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	25		
20.11C	Channel blocks 125mm x 100mm	m	1,012		
	<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)
			HRM-RD 03		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Improved Sub Grade (0.506km)		
	<b>HURUMA ROAD 03 (HRM-RD 03) - 0.506KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Nyandarua County- Huruma 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 HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **NJABINI SETTLEMENT - NYANDARUA**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
	<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>				
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Nyandarua County- Njabini 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>	3,577.00		
	<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>	715.40		
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)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
	<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Nyandarua County- Njabini 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>	5.75		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	0.58		
	<b>Fill in Expansive Clay Areas</b>				
5.03	As per Item 5.01 but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 1.0m	m <sup>3</sup>	3,577.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	2,593.58		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	259.36		
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>	3,577.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	536.55		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,073.10		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	321.93		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	321.93		
	<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>	255.50		
	<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>	255.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>					
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	Nyandarua County- Njabini 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>	360		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	180		
	<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>	736		
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>	360		
	<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	50		
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>	64		
	<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>	20		
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 for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	215		
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)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
	<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Nyandarua County- Njabini 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	0.26		
	<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>	191.63		
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	0.51		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>					
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	Nyandarua County- Njabini 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>	536.55		
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>	536.55		
<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>					
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Nyandarua County- Njabini 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	3066.0		
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	3066.0		
<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>					
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Nyandarua County- Njabini 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>	183.3		
<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>					
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Nyandarua County- Njabini 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>	102		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	102		
	<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>Rubble Strips on Pavement</b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	m	12		
	<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	511		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	26		
20.11C	Channel blocks 125mm x 100mm	m	1,022		
	<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)
			NJB-RD 01		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.511km)		
	<b>NJABINI ROAD 01 (NJB-RD 01) - 0.511KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Nyandarua County- Njabini 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>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>					
<b>BILL NO.04</b>	<b>SITE CLEARANCE AND TOPSOIL STRIPPING</b>				
	Nyandarua County- Njabini 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>	5,383.00		
	<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>	1,076.60		
4.03	Excavate and remove existing pipes and culverts of any size and the inlet and outlet structures including back filling.	m	54		
<b>TOTAL FOR BILL 4 CARRIED TO GRAND SUMMARY PAGE</b>					-

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
<b>BILL NO.5</b>	<b>EARTHWORKS</b>				
	Nyandarua County- Njabini 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>	360.94		
	<b>Fill in Hard Material</b>				
5.02	As Item 5.01 but in hard material	m <sup>3</sup>	36.09		
	<b>Fill in Expansive Clay Areas</b>				
5.03	As per Item 5.01 but in expansive clay areas to replace unsuitable material removed up to a maximum depth of 1.0m	m <sup>3</sup>	5,383.00		
	<b>Spoil in Soft Material</b>				
5.04	Cut to spoil in soft material	m <sup>3</sup>	624.70		
	<b>Spoil in Hard Material</b>				
5.05	Excavate, stock pile for reuse and spoil surplus hard material	m <sup>3</sup>	62.47		
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>	5,383.00		
	<b>Compaction of Existing Ground</b>				
5.07	Compaction of formation ground in accordance with the specification	m <sup>3</sup>	807.45		
5.08	Compaction of the 300mm below formation level in cutting to 100% MDD (AASHTO T99)	m <sup>3</sup>	1,614.90		
5.09	Extra over item 5.07 for compaction of top 300mm in fills to 100% MDD (AASHTO T99)	m <sup>3</sup>	484.47		
5.10	Provide, lay and compact 300mm improved sub grade material to 100% MDD (AASHTO T99)	m <sup>3</sup>	484.47		
	<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>	384.50		
	<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>	384.50		
	<b>TOTAL FOR BILL 5 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
<b>BILL NO.8</b>	<b>CULVERTS AND DRAINAGE</b>				
	<b>Nyandarua County- Njabini 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>	440		
8.02	Extra over Item 8.01 for excavation in hard material	m <sup>3</sup>	220		
	<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>	1,107		
8.04	Extra over Item 8.03 for excavation in hard material	m <sup>3</sup>	277		
	<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>	440		
	<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	60		
8.07	b) 900 mm diameter	m	50		
	<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>	78		
	<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>	25		
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 for concrete drain and concrete class 15(20) blinding as specified in the drawings.	m <sup>3</sup>	323		
8.12	Provide 250mm PVC pipes at 50m intervals for service ducts	m	154		
	<b>TOTAL FOR BILL 8 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
<b>BILL NO.9</b>	<b>PASSAGE OF TRAFFIC</b>				
	Nyandarua County- Njabini 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	0.38		
	<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>	288.38		
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	0.77		
	<b>TOTAL FOR BILL 9 CARRIED TO GRAND SUMMARY PAGE</b>				



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
<b>BILL NO.12</b>	<b>NATURAL MATERIAL SUBBASE AND BASE</b>				
	<b>Nyandarua County- Njabini 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>	807.45		
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>	847.82		
	<b>TOTAL FOR BILL 12 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
<b>BILL NO.15</b>	<b>BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING</b>				
	Nyandarua County- Njabini 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	4614.0		
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	4614.0		
	<b>TOTAL FOR BILL 15 CARRIED TO GRAND SUMMARY PAGE</b>				
<b>BILL NO.16</b>	<b>BITUMINOUS MIXES</b>				
	Nyandarua County- Njabini 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>	275.9		
	<b>TOTAL FOR BILL 16 CARRIED TO GRAND SUMMARY PAGE</b>				

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
<b>BILL NO.20</b>	<b>ROAD FURNITURE</b>				
	<b>Nyandarua County- Njabini 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>	154		
20.07	As Item 2007 but 250mm wide				
20.07A	a) White paint	m <sup>2</sup>	154		
	<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	4		
	<b><u>Rubble Strips on Pavement</u></b>				
20.10	Provision, transport and placing of materials in accordance with the Specification and in conformity with the RE instructions	m	18		
	<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	769		
20.11B	Kerbs 125 mm x 250 mm radius 1m - 5m	m	38		
20.11C	Channel blocks 125mm x 100mm	m	1,538		
	<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)
			NJB-RD 02		
			50 A.C		
			150 Stone Base		
			150 Gravel Subbase		
			300 Sub Grade Material (0.769km)		
	<b>NJABINI ROAD 02 (NJB-RD 02) - 0.769KM</b>				
	<b>GRAND SUMMARY TOTAL QUANTITIES</b>				
	<b>Nyandarua County- Njabini 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 HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **STREET LIGHTING – NYANDARUA COUNTY**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>THE PROPOSED SOLAR STREET LIGHTING FOR NYANDARUA COUNTY SETTLEMENTS</b>					
<b>ELECTRICAL INSTALLATIONS – BILL OF QUANTITIES</b>					
Note: The contractor is referred to the instructions to Bidders, Conditions of Contract , General and Special Specifications attached to this contract and is to include in this Bill No. 1 against respective conditions and clauses amounts necessary to cover compliance therewith, for if no amount is set against a condition or a clause within this Bill, then it will be understood that compliance with such conditions or clauses is included against other items in the Bill of Quantities.					
<b>PRELIMINARIES AND GENERAL CONTRACTUAL REQUIREMENTS</b>					
1.0	Allow for provision of performance security in accordance with clause on general conditions of contract.	Item	1.0		
2.0	Allow for provision of insurance of works and contractors equipment in accordance with clause on general conditions of contract.	Item	1.0		
3.0	Allow for provision of Third Party Insurance (including Employer's Property) all in accordance with a clause on general conditions of contract.	Item	0.0		
4.0	Allow for insurance against Accident to Workmen in accordance with clause on general conditions of contract.	Item	0.0		
5.0	The Employer has no available land to offer for Contractor's Camp, storage of materials and preparation of concrete etc. Identification and procurement of suitable area of land for Contractor's Camp whether rented or purchased is the responsibility of the Contractor. Allow for the establishment of the Contractor's Camp for the duration of the project - approximately 6 months.	Item	0.0		
6.0	Progress Reports and Photos: Allow for a prime cost sum for providing reports and photographs showing the progress of the works (per month) in accordance with the specification.	No.	6.0		
7.0	Project Signboard: Allow for the provision, erection and maintenance of project signboards in accordance with the specification.	No.	1.0		
8.0	Allow for the management of environment, health and safety at site by the	Item	1.0		
9.0	Provide a PC sum of Ksh.100,000.00 for the Engineer's Representative and Client for transport to cover for factory visits.	Item	1.0	100,000.00	100,000.00
10.0	Removal and alteration of existing services: Allow for a prime cost sum of Ksh.150,000.00 for removal of and reinstatement of services in accordance with the specification and in conformity with the resident engineer's instructions	Item	1.0	150,000.00	150,000.00
11.0	Allow a prime cost sum of Ksh.100,000.00 for O & M training of community members during testing and commissioning works.	Item	1.0	100,000.00	100,000.00
12.0	Allow 15% profits and overheads for items 10 to 11.	Item	1.0	52,500.00	52,500.00
<b>Total carried to forward Grand Summary Page</b>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>THE PROPOSED SOLAR STREET LIGHTING FOR NYANDARUA COUNTY SETTLEMENTS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT (KSH)</b>
<b>BILL NO. 2</b>					
<b>STREET LIGHTING INSTALLATION</b>					
<b>Supply, install, test and commission the following:</b>					
1.0	An integrated solar street light fitting with 30Ah, 12.8V Lithium Ferro Phosphate battery with 2000 charge and discharge cycles; in-built 60Wp, 17Vmp, 21Voc monocrystalline solar panel; 35W MPPT charge controller; light on/off control and motion detection sensors; pressure die cast aluminium for sturdiness and long life, and specially designed pole mounting bracket to allow different tilt angles, lateral and pole top mounting. The luminaire to be of LED type with 6000 lumen, 175lm/W, 5700K, L70B50 50000h lifespan, and rated IP65 and IK08; complete with mounting accessories for 6m high galvanised steel lighting pole, as Philips SunStay BRP710 LED60 CW MR HY FDIM20 SOLAR, or approved equivalent.	No	1.0		
2.0	6m single-arm street lighting round-section tapering concrete column complete with 1m bracket with 0 degrees tilt angle manufactured from Class C galvanised steel pipe with anti-vandal, anti-theft, and anti-climbing features and all accessories to meet 6m mounting height requirements as shown in the drawings and in the Technical Specifications.	No	1.0		
<b>Civil Works:</b>					
3.0	Allow for excavation of pit for mounting of columns at 1.2m depth below the finished surface complete with concrete backfill and compact to natural ground level, as shown in the drawings.	No	1.0		
<b>Other General Items:</b>					
4.0	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>					

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>THE PROPOSED SOLAR STREET LIGHTING FOR NYANDARUA COUNTY SETTLEMENTS</b>					
<b>COLLECTION PAGE</b>					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSH)
1.0	Street lighting installation brought forward from Bill No. 2	No	173.0		
2.0	Allow for prepare and submit to the Client's Representative complete set of Shop Drawings, as required to the specified scale(s), giving all details, as required by the Employer's Representative, for the work executed. Submission shall be in 3 sets as hard copies, colour printed on A3 size paper and 01 set of soft copies in AutoCAD compatible version in a compact disc.	Item	1.0		
3.0	Allow for prepare and submit to the Client's Representative a complete set of As Built Drawings as required, to the specified scale(s), giving all details, as required by the Employer's Representative for the work executed. Submission shall be in 3 sets as hard copies, colour printed on A3 size paper and 01 set of soft copies in AutoCAD compatible version in a compact disc.	Item	1.0		
<b>Total carried forward to Grand Summary Page</b>					



ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>THE PROPOSED SOLAR STREET LIGHTING FOR NYANDARUA COUNTY SETTLEMENTS</b>				
	<b>GRAND SUMMARY PAGE</b>				
ITEM	DESCRIPTION				AMOUNT (KSH)
1.0	Preliminaries and General Contractual Requirements				
2.1	Solar street lighting installation for Huruma in Ol Kalou and Njabini in Nyandarua				
	<b>GRAND TOTAL CARRIED FORWARD TO FORM OF TENDER</b>				-

**CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING  
INFRASTRUCTURE WORKS IN SELECTED INFORMAL SETTLEMENTS OF HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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**ENVIRONMENTAL AND SOCIAL SAFEGUARDS – NYANDARUA  
COUNTY**

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>BILL NO.28</b>	<b>ENVIRONMENTAL &amp; SOCIAL SAFEGUARDS</b>				
	<b>Nyandarua County</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 decomissioning certificate	Lump Sum	2		
	b. Water abstraction licenses/approvals	Lump Sum	2		
	c. OSHA work place regsitration	Lump Sum	2		
	d. Others ( where applicable): Effluent Discharge Licernce, Excessive Noise and Vibration, Bulk Petroleum Storage/Handling, NCA Registration, Raw Materials Haulange permits etc.	Lump Sum	2		
<b>28.02</b>	<b>Allow a provisonal 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	2	75,000.00	150,000.00
	b. HIV/Aids Awareness and prevention measures	PC Sum	2	75,000.00	150,000.00
	c. Gender : Gender Based Violenece (GBV), Sexual Exploitation, Abuse and Harrassment(SEAH)	PC Sum	2	50,000.00	100,000.00
	d. Climate Resilience and disaster management	PC Sum	2	50,000.00	100,000.00
	e. Operation and maintenance : Solid waste management	PC Sum	2	50,000.00	100,000.00
	E.O. item 28.02(a) to 28.02(e) for the contractor's overheads and profit.	%	600,000.00		-
<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	2	75,000.00	150,000.00
	b. Facilitate SECs and GRCs where necessary to deliver on their mandates	PC Sum	2	100,000.00	200,000.00
	c. Meetings with County- CPCTs and other stakeholders	PC Sum	2	200,000.00	400,000.00
	d.O. item 28.03(a) to 28.03(c) for the contractor's overheads and profit.	%	750,000.00		
<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	2		
	b. Traffic management- awareness, traffic marshalls, signage, diversions etc.	Item	2		
	c. Occupational health and safety - Inudction, training/awareness, First Aiders, Fire Marshals, safety committees, supervisors, Safety Officers access rumps etc.	Item	2		
	d. Capcity building and support of the project Management and HS Officer to implement and Report Climate Mainstreaming actions	Item	2		
	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	2		
	h. Disposal of construction waste	Item	2		
<b>28.05</b>	<b>Provide for rehabilitation and restoration of disturbed environments</b>				
	a. Rehabilitation of material sites	item	2		
	b. Revegetation of cleared areas	item	2		
	c. Restoration of impacted community assets	item	2		
<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>				

**CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS, WATER SUPPLY AND PUBLIC LIGHTING  
INFRASTRUCTURE WORKS IN SELECTED INFORMAL SETTLEMENTS OF HURUMA IN OL KALAU AND NJABINI WITHIN  
NYANDARUA COUNTY.**

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## **DAYWORKS**

CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NYANDARUA 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 NYANDARUA 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 NYANDARUA 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 NYANDARUA 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</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>					