



## KENYA RURAL ROADS AUTHORITY

### UPGRADING WORKS, REHABILITATION, SPOT IMPROVEMENT, GRAVELLING AND CONSTRUCTION OF STRUCTURES FOR THE FY 2025/26

#### ADDENDUM NO. 1

Reference is made to the Tender Notice that appeared in the Authority's website dated 22<sup>nd</sup> August, 2025.

The Authority has received numerous requests for clarification on the above referenced procurement and Interested Applicants are requested to note the following clarifications;

SN	Project	Clarification and Amendment
1.	<b>RWC 692:</b> Upgrading to Bitumen Standard of B23 Kahaaini - Kaburugi - C541 Kiranga, B23 Kibereke - Kaburugi - Kibereke - Kaburugi - Njira Inya - Gatitu, Nguthuru - Gatitu - Gakui - Mukoe - Gituya (Road D1397) ; Phase 1: 10Km	1. This tender has been <b>cancelled</b>
1.	<b>RWC 693:</b> Upgrading to Bitumen Standard of Matayos – Namwitsula Bridge –Nasewa Caip –Shibale (C830) Road	<p>1. The following clause under Special Specifications has been amended:</p> <ul style="list-style-type: none"> <li>• <b><u>Clause 101 LOCATION OF THE PROJECT ROAD</u></b></li> </ul> <p>The traverse of the project road has been amended to read as follows:</p> <p><i>The project, Matayos – Namwitsula Bridge – Nasewa CAIP – Shibale (C830) Road is located in Matayos &amp; Butula Constituencies, Busia County and is approximately 13km in cumulative length.</i></p> <p><i>The road link, Matayos – Namwitsula Bridge – Nasewa CAIP – Shibale, starts at Matayos market, junction with the Busia – Kisumu (A12), traverses through Namwitsula Bridge, Nasewa County Aggregated Industrial Park (CAIP) and finally terminates at Shibale Market.</i></p>

SN	Project	Clarification and Amendment								
		<p><i>The road provides access to the following ongoing government programs in Busia County; National Affordable Housing Programme (km 8+000), Export Processing Zone (km 9+000), and the Nasewa CAIP (km 10+000).</i></p> <p><i>The existing roads are of gravel/earth surface. The main economic activity in the area included sorghum, millet, &amp; maize farming, and livestock keeping.</i></p> <p>2. The revised BOQ with revised quantities has been amended and attached as <b>annex 1</b> and should be used in place of the attached BOQ in the tender document. The Appendices shall remain as captured in the tender document.</p> <p>3. The Time for Completion under <b>Section IX: Special Conditions of Contract</b> has been amended as follows:</p> <p><b>A. Construction: Twenty – Four (24) Months</b></p> <p><b>B. Maintenance and Rectification during Defects Liability Period: Twelve (12) Months</b></p> <p><b>C. Performance Based Routine Maintenance: N/A</b></p>								
2.	<b>RWC 694:</b> Upgrading to Bitumen Standard of Nangina - Sio Port – Okados – Mundere (C828) Road	<p>1. The following clause under Special Specifications has been amended:</p> <ul style="list-style-type: none"><li><b><u>Clause 101 LOCATION OF THE PROJECT ROAD</u></b></li></ul> <p>The traverse of the project road has been amended to read as follows:</p> <p><i>The project road starts at Budwongi, approximately 9km from Nangina, and traverses through Sio Port, Mumbaka, Okados, and terminates at Mundere, junction with the Hakati-Port Victoria (C829) Road.</i></p> <p>2. Quantity under Bill item <b>16.01</b> has been amended as follows</p> <table><tr><th>Item</th><th>Description</th><th>Unit</th><th>Quantity</th></tr><tr><td>16.01</td><td>Provide, transport over any distance, lay, and compact Asphalt Concrete Type I bumps and rumble strips as per the specifications or as directed by the Engineer at a bitumen content of 5.5 - 7.0% by weight of total mix.</td><td>m<sup>3</sup></td><td><b>100</b></td></tr></table> <p>3. The revised BOQ with revised quantities <b>for Bill 16</b> has been amended and attached as <b>annex 2</b> and should be used in place of the attached BOQ in the tender document</p>	Item	Description	Unit	Quantity	16.01	Provide, transport over any distance, lay, and compact Asphalt Concrete Type I bumps and rumble strips as per the specifications or as directed by the Engineer at a bitumen content of 5.5 - 7.0% by weight of total mix.	m <sup>3</sup>	<b>100</b>
Item	Description	Unit	Quantity							
16.01	Provide, transport over any distance, lay, and compact Asphalt Concrete Type I bumps and rumble strips as per the specifications or as directed by the Engineer at a bitumen content of 5.5 - 7.0% by weight of total mix.	m <sup>3</sup>	<b>100</b>							
3.	<b>RWC 695:</b> Upgrading to Bitumen Standard of Kalandini – Ka Elijah – Kamnara Road	<p>1. The following clause under Special Specifications has been amended:</p> <ul style="list-style-type: none"><li><b><u>Clause 101 LOCATION OF THE PROJECT ROAD</u></b></li></ul> <p>The scope of new construction for the project road has been amended to read as follows:</p>								

Issue Date: 1 September, 2025

SN	Project	Clarification and Amendment																														
		<table><tr><th>S/No</th><th>Link Name</th><th>Description</th><th>Length (Km)</th></tr><tr><td>1.</td><td>Kalandini – Ka Elijah – Kamnara Road</td><td>New Construction</td><td>20.0</td></tr><tr><td colspan="3">Total</td><td>20.0</td></tr></table> <p>2. The Time for Completion under <b>Section IX: Special Conditions of Contract</b> has been amended as follows:</p> <p><b>A. Construction: Thirty (30) Months</b> <b>B. Maintenance and Rectification during Defects Liability Period: Twelve (12) Months</b> <b>C. Performance Based Routine Maintenance: N/A</b></p> <p>3. A revised tender document has been uploaded with the corrected BoQ and scope of work</p>	S/No	Link Name	Description	Length (Km)	1.	Kalandini – Ka Elijah – Kamnara Road	New Construction	20.0	Total			20.0																		
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1.	Kalandini – Ka Elijah – Kamnara Road	New Construction	20.0																													
Total			20.0																													
4.	<b>RWC 696:</b> Upgrading to Bitumen Standard of Sihayi – Kodongo – Kanyumba City Road/Bar Ober & Sega – Ukwala – Aboke – Odiado Road And Sega - Jera Loop Road; Phase 1: 20 Km	<p>1. The following clause under Special Specifications has been amended:</p> <ul style="list-style-type: none"><li><b><u>Clause 101 LOCATION OF THE PROJECT ROAD</u></b></li></ul> <p>The traverse of the project road has been amended to read as follows:</p> <p><i>The total length of the road to be constructed under <b>Phase 1</b> of the road is approximately <b>20.0 Km</b> along the following link –</i></p> <table><tr><th>S/No</th><th>Link Name</th><th>Description</th><th>Length (Km)</th></tr><tr><td>1.</td><td>Sihayi – Kadongo – Kanyumba City Road/Bar ober Road; Phase 1: 20 Km</td><td>New Construction</td><td>20.0</td></tr><tr><td colspan="3">Total</td><td>20.0</td></tr></table> <p><b><i>Spot improvement to gravel standard along select sections and construction of major drainage structures and approach roads shall be done to improve accessibility and motor ability to institutions or public utilities along the same link as directed by the Engineer: -</i></b></p> <table><tr><th>S/No</th><th>Link Name</th><th>Description of works</th><th>Length (Km)</th></tr><tr><td>1.</td><td>Kadongo – Indangalasia Road</td><td rowspan="3">Improvement to gravel standard and construction of drainage structures and approach roads</td><td>9.2</td></tr><tr><td>2.</td><td>Jera – Sega Road</td><td>6.0</td></tr><tr><td>3.</td><td>Ukwala – Aboke – Odiado – Sega Road</td><td>30.6</td></tr><tr><td colspan="3">Total</td><td>45.2</td></tr></table>	S/No	Link Name	Description	Length (Km)	1.	Sihayi – Kadongo – Kanyumba City Road/Bar ober Road; Phase 1: 20 Km	New Construction	20.0	Total			20.0	S/No	Link Name	Description of works	Length (Km)	1.	Kadongo – Indangalasia Road	Improvement to gravel standard and construction of drainage structures and approach roads	9.2	2.	Jera – Sega Road	6.0	3.	Ukwala – Aboke – Odiado – Sega Road	30.6	Total			45.2
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SN	Project	Clarification and Amendment
		<p>2. The Time for Completion under <b>Section IX: Special Conditions of Contract</b> has been amended as follows:</p> <p><b>A. Construction: Thirty (30) Months</b>  <b>B. Maintenance and Rectification during Defects Liability Period: Twelve (12) Months</b>  <b>C. Performance Based Routine Maintenance: N/A</b></p> <p>3. The revised BOQ with revised quantities has been amended and attached as <i>annex 3</i> and should be used in place of the attached BOQ in the tender document</p>
5.	<b>RWC 698:</b> Upgrading to Bitumen Standard of Chebole - Siongiroi-Labotiet-Chebunyo-Dikir Roads	<p>1. Under <b>Table 1: Technical &amp; Financial Capacity Evaluation</b> the following items have been amended</p> <p><b>Item 3 Experience:</b>  <b>3.3 (c) Value of Current Contract Commitments / Works in Progress with the Procuring Organization</b></p> <p>The value of pending works with the procuring entity <b>SHALL not exceed KShs. 30,000,000,000.00</b></p>
6.	<b>RWC 700:</b> Upgrading to Bitumen Standard of Holo – Lela Road	<p>1. The revised BOQ with revised quantities <b>for Bill 1</b> has been amended and attached as <i>annex 4</i> and should be used in place of the attached BOQ in the tender document.</p>
7.	<b>RWC 701:</b> Upgrading to Bitumen Standard of (Naiberi) Jnct Talai - Jnct Plateau - Africa Economic Zone (Aez) & (Naiberi) Jnct Talai - Jnct Plateau - Africa Economic Zone (Aez) & Limo - Illula - Tuiyoluk-Kipcharwart-Kaptagat Road	<p>1. Under <b>Table 2: Technical &amp; Financial Capacity Evaluation</b> the following items have been amended</p> <p><b>Item 3 Experience:</b>  <b>3.2 (a) Specific Construction Experience</b></p> <p>Participation as the main contractor, in at least <b>Two (2) contracts each</b> with a value of at least <b>Kshs. 1,000,000,000.00</b> within the last <b>Ten (10) Years</b></p>
8.	<b>RWC 702:</b> Upgrading to Bitumen Standard of Silibwet - Masese - Kiptagich Road In Bomet County	<p>1. Under <b>Table 3: Technical &amp; Financial Capacity Evaluation</b> the following items have been amended</p> <p><b>Item 3 Experience:</b>  <b>3.3 (c) Value of Current Contract Commitments / Works in Progress with the Procuring Organization</b></p> <p>The value of pending works with the procuring entity <b>SHALL not exceed KShs. 30,000,000,000.00</b></p>

SN	Project	Clarification and Amendment
9.	<b>RWC 706:</b> Upgrading to Bitumen Standard of Gwa Thamaki – Maragua Ridge – Mbombo – Jct C549/B25 (Road C549) – Jct B25/F2630 Mbombo – Mesco (Road F2630) and Jct B67/G45821 – Samar Leisure (Road G45821) ; <b>PHASE 1: 8KM</b>	<ol style="list-style-type: none"> <li>1. The tender name has been revised to read Upgrading to Bitumen Standard of Gwa Thamaki – Maragua Ridge - Mbombo – Jct C549/B25 (Road C549) – Jct B25/F2630 Mbombo – Mesco (Road F2630) and Jct B67/G45821 – Samar Leisure (Road G45821)</li> <li>2. A new tender document has been uploaded under this tender.</li> </ol>
10.	<b>RWC 707:</b> Cheptiret – Chepkongony – Flax	<ol style="list-style-type: none"> <li>1. A new tender document has been uploaded under this tender</li> </ol>

***ANNEX 1 (RWC 693)***

**UPGRADING TO BITUMEN STANDARD OF MATAYOS - NAMWITSULA BRIDGE –NASEWA  
CAIP -SHIBALE ROAD (C830)**

**RWC 693**

**BILLS OF QUANTITIES**

**BILL No. 1: PRELIMINARIES & GENERAL ITEMS**

<b>BILL ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE (KSHS.)</b>	<b>AMOUNT (KSHS.)</b>
1.01	Provide a Prime Cost Sum for Rented Accommodation for the Engineer's senior and junior staff as directed by the Engineer				
	(i) Type I - 1 no.	Month	24	65,000.00	
	(ii) Type II - 3 no.	Month	72	55,000.00	
	(iii) Type III - 5 no.	Month	120	40,000.00	
	(iv) Type IV - 5 no.	Month	120	30,000.00	
	<b>Total</b>	<b>PC Sum</b>	<b>Total Item 1.01</b>		
1.02	E.O. Item 1.01 for the Contractor's overheads and profit	%	13,920,000.00		
1.03	Provide a Prime Cost Sum of Kshs. 5,000,000 for materials testing and quality control of the works as shall be directed by the Engineer	PC Sum	1	5,000,000.00	
1.04	E.O. Item 1.03 for the Contractor's overheads and profit	%	5,000,000		
1.05	Provide, fuel, and maintain complete with a driver and comprehensive insurance, One (1) brand new 4WD fully loaded Station Wagon Vehicle of minimum diesel engine capacity of 2400cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh. Month	24		
1.06	E.O. Item 1.05 for total aggregated mileage in excess of 5000km per vehicle month	km	2,000		
1.07	Provide, fuel and maintain, for the duration of the Contract, complete with a driver and comprehensive insurance, Two (2) brand new 4WD fully loaded double cabin pickups of minimum diesel engine capacity of 2400cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh. Month	24		
1.08	E.O. Item 1.07 for total aggregated mileage in excess of 5000km per vehicle month	km	2,000		
1.09	Provide, fuel and maintain, for the duration of the Contract, complete with a driver and comprehensive insurance, One (1) brand new 4WD single cabin pickup with fibre glass body of minimum diesel engine capacity of 2400cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh. Month	24		
1.10	E.O. Item 1.09 for total aggregated mileage in excess of 5000km per vehicle month	km	5,000		
1.11	Provide a Prime Cost Sum of Kshs. 3,000,000 for the Resident Engineer's miscellaneous account to be spent in whole or in part as directed the Engineer against receipts	PC Sum	1	3,000,000.00	
1.12	E.O. Item 1.11 for the Contractor's overheads and profit	%	3,000,000.00		
1.13	Provide a Prime Cost Sum of Kshs. 9,000,000, for attendance upon the Engineers staff	PC Sum	1	9,000,000.00	
1.14	E.O. Item 1.13 for the Contractor's overheads and profit	%	9,000,000.00		
1.15	Provide, erect, and maintain publicity signs as directed by the Engineer	no.	4		
1.16	Allow for a Lump Sum of Kshs. 3,000,000.00 for training of Engineers	LUMP SUM	1	3,000,000.00	

**UPGRADING TO BITUMEN STANDARD OF MATAYOS - NAMWITSULA BRIDGE –NASEWA  
CAIP -SHIBALE ROAD (C830)  
RWC 693**

**BILLS OF QUANTITIES**

**BILL No. 1: PRELIMINARIES & GENERAL ITEMS**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Bill No. 1 Total Carried Forward to Grand Summary</b>				

**BILL No. 4: SITE CLEARANCE AND TOP SOIL STRIPPING**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<i><b>Note:</b> No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>				
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD (AASHTO T99) with approved material as directed by the Engineer.	Ha.	15.00		
4.02	Strip top soil up to 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	30,000		
	<b>Bill No. 4 Total Carried Forward to Grand Summary</b>				

**BILL No. 5: EARTHWORKS**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<i><b>Note:</b> No separate payment shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>				
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	55,000		
5.02	Extra Over Item 5.01 for compaction of the top 300mm subgrade below formation in fills to 100% MDD (AASHTO T99) in accordance with the specifications and as directed by the Engineer	m <sup>3</sup>	40,000		
5.03	Ditto Item 5.01 but in hard material	m <sup>3</sup>	500		
5.04	Cut to spoil in soft material	m <sup>3</sup>	15,000		
5.05	Ditto Item 5.04 but in hard material	m <sup>3</sup>	2,000		
5.06	Provide, transport over any distance, spread and compact to 100% MDD (AASHTO T99) improved subgrade material in accordance with the specifications and as directed by the Engineer	m <sup>3</sup>	1,500		
5.07	Scarify the ground 300mm below formation level in cutting, level, water, grade and compact in two layers of 150mm each to 100% MDD (AASHTO T99) in accordance with the specifications and as directed by the Engineer	m <sup>3</sup>	3,500		
5.08	Scarify, water, level, and compact 150mm thick existing ground below fills to at least 95% MDD (AASHTO T99) in accordance with the specifications and as directed by the Engineer	m <sup>3</sup>	20,000		



**BILL No. 5: EARTHWORKS**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
5.09	Top-Soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	10,000		
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	10,000		
	<b>Bill No. 5 Total Carried Forward to Grand Summary</b>				

**BILL No. 7: EXCAVATION AND FILLING OF STRUCTURES**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices				
7.01	Excavate in soft material	m <sup>3</sup>	450		
7.02	As per item 7.01 but in hard material	m <sup>3</sup>	50		
7.03	Provide, place, and compact rock fill below and around structures	m <sup>3</sup>	320		
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including grouting with 1:4 cement: sand mortar, lining the drain & sealing the top line with class 15(20) concrete	m <sup>2</sup>	2,500		
7.05	Excavation for gabions in soft material	m <sup>3</sup>	25		
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer	m <sup>2</sup>	550		
7.07	Rock fill to gabion boxes and mattresses	m <sup>3</sup>	100		
7.08	Filter fabric under and/or behind gabion boxes	m <sup>2</sup>	100		
7.09	Provide and backfill approved material around new structures, compact to 100% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	150		
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1		
7.11	River training in soft material	m <sup>3</sup>	300		
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>				

**BILL No. 8: CULVERTS AND DRAINAGE WORKS**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices				
8.01	Excavate for inlet, outfall, mitre, catch water drains, and subsoil drains in soft material	m <sup>3</sup>	200		
8.02	As per Item 8.01 but in hard material	m <sup>3</sup>	50		
8.03	Excavation in soft material to any depth for pipe culverts, headwalls, wing walls, apron, toe walls, and drop inlets and compacting the bed to 100% MDD (AASHTO T99) as per the specifications or as directed by the Engineer	m <sup>3</sup>	2,000		
8.04	As per Item 8.03, but for hard material	m <sup>3</sup>	100		
8.05	Provide, lay, joint and backfill over 600mm diameter concrete pipes (precast to BS 5911 Parts 1 & 3)	m	1,000		
8.06	As for item 8.05 but 900mm diameter concrete pipes (precast to BS 5911 Parts 1 & 3)	m	150		
8.07	As for item 8.05 but 1200mm diameter concrete pipes (precast to BS 5911 Parts 1 & 3)	m	60		
8.08	Provide, place, and compact class 15(20) concrete to beds, surround, and haunches including all formwork for the surround	m <sup>3</sup>	750		
8.09	Provide, place and compact Class 25(20) concrete for headwalls, wing walls, aprons, toe walls, and drop inlets to pipe culverts, access slabs and drifts including all formwork and the provision and placing of reinforcement as shown on the drawings	m <sup>3</sup>	750		

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
8.10	Provide subsoil filter drains fabric to isolated wet spots inclusive of artesian cloth and 14/20mm single size aggregates as directed by the Engineer.	m	100		
8.11	Construct in concrete Class 15(20) side drains scour checks as instructed	m <sup>3</sup>	15		
8.12	Remove existing pipe culverts of any diameter either for re-use or to be discarded as directed by the Engineer	m	1,400		
<b>Bill No. 8 Total Carried Forward to Grand Summary</b>					

**BILL No. 9: PASSAGE OF TRAFFIC**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> Notwithstanding the provision of Section 9 of the Standard Specification, no extra payments shall be due as all costs shall be deemed to be included in the rates inserted herein				
9.01	Allow for the passage of traffic through and around the works including the provision of road signs and barriers in accordance with the specifications and as directed by the Engineer	LS	1		
9.02	Provide, spread, water and compact 120mm thick gravel wearing course on the existing road for maintenance works as directed by the Engineer	m <sup>3</sup>	2,500		
9.03	Grade, water and compact existing road ahead of works in accordance with the specifications and as directed by the Engineer	km	7		
<b>Bill No. 9 Total Carried Forward to Grand Summary</b>					

**BILL No. 12: NATURAL MATERIAL SUBBASE AND BASE**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> No separate payment shall be made for the overhaul of material over any distance and the cost of such haulage shall be included in the rates				
12.01	Provide gravel sub-base material, haul, spread, compact to at least 95% MDD (AASHTO T-180) and shape to level and tolerance	m <sup>3</sup>	20,000		
12.02	Provide gravel for base material, haul, spread, compact to at least 95% MDD (AASHTO T180) and shape to level and tolerance	m <sup>3</sup>	15,000		
<b>Bill No. 12 Total Carried Forward to Grand Summary</b>					

**BILL No. 14: CEMENT & LIME TREATED SUBBASE AND BASE**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> No separate payment shall be made for the overhaul of material over any distance and the cost of such haulage shall be included in the rates				
14.01	Provide, store, handle, and spread hydraulic lime/quicklime as an improvement agent for Sub-base and base layers	tonne	1,050		
14.02	Provide, store, handle, and spread ordinary portland cement as an improvement agent for Sub base and base layers	tonne	1700		
14.03	Mix and process natural material with improvement agents for pavement layers in accordance with the specifications and as directed by the Engineer	m <sup>3</sup>	35,000		
14.04	Curing of cement & lime treated subbase and base layers in accordance with Clause 1409 of the Specifications and as directed by the Engineer	m <sup>2</sup>	200,000		
<b>Bill No. 14 Total Carried Forward to Grand Summary</b>					

**BILL No. 15: BITUMINOUS SURFACE TREATMENT & SURFACE DRESSING**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> No overhaul will be paid for separately under this item and the cost of hauling will be deemed to have been included in the rates				
15.01	Prepare surface of carriageway, shoulders, bus bays, accesses, and junctions, provide, heat and spray MC-30 cutback bitumen prime coat at an application rate of 0.8 - 1.2 litres/m <sup>2</sup> as per the specifications or as directed by the Engineer	litre	85,000		
15.02	Prepare surface of carriageway, shoulders, bus bays, accesses, and junctions, provide and spray 80/100 penetration grade bitumen as binder coat for the second Seal Surface dressing at an application rate of 1.0-1.4 litres/m <sup>2</sup> as per the specifications or as directed by the Engineer	litre	120,000		
15.03	Provide, spread and roll 14/20mm pre-coated chippings at a spread rate of 60- 90 m <sup>2</sup> /m <sup>3</sup> as per the specifications or as directed by the Engineer	m <sup>3</sup>	1,400		
15.04	Prepare surface of carriageway, shoulders, bus bays, accesses, and junctions, provide and spray 80/100 penetration grade bitumen as binder coat for the second Seal Surface dressing at an application rate of 0.6 - 1.0 litres/m <sup>2</sup> as per the specifications or as directed by the Engineer	litre	80,000		
15.05	Provide, spread and roll 6/10mm pre-coated chippings at a spread rate of 80- 120 m <sup>2</sup> /m <sup>3</sup> as per the specifications or as directed by the Engineer	m <sup>3</sup>	1,100		
15.06	Prepare surface of carriageway, shoulders, accesses, and junctions, provide, transport, and spray K1-60 bitumen emulsion as tack coat at an application rate of 0.5 - 0.8 litres/m <sup>2</sup>	litre	5,000		
	<b>Bill No. 15 Total Carried Forward to Grand Summary</b>				

**BILL No. 16: BITUMINOUS MIXES**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>Note:</b> No overhaul will be paid for separately under this item and the cost of hauling will be deemed to have been included in the rates				
16.01	Provide, transport over any distance, lay, and compact Asphalt Concrete Type I bumps and rumble strips as per the specifications or as directed by the Engineer at a bitumen content of 5.5 - 7.0% by weight of total mix	m <sup>3</sup>	100		
	<b>Bill No. 16 Total Carried Forward to Grand Summary</b>				

**BILL No. 17: CONCRETE WORKS**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>BRIDGES AND BOX CULVERT</b>				
	<b>(a) Concrete</b>				
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	15		
17.02	Provide, place, and compact concrete Class 25(20) to aprons, wing walls, abutments, piers, walls, and top slabs for bridges and box culverts as shown in the drawings	m <sup>3</sup>	200		
	<b>(b) Reinforcement:</b> Provide, cut, bend, & fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer				
17.03	High yield strength reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	tonne	10		
17.04	High yield bond strength reinforcement steel bars to BS 4461 greater than 16mm diameter size	tonne	15		

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
	<b>(c) Formwork:</b> Provide, erect, fix in place and afterwards dismantle and remove all formwork as specified by the Engineer				
17.05	Provide & fix in place formwork to achieve Class F1 finish	m <sup>2</sup>	150		
17.06	Provide and fix in place vertical formwork to achieve Class F2 finish	m <sup>2</sup>	100		
17.07	Provide and Fix in place formwork to achieve class F3 finish	m <sup>2</sup>	300		
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>				

**BILL No. 20: ROAD FURNITURE**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
20.01	Provide and erect road reserve boundary posts as shown on the drawings or as directed by the Engineer	no.	100		
20.02	Provide and erect edge marker posts as shown on the drawings or as directed by the Engineer	no.	20		
20.03	Provide and erect culvert marker posts as shown on the drawings or as directed by the Engineer	no.	10		
20.04	Excavate for, provide and place 250mm x 125mm precast concrete raised or ramped kerbs haunched in 100mm thick Class 15(20) concrete base bedding and mortar joined in support to the carriageway, bus bays, and junctions as directed by the Engineer				
	a) Straight kerb	m	300		
	b) Kerbs radius 12m-6m	m	100		
	c) Ditto but radius 5m-1m	m	100		
20.05	As Item 20.04 but for flush kerbs 100 x 125mm	m	500		
20.06	Provide, excavate for, and erect the following permanent road signs including backfilling and concreting with class 15(20) concrete where instructed by the Engineer and in accordance with Clause 2004 of the Specifications:				
	a) Warning Signs	no.	50		
	b) Priority, Prohibitory, and Mandatory Signs	no.	10		
	c) Standard Informatory Signs	no.	30		
	d) Non-Standard Informatory Signs area:				
	(i) Less than 1.0m <sup>2</sup>	no.	10		
	(ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	no.	5		
20.07	Prepare & clean the road surface, set out, provide, heat and paint any symbol or line with reflectionized thermoplastic paint as per the requirements of the specifications and as directed by the Engineer including Zebra crossing zones				
	a) White reflectionized thermoplastic paint	m <sup>2</sup>	1,600		
	b) Yellow reflectionized thermoplastic paint	m <sup>2</sup>	800		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>				

**BILL No. 21: MISCELLANEOUS BRIDGE WORKS**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
21.01	Provide 75mm diameter, 300mm long uPVC pipes to form weepholes in structure including filter fabric in accordance with the specifications or as directed by the Engineer	no.	16		
21.02	Provide and place bitumen emulsion or cutback bitumen or bitumen/rubber latex emulsion to all structural concrete in contact with fill material or cut soil	m <sup>2</sup>	145		
21.03	Provide and erect steel posts for guardrails complete with spacers (size and interval), cap, and reflectors as per specifications or as directed by the Engineer	no.	45		

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
21.04	Provide and place into position galvanised flexi-beam guardrails including end pieces, nuts, bolts and reflectors along the approaches to the bridges as per drawings and as instructed by the Engineer	m	80		
21.05	Provide and place as directed by the Engineer uPvc pipes of diameter 75mm and length 300mm to form storm drain pipes of the bridge deck	no.	10		
<b>Bill No. 21 Total Carried Forward to Grand Summary</b>					

**BILL No. 25: HIV/AIDS AWARENESS CAMPAIGN**

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS.)	AMOUNT (KSHS.)
25.01	All for a prime cost sum for of KShs 2,000,000.00 (Two Million) for ESIA study and report, Compliance Audits and environmental monitoring.	PC sum	1		
25.02	E.O for Item 25.01 for Contractor's Overheads and Profit	Item	%		
25.03	Allow for the engagement of a HIV/AIDS specialist subcontractor to deal with prevention, awareness activities every three (3) months and as per the programme to be approved by the Engineer	Quarterly	3		
25.04	Allow for the availability of male and female condoms to workers and staff strategically and socially presented for the duration of the Contract.	no.	4,000		
25.05	Allow for the preparation and submission of quarterly reports on HIV/AIDS awareness and prevention activities. Reports to be tabled at site meetings	Quarterly	3		
25.06	Provide, install, and maintain HIV/AIDS awareness billboards with approved message and graphics with maximum area of 4m <sup>2</sup> fabricated as per specifications of permanent informatory signboards	no.	4		
25.07	Allow for video shows on HIV/AIDS related awareness and prevention matters every 3 months	Quarterly	3		
25.08	Allow for the production and distribution of HIV/AIDS awareness material as follows:				
	a) T-Shirt printed with approved message and graphics	no.	200		
	b) Ditto (a) above but caps	no.	200		
	c) A1 size weather proofed posters	no.	5		
	d) A3 size weather proofed posters	no.	10		
	e) 200x150mm stickers with HIV/AIDS awareness/prevention slogan	no.	200		
	f) Key rings with HIV/AIDS awareness/prevention slogan	no.	200		
	g) Ball point pens with HIV/AIDS awareness/prevention slogan	no.	200		
<b>Bill No. 25 Total Carried Forward to Grand Summary</b>					

***ANNEX 2 (RWC 694)***

UPGRADING TO BITUMEN STANDARD OF NANGINA - SIO PORT – OKADOS – MUNDERE (C828) ROAD RWC 694					
Bill No. 16: BITUMINOUS MIXES					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
16.01	Provide, transport over any distance, lay, and compact Asphalt Concrete Type I bumps and rumble strips as per the specifications or as directed by the Engineer at a bitumen content of 5.5 - 7.0% by weight of total mix	No.	100.00		
<b>Bill No. 16 Total Carried Forward to Grand Summary</b>					

***ANNEX 3 (RWC 696)***



UPGRADING TO BITUMEN STANDARD OF SIHAYI - KADONGO - CITY - SEGA - ODIADO RD; PHASE 1: 20 KM RWC 696					
BILL NO. 1: PRELIMINARY AND GENERAL ITEMS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
1.01	Provide or rent accommodation for Engineer's senior and junior staff				
	(i) Type I - 1 No.	Month	30	65,000.00	
	(ii) Type II - 3 No.	Month	90	55,000.00	
	(iii) Type III - 4 No.	Month	120	40,000.00	
	(iv) Type IV-6 No.	Month	180	30,000.00	
	(v) Type V-10 No.	Month	300	21,000.00	
1.02	E.O item 1.01 for contractor's overhead and profit	%	-		
1.03	Provide or rent and maintain Engineer's Representative's office as shown on the drawings or as instructed by the Engineer for use during the duration of the Contract.	Lump Sum	1.0		
1.04	Provide or rent and maintain Engineer's Site Laboratory for the duration of the Contract, ownership to revert to the Contractor at the end of the Contract	Lump Sum	1.0		
1.05	Provide and maintain Laboratory equipment, reagents and other items as priced in Appendix 'A' to the Bill of Quantities for use by the Engineer's representative for the duration of the contract.	Lump Sum	1.0		
1.06 (A)	Provide and maintain furniture, tools and other items for the Engineers Representative office for the duration of the Contract as priced	Lump Sum	1.0		
1.06 (B)	Provide and maintain survey equipment as priced in Appendix B and C for the duration of the contract	Lump Sum	1.0		
1.07	Provide with drivers, fuel and maintain One (1) new 4WD fully loaded station wagon of minimum diesel engine capacity 3000cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh Month	30		
1.08	EO item 1.07 for total aggregated mileage in excess of 5000km per vehicle month.	Km	50,000.00		
1.09	Ditto item 1.07, but two (2) new 4WD fully loaded double cabin pick-ups of minimum diesel engine capacity 2800cc approved for the exclusive use of the Engineer inclusive of the first 5000km per vehicle month. Vehicles to revert to the Contractor at the end of the project.	Veh Month	60		
1.10	E.O item 1.09 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	100,000.00		
1.11	Ditto item 1.09, but Two (2) new 4WD standard double cabin pick-ups of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use inclusive of the first 5000km per vehicle month. Vehicles to revert to the Contractor at the end of the project.	Veh Month	60		
1.12	E.O item 1.11 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	100,000.00		

UPGRADING TO BITUMEN STANDARD OF SIHAYI - KADONGO - CITY - SEGA - ODIADO RD; PHASE 1: 20 KM RWC 696					
BILL NO. 1: PRELIMINARY AND GENERAL ITEMS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
1.13	Ditto item 1.09, but two (2) new 4WD Single cabin pick-up with fibre glass body of minimum diesel engine capacity 2500cc approved for the exclusive use of the Engineer inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh Month	60		
1.14	E.O item 1.13 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	100,000.00		
1.15	Allow a Prime Cost Sum of Kshs. 7,500,000 for the RE's miscellaneous account to be spent in whole or part as directed by the RE against receipts.	PC Sum	7,500,000.00	1.00	
1.16	E.O. item 1.15 for Contractor's overheads and profits.	%			
1.17	Allow a Prime Cost Sum of Kshs.27,000,000 for RE's Staff attendance	PC Sum	27,000,000.00	1.00	
1.18	E.O. item 1.17 for Contractor's overheads and profits.	%			
1.19	Provide, erect and maintain publicity signs as directed by the Engineer	NO	4.00		
1.20	Allow for lumpsum of Kshs. 2,000,000.00 for training of Engineer's staff	Lump Sum	1.00	2,000,000.00	
<b>Bill No. 1 Total Carried forward to summary page</b>					

BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha	68		
4.02	Strip topsoil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stockpile for reuse as directed by the Engineer	M³	71,230		
4.03	Provide KShs 2,500,000 for the removal of structures and obstructions to be paid on dayworks basis	Provisional Sum	2,500,000		
4.04	E.O. item 4.03 for Contractor's overheads and profits.	%			
<b>Bill No. 4 Total Carried forward to summary page</b>					

BILL NO. : 5 EARTHWORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m3	98,366		
5.02	Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD.	m3	26,043		
5.03	Ditto item 5.01 but in hard material	m3	31,391		
5.04	Cut to spoil in soft material	m3	42,328		
5.05	Ditto item 5.04 but in hard material	m3	27,432		
5.06	Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99)	m3	29,376		
5.07	Compaction of top 150mm below formation level in cuts to 100% MDD.(AASHTO T99)	m3	49,536		
5.08	Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99)	m3	3,128		
5.09	Top-soiling prior to planting grass as directed by the Engineer	m2	119,377		
5.10	Grassing as directed by the Engineer	m2	119,377		
5.11	Provide Rock Fill to swampy areas as directed by Engineer	m3	37,209		
5.12	Provide Filter fabric to swampy areas, under, over and around rock fill	m2	74,418		
5.13	Provide and install geogrids	m2	200		
	Bill No. 5 Total Carried forward to summary page				

BILL NO. 7 : EXCAVATION AND FILLING OF STRUCTURES					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>				
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	17,475.00		
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	2,365.00		
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	5,733.00		
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	33,600.00		
7.05	Excavate for gabions in soft material.	m <sup>3</sup>	5,728.00		
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	17,292.00		
7.07	Rockfill to gabions	m <sup>3</sup>	3,144.00		
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	2,300.00		

BILL NO. 7 : EXCAVATION AND FILLING OF STRUCTURES					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	9,784.00		
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1		
7.11	Allow for river training in soft material	m <sup>3</sup>	6,040.00		
7.12	Allow for river diversion	m <sup>3</sup>	2,800.00		
7.13	Provide coffer dams as directed by the Engineer.	LS	1		
<b>Bill No. 7 Total Carried forward to summary page</b>					

BILL NO.8: CULVERT AND DRAINAGE WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
	<b>Note:</b> No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices.				
8.01	Excavate for inlet,outfall,mitre and catch water drains in soft material	m <sup>3</sup>	13,200		
8.02	As per item 8.01, but for hard material	m <sup>3</sup>	1,650		
8.03	Excavation in soft material for pipe culverts, headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer	m <sup>3</sup>	16,872		
8.04	As per item 8.03, but for hard material	m <sup>3</sup>	5472		
8.05	Provide,lav and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads	m	5640		
8.06	As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts	m	1880		
8.07	As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3)for cross culverts	m	720		
8.08	Provide and place class 15/20 concrete to beds, surround and haunches	m <sup>3</sup>	6210		
8.09	Provide, place and compact class 25(20) concrete for headwalls, wingwalls, aprons, and toewalls to access and cross pipe culverts including all form work and the provision and placing of reinforcement as shown in the drawings	m <sup>3</sup>	5740		
8.10	Provide and place invert block drains with two course side slabs	m	2600		
8.11	Construct in concrete class 15(20) side drains scour checks as instructed	m <sup>3</sup>	2,600		
8.12	Provide and place A142 wire mesh reinforcement	No	3200		
8.13	Provide and place precast concrete slabs 1000mm x 600mm x 100mm and place over open lined drains in trade centres and markets (reinforced with A142 wire mesh reinforcement )	m	9600		
8.14	Provide subsoil filter drains fabric to isolated wet spots inclusive of artesian cloth, and 14/20mm single size aggregates as directed by the Engineer	m	3600		
8.15	Remove existing pipe culverts of any diameter either for re-use or to be discarded as directed by the Engineer	m	3840		

BILL NO.8: CULVERT AND DRAINAGE WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
8.16	Provide,lay and joint ducts and sleeves including 150mm concrete (C15/20) 300mm diameter heavy duty PVC class B with 150mm surround (precast to BS 5911 Parts 1 & 3) ducts/sleeves	m	800		
<b>Bill No. 8 Total Carried forward to summary page</b>					

BILL NO.9: PASSAGE OF TRAFFIC					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
	<b>NOTE: Notwithstanding the provision of Section 9 of the Standard Specification, no extra payments shall be due as all costs shall be deemed to be included in the rates inserted herein</b>				
9.01	Construct and maintain diversions in maximum lengths of 5km sections as directed by the Engineer, including 150mm wearing course gravel all signage, lighting and barriers	Km	15		
9.02	Provide, spread, water and compact gravel of minimum CBR 30%	m <sup>3</sup>	15,750		
9.03	Grade, water and compact existing road; provide, spread, water and compact gravel as directed by the Engineer for maintenance ahead of works.	Km	180		
9.04	Allow for the passage of traffic through and around the works	LS	1		
<b>Bill No. 9 Total Carried forward to summary page</b>					

BILL NO. 10: GRADING AND GRAVELLING WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
	<i>Note: No separate payments shall be made for gravel for blinding or hauling and the cost of such shall be included in the rates and prices</i>				
10.01	Heavy grading with watering and compaction as instructed by the Engineer	M <sup>2</sup>	360,800		
10.02	Provide gravel wearing course, spread and compact to a finished thickness of 150mm to at least 95% M.D.D (AASHTO T-180) and shape to level and tolerance.	m <sup>3</sup>	31,500		
<b>Bill No. 10 Total Carried forward to summary page</b>					

BILL NO.12: NATURAL MATERIAL FOR SUBBASE AND BASE					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
	<i>Note: No overhaul will be paid for separately under these items as it shall be deemed to have been included in the Contractor's rates</i>				
12.01	Provide gravel sub-base material, spread, compact to at least 100% M.D.D (AASHTO T-180) and shape to level and tolerance.	m <sup>3</sup>	32,475		
12.02	Ditto item 12.01 but for base	m <sup>3</sup>	24,175		
Bill No. 12 Total Carried forward to summary page					

BILL NO.14: CEMENT/LIME TREATED SUBBASE AND BASE					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
	<i>Note: No overhaul will be paid for separately under these items as it shall be deemed to have been included in the Contractor's rates</i>				
14.01	Provide and spread Lime as an improvement agent for subbase and base layers	Tonne	2,273		
14.02	Provide and spread Cement as an improvement agent for sub-base and base layers	Tonne	1,777		
14.03	Mix and process natural material with improvement agent for pavement layers as instructed by the Engineer or as specified	m <sup>3</sup>	56,650		
14.04	Protection and curing of cement / lime treated base and sub-base layers	m <sup>3</sup>	392,040		
Bill No. 14 Total Carried forward to summary page					

BILL NO.15: BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KSHS)
15.01	Prepare surface of carriageway and shoulders, provide, heat and spray MC 30 cutback bitumen prime coat at 0.8-1.2 Liters/m <sup>2</sup> .	Litres	220,080		
15.02	Prepare surface of carriageway and shoulders, provide, heat and spray 80/100 bitumen seal coat as first seal at a rate of 1-1.2 Liters/m <sup>2</sup> .	Litre	256,760		
15.03	Provide, spread and roll 14/20mm pre coated chippings	m <sup>3</sup>	2,958		
15.06	Prepare surface of carriageway and shoulders, provide, heat and spray 80/100 bitumen seal coat as third seal at a rate of 0.6- 0.8 Liters/m <sup>2</sup> .	Litre	183,400		
15.07	Provide, spread and roll 6/10mm pre coated chippings	m <sup>3</sup>	2,293		
15.08	Provide & spray K1-60 as tack coat on carriageway, shoulders and on rumble strips at a rate of 0.5-0.8 l/m <sup>2</sup>	Litre	146,720		
Bill No. 15 Total Carried forward to summary page					

<b>BILL NO.16: BITUMINOUS MIXES</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
16.01	Provide, place and compact Asphalt Concrete Type II to a thickness of 35 mm on carriageway, shoulders and bus bays as directed by the Engineer at Bitumen Content of 5.5 - 7.0% by weight of total mix.	m <sup>3</sup>	547		
16.06	Provide and erect Asphalt Concrete Type I bumps and rumble strips as directed by the Engineer at Bitumen Content of 5.5 - 7.0% by weight of total mix.	m <sup>3</sup>	200		
<b>Bill No. 16 Total Carried forward to summary page</b>					
<b>BILL NO. 17. CONCRETE WORKS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
<b>BRIDGES AND BOX CULVERTS</b>					
<b>Concrete</b>					
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	135		
17.02	Provide, place and compact concrete class 25(20) to aprons, wingwall, & abutments, piers, walls and top slabs to for the bridges and box culverts as shown in drawings.	m <sup>3</sup>	1873		
17.03	Provide, place and compact concrete class 30(20) to aprons, wingwalls, abutments, piers, walls and bridge deck and beams as shown in drawings.	m <sup>3</sup>	542		
	<u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u>				
17.04	High yield reinforcement steel bars to specifications equal to or less than 16mm diameter bar size	Tonne	53		
17.05	High yield bond strength reinforcement steel to specifications greater than 16mm diameter bar size	Tonne	240		
	<u>Formwork : Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u>				
17.06	Provide & fix in place formwork to achieve Class U F1 finish	m <sup>2</sup>	2,180		
17.07	Provide & fix in place formwork to achieve Class U F2 finish	m <sup>2</sup>	740		
17.08	Provide & fix in place formwork to achieve Class U F3 finish	m <sup>2</sup>	4,030		
<b>Bill No. 17 Total Carried forward to summary page</b>					

<b>BILL NO. : 20 ROAD FURNITURE</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
20.01	Provide Road Reserve Boundary posts	No.	250.00		
20.02	Excavate for, provide & place 250 x 125mm precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer.				
	a) Straight kerbs	m	3,000		

	b) Kerbs radius 12m - 6m	m	1,200		
	c) Ditto but radius 5m - 1m	m	800		
20.03	As 20.02 but for flush kerbs 100 x 125mm	m	2,400		
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:				
	a) warning signs	No.	80		
	b) Priority prohibitory and mandatory signs	No.	80		
	c) Standard informatory signs	No.	80		
	d) Non-standard informatory signs area				
	i) Less than 1.0m	No.	90		
	ii) More than 1.0m but less than 5m	No.	8		
20.05	Provide, deliver, paint and mark the road as specified or as directed by the Engineer, with white reflectionized thermoplastic paint from an approved supplier.	m <sup>2</sup>	7,820		
20.06	As item 20.05 but for yellow reflectionized thermoplastic paint	m <sup>2</sup>	2,760		
20.07	Provide and erect Steel posts for guardrails complete with spacers (size and interval) as per specifications or as directed by the Engineer	No.	1,350		
20.08	Provide and erect flex-beam guardrails complete with connections as shown on the drawings or as directed by the Engineer	m	2,700		
20.09	Provide Edge marker posts	No.	200		
20.10	Provide kilometre marker posts as directed by the Engineer	No.	80		
20.11	Installation of fencing	m	10		
20.12	Installation of gates	No.	3		
20.13	Construction of speed bumps with Concrete as directed by engineer	m <sup>3</sup>	5		
20.14	Provide and install cat-eyes as directed by the Engineer	No.	50		
20.15	Provide, plant, and nurture tree seedlings for a period not less than half the construction period of the project or as directed by the Engineer.	No.	1,000		
20.16	Provide and install new guard rails as directed by the Engineer.	m	2		
20.17	Provide and install new guard rail posts including anchor bolts and nuts as directed by the Engineer.	m	2		
20.18	Provide and install new hand rails as directed by the Engineer.	m	2		
	<b>Bill No. 20 Total Carried forward to summary page</b>				

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
21.01	Provide 100 mm diameter drain pipes and insert heavy duty PVC 100mm diameter as instructed by the Engineer	No	200		
21.02	Provide 100 mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutments or as instructed by the Engineer	No	200		
21.03	Provide and fix hand rails 75 mm diameter on crash barriers, with hold down brackets at not more than 2.5 meter intervals	m	200		
21.04	Provide and apply bitumen emulsion or cutback bitumen or bitumen/rubber latex emulsion to all structural concrete in contact with fill material or cut soil.	m <sup>2</sup>	270		



<b>BILL NO. 21: MISCELLANEOUS BRIDGE WORKS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
21.05	Provide and place into position handrails to kerbs of bridge deck & ramps as shown on the drawing and as directed by the Engineer.	m	120		
21.06	Provide and place a 0.5-1.0m wide granular material of size 14/20 mm to structural concrete in contact with fill material.	m <sup>3</sup>	300		
21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75 mm and length 300 mm to form storm drain pipes of the bridge deck	No.	24		
21.08	Provide and place into position Elastomeric laminated rubber bearings of size 406mmx356mmx54mm	No.	8		
21.09	Movement joints at abutments and piers including dowels	m	30		
21.10	25mm thick 'flex cell' or similar approved low compression joint filler at expansion joint	m	10		
21.11	Paraseal or similar approved cold poured polysulphide sealant	m	10		
	<b>Bill No. 21 Total Carried forward to summary page</b>				

<b>BILL NO.: 22 SCHEDULE OF DAYWORKS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
	<b>PLANT</b>				
	<i>The rates inserted herein are to include all operational and Maintenance costs, fuel, oil, grease, drivers/operators' wages, supervision, overheads and profit. Only time actually employed upon the work will be paid for and the rates should include for idle time, travelling time and overtime, In accordance with clause 2202 (a) of the specifications. Note: All items of plant must be priced.</i>				
22.01	Crawler dozers with hydraulic attachments to include ripper				
	a) Up to 135 kw rated flywheel power	hrs	10		
	b) Over 136 kw rated flywheel power	hrs	4		
22.02	Motor Grader				
	a) Up to 110kw rated flywheel power	hrs	5		
	b) Over 100 kw rated flywheel power	hrs	5		
22.03	Vibratory Roller				
	a) 6.5 - 8.81 tonne un-ballasted weight	hr	5		
	b) Over 8.91 tonne un-ballasted weight	hr	5		
22.04	Hand propelled vibrating roller 650 - 1300kg	hrs	5		
22.05	Cat 950G wheel loader or equivalent	hrs	5		
22.06	10 Tonne tipper lorry	hrs	5		
22.07	Small dumpers, 750-1000kg rated payload	hrs	5		
22.08	Dual purpose hydraulic excavator with backhoe/loader and a rated bucket capacity of upto 1m <sup>3</sup> .	hrs	5		
22.09	Articulated wheel loader with 1.5-2.0m <sup>3</sup> SAE rated bucket capacity	hrs	5		
22.10	50mm delivery water pump and motor	hrs	5		
22.11	Self propelled water tanker 4,500l s min. capacity with pick-up pump	hrs	5		

<b>BILL NO.: 22 SCHEDULE OF DAYWORKS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
22.12	Concrete Mixer of 100 - 150 litres	hrs	5		
22.13	Concrete poker vibrator	hrs	5		
	<b>LABOUR</b>				
	<i>The rates inserted herein are to include all costs of labour such as insurance, accomodation, travelling time, over-time, use and maintenance of small tools of trade. Only the actual time engaged upon the work will be paid for supervision, overheads and Profit.</i>				
22.14	Unskilled Labour	hrs	10		
22.15	Artisans	hrs	10		
22.16	Office attendants and chainmen	hrs	10		
22.17	Watchmen (all round surveillance)	hrs	10		
	<i>All materials are to comply with the Specification. The rates inserted herein are to include for delivery to the site, storage, handling, overheads and profit</i>				
22.18	Ordinary Portland Cement	Ton	1		
22.19	Hydrated Lime	Ton	1		
22.20	Mild Steel( any diametre)	Ton	2		
22.21	High Yield Steel (any diametre)	Ton	1		
22.22	Fine Aggregate for Concrete	m <sup>3</sup>	1		
22.23	Coarse Aggregate for Concrete	m <sup>3</sup>	5		
22.24	Wrot Shuttering Timber	m <sup>2</sup>	5		
22.25	Rough shuttering timber.	m <sup>2</sup>	5		
22.26	Bitumen Emulsion KI-60.	Litre	5		
22.27	Straight run bitumen Grade 80/100.	Litre	5		
22.28	Kerosene	Litre	5		
22.29	14/20 mm nominal size surface chips.	m <sup>3</sup>	5		
22.30	6/10mm nominal size surface chips	m <sup>3</sup>	5		
22.31	AC Type I Ex-plant	m <sup>3</sup>	5		
22.32	AC Type II Ex-plant	m <sup>3</sup>	5		
22.33	Dense Bitumen Macadam	m <sup>3</sup>	5		
	<b>Bill No. 22 Total Carried forward to summary page</b>				

<b>BILL NO. : 25 ENVIRONMENTAL MITIGATION MEASURES AND HIV AIDS AWARENESS</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
25.01	Allow for a prime cost sum of KShs 5,000,000 (five Million) for ESIA study, report, and environmental monitoring.	PC sum	1		
25.02	E.O for Item 25.01 for Contractor's Oveheads and Profit	Item			
25.03	Allow for engagement of a HIV/AIDS and COVID-19 specialist sub contractor to deal with prevention and awareness activities as per programme to be approved by the Engineer	Months	30		
25.04	Provide male and female condoms to workers and staff for the duration of the contract	No.	8,000		
25.05	Allow for preparation and submmision of monthly reports on HIV/AIDS and COVID-19 awareness and prevention activities. Report to be tabled at site meetings.	Months	30		
25.06	Provide, Install and maintain HIV/AIDS and COVID-19 awareness bill boards with approved message and graphics with maximum area 4m <sup>2</sup> fabricated as per specifications of permanent informatory sign boards	No.	4		
25.07	Allow for video shows on HIV/AIDS and COVID-19 related awareness and prevention matters every 3 months	Quartely	8		
25.08	Provide HIV/AIDS and COVID-19 awareness material as follows:				
	a) T-Shirt printed with approved message and graphics	No.	100		
	b) Ditto (a) above but caps	No.	100		
	c) A1 size weather proved posters	No.	100		
	d) A3 size weather proved posters	No.	100		
	e) 200x150mm stickers with HIV/AIDS and COVID-19 awareness/prevention slogan	No.	100		
	f) Key rings with HIV/AIDS and COVID-19 awareness/prevention slogan	No.	100		
	g) Ball point pens with HIV/AIDS and COVID-19 awareness prevention slogan.	No.	100		
25.09	Provide and maintain handwashing points at strategic locations as directed by the Engineer throughout the construction period.	No.	5		
25.10	Provide and maintain hand sanitizing points at strategic locations as directed by the Engineer throughout the construction period.	No.	5		
25.11	Provide face masks as specified or as shall be directed by the Engineer.	No.	2,500		
	<b>Bill No. 25 Total Carried forward to summary page</b>				

<b>BILL No. 26 : Land Acquisition, Axle Load Control, and Relocation of Services</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
26.03	Allow a Prime Cost Sum of KShs. 3,000,000.00 for relocation of services as instructed or directed by the Engineer..	PC Sum	3,000,000.00		
26.04	E.O. item 26.03 for Contractor's overheads and profits.	%			

<b>BILL No. 26 : Land Acquisition, Axle Load Control, and Relocation of Services</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>RATE</b>	<b>AMOUNT (KSHS)</b>
26.06	Allow a Prime Cost Sum of KShs. 2,500,000.00 for geotechnical investigation as instructed or directed by the Engineer..	PC Sum	2,500,000.00		
26.07	E.O. item 26.03 for Contractor's overheads and profits.	%			
	<b>Bill No. 26 Total Carried forward to summary page</b>				

## APPENDIX A

**APPENDIX TO BILL ITEM 1.05:****PROVIDE AND MAINTAIN FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY**

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
	<b>1. FURNITURE</b>				
A104/1.01	Desk 2.2x0.9 m with chair and lockup drawers	No	2		
A104/1.02	Desk chair (standard)	No	10		
A104/1.03	Stationery cupboard, 1.2 m <sup>3</sup> , lockable	No	2		
A104/1.04	Steel filing cabinet, 4 drawers, lockable	No	2		
A104/1.05	Steel filing cabinet, 2 drawers, lockable	No	2		
A104/1.06	Bookshelf, 3 shelves 1.2 m long (to hold box files)	No	2		
A104/1.07	Table - 6 m <sup>2</sup>	No	2		
A104/1.08	Two Plate electric heater	No	1		
A104/1.09	Fire extinguisher, 10 litre capacity, CO <sub>2</sub> type	No	2		
A104/1.10	Complete first aid kit	No	1		
	<b>EQUIPMENT</b>				
	<i>(The following equipment shall be purpose made for use in the Engineer's laboratories and shall comply with the relevant British (BS) or American (AASHTO) Standard)</i>				
	<b>2. General Equipment</b>				
A104/2.02	2.49kg. Compaction hammer, drop regulated to 304.8mm	No	2		
A104/2.03	4.535kg compaction hammer drop regulated to 457.2mm	No	2		
A104/2.04	Electric vibrating Kango Hammer fitted with steel tamper(BS 1377) with support frame	No	1		
A104/2.05	Straight edge 300 mm long with handles	No	4		
A104/2.06	Steel Tamper (BS1377) compatible with Kango hammer	No	3		
A104/2.07	Compaction mould 152.4 mm. dia x 116.43 mm complete with base plate and extension collar, 101.6 mm	No	2		
A104/2.08	Galvanized metal tray 1m x 0.5m x 75 mm deep	No	4		
A104/2.09	75mm brush	No	2		
A104/2.10	Semi-automatic balance, 25kg Capacity accurate to 1g, including weights	No	1		
A104/2.11	20mm BS Sieve, 300mm diameter	No	1		
A104/2.12	Stop Clock	No	2		
A104/2.13	Thermostatically controlled electric oven 105-110°C, capacity 0.225 m <sup>3</sup>	No	2		
A104/2.14	As above but gas heated	No	1		
A104/2.15	Moisture content tins, 75 mm dia, Cadmium or aluminium plated	No	60		
A104/2.16	Cone penetrometer with gauge and automatically controlled test cup	No	2		
	<b>3. Density (Sand replacement method BS 1377)</b>				
A104/3.01	Metal containers 450mm diameter	No	2		
A104/3.02	Stainless steel tray 305mm diameter	No	2		
A104/3.03	Metal tray with 150 mm diameter hole in the centre, 300mmx300 mm square or equivalent area, 40mm deep	No	2		
A104/3.04	Metal tray with 200mm diameter hole in the centre, 500mm x 500 mm square , 50 mm deep	No	2		
A104/3.05	Steel pegs for fixing tray in position	No	15		
A104/3.06	Sand pouring cylinder, 150 mm diameter	No	2		

## APPENDIX A

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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
A104/3.07	Sand pouring cylinder, 215 mm diameter	No	2		
A104/3.08	Cold steel chisel 20mm x 300mm	No	4		
A104/3.09	Cold steel chisel 10mm x 250mm	No	4		
A104/3.10	1.5kg, 3.5kg hammers and 1kg rubber mallet	Set	1		
A104/3.11	Scoop for removing excavated material from hole, 250 mm long handle	No	6		
A104/3.12	100mm brush, soft	No	3		
A104/3.13	50mm brush, soft	No	3		
A104/3.14	Primus gas stove	No	1		
A104/3.15	Calibrating can 150 mm diameter x 150 mm deep	No	3		
A104/3.16	Ditto but 200 mm diameter x 250 mm deep	No	3		
	<b>5. CBR (AASHTO T193)</b>				
A104/5.01	CBR mould, 152.4 mm dia x 178 mm high, complete with perforated base plate and extension collar 50.8 mm high that can be fitted to either side of mould	No	50		
A104/5.02	Perforated swell plate 150 mm dia with an adjustable centre post of rust proof metal provided with a lock-nut	No	40		
A104/5.03	2.25 kg split surcharge weight	No	2		
A104/5.04	Set of annular surcharge weights	No	1		
A104/5.05	Solid base plate for CBR mould	No	2		
A104/5.06	Static compaction displacer discs 1 No x 61.4 mm, 1 No x 50.8 mm and 2 No x 38.8 mm thick with handles	set	1		
A104/5.07	Disk lifting handle	No	2		
A104/5.08	Central extruder, complete with 20kN hydraulic jack and accessories	No	1		
A104/5.09	Automatic CBR Proctor Compaction press, 50 tonnes capacity with an adjustable distance between platens of 530mm-250mm, rammer weights and automatic count selector	No	1		
A104/5.10	Set of guards for above press.	No	1		
A104/5.11	50 kN CBR Load frame complete with stabilising bar (electric and hand operated) including proving rings for 10KN, 28KN and 50KN, piston and bracket	No	1		
A104/5.12	Penetration gauge range 0 - 25mm	No	2		
A104/5.13	CBR piston including bracket	No	2		
A104/5.14	Swell measurement tripod complete with gauge calibrated in 0.01 mm divisions	No	2		
A104/5.15	Soaking tank for CBR mould sufficient for 50 moulds	No	1		
	<b>6. Relative Density of Aggregates (BS 812)</b>				
A104/6.01	Wire mesh basket with apertures not greater than 6.5 mm large enough to contain 2.5 kg of aggregate	No	2		
A104/6.02	A stout watertight container in which the basket can be freely suspended	No	2		
A104/6.03	Soft absorbent cloth (tea towel)	No	10		
A104/6.04	Shallow tray of area not less than 0.065 m <sup>2</sup>	No	2		
A104/6.05	An airtight container of similar capacity to the basket	No	2		
A104/6.06	Pycnometer of 1 litre capacity	No	4		

## APPENDIX A

**APPENDIX TO BILL ITEM 1.05:  
 PROVIDE AND MAINTAIN FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY**

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
A104/6.07	Semi automatic 5 kg balance accurate to 0.1g to be of size and type to permit the basket containing the sample to be suspended in water(to be supplied with weights)	No	1		
A104/6.08	Hot air drier (electric)	No	2		
	<b>7. Flakiness (BS 812)</b>				
A104/7.01	Thickness gauge (various sizes)	No	2		
	<b>8. Sieve Analysis (BS 1377)</b>				
A104/8.01	BS Sieve 300mm diameter in sizes 75, 63, 50, 37.5, 28, 20, 14, 10, 6.3, 5 and 4 mm, plus lid and receiver	Set	2		
A104/8.02	BS Sieve 200mm diameter in sizes 2, 1, 0.6, 0.5, 0.425, 0.300, 0.150 and 0.075 mm, plus lid and receiver	Set	2		
A104/8.03	Electric sieve shaker	No	1		
A104/8.04	BS sieve 200mm diameter 0.425 and 0.075 mm	set	1		
A104/8.05	1 m x 1 m x 75mm deep galvanized metal tray	No	10		
A104/8.06	Riffle box with 50mm slots (BS 1377)	No	1		
	<b>9. Miscellaneous Equipment</b>				
A104/9.01	Wheel barrow	No	3		
A104/9.02	Dustpan and brush	No	3		
A104/9.03	Shovel	No	4		
A104/9.04	Pick axe with handle	No	4		
A104/9.05	Metal scoop, large (150mm wide)	No	3		
A104/9.06	Metal scoop, medium (100mm wide)	No	4		
A104/9.07	Garden trowel	No	2		
A104/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No	15		
A104/9.09	Palette knife 200mm long blade	No	3		
A104/9.10	Palette knife 100mm long blade	No	4		
A104/9.11	BS sieve 450mm diameter, 37.5mm	No	1		
A104/9.12	BS sieve 450mm diameter, 20mm	No	1		
A104/9.13	BS sieve 450mm diameter, 5mm	No	1		
A104/9.14	BS sieve 450mm diameter, 0.425mm	No	1		
A104/9.15	BS sieve 450mm diameter, 0.3mm	No	1		
A104/9.16	BS sieve 450mm diameter, 0.075mm	No	1		
A104/9.17	Set of lid and receiver for metal scoop and steel trays	No	2		
A104/9.18	BS Sieve brush	No	2		
A104/9.19	Measuring cylinder set, 25 ml, 100 ml, 500 ml, 1000 ml, 2000 ml	set	2		
A104/9.20	Glass jar capacity 5 litres with lid	No	10		
A104/9.21	200mm x 200mm x 20mm cadmium plated or aluminium tin	No	20		
A104/9.22	Electronic balance capacity 1000 g, accurate to 0.01gm.	No	1		
A104/9.23	Balance 2000 g capacity accuracy to 0.1 g (manual), including weights	No	1		
A104/9.24	Balance 50kg capacity accurate to 10gm including weights	No	1		
A104/9.25	Still for producing distilled water	No	1		
A104/9.26	Polythene or glass 20 litres storage vessel with tap at bottom	No	2		
A104/9.27	Stiff broom	No	2		
A104/9.28	Vernier calipers, 150mm	No	2		
A104/9.29	Vernier calipers, 250mm	No	2		
A104/9.30	Pestle and mortar	No	2		

## APPENDIX A

**APPENDIX TO BILL ITEM 1.05:****PROVIDE AND MAINTAIN FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY**

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
A104/9.31	Linear shrinkage mould (BS 1377)	No	6		
A104/9.32	Liquid Limit Device	No	2		
A104/9.33	Average least dimension gauge	No	2		
A104/9.34	Lockable tool box containing: 1 pr"Molegrips", 2 x 150mm screwdriver, 2 x 200 mm screwdriver, 2 x 300 mm screwdriver,(1 standard and 1 Phillips head of each) adjustable spanners 200 mm and 300 mm, 1 pair round nosed pliers, 1 pair general purpose pliers,	No	1		
A104/9.35	Plastic or metal bucket including lid,10 litres capacity	No	6		
A104/9.36	Polythene wash bottle (500 ml)	No	5		
A104/9.37	A4 size clipboard	No	4		
A104/9.38	Thermometer, range -10°C to150°C, glass (BS 593)	No	2		
A104/9.39	Laboratory thermometer, range + 0°C to + 250°C (BS 593)	No	2		
A104/9.40	Maximum and minimum thermometer (BS692)	No	2		
A104/9.41	Rain gauge	No	1		
A104/9.42	Portable dial thermometer + 50°C to +250°C accurate to ± 3%	No	1		
A104/9.43	Ditto with 0.75m long stem	No	1		
A104/9.44	Pocket thermometer + 50°C to +250°C accurate to ± 3% with 0.1 m stem	No	2		
A104/9.45	5 litre capacity steel storage containers with leak and dust proof lids for storage of bitumen samples	No	50		
A104/9.46	Hotplate 200mm diameter with Simmerstat heat control unit.	No	2		
A104/9.47	450mm diameter x 150mm deep metal mason's basin	No	6		
	<b>11. Concrete: Slump and Cube Manufacture (BS 1881)</b>				
A104/11.01	Slump cone, tamping rod and base	set	2		
A104/11.02	Concrete cube mould, 150mm cube	No	30		
A104/11.03	Soaking tank for cubes (capacity 50 No.)	No	1		
A104/11.04	Cube tamping bars	No	10		
	<b>12. Concrete: Cube Compression Testing</b>				
A104/12.01	Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer	No	1		
A104/12.02	Safety guard for above				
A104/12.03	50mm distance piece				
A104/12.04	70mm distance piece				
A104/12.05	Electro-mechanical load pacer, 100 mm or equivalent distance piece				
	<b>13. Aggregate and Chippings</b>				
A104/13.01	Sand equivalent to AASHTO T176 including graduated plastic cylinder, rubber stopper, irrigation tube weighted foot assembly, siphon assembly, 85ml tin box (57mm dia.), 100 mm dia wide mouth funnel, stop clock,mechanical shaker and 10 litre jar	Set	1		
A104/13.02	Beaker 250ml	No	2		
A104/13.03	Aggregate Crushing Value Apparatus, 150 mm nominal diameter , including plunger and base plate	No	2		



## APPENDIX A

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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
A104/13.04	Tamping rod and metal measure for above	Set	4		
A104/13.05	Los Angeles Abrasion to ASTM standards	No	1		
A104/13.06	Set of 12 abrasive charges	No	2		
A104/13.07	Thermometer, 0°C to +50°C	No	2		
A104/13.08	Thermometer, 0°C to +250°C	No	2		
A104/13.09	Reagent grade Silica gel, 500g container	No	50		
	<b>14. Bitumen Spray Test (BS 1707)</b>				
A104/14.1	Transverse distribution of spray test bitumen distributor (depot tray test to BS 1707) or equivalent.	Set	1		
A104/14.02	Steel tray 20 mm deep x0.1m <sup>2</sup> (for measuring bitumen spray rates) with purpose made detachable handle 1.5m long.	No.	4		
	<b>16. Bitumen Extraction Test</b>				
	<b>A) Extractor Bottle Method BS 598 Part 2</b>				
A104/16.01	Electronic top pan balance 4kg capacity, sensitive to 0.1gm	No	1		
A104/16.02	Flat bottomed scoop	No	3		
A104/16.03	Steel garden trowel	No	2		
A104/16.04	Large steel spoon	No	2		
A104/16.05	Heat resistant gloves	pair	10		
A104/16.06	Foot pump for pressurising air water assemblies up to a maximum of 700KN/m <sup>2</sup> and fitted with flexible hose approximately 1.2m long and connector	No	2		
A104/16.07	Steel bottle 600ml capacity with 49mm rubber stopper	No	2		
A104/16.08	Steel bottle 2500ml capacity with 71mm rubber stopper	No	2		
A104/16.09	Steel bottle 7000ml capacity with 71mm rubber stopper	No	2		
A104/16.10	Flask funnel for fitting to the 700ml steel bottle with rim of funnel retaining sieve 200mm nominal diameter	No	2		
A104/16.11	Bottle roller compact bench mounted unit designed to rotate 2 bottles simultaneously about longitudinal axis	No	1		
A104/16.12	Pressure filter complete with cutting tool for making hole in the filter paper	No	1		
A104/16.13	Filter funnel to take 200mm nominal diameter sieves	No	2		
A104/16.14	Centrifuge complying with BS 598	No	1		
A104/16.15	Binder recovery	No	1		
A104/16.16	Volumetric flask 250ml, 500ml, 1000ml and 2000ml capacity	set	2		
A104/16.17	Recovery still for Dichloromethane	No	1		
	<b>B) Hot Extractor Method BS 598 Part 2</b>				
A104/16.18	Hot extractor complete with wire gauze container gasket, cork lid and support assembly	No	2		
A104/16.19	Dean and Stark receiver with condenser to suite Trichloroethylene	No	2		
A104/16.20	Gyratory compactor ELE Servo Pac or equivalent with 1 x 100mm and 1 x 150mm moulds	No	2		
A104/16.21	PRD Vibrating hammer compactor complete with 6 moulds, 7 base plates from ELE	SET	1		

## APPENDIX A

**APPENDIX TO BILL ITEM 1.05:****PROVIDE AND MAINTAIN FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY**

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
A104/16.22	Two (2) sets of Tamping foot 102mm diameter and 146mm diameter and shanks to fit the supplied vibratory hammer	SET	2		
	<b>17. Consumables</b>				
A104/17.01	Paraffin wax	Kg	50		
A104/17.02	Gunny sack	No	500		
A104/17.03	Plastic bag 900x450x1000 gauge	No	500		
A104/17.04	Plastic bag 450x300x1000 gauge	No	500		
A104/17.05	Filter paper 150mm diameter Whatman No. 5 (Boxes of 100)	No	20		
A104/17.06	Filter paper 400mm diameter Whatman No. 5 (Boxes of 100)	No	20		
A104/17.07	Filter paper 100mm diameter Whatman No. 5 (Boxes of 100)	No	20		
A104/17.08	Filter paper 400mm diameter Whatman No. 54 (Boxes of 100)	No	10		
A104/17.09	Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100)	No	15		
A104/17.10	Trichloroethylene (205 Litre Drum)	No	5		
A104/17.11	Dichloromethane	kg	200		
A104/17.12	Cotton waste	kg	50		
A104/17.13	13kg Gas cylinders filled with gas and with compatible gas burners	No	5		
A104/17.14	Sodium sulphate	kg	45		
A104/17.15	Sand for density test	kg	250		
	<b>C/Forward to item 1.05</b>				

## APPENDIX B

**APPENDIX TO BILL ITEM 1.06A: PROVIDE, FURNISH AND MAINTAIN THE R.E.'S OFFICE**

DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
<b>1. ENGINEER'S MAIN OFFICE AND FURNITURE</b>				
Executive desk 2.2x0.9 m with six lockup drawers	No	1		
Desk 2.2x0.9 m with chair and three lockup drawers	No	5		
Office tables 2.2x0.9 m	No	1		
Executive Swivel orthopaedic chair adjustable height	No	2		
Standard office chairs	No	5		
Typist's desk	No	1		
Typist's chair	No.	1		
Lockable steel stationery cupboard, 1.2 m <sup>3</sup> , lockable	No.	2		
Medium size steel filing cabinet, 4 drawers lockable	No.	2		
Medium size steel filing cabinet, 2 lockable drawers	No.	2		
Bookshelf, 1.5 m wide 3 shelves (for box files) sliding glass door	No.	2		
Conference table with 15 chairs	No.	1		
Waste paper basket	No.	10		
Curtains for office and laboratory -for all windows and doors	Set	2		
Ordinary 2 hole paper punch	No	5		
Heavy duty 2 hole paper punch	No	2		

Computer meeting the following specifications or equivalent: Personal computer with 17" screen full multimedia, 500GB hard disk, 4.0GB RAM, Core i7 processor, complete with all accessories preloaded with latest versions of windows OS, MS Office, Professional and MS Project	No	4		
Autocad Civil 3D 2016 and Licences for above computers	No	4		
Laptop PC with Intel Core i7-4510U Processor 15.4" screen, CPU @ 2.6GHz 12GB RAM 1TB 8xDVD+/-RW approved with Microsoft Windows professional	No	8		
Latest HP (A4) Laser Printer with accessories	No	4		
Latest HP (A3) Laser Colour Printer with accessories	No	2		
UPS 600 VA	No	6		
wall clocks, battery powered min size 350mm x 350mm	No	6		
First Aid Kit	No	4		
Fire Extinguisher	No	4		
Filing Tray - set of 3no.	set	10		
Refrigerator minimum capacity 0.2 m <sup>3</sup>	No	1		
Drinking water dispenser, hot/cold	No	4		
Table - 0.8 m <sup>2</sup> surface area	No	1		
Cupboard, 0.15 m <sup>3</sup> , lockable	No	1		
13 Kg Gas cylinder with three gas burners	No	2		
A3 Photocopier (approved make), with feeder sorting trays, scanner and print capability	No	1		
Reams of A4 photocopying paper	No	100		
Reams of A3 photocopying paper	No	20		
Electronic scientific calculator, Casio fx 991ES PLUS or equivalent approved	No	6		
Stapling machine Ofrex size 50 or similar with 5000 staples	No	6		
Heavy duty punch and spiral binder, IBICO AG or similar approved	No	2		
Digital Camera, 16.1 Megapixel(min), 1920x1080 full HD movie recording, optical steadyShot, sweep panorama, 2.7" LCD screen, minimum 5x digital zoom, multimedia card/SD 8GB memory, 12 scene selection modes, all inclusive.	No	2		
Provision of mobile phones for supervision team with the latest android version to the approval of the Engineer.	item	8		
<b>Total carried to Bill Item 1.06A</b>				

## APPENDIX C

APPENDIX TO BILL ITEM 1.06B ENGINEERS'S SURVEY EQUIPMENT					
ITEM	Description	UNIT	QTY	RATE	AMOUNT(Kshs)
1.01	The following mandatory total station accessories must be included per Total station instrument				
a)	1No. Heavy duty telescopic tripod( <i>preferably wooden</i> )	No.	1		
b)	Telescopic plumbing prism pole complete with a prism and prism holder with target and plumbing bubble ( <i>length not less than 2.15m</i> )	No.	3		
c)	Triple prism holder set, in a casing, comprising triple prisms, prisms holder with target, tribrach and a tribrach adaptor	No.	1		
d)	Survey umbrella	No.	1		
e)	1No. Telescopic Tripod	No.	1		
1.01	Engineer's Automatic Level Wild NAK 2 or similar with a tripod and the following specifications	No.	2		
	· Accuracy of 0.7 mm per 1 km double run				
	· Standard magnification of: 32x				
	· Shortest focusing distance of 1.6m				
	· Compensator setting accuracy of 0.3"				
1.03	Hand held GPS with accuracy of 1 Metre	No.	1		
1.04	Set of two way radio communication with a range of 1 kilometer	set.	1		
1.05	5 M Leveling staff with leveling bubble	No.	4		
1.06	3 M Ranging Rods	No.	10		
1.07	Scientific Calculators FX 912ms or equivalent	No.	3		
1.08	50m. Linen Measuring Tape	No.	5		
1.09	1m stainless steel straight edge	No.	1		
1.1	3 m tape measure	No.	10		
1.11	Sledge hammer 2kg weight	No.	2		
1.12	Mattock	No.	2		
1.13	Pangas (16'')	No.	10		
1.14	Marker Pens	No.	20		
1.15	Reflector Jackets	No.	30		
1.16	Levelling Survey books	No.	100		
	<b>Total carried to Bill Item 1.06B</b>				

***ANNEX 4 (RWC 700)***

## UPGRADING TO BITUMEN STANDARD OF HOLO -LELA ROAD RWC 700

## BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.				
1.10	E.O item 1.09 for total aggregated mileage in excess of 5000 km per vehicle month.	Km	50,000		
1.11	Ditto item 1.09, but One (1) new 4WD standard double cabin pick-up of minimum diesel engine capacity 2800 CC approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh Month	18		
1.12	E.O item 1.11 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	100,000		
1.13	Ditto item 1.09, but One (1) new 4WD Single cabin pick-ups with fibre glass body of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. Vehicle to revert to the Contractor at the end of the project.	Veh Month	18		
1.14	E.O item 1.13 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	100,000		
1.15	Allow a Prime Cost Sum of Kshs. 3,600,000.00 for the RE's miscellaneous account to be spent in whole or part as directed by the RE against receipts.	PC Sum	3,600,000.00	1	
1.16	E.O. item 1.15 for Contractor's overheads and profits.	%			
1.17	Allow a Prime Cost Sum of Kshs.11,700,000 for attendance upon the Resident Engineer' staff.	PC Sum	11,700,000.00	1	
1.18	E.O. item 1.17 for Contractor's overheads and profits.	%			
1.19	Provide, erect and maintain publicity signs as directed by the Engineer.	No	2		
1.20	Allow for Lump Sum of Kshs. 3,000,000.00 for training of Engineers	LS	1	3,000,000.00	
1.21	Allow a Prime Cost Sum of KShs. <b>2,000,000.00</b> for geotechnical investigation as instructed or directed by the Engineer.	PC Sum	2,000,000.00		
1.22	E.O. item 26.06 for Contractor's overheads and profits.	%			
	<b>Bill No. 1 Total Carried Forward to Grand Summary</b>				

1. In addition the new date for uploading of the long advert for the respective batches has been revised as follows:

BATCH NO.	Initial Date for Uploading the Long Advert	Revised Date for Uploading the Long Advert	Website
BATCH 2	29 <sup>th</sup> August, 2025	10 <sup>th</sup> September, 2025	<a href="http://www.kerra.go.ke">www.kerra.go.ke</a>
BATCH 3	5 <sup>th</sup> September, 2025	12 <sup>th</sup> September, 2025	<a href="http://www.kerra.go.ke">www.kerra.go.ke</a>
BATCH 4	12 <sup>th</sup> September, 2025	16 <sup>th</sup> September, 2025	<a href="http://www.kerra.go.ke">www.kerra.go.ke</a>

2. That the submission date for the tenders for Batch 1 has been revised as from **5<sup>th</sup> September, 2025** to **26<sup>th</sup> September, 2025 at 11.00am.**
3. Interested Applicants are required to continually check the Authority's website: [www.kerra.go.ke](http://www.kerra.go.ke) for any tender addendums or clarifications that may arise before submission date.
4. Bidders with enquiries are encouraged to do so vide the email address [procurement@kerra.go.ke](mailto:procurement@kerra.go.ke).
5. All other information remains the same.