



KENYA RURAL ROADS AUTHORITY

KIRINYAGA REGION

ROUTINE MAINTENANCE WORKS UNDER ROADS 2000 STRATEGY

ROUTINE MAINTENANCE

ROAD NUMBER: C396

ROAD NAME: KANGAITA - KIMUNYE(E616)

TENDER NUMBER: KERRA/011/KIR/39/072/2018-19

BID DOCUMENT FOR SPOT IMPROVEMENT

- INVITATION FOR TENDERS
- INSTRUCTIONS TO BIDDERS
- QUALIFICATION CRITERIA
- CONDITIONS OF CONTRACT
- APPENDIX TO FORM OF AGREEMENT
- STANDARD FORMS
- SPECIFICATIONS, DRAWINGS AND BILLS OF QUANTITIES

APRIL, 2019

The Engineer

**REGIONAL MANAGER,
KENYA RURAL ROADS AUTHORITY,
P.O. BOX 390-10300,
KIRUGOYA**

The Employer

**DIRECTOR GENERAL,
KENYA RURAL ROADS AUTHORITY,
P.O. BOX 48151-00100,
NAIROBI.**

BIDDING DOCUMENTS

Issued on: _____ 2019

for

Procurement of Works

under

Performance Based Routine Maintenance Contract No. _____
for the following road:

Kangaita - Kimunye(E616)

Tender No. KERRA/011/KIR/39/22%/072/2018-19

Employer: Director General, Kenya Rural Roads Authority (KeRRA)

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Important Notice to Bidders

These Bidding Documents have been prepared specifically for the Procurement of Works under the Performance Based Routine Maintenance type of Contract.

The contract differs substantially from the traditional contracts for road maintenance works in that most of the payments to be made to the contractor are not based on quantities of works measured by unit prices for works inputs, but on measured 'outputs' reflecting the target conditions of the roads under contract (in other words: 'what the roads are supposed to look like'), expressed through '**Service Levels**'. Another major difference is that the Contractor is responsible for designing (deciding on) the works necessary to reach the required Service Levels, and the durability and performance of the roads over a longer period.

For example, the contractor is not paid for removing cubic metres of silt from a culvert (his actual work input) in a certain month, but for keeping the culvert clean and free of silt at all times (the output of his efforts). This means that in some months he will be paid the agreed standard monthly lump sum amount even though he has not had to do much work. In other months he might have to do a lot of work but he will still only be paid the agreed standard amount. However, if he fails to meet the Service Levels by, for example, allowing a culvert to become silted up, he will have a reduction made from his monthly lump sum.

The Service Levels are defined in the Contract and so is the method of calculating the payment reductions for non-compliance. It is intended that the contractor is motivated to do good quality work so that he reduces his maintenance burden, and therefore his costs, over the duration of the contract. If he does shoddy work he will have to repeat it and this will increase his maintenance inputs and costs. *He* must decide how best to plan and execute the works in order to make his operations cost effective.

In this particular contract this method of payment, based on Service Levels, applies mainly to the '**off-carriageway**' Routine Maintenance.

There is provision in the contract for repairs and maintenance works 'on-carriageway' and for emergency works that may have to be carried out from time to time, but these activities are paid for using the traditional method of measuring quantities of input items, and rates, given in the Bills of Quantities.

Another important aspect in the Performance type of contract is for the contractor and employer to enter into a long term relationship whereby the contractor takes over more responsibility for managing the condition of the road and is rewarded by a longer term contract than is traditional; sometimes several years.

Part 1 - BIDDING PROCEDURES

Section I - Instructions to Bidders (ITB)

1. The Employer	The Employer is the Director General of the Kenya Rural Roads Authority (KeRRA), represented by the Regional Manager, Central Region.
2. Scope of Bid	<p>The Employer issues these bidding documents for the procurement of works on the _____ road in _____ District for the following activities:</p> <ul style="list-style-type: none"> (a) Designing and carrying out ‘off-carriageway’ routine maintenance of the drainage system, including drainage and erosion control structures, and the control of vegetation, in order to achieve the Service Levels defined in the Specifications. (b) Carrying out activities ‘on-carriageway’ in order to achieve the Service Levels for cleanliness and safety as defined in the Specifications. (c) Repairs and routine maintenance of the gravel wearing course, as directed by the Employer’s project manager. (d) Repairs and routine maintenance of the roads signs, safety barriers and other road furniture, as directed by the project manager. (e) Carrying out emergency works, as directed by the project manager.
3. Eligible Bidders	<p><i>(The Employer shall choose one of the following and delete that which is inapplicable.)</i></p> <p>This bidding is open only to prequalified Bidders. <i>(Or)</i> This bidding is to be by open tender.</p>
4. Bidding Documents	<p>The Bidding Documents consist of 4 Parts: Part 1 - Bidding Procedures Part 2 - Specifications Part 3 - Conditions of Contract and Contract Forms, and Part 4 - Drawings.</p> <p>The bidder is expected to examine these documents and any other information from the Employer. Failure to provide all information required by the bidding documents may result in rejection of the bid.</p>
5. Clarification of Bidding Documents	<p>A prospective bidder requiring clarification of the Bidding Documents shall contact the Employer in writing or raise his enquiries during the pre-bid meeting (if such a meeting is to be held) at least 14 days before the submission date for the bids. The Employer shall respond in writing to all bidders within 7 days of receipt of the enquiry and issue bid addenda as necessary.</p>

6. Site Visit	The bidder is required to visit the site of the road and its surroundings, at his own cost, to obtain all information that may be necessary for preparing the bid.
7. Pre-bid Meeting	The Bidder is required to attend a Pre-bid meeting on _____ at _____ in order to address any issues relating to the Bidding Documents. Minutes of the meeting will be taken by the Employer and distributed to the bidders at least 7 days prior to the submission date for the bids.
8. Cost of Bidding	The cost of bidding shall be borne by the bidder.
9. Language and Law of Bid	The language of the Bid, including all correspondence relating to the bid, shall be English. The Law of the Bid will be the Laws of the Republic of Kenya.
10. Documents Comprising the Bid	The Bid shall comprise of: <ul style="list-style-type: none"> • Letter of Bid • Completed schedules, including priced bills of quantities • Certificate of company registration • Certificate of training under the Roads 2000 labour based training scheme • Any other documents required in the Bidding Documents.
11. Alternative Bids	No alternative bids will be considered.
12. Period of Validity of Bids	The bid shall remain valid for a period of 90 days from the date of opening the bids.
13. Submission of Bids	The Bid shall be duly filled in and sealed in an envelope addressed to the Employer, as given in the invitation to bid, and bear the name of the Contractor. The Bid shall be delivered to the Employer at the given address no later than the date and time specified in the invitation to Bid. Any bid received after the deadline for the opening of bids will be returned to the bidder unopened. Bids will be opened in the presence of any bidders wishing to attend at the time and place of opening, as specified in the invitation to bid.
14. Clarification of Bids	To assist in the evaluation of bids the Employer may ask, in writing, any bidder for clarification of its bid. However, any clarification by a bidder that has not been requested will not be considered by the Employer.
15. Determination of Responsiveness of Bids	The Employer will determine the responsiveness of the bids by applying the following criteria:

	<ul style="list-style-type: none"> • ‘Deviation’ is a departure from the requirements specified in the Bidding Documents; • ‘Reservation’ is the setting of limiting conditions or withholding from complete acceptance of the requirements of the Bidding Documents; and • ‘Omission’ is the failure to submit part or all of the information or documentation required in the Bidding Documents. <p>If a bid is not substantially responsive it shall be rejected by the Employer.</p>
<p>16. Prevailing Price and Correction of Arithmetical Errors</p>	<p>Provided that the bid is substantially responsive the Total Bid Price in the Letter of Bid shall prevail. If there is a discrepancy between the Total Bid Price and the priced Bills of Quantities the Employer shall correct the arithmetical errors as follows:</p> <ul style="list-style-type: none"> • If there are clear errors in the Bills of Quantities that, if corrected would remove the discrepancy with the Total Bid Price, then the error shall be corrected. • If there is a discrepancy between the unit price and the total price obtained by multiplying the unit price by the quantity, the unit price shall prevail, unless there is an obvious misplacement of the decimal point; • If there is an error in a total derived from adding or subtracting sub-totals, the sub-total shall prevail and the total will be corrected; and • If there is a discrepancy between words and figures, the words shall prevail, unless the amount in words is related to an arithmetical error, in which case the amount in figures shall prevail subject to the 2 bullets above. <p>If these corrections do not remove the discrepancy between the Total Bid Price and the priced Bills of Quantities then the factor of difference between the two shall be equally applied to the unit rates in the Bills of Quantities. E.g. if the Total Bid Price is 90% of the total priced Bills of Quantities, after arithmetical correction, then each unit rate will be multiplied by 90% to get the unit rates for the contract.</p>
<p>17. Evaluation of Bids</p>	<p>The Employer shall use the following criteria to evaluate the bids:</p> <ul style="list-style-type: none"> • The Total Bid Price; and • The training, experience and financial and human resources of the contractor as given in Section II below.
<p>18. Comparison of Bids</p>	<p>Provided that the bids comply with the qualification requirement in 17 above the Total Bid Price comparison of bids will be the sum of the following, adjusted as necessary in accordance with 16 above:</p> <ul style="list-style-type: none"> • The lump-sum price offered by the bidder for the routine maintenance works; • The total price of the priced Bill of Quantities for the Repairs and Maintenance of the other specified features of the road; and • The total price of the priced Bill of Quantities for the Emergency Works.

	The last two bills may be combined in the Bidding Document.
19. Employer's Right to Accept Any Bid, and Accept or Reject Any or All Bids	The Employer reserves the right to accept or reject any bids without incurring any liability to Bidders.
20. Award Criteria	The Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid, is substantially responsive to the Bidding Documents and is determined to be qualified to perform the contract satisfactorily.
21. Notification of Award	<p>Within the bid validity period the Employer will notify in writing the successful bidder that his bid has been accepted. The Letter of Acceptance will specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Contract. Until a formal contract is prepared the notification of award will constitute a binding contract.</p> <p>At the same time the Employer will notify the other bidders that their bids have been unsuccessful. The Employer will respond promptly, in writing, to written requests by any bidder as to the reasons why their bid was not selected.</p>
22. Signing of Contract	Promptly after notification, the Employer shall send the successful bidder the Contract Agreement, which must be signed, dated and returned to the Employer within 14 days of receipt by the successful bidder.

Section II - Evaluation and Qualification Criteria and Bidding Forms - Without Prequalification - for Open Tenders

(Note: If the bidding is open only to prequalified Bidders this Section II is not required, except that Bidders shall confirm the contents of their prequalification documents are still valid. However, these forms, based on KeRRA standard Prequalification forms for Constituency Road Works, 2009/2010, for both Labour based Routine Maintenance and Labour based Construction (KIHBT/KTC Certified), may be extracted from this document and used separately for prequalification.)

The Employer will use the following information, together with the prices given in the bids, to carry out the evaluation of each bid.

The bidder must complete the following Bidding Forms for the Employer to determine whether the bidder meets the qualification criteria required for the contract.

1. BUSINESS DETAILS			
Business name:			
.....			
Location of business premises:			
Constituency/Town			
Plot no. Street/Road			
Postal address:			
PO Box Town			
Tel No: Email address:			
Type of Business:			
Sole proprietor/ Partnership/ Registered company			
<i>(Delete as applicable)</i>			
Nature of business activities:			
.....			
Names of Business proprietors (sole proprietor/partners/directors):			
Name in full	Nationality	Citizenship	Shares
1.			
2.			
3.			
4.			

5.

Is there any person or persons in KeRRA who has an interest in this business?

Yes / No (delete as applicable)

If Yes give details.

.....

2. MANDATORY REQUIREMENTS FOR POST-QUALIFICATION

- a) Certificate of Incorporation Attached as Annex i.....
- b) Certificate of registration with Ministry of Roads in Class, in categories
.....Attached as Annex ii.....
- c) VAT registration Attached as Annex iii.....
- d) PIN registration Attached as Annex iv
- e) Valid Tax Compliance Certificate Attached as Annex v

Qualification Criteria: The company must be registered as above and the certificates of registration must be submitted with the Bid.

3. FINANCIAL REQUIREMENTS

State below the company bank account, financial assets such as cash and access to lines of credit (loans and overdraft facilities), to demonstrate the ability to undertake the contract, pay the workers on time, buy or hire tools and equipment, and meet all obligations with regard to tax and other liabilities.

Maximum value of business that you can handle at any time?

Kenya shillings:

Name of your bankers:

Branch:

Cash assets and lines of credit.....

Qualification Criteria: The company must have access to a cash flow of Ksh 150,000 throughout the contract.

4. ADDITIONAL REQUIREMENTS / DETAILS FOR POST- QUALIFICATION

- i) Training certification of Professional and Technical Personnel permanently employed or on contract including the MD

Name	Signed availability	Position	Training Certificates
1.....			
2.			
3.			
Full CVs and Training Certificates Attached as Annex vi			
<u>Qualification Criteria:</u> The nominated personnel must have had training under the Roads 2000 Strategy for the management and execution of Performance based Routine Maintenance contracts. These persons must be available to undertake the proposed contract.			
ii) Previous experience and documentation of completed works			
Project Description		Location	Contract Sum
1.			
2.			
3.			
Documentation Attached as Annex vii			
iii) Current Workload if any (attach copies of contracts/ LSOs/ LPOs)			
Project Description	Expected Completion Date	Location	Contract Sum
1.			
2.			
3.			
Documentation Attached as Annex viii			
iv) Equipment and vehicles holding (attach copies of logbooks)			
Type of Equipment	Description/ Make Year of Manufacture	Registration	
1.			
2.			

3.

Documentation Attached as Annex ix

Qualification Criteria: The company should demonstrate that it has the tools and equipment to carry out the works or its intention to buy or hire such tools or equipment.

v) Any other comments or observations for the tender evaluation committee

.....

.....

Date Signature of Bidder

Section III - Letter of Bid

To: Director General, Kenya Rural Roads Authority (KeRRA), Attention: Deputy Director, _____ Region, _____ Address

Date: _____

Invitation for Bid No.: _____

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders _____.
- (b) We offer to execute in conformity with the Bidding Document (ITB 2) the following Works: _____ (e.g. routine maintenance and repairs on and off carriageway and emergency works if required) on the _____ road, from km ____ to km ____, in _____ region, for the Contract period of 18 months.
- (c) Our bid price is composed of the following components:

Description	Amount in Numbers
(a) Maintenance Services to prescribed service levels in an amount of <i>(amount in words)</i> .	
(b) Repairs, Maintenance and Emergency Works as instructed by the Project Manager in an amount of <i>(amount in words)</i> .	
Total Bid Price (a) + (b) <i>(amount in words)</i>	

- (d) Our bid shall be valid for 90 days from the fixed date for the bid submission deadline;
- (e) We understand that this bid, together with your written letter of acceptance thereof included in your notification of award, shall constitute a binding agreement between us, until a formal contract is prepared and executed; and

- (f) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (g) We undertake, if our bid is accepted, to commence the services and works on the commencement date and to complete the whole of the services and works comprised in the Contract within the time stated in the Contract.
- (h) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Name _____ In capacity of _____

Signed _____

Duly authorized to sign the bid for and on behalf of _____

Dated on _____ day of _____, 2013.

Section IV - Bills of Quantities

The bid includes the following Bills of Quantities:

- Bill of Quantities for Maintenance Services (for maintenance to agreed Service Levels)
- Bill of Quantities for Repairs and Maintenance Works (for repairs and maintenance as instructed by the project manager), is given in Annex 1.
- Bill of Quantities for Emergency Works (for works as instructed by the project manager), is given in Annex 1.

The last two bills may be combined, as shown in Annex 1.

General Preamble to Bills of Quantities

The following apply to all Bills of Quantities:

1. The Bills of Quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Specifications and Drawings.
2. The unit rates and prices shall be quoted in Kenya Shillings and payment will be made in Kenya Shillings. The unit rates and prices shall include for all taxes, duties and levies.
3. A unit rate or price shall be entered by the bidder against each item of the Bills of quantities. The cost of items against which the bidder has failed to enter a rate or price shall be deemed to be covered by other unit rates and prices entered in the Bills of Quantities.
4. General directions and descriptions of work and materials are not repeated or summarised in the Bill of Quantities. Reference to the relevant sections of the Contract Specifications shall be made before entering rates or prices against each item in the Bill of Quantities.
5. The rates given by the bidder shall be based on the Works being carried out in accordance with the R2000 Strategy of using optimum labour resources. They shall include all labour, tools, equipment, vehicles, management and supervision, surveys, materials and their excavation and haulage, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
6. Arithmetic errors discovered prior to award of the Contract will be corrected by the Employer as described in the Instruction to Bidders.

Bill of Quantities for Maintenance Services

1. This Bill of Quantities is the basis for payment of maintenance services that are to be provided on a *lump sum per km per month* basis for maintaining the roads under the contract, at the Service Levels defined in the Specifications.
2. Payment shall be made in accordance with the actual performance of the Contractor and compliance with the Service Level criteria given in the Specifications. Failure to meet the Service Levels will result in payment reductions in accordance with the Conditions of Contract and the Performance Specifications.
3. The method of measurement of completed services and works shall be in accordance with the measurement and payment provisions of the relevant section in the Performance Specifications.

Bill of Quantities and Unit Price for Maintenance Services

(To be completed by the bidders)

Description of Services and Price	Unit Price Ksh
Unit Price per kilometre and month	<i>(Amount in numbers)</i>
<p>This price is the full remuneration to the Contractor to carry out the services and works required in order to reach and maintain the service levels described in the Specifications and elsewhere in the contract. It further includes the activities of the Contractor related to self-control, quality assurance and materials testing, surveys, data collection and reporting.</p> <p>The Unit Price per kilometre per month for the _____ road is:</p> <p><i>(Amount in words)</i></p>	
<p>Total Price for Contract Period</p> <p>Total Price = (Unit Price per km and month) x (number of km) x (number of months) = _____ x _____ x _____ =</p> <p><i>(Amount in words)</i></p>	

PART 2 - SPECIFICATIONS

**Section V, Part A
Output and Performance Specifications**

2.1 Description of Project Road

The project road is in _____ County of _____ region.

It commences at _____ and traverses _____ (*describe terrain*) for _____ km to end at _____. It is a gravel road with _____ (*list main features e.g. bridges etc*).

2.2 Scope of Services to be provided and Payment Method

2.2.1 Performance based Routine Maintenance Services

The services to be provided by the Contractor include all activities, physical and others, which the Contractor needs to carry out in order to comply with the Service Levels and other output and performance criteria indicated in the contract, or with any other requirements of the contract. In particular, they include management tasks and physical works associated with the following road-related assets and items:

- Inspect road, identify and remove all obstructions
- Clear side drains, mitre drains, cut-off drains
- Repair and replace scour checks
- Repair eroded ditches
- Clean cross culverts, access culverts, outlets and inlets
- Headwall repairs
- Clear stream channels
- Vegetation control: grass slashing, bush clearing, tree pruning
- De-silt drifts
- Maintenance and minor repairs to bridges.

Performance based routine maintenance services will be paid for as a fixed **lump sum per km per month, with payment reductions made for non-compliance**, if appropriate.

2.2.2 Repairs and Maintenance Works

Repairs and Maintenance works will be carried out by the Contractor when specifically instructed by the project manger. Activities include:

- Fill potholes and minor gullies in the gravel wearing course and shoulders
- Repair carriageway edges
- Reinststate road camber
- Road furniture maintenance and repair
- Repairs to culverts, replacing rings etc

Repairs and maintenance works will be paid for as measured items in accordance with the unit rates in the Bill of Quantities.

2.2.3 Emergency Works

Emergency works, by definition, are unforeseen at the time of preparing the contract. Severe weather conditions such as unusually high rainfall can lead to flash floods which may cause wash-outs and other damage to the carriageway and other

features of the road and its corridor. While specific items of work are not known at the start of the Contract it is prudent to include some general items which are indicative of the type of works that may be required. These have been included in the Bill of Quantities for Repairs, Maintenance and Emergency Works as they will probably be the same items, e.g. repairs and maintenance under an emergency situation. The quantities are nominal as they cannot be defined in advance.

In the event of an emergency the Contractor should draw to the attention of the project manager that certain works need to be carried out to repair the carriageway and other road features to restore the safe passage of traffic along the road and ensure the integrity of the road and its corridor. The Contractor shall give the project manager an estimate of the extent of the required activities and an estimate of the costs based on the Bill of Quantities. The project manager will consider the information and instruct the Contractor to carry out such works as are necessary.

Emergency works will be paid for as measured items in accordance with the unit rates in the Bill of Quantities.

2.2.4 Self-Control Unit of Contractor

The Contractor is obliged to assign a technically qualified and trained person, or persons, to verify continuously the degree of compliance by the Contractor with the Service Levels.

The Self-control Unit is responsible for gathering the information needed by the Contractor to prepare the Monthly Statement. The unit should have a complete knowledge of the road condition, both on and off carriageway, at all times. The unit will also be responsible for carrying out, in close cooperation with the project manager, the formal and scheduled inspections of Service Levels which will take place regularly.

The compliance (or non-compliance) of the Contractor with the service level requirements will be reported by the Self-Control Unit to the Project manager in the form of Table 2.3, given below.

2.2.5 Communications Equipment

The Contractor is to provide and maintain in operation permanently a mobile phone for himself and his road manager on site, whereby the project manager may contact them at any time.

2.2.6 Site Regulations, Health and Safety Measures and Work Procedures

The Contractor shall prepare and submit to the project manager, for approval, his proposed site regulations, health and safety measures (including HIV/AIDS mitigation measures) and work procedures.

2.2.7 Functions of Key Personnel

The Contractor will provide as a minimum the following permanent key personnel:

- Project director - the owner, director or senior manager of the company to oversee all contractual and operational functions of the contract.

- Road manager - site agent to head the self-control unit and direct and oversee the day-to-day planning and site operations of the contract including staff and public safety issues, the free flow of traffic, liaising with the public and reporting to the project manager. He will also decide what works have to be carried out and supervise the labour force to ensure quality and adherence to the service levels, as well as the duties described in 2.2.4.

The roles could be done by the same person, depending on the size of the firm.

2.2.8 Method of Formal Inspections

Formal inspections will be carried out jointly by the Project Manager and the Road Manager at the end of each month. The main purpose of the formal inspections is to enable the Project Manager to verify the information presented in the Contractor's Monthly Statement with the actual observed and measured conditions on the site. The Project Manager will prepare a brief Memorandum describing (i) the general circumstances of the site visit, including date, road sections visited, persons present, etc., (ii) any non-compliance which may have been detected, and (iii) the time granted by the Project Manager to the Contractor to remedy the detected defects. Based on the outcome of the formal inspection, the Project Manager will correct any possible errors or misrepresentations in the Contractor's statement, countersign it and present it to the Employer for payment, and to the Contractor for information.

Formal inspections will also be scheduled for the follow-up site visits, whose purpose is to verify if the Contractor has remedied the causes of earlier non-compliance, within the time frame granted by the Project Manager and specified in the Memorandum.

2.2.9 Informal Inspections of Service Levels

The Project Manager may carry out informal inspections of Service Levels as part of his general mandate given to him by the Employer. He may do so on his own initiative, at any time and anywhere on the roads included in the contract. If he detects any road sections where the Service Level criteria are not met, he is obliged to inform the Contractor within 24 hours in writing, in order to enable the Contractor to take remedial action as soon as possible. The results of informal inspections may not be used by the Project Manager for purposes of correcting the Contractor's monthly statements or applying penalties, except for cases in which the traffic flow on the road has been completely interrupted.

2.3 Monthly Statement

The Monthly Statement to be submitted by the Contractor shall have the format shown in Table 2.3, which gives an example of how the statement is filled out. The compliance or non-compliance is reported in the table and is used to determine the degree of compliance and the payment reduction to be made in a particular month.

Table 2.3 Monthly Statement for Contract

(Sample Only)

Contract Road: A to B to C Contract No: R2000/ ??
 Road Section: From km: 5.00 To km: 25.00 Length of contract road: 20.00 km
 County: Kirinyaga Region: Central
 Contract Month: 2 , October 2010

Service Level Criteria	Required Compliance		Actual Compliance		Non-compliance		Payment Reduction km
	Target	km	Compliance criteria	Total Length (km) Compliant	Length	% Reduction	
1. Road Safety	100%	20.00	Cleanliness of carriageway	18.00	2.00	20%	0.40
2. Durability	75%	15.00	Drainage	13.00	2.00	30%	0.60
	75%	15.00	Vegetation height	13.00	2.00	20%	0.40
	75%	15.00	Vegetation clearance	13.00	2.00	10%	0.20
	75%	15.00	Structures and river beds	13.00	2.00	20%	0.40
						Total	2.00

Length of road for payment this month = 'Length of contract road' minus 'Payment reduction length'
 = 20.00 - 2.00 = 18.00 km
 Less reductions for non-rectified previous non-compliance (Tab 2.8) = 18.00 - 1.00 = 17.00
 Total payment due this month = 'Rate per km per month' multiplied by 'Length of road for payment this month'
 = ? Ksh/km x 17.00 Km
 = ?? Ksh

2.4 Timetable for Compliance with Service Level Requirements

In order to respect the Contractor's initial mobilization period, compliance with the service levels will be introduced gradually as shown in Table 2.4.

Contract Month	Road Safety Compliance required on % of contract road	Durability Compliance required on % of contract road
1	50	50
2	100	75
3	100	100
4 until end of Contract	100	100

2.5 Specification for Service Levels for Road Safety

The road user must be able to travel at a certain level of safety, unobstructed by objects, wash-out material and other debris on the gravel wearing course and shoulders. The criteria for determining the service levels for safety are given in Table 2.5. The enforcement of these criteria is expected to be an immediate priority of the contractor due to the critical importance of road safety, and 100% compliance is expected from Month 2, as shown in the Timetable in Table 2.4. Compliance will be determined by Visual Inspection.

Item	Service Level	Time Allowed
Cleanliness of the road gravel surfacing and shoulders	<p>The road must always be clean and free of soil, debris, trash and other objects, which must be removed within the time given if they pose:</p> <ul style="list-style-type: none"> • A high danger to traffic: such as rocks, fallen trees, dead animals, abandoned vehicles, fly tipping and other large obstacles etc: • A lesser (medium) danger to traffic: such as material washed on to the road after storms etc: 	<p>6 hours</p> <p>4 days</p>

2.6 Specification for Service Levels for Road Durability

2.6.1 Drainage

In general terms the contractor must ensure that all drainage elements and structures are without obstructions which may reduce their normal cross-section and impede the free flow of water.

The Service Level requirements for drainage systems and drainage structures are shown in Table 2.6.1. Compliance will be determined by Visual Inspection.

Item	Service Level	Time Allowed for Repairs and Tolerances Permitted
Side drains, ditches, mitre drains and unlined vertical drains	Must be clean and free of obstacles	Tolerance permitted: Siltation/Obstructions must be less than 50mm in depth. Siltation/Obstructions must be cleared within 7 days after detection. Damages must be repaired within 3 weeks after detection.
Culverts and access drifts	Must be clean and free of obstacles and without structural damage. Must be firmly contained by surrounding soil or material.	As above
Scour checks and other erosion protection structures	Must be de-silted, structurally sound and firmly contained in surrounding soil or material.	As above

2.6.2 Vegetation

This section specifies the Service Levels to be complied with in the case of vegetation growing within the right-of-way/ road reserve.

Vegetation is to be controlled to the heights, at the locations and with the restrictions as set out in Table 2.6.2 and Figure 2.6.2 below. Compliance will be measured with a tape measure.

Type	Height (mm)	Features applied to:
1. Vegetation Free Zone.	0	Carriageway, shoulders and structures.
2. Inner vegetation zone: from edge of shoulders to back of side drain/ditch or 2m away from edge of shoulder on straights and outside of curves, and 5m on the inside of curves. Also control of vegetation	25 (min) to 150 (max)	Road verges and large vegetated areas, including surface water channels with longitudinal gradients $\geq 3\%$. Also vegetation control around: <ul style="list-style-type: none"> • Marker posts • Signposts • Bridge and culvert markers • Guardrails

around street furniture and other features.		<ul style="list-style-type: none"> • Bridge abutments • Cross culvert ends and headwalls • Inner side drains
3. Outer vegetation zone, excluding zone 2.	50 (min) to 300 (max)	Bush clearing and vegetation control around: <ul style="list-style-type: none"> • Marker posts • Access culvert ends and headwalls • Outer side drains • Channels with gradients $\leq 3\%$.
4. Growth encroaching into Vegetation Free Zone from the side or top.	Must be removed if within 5m above the road surface.	Applies to vegetation control including trees, scrub or branches hanging over the zone.

2.6.3 Structures

The Contractor is responsible for the routine maintenance of all bridges, retaining walls and similar structures along the contract road.

The Service Levels for bridges, retaining walls and similar structures are given in Table 2.6.3 below. Compliance will be determined by Visual Inspection.

Table 2.6.3 Service Levels for Structures		
Item	Service Level	Time allowed for repairs or Tolerance permitted
Steel or other metal structures	Guardrails must be present and not deformed. All metal parts of overall structure shall be painted or otherwise protected and free of corrosion. Drainage system (e.g. weep holes) to be kept in good condition and fully functional.	Contractor must immediately notify Project Manager in case of any condition which threatens structural integrity of the structure. Damage and defects must be repaired within seven (7) days.
Concrete structures	Guardrails must be present and painted. Beams and all other structural parts must be in good conditions and fully functional. Drainage system (e.g. weep holes) in good condition and fully functional.	Contractor must immediately notify Project Manager in case of any condition which threatens structural integrity of the structure. Damage and defects must be repaired within seven (7) days.
Expansion joints	Clean and in good condition	Damages and defects must be repaired within seven (7) days.
Retention walls	Contractor must control presence and adequate condition of	Damage and defects must be repaired within seven (7) days.

Table 2.6.3 Service Levels for Structures		
Item	Service Level	Time allowed for repairs or Tolerance permitted
	retention walls and their drainage.	
Riverbeds	Contractor must ensure free flow of water under bridge and up to 50 metres upstream and downstream. Contractor must maintain design clearance under bridge. The Contractor shall take all reasonable measures to control erosion around bridge abutments and piers.	Causes for non-compliance must be eliminated within fourteen (14) days after water has sufficiently receded to allow minimum working conditions.

2.7 Procedures for Inspection

The visual inspection will be undertaken as part of the Formal and Informal inspections. The criteria for Service Levels will be checked at sections selected by the Project Manager based on visual appearance. The Project Manager shall be the sole judge of compliance. If a specified criterion is not met, the one-kilometre section in which the deficit occurs will be judged non-compliant.

2.8 Payment Reductions and Liquidated Damages

In accordance with the relevant clauses of the Conditions of Contract, Payment Reductions are applied in case of non-compliance with Service Level requirements, while Liquidated Damages are applied in the case of non-compliance with required Repair, Maintenance and Emergency Works.

The results of each formal inspection of the Service Levels and other performance criteria will be recorded by the Project Manager in the form of a Memorandum. The Memorandum will state the type and location of any non-compliance detected, in particular those non-compliances already shown in the standard tables provided by the Contractor as part of the monthly statement. For each individual case of non-compliance, the Project Manager will determine a date by which the Contractor must have completed the necessary measures in order to remedy the cause of the non-compliance. A follow-up site visit is therefore necessary at the date fixed by the Project Manager, or soon thereafter, in order to verify that the Contractor has indeed remedied the cause of non-compliance.

If at the date indicated in the Memorandum, the Contractor has not remedied the cause for non-compliance, independent of the reason given for their failure to do so, the Contractor is subject to Payment Reductions in accordance with the relevant clauses of the Conditions of Contract.

Payment Reductions are variable over time. If the Contractor fails to remedy a cause of non-compliance for which a payment reduction has already been applied, the amount of the payment reduction increases month by month for that particular cause of non-compliance, without a ceiling being applied, until compliance is established. The calculation of the initial (first month) amounts of payment reductions, and the formula for their adjustment over time, is to be based on the following rules given in Table 2.8.

TABLE 2.8			
CRITERIA	CONDITIONS FOR APPLICATION OF PAYMENT REDUCTIONS	UNIT RATES FOR NON COMPLIANCE	REFERENCE TO TECHNICAL SPECIFICATIONS (PARAGRAPH No.)
Road Safety	<i>Cleanliness of road: observed anywhere in a one km section does not comply with the service levels</i>	20% of the monthly lump sum for one km applied to each one-km section which does not comply	2.5
Drainage	<i>Cleanliness and condition of drainage structures (lateral ditches):</i> For a one-km section, to be determined for subsections of 50 m each. If unacceptable obstructions exist in more than one subsection, the one-km section does not comply	30% of the monthly lump sum for one km, applied to each one-km section which does not comply	2.6.1
Vegetation	<i>Vegetation height (maximum):</i> The maximum height measured anywhere in a one-km section is above the threshold value	20% of the monthly lump sum for one km, applied to each on-km section which does not comply.	2.6.2
	<i>Vegetation (clearance above road):</i> The vertical clearance between the road surface and the lowest point of tree or other plan is less than the threshold value	10% of the monthly lump sum for one km, applied to each on-km section which does not comply.	2.6.2
Structures and River Beds	<i>Steel, concrete, expansion joints, retention walls, river beds:</i> For a one km of section, to be determined for each structure. If non-compliant on more than one structure, the one km does not comply	20% of the monthly lump sum for one km, applied to each one-km section which does not comply	2.6.3

Note: (i) The Unit Rates of payment reductions (“PR_u”) shown in the above table are applicable during the first 30 days of non-compliance.

(ii) If the non-compliance has not been remedied within thirty days, liquidated damages for periods beyond 30 days are calculated based on the following formula:

$$PR = 2^n PR_u \quad \text{considering:}$$

J = number of days of non-compliance, and

$$n = \left\{ \frac{J - 1}{30} \right\} \text{ rounded up to full number (without decimals)}$$

2.10.2 Determination of Liquidated Damages

For **Repair Works**, the liquidated damages are **0.05% of the contract price bill item for repair works, for the particular item delayed**, per calendar day of delay, of the payment normally due for the specific Works for which completion is delayed, up to a limit of 10% of the contract price for the Repair Works.

Section V, Part B - General and Special Specifications

These are separate documents which the contractor must familiarise himself/ herself with.

The General Specification for Road works is the Standard Specification for Road and Bridge Construction, Ministry of Transport and Communications, 1986.

The Special Specification is the Roads 2000 Specification, KeRRA/ Ministry of Roads, November 2009.

PART 3 - CONDITIONS OF CONTRACT and CONTRACT FORMS

Section VI, Conditions of Contract

<p>1. The Site</p>	<p>The Site is the area of the road reserve of the _____ road, from km _____ to km _____ in _____ Constituency of _____ Region.</p>
<p>2. Project Manager</p>	<p>The Project Manager is Eng _____, appointed by the Employer to be responsible for the overall administration of the Contract and the supervision of the works and services to be performed by the Contractor. The Project Manager may delegate some of his responsibilities, by written notice to the Contractor nominating his supervisor, but not all of his overall administrative duties.</p>
<p>3. Road Manager</p>	<p>The Road Manager is appointed by the Contractor to be in charge of all activities of the Contractor under the Contract. The Road Manager will be authorized to receive instructions on behalf of the Contractor.</p>
<p>4. Service Levels</p>	<p>Service Levels are the minimum performance standard for the level of quality of conditions of the road defined in the Specifications in the Contract and which the Contractor shall comply with.</p>
<p>5. Documents forming the Contract</p>	<p>The documents forming the Contract shall be interpreted in the following order of priority:</p> <ol style="list-style-type: none"> 1. Agreement 2. Letter of Acceptance 3. Contractor's Bid 4. Conditions of Contract 5. Specifications 6. Drawings 7. Bills of Quantities. <p>If any ambiguity or discrepancy is found in the documents the Project Manager will provide instructions clarifying the position.</p>
<p>6. Language and Law</p>	<p>The language of the Contract shall be English. The law of the Contract is that of the Republic of Kenya.</p>
<p>7. Settlement of Disputes</p>	<p>7.1 The parties shall use their best efforts to settle amicably all disputes arising out of the Contract.</p> <p>7.2 Any dispute not resolved under 7.1 shall be referred to a single Arbitrator, to be nominated by the Chairman of the Chartered Institute of Arbitrators of Kenya, whose decision on</p>

	the matter shall be binding on both parties. The Arbitrator shall be paid equally by each Party.
8. Scope of Works and Services	The scope of the Works and Services is defined in the Specifications.
9. Design Responsibility	Any designs by the Contractor that change the existing characteristics of the road shall be submitted to the Project Manager for approval or disapproval. (e.g. If the Contractor wishes to replace damaged timber scour checks with concrete scour checks etc). The Project Manager will not unreasonably withhold his approval and his decision shall be final and his reason for such decision shall be communicated to the Contractor.
10. Start Date and Completion	The Start Date shall be not later than 30 days after the issuance of the Letter of Acceptance. The Contractor shall attain the required Service Levels within the time specified in the Timetable in the Specifications. The Contract will be completed after the number of months specified in the Timetable has elapsed.
11. Contractor's Responsibilities	<p>11.1 The Contractor shall carry out the works and services described in the Specifications. The Contractor shall supply all management, supervision, labour, materials, tools, vehicles and equipment which may be required.</p> <p>11.2 The Contractor shall comply with all instructions issued by the Project Manager in respect of the Works and Services.</p> <p>11.3 The Contractor shall, in the implementation of this contract, use labour based methods whenever possible.</p> <p>11.4 The Contractor shall recruit labour for the Works from the local communities and shall take particular note of the Government policy on the recruitment of women and youths. The target for each group shall be 30% of the labour force, which the Contractor shall take all possible measures to attain.</p> <p>11.5 The Contractor shall comply with the Kenya Labour Laws in respect of the rights of working conditions and wages for the labour force. The task rates set for labour shall be fair and manageable and shall be approved by the Project Manager.</p> <p>11.6 In the event of the failure of the Contractor to pay the labour the Employer shall be entitled to pay directly and to deduct the appropriate amount, plus a 10% administrative charge, from any monies due to the Contractor under the Contract.</p> <p>11.7 The Contractor shall maintain records of time worked and remuneration paid to his/her employees and shall avail these records to the Employer for inspection when so requested.</p>

12. Subcontracting	The Contractor shall not subcontract any part of the services and works without the prior approval of the Project Manager in writing. The maximum limit of subcontract is 25% of the Contract Price.
13. Employer's Responsibilities	<p>13.1 The Employer shall give full possession of and access to the Site at the date of Commencement.</p> <p>13.2 No approval or consent or absence of comment by the Employer shall affect the Contractor's obligations under the Contract.</p>
14. Health, Safety and Work Procedures	The Contractor shall adhere to the requirements of the Specification with regard to site regulations, health and safety measures and work procedures.
15. Maintenance Services	Maintenance Services are those activities necessary for keeping the Road in compliance with the Performance Standards defined by Service Levels. These Services will be remunerated by Lump-Sum amount for the period of the Contract paid in monthly payments during the entire Contract period, less any payment reductions due to non-attainment of Service Levels.
16. Contractor's Self-Control of Quality and Safety	The Contractor shall throughout the Contract maintain a system which shall ensure that the work methods and procedures are adequate and safe at all times both to his workers and to the public, including on temporary detours to maintain the flow of traffic. The Contractor shall establish a Self-Control Unit in accordance with the Specifications to continuously verify compliance with the required Service Levels.
17. Work Orders for Repairs and Emergency Works	Repairs and Emergency Works shall be executed by the Contractor on the basis of Works Orders issued by the Project Manager. These Works shall be measured and paid for using the rates in the Bills of Quantities in the Contract. The Works shall be completed within the time specified in the Works Order; failing which the delays will be subject to liquidated damages.
18. Taking Over	The Employer shall take over the Site on completion of the Contract period.
19. Quality of Materials used by Contractor	The quality of the materials used by the Contractor shall be in compliance with the Specifications.
20. Remedying Defects	The Employer may at any time prior to one month after Completion notify the Contractor of any defects. The Contractor shall remedy such defects at no cost to the Employer provided that such defects are due to the Contractor's workmanship and materials not being in accordance with the Contract.
21. Insurances	The Contractor shall, prior to commencing the Works, take out and maintain in effect throughout the Contract period Third

	<p>Party and Workers Compensation Insurances and provide evidence to the Employer that the required policies are in force.</p>
<p>22. Completion Time Guarantee and Liability</p>	<p>22.1 The Contractor guarantees that it shall attain specified Service Levels within the timetable given in the Specification.</p> <p>22.2 If the Contractor fails to attain specified Service Levels within the agreed contractual timetable the Contractor shall receive reduced payments for Maintenance Services in accordance with the Specifications.</p>
<p>23. Contract Price</p>	<p>The Contract Price shall be as specified in the Contract Agreement and comprises:</p> <p style="padding-left: 40px;">A. For Maintenance Services, a lump sum to be paid in monthly instalments; and</p> <p style="padding-left: 40px;">B. For Repairs, Maintenance and Emergency Works, the price stated in the Bill of Quantities to be paid according to work progress.</p>
<p>24. Monthly Statements and Payments</p>	<p>24.1 The Contractor shall submit to the Project Manager in the format given in the Specifications and Bills of Quantities the estimated value of Maintenance Services, Repairs and Emergency Works, for a given month.</p> <p>24.2 The Project Manager shall check the Contractor's statement during the Formal Inspection defined in the Specifications and certify within 14 days the amount to be paid to the Contractor, adjusted for any payment reductions in accordance with the Specifications.</p> <p>24.3 The Employer shall pay the amounts certified by the Project Manager within 28 days of the date of each certificate.</p>
<p>25. Taxes and Duties</p>	<p>The Contractor shall pay all taxes, duties, levies and charges assessed on the Contractor by government authorities in connection with the works and services.</p>
<p>26. Default and Termination</p>	<p>26.1 The Employer shall give notice to the Contractor where he considers the Contractor to be in default of the Contract. If the Contractor fails to remedy the default within a stated period of time the Employer may give notice of the termination of the Contract.</p> <p>26.2 If the Employer fails to pay the Contractor the certified amounts within the stipulated time for payment, the Contractor may give notice of the default and of his intention to terminate the Contract within 28 days.</p> <p>26.3 After termination the Contractor shall be entitled to payment of any unpaid balance of the value of the works executed.</p>

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Section VII, Contract Forms

Notification of Award

1 Letter of Acceptance

[Letterhead paper of the Employer]

[date]

To: *[name and address of the Contractor]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Bidding Documents]* for the Accepted Contract Amount of Kenya Shillings *[amount in numbers and words]*, as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Authority.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

CONTRACT AGREEMENT
BETWEEN
THE GOVERNMENT OF THE REPUBLIC OF KENYA
AND

This Contract is made the.....day of.....20.....

between Kenya Rural Roads Authority, represented by the Director General of P.O. Box 48151 - 00100, Telephone 020 - 801346 (hereinafter called the Employer) acting through his representative.....(Title and Address) of the one part, and..... (hereinafter referred to as “the Contractor”) of the other part.

Whereas the Employer desires that the Works and Services known as Performance Based Routine Maintenance as described in the Contract Documents for the following road:

Name of the Road..... Road Number.....

Region:

Constituency:

From Km..... to Km.....

And has accepted the Offer of the Contractor to execute road maintenance Services and Works as defined hereinafter, AND

Whereas the Contractor represented to the Employer that he has the required capacity and ability, and has agreed to execute the Works on the Terms and Conditions set forth in this Contract, for the Tender Sum of Ksh.....(words)(figures)

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

- (i) the Letter of Acceptance
- (ii) the Letter of Bid
- (iii) the addenda Nos _____(if any)
- (iv) the Conditions of Contract
- (v) the Specifications
- (vi) the Drawings, and
- (vii) the Bills of Quantities

3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and Services, and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and Services, and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In witness whereof of the duly authorised representatives of the Parties hereto have signed this Contract the day and the year first written atKenya.

for and on behalf of the
Kenya Rural Roads Authority (KeRRA)

Contractor

.....
Witness

.....
Witness

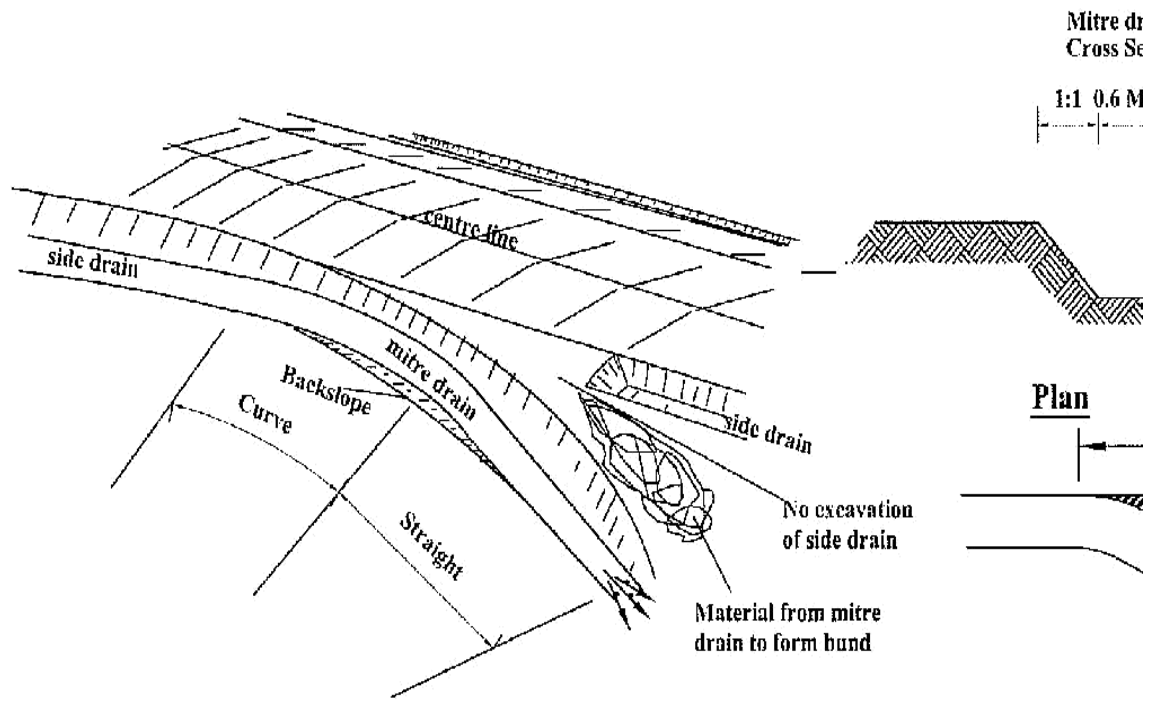
Part 4 - Drawings and Schedules

Section VIII - Drawings

Relevant drawings will be included in each contract, selected from the standard drawings for Spot Improvement Contracts.

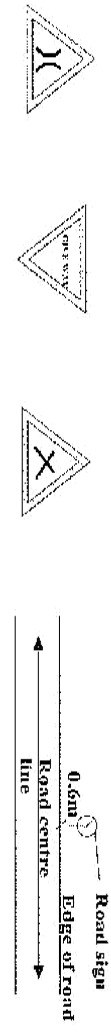
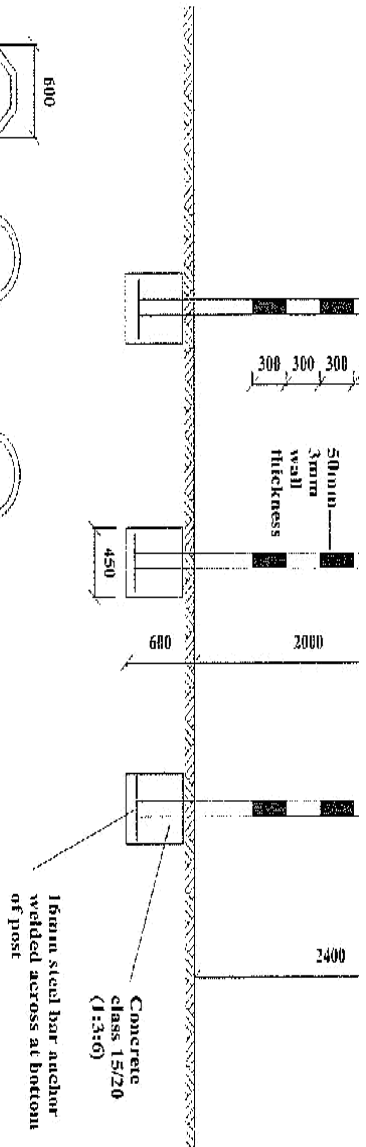
Section IX - Schedules of Repair Works

Schedules will be included where necessary, giving the chainage and description of features to be repaired, replaced or even additional, new features.



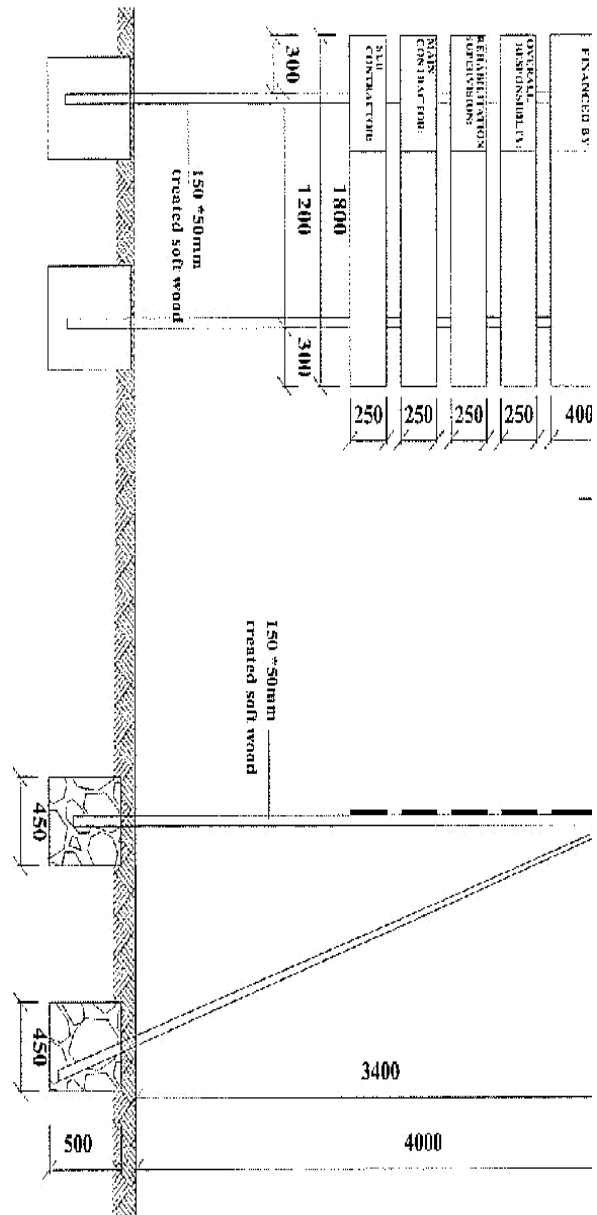
Notes

Location, direction and length of the mitre drain to be determined by the Engineer



KEY
 BLACK [] WHITE [] RED []

1. The type of sign required and their location shall be as shown on the Road Plan or as directed by the Engineer.
2. Sign plate to be 2mm thick mild steel plate.
3. Sign post to be 50mm fixing clamps/brackets.
4. Sign plate to be fixed to steel tube by 5 Nos M10 bolts and 50mm fixing clamps/brackets.
5. Sign paints shall be reflective.
6. The sign plate and post shall be treated by applying two coats of lead red oxide paint before applying a priming and two finish coats of approved paints. Paints used shall have a hard, durable and glossy finish.



NOTES

1. The wording of the project sign board and the location to be as directed by the Engineer.
2. Materials to be used for fabrication of signboard shall be pressure impregnated treated softwood timber
3. Warding board posts to be attached to the posts with galvanised nails
4. Project board posts and struts to be embedded in concrete class 20/20(1:2:4)

C-23

2
3

BILLS OF QUANTITIES

ANNEX 1

Bill of Quantities for Repairs, Maintenance and Emergency Works (Instructed Works)

1. The Quantities set out in the Bills of Quantities are indicative of the work that may be carried out. There is no guarantee that the Contractor will be required to carry out all the quantity of work indicated under any one particular item or group of items in the Bills of Quantities. The basis of payment shall be the Contractor's rates and the quantities of measured work done in fulfilment of the obligations under the Contract.

Bill of Quantities-PERFORMANCE BASED ROUTINE MAINTENANCE WORKS							
Routine Maintenance Works			Project: Road No.E616 KANGAITA-KIMUNYE				
Item No.	Activities		Unit	Quantity	Rate Ksh.	Intervention No.	Amount Ksh.
04-50-002	Grass Cutting(Manual) 1.5m each side		m ²	7400		3	
04-50-003	Bush Clearing		m ²	15000		2	
04-50-008	Clearing Obstruction		LS	1			
05-50-001	Repair Erosion of shoulders and Plant Grass		m ²				
08-50-002 i	Clean/Desilting of side drains/Catchwater Drains	Partially silted 100mm	m ³	300		3	
08-50-002 ii		Fully Silted	m ³				
08-50-005 i	Cleaning/Desilting of Mitre Drains	Partially silted 100mm	m ³	6		2	
08-50-005 ii		Fully silted	m ³				
08-60-001	Clean/ Desilt culverts(Partially Blocked)	300mm dia	m ³				
08-60-002		450mm dia	m ³				
08-60-003		600mm dia	m ³	40		3	
08-60-004		900mm dia	m ³				
08-60-005		1200mm dia	m ³				
08-60-006	Clean/Desilt Culverts(Fully Blocked)	300 mm dia	m ³				
08-60-007		450mm dia	m ³				
08-60-008		600 mm dia	m ³				
08-60-009		900 mm dia	m ³				
08-60-010		1200 mm dia	m ³				
08-70-001	Minor Headwall repair-Concrete		m ³	1		1	
08-70-008	Repair/maintenance of scour checks-Masonry		No.	20		1	
08-70-009	Repair/Maintenance of scour checks-Wooden		No.				
08-70-015	Repair/Maintenance stone & stone checkdams		No.				
08-70-011	Stone pitching repair		m ²				
08-80-004	Bridge/Drift Maintenance-Desilting		m ³				
10-50-006 b	Light Carriageway reshaping manual	Grub edge and reshape carriageway	m ²	1500		2.0	
					TOTAL	PB WORKS	
	Contract:	Duration of	12 Months		Total cost per month		
	Road	Length of	5.46KM		Cost per Km/Month		

Bill of Quantities-INSTRUCTED ROUTINE MAINTENANCE WORKS						
Instructed Works			Project: Road No.E616 Kangaita-Kimunye			
Item No.	Activities		Unit	Quantity	Rate Ksh.	Amount Ksh.
Bill 1	Preliminaries					
01-60-005	Provide and Erect publicity sign boards		No.	2		
Bill 8:	Road Drainage Structures					
08-001	Excavation of foundation for drainage structures		m ³	0.0		
08-002d	Bedding and Haunching Type IV					
i.	450mm dia		m ³			
ii.	600mm dia		m ³	8.0		
iii.	900mm dia		m ³			
08-60-19	Provide material and construct minor drainage structures - masonry					
a	Headwall Type 1		m ³			
b	Headwall Type 2		m ³	6.0		
c	Headwall Type 3		m ³			
d	Headwall Type 4		m ³			
e	Headwall Type 5					
08-70-009	Scour checks masonry					
08-80-001	Drifts – Dressed masonry stones					
Bill 10:	Grading and Gravelling works					
10-50-006a	Light Carriageway reshaping manual	Repair of potholes, ruts, gullies with gravel		750		
Bill 22	Dayworks/Emergencies		LS	100,000.00		150,000
Bill 25	HIV/AIDS awareness and prevention campaign		LS	550,000.00		
			TOTAL	INSTRUCTED WORKS		