COUNTY GOVERNMENT OF BUNGOMA

DEPARTMENT OF ROADS,INFRASTRUCTURE AND PUBLIC WORKS

PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD

TENDER NO. BGM/CNTY/RPW/CEF/OT/011/2020/2021

- FORM OF BID
- APPENDIX TO FORM OF BID
- FORM OF BID SECURITY
- INSTRUCTIONS TO BIDDERS
- QUALIFICATION CRITERIA
- CONDITIONS OF CONTRACT
- SCHEDULES OF SUPPLEMENTARY INFORMATION
- FORM OF AGREEMENT
- FORM OF PERFORMANCE SECURITY
- STANDARD SPECIFICATIONS
- SPECIAL SPECIFICATIONS
- BILLS OF QUANTITIES
- DRAWINGS

OCTOBER 2020

CHIEF OFFICER **ROADS,INFRASTRUCTURE AND PUBLIC WORKS** **PO BOX 437- 50200** **BUNGOMA.**	**COUNTY EXECUTIVE COMMITTEE MEMBER** **ROADS,INFRASTRUCTURE AND PUBLIC WORKS** **PO BOX 437- 50200** **BUNGOMA.**

PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD

TABLE OF CONTENTS

INVITATION TO TENDER ..... **ii**
COUNTY GOVERNMENT OF BUNGOMA ..... **iii**
MINISTRY OF ROADS, TRANSPORT, INFRASTRUCTURE Error! Bookmark not defined.
AND PUBLIC WORKS ..... Error! Bookmark not defined.
SECTION 1: FORM OF BID ..... **v**
SECTION 2: APPENDIX TO FORM OF BID **3**
SECTION 3: FORM OF BID SECURITY **7**
SECTION 4: INSTRUCTIONS TO BIDDERS **10**
SECTION 5: QUALIFICATION CRITERIA **25**
SECTION 5: QUALIFICATION CRITERIA **26**
SECTION 6: CONDITIONS OF CONTRACT **35**
SECTION 6A CONDITIONS OF CONTRACT PART I: GENERAL CONDITIONS OF CONTRACT **36**
SECTION 6B: CONDITIONS OF CONTRACT PART II: (CONDITIONS OF PARTICULAR APPLICATION) **37**
SECTION 7: SCHEDULES OF SUPPLEMENTARY INFORMATION **67**
SECTION 8: FORM OF AGREEMENT **83**
SECTION 9: FORMS OF PERFORMANCE BANK GUARANTEE AND ADVANCE PAYMENT GUARANTEE (UNCONDITIONAL) **86**
SECTION 10: STANDARD SPECIFICATIONS **90**
SECTION 11: SPECIAL SPECIFICATIONS **92**
SECTION 12: BILLS OF QUANTITIES **157**
SECTION 13: DRAWINGS **160**

INVITATION TO TENDER

COUNTY GOVERNMENT OF BUNGOMA

DEPARTMENT OF ROADS, INFRASTRUCTURE AND PUBLIC WORKS

OPEN NATIONAL TENDER

The County Government of Bungoma (CGB) through The Ministry of Roads, Infrastructure, and public works invites tenders from eligible bidders for the following works under mentioned:-

TENDER NUMBER	TENDER NAME	NEGOTIATION NO.	ELIGIBILITY
BGM/CNTY/RPW/CEF/OT/011/2020-2021	PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD	824235	OPEN

Interested eligible candidates may download a complete set of tender document with evaluation criteria from the County Government of Bungoma website www.bungoma.go.ke and/ or the IFMIS tender portal **www.supplier.treasury.go.ke** / or PPIP portal: **www.tenders.go.ke portal** using the unique **IFMIS Negotiation Number indicated in the tender advert.**

Mandatory requirements

1) Certified Copy Of Certificate Of Registration/Incorporation.
2) Certified Copy Of Valid Tax Compliance Certificate/Exemption Certificate Issued By KRA
3) Certified Copy Of CR 12 Certificate For Limited Companies
4) Registration with the National Construction Authority for Road works; Certified **NCA 6 and above.** And **MUST** be accompanied by the **Annual Practicing License.**
5) Certified Copy Of KRA Pin Certificate.
6) Bid Security of **kshs 20,008/-** from Reputable Bank or Insurance Company Approved by PPRA.
7) Dully filled, signed and stamped Tender form
8) Dully filled, stamped and signed Business Questionnaire Form
9) Certified Single Business Permit.
10) **MUST** provide Copies of the national ID/passport for the directors as per CR12
11) All pages **MUST** be serialized/page
12) Estimates MUST be within + or -10% of published market rates
13) Dully filled, stamped and signed Bill Of Quantities

Complete tender documents must be submitted through the IFMIS SUPPLIER PORTAL www.Supplier.treasury.go.ke as per the requirements contained in the document so as to be received on or before the date and time indicated in the IFMIS **Friday 16th of October 2020** at **10:00am.**bids shall be opened immediately thereafter in the presence of bidders or their representative who may choose to attend at Ministry of Roads, Infrastructure and Public Works conference hall.

NOTE: Bidders who May experience challenges in accessing and uploading their tenders in the IFMIS tender portal should contact the IFMIS Helpdesk (email http:/ifmis.go.ke, Tel:0800721477/0204801801) at the treasury or contact Supply Chain Management Office located behind H.E the Governor's office County Government of Bungoma for assistance during official working hours.(Monday-Friday 8:00am- 5:00Pm)

- Site visit is a **MUST** and will be on **Tuesday 13th of October 2020** as from **10:00am at** Ministry of **Roads, Infrastructure and Public Works conference hall. Note that a certificate will issued as proof of attendance**

MANUAL SUBMISSIONS will not be accepted. All tenders must be submitted through the IFMIS Platform.

CHIEF OFFICER ROADS, INFRASTRUCTURE AND PUBLIC WORKS

SECTION 1: FORM OF BID

FORM OF BID

(NOTE: The Appendix to Form of Bid forms part of the Bid. Bidders are required to fill all the blank spaces in this Form of Bid and the Appendix to Form of Bid.)

NAME OF CONTRACT: PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD

TENDER NO. BGM/CNTY/RPW/CEF/OT/011/2020/2021

TO: The Chief Officer,
ROADS, INFRASTRUCTURE AND PUBLIC WORKS
P. O. Box 437 - 50200,
BUNGOMA

Dear Sir,

1. Having examined the Conditions of Contract, Specifications, Bills of Quantities, and Drawings for the execution of the above-named works we, the undersigned, offer to construct and install such works and remedy any defects therein in conformity with the said Bills of Quantities, Conditions of Contract, Specifications and Drawings for the sum of

   (Insert amount in words)
   ……

   ……

   (Insert amount in figures)…….

   as specified in the Appendix to Form of Bid or such other sums as may be ascertained in accordance with the said Conditions.

2. We undertake, if our bid is accepted, to commence the works within twenty-eight (28) days of receipt of the Engineer's order to commence, and to complete and deliver the whole of the works comprised in the contract within the time stated in the Appendix to Form of Bid.

3. If our bid is accepted we will, when required, obtain the guarantee of a Bank or other sureties (to be approved by you) to be jointly and severally bound with us in a sum not exceeding 5% of the above named sum for the due performance of the contract under the terms of a Bond to be approved by you.

4. We agree to abide by this bid for the period of one hundred and twenty (120) days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

5. We understand that you are not bound to accept the lowest or any bid you may receive.

6. On the basis of our previous experience we are fully experienced and competent in the type of work included in this BID and we have adequate financial resources to carry out the works described within the period for completion. We are in a position to fulfil the contract for which we have Bided.

Dated this …….. Day of …… 20 ……..…..

Signature……in the capacity of ……...…….(*Designation*)

Duly authorized to sign bids on behalf of …….……..

……..……(*Name of Bidder*)

Address and official stamp of Bidder:

……..……..……..

Name of Witness:……

Signature of Witness:……..……

Address of Witness:…….

Occupation of Witness:……..

SECTION 2: APPENDIX TO FORM OF BID

APPENDIX TO FORM OF BID

(This appendix forms part of the bid)

CONDITIONS OF CONTRACT	CLAUSE	AMOUNT
Law of contract		Laws of Kenya
Language and form of communication for the contract		English
Bid Security (Bank Guarantee or reputable insurance company approved by PPRA Only)		**Kshs 20,008.00** from reputable bank or Insurance Company approved by PPRA
Amount of Performance Security (Unconditional Bank Guarantee)	10.1	5% of BID Sum in the form of Unconditional Bank Guarantee or cash retentions (Insurance bonds shall be accepted)
Program to be submitted	14.1	Not later than 14 (Fourteen) days after issuance of Order to Commence
Cash flow estimate to be submitted	14.3	Not later than 14 (Fourteen) days after issuance of Order to Commence
Minimum amount of Third Party Insurance	23.2	**0.3%** of the contract value
Period for commencement, from Engineer's order to commence	41.1	14 days
Time for completion	43.1	3 (Three) months
Amount of liquidated damages	47.1	KShs. 5,000.00 per day
Limit of liquidated damages	47.1	10% of Contract Sum
Defects Liability period	49.1	1 (One) months
Percentage of Retention	60.3	10% of Interim Payment Certificate
Limit of Retention Money	60. 3	10% of Contract Sum
Minimum amount of interim payment certificates	60.2	Kshs.
Time within which payment to be made after Interim Payment Certificate signed by Engineer	60.10	45 days
Time within which payment to be made after Final Payment Certificate signed by Engineer	60.10	45 days
Appointer of Arbitrator/Adjudicator	67.3	The Chartered Institute of Arbitrators (Kenya)
Notice to Employer and Engineer	68.2	The Employer's address is: The County Secretary, County Government of Bungoma, P.O. Box 437 - 50200 BUNGOMA The Engineer's address is:

		The Chief Officer, Roads,Transport,Infrastructure and Public Works P.O. Box 437 - 50200 BUNGOMA

CONDITIONS OF CONTRACT	**AMOUNT/DESCRIPTION**	**CONDITIONS OF CONTRACT CLAUSE**
Approximate Weightings for Price Adjustment Formula	See Table A below	70.3
Weightings and Indices	Where necessary, in the table B below, bidders shall (a) indicate their amounts of local currency payment, (b) indicate their proposed source and base values of indices for the different foreign currency elements of cost, (c) derive their proposed weightings for local and foreign currency payment as indicated in table B below, and (d) list the exchange rates used in the currency conversion	70.3 , 70.4 and 70.5

Table A Approximate Weightings for Price Adjustment

Description of Index	*% Range of Weighting*
Fixed ("A")	8
Labour	8 – 12
Fuels and Lubricants	12 – 22
Equipment and Spares	35 – 40
Cement	8 – 12
Reinforcement and Steel products	1 – 3
Explosives	1 – 5
Bitumen and Bituminous products	15 - 25
Total	100

NOTE: [a] Denotes that this should be used as guidance to bidders and for purpose of checking their submissions, the Employer has estimated and provided a range of acceptable weightings for related major construction inputs in accordance with the potential range of construction methodologies, based on estimated cost in a common currency.

Table B: Bidder's proposed weighting

Index Code	*Index Description*	*Source of Index*	*Base value and date*	*Bidder's proposed weighting*
	Non adjustable	Civil Engineering Cost Indices from Kenya National	The Indices prevailing at 28days before tender submission deadline shall apply	A:_____0.08__ b: _____ c: _____

		Bureau of Statistics. For equipment & spares, the official indices from source country shall apply		d: _____ e: _____
			Total	1.00

Signature of Bidder…….……Date ……
(*Failure to sign this appendix will imply the bidder doesn't accept the above conditions and hence disqualified*)

SECTION 3: FORM OF BID SECURITY.

FORM OF BID SECURITY

BID BANK GUARANTEE

Note: The bidder shall complete only this form of Bank guarantee. No other Form of Bid Bond or any other forms of security will be accepted. Bidders who fail to comply with this requirement will be disqualified.

WHEREAS [*Name of bidder*].

…….....

……

(hereinafter called "the Bidder") has submitted his bid dated …….……

for the **PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD**

TENDER NO.: …
BGM/CNTY/RPW/CEF/OT/011/2020/2021……
……..

hereinafter called **"**The Bid**"**

KNOW ALL MEN by these presents that we [*Name of Bank*]

…….....

……

of [*Name of Country*] ……having our registered offices at

…… … (hereinafter called "the Bank") are bound unto the County Government of Kenya (hereinafter called "the Employer") in the sum of (*in words*) Kshs:

……

……..……

(*In figures*) Kshs……. …...
for which payment will be well and truly made to the said Employer the Bank binds itself, its successors and assigns by these presents.

THE CONDITIONS of this obligation are:

1. If the bidder withdraws his Bid during the period of bid validity specified by the Bidder on the Bid Form; or

2. If the Bidder refuses to accept the correction of errors in his bid; or

3. If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid Validity
   (i) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders when required or

(ii) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders.

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of any of the above conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including twenty-eight (28) days after the date of expiration of the bid validity, as stated in the Instructions to Bidders.

At the request of the Employer the Bid validity period may be extended by mutual agreement between the Employer and the Bidder and we undertake to extend the validity of this surety accordingly without you having to inform us of such an extension of the Bid validity period if within this period the Bidder has been notified of the acceptance of his Bid. This Surety shall remain valid up to the time the Contract Agreement has been executed.

SEALED with the common seal of the Bank this ……day of …….20…….

AUTHORIZED SIGNATURE OF THE BANK

…… DATE ……

NAME OF SIGNATORY

……

TITLE OF SIGNATORY …….

NAME OF THE WITNESS ……..

SIGNATURE OF THE WITNESS …… DATE …….

ADDRESS OF THE WITNESS ……...

SECTION 4: INSTRUCTIONS TO BIDDERS

SECTION 4: INSTRUCTIONS TO BIDDERS

TABLE OF CONTENTS

A. GENERAL 12
1 Scope Of Bid 12
2 Source Of Funds 12
3 Corrupt Practices 12
4 Eligible Bidders 12
5 Qualification Of The Bidder 12
6 One Bid Per Bidder 13
7 Cost Of Bidding 13
8 Site Visit 13
B. BIDDING DOCUMENTS **14**
9 Contents of Bidding Documents 14
10 Clarification of Bidding Documents 14
11 Amendment of Bidding Documents 15
C. PREPARATION OF BIDS **15**
12 Language Of Bid 15
13 Documents Comprising The Bid 15
14 Bid Prices 15
15 Currencies Of Bid And Payment 16
16 Bid Validity 16
17 Bid Security 16
18 No Alternative Offers 17
19 Pre-Bid Meeting 17
20 Format And Signing Of Bids 18
D. SUBMISSION OF BIDS **18**
21 Sealing and Marking of Bids 18
22 Deadline for Submission of Bids 18
23 Late Bids 18
24 Modification, Substitution And Withdrawal Of Bids 18
E. BID OPENING AND EVALUATION **19**
25 Bid Opening 19
26 Process To Be Confidential 19
27 Clarification Of Bids And Contacting Of The Employer 19
28 Examination Of Bids And Determination Of Responsiveness 20
29 Correction Of Errors 20
30 Evaluation And Comparison Of Bids 22
F. AWARD OF CONTRACT **23**
31 Award 23
32 Employer's Right To Accept Any Bid And To Reject Any Or All Bids 23
33 Notification Of Award 23
34 Signing Of Agreement 23
35 Performance Security 24
36 Contract Effectiveness 24
37 Advance Payment 24
38 Corrupt And Fraudulent Practices 24

CONDITIONS OF BID AND INSTRUCTIONS TO BIDDERS

A. GENERAL

1 SCOPE OF BID

1.1 The Employer, as defined in the Conditions of Contract Part II hereinafter "the Employer" wishes to receive bids for the reconstruction of works as described in Section 1, clause 101 and 102 of the Special Specifications –"Location and extent of the Works"

1.2 The successful bidder will be expected to complete the Works within the period stated in the Appendix to Bid from the date of commencement of the Works.

1.3 Throughout these bidding documents, the terms bid and BID and their derivatives (bidder/Bidder, bid/Bided, bidding/Bidding etc.) are synonymous, and day means calendar day. Singular also means plural.

2 SOURCE OF FUNDS

2.1 The source of funding is the GOK through County Government of Bungoma

3 CORRUPT PRACTICES

3.1 The Government requires that the bidders, suppliers, sub-contractors and supervisors observe the highest standard of ethics during the procurement and execution of such contracts. in this pursuit of this policy, the government;

(a) Defines for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in the execution, and

(ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the Employer of the benefits of free and open competition

(b) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the Contract, and

(c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a government contract if it at any times determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government financed contract.

4 ELIGIBLE BIDDERS

4.1 This invitation to bid is open to all Bidders who are legally registered or incorporated in the Republic of Kenya as of the time of bid submission. Registration with Ministry of Roads as a Contractor is mandatory.

4.2 Bidders shall not have a conflict of interest. Bidders shall be considered to have conflict of interest, if they participated as a consultant in the preparation of the design, documentation or technical specifications of the works that are the subject of this bidding other than as far as required by the Employer.

4.3 A firm that is under a declaration of ineligibility by the Employer in accordance with clause 3, at the date of submission of the bid or thereafter, shall be disqualified.

4.4 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.

5 QUALIFICATION OF THE BIDDER

5.1 Bidders shall as part of their bid:

(a) Submit a written power of attorney authorizing the signatory of the bid to commit the bidder; and

(b) Update any information submitted with their bids and update in any case the information indicated in the schedules and continue to meet the minimum threshold criteria set out in the bid documents.

5.2 As a minimum, Bidders shall provide latest information set out below:

(a) evidence of access to lines of credit and availability of other financial resources

(b) financial predictions for the current year and the two subsequent years, including the effect of known commitments

(c) current work commitments

(d) current litigation information; and

(e) availability of critical equipment

(f) Availability of key technical personnel

(g) Similar work experience

(h) History of non performing contracts

(i) Details of sub-contractors if any

5.3 Bidders shall also submit proposals of work methods and schedule in sufficient detail to demonstrate the adequacy of the bidder's proposals to meet the technical specifications and the completion time referred to in Clause 1.2 above.

5.4 In case of a joint venture, the following shall apply:

(a) The bid, and in case of a successful bid, the Form of Agreement, shall be signed so as to be legally binding on all partners.

(b) One of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting of a power of attorney signed by legally authorized signatories of all the partners

(c) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture and the entire execution of the contract including payment shall be done exclusively with the partner in charge

(d) All partners in a joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Form of Bid and the Form of Agreement (in case of a successful tender)

(e) A copy of the agreement entered into by the joint venture partners shall be submitted with the tender.

6 ONE BID PER BIDDER

6.1 Each bidder shall submit only one bid per tender. A bidder who submits or participates in more than one bid per tender will be disqualified.

7 COST OF BIDDING

7.1 The bidder shall bear all costs associated with the preparation and submission of his bid and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

8 SITE VISIT

8.1 The bidder is informed that **pre-BID site visit is mandatory** and he/she shall examine the Site of Works and its surroundings and obtain for himself all information that may be necessary for preparing the bid and entering into a contract for reconstruction of the road. **The bidder's representative at this pre-bid site visit must be professionally qualified in the field of Civil Engineering**. The Employer will not recognise representation by such people as clerks, secretaries or drivers. The costs of visiting the site shall be at the bidder's own expense.

8.2 The bidder and any of his personnel or agents will be granted permission by the Employer to enter its premises and lands for the purpose of such inspection, but only on the express condition that the bidder, its personnel and agents, will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which but for the exercise of such permission would not have arisen.

8.3 The Employer will conduct a Site Visit concurrently with the pre-bid meeting referred to in Clause 19, attendance for which is mandatory for all bidders. Failure to attend the site visit by any bidder will lead to disqualification of his /her bid.

B. BIDDING DOCUMENTS

9 CONTENTS OF BIDDING DOCUMENTS

9.1 The set of documents comprising the BID includes the following together with any addenda issued in accordance with Clause 11:

(a) Invitation to Bid/Tender notice
(b) Instructions to bidders
(c) Qualification Criteria
(d) Conditions of Contract - Part II
(e) Conditions of Contract - Part I
(f) Standard Specifications
(g) Special Specifications
(h) Form of Bid, Appendix to Form of Bid and Bid Security
(i) Bills of Quantities
(j) Schedules of Supplementary information
(k) Form of Contract Agreement
(l) Form of Performance Security
(m) Drawings
(n) BID addenda (BID notices)
(o) Confidential Business Questionnaire
(p) Details of Sub-contractors

9.2 The bidder is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the bidding documents. Failure to comply with the requirements of bid submission will be at the bidder's own risk. Bids that are not substantially responsive to the requirements of the bidding documents will be rejected.

9.3 All bidders for the proposed contract for the purpose of submitting a bid (whether they submit the bid or not) shall treat the details of the bid documents as 'private and confidential'

10 CLARIFICATION OF BIDDING DOCUMENTS

10.1 The prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by cable (hereinafter the term cable is deemed to include telex and facsimile) at the Employer's mailing address indicated in the Bidding Data.

10.2 The Employer will respond in writing to any request for clarification that he receives earlier than 3 days prior to the deadline for the submission of bids. Copies of the Employer's response to queries raised by bidders (including an explanation of the query but without identifying the sources of the inquiry) will be sent to all prospective bidders who will have purchased the bidding documents.

11 AMENDMENT OF BIDDING DOCUMENTS

11.1 At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing subsequent Addenda.

11.2 The Addendum thus issued shall be part of the bidding documents pursuant to Sub-Clause 10.1 and shall be communicated in writing or cable to all purchasers of the bidding documents and will be binding upon them. Prospective bidders shall promptly acknowledge receipt of each Addendum in writing or by cable to the Employer.

11.3 In order to afford prospective bidders reasonable time in which to take an Addendum into account in preparing their bids, the Employer may, at his discretion, extend the deadline for the submission of bids in accordance with Clause 22.

C. PREPARATION OF BIDS

12 LANGUAGE OF BID

12.1 The bid prepared by the bidder and all correspondences and documents relating to the bid exchanged by the bidder and the Employer shall be written in the English Language. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an appropriate translation of pertinent passages in the above stated language. For the purpose of interpretation of the bid, the English language shall prevail.

13 DOCUMENTS COMPRISING THE BID

13.1 The bid to be prepared by the bidder shall comprise:

(a) Duly filled-in Form of Bid and Appendix to form of bid;
(b) Bid security;
(c) Priced Bills of Quantities;
(d) Schedules of information;
(e) Qualification Criteria;
(f) Any other materials required to be completed and submitted in accordance with the Instructions to Bidders embodied in these bidding documents.

13.2 These Forms, Bills of Quantities and Schedules provided in these bidding documents shall be used without exception (subject to extensions of the Schedules in the same format).

14 BID PRICES

14.1 Unless explicitly stated otherwise in the bidding documents, the contract shall be for the whole works as described in Sub-Clause 1.1, based on the basic unit rates and prices in the Bill of Quantities submitted by the bidder.

14.2 All the insertions made by the bidder shall be made in INK and the bidder shall clearly form the figures. The relevant space in the form of bid and bills of quantities shall be completed accordingly without interlineations or erasures except those necessary to correct errors made by the bidder in which case the erasures and interlineations shall be initialled by the person(s) signing the bid.

14.3 The bidder shall fill in rates and prices for all items of Works described in the Bills of Quantities, whether quantities are stated or not. Items against which no rate of price is entered by the tenderer will not be paid for by the employer when executed and shall be deemed covered by the rates for other items and prices in the Bills of Quantities.

the prices and unit rates in the Bills of Quantities are to be the full (all inclusive) value of the work described under the items, including all costs and expenses which may be necessary and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. All duties, taxes and other levies payable by the contractor under the contract, or for any other cause prior to the deadline for the submission of tenders, shall be included in the rates and prices and the total tender price submitted by the bidder.

Each price or unit rate inserted in the Bill of Quantities should be a realistic estimate for completing the activity or activities described under that particular item and the bidder is advised against inserting a price or rate against any item contrary to this instruction.

Every rate entered in the Bill of Quantities, whether or not such a rate is associated with the quantity, shall form part of the contract. The employer shall have the right to call for any item of work contained in the Bills of Quantities, and such items of work to be paid for at the rate entered by the bidder and it is the intention of the Employer to take full advantage of the unbalanced low rates.

14.4 All duties, taxes (excluding VAT) and other levies payable by the Contractor under the Contract, or for any other cause as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total Bid Price submitted by the bidder.

14.5 Unless otherwise provided in the Bidding Data and Conditions of Particular Application, the rates and prices quoted by the bidder are subject to adjustment during the performance of the contract in accordance with the provisions of Clause 70 of the Conditions of Contract. The bidder shall furnish with his bid written confirmation from his suppliers or manufacturers of basic unit rates for the supply of items listed in the Conditions of Contract clause 70 where appropriate. The Employer may require the bidder to justify such rates so obtained from the suppliers or manufacturers.

15 CURRENCIES OF BID AND PAYMENT

15.1 Bids shall be priced in Kenya Shillings.

16 BID VALIDITY

16.1 The bid shall remain valid and open for acceptance for a period of **120 days** from the specified date of bid opening specified in Clause 22 or from the extended date of tender opening, whichever is later.

16.2 In exceptional circumstances prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required nor permitted to modify his bid, but will be required to extend the validity of his bid security for the period of the extension, and in compliance with Clause 17 in all respects.

17 BID SECURITY

17.1 The bidder shall furnish, as part of his bid, a bid security in the amount shown in the **Appendix to Form of Bid.**

17.2 The bid security shall be in the form of unconditional bank guarantee from a reputable bank selected by the bidder and located in Kenya (Insurance bonds shall not be accepted). The format of the bank guarantee shall be in accordance with bid security included in Section 1. The bid security

shall remain valid for a period of 30 days beyond the original validity period for the bid, and beyond any period of extension subsequently requested under Sub-Clause 16.2.

17.3 Any bid not accompanied by an acceptable bid security will be rejected by the Employer as non-responsive.

17.4 The bid securities of unsuccessful bidders will be discharged/ returned as promptly as possible, but not later than 28 days after the expiration of the period of bid security validity.

17.5 The bid security of the successful bidder will be discharged upon the bidder signing the Contract Agreement and furnishing the required performance security.

17.6 The bid security may be forfeited:

(a) if a bidder withdraws his bid, except as provided in Sub-Clause 24.2.

(b) if the bidder does not accept the correction of any errors, pursuant to Clause 29 or in accordance with Sub-Clause 28.2 or

(c) in the case of a successful bidder, if he fails within the specified time limit to:

1. sign the Contract Agreement or
2. furnish the necessary performance security

18 NO ALTERNATIVE OFFERS

18.1 The bidder shall submit one offer, which complies fully with the requirements of the bidding documents unless otherwise provided in the appendix.

18.2 The bid submitted shall be solely on behalf of the bidder and only one bid may be submitted by each bidder either by himself or as a partner in a joint venture. A bidder who submits or participates in more than one bid will be disqualified.

18.3 A price or rate shall be entered in indelible ink against every item in the Bills of Quantities with the exception of items which already have Prime Cost or Provisional sums affixed thereto. The bidders are reminded that no “nil” or “included” rates or “lump-sum” discounts will be accepted. The rates for various items should include discounts if any. Bidders who fail to comply will be disqualified.

18.4 A bidder shall not attach any conditions of his own to his bid. The bid price must be based on the bid documents. The bidder is not required to present alternative Reconstruction options and he shall **use without exception, the Bills of Quantities as provided,** with the amendments as notified in the tender notices, if any, for the calculation of the bid price. Any bidder who fails to comply with the clause will be disqualified.

19 PRE-BID MEETING

19.1 The bidders designated representative and who must be one of the technical persons listed as a key staff in Schedule No. 5 is invited to attend a pre-bid meeting, which will take place at the **venue and time indicated in the invitation to Bid.** The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

19.2 The bidder is requested as far as possible to submit any questions in writing or by cable, to reach the Employer not later than one week before the meeting. It may not be practicable at the meeting to answer questions received late, but questions and responses will be transmitted in accordance with the Minutes of the meeting, including the text of the questions raised and the responses given together with any responses prepared after the meeting, will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in Sub-Clause 8.1, which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 or through the minutes of the pre-bid meeting.

19.3 Non-attendance at the pre-bid meeting by a Bidder will be a cause for disqualification of his BID.

20 FORMAT AND SIGNING OF BIDS

20.1 The bidder shall prepare one original of the documents comprising the bid as described in Clause 13 of these Instructions to Bidders, bound with the section containing the Form of Bid and Appendix to Bid, and clearly marked "ORIGINAL". In addition, the bidder shall submit two copies of the bid clearly marked "COPIES". In the event of discrepancy between them, the original shall prevail.

20.2 The original and copies of the bid shall be typed or written in indelible ink (in the case of copies, photocopies are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder pursuant to Sub-Clause 5.1(a). The person or persons signing the bid shall initial all pages of the bid where entries or amendments have been made.

20.3 The bid shall be without alterations, omissions or conditions except as necessary to correct errors made by the bidder, in which case such corrections shall be initialled by the person or persons signing the bid.

D. <u>SUBMISSION OF BIDS</u>

21 SEALING AND MARKING OF BIDS

21.1 The bidder shall seal the original and each copy of the bid in separate envelopes duly marking the envelopes "ORIGINAL" and "COPY". The envelopes shall then be sealed in an outer separate envelope.

21.2 The inner and outer envelopes shall:

(a) be addressed to the Employer at the address provided in the Appendix to Form of Bid.
(b) bear the name and identification number of the contract. In addition to the identification required in sub-Clause 21.1, the inner envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared "late" pursuant to Clause 23.1, and for matching purposes under Clause 24.
(c) Provide a warning not to open before the time and date for bid opening, as specified in the Bidding Data.

21.3 If the outer envelope is not sealed and marked as instructed above, the Employer will assume no responsibility for the misplacement or premature opening of the bid. A bid opened prematurely for this cause will be rejected by the Employer and returned to the bidder.

22 DEADLINE FOR SUBMISSION OF BIDS

22.1 Bids must be received by the Employer at the address specified in Sub Clause 21.2 so as to be received on or before **Friday 16th of October 2020** at **10:00am .**

22.2 bids delivered by hand must be placed in the 'tender box' provided in the office of the employer

22.3 Proof of posting will not be accepted as proof of delivery and any bid delivered after the above stipulated time, from whatever cause arising will not be considered.

22.4 The Employer may, at his discretion, extend the deadline for the submission of bids through the issue of an Addendum in accordance with Clause 11 in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

23 LATE BIDS

23.1 Any bid received by the Employer after the deadline for submission of bids prescribed in Clause 22 will be returned unopened to the bidder.

24 MODIFICATION, SUBSTITUTION AND WITHDRAWAL OF BIDS

24.1 The bidder may modify, substitute or withdraw his bid after bid submission, provided that written notice of modification or withdrawal is received by the Employer prior to the prescribed deadline for submission of bids.

24.2 The bidder's modification, substitution or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause 21, with the outer and inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.

24.3 No bid may be modified subsequent to the deadline for submission of bids, except in accordance with Sub-Clause 28.1.

24.4 Any withdrawal of a bid during the interval between the deadline for submission of bids and expiration of the period of bid validity specified in Clause 17 may result in the forfeiture of the bid security pursuant to Sub-Clause 17.6.

E. BID OPENING AND EVALUATION

25 BID OPENING

25.1 The Employer will open the bids, including withdrawals and modifications made pursuant to Clause 24, in the presence of bidders' designated representatives who choose to attend **Friday 16th of October 2020** at **10:00am**,

25.2 Opening of tenders/bids will take place immediately thereafter at the County Hall in the presence of tenderers/representatives who may wish to attend. The bidders' representatives who are present shall sign a register evidencing their attendance.

25.3 Envelopes marked "WITHDRAWAL" and "SUBSTITUTION" shall be opened first and the name of the bidder shall be read out. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 24 shall not be opened.

25.4 The bidder's name, the Bid Prices, including any bid modifications and withdrawals, the presence (or absence) of bid security, and any such details as the Employer may consider appropriate, will be announced by the Employer at the opening. Subsequently, all envelopes marked "MODIFICATION" shall be opened and the submissions therein read out in appropriate detail. No bid shall be rejected at bid opening except for late bids pursuant to Clause 23.

25.5 The Employer shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with Sub-Clause 25.3.

25.6 Bids not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances.

26 PROCESS TO BE CONFIDENTIAL

26.1 Information relating to the examination, evaluation and comparison of bids, and recommendations for the award of contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of the bidder's bid.

27 CLARIFICATION OF BIDS AND CONTACTING OF THE EMPLOYER

27.1 To assist in the examination, evaluation, and comparison of bids, the Employer may, at his discretion, ask any bidder for clarification of their bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the bid shall be sought, offered, or permitted except as required to confirm the

correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with Clause 28.

27.2 Subject to Sub-Clause 26.1, no bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

27.3 Any effort by the bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the bidder's bid.

28 EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS

28.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid (a) has been properly signed; (b) is accompanied by the required securities; (c) is substantially responsive to the requirements of the bidding documents; and (d) provides any clarification and/or substantiation that the Employer may require to determine responsiveness pursuant to Sub-Clause 28.2.

28.2 A substantially responsive bid is one that conforms to all the terms, conditions, and specifications of the bidding documents without material deviation or reservation and has a valid BID bank guarantee. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

28.3 Each price of unit rate inserted in the Bills of Quantities shall be a realistic estimate of the cost of completing the works, described under the particular item including allowance for overheads, profits and the like. Should a tender be seriously unbalanced in relation to the Employer’s estimate of the works to be performed under any item or groups of items, the tender shall be deemed not responsive.

28.4 If a bid is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

29 CORRECTION OF ERRORS

29.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors in the computations and summations. Errors will be corrected by the Employer as follows:

(a) Where there is a discrepancy between the amounts in figures and in words, the amount in words as indicated in the Form of Bid will govern;

(b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case adjustment will be made to the entry containing the error.

(c) In the event of a discrepancy between the bid amount as stated in the Form of Bid and the corrected bid figure in the main summary of the Bills of Quantities, the amount as stated in the form of bid shall prevail.

(d) The error correction factor shall be computed by expressing the difference between the bid amount and the corrected bid sum as a percentage of the corrected contractor’s work (ie corrected tender sum less prime cost and Provisional sums)

(e) The error correction factor shall be applied to all the contractor’s work (as a rebate or addition as the case may be) for the purposes of valuations for interim certificates and valuations of variations

(f) The amount stated in the bid will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the bidder, shall be considered as

binding upon the bidder. If the bidder does not accept the corrected amount, the bid may be rejected and the Bid Security may be forfeited in accordance with clause 17.

29.2 Any error by the Bidder in pricing or extending the Bills of Quantities or carrying forward to the summary or BID Sum, shall be corrected in such a way that the BID Sum remains unaltered and the Bidder shall within seven (7) days after issuance of the written notice by the Employer, or such further time as the Employer may allow, correct his BID in such a manner as may be agreed or directed by the Employer failing which the BID may be absolutely rejected and the Bid Security forfeited in accordance with Sub-Clause 17.6 .

30 EVALUATION AND COMPARISON OF BIDS

30.1 The Employer will then evaluate and compare only the bids determined to be substantially responsive in accordance with Clauses 27 and 28.

30.2 In evaluating bids, the employer will determine for each bid the evaluated bid price by adjusting the bid price as follows

(a) Making any correction of errors pursuant to clause 29

(b) excluding provisional sums and provision, if any, for contingencies in the bills of Quantities, but including Day works where priced competitively

30.3 The Employer reserves the right to accept any variation, deviation or alternative offer. Variation, deviation or alternative offer and other factors which are in excess of the requirements of the bid documents or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in tender evaluation.

30.4 Price adjustment provisions in the Conditions of Contract applied over the period of execution of the contract shall not be taken into account in the bid evaluation.

30.5 Preference where allowed in the evaluation of bids shall not exceed 15%

30.6 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

30.7 The procuring entity shall give prompt notice for the termination to the bidders and on request give its reasons for termination within 14days of receiving the request from any bidder.

30.8 A bidder who gives false information in the bid document about his qualification of who refuses to enter into a contract after notification of award shall be considered for debarment from participating in future public procurement.

30.9 If the bid, which results in the lowest Evaluated Bid Price is seriously unbalanced or front loaded in relation to the Engineer's estimate of the items of work to be performed under the contract, the Employer may require the bidder to produce detailed price analyses for any or all items of the Bills of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated contract payments, the Employer may require that the amount of the Performance Security set forth in Clause 35 be increased at the expense of the bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the contract.

30.10 There will be preference for domestic bidders in accordance with section 39 (8) of the Public Procurement and Disposal Act, 2005 and section 28 of the Public Procurement and Disposal Regulations, 2006 all of the Laws of Kenya.

30.11 Poor past performance of the bidder shall be used as an evaluation criterion in accordance with section 5: *Qualification criteria*.

F. AWARD OF CONTRACT

31 AWARD

31.1 Subject to Clause 32, the Employer will award the contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest Evaluated Bid Price pursuant to Clause 29, provided that such bidder has been determined to be (a) eligible in accordance with the provisions of Sub-Clause 4.1, and (b) qualified in accordance with the provisions of Clause 5.

32 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

32.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the Employer's action.

33 NOTIFICATION OF AWARD

33.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing or by cable confirmed by registered letter that its bid has been accepted. This letter (hereinafter and in the Conditions of Contract called "**Letter of Acceptance**") shall specify the sum, which the Employer will pay the Contractor in consideration of the execution and completion of the works and the remedying of any defects therein by the Contractor as prescribed by the contract (hereinafter and in the Conditions of Contract called "the Contract Price").

33.2 At the same time that the Employer notifies the successful bidder that his bid has been accepted, the Employer shall notify the other bidders that their bids have been unsuccessful and that their bid securities will be returned as promptly as possible, in accordance with sub-clause 17.4.

34 SIGNING OF AGREEMENT

34.1 At the same time that the Employer notifies the successful bidder that its bid has been accepted, the Employer will send the bidder the Agreement in the form provided in the bidding documents, incorporating all agreements between the parties.

34.2 Within 14 days of receipt of the form of contract agreement from the employer, the successful bidder shall sign the form and return it to the employer together with the required performance security.

34.3 The parties to the contract shall have it signed within 30days from the date of notification of contract award unless there is an administrative review request.

35 PERFORMANCE SECURITY

35.1 Within twenty eight (28) days of receipt of the notification of award from the Employer, the successful bidder shall furnish to the Employer a performance security in the form stipulated in the Conditions of contract. The form of performance security provided in Section 9 of the bidding documents shall be used.

35.2 The successful bidder shall provide a performance security in the form of an Unconditional Bank Guarantee from a reputable bank approved by the employer and located in Kenya.

35.3 Failure by the successful Bidder to lodge the required Performance Guarantee shall constitute a breach of contract and sufficient grounds for the **annulment of the Award and forfeiture of the Bid Surety**; in which event the Employer may make the award to the next ranked bidder or call for new bids.

36 CONTRACT EFFECTIVENESS

36.1 The Contract will be effective only upon signature of the Agreement between the Contractor and the Employer.

37 ADVANCE PAYMENT

37.1 An advance payment, if approved by the employer, shall be made under the contract, if requested by the contractor, in accordance with clause 60(1) of the conditions of contract. The advance payment guarantee shall be denominated in Kenya Shillings.

38 CORRUPT AND FRAUDULENT PRACTICES

38.1 The procuring entity requires that bidders observe the highest standard of ethics during the procurement process and execution of contracts. A bidder shall sign a declaration that he has not and will not be involved in corrupt or fraudulent practices.

SECTION 5: QUALIFICATION CRITERIA

SECTION 5: QUALIFICATION CRITERIA

This Section contains all the factors, methods and criteria that the Employer shall use to evaluate applications. The information to be provided in relation to each factor and the definitions of the corresponding terms are included in the respective Application Forms.

Contents

1. Eligibility…….....…….…….…29
2. Historical Contract Non-Performance.....30
3. Financial Situation.....30
4. Experience…….....31
5. Current Commitments 32
6. Site Staff…...……...…32
7 Schedules of the Major Items of Plant to Be Used On the Proposed Contract 34

POST QUALIFICATION SCORE

ITEM	DESCRIPTION			POINT SCORE SCALE
1	**KEY PERSONNEL**			**Max 30**
	Site Agent (Max 14 marks)	Qualification	Bsc Civil Engineering.	8
			Registered Engineer	3
			HND in Civil Eng.	4
			Dip in Civil Eng.	3
		Experience	> 8 years and above	3
			3-7 years	2
			0 -2 years	1
	Surveyor (Max 8 marks)	Qualification	Diploma in Survey (Minimum)	5
			Certificate in Survey	2
		Experience	> 6 Years	3
			3 – 5 Years	2
			0-3Years	1
	Foreman (Max 8marks)	Qualification	Diploma in Civil Engineering (Minimum)	5
			Certificate in Civil Engineering	2
		Experience	> 6 Years	3
			3 – 5 Years	2
			0-3Years	1
2	**PLANT AND EQUIPMENT**			**Max 20**
	Dozer Cat D8 or equivalent – 1No.		Owned	2
			Leased	1
	Grader Cat 140H or equivalent - 1No.		Owned	3
			Leased	1
	Roller self-propelled - 1No.		Owned	2
			Leased	1
	Hydraulic excavator CAT 180HP or equivalent – 1No.		Owned	3
			Leased	1
	Tipper Trucks 15 ton gross capacity – 5No.		Owned	10
			Leased	5
3	**FINANCIAL CAPABILITY**			**Max 15**
	Financial statements	The financial accounts, balance sheets, profit and loss statements are certified by reputable audit firm. Contact information of the firm to be provided (Last Two Years)		5
		The Bank statements are from a reputable Bank. Contact information to be availed (Last Six Months)		5
	Financial Information / Current work	Provide turn-over figures for the last two (2) years showing current work commitment.		3

		Provide undertaking from the bank providing current line of credit specific to the tender	2
4	**WORK METHODOLOGY**		**Max 20**
		Signed work programme chart and cash flow estimate	0-10
		Detailed method statement on how to carry out the intended works	0-10
5	**WORK SAFETY MANAGEMENT**		**Max 10**
	Proposals on traffic control, workers' safety & accident prevention		10
7	**EXPERIENCE**		**Max 5**
	General Experience (Completion Certificates of 3 No of projects completed in the last 5 years)		3
	Two (2 No) of projects submitted above, should have a minimum Contract value of Kshs. 10,000,000		2
	TOTAL		**MAX 100**

Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	**Each Party**	**One Party**	
1. Eligibility							
1.1	Eligibility	Nationality in accordance with Sub-Clause 4.1.	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Section 7, Schedule 1
1.2	Conflict of Interest	No conflicts of interest in Sub-Clause 4.2.	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Section 7, Schedule 1
1.3	Employer Ineligibility	Not having been declared ineligible by the Employer, as described in Sub-Clause 4.3.	Must meet requirement	Existing JV must meet requirement	Must meet requirement	N / A	Section 7, Schedule 1
1.4	Incorporation & Registration	Pursuant to sub clause 4.1 the following shall be provided; - Certified Copy of Certificate of incorporation to show that the applicant is a registered company and legally authorised to do business in Kenya	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Section 7, Schedule 1

Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	**Each Party**	**One Party**	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract did not occur within the last five (5) years prior to the deadline for application submission based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the applicant have been exhausted.	Must meet requirement by itself or as party to past or existing JV	N / A	Must meet requirement by itself or as party to past or existing JV	N / A	Section 7, Schedule 6
2.2	Pending Litigation	All pending litigation shall in total not represent more than fifty percent (50%)] of the Applicant's net worth and shall be treated as resolved against the Applicant.	Must meet requirement by itself or as party to past or existing JV	N / A	Must meet requirement by itself or as party to past or existing JV	N / A	Section 7, Schedule 10
3. Financial Situation							
3.1	Financial Performance	Submission of audited balance sheets or if not required by the law of the applicant's country, other financial statements acceptable to the Employer, for the last two [2] years to demonstrate: (a) the current soundness of the applicants financial position and its prospective long term profitability, and (b) capacity to have a cash flow amount of min **KShs. 5(five) Million** equivalent working capital	Must meet requirement (a) Must meet requirement (b) Must meet requirement	N / A (a) N / A (b) Must meet requirement	Must meet requirement (a) Must meet requirement (b) N / A	N / A (a)N / A (b) N / A	Section 7, Schedule 9&10

Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	**Each Party**	**One Party**	
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of **KShs. 5Million** [5 million], calculated as total certified payments received for contracts in progress or completed, within the last three [(3)] years	Must meet requirement	Must meet requirement	Must meet ((100-50)/(n-1))% of the requirement where n= number of joint venture members	Must meet fifty (50%) percent of the requirement	Section 7, Schedule 9&10
4. Experience							
4.1	General Construction Experience	Experience under construction contracts in the role of contractor, subcontractor, or management contractor for at least the last **five[5] years** prior to the applications submission deadline	Must meet requirement	N / A	Must meet requirement	N / A	Section 7, Schedule 6
4.2(a)	Specific Construction Experience	Participation as contractor, management contractor or subcontractor, in at least two (2) contracts within the last six (2) years, each with a value of at least KShs. 10Million (Ten million), that have been successfully and substantially completed and that are similar to the proposed works. The similarity shall be based on the physical size, complexity, methods/technology or other characteristics as described in Section 6, Scope of Works	Must meet requirement	Must meet requirement	N / A	Must meet requirement for one contract	Section 7, Schedule 6

Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	**Each Party**	**One Party**	
4.2(b)		b) For the above or other contracts executed during the period stipulated in 4.2(a) above, a minimum construction experience in at least one (1) of: - Repair & rehabilitation of bitumen roads. - New Construction to bitumen standards.	Must meet requirements	Must meet requirement	N / A	Must meet requirement	Section 7, Schedule 6
4.3	Work Methodology	Submission of a brief work methodology in accordance with sub-clause 5.3	Should demonstrate understanding of the scope of works and other general requirements	Should demonstrate understanding of the scope of works and other general requirements	N/A	N/A	Section 7, Schedule 11
5. Current Commitments							
5.1	On-going contracts	The total value of outstanding works on the on-going contracts must not exceed KShs. 5Million	Must meet requirements	Must meet requirements	Must meet ((100-50)/(n-1))% of the requirement where n= number of joint venture members	N/A	Section 7, Schedule 7
6. Site Staff							

Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	**Each Party**	**One Party**	
	Site Agent Senior Foreman Site Surveyor	The site staff shall posses minimum levels set below; Qualification = BSc. Civil Eng General Experience = 5 years and above. Qualification = H.N.D. or Dip Civil Eng. General Experience = 5 yrs Qualification = Degree in Survey or Diploma in Survey General Experience = 5 yrs.	Must meet requirements	Must meet requirements	N/A	N/A	Section 7, Schedule 5

7 Schedules of the Major Items of Plant to Be Used On the Proposed Contract

The Bidder must indicate the core plant and equipment considered by the company to be necessary for undertaking the project together with proof of ownership. (* Mandatory minimum number of equipment required by the Employer for the execution of the project that the bidder must make available for the Contract).

Item No.	Equipment Details	Minimum Number Required for the Contract Execution	No of Equipment Owned by the Bidder	No. of equipment to be hired/purchased by the Bidder	No. of equipment to be made available for the Contract by the Bidder
1	**A) Transport (Tippers, dumpers, water tankers)**				
	6X4 tippers payload 16 – 20 tonnes	5			
2	**B) Earth – Moving Equipment**				
	1. Tractor dozers with dozer attachment (D6-D9 equivalent)	1			
	2. Motor graders (93 - 205kW)	1			
3	**C) Excavators**				
	1. Hydraulic crawler mounted (10 – 16 tonnes) – 0.40 – 0.60 m3 SAE bucket.	1			
4	**D) Rollers**				
	1. Self propelled single drum vibrating (various types)	1			

We hereby certify that **notwithstanding** the list of plant detailed above, we will provide sufficient, suitable and adequate plant in good working order for the successful completion of works as specified under the contract.

…… ……
(Signature of Contractor) (Date)

SECTION 6: CONDITIONS OF CONTRACT

SECTION 6A CONDITIONS OF CONTRACT PART I: GENERAL CONDITIONS OF CONTRACT

The Conditions of Contract Part 1 – General Conditions shall be those forming Part 1 of the Conditions of Contract for Construction (Building and Engineering works), First Edition 1999, reprinted in 1992 with further amendments, prepared by the Federation Internationale des Ingenieurs Conseils (FIDIC). The Conditions are subject to variations and additions set out in Part II hereof entitled "Conditions of Contract, Part II – Conditions of Particular Application

NOTE

i) The Conditions of Particular Application take precedence over the General Conditions of Contract.

ii) Copies of the FIDIC Conditions of Contract can be obtained from:

FIDIC Secretariat
P.O.Box 311
CH-1215 Geneva 15
Switzerland
Fax: 41-22-799-49-00
Telephone: 41-22-799-49-01
Email : fidic@fidic.org

SECTION 6B: CONDITIONS OF CONTRACT PART II: (CONDITIONS OF PARTICULAR APPLICATION)

The following Conditions of Particular Application shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The Particular Condition is preceded by the corresponding clause number of the General Conditions to which it relates.

CONTENTS

CONDITIONS OF CONTRACT PART II (CONDITIONS OF PARTICULAR APPLICATION) 40
SUB-CLAUSE 1.1 – DEFINITIONS 40
SUB-CLAUSE 1.2 – INTERPRETATION 40
SUB-CLAUSE 1.4 - LANGUAGE AND LAW 40
SUB-CLAUSE 1.5 – PRIORITY OF CONTRACT DOCUMENTS 40
SUB-CLAUSE 1.9 DELAYED INSTRUCTIONS OR DRAWINGS 41
SUB-CLAUSE 1.9a AS-BUILT DRAWINGS 41
SUB-CLAUSE 1.9b INTENT OF DRAWINGS AND SPECIFICATIONS 41
SUB-CLAUSE 1.9c SUFFICIENCY OF DRAWINGS AND SPECIFICATIONS 41
SUB-CLAUSE 1.9d APPROVAL OF DRAWINGS NOT TO ABSOLVE THE CONTRACTOR 42
SUB-CLAUSE 1.9e APPROVED DRAWINGS TO BE MODIFIED 42
SUB-CLAUSE 1.9f SIZE OF DRAWINGS 42
SUB-CLAUSE 3.1 - ENGINEER'S DUTIES AND AUTHORITY. 42
SUB-CLAUSE 3.2 – DELEGATION BY THE ENGINEER. 42
SUB-CLAUSE 4.1 CONTRACTOR'S GENERAL RESPONSIBILITIES 43
SUB-CLAUSE 4.2 - PERFORMANCE SECURITY 45
SUB-CLAUSE 4.3- CONTRACTOR'S Representative 45
SUB-CLAUSE 4.3a - LANGUAGE ABILITY AND QUALIFICATIONS OF CONTRACTOR'S AUTHORISED AGENT 45
SUB-CLAUSE 4.3b - QUALIFICATION AND LANGUAGE ABILITY OF SUPERINTENDING STAFF 45
SUB-CLAUSE 4.4 – Subcontractors 46
SUB-CLAUSE 6.5 – RESTRICTION ON WORKING HOURS 47
SUB-CLAUSE 4.8 - SAFETY, SECURITY AND PROTECTION OF THE ENVIRONMENT 47
SUB-CLAUSE 4.10 – SITE DATA 48
SUB-CLAUSE 4.14 – INTERFERENCE WITH TRAFFIC 48
SUB-CLAUSE 4.14A – REINSTATEMENT AND COMPENSATION FOR DAMAGES TO PERSONS AND PROPERTY 48
SUB-CLAUSE 6.1 – CONDITIONS OF EMPLOYMENT OF LABOUR 49
SUB-CLAUSE 6.2 – FAIR WAGES 49
SUB-CLAUSE 6.2a – BREACH OF FAIR WAGES CLAUSE 50
SUB-CLAUSE 6.2b – COMPENSATION FOR INJURY 50
SUB-CLAUSE 6.4 – LABOUR STANDARDS 50
SUB-CLAUSE 6.9 REPATRIATION OF LABOUR 50

SUB-CLAUSE 6.12: HIV/AIDS AND GENDER ISSUES **51**
SUB-CLAUSE 6.13: MEASURES AGAINST INSECT AND PEST NUISANCE **51**
SUB-CLAUSE 6.14: EPIDEMICS **51**
SUB-CLAUSE 6.15: FESTIVALS AND RELIGIOUS CUSTOMS **52**
SUB-CLAUSE 7.8 – ROYALTIES **52**
SUB-CLAUSE 8.1 – COMMENCEMENT OF WORKS **52**
SUB-CLAUSE 8.2 – TIME FOR COMPLETION **52**
SUB-CLAUSE 8.3 PROGRAM TO BE SUBMITTED **53**
SUB-CLAUSE 8.4 – EXTENSION OF TIME FOR COMPLETION **54**
SUB-CLAUSE 14.3- CASH FLOW ESTIMATE **54**
SUB-CLAUSE 17.3 – EMPLOYER'S RISKS **60**
SUB-CLAUSE 18.2 - INSURANCE OF WORKS AND CONTRACTOR 'S EQUIPMENT 60
SUB-CLAUSE 18.2 – SCOPE OF COVER **61**
SUB-CLAUSE 18.4a - EXCLUSIONS **61**
SUB-CLAUSE 18.5 – INSURANCE NOTICES **61**
SUB-CLAUSE 18.6 – NOTIFICATION TO INSURERS **61**
SUB-CLAUSE 47.2 – REDUCTION OF LIQUIDATED DAMAGES **54**
SUB-CLAUSE 52.1 – VALUATION OF VARIATIONS **54**
SUB-CLAUSE 52.4 – DAYWORKS **55**
SUB-CLAUSE 54.1 – CONTRACTOR'S EQUIPMENT, TEMPORARY WORKS AND MATERIALS: EXCLUSIVE USE FOR THE WORKS Error! Bookmark not defined.
SUB-CLAUSE 54.9 EQUIPMENT AND PLANT **47**
SUB-CLAUSE 54.10 WATER, FUEL, LIGHT AND POWER **47**
SUB-CLAUSE 54.11 EXISTING SERVICES **48**
SUB-CLAUSE 55.2 – OMISSIONS OF QUANTITIES **54**
SUB-CLAUSE 58.4 – PROVISIONAL ITEMS **55**
CLAUSE 60: – CERTIFICATES AND PAYMENTS **55**
SUB-CLAUSE 60.1 – MONTHLY STATEMENT **55**
SUB-CLAUSE 60.2 - INTERIM PAYMENT CERTIFICATE **56**
SUB-CLAUSE 60.3 – PAYMENT OF RETENTION MONEY **56**
SUB-CLAUSE 60.4– CORRECTION OF CERTIFICATES **57**
SUB-CLAUSE 60.5– STATEMENT AT COMPLETION **57**
SUB-CLAUSE 60.6 – FINAL STATEMENT **57**
SUB-CLAUSE 60.7– DISCHARGE **57**
SUB-CLAUSE 60.8 – FINAL PAYMENT CERTIFICATE **58**
SUB-CLAUSE 60.9– CESSATION OF EMPLOYERS LIABILITY **58**
SUB-CLAUSE 60.10 – TIME FOR PAYMENT **58**
SUB-CLAUSE 60.11 – CURRENCY OF PAYMENT **58**
SUB-CLAUSE 60.12 – ADVANCE PAYMENT **58**
SUB-CLAUSE 60.13 MATERIALS FOR PERMANENT WORKS **59**
SUB-CLAUSE 67.1 – ENGINEER'S DECISION **43**
SUB-CLAUSE 67.2 – AMICABLE SETTLEMENT **61**
SUB-CLAUSE 67.3 – ARBITRATION **62**
SUB-CLAUSE 68.2 – NOTICES TO EMPLOYER AND ENGINEER Error! Bookmark not defined.
SUB-CLAUSE 68.4 – CORRESPONDENCES ..... Error! Bookmark not defined.
CLAUSE 69 – DEFAULT OF EMPLOYER **62**

CLAUSE 70 – CHANGES IN COST AND LEGISLATION 62
SUB-CLAUSE 70.1- PRICE ADJUSTMENT 55
SUB-CLAUSE 70.2- OTHER CHANGES IN COST 62
SUB-CLAUSE 70.3-ADJUSTMENT FORMULAE 62
SUB-CLAUSE 70.4- SOURCES OF INDICES AND WEIGHTINGS 63
SUB-CLAUSE 70.5-BASE, CURRENT, AND PROVISIONAL INDICES 63
SUB-CLAUSE 70.6 - ADJUSTMENT AFTER COMPLETION 63
SUB-CLAUSE 70.7 - WEIGHTINGS 64
SUB-CLAUSE 70.8 - SUBSEQUENT LEGISLATION 64
CLAUSE 72 – RATES OF EXCHANGE COST 64
CLAUSE 73 – BRIBERY AND COLLUSION 64
CLAUSE 74: - CONTRACT TO BE CONFIDENTIAL 66

CONDITIONS OF CONTRACT PART II (CONDITIONS OF PARTICULAR APPLICATION)

SUB-CLAUSE 1.1 – DEFINITIONS

Amend this sub-clause as follows:

1.1.2.2 The "Employer" is the Chief Officer – Lands, Urban/Physical Planning
1.1.2.4 The "Engineer" is the Chief Officer – Roads, Transport, Infrastructure and Public Works .
1.1.1.10 Insert in line 2 after the "Bills of Quantities", the following, "the rates entered by the Contractor (whether or not such rate be employed in computation of the Contract Price),"

Amend subparagraph (b) (v) of Sub-clause 1.1 by adding the following words at the end: The word "BID" is synonymous with "bid" and the word "Appendix to BID" with "Appendix to Bid" and the word "BID documents" with "bidding documents".

SUB-CLAUSE 1.2 – INTERPRETATION

Add Sub-Clause 1.2 (e), the following:

Words designating persons or parties shall include firms and companies and any organization having legal capacity.

SUB-CLAUSE 1.4 - LANGUAGE AND LAW

The Contract document shall be drawn up in the ENGLISH LANGUAGE. Communication between the Contractor and the Engineer's Representative shall be in this given language.

a) The Laws applicable to this Contract shall be the Laws of the Republic of Kenya.

SUB-CLAUSE 1.5 – PRIORITY OF CONTRACT DOCUMENTS

Delete the documents listed 1-6 and substitute:

(1) The Contract Agreement (if completed)
(2) The Letter Of Acceptance;
(3) The Bid and Appendix to Bid;
(4) The Conditions of Contract Part II;
(5) The Conditions of Contract Part I;
(6) The Special Specifications;
(7) The Standard Specification for Road and Bridge Construction, 1986;
(8) The Drawings;
(9) The priced Bills of Quantities
(10) Other documents as listed in the Appendix to form of Bid

SUB-CLAUSE 1.9 DELAYED INSTRUCTIONS OR DRAWINGS

Add to Sub-Clause 1.9, the following:
"The Contractor shall give 2 weeks' notice in writing to the Engineer or the Engineer's Representative of any further drawings or specifications that may be required for the execution of the Works or otherwise under the Contract."

SUB-CLAUSE 1.9A AS-BUILT DRAWINGS

On Completion of the works, the Contractor shall arrange to furnish to the Employer at his own cost two (2) bound sets of all 'As-built' drawings for every component of the Work, such copies being on polyester film and a digitized copy of the drawings in a compact disc of format to be approved by the Engineer or his Representative. The Taking-Over Certificate of the works, whole or parts, as per the provisions of Clause 10.1 and 10.2 hereof shall not be issued by the Engineer in the event of the Contractor's failure to furnish the aforesaid drawings for the entire Works.

SUB-CLAUSE 1.9B INTENT OF DRAWINGS AND SPECIFICATIONS

The intent of Drawings and Specifications is to describe the details for the complete Reconstruction and maintenance of the Works, which the Contractor undertakes to perform in accordance with the terms of the Contract.

The Drawings or Specifications describe portions of the Works in general terms, but not in complete detail, it is understood that only materials and workmanship of the first quality are to be used.

Unless otherwise specified, the Contractor shall furnish all labour, materials, tools, equipment and incidentals, and do all the work involved in executing the Contract in a satisfactory and workmanlike manner.

SUB-CLAUSE 1.9C SUFFICIENCY OF DRAWINGS AND SPECIFICATIONS

The Drawings and Specifications included in the Contract are believed to be full and sufficient to enable the Contractor to carry out the work required by the Contract. Should the Contractor discover any error, omission, fault and other defect or deficiency in the Drawings and Specifications he shall promptly notify the Engineer's Representative of the same and the error, omission, fault, defect or deficiency will be rectified by the Engineer.

No payment will be made to the Contractor for undertaking any kind of design work other than that specifically required by the terms of the Contract. Payment for design work specifically required by the terms of the Contract shall be deemed to be included in the Rates and Lump Sums entered in the Bill of Quantities

SUB-CLAUSE 1.9D APPROVAL OF DRAWINGS NOT TO ABSOLVE THE CONTRACTOR

Non examination by the Engineer of any document submitted by the Contractor of the Temporary Works nor the approval expressed by the Engineer in regard thereto either with or without modifications SHALL NOT absolve the Contractor from any liability imposed upon him by any provision of the Contract.

SUB-CLAUSE 1.9E APPROVED DRAWINGS TO BE MODIFIED

Should it be found at any time after approval has been given by the Engineer to any drawings submitted by the Contractor that the said drawings do not comply with the terms and conditions of the Contract, or that the details do not agree with any drawings submitted previously, such alterations and additions as may be deemed necessary by the Engineer shall be made therein by the Contractor and the work carried out accordingly without extra payment to the Contractor thereof.

SUB-CLAUSE 1.9F SIZE OF DRAWINGS

All drawings submitted by the Contractor shall for convenience in filing be as far as possible of a uniform size being not more than 101 cm x 68 cm overall (A1-size). All drawings shall be numbered and dated.

SUB-CLAUSE 3.1 - ENGINEER'S DUTIES AND AUTHORITY.

The Engineer shall carry out the duties specified in the contract. Except as expressly stated in the contract, the Engineer shall not have authority to relieve the Contractor of any of its obligations under the contract. The Engineer shall obtain the specific approval of the Employer before taking any of the following actions:

a) Consenting to the subletting of any part of the works under Sub - Clause 7;
b) Certifying additional cost
c) Determining an extension of time
d) Issuing a variation;
e) Fixing rates or prices

SUB-CLAUSE 3.2 – DELEGATION BY THE ENGINEER.

The Engineer may, from time to time, while retaining ultimate responsibility, delegate to the Engineer's representative any of the duties and authority vested in the Engineer and he may at any time revoke such delegation or replace the representative. Any such delegation, revocation or replacement shall be in writing and shall not take effect until a copy thereof has been delivered to the Contractor. The administrative order which determines the duties, authority and identity of the Engineer's representative shall be issued by the Engineer at the moment of the commencement order. The role of the Engineer's representative shall be to supervise and inspect works and to test and examine the materials employed and the quality of workmanship. Under no circumstances will the Engineer's representative be empowered to relieve the Contractor of its obligations under the contract or save where express instructions to that effect are given below or in the contract – order works resulting in an extension of the period of implementation of tasks

or additional costs to be paid by the Employer or introduce variants in the nature or scale of the works.

Any communication given by the Engineer's representative to the Contractor in accordance with the terms of such delegation shall have the same effect as though it had been given by the Engineer, provided that:

a) any failure on the part of the Engineer's representative to disapprove any work, materials or plant shall not prejudice the authority of the Engineer to disapprove such work, materials or plant and to give the instructions necessary for the rectification thereof;

b) The Engineer shall be at liberty to reverse or vary the contents of such communication.

Instructions and/or orders issued in writing by the Engineer shall be considered an administrative order. Such orders shall be dated, numbered and entered by the Engineer in a register, and copies thereof delivered by hand, where appropriate, to the Contractor's representative.

SUB-CLAUSE 3.5 – ENGINEER'S DECISION

Delete the entire sub-clause 3.5 and insert the following;

"If a dispute of any kind whatsoever arises between the Employer and the Contractor in any connection with, or arising out of, the Contract or the execution of the works, whether during the execution of the works or after their completion and whether before or after repudiation or other termination of the Contract including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state it is made pursuant to this clause. No later than 28 (twenty eight) day after the day on which he received such reference the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state it is made pursuant to this clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an Amicable Settlement, Adjudicator's or Arbitrator's award.

If either the Employer or the Contractor be dissatisfied with the any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the 28th (twenty eighth) day after the day on which he received the reference, then either the Employer or the Contractor may, on or before the 28th (twenty eighth) day after the day on which he received notice of such decision, or on or before the 28th (twenty eighth) day after the day on which the said period of 28 days expired, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence Adjudication, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence Adjudication, as

hereinafter provided, as to such dispute; no adjudication in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence adjudication as to such dispute has been given by either the Employer or the Contractor on or before the twenty eighth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor. "

SUB-CLAUSE 4.1 CONTRACTOR'S GENERAL RESPONSIBILITIES

Add to Sub-Clause 4.1, the following:

(a) Within 28 days after receipt of the Engineer's order to commence the works, the Contractor shall establish an office at the site duly equipped for the Contractor's Representative and his supervisory personnel. The Contractor shall maintain this office throughout the Contract period. All correspondence sent to this office shall be deemed to have been sent to the Contractor's legal domicile.

(b) A foreign Contractor or a Kenyan-foreign joint venture, if not registered in Kenya under the applicable laws of Kenya, shall undertake registration upon receipt of the Letter of Acceptance and prior to signing of the Contract.

(c) The Contractor shall comply with any administrative orders given to him. Where the Contractor considers that the requirements of an administrative order go beyond the authority of the Engineer or of the scope of the contract, the Contractor shall give notice, with reasons, to the Engineer. If the Contractor fails to notify within the 30 day period after receipt thereof, he shall be barred from so doing. Execution of the administrative order shall not be suspended because of this notice.

(d) The Contractor shall respect and abide by all laws and regulations in force in Kenya and shall ensure that its personnel, their dependants, and its local employees also respect and abide by all such laws and regulations. The Contractor shall indemnify the Employer against any claims and proceedings arising from any infringement by the Contractor, its employees and their dependants of such laws and regulations.

(e) If the Contractor acts on behalf of or is a joint venture or consortium of two or more persons, all such persons shall be jointly and severally bound in respect of the obligations under the contract, including any recoverable amount. The person designated by the consortium to act on its behalf for the purposes of this contract shall have the authority to bind the consortium. The composition or the constitution of the joint venture or consortium shall not be altered without the prior consent of the Employer. Any alteration of the composition or the constitution of the joint venture or consortium without the prior consent of the Employer may result in the termination of the contract.

(f) The Contractor shall make its own arrangements for the engagement of all staff and labour. The rates of remuneration and the general working conditions, as laid down by the labour laws shall apply as a minimum to employees on the site.

SUB-CLAUSE 4.2 - PERFORMANCE SECURITY

Replace the text of Sub clause 4.2, first paragraph with the following:
"The Contractor shall provide security for his proper performance of the Contract within 14 days after receipt of the Letter of Acceptance. The Performance Security shall be in the form of a bank guarantee/insurance company as stipulated by the Employer in the Appendix to Bid. *The Performance Security shall be issued by a bank incorporated in Kenya (insurance bonds shall not be accepted).* The Contractor shall notify the Engineer when providing the Performance Security to the Employer.

Without limitation to the provisions of the preceding paragraph, whenever the Engineer determines an addition to the Contract Price as a result of a change in cost or otherwise, the Contractor, at the Engineer's written request, shall promptly increase the value of the Performance Security by an equal percentage."

Replace the text of Sub clause 4.2, Last paragraph with the following:
"The Performance Security shall be valid until a date 28 days after the date of issue of the Taking over Certificate. The security shall be returned to the Contractor within 14 days of expiration of the performance security."

SUB-CLAUSE 4.3- CONTRACTOR'S REPRESENTATIVE

Add the following at the end of the first paragraph of sub-clause 4.3
"The Contractor shall, within seven (7) days of receipt of the Engineer's order to commence the works inform the Engineer in writing the name of the Contractor's Representative and the anticipated date of his arrival on site."

Add the following Sub-clause 4.3a

SUB-CLAUSE 4.3A - LANGUAGE ABILITY AND QUALIFICATIONS OF CONTRACTOR'S AUTHORISED AGENT

The Contractor's Agent or Representative on the site shall be a Registered Engineer as registered by the Engineer's Registration Board of Kenya in accordance with the Laws of Kenya Cap 530 or have equivalent status approved by the Engineer and shall be able to read and write English fluently.

The Contractor's Agent or Representative shall have at least 5 years relevant experience as an Engineer.

SUB-CLAUSE 4.3B - QUALIFICATION AND LANGUAGE ABILITY OF SUPERINTENDING STAFF

The Contractor's superintending staff shall meet the following minimum qualifications:

(a). Should have a working knowledge of English or Kiswahili. Should any of the superintending staff not be able to meet this condition, the Contractor shall propose to the Engineer arrangements for provision of a sufficient number of interpreters of approved

qualifications. The Engineer, at his discretion, may amend, approve or reject such arrangements or reject deployment of superintending staff not meeting the language requirements. The Engineer may at any time during the duration of the Contract amend any approved arrangements made for interpreters, which shall be implemented at the Contractors expense.

(b) The key staff listed below must have academic qualifications from Government recognised institutions or equivalent institutions of the levels set out in Section 5, Part 6 and as below.

- Site Agent: Bsc. Civil Eng. and Registered with Kenya Engineers Registration Board
- Deputy Site Agent: Bsc. Civil Eng
- Site Engineer: Bsc. Civil Eng
- Senior Foreman: Higher National Diploma – Civil Engineering
- Site Surveyor : Higher National Diploma – Surveying
- Foremen : Ordinary National Diploma – Civil Engineering
- Materials Technologist : Ordinary National Diploma – Civil Engineering

(c) The key staff listed below must have minimum experience set out in Section 5, Part 6 and as below:

- Site Agent: 5 years
- Deputy Site Agent:5 years
- Site Engineer: 5 years
- Senior Foreman: 5 years
- Site Surveyor: 5 years
- Foremen: 5 years
- Materials Technologist: 65 years

(d) Qualifications as above shall be subject to verification and approval on site by the Engineer or his representative on site before commencement of the said works.

SUB-CLAUSE 4.4 – SUBCONTRACTORS

Add the following at the end of the first sentence:
"A subcontract shall be valid only if it is a written agreement by which the Contractor entrusts performance of a part of the contract to a third party. Simple plant hire, labour only and supply contracts are not considered or construed "subcontracts" for the purpose of this contract.

The Contractor shall request the Employer the authorization to subcontract. The request must indicate the elements of the contract to be subcontracted and the identity of the subcontractors. Within 30 days of receipt of this request, the Employer must either extend the delay for a maximum of 15 days or notify the Contractor of its decision, stating reasons should he withhold such authorization. If the Employer fails to notify its decision within the time limit referred to above, the request is deemed to be approved at the end of the time limit.

Subcontractors must satisfy the eligibility criteria applicable for the award of the contract and they cannot fall under the exclusion criteria described in the tender document."

SUB-CLAUSE 4.7A EQUIPMENT AND PLANT

Only equipment suitable to produce the quality of work and materials required will be permitted to operate on the contract.

The Contractor shall provide adequate and suitable equipment and plant to meet the above requirements and when ordered by the Engineer shall remove unsuitable equipment from the Site and discontinue the operation of unsatisfactory plant.

In transporting equipment to and from the Site and in using it on the Site, the Contractor shall comply with the country applicable laws.

SUB-CLAUSE 4.8 - SAFETY, SECURITY AND PROTECTION OF THE ENVIRONMENT

Add Sub-Clause-paragraph (e) of Sub-Clause 4.8 as follows:
Notwithstanding the Contractor's obligation under Sub-Clause-paragraph (a), (b), (c) and (d) of Sub-Clause 4.8 of the General Conditions of Contract, the Contractor shall observe the following measures with a view to reducing or elimination of adverse environmental effects by the site works:

(i) All quarries and borrow pits shall be filled and landscaped after extraction of construction material to the satisfaction of the Engineer and the National Environmental Management Authority
(ii) Soil erosion due to surface runoff or water from culverts or other drainage structures should be avoided by putting in place proper erosion control measures that shall include, but are not limited to grassing and planting if trees
(iii) Long traffic diversion roads shall be avoided so as to minimize the effect of dust on the surrounding environment. In any case all diversions shall be kept damp and dust free
(iv) Spillage of oils, fuels and lubricants shall be avoided and if spilt, shall be collected and disposed off in such a way as not to adversely affect the environment
(v) Rock blasting near settlement areas shall be properly coordinated with the relevant officers of the Government so as to minimize noise pollution and community interference.

SUB-CLAUSE 4.9 WATER, FUEL, LIGHT AND POWER

The Contractor shall at his own expense, make all his own arrangements for the supply and distribution of water, fuel, light and power to all points where they are required for all the operations under the Contract and for this purpose, he shall provide and use all the necessary construction equipment, Temporary Works, Transport, Materials and things of every kind necessary to supply and distribute the supplies to the various parts of the works.

In the event of the Contractor obtaining water, fuel, light or power from any existing controlled supply, he shall comply with any regulations laid down by the Authority concerned and shall pay for rent and all other charges as required..

The cost of all the foregoing shall be included in the Rates and Lump Sums as entered in the Bill of Quantities

SUB-CLAUSE 4.10 – SITE DATA

Add the last paragraph with the following:
"The Employer in no way guarantees completeness nor accuracy of the soil, materials, subsurface and hydrological information made available to the Contractor at the time of biding or at any other time during the period of the Contract, and the Contractor shall be responsible for ascertaining for himself all information as aforesaid for the execution of works and his BID shall be deemed to have been priced accordingly.

SUB-CLAUSE 4.14 – INTERFERENCE WITH TRAFFIC

Supplement Sub-Clause 14.1 by adding the following sentence at the end:
"The Contractor will be permitted to use existing public roads for access to the site. The Contractor shall pay vehicle license tax and road maintenance duty in accordance with relevant regulations and shall obtain any necessary permits or licenses from relevant authorities for transporting his equipment."

Add the following sub clause 4.14A:

SUB-CLAUSE 4.14A – REINSTATEMENT AND COMPENSATION FOR DAMAGES TO PERSONS AND PROPERTY

The Contractor shall reinstate all properties whether public or private which are damaged in consequence of the construction and, maintenance of the works to a condition as specified and at least equal to that prevailing before his first entry on them.

If in the opinion of the Engineer the Contractor shall have failed to take reasonable and prompt action to discharge his obligations in the matter of reinstatement, the Engineer will inform the Contractor in writing of his opinion, in which circumstances the Employer reserves the right to employ others to do the necessary work of reinstatement and to deduct the cost thereof from any money due or which shall become due to the Contractor.

The Contractor shall refer to the Employer without delay all claims which may be considered to fall within the provisions of Clause 22.1.

Add sub clause 4.25 to read as follows

SUB-CLAUSE 4.25- EXISTING SERVICES

The Contractor shall acquaint himself with the position of all existing services such as drains, telephone and electricity lines and poles, water mains and the like, before commencing any excavation or other which is likely to affect the existing services.

The Contractor will be held liable for all damage to roads, irrigation ditches, main pipes, electric cables, lines or services of any kind caused by him or his Sub-Contractors in the

execution of the Works. The Contractor must make good any damage without delay and, if necessary, carry out any further work ordered by the Engineer's Representative.

The Contractor will be required to make all necessary arrangements with local authorities, corporations and owners before executing relocation of existing services. The Contractor shall pay the costs of such works on behalf of the Employer and shall be reimbursed thereafter by the Employer.

SUB-CLAUSE 6.1 – CONDITIONS OF EMPLOYMENT OF LABOUR

Add the following paragraph in sub clause 6.1
The Contractor shall be responsible for making all arrangements for and shall bear all costs relating to recruitment, obtaining of all necessary visas, permits or other official permission for movements of staff and labour.

SUB-CLAUSE 6.2 – FAIR WAGES

Amend sub clause 6.2 to read as follows:

The Contractor shall, in respect of all persons employed anywhere by him in the execution of the Contract, and further in respect of all persons employed by him otherwise than in the execution of the Contract in every factory, Workshop or place occupied or used by him for the execution of the Contract, observe and fulfil the following conditions:

(a) The Contractor shall pay rates of wages, observe hours of labour and provide conditions of labour, housing, amenities and facilities not less favourable than those required by the latest Regulation of Wages (Building and Construction Industry) Order as at the time of bid submission, and subsequent amendments thereto, or in any wage scales, hours of work or conditions agreed by the Ministry of Labour or other Government Departments in consultation with the appropriate wage fixing authority and generally recognized by other employees in the district whose general circumstances in the trade or industry in which the Contractor is engaged are similar.
(b) In the absence of any rates of wages, hours or conditions of labour so established the Contractor shall pay rates of wages and observe hours and conditions of labour which are not less favourable than the general level of wages, hours and conditions observed by other Employers whose general circumstances in the trade or industry in which the Contractor is engaged are similar.
(c) Where the absence of established rates of wages, hours and conditions of labour or the dissimilarity of the general circumstances in the trade of industry in which the Contractor is engaged prevent the Contractor from observing rates of wages, hours and conditions of labour ascertained under sub-paragraph (a) and (b) above the Contractor in fixing the rates of wages, hours and conditions of labour of his employees shall be guided by the advice of the Labour Department.
(d) The Contractor shall recognize the freedom of his employees to be members of trade unions.
(e) The Contractor shall maintain records in English of the time worked by, and the wages paid to, his employees. The Contractor shall furnish to the Engineer or Employer, if called upon to do so, such particulars of the rates, wages and conditions of labour as the Employer or Engineer may direct.
(f) The Contractor shall at all times during the continuance of the contract display, for the information of his employees in every factory, workshop or place occupied or used by him for the execution of the Contract, a copy of this clause together with a notice setting out the general rates of wages, hours and conditions of labour of his employees.

(g) The Contractor shall be responsible for the observance of this clause by sub-Contractors employed in the execution of the works.

SUB-CLAUSE 6.2A – BREACH OF FAIR WAGES CLAUSE

Any Contractor or Sub-Contractor who is found to be in breach of Fair Wages Clause shall cease to be approved as a Contractor or Sub-Contractor for such period as the Principal Secretary for the Ministry of Roads and Public Works may determine.

Should a claim be made to the Employer alleging the Contractor's default in payment of Fair Wages of any workman employed on the Contract and if proof thereof satisfactory to the Employer is furnished by the Labour Authority, the Employer may, failing payment by the Contractor, pay the claims out of any monies due or which may become due to the Contractor under the Contract.

SUB-CLAUSE 6.2B – COMPENSATION FOR INJURY

The Contractor shall in accordance with the Workmen's Compensation Act of the Laws of Kenya and any other regulations in force from time to time pay compensation for loss or damage suffered in consequence of any accident or injury or disease resulting from his work to any workman or other person in the employment of the Contractor or any Subcontractor.

SUB-CLAUSE 6.4 – LABOUR STANDARDS

Amend sub clause 6.4 to read as follows:

(a) The Contractor shall comply with the existing local labour laws, regulations and labour standards
(b) The Contractor shall formulate and enforce an adequate safety program with respect to all work under his contract, whether performed by the Contractor or subcontractor. The Contractor has assurance from the Employer of cooperation where the implementation of these safety measures requires joint cooperation.
(c) Upon written request of the Employer the Contractor shall remove or replace any of his employees employed under this Contract.

SUB-CLAUSE 6.5 – RESTRICTION ON WORKING HOURS

Add at the end of Sub-Clause 6.5 the following:

"The normal working hours for the Employer, the Engineer and his staff shall be from 0800h to 1700h with one hour lunch break during weekdays with Saturdays and Sundays set aside for rest.
"If the Contractor requests permission to execute permanent works outside the normal working hours of the Engineer including night hours, then if the Engineer shall grant such permission the Contractor shall not be entitled to any additional payments for so doing. All such work at night shall be carried out without unreasonable noise or other disturbance and the Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out night work and from and against all claims, demands, proceedings, costs, charges and expenses whatsoever in regard or in relation to such liability.

"In addition the Contractor will be required to provide, for any work carried out at night or recognized days of rest, adequate lighting and other facilities so that the work is carried out safely and properly.
"In the event of the Engineer granting permission to the Contractor to work double or rotary shifts or on Sundays, the Contractor shall be required to meet any additional costs to the Employer in the administration and supervision of the Contract arising from the granting of this permission."

SUB-CLAUSE 6.9 REPATRIATION OF LABOUR

Add the following paragraph in sub clause 6.9

The Contractor shall be responsible for the return to the place where they were recruited or to their domicile of all such persons as he recruited and employed for the purposes of or in connection with the Contract and shall maintain such persons as are to be so returned in a suitable manner until they shall have left the site or, in the case of persons who are not nationals of and have been recruited outside Kenya shall have left Kenya.

SUB-CLAUSE 6.12: HIV/AIDS AND GENDER ISSUES

The Contractor shall, in respect of all persons employed anywhere by him in the execution of the Contract, and further in respect of all persons employed by him otherwise than in the execution of the Contract in every factory, workshop or place occupied or used by him for the execution of the Contract, be responsible for making all arrangements for and shall bear all costs relating to the following for the duration of the contract:

1. Instituting an HIV/Aids and Gender Issues awareness campaign amongst his workers;
2. Instituting an HIV/Aids prevention campaign amongst his workers; and
3. Instituting an HIV/Aids training programme including employing and designating a qualified HIV/Aids expert.

SUB-CLAUSE 6.13: MEASURES AGAINST INSECT AND PEST NUISANCE

The Contractor shall at all times take the necessary precautions to protect all staff and labour employed on the Site from insect nuisance, rats, and other pests and reduce the dangers to health and the general nuisance caused by the same. The Contractor shall provide his staff and labour with suitable prophylactics for the prevention of malaria and shall take steps to prevent the formation of stagnant pools of water. He shall comply with all the regulations of the local health authorities in these respects and shall in particular arrange to spray thoroughly with approved insecticide all buildings erected on the Site. Such treatment shall be carried out at least once a year or as instructed by the Engineer. The Contractor shall warn his staff and labour of the dangers of bilharzia and wild animals.

SUB-CLAUSE 6.14: EPIDEMICS

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders, and requirements as may be made by the government or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same

SUB-CLAUSE 6.15: FESTIVALS AND RELIGIOUS CUSTOMS

The Contractor shall, in all dealings with his staff and labour, have due regard to all recognized festivals, days of rest, and religious and other customs.

SUB-CLAUSE 7.8 – ROYALTIES

Add at the end of this Sub-Clause the following sentence:
"The Contractor shall also be liable for all payments or compensation if any that are levied in connection with the dumping of part or all of any such material."

SUB-CLAUSE 8.1 – COMMENCEMENT OF WORKS

Amend Sub-Clause 8.1 as follows:

Delete the words "as soon as is reasonably possible" in the first sentence and replace with "within the period stated in the Appendix to Bid".

Insert the following words at the end sub-clause 8.1

"**Definition of Commencement**

For the purposes of this clause, the Works shall be deemed to have commenced when all of the following conditions are satisfied;

a) The approved competent and authorized agent or representative of the Contractor is resident in the project area and is giving his whole time to the superintendence of the Works.

b) The provision by the Contractor of evidence that all insurances required by the Contract are in force.

c) The Contractor has an established office in the project area with postal address for receipt of correspondence.

d) The principal items of constructional plant have been brought to Site and put to work in the execution of the permanent Works.

The contractor shall notify the Engineer with a copy to the Employer that the above conditions have been met and that he has commenced works."

SUB-CLAUSE 8.2 – TIME FOR COMPLETION

Amend Sub-Clause 8.2 as follows:
Delete the words "within the time" to "such extended time" and substitute "by the date or dates stated or implied as stated in the Appendix to form of bid.

SUB-CLAUSE 8.3 PROGRAM TO BE SUBMITTED

The time within which the program shall be submitted shall be as specified in the Appendix to the Form of Bid.

This detailed program shall be based upon the program submitted by the Contractor as part of his BID, where this was required, and shall in no material manner deviate from the said program.

The program shall be in the form of a Critical Path Method Network (CPM Network) showing the order of procedure and a description of the construction methods and arrangements by which the Contractor proposes to carry out the works .It should also be supplemented by a time –bar chart of the same program. The program shall be coordinated with climatic, groundwater and other conditions to provide for completion of the works in the order and by the time specified. The program shall be revised at three-month intervals and should include a chart of the principle quantities of work forecast for execution monthly.

The Contractor shall submit to the Engineer not later than the day or date mentioned in the Appendix to the Form of Bid, a general description of his proposed arrangements and methods for the execution of the Works, including temporary offices, buildings, access roads, construction plant and its intended production output, working shift arrangements, labour strength, skilled and unskilled, supervision arrangements, power supply arrangements, supply of materials including a materials utilization program, stone crushing, aggregate production and storage, cement handling, concrete mixing and handling, methods of excavation, dealing with water, testing methods and facilities.

During the execution of the works, the Contractor shall submit to the Engineer full and detailed particulars of any proposed amendments to the arrangements and methods submitted in accordance with the foregoing.

If details of the Contractors proposals for Temporary Works are required by the Engineer for his own information the Contractor shall submit such details within fourteen days of being requested to do so.

The various operations pertaining to the works shall be carried out in such a progressive sequence as will achieve a continuous and consecutive output of fully completed road works inclusive of all bridge works and culverts within the time limits specified in the Contract. Generally the Contractor shall start at one end of the road and progress continuously towards the other without leaving any isolated section or sections of uncompleted road provided always that the site of the works has been acquired in its entirety and the encumbrances and services thereon removed.

The Contractor shall allow in his programme for the following public holidays per calendar year during which the Contractor shall not be permitted to work.

- New Years Day (1st January)
- Good Friday
- Easter Monday

- Labour day (1st May)
- Madaraka Day (1st June)
- Idd Ul Fitr
- Mashujaa Day (20th October)
- Jamhuri day (12th December)
- Christmas Day (25th December)
- Boxing day (26th December)

The Contractor shall also allow per calendar year for a further two unspecified public holidays which may be announced by the Government of Kenya with no prior notification upon which he shall not be permitted to work.

The Contractor shall allow for the Engineer's eight (8) daily normal working hours on weekdays with Saturdays and Sundays set aside for rest.

SUB-CLAUSE 8.4 – EXTENSION OF TIME FOR COMPLETION

Add at the end of Sub-Clause 8.4 the following:
"Neither rains falling within the rainy seasons as occurs in Kenya nor floods caused by such rains shall be deemed exceptional weather conditions such as may fairly entitle the Contractor to an extension of time for the completion of the work."

SUB-CLAUSE 8.7 – REDUCTION OF LIQUIDATED DAMAGES

Add the following paragraphs at the end of this Sub-Clause:
"There shall be no reduction in the amount of liquidated damages in the event that a part or a section of the Works within the Contract is certified as completed before the whole of the Works comprising that Contract.

The Employer shall pay no bonus for early completion of the Works to the Contractor.

The sum stated in the Appendix to Bid as liquidated damages shall be increased by a sum equivalent to any additional amount payable by the Employer to the Contractor under clause 13.7 in respect of an increase in costs in such a period that would not have been incurred by the Contractor if the works had been completed by the due date for completion prescribed by Clause 8.4."

Add the following sub clause 12.2(c)

SUB-CLAUSE 12.2(C) – OMISSIONS OF QUANTITIES

Items of Works described in the Bills of Quantities for which no rate or price has been entered in the Contract shall be considered as included in other rates and prices in the Contract and will not be paid for separately by the Employer.

SUB-CLAUSE 13.1 – VALUATION OF VARIATIONS

Add new Clause 13.1(a)
No change in the unit rates or prices quoted shall be considered for items included in the schedule of Day works rates, or Provisional Sums and items, or for any item in the BOQ.

SUB-CLAUSE 13.4 - PRICE ADJUSTMENT

The amounts payable to the Contractor, in various currencies pursuant to Sub-Clause 14.1, shall be adjusted in respect of the rise or fall in the cost of labour, Contractor's Equipment, Plant, materials, and other inputs to the Works, by applying to such amounts the formulae prescribed in this clause.

Add the following Sub-Clause 13.5a:

SUB-CLAUSE 13.5A – PROVISIONAL ITEMS

Provisional items including "Prime Cost Sums" shall be read as Provisional Sums and shall be operated as such in accordance with Sub-Clause13.5.

SUB-CLAUSE 13.6 – DAYWORKS

Add the following at the end of Sub-Clause 13.6:
The work so ordered shall immediately become part of the works under the contract. The Contractor shall, as soon as practicable after receiving the Dayworks order from the Engineer undertake the necessary steps for due execution of such work. Prior to commencement of any work to be done on a Dayworks basis, the Contractor shall give an advance notice to the Engineer stating the exact time of such commencement.

SUB-CLAUSE 14.3- CASH FLOW ESTIMATE

The time within which the detailed cash flow estimate shall be submitted shall be as specified in the Appendix to the Form of Bid.

CLAUSE 14: – CONTRACT PRICE AND PAYMENTS

Clause 14 of the General Conditions is deleted and substituted with the following:-

SUB-CLAUSE 14.1 – MONTHLY STATEMENT

The Contractor shall submit to the Engineer at the end of each milestone six copies, each signed by the Contractor's Representative approved by the Engineer in accordance with Sub-Clause 15.1, of a statement, in a tabulated form approved by the Engineer, showing the amounts to which the Contractor considers himself to be entitled up to the end of the month in respect of:

- the value of the Permanent Work executed up to the end of the month
- such an amount (not exceeding 75 percent of the value) as the Engineer may consider proper on account of materials for permanent work delivered by the Contractor in the site
- such amount as the Engineer may consider fair and reasonable for any Temporary Works for which separate amounts are provided in the Bill of Quantities
- adjustments under Clause 13.1

- any amount to be withheld under retention provisions of Sub-clause 14.9
- any other sum to which the Contractor may be entitled under the Contract

If the Engineer disagrees with or cannot verify any part of the statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes and corrections in the statement as may be directed by the Engineer. In cases where there is difference in opinion as to the value of any item, the Engineer's view shall prevail.

SUB-CLAUSE 14.2 - INTERIM PAYMENT CERTIFICATE

The Contractor shall forward to the Engineer an Interim Payment Certificate based on the statement as corrected above and, should it be necessary in the Engineers opinion, shall promptly make any further amendments and corrections to the Interim Payment Certificate.

The Engineer shall not unreasonably withhold certifying an Interim Payment Certificate and in case of likely delay in establishing the value of an item, such item may be set aside and the remainder certified for payment.

Within 30 days after receipt of the Interim Payment Certificate and subject to the Contractor having made such further amendments and corrections as the Engineer may require, the Engineer will forward to the Employer the certified Interim Payment Certificate.

Provided that the Engineer shall not be bound to certify any payment under this Clause if the net amount thereof, after all retentions and deductions, would be less than the minimum amount of Interim Payment Certificate's stated in the Appendix to Form of Bid. However, in such a case, the uncertified amount will be added to the next interim payment, and the cumulative unpaid certified amount will be compared to the minimum amount of interim payment.

SUB-CLAUSE 14.3 – PAYMENT OF RETENTION MONEY

A retention amounting to the percentage stipulated in the Appendix to Bid shall be made by the Engineer in the first and following Interim Payment Certificates until the amount retained shall reach the "Limit of Retention Money" named in the Appendix to Form of BID.

Upon the issue of the Taking-Over Certificate, with respect to the whole of the works one half of the retention money shall become due and shall be paid to the Contractor when the Engineer shall certify in writing that the last section of the whole works has been substantially completed.
Upon expiration of the Defects Liability Period for the works, the other half of the Retention Money shall be certified by the Engineer for payment to the Contractor.

Provided that in the event of different Defects Liability Periods being applicable to different Sections of the Permanent Works pursuant to Clause 48, the expression "expiration of the Defects Liability Period " shall, for the purpose of this sub-clause, be deemed to mean the expiration of the latest of such periods.

Provided also that if at such time, there remain to be executed by the Contractor any work instructed, pursuant to Clause 49 and 50, in respect of the works, the Engineer shall be entitled to withhold certification until completion of any such work or so much of the balance of the Retention money as shall in the opinion of the Engineer, represents the cost of the remaining work to be executed.

Bank Retention Guarantees shall be accepted in lieu of cash retentions.

SUB-CLAUSE 14.4– CORRECTION OF CERTIFICATES

The Engineer may in any Interim Payment Certificate make any correction or modification to any previous Interim Payment Certificate signed by him and shall have authority, if any work is not being carried out to his satisfaction to omit or reduce the value of such work in any Interim Payment Certificate.

SUB-CLAUSE 14.5– STATEMENT AT COMPLETION

Not later than 84 days after the issue of the Taking-Over Certificate in respect of the whole of the works, the Contractor shall submit to the Engineer a statement at completion showing in detail, in a form approved by the Engineer;
The final value of all work done in accordance with the Contract up to the date stated in such Taking-Over Certificate.

(a) Any further sums which the Contractor considers to be due; and

(b) An estimate of amounts that the Contractor considers will become due to him under the Contract.

Estimate amounts shall be shown separately in the Statement at Completion. The Contractor shall amend and correct the Statement as directed by the Engineer and submit a Certificate at Completion to be processed as in Sub-clause 60.2.

SUB-CLAUSE 14.6 – FINAL STATEMENT

Not later than 56 days after the issue of the Defects Liability Certificate pursuant to Sub-Clause 62.1, the Contractor shall submit to the Engineer for consideration a draft final statement with supporting documents showing in detail, in the form approved by the Engineer;

(a) The final value of all work done in accordance with the Contract

(b) Any further sums which the Contractor considers to be due to him.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonable require and shall make such changes in the draft as may be required.

SUB-CLAUSE 14.7– DISCHARGE

Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall become effective only after payment under the Final Payment Certificate issued pursuant to Sub-Clause 60.8 has been made and the Performance Security referred to in Sub-Clause 10.1 has been returned to the Contractor.

SUB-CLAUSE 14.8 – FINAL PAYMENT CERTIFICATE

Upon acceptance of the Final Statement as given in Sub-Clause 60.6, the Engineer shall prepare a Final Payment Certificate which shall be delivered to the Contractor's authorized agent or representative for his signature. The Final Payment Certificate shall state:

(a) The final value of all work done in accordance with the Contract;
(b) After giving credit to the Employer for all amounts previously paid by the Employer, the balance, if any, due from the Employer to the Contractor or the Contractor to the Employer.

Final Certificate shall be issued for any sum due to the Contractor even if such is less than the sum named in the Appendix to the Form of BID.

SUB-CLAUSE 14.9– CESSATION OF EMPLOYERS LIABILITY

Unless the Contractor notifies the Engineer of his objection to the Final Certificate within fourteen days of delivery thereof he shall be deemed to have agreed that he accepts the total Contract Price as set out in the Final Certificate as full settlement for all work done under the Contract including any variations and omissions thereof but excluding any variations and claims previously made in writing.

SUB-CLAUSE 14.10 – TIME FOR PAYMENT

The amount due to the Contractor under any Interim Payment Certificate or Final Payment Certificate issued pursuant to this Clause or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor as follows:

i. In the case of Interim Payment Certificate, within the time stated in the Appendix to Form of Bid, after the Engineer has signed the Interim Payment Certificate.
ii. In the case of the Final Payment Certificate pursuant to Sub-clause 60.8, within the time stated in the Appendix to Form of Bid, after the Engineer has signed the Final Payment Certificate.
iii. In the event of the failure of the Employer to make payment within the times stated, the Employer shall make payment to the Contractor of simple interest at a rate equal to two percentage points above the average bank lending rates obtained from Central Bank of Kenya. The provisions of this sub-clause are without prejudice to the Contractor’s entitlements under Clause 69 or otherwise.

SUB-CLAUSE 14.11 – CURRENCY OF PAYMENT

The Contract Price shall be designated in Kenyan Currency.
All work performed by the Contractor under the Contract shall be valued in Kenya Shillings using the rates and prices entered in the Bills of Quantities together with such other increases to the Contract Price, except for variation of price payments in accordance with Clause

SUB-CLAUSE 14.12 – ADVANCE PAYMENT

"At the request of the Contractor, The Employer **MAY** make an interest free advance payment to the contractor for the cost of mobilization in respect of the Works, in a lump sum of **any amount not exceeding ten (10) per cent** of the Contract Price named in the Letter of Acceptance and Letter of Award. Non-Payment or delayed payment of the Advance shall not be a cause for any claim whatsoever. The Contractor is expected to have adequate financial resources to mobilise and execute the works with due diligence without the advance payment being made. Payment of such advance amount will be due under a separate certification by the Engineer after:

(i) Provision by the Contractor of the Performance Security in accordance with Clause 10 of the Conditions of Contract, and

(ii) Provision by the Contractor of a Bank Guarantee which shall remain effective until the advance payment has been completely repaid by the Contractor out of current earnings under the Contract and certified accordingly by the Engineer.

A form of Bank guarantee acceptable to the Employer is included in the Tender Documents. The advance payment shall be used by the Contractor exclusively for mobilization expenditures, in connection with the works. The advance payment shall not be subject to retention money.

The advance payment shall be repaid with percentage reductions from the monthly interim payments certified by the Engineer. The reimbursement of the lump sum advance payment shall be made by deductions from the interim payments and where applicable from the balance owing to the contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original contract sum. It shall have been completed by the time 80% of the contract sum is reached.

The amount to be repaid by way of successive deductions shall be calculated by the means of the formula:

$$RI = \frac{A(x-X)}{80-20}$$

Where:

RI = the amount to be reimbursed.

A = the amount of the advance which has been granted.

x = the amount of proposed cumulative payments as a percentage of the original amount of the contract. This figure will exceed 20% but not 80%.

X = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80% but not less than 20%.

With each reimbursement, the guarantee will be reduced accordingly.

SUB-CLAUSE 14.13 MATERIALS FOR PERMANENT WORKS

With respect to materials brought by the Contractor to the site for incorporation into the permanent works, the Contractor shall,
-Receive a credit in the month, in which these materials are brought to site,
-Be charged a debit in the month in which these materials are incorporated in the permanent works.

Both such credit and debit to be determined by the Engineer in accordance with the following provisions.

(a) No credit shall be given unless the following conditions shall have been met to the Engineer's satisfaction

(i) The materials are in accordance with the specifications for the works, manufacturer's test certificates must be submitted;

(ii) The materials have been delivered to site and are properly stored and protected against loss, damage or deterioration;

(iii) The Contractors record of the requirements, orders receipts and use of materials are kept in a form approved by the Engineer, and such records are available for inspection by the Engineer;

(iv) The Contractor has submitted a statement of his cost of acquiring and delivering the materials and plant to the Site, together with such documents as may be required for the purpose of evidencing such cost;

(v) The materials are to be used within a reasonable time.

(b) The amount to be credited to the Contractor shall not be more than 75% of the Contractor's reasonable cost of the materials delivered to site, as determined by the Engineer after review of the documents listed in subparagraphs (a) (iv) above;

(c) The amount to be debited to the Contractor for any materials incorporated into the works shall be equivalent to the credit previously granted to the Contractor for such materials pursuant to Clause (b) above as determined by the Engineer.

SUB-CLAUSE 17.3 – EMPLOYER'S RISKS

Delete Sub-Clause (h) and substitute with;

(h) Any operation of the forces of nature (insofar as it occurs on site) which an experienced contractor:

i. could not have reasonably foreseen, or
ii. could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures:
   A. prevent loss or damage to physical property from occurring by taking appropriate measures or
   B. insure against such loss or damage

SUB-CLAUSE 18.2 - INSURANCE OF WORKS AND CONTRACTOR 'S EQUIPMENT

Add the following words at the end of Sub-paragraph (a) and immediately before the last word of Sub-paragraph (b) of Sub-Clause 21.1:
"It being understood that such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred"

Delete the first sentence of this Clause and replace with the following:

"prior to commencement of the Works the Contractor shall, without limiting his or the Employer's obligations and responsibilities under Clause 20, insure to the satisfaction of the Employer:"

SUB-CLAUSE 18.2 – SCOPE OF COVER

Amend sub-paragraph (a) of Sub-Clause 18.2 as follows:
Delete words "from the start of work at the site" and substitute the words "from the first working day after the Commencement Date"

Add the following paragraph under Sub-Clause-Clause 18.2
"It shall be the responsibility of the Contractor to notify the insurance company of any change in the nature and extent of the Works and to ensure the adequacy of the insurance coverage at all times during the period of the Contract."

SUB-CLAUSE 18.4A - EXCLUSIONS

Add sub clause 18.4a of to read as follows:
"There shall be no obligation for the insurances in Sub-Clause 18.4 to include loss or damage caused by the risks listed under Sub-Clause 17.3."

SUB-CLAUSE 18.5 – INSURANCE NOTICES

Each policy of insurance effected by the Contractor for purposes of the Contract shall include a provision to the effect that the Insurer shall have a duty to give notice in writing to the Contractor and Employer of the date when a premium becomes payable. This shall not be more than thirty (30) days before that date and the policy shall remain in force until thirty (30) days after the giving of such notice.

SUB-CLAUSE 18.6 – NOTIFICATION TO INSURERS

It shall be the responsibility of the Contractor to notify insurers under any of the insurance referred to in the preceding clauses 21, 23 and 24 on any matter or event, which by the terms of such insurance are required to be so notified. The Contractor shall indemnify and keep indemnified the Employer against all losses, claims, demands, proceedings, costs, charges and expenses whatsoever arising out of or in consequence of any default by the Contractor in complying with the requirements of this Sub-Clause whether as a result of avoidance of such insurance or otherwise.

SUB-CLAUSE 20.5 – AMICABLE SETTLEMENT

Delete the entire sub-clause 20.5 and add the following;

"Where notice to of intention to commence adjudication as to a dispute has been given in accordance with sub-clause 20.1, the parties shall attempt to settle such dispute amicably before the commencement of Adjudication; provided that, unless the parties otherwise agree, Adjudication may be commenced on or after the 14th (fourteenth) day after the day on which

notice of intention to commence adjudication of such dispute was given, even if an attempt at amicable settlement thereto has been made."

SUB-CLAUSE 20.6 – ARBITRATION

Delete all the words from line 6 onwards beginning with the words "unless otherwise" up to line 8 ending with the words "… under such rules", and substitute with the following:
"by an arbitrator to be agreed upon between the parties or failing agreement to be nominated on the application of either party by the appointee designated in the Appendix to Form of Bid for the purpose and any such referee shall be deemed to be a submission to arbitration within the meaning of the Arbitration Laws of the Republic of Kenya.

CLAUSE 69 – DEFAULT OF EMPLOYER

Delete in Sub-Clause 69.1 (a) the words ("28 days") and insert the words "ninety (90) days".

Delete Sub-Clause 69.1 (c)

Delete in Sub-Clause 69.4 line 4 the words "(28 days)" and insert the words "sixty (60) days".

In Sub-Clause 69.4 add at the end of first paragraph the following "the period of such suspension shall be as agreed upon by both parties and in any case not more than six (6) months".

In Sub-clause 69.4 of General Conditions of Contract Part I, insert at the end -----"The amounts of such costs which shall be added to the Contract Price shall exclude any cost due to idle time for equipment, plant and labour."

CLAUSE 70 – CHANGES IN COST AND LEGISLATION

Delete Clause 70 in its entirety, and substitute:

SUB-CLAUSE 70.2- OTHER CHANGES IN COST

To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other clauses in the Contract, the unit rates and prices included in the Contract shall be deemed to include amounts to cover the contingency of such other rise or fall of costs.

SUB-CLAUSE 70.3-ADJUSTMENT FORMULAE

The adjustment to the Interim Payment Certificates in respect of changes in cost and legislation shall be determined from separate formulae for each of the currencies of payment and each of the types of construction work to be performed and Plant to be supplied. The formulae will be of the following general type:

$$pn = A + b\frac{Ln}{Lo} + c\frac{Mn}{Mo} + d\frac{En}{Eo} + etc.$$

Where:

pn is a price adjustment factor to be applied to the amount in each specific currency for the payment of the work carried out in the subject month, determined in accordance with Paragraph 60.1 (d), and with Paragraphs 60.1 (e) and (f), where such variations and daywork are not otherwise subject to adjustment;

A is a constant, specified in the Appendix to Bid, representing the nonadjustable portion in contractual payments;

b, c, d, etc., are weightings or coefficients representing the estimated proportion of each cost element (labour, materials, equipment usage, etc.) in the Works or sections thereof, net of Provisional Sums, as specified in the Appendix to Bid; the sum of A, b, c, d, etc., shall be one;

Ln, Mn, En, etc., are the current cost indices or reference prices of the cost elements in the specific currency of origin for month "**n,**" determined pursuant to Sub-Clause 70.5, applicable to each cost element; and

Lo, Mo, Eo, etc., are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 70.5.

If a price adjustment factor is applied to payments made in a currency other than the currency of the source of the index for a particular indexed input, a correction factor **Zo/Zn** will be applied to the respective component factor of **pn** for the formula of the relevant currency. **Zo** is the number of units of currency of the country of the index, equivalent to one unit of the currency of payment on the date of the base index, and **Zn** is the corresponding number of such currency units on the date of the current index.

SUB-CLAUSE 70.4- SOURCES OF INDICES AND WEIGHTINGS

The sources of indices shall be those listed in the Appendix to form of Bid, as approved by the Engineer. Indices shall be appropriate for their purpose and shall relate to the Contractor's proposed source of supply of inputs on the basis of which his Contract Price and expected foreign currency requirements shall have been computed. As the proposed basis for price adjustment, the Contractor shall have submitted with his bid the tabulation of Weightings and Source of Indices in the Appendix to Bid, which shall be subject to approval by the Engineer.

SUB-CLAUSE 70.5-BASE, CURRENT, AND PROVISIONAL INDICES

The base cost indices or prices shall be those prevailing on the day 28 days prior to the latest date for submission of bids. Current indices or prices shall be those prevailing on the day 28 days prior to the last day of the period to which a particular Interim Payment Certificate is related. If at any time the current indices are not available, provisional indices as determined by the Engineer will be used, subject to subsequent correction of the amounts paid to the Contractor when the current indices become available.

SUB-CLAUSE 70.6 - ADJUSTMENT AFTER COMPLETION

If the Contractor fails to complete the Works within the time for completion prescribed under Clause 43, adjustment of prices thereafter until the date of completion of the Works shall be made

using either the indices or prices relating to the prescribed time for completion, or the current indices or prices, whichever is more favourable to the Employer, provided that if an extension of time is granted pursuant to Clause 44, the above provision shall apply only to adjustments made after the expiry of such extension of time.

SUB-CLAUSE 70.7 - WEIGHTINGS

The weightings for each of the factors of cost given in the Appendix to Bid shall be adjusted if, in the opinion of the Engineer, they have been rendered unreasonable, unbalanced, or inapplicable as a result of varied or additional work already executed or instructed under Clause 51 or for any other reason.

SUB-CLAUSE 70.8 - SUBSEQUENT LEGISLATION

If, after the date 28 days prior to the latest date for submission of bids for the Contract, there occur in the country in which the Works are being or are to be executed changes to any National or State Statute, Ordinance, Decree, or other Law or any regulation or by-law of any local or other duly constituted authority, or the introduction of any such State Statute, Ordinance, Decree, Law, regulation, or by-law that causes additional or reduced cost to the Contractor, other than under the preceding sub-clauses of this clause, in the execution of the Contract, such additional or reduced cost shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be added to or deducted from the Contract Price and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same shall already have taken into account in the indexing of any inputs to the Price Adjustment Formulae in accordance with the provisions of Sub-Clauses 70.1 to 70.7.

CLAUSE 72 – RATES OF EXCHANGE COST

Delete clause 71 & 72 entirely and substitute the following:

The currency of BID and payment is Kenya Shillings and rates of exchange requirements are not applicable.

CLAUSE 73 – BRIBERY AND COLLUSION

Add new Clause 73.1:

"The Contractor shall not:

(a) Offer or give or agree to give to any person in the service of the Government of Kenya any gift or consideration or any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract to which the Government of Kenya is a party or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Government of Kenya.

(b) Enter into this or any other contract with the Government of Kenya in connection with which commission has been paid or agreed to be paid by or on his behalf or to his knowledge, unless before the contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

Any breach of this condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) or the commission of any offence by the Contractor or by anyone employed by him or acting on his behalf in relation to this or any other contract to which the Government of Kenya is a party shall entitle the Employer to determine the Contract (See Condition 63 hereof) and/ or to recover from the Contractor the amount or value of any such gift, consideration or commission.

Any dispute or difference of opinion arising in respect of either the interpretation, effect or application of this condition or of the amount recoverable hereunder by the Employer from the Contractor shall be decided by the Employer, whose decision shall be final and conclusive.

CLAUSE 74: - CONTRACT TO BE CONFIDENTIAL

Add new Clause 74.1:

The Contractor shall treat the details of this Contract as Private and Confidential and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere (save in so far as may be necessary for the purpose thereof) without the previous consent in writing of the Government. If any dispute arises as to the necessity of any publication or disclosures for the purposes of this Contract the same shall be referred to the decision of the Engineer mentioned in the said Conditions of Contract whose award shall be final.

SECTION 7: SCHEDULES OF SUPPLEMENTARY INFORMATION

SECTION 7: SCHEDULES OF SUPPLEMENTARY INFORMATION

SCHEDULE 1: CONFIDENTIAL BUSINESS QUESTIONAIRE..... 69

SCHEDULE 2: FORM OF WRITTEN POWER OF ATTORNEY..... 72

SCHEDULE 3: CERTIFICATE OF BIDDER'S VISIT TO SITE..... 73

SCHEDULE 4: SCHEDULE OF BASIC RATES OF MATERIALS..... 64

SCHEDULE 5: KEY PERSONNEL..... 75

SCHEDULE 6: SCHEDULE OF ROADWORKS CARRIED OUT BY THE BIDER IN THE LAST FIVE YEARS 76

SCHEDULE 7: SCHEDULE OF ONGOING PROJECTS..... 77

SCHEDULE 8: SCHEDULE OF LOCAL LABOUR BASIC RATES..... 72

SCHEDULE 9: FINANCIAL STANDING..... 73

SCHEDULE 10: OTHER SUPPLEMENTARY INFORMATION..... 80

SCHEDULE 11: WORK METHODOLOGY..... 75

SCHEDULE 12: DETAILS OF SUB-CONTRACTORS……..

SCHEDULE 1: CONFIDENTIAL BUSINESS QUESTIONAIRE

This Confidential Business Questionnaire of the Government of Kenya shall be completed by the Bidder.

REPUBLIC OF KENYA

CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a). 2(b) or 2(c) whichever applies to your type of business.
You are advised that it is a serious offence to give false information on this Form.

Part 1 - General:

Business name
.....

Location of business premises

.....

Plot No. .....Street/Road .....

Postal Address.....Tel No. .....

Nature of business.....

.....

Current Trade Licence No. .....Expiring date .....

Maximum value of business which you can handle at any one time:

Kshs.....

Name of your bankers.....

Branch.....

Are you an agent of the Kenya National Trading Corporation? YES/NO

Part 2(a) - Sole Proprietor:

Your name in full
.....

Age.....

Nationality .....Country of origin .....

*Citizenship details .....

Part 2(b) - Partnership:

Give details of partners as follows:

Name	Nationality	Citizenship Details*	Shares
1.....			
2.....			
3.....			
4.....			
5.....			

Part 2(c) - Registered Company:

Private or public .....

State the nominal and issued capital of the company-

Nominal Kshs. .....

Issued Kshs. .....

Give details of all directors as follows:

Name	Nationality	Citizenship Details*	Shares
1.....			
2.....			
3.....			
4.....			
5.....			

Part 2(d)- Interest in the Firm:
Is there any person / persons in the Kenya National Highways authority who has interest in this firm? Yes /No**

....
Date Signature of Bidder

* Attach proof of citizenship (Compulsory)
** Delete as necessary

SCHEDULE 2: FORM OF WRITTEN POWER OF ATTORNEY

The Bidder shall state here below the name(s) and address of his representative(s) who is/are authorized to receive on his behalf correspondence in connection with the Bid.

……..
(Name of Company Director in block letters)

……..
(Address of Company Director)

……..
(Signature of Company Director)

Alternate:

……..
(Name of Bidder's Representative in block letters) – **The Alternate, given Power of Attorney**.

……..
(Address of Bidder's Representative)

……..
(Signature of Bidder's Representative)

*To be filled by all Bidders.

SCHEDULE 3: CERTIFICATE OF BIDDER'S VISIT TO SITE

This is to certify that

[*Name/s*]…….

In the capacity of [*Designation*] ……

Being the authorized representative/Agent of [*Name of bidder*]

……

……

participated in the organised inspection visit of the site of the works for **PERIODIC**

MAINTANANCE OF ROADS IN ---------- WARD

held on……..day of……2019

Signed……..
(Employer's Representative)

……... ……..
(Name of Employer's Representative) (Designation)

NOTE: This form is to be completed at the time of the organized site visit. **The Employer's Representative will ascertain the qualifications of the Bidder's Representative in accordance with the instructions to bidders and reject inadequate represantation.**

SCHEDULE 4: SCHEDULE OF BASIC RATES OF MATERIALS

Bidders shall complete the blank section of this schedule only, and shall make no alterations to any item nor insert any additional materials. The prices inserted shall be those prevailing 30 days before submission of Bids and shall be quoted in Kenya shillings using the exchange rates specified in the Bidding Data. The prices shall be supported by bona fide quotations for use as provided in Clause 70.

ITEM NO	DESCRIPTION	COUNTRY OF ORIGIN	NAME OF SUPPLIER	UNIT	RATE KSHS.	CTS
1	Cut-back Bitumen MC 30in bulk			Litre		
2.	Cut-back Bitumen MC 30in drums			Litre		
3.	Cut-back Bitumen MC 3000 in bulk			Litre		
4.	Cut-back Bitumen MC 3000 in drums			Litre		
5.	Bitumen 80/100 in bulk			Kg		
6.	Bitumen 80/100 in drums			Kg		
7	Bitumen Emulsion K1-60 in bulk			Litre		
8.	Bitumen Emulsion K1-60 in drums			Litre		
9.	Petrol, Regular Grade			Litre		
10.	Petrol, Premium/ super Grade			Litre		
11	Automotive Diesel Fuel			Litre		
12.	Industrial Diesel Oil			Litre		
13.	Industrial Fuel Oil			Litre		
14.	Kerosene Fuel			Litre		
15.	Ordinary Portland Cement			Tonne		
16.	Flex beam Guardrail			Metre		
17	Gabion Mesh			M^2		
18	Reinforcing Steel			Tonne		
19	Lime			Tonne		

…… ……
(Signature of Tenderer) (Date)

SCHEDULE 5: KEY PERSONNEL

DESIGNATION	NAME	NATIONALITY	SUMMARY OF QUALIFICATIONS AND EXPERIENCE		
			Qualifications	General Experience (Yrs)	Relevant Experience (Yrs)
Headquarters Partner/Director or other key staff (give designation)					
Site Office Site Agent Deputy Site Agent/Site Engineer. Senior Foreman (Min. 2No.) Site Surveyor Materials Technologists **Other Key Staff** Foremen (i) Earthworks (ii) Bituminous works (iii) Concrete (iv) Pavement (v) Drainage					

Note: The Bidder shall list in this schedule the key personnel he will employ from the Contractor's headquarters and from the Contractor's site office to direct and execute the work together with their qualifications, experience, position held and nationality in accordance with Clause 15.2 and 16.3 of the Conditions of Contract Part II (where required, use separate sheets to add extra data for column 4). **Bidders shall attach signed and certified CVs of all key staff**.

I certify that the above information is correct.

…… ……
(Signature of Bidder) (Date)

SCHEDULE 6: SCHEDULE OF ROAD WORKS CARRIED OUT BY THE BIDDER IN THE LAST SEVEN YEARS

DESCRIPTION OF WORKS	NAME AND ADDRESS OF CLIENT	VALUE OF WORKS (KSHS) *	YEAR COMPLETED/REMARKS
A) Non-completed Works			
B) Completed Works			
C) Specific Construction Experience			

I certify that the above works were successfully carried out by me (the bidder).

…….. ……
(Signature of Bidder) (Date)

*Value in KShs using Central Bank of Kenya mean exchange rate at a reference date 28 days before date of BID opening.

SCHEDULE 7: SCHEDULE OF ONGOING PROJECTS

DESCRIPTION OF WORKS	NAME AND ADDRESS OF CLIENT	DATE OF COMMENCEMENT	DATE OF COMPLETION	VALUE OF WORKS (KSHS)	VALUE COMPLETED UP TO DATE %	PHYSICALLY COMPLETED UP TO DATE %

I certify that the above works are being carried out by me and that the above information is correct.

…… ……
(Signature of Bidder) (Date)

SCHEDULE 8: SCHEDULE OF LOCAL LABOUR BASIC RATES

The rates inserted in this schedule MAY be those used in determining changes in cost of local labour. Variations in prices will be determined in accordance with Clause 70 of the Conditions of Contract Part 2.

LABOUR CATEGORY	MONTH/SHIFT/HOUR	UNIT	RATE SHS

NOTE: Categories to be generally in accordance with those used by the Kenya Building Construction Engineering and Allied Trade Workers Union

I certify that the above information is correct.

……. ……..
Date Signature of Bidder

SCHEDULE 9: FINANCIAL STANDING

1 Submit copies of audited profit and loss statements and balance sheet for the last five calendar years and estimated projection for the next two years with certified English translation where appropriate.

2 Give turnover figures for each of the last five (5) financial years. Quote in millions and decimal thereof.

	Year	Year	Year	Year	Year
	Ksh.	Ksh.	Ksh.	Ksh.	Ksh.
Roadworks					
Other civil Engineering works					
Other (specify)					
Total					

SUMMARY OF ASSETS AND LIABILITIES OF THE AUDITED FINANCIAL STATEMENTS OF THE LAST THREE (3) FINANCIAL YEARS

	Year	Year	Year
	KShs.	KShs.	KShs.
1. Total Assets			
2. Current Assets			
3. Bank Credit Line Value			
4. Total Liabilities			
5. Current Liabilities			
6. Net Worth (1-4)			
7. Working capital (2+3-5)			

(a) Name/Address of Commercial Bank providing credit line (***Provide a certified copy of undertaking by the bank specific to this contract. Other out-dated and general letters will not be accepted***)

……

……

(b) Total amount of credit line KShs……

Attach certified copies of financial bank statements of the last three years.

Attach a certified copy of Undertaking of the Bank to providing the credit.

SCHEDULE 10: OTHER SUPPLEMENTARY INFORMATION

1. Financial reports for the last five years, balance sheets, profit and loss statements, auditors' reports etc. List them below and attach **certified** copies.

   ……

   ……

   ……

   ……

2. Evidence of access to financial resources to meet the qualification requirements. Cash in hand, lines of credit etc. List below and attach copies of supporting documents. (*see item 2 (a) of schedule 9 above*)

   ……

   ……

   ……

   ……

3. Name, address, telephone, telex, fax numbers of the Bidders Bankers who may provide reference if contacted by the Contracting Authority.

   ……

   ……

   ……

4. Information on current litigation in which the Bidder is involved. (please provide a sworn affidavit by Commissioner of Oaths)

OTHER PARTY (IES)	CAUSE OF DISPUTE	AMOUNT INVOLVED (KSHS)

I certify that the above information is correct.

……. ……..
Date Signature of Bidder

SCHEDULE 11: WORK METHODOLOGY

Give a brief description of how you intend to carry out the work including traffic management, quality assurance of works and any designs to be carried out by the Bidder, in not less than five (5) pages and not more than fifteen (15) pages.

SCHEDULE 12: DETAILS OF SUB – CONTRACTORS

If the bidder wishes to sublet any portion of the works under any heading, he must give below details of the sub – contractors he intends to employ for each portion.

Failure to comply with this requirement may invalidate the tender.

a) Portion of Works to be Sublet

…….....
.....
……..

Sub- Contractor's Experience of Similar Works Carried out in the Last Three Years with Contract Value.

…….

…….

…….

…….

…….

b) Portion of Works to be Sublet

…….....

.....

…….

Sub- Contractor's Experience of Similar Works Carried out in the Last Three Years with Contract Value.

…….
…….
…….
…….
…….

(Signature of Bidder) (Date)

SECTION 8: FORM OF AGREEMENT

SECTION 8: FORM OF AGREEMENT

THIS AGREEMENT is made on the …… day of ……. 20 …… between the the County Government of Bungoma of P. O. Box 437-50200 Bungoma, Kenya hereinafter called "the Employer" of the one part and …… …… …… …… …..…… …… ……...…….. hereinafter called "the Contractor" of the other part.

WHEREAS the Employer is desirous that certain works should be executed, viz.

PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD

and has accepted a Bid by the Contractor for the execution completion and maintenance of such works

NOW THIS AGREEMENT WITNESSETH as follows:

In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:

- The said BID dated ……...
- The Conditions of Contract
- The Standard and Special Specifications
- The Priced Bill of Quantities
- The Letter of Acceptance
- Schedules of Supplementary Information
- The Drawings
- Other documents as may be agreed and listed

All aforesaid documents are hereinafter referred to as "The Contract".

In consideration of the payment to be made by the Employer to the Contractor, the Contractor hereby covenants with the Employer to execute, complete and maintain the works in conformity in all respects with the provisions of The Contract.

The Employer hereby covenants to pay the Contractor in consideration of the execution, completion and maintenance of the works the Contract Price at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the parties hereto have caused their respective common seals to be hereto affixed (or have hereunto set their respective hands and seals) on the day and year first above written.

SIGNED AND DELIVERED

By the said Employer: ……..
(County Secretary, County Government of Bungoma)
For and on behalf of the said Employer.

In the presence of: ……..
(Name and Designation of Witness)

……..
(Signature of Witness)

……..
(Address of witness)

By the said Contractor: …….

In the presence of: ……..
(Name and Designation of Witness)

……..
(Signature of Witness)

……..
(Address of witness)

SECTION 9: FORMS OF PERFORMANCE BANK GUARANTEE AND ADVANCE PAYMENT GUARANTEE (UNCONDITIONAL)

PERFORMANCE BANK GUARANTEE

To

The County Secretary,
County Government of Bungoma,
P.O BOX 437, 50200,
BUNGOMA.

WHEREAS …… (hereinafter called "the Contractor")
has undertaken in pursuance of **TENDER NO.: ……..**

Dated ……..……to execute the **PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD**
,(hereinafter called the "Contract")

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified in the Appendix to Form of Bid as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of

Kshs…….(amount in figures)

Kshs.……..……

….……(amount in words)

and we undertake to make payment to you, upon your first written demand and without cavil or argument, any sum or sums within and up to the limits as aforesaid without your needing to prove or show grounds or reasons for the sum specified therein.

We hereby waive the necessity of you demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract Documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee and we hereby waive notice of any such change, addition or modification.

This Guarantee shall be valid until 28 days after issuing of the Taking Over Certificate.

SIGNATURE AND SEAL OF BANK ……

Name of Signatory……..

Name of bank……..

Address…….Date ……

BANK GUARANTEE FOR ADVANCE PAYMENT

To:

The Chief Officer,
Roads, Transport, Infrastructure and Public Works
P. O. Box 437 - 50200,
BUNGOMA

PERIODIC MAINTANANCE OF ROADS IN KAPKATENY WARD

CONTRACT NO. …….
Gentlemen:

In accordance with the provision of the Conditions of Contract, sub-clause 60.12 ("Advance

Payment") of the above mentioned contract,

……..
(hereinafter called the "Contractor") shall deposit with the County Government of Bungoma, a Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the contract in an amount equal to the amount of advance payment, i.e.

Kshs……..…….(amount in figures)

Kshs.……

….……(amount in words)

We, ……(Name of bank) as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to the County Government of Bungoma, on his first demand without whatsoever right of objection on our part and without his first claim to the contractor, in the amount not exceeding,

Kshs……..…….(amount in figures)

Kshs.……..……

….……(amount in words)

We further agree that no additions to or other modification of the terms of the Contract or of the Works to be performed there under or of the Contract documents which may be made between the Chief Officer – Roads, Transport, Infrastructure and Public Works, and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any change or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the contract until the Chief Officer – Roads, Transport, Infrastructure and Public Works, Bungoma, Kenya receives full payment of the same amount from the Contractor.

This guarantee shall be reduced pro rata with the deductions from the down payment made on the Interim Payment Certificates in Accordance with Sub–Clause 60.12 of the Conditions of Contract.

Any dispute over the interpretation of the conditions of this letter of Guarantee shall be subject to the Laws of the Republic of Kenya.

After expiry, this document shall be returned to us for cancellation.

SIGNATURE AND SEAL OF BANK:

……

Name of Signatory……..

Name of bank……..

Address…….Date.……

SECTION 10: STANDARD SPECIFICATIONS

SECTION 10: STANDARD SPECIFICATIONS

The Standard Specifications referred to in this document is the *Standard Specifications for Road and Bridge Construction, 1986 Edition* published by the Ministry of Transport and Communications. This document shall form part of The Contract

Work shall be carried out in accordance with the Standard Specification except as supplemented or revised in the Special Specification.

SECTION 11: SPECIAL SPECIFICATIONS

SECTION 11: SPECIAL SPECIFICATIONS

TABLE OF CONTENTS

SECTION 1 - GENERAL 97
100 SPECIAL SPECIFICATIONS. 97
101 LOCATION AND EXTENT OF SITE. 97
102 EXTENT OF CONTRACT. 97
103 CONTRACT DRAWINGS 98
104 PROGRAMME OF EXECUTION OF THE WORKS 98
105 ORDER OF EXECUTION OF WORKS 99
107 TAKING OVER CERTIFICATE 99
109 NOTICE OF OPERATIONS 99
111 NATIONAL SPECIFICATIONS 99
117 HEALTH, SAFETY AND ACCIDENTS 100
121 DIVERSION OF SERVICES 100
123 LIAISON WITH GOVERNMENT AND POLICE OFFICIALS 100
124 LAND FOR ALL CAMPS SITES AND FOR THE CONTRACTOR'S OWN PURPOSES, INCLUDING TEMPORARY WORKS. 100
128 STORAGE OF MATERIALS 101
129 TEST CERTIFICATES 102
130 PROGRESS PHOTOGRAPHS 102
131 SIGNBOARDS 102
132 HOUSING ACCOMMODATION FOR THE RESIDENT ENGINEER AND HIS STAFF, OFFICE AND LABORATORY INCLUDING FURNITURE 102
132.1 HOUSING AND ACCOMMODATION FOR THE ENGINEER'S SENIOR STAFF 102
132.2 HOUSING ACCOMMODATION FOR ENGINEER'S JUNIOR STAFF 102
132.3 LIST OF FURNITURE FOR ENGINEER'S STAFF HOUSES 104
132.4 ENGINEER'S MAIN OFFICE 105
132.5 ENGINEER'S LABORATORY AND SURVEY EQUIPMENT 109
132.9 MOBILE PHONES FOR ENGINEER'S STAFF AND OFFICE 112
133 TIME FOR ERECTION OF THE ENGINEER'S OFFICE AND LABORATORY 113
135 MAINTENANCE OF THE ENGINEER'S STAFF HOUSES, OFFICES LABORATORIES, FURNITURE AND EQUIPMENT 113
135.1 PROVISION OF MAINTENANCE AND SECURITY 113
137 ATTENDANCE UPON THE ENGINEER AND HIS STAFF 113
138 VEHICLES AND DRIVERS FOR THE ENGINEER AND HIS STAFF AND METHOD OF PAYMENT 114
139 RECEIPTED ACCOUNTS 115
140 PAYMENT OF OVERTIME FOR ENGINEER'S JUNIOR STAFF 115
141 MEASUREMENT AND PAYMENT 115
142 ENVIRONMENTAL PROTECTION 116
144 COPIES OF ORDERS AND REQUISITIONS 118
145 SHORTAGE OF BITUMEN AND OTHER MATERIALS 118
SECTION 2 - MATERIALS AND TESTING OF MATERIALS 119

205 SOILS AND GRAVEL 119
211 BITUMINOUS BINDERS 119
301 SETTING OUT 120
302 TOLERANCES 120
SECTION 4- SITE CLEARANCE AND TOP SOIL STRIPPING 121
401 SITE CLEARANCE 121
402 REMOVAL OF TOPSOIL 121
403 REMOVAL OF STRUCTURES, FENCES AND OBSTRUCTIONS 121
SECTION 5 - EARTHWORKS 122
504 PREPARATION PRIOR TO FORMING EMBANKMENT 122
505 CONSTRUCTION OF EMBANKMENTS 122
508 COMPACTION OF EARTHWORKS 122
509 MASS-HAUL DIAGRAM 123
511 BORROW PITS 123
515 SIDE DRAINS 123
517 MEASUREMENT AND PAYMENT 123
SECTION 6 - QUARRIES, BORROW PITS, STOCKPILES AND SPOIL AREAS 125
601 GENERAL 125
SECTION 7 - EXCAVATION AND FILLING FOR STRUCTURES 126
703 EXCAVATION OF FOUNDATIONS FOR STRUCTURES 126
707 BACKFILLING FOR STRUCTURES 126
709 EXCAVATIONS FOR RIVER TRAINING AND NEW WATER COURSES 126
710 STONE PITCHING 126
711 GABIONS 126
712 RIP-RAP PROTECTION WORK 127
714 BACKFILL BELOW STRUCTURES 127
SECTION 8 - CULVERTS AND DRAINAGE WORKS 128
804 EXCAVATION FOR CULVERTS AND DRAINAGE WORKS 128
805 EXCAVATION IN HARD MATERIAL 128
809 BEDDING AND LAYING OF PIPE CULVERTS 129
810 JOINTING CONCRETE PIPES 129
812 BACKFILLING OVER PIPE CULVERTS 129
814.1 SUBSOIL DRAINS 129
821 PEDESTRIAN SLABS OVER OPEN DRAINS 130
814.2 FILTER FABRIC TO SUBSOIL DRAINS 130
815 INVERT BLOCK DRAINS AND HALF ROUND CHANNELS 130
818 SCOUR CHECKS 130
SECTION 9 - PASSAGE OF TRAFFIC 131
901 SCOPE OF THE SECTION 131
903 MAINTENANCE OF EXISTING ROAD 131
904 CONSTRUCTION OF DEVIATIONS 131
906 PASSAGE OF TRAFFIC THROUGH THE WORKS 132
907 SIGNS, BARRIERS AND LIGHTS 132
909 ASSISTANCE TO PUBLIC 132

912 MEASUREMENT AND PAYMENT 133
SECTION 11 – SHOULDERS TO PAVEMENT 134
1101 GENERAL 134
SECTION 12 - NATURAL MATERIAL SUBBASE AND BASE 135
1201 GENERAL 122
1203 MATERIAL REQUIREMENTS 135
1209 MEASUREMENT AND PAYMENT 135
SECTION 13 - GRADED CRUSHED STONE SUBBASE AND BASE 136
1303 MATERIAL REQUIREMENTS 136
1304 CRUSHING, SCREENING AND MIXING 136
1305 TRANSPORTING GRADED CRUSHED STONE 136
1306 LAYING AND COMPACTING GRADED CRUSHED SUBBASE 136
1310 MEASUREMENT AND PAYMENT 136
SECTION 14 - CEMENT TREATED MATERIALS 137
1401 CEMENT TREATMENT 137
1409 PROTECTION AND CURING 137
SECTION 15 - BITUMINOUS SURFACE TREATMENTS 138
PART A - GENERAL 138
1501A GENERAL 138
PART B - PRIME COAT AND TACK COAT 138
1502B MATERIALS FOR PRIME COAT AND TACK COAT. 138
PART C – SURFACE DRESSING 139
1502C MATERIALS FOR SURFACE DRESSING 139
1503C SPRAY AND SPREAD RATES OF BITUMEN AND CHIPPINGS. 139
1505C PRECOATED CHIPPINGS 139
1511C MEASUREMENT AND PAYMENT 140
SECTION 16 - BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES 141
PART B – ASPHALT CONCRETE FOR SURFACING 141
1602B MATERIALS FOR ASPHALT CONCRETE 141
1603B GRADING REQUIREMENTS 141
1604B REQUIREMENTS FOR ASPHALT CONCRETE 141
1607B MEASUREMENT AND PAYMENT 142
PART C – DENSE BITUMEN MACADAM FOR BASE 143
1602C MATERIALS REQUIREMENTS 143
1603C GRADING REQUIREMENTS FOR DENSE BITUMEN MACADAM 143
1604C REQUIREMENTS FOR DENSE BITUMEN MACADAM 143
1605C MIXING AND LAYING DENSE BITUMEN MACADAM 143
1607C SEALING OF DENSE BITUMEN MACADAM 143
1608C MEASUREMENT AND PAYMENT 144
SECTION 17 - CONCRETE WORKS 145
1703 MATERIALS FOR CONCRETE 145
1704 DESIGN OF CONCRETE MIXES 145
1713 FINISHES ON UNFORMED SURFACES 145
1725 SURFACE FINISHES 145

1728 REINFORCEMENT FOR CONCRETE 145
1741 MEASUREMENT AND PAYMENT 145
SECTION 19 – STRUCTURAL STEEL WORK 146
1905 FABRICATION 146
1909 TRANSPORTATION AND HANDLING 146
1914 MEASUREMENT AND PAYMENT 146
SECTION 20 - ROAD FURNITURE 147
2001 ROAD RESERVE BOUNDARY POSTS 147
2003 EDGE MARKER POSTS 147
2004 PERMANENT ROAD SIGNS 147
2004B EXISTING ROAD SIGNS 147
2005 ROAD MARKING 147
2006 GUARDRAILS 148
2007 KERBS 148
2008 KILOMETRE MARKER POSTS 148
2012 BOLLARDS 148
2013 RETRO-REFLECTIVE ROAD STUDS “cat eyes” 148
SECTION 21 – MISCELLANEOUS BRIDGE WORKS ..... Error! Bookmark not defined.
2102 BRIDGE BEARINGS ..... **Error! Bookmark not defined.**
2103 MOVEMENT JOINTS AND SEALANTS ..... **Error! Bookmark not defined.**
2104 PIPE HANDRAILS TO BRIDGES ..... **Error! Bookmark not defined.**
2105 GUARDRAILS TO BRIDGES ..... **Error! Bookmark not defined.**
2106 SURFACING TO BRIDGES ..... **Error! Bookmark not defined.**
SECTION 22-DAYWORKS 150
2202 MEASUREMENTS AND PAYMENT 150
SECTION 25 - HIV/AIDS, GENDER ISSUES, SOCIAL ISSUES AND LOCAL PARTICIPATION 151
2501 SCOPE 151
2502 INTERPRETATION AND DOCUMENTATION 151
2503 GENERAL REQUIREMENTS 151
2504 MEASUREMENT AND PAYMENT 155

SECTION 1 - GENERAL

100 SPECIAL SPECIFICATIONS.

Special specification is supplementary to the Standard Specifications and the two must be read in conjunction. In any case where there appears to be conflict between the two then the Special Specifications will take precedence.

When the term "Period of Maintenance" has been used in the Standard Specifications, it shall be changed to "Defects Liability Period".

101 LOCATION AND EXTENT OF SITE.

The project roads is approximately ***1.0 Km*** long.

102 EXTENT OF CONTRACT.

The works to be executed under the contract shall comprise mainly but are not limited to the following:

a) Provision of supervisory services
b) **Site clearance** and top soil removal
c) **Earthworks**
d) **Pavement Reconstruction as follows:**
- i) Preparation of the original ground surface to receive the earthworks.
- ii) Preparation of the sub-grade to receive the pavement layers with benching to widen the road.
- iii) Provision and laying of cement improved gravel as instructed for sub-base and base
- iv) Provision and Laying Concrete Paving Blocks

e) **Drainage and Protection works shall be as follows:**
- Remove existing inadequate and defective cross and access culverts, inlets and outlet structures and replace as directed by the Engineer.
- Construction of pipe culverts, headwalls, wing walls and aprons to culverts.
- Construction of side and mitre drains to the whole road including improvement of other drainage and soil erosion protection works.
- The side ditch shall be trapezoidal with its invert level being at least 0.6m below the road formation level
- Carry out protection works (scour checks, stone pitching and closed lined drains) as directed by the Engineer.
- Carry out any miscellaneous works that is not included above but may be deemed necessary by the Engineer for the execution and completion of the works.

f) **Road Furniture**
- Provide and erect all the road signs and markings as directed by the Engineer.
- Provide, lay and joint raised kerbs, precast concrete channels and invert block drains as directed by the Engineer.

g) Maintenance of passage of traffic through and around the works
h) Any other activity not listed above but may be deemed necessary and instructed by the Engineer.
i) Maintenance of the works during the construction period. The defects liability period shall be 6 months.
j) Rehabilitation of borrow pits.

103 CONTRACT DRAWINGS

Contract drawings have been bound in a book of drawings accompanying these Contract Documents as a separate volume. Additional copies of these drawings that may be required by the Contractor can be obtained from the Engineer, in which case the Contractor will be required to reimburse the cost of producing such additional copies.

The Engineer may from time to time, in order to enable the satisfactory completion of the works, revise, amend or supersede any of these drawings. It shall be the Contractor's responsibility to construct all works in conformity with the latest revision, amendment or superseding drawings, provided that the Engineer has given to the Contractor in writing such reasonable prior notices of intention to revise, amend or supersede as the nature of the intended change requires, and the relevant drawings have been issued to the Contractor.

The changed drawings shall entitle the Contractor such reasonable additional payments as provided for in the Contract, including any abortive work carried out by the Contractor prior to notice of intent to undertake changes having been given. The Contractor may be required to demolish, alter and/or correctly rebuild at his own expense any part of the Works not in conformity with the current drawings issued to him within a reasonable prior notice.

Documents
The following manuals that are important and relevant to the contract, will not be issued with the tender documents but will be available for inspection during normal working hours at the offices of the Chief Officer Roads and Resident Engineer (Design and Construction), County Government of Bungoma, P.O. Box 437 - 50200, Bungoma, Kenya.

Road Design Manual:
Part 1: Geometric Design of Rural Roads
Part 3: Materials and Pavement Design for New Roads

Manual for Traffic Signs:
Part 1: Road Markings
Part 2: Traffic Signs.

104 PROGRAMME OF EXECUTION OF THE WORKS

The contractor shall provide the works programme, required under clause 14 of the Conditions of Contract, within 14 days of receipt of the Engineer's Order to commence work.

The programme shall be co-ordinated with climatic and other conditions to provide for the completion of the works in the order and by the time specified.

The Contractor shall carry out the contract in accordance with the programme agreed with the Engineer, but he shall in no manner be relieved by the Engineer's approval of the programme, of his obligation to complete the works in the prescribed order and by the prescribed completion date and he shall from time to time review his progress and make such amendments to his rate of execution of the works as may be necessary to fulfil his obligations.

The Contractor shall allow in his programme for construction of trial sections and carrying out tests upon them as directed by the Engineer in accordance with the provisions of Clause 129 of the Standard Specification. The time for completion of the Contract shall not be extended because of the time taken to carry out tests and evaluate trial sections.

105 ORDER OF EXECUTION OF WORKS

In addition to Clause 105 of the Standard Specification, the Contractor shall carry out the Works such that a continuous and consecutive output of fully completed work is achieved.

107 TAKING OVER CERTIFICATE

The minimum length of the road for which a certificate will be issued is the whole length of the project road when substantially completed.

109 NOTICE OF OPERATIONS

Add the following sub- Clause.

Notification Terms

It shall be the Contractor’s responsibility to notify the Engineer when any item of works scheduled are completed and ready for approval, and the contractor shall give sufficient notice to allow control test to be performed.

Explosive and Blasting

(a) The requirements of the Laws of Kenya governing explosives and other requirements and regulations of Government of Kenya and other authorities shall be complied with.
(b) No explosives of any kind shall be used without prior written consent of the Engineer.
(c) The Contractor shall be solely responsible for the provision, handling, storage and transporting of all explosives, ancillary materials and all other items of related kind whatsoever required for blasting.

111 NATIONAL SPECIFICATIONS

Add the following at the end of this clause

"The Contractor shall provide all such specifications not more than 60 days after commencement of contract and at least 14 days before the execution of work to which the specification is applicable."

117 HEALTH, SAFETY AND ACCIDENTS

Add the following:

In addition to providing, equipping and maintaining adequate first aid stations throughout the works in accordance with the laws of Kenya, the contractor shall provide and maintain on site during the duration of the Contract, a fully equipped dispensary. This shall be with a qualified Clinical Officer / Nurse who shall offer the necessary medical advice on HIV and related diseases to the Engineer's and Contractor's Site staff. The Contractor shall allow for this in the rates and be responsible for all site welfare arrangements at his own cost.

121 DIVERSION OF SERVICES

(a) The Contractor shall acquaint himself with the location of all existing services such as telephone lines, electricity cables, water pipes, sewers etc., before execution of any works that may affect the services. The cost of determining the location of the existing services together with making good or repairing of any damage caused all to the satisfaction of the Engineer shall be included in the BID rates.
(b) Subject to the agreement with the Engineer, the Contractor shall be responsible for removal of alteration and relocation of existing services.
(c) The Contractor shall indemnify the Employer against claims originating from damage to existing services or works.

123 LIAISON WITH GOVERNMENT AND POLICE OFFICIALS

The Contractor shall keep in close touch with the Police and the other Government officials of the area regarding their requirements in the control of traffic, or other matters, and shall provide all assistance or facilities, which may be required by such officials in the execution of their duties.

124 LAND FOR ALL CAMPS SITES AND FOR THE CONTRACTOR'S OWN PURPOSES, INCLUDING TEMPORARY WORKS.

Notwithstanding Clause 124 of the Standard Specification all requirements of land for temporary works and construction purposes shall be to the approval of the Engineer but the Contractor will make all necessary arrangements with the property owners concerned and pay all charges arising there from. On or before completion of the Contract, the Contractor shall remove all temporary works and shall restore all such land to the condition in which it was immediately prior to the occupation thereof as far as is reasonable and practicable. No separate payment will be made to the Contractor on account of these items and the Contractor must make due allowance for them in his rates.

Notwithstanding Clause 120 of the Standard Specifications, the Contractor shall be required to appoint competent surveyors who will liaise with the Engineer on

matters related to the demarcation of the existing road reserve, site measurements, removal and reinstatement of existing services.

127 INFORMATION FROM EXPLORATORY BORINGS AND TEST PITS

Omit the content of Clause 127 and substitute the following Sub-Clauses: -

127.1 Factual Materials Report

The Factual Materials Report for this Contract does not form part of the Contract Documents. However, the Report will be made available for the Contractor's information only, and any conclusions on issues such as suitability of materials, location of borrow pits, material quantities etc., made by the Contractor on basis of the Factual Materials Report, will be at his own risk.

127.2 Trial Sections

The Contractor shall allow in his programme for constructing trial sections and carrying out tests upon them as directed by the Engineer. Trials would normally be required at the start of each pavement layer and if changes of materials, method or equipment deem it necessary as directed by the Engineer.

The time for completion of the Contract shall not be extended because of the time needed to construct trial sections and evaluate the tests on them.

At least fourteen days before the work of laying any pavement layer is commenced, the contractor shall construct trial sections of at least 100 m in length and to the full construction width and the specified pavement layer thickness. For each trial section, the Contractor shall use the materials, mix proportions, mixing, laying, compaction plants and construction procedure that he proposes to use for the main work. The main work of laying the pavement layer shall not be commenced until this trial has been tested and approved by the Engineer.

No variation in the construction procedure, mix proportions, size, grading or source of any of the constituents shall be made without the agreement of the Engineer who may first require new trial sections to be carried out.

Trial sections, if found satisfactory, will be paid for under the rates in the Bill of Quantities for the appropriate items, as if the trial sections were part of the normal work. No separate payment will be made for trial sections and testing and the Contractor shall be deemed to have provided for this in his rates.

The Contractor shall make good, at his own expense, any trial sections that fail to meet the specified standards. The standards shall include, but not be limited to, material quality, layer thickness, levels and compaction.

128 STORAGE OF MATERIALS

All materials shall be stored on Site in a manner approved by the Engineer and the Contractor shall carefully protect from the weather all work and materials which may be affected thereby.

129 TEST CERTIFICATES

When instructed by the Engineer the Contractor shall submit certificates of test from the suppliers of materials and goods required in connection with the works as the Engineer may require.

Such certificates shall certify that the materials or goods concerned have been tested in accordance with the requirements of the specifications and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the materials and goods delivered to the site with the corresponding certificates.

130 PROGRESS PHOTOGRAPHS

Notwithstanding the provision of Clause 130 of the Standard Specifications, the Contractor shall not be responsible for taking of progress photographs. Progress Photographs shall be taken by the Engineer's Representative and relevant costs charged to the Contractor who will be reimbursed under Miscellaneous Accounts.

131 SIGNBOARDS

The Contractor shall provide and erect **two (2)** publicity signboards on the site as directed. The Engineer shall, as shown in the Drawings, direct the minimum dimensions of the boards. The signs shall be printed reflective Vinyl Stickers on galvanised steel plates min 350mm high. Posts shall be galvanised steel. Main headings lettering shall be Yellow and min 80mm high, while subheadings lettering shall be White and min 60mm high as per the drawings.

132 HOUSING ACCOMMODATION FOR THE RESIDENT ENGINEER AND HIS STAFF, OFFICE AND LABORATORY INCLUDING FURNITURE

132.1 HOUSING AND ACCOMMODATION FOR THE ENGINEER'S SENIOR STAFF

The contractor shall be instructed by the Engineer to provide accommodation for the Engineer's site staff. This staff will generally comprise the following;

Designation	**Number**
Resident Engineer	1
Assistant Resident Engineer	1
Materials Engineer	1
Senior Surveyor	1

The Contractor shall provide and maintain furnished houses equivalent to Types I & II of the Ministry of Roads and Public Works Standards (one for type I and three for type II) for the Engineer's senior staff. The Engineer's senior staff housing shall be separate from the Contractor's staff housing and shall be sited in a locality approved by the Engineer.

132.2 HOUSING ACCOMMODATION FOR ENGINEER'S JUNIOR STAFF

The Contractor shall provide and maintain furnished houses equivalent to Types III & IV of the Ministry of Roads and Public Works standards (5 No. Type III and 7 No. Type IV). The houses for the Engineer's junior staff shall be located in an area to be approved by the Engineer.

This staff will generally comprise the following;

Designation	**Number**
Senior Roads Inspectors	2
Senior Materials Technologist	1
Roads Inspectors	0
Materials Technologists	2
Survey Assistants/leveller	2
Draughtsman	1
Secretary/typist/clerks	2

132.3 LIST OF FURNITURE FOR ENGINEER'S STAFF HOUSES

Each house shall be provided with new furniture, equipment and fittings to the approval of the Engineer as listed below respectively:

All the houses and furniture mentioned above shall revert to the contractor after the completion of the contract.

Payments shall be made under the relevant provisions in the Bills of Quantities.

Item Description	Quantity per House Type			
	Type I	Type II	Type III	Type IV
Double Bed (5x6) with "Slumberland" Mattress	1	1	0	0
Single Bed (3 ½ x 6) with "Slumberland" Mattress	4	3	3	2
Dressing table with mirror and stool	1	1	0	0
Chest of 5No. drawers with mirror	2	2	2	1
Wardrobe (movable)	3	3	2	1
Resident table	5	4	3	2
Bedroom chair	4	3	2	1
600mm x 450mm high medicine cabinet with mirror	1	1	1	0
Bathroom stool	1	1	0	0
Towel Rail	1	1	1	1
Dining Table (2m x 1m approx.)	1	1	1	1
Dining Chairs	6	6	5	4
Side Board	1	1	1	1
3-piece lounge chairs	1	1	1	0
Armchair with cushions	4	3	2	1
Coffee table 40 x 45cm high	1	1	1	0
Occasional tables, 70x70x45 cm high	3	2	1	0
Book case (2m long with 3 shelves)	1	1	1	0
Writing Desk with chair	1	1	1	1
Kitchen shelves (per sq. m)	2	2	1	1
Kitchen table (2m x 0.8m approx.)	1	1	1	0
Kitchen chair	5	4	3	1
Refrigerator (at least 19 cu.ft.) including a freeze Compartment of about 3 cu.ft. capacity	1	1	0	0
Refrigerator (at least 7 cu.ft) including a freezer compartment	0	0	1	1
Cold water storage tank of at least 400 L capacity	1	1	1	1
Water filter at least 15 L capacity	2	2	1	1
Table lamps	5	4	2	1
Electric fan	2	2	1	1

Gas or Electric hot water unit for kitchen	1	1	1	0
Gas or Electric hot water unit for bathroom	1	1	1	0
Electric & Gas cooker with 4 burners, a grill and an oven	1	1	0	0
Electric cooker 2 elements	0	0	1	1
Primus stove	0	0	1	1
Pressure paraffin lamp	3	2	2	2
Dustbin	1	1	1	1
Waste paper basket	4	4	2	1
Fire extinguisher at least 9L capacity	1	1	1	1
Air conditioner unit (medium size)	3	3	2	0
2m x 1.5m high curtain with lining	9	9	4	0
1m x 1.5m high curtain with lining	3	3	6	16

132.4 ENGINEER'S MAIN OFFICE

The contractor shall provide a furnished and equipped main office of plan area not smaller than 155 metre square that is equivalent of the MORPW Standard Resident Engineer's Office. This office shall be of weatherproof construction, provided with mosquito proof and burglar-proof windows and lockable doors and suitably insulated against heat and cold, fitted with air conditioning units, all to the satisfaction of the Engineer. The room to be occupied by the Engineer's Representative and its front office shall be provided with a floor carpet to be approved by the Engineer. All other floors shall be given a PVC tile finish using approved adhesive including 150mm wood skirting or superior finish. The windows shall be fitted with curtains and blinders.

A telephone shall also be provided for the Resident Engineer's office for his exclusive use. All the charges and fees related to the installation, maintenance and operation of the telephone including provision of internet services shall be deemed to have been included in the rates for providing and maintaining the Main Office.

The offices shall be provided with day and night watchmen and security lights, the cost of which shall be deemed to have been included in the rates for the offices.

The office for the Resident Engineer shall be completely separate from that of the Contractor.

Latrines and washrooms graded to staff seniority, together with a drinkable water supply and waterborne sewage disposal shall be provided for the office. The Contractor shall also provide 24 hours a day security and electricity supply to the offices and shall allow for any water and electricity consumed and for any statutory charges associated.

Measurement and payment for the Engineers office and laboratory shall be as specified in the standard specifications. The rate inserted for provision of the main office shall include the cost of complying with the requirements of clauses 117, 124, 125, 132, 133, 134, 135, 136 and 137 of the standard specifications. The office building shall revert to the Contractor at the end of the project.

The Contractor may be instructed by the Engineer under clause 58 of the General Conditions of Contract to make payments of general receipted accounts for such items as stationery, stores, furniture and equipment, claims and allowances for supervision personnel and any miscellaneous claims or the Engineer may direct the Contractor to purchase or pay for the above. The Contractor will, on provision of receipts, be paid under appropriate bill items in the BoQ.

The Contractor, when instructed, shall provide and install at the Engineer's office the Equipment specified below with a dealer's certificate and warranty:

a) <u>Photocopying Machine</u> 1No.

Digital copier with the following minimum specifications:

- ✓ Color: Black & white and colored
- ✓ Copy Speed A4: 41 - 50 PPM
- ✓ Print Speed A3: 15 PPM
- ✓ Resolution: 600 x 600 dpi
- ✓ 2 x 500 sheet paper cassettes Standard
- ✓ 200 sheets Multipurpose bypass Standard
- ✓ Copier Memory 512MB Standard (Max 1GB) + 80 GB Standard
- ✓ Printer Memory 512MB Standard (Max 1GB) + 80 GB Shared with copier
- ✓ 25%- 400% Zoom
- ✓ Paper size A6 – A3
- ✓ Recommended monthly volume 6000 copies
- ✓ Type: Desktop

(b) <u>Personal Computer (PC)</u> 2 No.

The rate inserted for the PCs shall include for the provision of the UPS, a Printer and the software specified below for each PC.

1. Processor	Intel Core i5 - 3.2GHZ or higher
2. RAM	DDR SDRAM 1GHz speed, 4GB (minimum)
4. Hard Disk	SATA, Min 300 GB, and Min 7200 RPM
5. Display	17" TFT Colour SVGA with NVidia or Radeon graphics accelerator with min 1GB video RAM
6. Motherboard FSB speed: 1GHz	
8. Expansion slots	4No.
9. Ports	6 USB ports (minimum)
10. Operating system	Windows 7 or XP Professional
11. Fully multimedia	4 speed CD ROM 52X (minimum) with sound card and two external speakers 10W minimum.
12. Network card	3Com or Compaq, and Wi-Fi
13. TV/FM CARD	

14. Blu-Ray Drive, not anything less than DVD superdrive
15. Three years warranty
16. Dedicated Sound Card: SoundBlaster

(c) <u>Laptop</u> 3No.

The rate inserted for the Laptop shall include for the provision of a Printer and the software specified below for each laptop.

1. Processor **Intel Core i7** or higher
2. RAM DDR SDRAM 1GHz speed, 16GB (minimum)
3. Disk Cache 1024 MB (minimum)
4. Double Hard Disk SATA, Min 300 GB, and Min 7200 RPM
5. Display 17" TFT Colour SVGA with NVidia or Radeon graphics accelerator with min 2GB video RAM
6. Keyboard 101 Keyboard
7. Floppy drive 3.5" disk drives (either in-built or external)
8. Expansion slots 4No.
9. Ports 4 USB ports (minimum)
10. Operating system Windows 7 or XP Professional
11. Fully multimedia integrated sound card and two external speakers 400W minimum.
12. Network card 3Com or Compaq, Wi-Fi
13. TV/FM CARD
14. Blu-Ray Drive, not anything less than DVD superdrive
15. Three years warranty
16. Battery life: min 6 hours
17. Screen resolution: 1280x800
18. Video Card: Intel GMA 450MDH or better
19. Built-in webcam min 2MP
20. Windscreen
21. Memory card reader 7-in-1

Laser jet Printer specifications

1. Speed 20ppm
2. Memory 32MB expandable to 80MB
3. Resolution 1200Xx1200dpi
4. Compatibility MS Windows 95/98/2000/XP/Vista
5. Power input 220-240V
6. Paper size A6 – A4 (A3 for 1No. printer)

1No. Laptop shall be supplied with a printer capable of printing in A3 paper size. While the rest PCs and laptops to be supplied with A4 LaserJet printers of model Hp2050 or better approved.

UPS specifications

1. Rating 650 VAC (minimum)
2. Input Voltage 220-240V (minimum)
3. Output 220-240V (minimum)

4. Output frequency	50-60HZ
5. Battery module	minimum 60 minutes backup time on 50% rated a. Sealed Lead-acid b. Short recharge time (max. 5 hours for 100%)
6. Protection	Output overload Input output short-circuit

Software

1. Microsoft Office 2007 Professional or later with licence
2. Autodesk Civil3D 2010 or later
3. Antivirus: McAfee Virus Scan Professional (Latest Version)

Prior to purchase of the computers, laptops and printers, the contractor shall submit the specifications of the same to the Engineer for approval. The Personal Computers, Laptops, printers, UPSs and Photocopying Machine shall revert to the Employer at the end of the Contract. The contractor shall be paid for these items under appropriate bill items in the BoQ.

LIST OF FURNITURE FOR ENGINEER'S OFFICE

ITEM	DESCRIPTION	No.
1	Executive office desk	2
2	Executive office chair	2
3	Conference table 12 seater	1
4	Standard office desk 3x2 lockable drawers	3
5	Standard office chairs	3
6	Office desks 3x1 lockable drawers	3
7	Office chairs	22
8	Office desks 3x1 drawers	9
10	Filing cabinets 6 drawers	8
11	Filing cabinets 4 drawers	3
12	Curtains	As applicable
13	Office cupboard	3
14	Water Filter	1
15	Water dispenser (hot and cold)	1
16	Dust bins	6
17	Stapling machine (ofrex) and pins	3
18	Paper punch	3
19	Scientific calculator (fx 992s)	6
20	Fully equipped first Aid Kit	2
21	Electric heater fans	4
22	Wall clocks battery powered	4
23	Filing trays	12
24	Waste paper baskets	4

All furniture and equipment bought under the Contract shall revert to the Employer. Payment for provision of the office **including the furniture** shall be paid against the appropriate bill items in the BOQ.

132.5 ENGINEER'S LABORATORY AND SURVEY EQUIPMENT

The Contractor shall provide and maintain for the duration of the contract the Engineer's laboratory as shown in the Book of Drawings and provide all the laboratory equipment, reagents and survey equipment as required by the Engineer. The Contractor shall be paid under appropriate bill items in the Bills of Quantities or on provision of receipts as required by the Engineer.

The laboratory shall be sited adjacent to the Resident Engineer's main office and shall revert to the contractor at the end of the contract.

The laboratory shall have piped potable water supply and a continuous electricity supply adequate for lighting, heating and operating the laboratory equipment.

The laboratory shall have a height from floor to ceiling of not less than 2.75 metres and all rooms shall be fitted with electric lighting and power points as instructed by the Engineer's Representative, and each door shall be fitted with a good quality mortise lock and provide with two keys.

Soaking tanks for CBR specimens shall be provided at floor level in the laboratory. Concrete cube curing tanks of adequate size shall also be provided. Both the CBR tanks and concrete cube curing shall have drainage pipes built-in.

The following rooms and facilities shall be provided in the Laboratory:-

(i) Office

This room shall have a total floor area of not less than 14 square metres and a total window area of not less than 2 square meters. The door and windows shall be fitted with fly screens covered with mosquito gauze. The floor shall be of concrete with a float finish. The walls shall be lined and ceiling provided.

A display board of soft board or similar approved material, with a minimum surface area of 3 square metres shall be provided and securely fixed to the wall.

(ii) Main Laboratory

This room shall have a total area of not less than 55 square meters and a total window area of not less than 7 square metres. The external entrance shall be a double door and single doors shall be provided for access to the adjacent offices. The external door and all windows shall be fitted with fly screens covered with mosquito gauze.

The floor shall be of concrete and float finished. The room shall be fitted out as indicated by the Engineer's Representative with three rigidly constructed work benches each minimum 2 metres long by 1 metre wide by 1 metre high and with top comprising either metal lined hard wood or steel float finished concrete at least 75mm thick and suitably reinforced, with a sink minimum size 600mm long by 450mm wide by 300mm deep fitted with a tap and waste pipe. Wall shelves, 450mm in width and having a surface area of at least 6 square metres, shall be provided and securely fitted.

Two display boards of soft board or similar approved material, each with minimum area of 3 square metres, shall be securely affixed to the walls as directed by the Engineer's Representative.

(iii) Small Laboratory Room

This room shall have a total floor area of not less than 20 square metres and a total window area of not less than 2 square metres. The windows shall be fitted with fly screens covered with mosquito gauze. A single door shall provide access to the main laboratory room. The floor shall be fitted out as indicated by the Engineer's Representative with two rigidly constructed work benches each of minimum dimensions 2 metres long by 1 metre wide by 1 metre high with a top comprising either metal lined hardwood or a steel float concrete finish of at least 75mm thickness and suitably reinforced, with a sink of minimum size 600mm long by 450mm wide by 300mm deep fitted with a tap and waste pipe and concreted to the water supply for the main laboratory room. An approved air extractor fan shall be fitted through an outside wall.

(iv) Store Rooms

These rooms having a total floor area of not less than 20 square metres shall be provided adjacent to the main laboratory building in a position to be indicated by the Engineer's Representative.

(v) Concrete Slab for Sample Drying

A reinforced concrete slab 100mm thick and of total area not less than 20 square metres shall be provided adjacent to the main laboratory building in a position to be indicated by the Engineer's Representative. The slab shall have a smooth finish to the satisfaction of the Engineer.

The laboratory equipment would include:

Stop Clock	2No.
Shovel	10No.
Metal Scoop	6No.

Hammer	2No.
Palette Knife 100mm long (blade)	6No.
Palette Knife 200mm long (blade)	6No.
Measuring Cylinder	8No.
Mercury thermometer range 0° - 150°c	2No.
Laboratory thermometer range up to 250°c	2No.
Rain Gauge	2No.
Digital thermometer	2No.
Air thermometer	1No.
Probe thermometer range 0°c - 360°c minimum	
Length 750mm dial 100mm complete with handle	2No.
Cotton waste in Kg	10No.
Karais (juakali)	3No.
Padlock	2No.
Scientific Calculator fx-992s	2No.
30m tape measure linen	3No.
Jerrycan 20 litres capacity	2No.
Pair of gloves (asbestos)	6No.
Spatulas	2No.
Paper punch	1No.
Stapler (Ofrex) and pins	1No.
Wood ruler	4No.
Tray lifting callipers	4No.
A4 Clipboards with clips	8No.
Moisture content bottles	20No.
Moisture content pans	20No.
Sieve brushes	4No.
Dustpan brush	4No.
Chisel (cold)	4No.
Laboratory Dust coats	16No.
Laboratory gumboots pairs	20No.
Safari boots	8No.
Heavy-duty plastic bags 24 x 16 x 500g	150No.
Small moisture plastic bags	100No.
Sieves (assorted)	10No.

Reagents

Sodium Hexametaphosphate500g container	1No.
Turpentine 500g	1No.
Tricholoroethane 200 litres container	1No.
Dichloromethane 200 litres container	2No.

It shall also be the Contractor's obligation to replenish consumables.

The survey equipment to be provided would include:

1. Engineer's automatic level Wild NAK 2 or similar	2No
2.Total station reading 1'' with tripod and setting on pole with data logger and survey software to match Total Station Data logger. Include data transfer program, and plotting modes, setting out calculations and Cogo facilities	1No

3. Levelling staff 5m. with levelling bubble Wild GNLE or similar	4No
4. 50m. steel band measuring tape	2No
5. 30m. linen measuring tape	2No.
6. 3m. aluminium straight edge	2No
7. 1m. stainless steel straight edge	1No
8. 100m. steel band tape	2No.
9. Draughtsman's stool	2No.
10. Complete set of highway curves	1No
11. Programmable scientific calculators FX 880P or equivalent	4No
12. Survey umbrella	2No.
13. Roll of tracing paper	10No
14. Protractor 360	2No
15. Graph paper A3 size	100No
16. Drawing table	2No.
17. Erasing shield	4No.
18. 3m. ranging rods	9No
19. Marker pens	30No.

The contractor may be directed to pay for stationery, equipment or reagents that are foresaid and also pay for servicing and repair of the laboratory equipment being used on the project.

The equipment shall be of approved manufacture, and shall be made available to the Engineer for the Engineer's exclusive use throughout the Contract, not later than three (3) weeks after the Engineer's order to supply. All equipment shall be ready to use and complete to perform the tests. The equipment shall revert to the Employer on completion of the Contract

Any delays to the Contractor or the Contractor's activities caused by the Engineer being unable to perform survey work, field or laboratory tests due to the contractor's failure to supply and/or maintain the said equipment shall be deemed to have been caused entirely by the Contractors own actions, and any consequences of such delays shall be interpreted as such.

The payment to comply with this requirement is provided in the Bill of Quantities and ownership of all equipment shall revert to the Employer after completion of the Works.

Failure by the Contractor to provide or maintain the equipment shall make him responsible to bear all costs that may be incurred as a result of the Engineer's staff using alternative means of communication, including delays in supervision and approval of Works by the Engineer.

132.9 MOBILE PHONES FOR ENGINEER'S STAFF AND OFFICE

The Contractor shall, if so instructed by the Engineer provide, connect and maintain mobile phones for the exclusive use by the Engineer and for the duration of the contract. The Contractor shall provide air-time for these mobile phones as directed by the Engineer and be reimbursed under appropriate items in the Bills of Quantities.

133 TIME FOR ERECTION OF THE ENGINEER'S OFFICE AND LABORATORY

As per standard Specifications

135 MAINTENANCE OF THE ENGINEER'S STAFF HOUSES, OFFICES LABORATORIES, FURNITURE AND EQUIPMENT

In 1st paragraph, delete "until the end of the Period of Maintenance" and substitute "till the issue of the Taking-over certificate for the whole of the Works, and if required for a period thereafter until the Contractor has completed any outstanding work."

Add the following at the end: -

135.1 PROVISION OF MAINTENANCE AND SECURITY

The Contractor shall maintain all furniture and equipment provided by him in a useable state of repair and shall replace promptly any item that becomes unserviceable or is lost.

The Contractor shall provide cleaners, grounds men, and day and night watchmen for housing camp and offices as directed or instructed by the Engineer on site, the cost of which shall be included in the rates for providing houses, offices and laboratory.

137 ATTENDANCE UPON THE ENGINEER AND HIS STAFF

The Contractor shall pay wages (including all overtime) and house all attendant staff to fulfil the requirements of Clause 137 of the Standard Specification.

The number of junior support staff required by the Engineer shall be:
--2 (Two) No. Office attendants,
--4 (Four) No chainmen,
--4 Four) No. laboratory Technicians,
--1 (One) No CAD Technician, and
--2 (Two) Roads Inspectors

The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits under appropriate items in the Bills of Quantities. The payment referred to in this clause shall exclude the cost of maintaining the offices in compliance with clause 137, paragraphs 1, 2 and 4 of the standard specifications which are deemed to be included in the rates for providing the Office.

138 VEHICLES AND DRIVERS FOR THE ENGINEER AND HIS STAFF AND METHOD OF PAYMENT

The Contractor shall **when instructed** to do so provide and maintain in good working condition for the exclusive use of the Engineer and his staff throughout the contract, brand new vehicles, right hand drive, diesel powered and fitted with air-conditioner, CD/mp3 music player, SRS Air bags, power windows, central locking, alarm system, alloy wheels and power steering as described below. **The Engineer will approve the type of vehicle and confirm the number of each type to be provided**.

2No. Type 1 – new Turbo diesel propelled 4WD 5 door 7 seater Station Wagon vehicle of minimum engine capacity 3000cc fitted with fog lights, side step, 17 x 7.5" alloy wheels, DVD changer, back guide monitor, front parking sensors, 6 speaker audio system, rear wiper, passenger and Driver's knee and side air bag system, shield airbags, active head rest, head lamp cleaning system, 3-Zone climate control air conditioning, smart entry & start, audio input with USB & iPod control, full spare wheel & cover, roof rails, rear view camera, ABS, leather premium seats & door trim, door mirror with turn lamp, and Auto free hubs for the exclusive use of the Engineer.

6No. Type 2 – new Turbo diesel propelled 4WD Twin Cab Pick-up vehicles of minimum engine capacity 2500cc fitted with all the necessities mentioned in paragraph one of this clause for the exclusive use of the Engineer.

1No. Type 1 vehicle will be for the Engineer's use on the project and will be maintained throughout the 24-month Defects Liability Period. Payment will be made as for the construction period.

1No. Type 1 vehicle will be for the Engineer's use in the Design Section of Design & Construction Department and will be maintained throughout the 24-month Defects Liability Period. Payment will be made as for the construction period.

The Contractor shall insure comprehensively the vehicles for any licensed drivers and shall provide competent drivers during normal working hours and whenever required by the Engineer including recognised days of rest.

Should any vehicle supplied not be in road worthy condition, the Contractor shall provide an acceptable equivalent replacement vehicle until such time as the original vehicle is repaired to the satisfaction of the Engineer and returned for use.

Payment for the vehicles (up to 5,000Km per veh.month), shall be by vehicle months. Payment for mileage above 5,000Km per vehicle month, shall be made at a rate per Kilometre. These payments shall be inclusive of all fuels, lubricants, servicing, insurance, maintenance, drivers and repairs. The rate shall include any overtime the drivers might be due or any other allowances in addition to the normal working hours. Payment shall be made under appropriate items in the Bills of Quantities.

The vehicles shall revert to the Contractor at the end of the contract.

139 RECEIPTED ACCOUNTS

The Contractor may be instructed by the Engineer to make payments of general miscellaneous accounts for such items as stationary, stores and equipment and miscellaneous supervision personnel and claims or the Engineer may direct the Contractor to purchase or pay for the above. The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits under appropriate items in the Bills of Quantities.

140 PAYMENT OF OVERTIME FOR ENGINEER'S JUNIOR STAFF

In the last line delete the words "shall be at the Contractor's expense" and substitute with "including the approved percentage for administrative overheads shall be paid by the Contractor to the Engineer".

If the Contractor wishes to execute permanent works outside the Engineer's normal working hours as stated in Clause 45.1 of the Conditions of Contract, then the payment for overtime for the Engineer's junior staff shall be reimbursed in full by the Contractor to the Engineer plus a 20 percent additional amount to cover for the Engineer's administrative overheads.

For purposes of this clause, In addition to the support staff provided by the contractor, the following shall also constitute part of the Engineer's junior staff:

Designation	Number
Survey assistants/leveller	2
Senior Materials Technologist	1
Lab Technologists	2
Senior Roads Inspector	1
Roads Inspector	3
Draftsmen	1
Secretary/Typist	1
Clerk	1

If the Contractor wishes to execute the works on regular basis outside the Engineer's normal working hours, over a prolonged period, the Engineer may, if he deems it necessary, employ additional supervisory staff for which the required salaries, plus twenty (20%) percent additional amount to cover for the Engineer's administrative overheads shall be reimbursed in full by the Contractor to the Engineer. In addition, the Contractor shall provide the required accommodation for such staff at his own cost. The Contractor shall not be reimbursed any of these costs.

141 MEASUREMENT AND PAYMENT

Delete Sub-Clause 141 (a) entirely and substitute with:-

a) No Preliminary item has been included in this Contract. All Contractor's mobilisation and general costs shall therefore be included in relevant rates in the Bill of Quantities.

Delete Sub-Clause 141 (m) entirely

142 ENVIRONMENTAL PROTECTION

Further to the requirements of Clause 19.1 of the Conditions of Contract, the Contractor shall be responsible for the following measures to protect the environment:

1) Compliance with national and local statutes and regulations relating to protection of the environment. The Contractor will be responsible for familiarizing himself with all existing national and local legislation in this regard.
2) All construction activities shall be carried out using the best possible means to reduce environmental pollution such as noise, dust and smoke. All vehicles and plant shall be regularly serviced in accordance with the manufacturer's recommendations to ensure that they operate efficiently and without excessive noxious emissions. The Engineer will have the authority to instruct the Contractor to temporarily cease operations and/or remove from the site vehicles or plant which do not comply with this requirement, until such time that he is satisfied that best practicable means to reduce environmental pollution to a minimum are being used.
3) The Contractor shall at all times maintain all sites under his control in a clean and tidy condition and shall provide appropriate and adequate facilities for the temporary storage of all waste prior to proper approved disposal.
4) The Contractor shall be responsible for the safe transportation and disposal of all waste generated as a result of his activities in such a manner as will not give rise to environmental pollution in any form, or hazard to human or animal health. In the event of any third party being employed to dispose of waste, the Contractor shall be considered to have discharged his responsibilities under this clause from the time at which waste leaves sites under his control, providing that he has satisfied himself that the proposed transportation and disposal arrangements are such as will not give rise to pollution or health hazard.

5) The Contractor shall be responsible for the provision of adequate sanitary facilities for his workforce, and that of his sub-contractors, at all construction and ancillary sites. The Contractor shall not allow the discharge of any untreated sanitary waste to groundwater or any surface watercourse.

Prior to the mobilization of the workforce the Contractor shall provide details of proposed sanitary arrangements to the Engineer for approval, such as will allow him to assess whether or not the proposed facilities are adequate and are unlikely to pollute water resources, and also that the facilities will be properly operated and maintained.

6) All concrete and asphalt plants shall be operated and maintained in accordance with the original manufacturer's specifications and manuals, and in such a manner as to minimize emissions of hydrocarbons and particulates. If, in the opinion of the Engineer, the operation of such plant is causing, or is likely to cause nuisance or health problems to site staff or the general public, the Contractor shall carry out such work as is necessary to reduce emissions to an acceptable level within a time-scale agreed with the Engineer.

7) The Contractor shall regularly dowse with water all exposed dirt surfaces to reduce dust levels.

8) The Contractor shall take all reasonable measures, at all sites under his control, to prevent spillage and leakage of materials likely to cause pollution of water resources. Such measures shall include, but not be limited to the provision of bunds around fuel, oil and bitumen storage facilities, and provision of oil and grease traps for servicing and fuelling areas. Prior to construction of such facilities, the Contractor shall submit details of pollution prevention measures to the Engineer for his approval.

9) The Contractor shall be responsible for ensuring that exposed surfaces are re-vegetated as construction progresses, all to the satisfaction of the Engineer.

10) The removal of trees shall be kept to the minimum necessary to accommodate the Permanent Works.

    Prior to the removal of any trees the Contractor shall inform the Engineer of the intended operation and obtain the permission of the Engineer for the removal of the trees. If any tree is removed without permission the Contractor shall replant another approved tree at no additional cost to the Employer.

11) The Contractor shall ensure that fires, except for controlled fires for burning rubbish, do not start within the Site or in the environs thereto as a result of the works or from the actions of his employees. The burning of waste, such as vehicle tyres causing noxious emissions is prohibited. The Contractor shall have available at all times trained fire-fighting personnel provided with

adequate fire-fighting equipment to deal with all fires. The Contractor shall additionally at all times provide sufficient fire protection and fighting equipment local to parts of the Works which constitute particular fire hazards.

12) The contractor shall as instructed by the Engineer carry out off – road mitigation measures to the approval and satisfaction of the Engineer and to the required standards. The contractor shall obtain Environmental mitigation licence for the same and also comply with Environmental Management Coordination Act (EMCA) 1999, and Environmental Impact Assessment (EIA) and Environmental Audit (EA) Regulations 2003.

No separate payment shall be made in respect of this Clause 142 and the Contractor shall be deemed to have allowed in his general rates and prices for the cost of complying with the requirements of this Clauses.

144 COPIES OF ORDERS AND REQUISITIONS

The Contractor shall provide the Engineer with copies of all orders for supply of materials and goods required in connection with the works as the Engineer may require.

145 SHORTAGE OF BITUMEN AND OTHER MATERIALS

The Contractor shall make provisions for obtaining bitumen and other materials required for the Contract if they are not available locally. In particular, the Employer shall not be liable for any additional costs due to local lack of bitumen or any other materials.

SECTION 2 - MATERIALS AND TESTING OF MATERIALS

All materials testing shall be in accordance with Section 2 of the Standard Specifications.

205 SOILS AND GRAVEL

Whenever in the Contract Document a minimum California Bearing Ratio (CBR) is specified, the CBR of the material shall be determined at the specified state of compaction;

a) After four days soaking in the case of neat materials and
b) After seven days curing plus seven days soaking in the case of cement/lime improved materials

211 BITUMINOUS BINDERS

(c) Requirements

(i) Straight run bitumen

In addition to the requirements of the Standard Specification the ash content of penetration grade bitumen shall not exceed 5 % by weight.

SECTION 3 - SETTING OUT & TOLERANCES

301 SETTING OUT

a) In addition to the provisions of clause 3.01(a) if the traverse points to be used for the setting out are close to the existing carriageway and interfere with construction works then the Contractor will have to relocate them to a location where they will not be disturbed. The co-ordinates and heights of all traverse points so located shall be listed and provided to the Engineer for checking and/or approval. Contractor shall also monument the new centreline every 200m along straight and all salient points along curves by a pin in the concrete beacon before commencement of any works.

The road reserve boundary posts shall have 12mm diameter steel pins embedded in concrete, 200mm long with 25mm exposed to the air, sticking out form its top surface. This pin shall be co-ordinated and heightened and result of the same shall be provided to the Engineer for approval. Cost of these works shall be included in the rates as no separate item has been provided.

Commencement of the works shall not be permitted until this basic survey data has been provided and approved by the Engineer for at least 5 Kms of the road.

b) Detailed Setting Out

Reference pegs shall be 50mm by 50mm in section 600mm long driven 400mm firmly into ground and painted white above the ground. The offset from centre line shall be indicated by small nail 20mm to 25mm long with its head driven flush with the top of the peg. Chainages, offset and reference elevation shall be clearly indicated to the sides of the peg to the satisfaction of the Engineer.

After cutting of benches and prior to commencement of earthworks or sub grade works, Contractor shall take cross-sections again and submit the copy of the same to Engineer for agreement. These cross-sections shall then be used as basis of measurement for all subsequent layers, unless otherwise stated.

302 TOLERANCES

Add the following:

(e) Pavement Widths

For Pavement widths for subbase, base and wearing course, the allowable tolerances shall be 0 to +50 mm.

(f) Pipe Culverts

The maximum deviation from the specified line of a drainage pipe shall be: -

Horizontal	-	25mm in 3.0 m
Vertical	-	30 mm in 10.0 m

SECTION 4- SITE CLEARANCE AND TOP SOIL STRIPPING

401 SITE CLEARANCE

Site Clearance shall be carried out as directed by the Engineer.

Add the following as the last paragraph in Sub-clause (a):

Site clearance is not required over the width of the existing road and shoulders. No measurement and payment for site clearance will be made for this width. The remaining area within the road reserve including sides of existing embankments and cuttings shall be cleared as instructed by the Engineer. This operation shall also include the removal of all trees, except for some trees as directed by the Engineer. The Contractor shall provide paint and all the assistance the Engineer may require to mark the trees which **should not** be removed during site clearance.

The Contractor shall take care not to uproot or damage trees which are within the road reserve but outside the construction width. After the Contractor has staked out the extent of the road, the Engineer, with the assistance of the Contractor, shall mark out the trees to be removed. After removal, the trunks and branches of these trees shall be cut up into pieces not more than 2.0m in length, transported and neatly stored at the nearest County Offices or otherwise in a position to be indicated by the Engineer. No additional payment shall be made for complying with this requirements and it is deemed the Contractor will have included its cost in the rates for site clearance.

402 REMOVAL OF TOPSOIL

Topsoil shall include up to 200mm depth of any unsuitable material encountered in existing or newly constructed drains, drainage channels, and accesses.

403 REMOVAL OF STRUCTURES, FENCES AND OBSTRUCTIONS

When instructed by the Engineer, the Contractor shall demolish or remove any structure.

405 MEASUREMENT AND PAYMENT

a) Site clearance shall be measured by the hectare calculated as plan area cleared as instructed.
b) Removal of top soil shall be measured by the cubic metre
c) Measurement and payment for items under clause 403 works shall be on day-works basis under the appropriate item in the Bills of Quantities.

SECTION 5 - EARTHWORKS

501 GENERAL

The top 150 mm of the existing pavement will be scarified, mixed with suitable material (at least Sub-grade S4) and spread across the whole width including benches as top sub-grade material.

504 PREPARATION PRIOR TO FORMING EMBANKMENT

In cuttings, the contractor shall excavate to a level that would accommodate the 300mm subgrade and the existing ground below this **MUST** be processed and compacted in accordance with clause 504 of the standard specifications.

505 CONSTRUCTION OF EMBANKMENTS

Only material approved by the Engineer shall be used for fill in embankments. Material with high swelling characteristics or high organic matter content and any other undesirable material shall not be used, unless specifically directed by the Engineer. Unsuitable material shall include:

(i) All material with CBR Values of less than 2%
(ii) All material containing more than 5% by weight of organic matter (such as topsoil, material from swamps, mud, logs, stumps and other perishable material)
(iii) All material with a swell of more than 3% (such as black cotton soil)
(iv) All clay of plasticity index exceeding 50.
(v) All material having moisture content greater than 105% of optimum moisture content (Standard Compaction)

Sub-grade

Sub-grade shall mean upper 300mm of earthworks either *in situ* or in fill and sub-grade shall be provided for as part of earthworks operation and payment shall be made as “fill in soft material”.

The material for sub-grade for a road section shall have an average CBR of not less than 14% with no value being less than 10% measured after a 4 day soak in a laboratory mix compacted to a dry density of 100% MDD (AASHTO T99) and a swell of less than 1%. Where the *in situ* material does not meet this criterion, it shall be excavated and carted to spoil to a depth that can accommodate a new 300mm improved sub-grade.

No extra payment will be made for haulage of suitable material from borrow pits as the overhaul costs shall be deemed to have been factored in the rates inserted in the Bills of Quantities

508 COMPACTION OF EARTHWORKS

At pipe culverts, all fill above ground level around the culverts shall be compacted to density of 100% MDD (AASHTO T.99) up to the level of the top of

the pipes or top of the surround(s), if any and for a width equal to the internal diameter of the pipe on either side of the pipe(s) or surround(s) as applicable.

At locations adjacent to structures (up to 100m away from structure), all fill above ground level up to the underside of the sub-grade shall be compacted to density of 105% MDD (AASHTO T.99). In case of fill around box culverts this should be carried out for the full width of the fill and for a length bounded by the vertical plane passing through the ends of the wing walls.

Notwithstanding the provision of clause 503 of the standard Specification, Compaction of sub-grade material (i.e. material immediately below formation) in cut areas shall not be carried out by the contractor in areas where the formation is formed in hard material, unless specific instructions to the contrary are issued by the Engineer.

Where improved sub-grade material shall be required, the material shall have a CBR greater than 14% and this shall be compacted and finished to the same standards and tolerances as those required for normal sub-grade and clauses in the specifications applying to normal sub-grade shall also apply.

509 MASS-HAUL DIAGRAM

Delete Clause 509 entirely and substitute "No Mass-Haul diagram has been provided with the Documents. The Contractor shall be responsible for locating suitable materials for constructing earthworks along the alignment and elsewhere and shall include in his rates for fill, spoil and for the cost of haulage".

511 BORROW PITS

The first part of the Standard Specification is amended as follows:-

Fill material which is required in addition to that provided by excavation shall be obtained from borrow pits to be located and provided by the Contractor but to the approval of the Engineer contrary to what has been stated.

515 SIDE DRAINS

Whenever excavation works in side drains constitutes a separate operation from the bulk earthworks, such excavation shall be classified as catch-water drains under Section 8 of the Specifications

517 MEASUREMENT AND PAYMENT

Unless specified otherwise, the method of computation of volumes will be that of average end areas and centreline distances between cross-sections taken at 25m intervals. In regular ground or tight curvature, the Engineer may direct that ground cross-sections are taken at closer intervals.

Scarification of pavement will be measured by the cubic metre scarified, mixed with suitable material, spread and compacted.

Earthwork fill shall be measured by the cubic metre of compacted material measured in the completed embankment.

The rate for spoil of soft/hard material shall include for he cost of excavating the material, loading, transporting, depositing in a spoil area, providing trimming, shaping and top-soiling spoil areas.

Compaction shall be measured by the cubic mitre of material compacted and shall include for scarifying, supplying and mixing in water/drying, levelling and compacting.

Notwithstanding the provisions of clause 517 of the standard specifications, the rate for compaction of fill in soft material shall allow for the requirements of clause 508 of the special specification and no extra payment shall be made for compaction around pipe culverts (100% MDD AASHTO T.99).

Excavation shall be measured in cubic metres and the rate shall include for the cost of loading, transporting and depositing.

Rockfill shall be measured by the number of tonnes instructed to be placed.

Filter fabric shall be measured by the square metre of each weight of fabric specified.

SECTION 6 - QUARRIES, BORROW PITS, STOCKPILES AND SPOIL AREAS

601 GENERAL

Notwithstanding any indications to the contrary in the Standard specification the Engineer will not make available to the Contractor any land for quarries, borrow pits, stockpiles and spoil areas, except for those areas in road reserves specifically approved by him.

The contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, Wining, haulage to site of these materials and all costs involved therein. Similarly, the contractor will be responsible for the provision and costs involved in providing suitable areas for stockpiling materials and spoil dumps.

Should there be suitable sites for spoil dumps or stockpiles within the road reserve forming the site of the works the Contractor may utilise these subject to the approval of the Engineer.

Add paragraph 4 to read as follows:
"At the completion of extraction, the former borrow pit must be made stable and safe. This usually requires the sides of the pit to be reshaped with gentle safe grades. All the disturbed areas associated with borrow pits must be re topsoiled and seeded (if appropriate) as part of the restoration plan in accordance with the approved Environmental Management Plan."

No additional payment will be made to the Contractor to cover costs arising from the requirements for this Clause and the Contractor must include these costs in the rates inserted into the Bills of Quantities.

SECTION 7 - EXCAVATION AND FILLING FOR STRUCTURES

703 EXCAVATION OF FOUNDATIONS FOR STRUCTURES

Unless otherwise instructed by the Engineer, all excavated surfaces in material other than hard material, on which foundations for structures shall be placed, shall be compacted to 100% MDD (AASHTO T.99) immediately before structures are constructed.

Paragraph 4, last line: - Replace "95%" with "100%".

707 BACKFILLING FOR STRUCTURES

Unless otherwise instructed by the Engineer, all backfilling material shall be compacted to a minimum of 100% MDD (AASHTO T.99).

709 EXCAVATIONS FOR RIVER TRAINING AND NEW WATER COURSES

Payments for river training and establishment of new watercourses shall only be made where such work constitute permanent works. Works done for road deviation or other temporary works shall not qualify for payment. The contractor shall be deemed to have allowed these temporary works in his rates

710 STONE PITCHING

Stone pitching to drains, inlets and outlets of culverts to embankments and around structure shall consist of sound unweathered rock approved by the Engineer. The stone as dressed shall be roughly cubical in shape with minimum dimensions of 150 x 150mm for normal thickness of stone pitching. Cement mortar Grouting will be done for all stone pitching areas and the top line of the stone pitching should be grouted/sealed with concrete class 15/20. The cement shall be mixed with sand in the ratio of 1:3 by volume to form the grout.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone laid, interlocked and rammed into the material to give an even finished surface. Soil erosion is rampant along the project location and this can be minimised by ensuring that proper protection works is carried out along the drains using stone pitching. Most of the sections shall be stone pitched especially areas where we have steep slopes to minimise undermining of the road by rain water or as may be instructed by the Engineer.

In areas where stone pitching has been damaged, the Contractor shall identify such areas and notify the Engineer for his agreement of the extent of the Works required and his approval and instructions to proceed with the Works. Stone Pitching Repair and reconstruction shall be carried out in accordance with Clause 710 of the Standard Specifications.

711 GABIONS

Where instructed by the Engineer the Contractor will install gabions as protection works to washout areas or bridge Piers and or Abutments. Gabions shall be constructed in accordance with Clause 711 of the Standard Specification.

In cases where existing gabions have been damaged, the Contractor shall identify them and notify the Engineer for his agreement of the extent of the Work required and his approval and instructions to proceed with the Works.

The Works shall involve removal of the damaged gabions / rocks, excavation to the correct levels and grades as directed by the Engineer, and in accordance with Clause 711 of the Standard Specifications and reconstruction with new gabions and other necessary materials as necessary. The damaged gabions shall be recovered and transported to the nearest County offices.

712 RIP-RAP PROTECTION WORK

Quarry waste or similar approved material shall be used to backfill scoured and eroded side, outfall and cut-off drain. The material shall be compacted to form a flat or curved surface preparatory to stone pitching of drainage channels, existing and new scour checks as directed by the Engineer.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone hand laid, interlocked and rammed into the material to give an even finished surface. The interstices of the Pitching shall be rammed with insitu material. The insitu material immediately behind the pitching shall be compacted to minimum density of 100% MDD compaction (AASHTO T.99).

714 BACKFILL BELOW STRUCTURES

Where instructed this shall be carried out in compliance with the requirements of Clause 507 and 804 of the Standard Specification.

SECTION 8 - CULVERTS AND DRAINAGE WORKS

All concrete works for culverts and other drainage structures shall be done in accordance with section 17 of the specifications.

804 EXCAVATION FOR CULVERTS AND DRAINAGE WORKS

In the Standard Specifications, make the following amendments: -

(a) In paragraph 6, line 3, and in paragraph 7, line 5 and in paragraph 11, line 6, delete "95%" and insert "100%".

(b) Removal of Existing Pipe / ARMCO Culverts

Where instructed by the Engineer, the Contractor shall excavate and remove all existing blocked or collapsed culvert pipes of 450mm, 600mm 900mm diameter and ARMCO culverts including concrete surround, bedding, inlet and outlet structures.

The void left after removal of culvert pipes shall be widened as necessary to accommodate new concrete bedding, pipe and haunching.

The payment of this work shall be per linear metre of pipes removed. The void left by removal of these pipes shall be carefully preserved in order to accommodate replacement 600mm or 900mm diameter pipe culverts as shall be directed by the Engineer.

(c) Removal of Other Existing Drainage Structures
When instructed by the Engineer, the Contractor shall demolish or remove any other structure and payment for this shall be made on day work basis.

(d) Excavation for Culverts and Drainage Works
The Contractor shall carry out all excavations for new culverts and drainage works to the lines, levels, inclinations, and dimensions shown on the drawings or as instructed by the Engineer.

805 EXCAVATION IN HARD MATERIAL

In the Standard Specifications, Sub-clauses 805(a) and 805 (b) delete "95%" and insert "100%".

In sub-clause 809(a), paragraph 1, line 1, substitute "95%" with "100%".

In sub-clause 809(c), paragraph 2, line 4, between the words "compacted" and "and shaped" insert the words "to 100% MDD (AASHTO T.99)".

Hard material is material that can be excavated only after blasting with explosives or boring and wedging or the use of a mechanical breaker fitted with a rock point in good condition and operated correctly. Boulders of more than $0.2m^3$ occurring in soft material shall be classified as hard material.

809 BEDDING AND LAYING OF PIPE CULVERTS

Concrete pipes shall be laid on a 150mm thick concrete bed of class 15/20 and the pipes shall be bedded on 1:3 cement: sand mortar at least 50mm thick, 150mm wide and extending the full length of the barrel.

The rates inserted shall allow for compaction of the bottom of excavation to 100% MDD (AASHTO T.99).

In addition to the requirements of the Standard Specification, where inflatable balloon method of casting culverts in-situ is used, it is essential that thorough pre-construction trials are carried out and necessary adjustments made to ensure that:-

a) All concrete used for surround and bedding shall be Class 25/20.
b) The inner concrete barrel surface immediately in contact with the inflated balloon form during placing shall achieve Class F3 finish.
c) The overall concrete thickness shall be the total of the standard precast concrete pipe thickness and the surround thickness as per the standard drawings.

Payments for the bedding, pipe culvert and surround shall be made as specified in the standard specifications. No additional payments shall be made for complying with these requirements where the balloon method is adopted. The contractor shall submit to the engineer a method statement clearly detailing how the inflated ballon method will be

810 JOINTING CONCRETE PIPES

The concrete pipes for the culverts shall have ogee joints and will be jointed by 1:2 cement: sand mortar and provided with fillets on the outside as described in clause 810 of the Standard Specification.

812 BACKFILLING OVER PIPE CULVERTS

In the Standard Specifications, clause 812

1). Delete paragraph 6 “for pipe culverts ….. depth of 150mm”, entirely.

2). Wherever the expression "dry density of 95% MDD (AASHTO T. 99)" occurs delete and replace with "dry density of 100% MDD (AASHTO T.99)".

The rates entered for laying of pipe culverts shall allow for backfilling to pipe culverts and compacting to 100% MDD (AASHTO T.99) and these works shall **not** be measured and paid for separately.

814.1 SUBSOIL DRAINS

In the event of excavation for repairs exposing local seepage, springs or unacceptably high water table, the Engineer may instruct the provision of counter fort or French drains.

These drains shall consist of a trench excavated to the alignment, width, depth and gradient instructed by the Engineer, and backfilled with approved compacted clean hard crushed rock material as specified in clause 815 of the standard specification. Where these drains lie within the carriageway the carriageway shall be constructed only after the subsoil drain has been completed and approved by the Engineer

821 PEDESTRIAN SLABS OVER OPEN DRAINS

Pedestrian slabs shall be 3.0m long x 1.5m wide x 150mm thick concrete class 25/20, reinforced on the bottom face with 12mm Diameter high yield deformed steel bars to form a mesh with 200mm centres in both directions. They shall be mortar bedded on a 300mm x 300mm stone masonry plinth extending for the width of the slab. Measurement and payment shall be by the number installed and the rate shall include for all preparations, supply of all materials (concrete, steel, formwork, etc), transporting and placing the slab and construction of the masonry plinth. No separate payments will be made for any other item related to the construction of the pedestrian crossing.

814.2 FILTER FABRIC TO SUBSOIL DRAINS

Where filter fabric is specified, it shall be durable non-woven geotextiles or synthetic fibres, unaffected by soil acidity or alkalinity and bacteria. The fabric shall be made by an approved, reputable manufacturer and shall have a mass not less than 280g/m^2

A filter fabric shall be placed under, around and over rock fill of the subsoil drains. The provisions and placing of the fabric shall be in accordance with manufacturer's instructions and complying with Clause 804 and 814 of the Standard Specification. Payment shall be in metre square of the fabric used.

No mechanical plant shall traffic over the filter fabric unless a minimum thickness of 200mm of fill material has been placed over the fabric.

815 INVERT BLOCK DRAINS AND HALF ROUND CHANNELS

Invert Block Drains and Half Round Channels shall be constructed as shown in the drawings provided in accordance with the Standard Specifications where directed by the Engineer.

818 SCOUR CHECKS

Scour checks are to be constructed in mass concrete in accordance with clause 818 of the standard Specifications and the drawings as shall be provided.

820 MEASUREMENT AND PAYMENT

Measurement and payment shall be made in accordance with clause 820 of standard specification.

SECTION 9 - PASSAGE OF TRAFFIC

901 SCOPE OF THE SECTION

The Contractor shall so arrange his work to ensure the safe passage of the Traffic at all times and if necessary construct and maintain an adequate diversion for traffic complete with all the necessary road traffic signs.

The contractor shall provide to the satisfaction of the Engineer adequate warning signs, temporary restriction signs, advance warning signs, barriers, temporary bumps and any other device and personnel equipped with two way radios to ensure the safe passage of traffic through the works.

When carrying out the Works the Contractor shall have full regard for the safety of all road users.

The Contractor shall also provide sign posts and maintain to the satisfaction of the Engineer all deviations necessary to complete the works. The contractor should allow for the costs of complying with the requirements of this clause in his rates.

The contractor will be deemed to have inspected the site and satisfied himself as to the adequacy of his bid for these works and no additional payments will be made to the contractor for any expenditure on traffic control or the provision of deviations. The employer shall not be liable for inadequacies prior to investigations of this nature by the contractor.

903 MAINTENANCE OF EXISTING ROAD

The Employer shall hand-over the existing road to the Contractor at the commencement of the Contract. The Contractor shall be responsible for all repairs and maintenance during the duration of the Contract. The existing road is to bitumen standard and the Contractor shall maintain it with suitable measures including patching of potholes. The Contractor shall regularly inspect the road and carry out such repairs and maintenance to the satisfaction of the Engineer. If at any time, the Engineer draws the Contractor's attention to a road section which requires maintenance, the Contractor shall promptly repair the section. The Contractor shall be legally responsible for any accident or damage attributable to his failure to maintain the road.

904 CONSTRUCTION OF DEVIATIONS

a) **General**

In addition to requirement of this clause, the maximum length of deviation road shall be restricted to 5 Kms at any given time unless otherwise instructed. The Contractor shall construct and complete deviations to the satisfaction of the Engineer before commencing any permanent work on the existing road. Also during these works the contractor is supposed to provide a detour of adequate pipe culverts for pedestrian and traffic crossing where there is bridge works.

Contractor will be allowed to open further 5 Km of the deviation road only when 80% of the permanent work has been completed on first one and he will not be allowed to open further 5 Km till he has completed first 10 Km of the road and has it opened to traffic.

Where the old road exists near the main road, Contractor shall use this road as deviation road.

b) **Geometry**

The carriageway width of the deviations shall not be less than 6.5m wide and suitable for 2-way lorry traffic unless otherwise specified.

c) **Construction**

Unless otherwise instructed gravel wearing course for the deviation shall be 150 mm compacted thicknesses complying with section 10 of the Standard Specification. The Contractor shall allow in his rate for removal of any unsuitable material before placing of gravel wearing course, as this will not be paid for separately.

In addition to provision of this clause, Contractor is required to sprinkle water at least 4 times a day at the rate of 1 - 1.4 litres/m^2 in regular interval to minimise the effects of dust. Latest sprinkling time shall be one hour before the sunset.

906 PASSAGE OF TRAFFIC THROUGH THE WORKS

The Contractor shall arrange for passage of traffic through the works during construction whenever it is not practicable to make deviations. The contractor shall be reimbursed in accordance with the standard specifications.

Any damage caused by passing traffic through the works shall be made good at the contractor's own cost.

907 SIGNS, BARRIERS AND LIGHTS

Contractor shall provide signs, barriers and lights as shown in the drawings at the locations where the traffic is being carried off the existing road to the deviation and back again to existing road. The Contractor shall provide ramps and carry out any other measures as instructed by the Engineer to safely carry traffic from the road to deviation.

Contrary to what has been specified in this clause the road signs provided shall be fully reflectorized and in conformity with clause 9.1 of the "Manual for Traffic Signs in Kenya Part II".

909 ASSISTANCE TO PUBLIC

In addition to provision of clause 909, Contractor shall maintain close liaison with the relevant authorities to clear any broken down or accident vehicles from

the deviations and the main road, in order to maintain smooth and safe flow of the traffic.

912 MEASUREMENT AND PAYMENT

(a) <u>Maintenance of existing road</u>

The Contractor will be paid by the cubic metre of AC layer placed to maintain existing road. The binder material (tack coat), shall be measured by the litre calculated from the amount applied as instructed by the Engineer. This will be in accordance with section 16B of standard specification.

(b) <u>Construct Deviation</u>

(i) Road Deviation

The Contractor shall be paid only 50% of the rate for this when he completes deviation road to the satisfaction of the Engineer. The balance shall be paid in equal monthly instalments over the contract period, as he satisfactorily maintains the deviation (as per clause 904 and 905 above) when it is in operation.

(ii) Deviation using Pipe Culverts

The Contractor shall be paid only 50% of the rate for this when he completes deviation to the satisfaction of the Engineer. The balance shall be paid in equal monthly instalments over the contract period, as he satisfactorily maintains the deviation when it is in operation. The Contractor shall be paid full amount when the bridge under construction will be in use.

(c) <u>Provide signs and barriers</u>

Provision of signs and barriers shall be measured to the nearest 0.1 Km along the centreline of the project road.

(d) <u>Passage of traffic through the works</u>

Payment shall be made on Lump Sum basis.

(e) <u>Gravel wearing course</u>

Where the Engineer instructs gravel wearing course to be laid on existing roads or deviations, measurement will be by the cubic metre of compacted material and shall be in accordance with clause 1011 (b) of section 10 of standard specification.

<u>Assistance to Public</u>

The Contractor will be deemed to have included cost of this item in other items and no separate payment shall be made.

SECTION 11 – SHOULDERS TO PAVEMENT

1101 GENERAL

Shoulders shall be constructed to a width of 2.0 m along the main carriageway and 1.5 m along the service roads, to the same standard as the carriageway in accordance with sections 12, 14, 15 and 16 of the specifications as appropriate.

SECTION 12 - NATURAL MATERIAL SUBBASE AND BASE

1203 MATERIAL REQUIREMENTS

Natural materials for base and sub-base shall conform to the specifications given in Section 12 of the Standard Specifications for cement or lime improved base and sub-base.

1209 MEASUREMENT AND PAYMENT

Natural material for sub-base and base shall be measured by the cubic metre placed and compacted upon the road calculated as the product of the compacted sectional area laid and the length.

The method of measurement shall be “method - A” as in the standard specifications.

No extra payment will be made for haulage of gravel material as the overhaul costs shall be deemed to have been factored in the rates inserted in the Bills of Quantities.

SECTION 13 - GRADED CRUSHED STONE SUBBASE AND BASE

1303 MATERIAL REQUIREMENTS

The GCS material for sub-base shall conform to the specifications given in Section 13 of the Standard Specifications.

1304 CRUSHING, SCREENING AND MIXING

Crushing, screening and proportioning of materials and their subsequent mixing shall be carried out using such methods and machines as shall be acceptable to the Engineer.

1305 TRANSPORTING GRADED CRUSHED STONE

Graded Crushed Stone shall be transported damp and in such a way that no segregation occurs.

1306 LAYING AND COMPACTING GRADED CRUSHED SUBBASE

The contractor shall take appropriate measures to prevent segregation during dumping and spreading operations. Laying and compacting shall conform to the specifications given in sub section 1306 of the Standard Specifications.

1310 MEASUREMENT AND PAYMENT

Graded Crushed Stone shall be measured by the cubic metre for each of the nominal sizes in each class of material calculated as the product of the compacted sectional area instructed to be laid and the length instructed.

The rate for Graded Crushed Stone shall include for the cost of mixing, hauling, spreading and compacting the material and complying with the requirements of sections 2, 6 and 13 in the standard specifications.

No extra payment will be made for haulage of GCS material as the overhaul costs shall be deemed to have been factored in the rates inserted in the Bills of Quantities.

SECTION 14 - CEMENT TREATED MATERIALS

1401 CEMENT TREATMENT

a) Cement

Cement for stabilisation will be **Ordinary Portland Cement** to KS1725: 2001 CEM 1 42.5N and clause 207 of the Standard Specifications. The cement content of the treated material shall be as indicated by the Engineer. The Engineer shall exercise his discretion to any variation in the rate of application of the cement, which he may see fit to order from time to time.

b) Lime treatment

Lime treatment will be as outlined in the Standard Specifications for road and bridge construction. The lime content of the stabilized material shall be as indicated by the Engineer.

c) Moisture content

The moisture content of the treated material shall be as directed by the Engineer but nevertheless within the range of 95% to 105% of the Optimum Moisture Content (AASHTO T180).

d) Mixing and Placing

The material to be treated and the cement shall be mixed by an approved mixing plant (pulvimixer).

1409 PROTECTION AND CURING

Protection and curing shall be carried out in accordance with the provisions of Clause 1409(i) of the Standard Specification but provision shall be made to wet the surface from time to time as directed by the Engineer.

1412 MEASUREMENT AND PAYMENT

Stabilizer

The provision of the stabilizer shall be measured by the tonne calculated as the specific weight of stabilizer added to the material.

Mix-in stabilizer

Mixing stabilizer into the material shall be measured by the cubic metre of treated material calculated as the product of the compacted sectional area treated and the length.

SECTION 15 - BITUMINOUS SURFACE TREATMENTS

PART A - GENERAL

1501A GENERAL

Details of the spray rates for bitumen and the spread rates for chippings will be directed by the Engineer but the under listed is anticipated and can be used for guidance purpose i.e.

a) Chippings

- 14/20mm size pre-coated chippings at a spread rate of 75-90 square meters per cubic meter as first seal.
- 10/14mm size pre-coated chippings at a spread rate of 80-100 square meters per cubic meter as single seal.
- 6/10mm size pre-coated chippings at spread rate of 100-130 square meters per cubic meter as second seal.

b) Bitumen Spray Rates

1.0 – 1.4 l/m^2 for the first seal

0.6 - 1.0 l/m^2 for the second seal

The Average Least Dimension (ALD) shall be determined in the field after crushing the rock for chippings and then determine the actual spray rates and chipping spread rates.

PART B - PRIME COAT AND TACK COAT

1502B MATERIALS FOR PRIME COAT AND TACK COAT.

For prime coat, the binder shall be a medium-curing cutback MC 30 unless otherwise directed by the Engineer.

The rate of spray of bituminous prime coat refers to the gross volume of the cutback bitumen, that is to say the volume of the bitumen plus dilutants.

The rates of spray of the prime coat shall be as instructed by the Engineer and shall generally be within the range 0.8-1.2 litres/square metre

Prime coat shall be applied to all gravel areas that are to receive double seal surface dressing or bituminous mixes as directed by the Engineer.

The tack coat shall consist of bitumen emulsion K1-60 unless otherwise directed by the Engineer.

The rates of spray of the tack coat shall be as instructed by the Engineer and shall generally be within the range 0.5-0.8 litres/square metre.

PART C – SURFACE DRESSING

1502C MATERIALS FOR SURFACE DRESSING

Binder

The bituminous binder shall be 80/100 penetration grade bitumen cut-back with kerosene fuel in accordance with prevailing road temperatures, and conforming to Clause 211 of the Standard Specification.

Chippings

Chippings shall be of class 1 material and shall comply in all respects with Clause 1502C of the Standard Specification. The contractor's attention is drawn to the requirements of Clause 1502C and 1504C of the Standard Specification with regard to cleanliness and dust content of chippings for surface dressing. Should it prove necessary in the Engineer's opinion to wash chippings, no extra payment will be made to the contractor for this operation.

1503C SPRAY AND SPREAD RATES OF BITUMEN AND CHIPPINGS.

Spray and Spread Rates for bitumen and chippings cannot be calculated until samples of the chippings to be used are available for test.

After submission of samples and completion of laboratory tests on chippings and binder, the contractor shall in the presence of the Engineer and the Chief Materials Engineer or representatives, lay trial sections of seal at various rates of spray and spread as directed by the Engineer and in accordance with clause 1503C of the Standard Specification.

Should any change occur in nature of source of chippings or bitumen, the contractor shall advice the Engineer accordingly who will then decide if any revisions are required to the spray and spread rates.

If any changes are required, the Contractor shall carry out further trials as instructed by the Engineer.

Payment for binder and chippings will be based on the instructed spray and spread rates used which may not necessarily be those specified. The Engineer will specify the spray rates of bitumen as residual bitumen per square meter. Actual spray rates used by the Contractor must be adjusted to compensate for any cutter added.

1505C PRECOATED CHIPPINGS

Chippings utilized for surface dressing works under this contract shall be pre-coated in accordance with clause 1505C of the Standard Specification. The binder used for pre-coating chippings shall be MC 30 cut-back bitumen.

The amount of bituminous binder used to pre-coat chippings will be as instructed by the Engineer and will normally be between 0.4% and 1.0% residual bitumen as percentage of the total dry weight.

Prior to laying any pre-coated chippings the Contractor shall prepare trial mixes of bitumen and chippings in the presence of the Engineer. After completion of trial mixes the Engineer shall issue written instructions to the Contractor indicating the amount of binder to be added in pre-coated chippings. The Contractor shall maintain this proportion unless the surface or nature of the chippings changes when the Contractor shall repeat the trials and the Engineer will issue revised instruction.

No separate payments shall be made for the pre-coating exercise. The contractor shall have included in his rates the cost of complying with this clause.

1511C MEASUREMENT AND PAYMENT

(a) Seal coat

Seal coats shall be measured by the litre, for each type of bituminous binder for each seal coat, calculated as the product of the area in square metres sprayed and the rate of application in litres/square metres, corrected to 15.6 ^{o} C.

(b) Pre-coated Chippings

Chippings shall be measured by the cubic metre of each nominal size for each class calculated as the product of the area in square metres covered and the reciprocal of the instructed rate of application in square metres/cubic metre or the actual rate of application in square metres/cubic metre whichever calculation gives the lower volume.

SECTION 16 - BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES

All bituminous mixes works shall be done in accordance with the standard specifications.

PART B – ASPHALT CONCRETE FOR SURFACING

1602B MATERIALS FOR ASPHALT CONCRETE

c) **Aggregate**

Coarse aggregate (retained on a 6.3 mm sieve) shall be entirely crushed rock of "class a" of 0/14 mm grading Asphalt concrete type I for binder course.

1603B GRADING REQUIREMENTS

The grading of the mixture of coarse and fine aggregate shall be within and approximately parallel to the grading envelopes given in Table 16B-1 of 0/14 mm grading Asphalt concrete type I for binder course.

To arrive at a suitable design it is necessary to investigate a number of gradings so that a workable mix which also retains a minimum of 3% voids at refusal density is identified.

The largest particle size used should not be more than 20 mm so that the requirements of the Marshall test method can be complied with.

Although the complete range of nominal maximum particle sizes is shown in the Tables, the total thickness of material laid should not be less than 50 mm.

1604B REQUIREMENTS FOR ASPHALT CONCRETE

The mixture shall comply with the requirements given in Table 16B-2 for Asphalt concrete type I for binder course. In addition, minimum Marshall Stability for 50 blows shall be 7 kN and at compaction to refusal shall have 3% VIM.

The proportion, by weight of total mixture, of bitumen shall be 5.0 – 6.5 % for 0/14 mm and 4.5 – 6.5 % for 0/20mm. This shall be termed the nominal binder content. The binder content of the working mix will be instructed by the Engineer following laboratory and site trials.

In order to determine the suitability of a coarse aggregate source a Marshall Test programme shall be carried out. It will be advantageous to use a crushed rock which is known from past experience to give good results in this test procedure. A grading conforming to the Type I Binder Course detailed in Table 16B-1(a) 0/14 of this Specification should be tested (but with 100% passing the 20mm sieve) and it shall meet the requirements of Table 16B-2 of this Specification.

Having established the suitability of the aggregate source several grading shall be tested in the laboratory, including that used for the Marshall test, to establish relationships between bitumen content and VIM at refusal density. For each mix, samples will be made up to a range of bitumen contents and compacted to refusal

using a gyratory compactor and a vibratory hammer in accordance with the procedure described in BS 598 (Part 104 : 1989), with one revision.

It should first be confirmed that compaction on one face of the sample gives the same refusal density as when the same compaction cycle is applied to both faces of the same sample. The procedure which gives the highest density must be used.

From the bitumen content-VIM relationship it will be possible to identify a bitumen content which corresponds to a VIM of 3 - 7%. If it is considered that the workability of the mix may be difficult then compaction trials should be undertaken. It is advisable to establish two or more gradings for compaction trials.

The mixes identified for compaction trials should be manufactured to the laboratory design bitumen content and to two other bitumen contents of +0.5% and +1% additional bitumen. Cores will be cut to determine the density of the compacted material, having completed this the core will then be reheated to 145+/-5C in the appropriate mould and compacted to refusal in the vibrating hammer test. To be acceptable the cores cut from the compaction trial must have a density equivalent to at least 95% of refusal density.

The compaction trials will identify a workable mix which can be made to a bitumen content which gives 3% VIM at refusal density.

1607B MEASUREMENT AND PAYMENT

a) Item: Asphalt concrete

Asphalt concrete shall be measured by the cubic metre compacted on the road calculated as the product of the length instructed and the compacted cross-sectional area shown on the drawings or instructed by the Engineer.

b) Item: Variation in binder content

Measurement of variation of binder content shall be by the litre calculated as the product of the difference, corrected to 15.6 ^{o}C between the nominal binder and the binder content instructed by the Engineer, and the weight of compacted mix to which the variation applies, calculated from volume determined in (a) above.

c) Item: Mineral filler

Mineral filler will be measured by tonne of each type. The rate per cubic metre for asphalt shall include for providing any mineral filler necessary to achieve the specified grading.

PART C – DENSE BITUMEN MACADAM FOR BASE

1602C MATERIALS REQUIREMENTS

a) Penetration grade bitumen

Bitumen shall be either 60/70 or 80/100 penetration grade.

b) Aggregate

Coarse aggregate (retained on a 6.3 mm sieve) shall consist of crushed rock or bolders, the minimum size of which are atleast 4 times the maximum size of the final crushed stone. The coarse aggregate shall be free from clay, silt, organic matter and other deleterious substances and shall comply with these requirements:-

LAA	Max 35
ACV	Max 28
SSS	Max 12
FI	Max 25

c) Mineral filler

Mineral filler shall consist of finely ground particles of limestone, hydrated lime, ordinary Portland cement or other non-plastic mineral matter.

1603C GRADING REQUIREMENTS FOR DENSE BITUMEN MACADAM

The grading of the mixture of coarse and fine aggregate shall be within and approximately parallel to the 0/30 grading envelope given in Table of section 1603C of standard specifications.

1604C REQUIREMENTS FOR DENSE BITUMEN MACADAM

The mixture shall comply with the requirements given in Table 16C-1 of standard specifications.

The proportion, by weight of total mixture, of bitumen shall be 4 % minimum for 0/30 mm coarse aggregate. This shall be termed the nominal binder content. The binder content of the working mix will be instructed by the Engineer following laboratory and site trials.

1605C MIXING AND LAYING DENSE BITUMEN MACADAM

The mixing procedure shall conform with clause 1605C of standard specifications. The minimum thickness of the compacted layer shall be 60 mm when 0/30 mm aggregate is used and 75 mm when 0/40 is used. No compacted layer shall exceed 100 mm thickness when 0/30 mm aggregate is used and 125 mm when 0/40 mm aggregate is used.

1607C SEALING OF DENSE BITUMEN MACADAM

Bitumen Macadam Base shall be sealed by applying the wearing course or surface dressing specified within 2 weeks of completing any section of base course.

1608C MEASUREMENT AND PAYMENT

a) Item: Dense Bitumen Macadam

Dense Bitumen Macadam shall be measured by the cubic metre compacted on the road calculated as the product of the length instructed and the compacted cross-sectional area shown on the drawings or instructed by the Engineer.

The rate for Dense Bitumen Macadam shall include for the cost of providing, transporting, laying and compacting the mix.

b) Item: Variation in binder content

Measurement of variation of binder content shall be by the litre calculated as the product of the difference, corrected to 15.6 ^{o}C between the nominal binder and the binder content instructed by the Engineer, and the weight of compacted mix to which the variation applies, calculated from volume determined in (a) above.

c) Item: Mineral filler

Mineral filler will be measured by tonne of each type. The rate per cubic metre for asphalt shall include for providing any mineral filler necessary to achieve the specified grading.

SECTION 17 - CONCRETE WORKS

1703 MATERIALS FOR CONCRETE

All materials shall comply with the requirements of section 1703 of the standard specifications.

Cement for all concrete works shall be **Ordinary Portland Cement** complying with KS1725: 2001 CEM 1 42.5N

1704 DESIGN OF CONCRETE MIXES

The following classes of concrete shall be designed and mix proportions approved for use as follows:

- Class 15/20 for all blinding to structures and pre-cast pipe culvert beds and surrounds
- Class 25/20 for all culvert headwalls, wingwalls, aprons, toe-walls, and bridge members; abutments, piers and deck
- Class 30/20 for bridge superstructure beams

Specifications for construction materials and quality control shall be in accordance with the standard specifications.

1713 FINISHES ON UNFORMED SURFACES

All unformed surfaces shall be finished to class UF 3 Finish in accordance with the standard specifications

1725 SURFACE FINISHES

All surfaces shall be finished to class F3 finish in accordance with the standard specifications.

1728 REINFORCEMENT FOR CONCRETE

All reinforcement to concrete shall be hot rolled high yield deformed bars complying with BS 4449 and steel mesh fabric to BS 4483.

1741 MEASUREMENT AND PAYMENT

a) **Item: Concrete**

Amend clause 1741 (a) (iv) of standard specifications to read “class UF 3 finish”

b) **Item: formwork for formed surface finishes**

Amend the following to Clause 1741 (e) of the Standard Specification:
Unit: m² of formwork shall cover inclined formwork of all slopes and angles.

SECTION 19 – STRUCTURAL STEEL WORK

1905 FABRICATION

Fabrication shall generally be in accordance with the requirements of BS 153 Part 1 or latest edition of the BS Standard, workmanship.

A steel lattice/girder structure to strengthen the existing Nzoia river bridge will be fabricated, transported to site, fixed and painted with approved first quality red oxide primer on lattice frame member as shown on the drawings and as directed by the Engineer. The contractor should allow in their rates for the provision of scaffolding, cranes and all necessary supports to enable completion of these works. The contractor should also note the river is perennial in nature and flows throughout the year and should make adequate allowance for this.

1909 TRANSPORTATION AND HANDLING

Erection shall be in accordance with BS 153 part 2 or the latest version of this. Structural steel shall be handled with due care at all times not to cause damage to steel work or its protective coatings. The contractor will be responsible for making good at his cost any damage to all structural members and paint works during transportation and handling.

1914 MEASUREMENT AND PAYMENT

Structural steel work shall be measured by the tonne calculated from approved shop drawings.

Rate to include all cleats, bolts, plates and any other fixture to fabricate and fix as per section 19 of the standard specifications.

SECTION 20 - ROAD FURNITURE

2001 ROAD RESERVE BOUNDARY POSTS

Road reserve boundary posts shall be provided as directed by the Engineer and in compliance with Standard Specification clause 2001. They shall be placed at 100m intervals along the boundary of the road reserve.

2003 EDGE MARKER POSTS

Edge marker posts shall be Verge Master MK 111 plastic posts manufactured by Glasdon Ltd. of Blackpool UK or equivalent approved by the Engineer. They shall be provided as directed by the Engineer and in compliance with the requirements of Standard Specification clause 2003.

2004 PERMANENT ROAD SIGNS

Permanent Road Signs shall be provided as directed by the Engineer and in compliance with the requirements of the "Manual for Traffic Signs in Kenya" Part II and standard Specification clause 2004.

The posts for the signs shall be cylindrical galvanised wrought iron tubes of minimum 75mm diameter and vandal-proofed by in-filling with concrete class 15/20.

The sign plates shall be made from approved metal or plastic sheet 3mm thick and vandal-proofed by the drilling of 3mm diameter holes at 100mm centres.

The rate inserted for the signs shall include for all the costs of complying with this clause.

2004B EXISTING ROAD SIGNS

Where directed by the Engineer, the Contractor shall take down road signs including all posts, nuts, bolts and fittings, and remove and dispose of the concrete foundation and backfill the post holes. The signs shall be stored as directed by the Engineer.

Measurement and payment for taking down road signs shall be made by the number of signs of any type and size taken down, cleaned and stored as directed.

2005 ROAD MARKING

Paint for road marking shall be internally reflectorized hot applied thermoplastic material in accordance with Clause 219 of the Standard Specification complying to BS 3262 and BS 6088.

The rates inserted in the Bills of Quantities for road marking shall include for prior application of approved tack coat.

2006 GUARDRAILS

Guardrail posts shall be concrete 210 x 210 mm set vertically at least 1.2m into the shoulder as per the drawings and as directed by the Engineer.

Beams for guardrails shall be "Armco Flexbeam" or similar obtained from a manufacturer approved by the Engineer.

“Swareflex” ART 3240 or similar approved guardrail reflectors two way reflective one side red and another white shall be installed on the flex beams every 4m.

The rate inserted shall include for provision of the flex beams, posts, Swareflex reflectors, flex beam end bits and installation in accordance with the standard specifications and drawings.

2007 KERBS

(a) Vertical Joints

Vertical joints between adjacent kerbs shall not be greater than 5 mm in width and shall mortar consisting of 1:3 cement: sand by volume.

(b) Transition between flush and raised kerbs

The transition between flush and raised kerbs (e.g. at bus bays) shall be termed as ramped kerbs and shall occur within a length of 2.0m

2008 KILOMETRE MARKER POSTS

Kilometre marker posts shall be provided as directed by the Engineer and in compliance with Standard Specification Clause 2008.

2012 BOLLARDS

Where directed by the Engineer, the contractor shall provide and install class 20/20 200mm diameter reinforced concrete bollards concreted 300mm into the ground.

2013 RETRO-REFLECTIVE ROAD STUDS “cat eyes”

All retro-reflective road studs shall comply with BS 873: Part 4. The contractor shall provide details and the manufacturer’s certificate of the studs he proposes to use in the works to the Engineer for approval. The studs shall be installed at locations shown on drawings or instructed by Engineer.

The studs are moulded of Acrylonitrile Butadiene Styrene (ABS) conforming to ASTM Specification D1788-68, class 5-2-2 shell filled with inert, thermosetting compound and filler. The lens portion of the marker is of optical menthyl methacrylic.

The road stud shall be constructed of high impact ABS containing a multi-biconvex glass lens reflector system. It shall be of monolithic construction, and not less than

98.5mm$^{2.}$ The height of the marker shall not exceed 17mm and the underside shall contain a non-honeycomb base (flat).

The colours shall be white, yellow or red and the retro-reflectance complying to ASTME 809. The impact resistance shall be to ASTM D 2444 or BS 3900 part 3. The studs shall be resistant to water penetration and corrosion resistant to BS 998. The adhesive shall be of resin type Epoxy of part 1 (adhesive) and part 2 (reactor) without any volatile solvents in both and have pot life of not less than 20 mins at 20°C.

SECTION 22-DAYWORKS

2202 MEASUREMENTS AND PAYMENT

(a) Plant

Where items of major plant listed in the schedule of Day-works are specified by type (e.g. Concrete mixer etc.) the power rating of such items of plant provided by the Contractor shall not be lower than the power ratings of such plant manufactured within the last two years prior to the date of BID. Any item of major plant employed upon Day-works that has a power rating lower than specified above shall be paid for at rates lower than those in the schedule of Day-works. The reduction in the rate payable shall be in proportion to the reduction in power rating below that specified above.

SECTION 25 - HIV/AIDS, GENDER ISSUES, SOCIAL ISSUES AND LOCAL PARTICIPATION

2501 SCOPE

This specification sets out the Contractor's obligations with regard to on-site HIV/AIDS awareness campaign and preventive measures which are to be instituted.

2502 INTERPRETATION AND DOCUMENTATION

The following documents shall inter-alia be read in conjunction with this specification:

- The Instructions to Bidders;
- The Conditions of Contract;
- The Drawings;

2503 GENERAL REQUIREMENTS

(a) HIV/AIDS Awareness Campaign

The Contractor shall institute an HIV/AIDS awareness campaign amongst his workers for the duration of the contract. As part of the campaign the Contractor will be required to display AIDS awareness posters in all buildings frequented by workers employed on the contract, where such buildings fall under the control of the Contractor. In addition, at least ten (10) of the Contractor's vehicles, regularly used on site shall display HIV/AIDS awareness posters. The posters shall be printed on gloss paper and shall be at least A1 size on buildings and A3 size, or other approved size on vehicles. The message on the posters shall be supplied by the Employer through the Engineer before the posters are printed.

Aids awareness shall also be included in the orientation process of all workers employed on the contract.

(b) AIDS Prevention Campaign

The Contractor shall institute an HIV/AIDS prevention campaign amongst his workers for the duration of the contract. As part of the campaign the Contractor will be required to make condoms available to workers. The condoms shall be from an approved manufacturer and comply with the current ISO Standards or WHO/UNAIDS Specifications and Guidelines for Condoms, 1998, or any more recent publication. The Contractor shall make available at least 4,000 condoms every month, through dispensing machines or other approved method of distribution. The Contractor shall at all times keep the site adequately supplied with condoms.

(c) HIV/AIDS Training

Introduction

HIV/AIDS is having a significant and increasing impact in Kenya. Interventions that stimulate the movement of people increase both the exposure to the HIV virus and the spread of the virus. Road construction has been identified as one such intervention.

County policy is to integrate HIV/AIDS awareness and prevention into all road construction and rehabilitation programmes. This is in accordance with the Third National Strategic Plan (2000-5) for HIV/AIDS prevention and control as approved by the Government of Kenya, International Bank for Reconstruction and Development (IBRD) and other organisations.

The project will involve both local labour and other contractor's labour. It is a contractual requirement for the Contractor to carry out HIV/AIDS awareness and prevention activities during the construction period as stipulated in this specification.

Objective

The objective of the HIV/AIDS training programme is to reduce the risk of exposure to and spread of the HIV virus in the area influenced by the construction. The target group will be local labourers and their supervisors employed by the works contractors. The wider community will benefit indirectly through their normal day-to-day interaction with the target group.

Scope of activities

Activities for HIV/AIDS awareness and prevention will be broad-based, targeting both individuals and groups. They may consist of:

(i) Information posters in public places, both on and offsite (eating houses, bars, guest houses, etc.) and on contractor's vehicles.
(ii) Availability of socially marketed condoms.
(iii) Peer educators (reference people) drawn from the local labour and educated in HIV/AIDS issues for discussions with colleagues (estimate 1 per 50 employees).
(iv) Small focus group discussions to disseminate information covering key issues.
(v) Theatre groups and video presentations.
(vi) Promotional events (such as football matches) to encourage openness and discussion of HIV/AIDS issues.
(vii) Promotional bill boards to raise awareness of the integration of construction and HIV/AIDS activities.
(viii) Inclusion of HIV/AIDS activities at site meetings with the District Aids Committee and other approved representatives.

(ix) Availability of promotional materials such as T-shirts, caps, bumper stickers, key rings, etc.

The scope of activities may be tailored as required to meet the perceived needs and priorities of the labourers, and should involve participatory approaches to ensure that they are appropriate and have a public health impact. The scale and frequency of activities may also be adjusted to suit requirements of the target group. Education will cover:

(a) preventive behaviours including partner reduction, condom use, awareness and appreciation of the importance of treatment of sexually transmitted infections (STls);
(b) skills including negotiating safer sex, correct condom use, purchase of condoms without embarrassment; and
(c) referral to local health centres and available services.

Tasks to be undertaken to support the above activities include:

(a) Establishing the status and focus of all current and planned HIV/AIDS activities in the area to ensure complementarity and determining potential involvement in project activities.
(b) Carrying out a brief review of regional activities combining road construction with HIV/AIDS campaigns to determine options, best practice key issues, constraints, etc.
(c) Reviewing of Information, Education and Communication (IEC) materials available and their relevance to road construction, making recommendations for future development of IEC materials.
(d) Providing education and training for site personnel, supervisors and peer educators for the scope of activities as above.
(e) Providing supervision for peer educators to ensure sustained quality of education. Incentives for their continual work may be small promotional items such as T -shirts, caps, etc.
(f) Providing mechanisms for the social marketing of condoms and distribution of materials.
(g) Monitoring activities regularly to assess effectiveness and impact. This should include an initial, interim and final assessment of basic knowledge, attitude and practices (KAP) taking account of existing data sources and recognising the limitations due to the short time-frame to show behaviour change. The KAP will be supported by qualitative information from focus group discussions.

Collaboration

HIV/AIDS activities are co-ordinated nationally by the National Aids Control Council (NACC). County, in consultation with NACC and the Ministry of Health (MOH), will co-ordinate with the provincial, district and local

representatives. Representatives of local health authorities will be invited to attend training and communication activities.

Activities on the construction site will be linked as far as possible with on-going HIV/AIDS awareness and prevention in the area. This will ensure complementarity of approaches, reinforcing education and minimising duplication. In addition, these links will ensure that the target group will have access to continued information after the end of the construction period.

Contractor Responsibilities

The Contractor will employ and designate a qualified HIV/AIDS expert fulltime, to be approved by the Engineer, who will work closely with the Client, MOH and other implementing agencies to support the HIV/AIDS awareness and prevention activities. This will ensure maximum effectiveness and integration with construction activities. Specific, but not exclusive, issues to be addressed by the Contractor are:

(i) Scheduling appropriate timing and durations of the implementation of HIV/AIDS activities as part of work-plan for labourers and supervisors. Designated rest times such as lunch breaks and pay days should be excluded.
(ii) Identification of suitable individuals from recruitment records for education with the implementing organisation.
(iii) Provision of suitable sites for communication activities and for condom distribution.
(iv) Monitoring of the implementation of peer educator activities.
(v) Provision of support as necessary to the implementing organisation.

Inputs

An organization experienced in the provision of HIV/AIDS awareness and prevention activities will be selected as a subcontractor to provide the above scope of activities on behalf of the main Contractor.

Reporting

The implementing organisation will produce the following reports to be submitted to the Contractor, The Engineer, County,KeNHA and NACC:

- monthly progress briefs for inclusion in site meetings.
- quarterly reports detailing activities carried out, issues, follow up, etc.
- a review report of activities in the road construction sector,
- a review report of existing IEC materials with recommendations for development of materials specifically for the road sector.

- a final report detailing the methodology and activities carried out under this project including lessons learnt, impact, liaison with the Contractor and other parties, etc.

In addition, a report with the recommended approach for integration of HIV/AIDS awareness and prevention activities in the road construction sector will be produced. This will be a synthesis of project activities including contractual approaches, communication activities, availability of materials, liaison with existing organisations, etc. It will be developed with all parties involved in the construction activities to ensure the wide range of views and experiences is gained.

The final report and recommended approach will be presented to KeNHA, NACC and other interested organisations including private sector, funding agencies and NGO's.

Timing

Activities shall commence at the start of the construction period and continue through-out the entire contract period to ensure a sustained impact. Reporting and dissemination activities shall continue for three months after the project is completed to ensure integration into current practice.

2504 MEASUREMENT AND PAYMENT

The payment items in this clause shall include full compensation for all work associated with the provision of HIV/AIDS related services as specified.

Item: Instituting an HIV/AIDS awareness and prevention campaign
Unit: months

The unit of measurement shall be the calendar month or part thereof, measured over the duration of the campaign. The tendered rate shall include full compensation for equipment, labour, materials including the procurement and distribution of condoms and full compensation for transport, meals, accommodation and any other reasonable allowances for the Participation of local health authorities, provincial director of health and NACC and other resources required for the provision of the service in compliance with clause 2503 (a) & (b) above.

HIV/AIDS specialist subcontractor dealing with prevention awareness activities will be paid by the Months engaged in the activity.

Payment for condoms will be by the number provided to workers and staff during the duration of the contract.

Preparation and submission of reports on HIV/AIDS awareness shall be measured and paid by the months involved in construction activities.

Distribution of HIV/AIDS awareness material shall be paid by the number provided.

Video shows related to awareness and prevention shall be paid for every session done after 3 months. This will also apply for participation of representatives of public health and other authorities.

HIV/AIDS awareness billboards will be paid by the number installed as per specifications.

SECTION 12: BILLS OF QUANTITIES

PREAMBLE TO BILL OF QUANTITIES

1. The Bills of Quantities forms part of the Contract Documents and are to be read in conjunction with the Instructions to Bidders, Conditions of Contract Parts I and II, Specifications and Drawings.

2. The brief description of the items in the Bills of Quantities is purely for the purpose of identification, and in no way modifies or supersedes the detailed descriptions given in the Conditions of Contract and Specifications for the full direction and description of work and materials.

3. The Quantities set forth in the Bills of Quantities are estimated , representing substantially the work to be carried out, and are given to provide a common basis for bidding and comparing of Bids. There is no guarantee to the Contractor that he will be required to carry out all the quantities of work indicated under any one particular item or group of items in the Bill of Quantities. The basis of payment shall be the Contractor's rates and the quantities of work actually done in fulfilment of his obligation under the Contract.

4. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed, and the Engineer will only measure the whole of the works executed in accordance with this Contract.

5. A price or rate shall be entered in ink against every item in the Bills of Quantities with the exception of items that already have Provisional sums affixed thereto. The bidders are reminded that no “nil” or “included” rates or “lump-sum” discounts will be accepted. The rates for various items should include discounts if any. Bidders who fail to comply will be disqualified.

6. Provisional sums (including Dayworks) in the Bills of Quantities shall be expended in whole or in part at the discretion of the Engineer in accordance with Sub-Clause 52.4 and Clause 58 of Part I of the Conditions of Contract.

7. The price and rates entered in the Bills of Quantities shall, except insofar as it is otherwise provided under the Contract, include all Constructional plant to be used, labour, insurance, supervision, compliance testing, materials, erection, maintenance of works, overheads and profits, taxes and duties (excluding VAT) together with all general risks, liabilities and obligations set out or implied in the Contract, transport, electricity and telephones, water, use and replenishment of all consumables, including those required under the contract by the Engineer and his staff.

8. Errors in the pricing of the Bills of Quantities will be corrected in accordance with Clause 29 of instructions to bidders.

9. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bill of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.

10. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.

11. The method of measurement of completed work for payment shall be in accordance with *Standard Specification for Road and Bridge Construction* of the Ministry of Transport and Communications, 1986.

12. "Authorised" “Directed" or "Approved" shall mean the authority, direction or approval of the Engineer.

13. Unless otherwise stated, all measurements shall be net taken on the finished work carried out in accordance with the details shown on the drawings or instructed, with no allowance for extra cuts or fills, waste or additional thickness necessary to obtain the minimum finished thickness or dimensions required in this contract. Any work performed in excess of the requirements of the plans and specifications will not be paid for, unless ordered in writing by the Engineer.

14. Units of Measurement and abbreviations used herein shall have the following meanings:

Unit	**Abbreviation**	**Unit**	**Abbreviation**
cubic meter	m^3 *or* cu m	millimeter	Mm
hectare	ha	month	mth
hour	hr	number	No.
kilogram	kg	provisional sum	P.S.
kilometre	km	square meter	m^2 *or* sq m
lump sum	L.S.	square millimeter	mm^2 *or* sq mm
meter	m	vehicle	veh
metric ton (1,000 kg)	t	week	wk
months	mths		

MUKUYU - CHELEBEI MKT ROAD

BILL OF QUANTITIES NO.1

General : Office administration and overheads /preliminary					
	Description	Unit	Contract Qty	RATE	Contract Amt
Item Code					
01-80-010	Allow a prime cost of sum for material testing as directed by the Engineer	PC SUM	1.00		-
01-80-011	Extra over item 01-80-010 for contractors overheads and profits	%	20,000.00		-
	Allow a prime cost sum for Hiv aweraness and sensitisation	PC SUM	1.00		-
	Allow a prime cost sum for Mitigation and rehabilitation of borrow pits	PC SUM	1.00		-
01-80-016	Provide and erect publicity signs as directed by RE	NO.	2		-
01-80-026	Allow a prime cost sum for the REs miscellaneuos account	PC SUM	1		-
01-80-027	Extra over 01-80-026 for profits and overheads	%	100000		-
01-80-030	Allow a prime cost for attendance to the RE,s supervisory staff including overtime	PC SUM			-
01-80-031	Include percentage of PC sum in item 01-80-030 for contractors overhead and profit	%			-
TOTAL FOR BILL NO.1 CARRIED TO THE SUMMARY PAGE					-

Unit rate quoted for this item shall be inclusive of excavation,blinding,providing and laying of pipe culverts,surround,headwalls,wingwalls,toe walls, aprons and BRC mesh reinforcement					
08-60-025	Culvert Installation 600 mm with surround	M	32		
08-60-026	Culvert Installation 900 mm with surround	M	0		

08-60-027	Excavation for culverts,catch water, cut off and mitre drains	M3	100		
TOTAL FOR BILL NO.8 CARRIED TO THE SUMMARY PAGE					-

	Description	Unit	Contract Qty	RATE	Contract Amt
Item Code					
10-50-001	Grade and compact ditch to ditcb (8-12m wide) as directed by the Engineer	M2	31,500		-
10-60-001	Provide, place and compact natural gravel of 150mm thickness at 95% MDD	M3	1750		-
TOTAL FOR BILL NO.10 CARRIED TO THE SUMMARY PAGE					-

	Description	Unit	Contract Qty	RATE	Contract Amt
Item Code					
22-64-010	Excavator:140H	EH	16		-
TOTAL FOR BILL NO.22 CARRIED TO THE SUMMARY PAGE					-

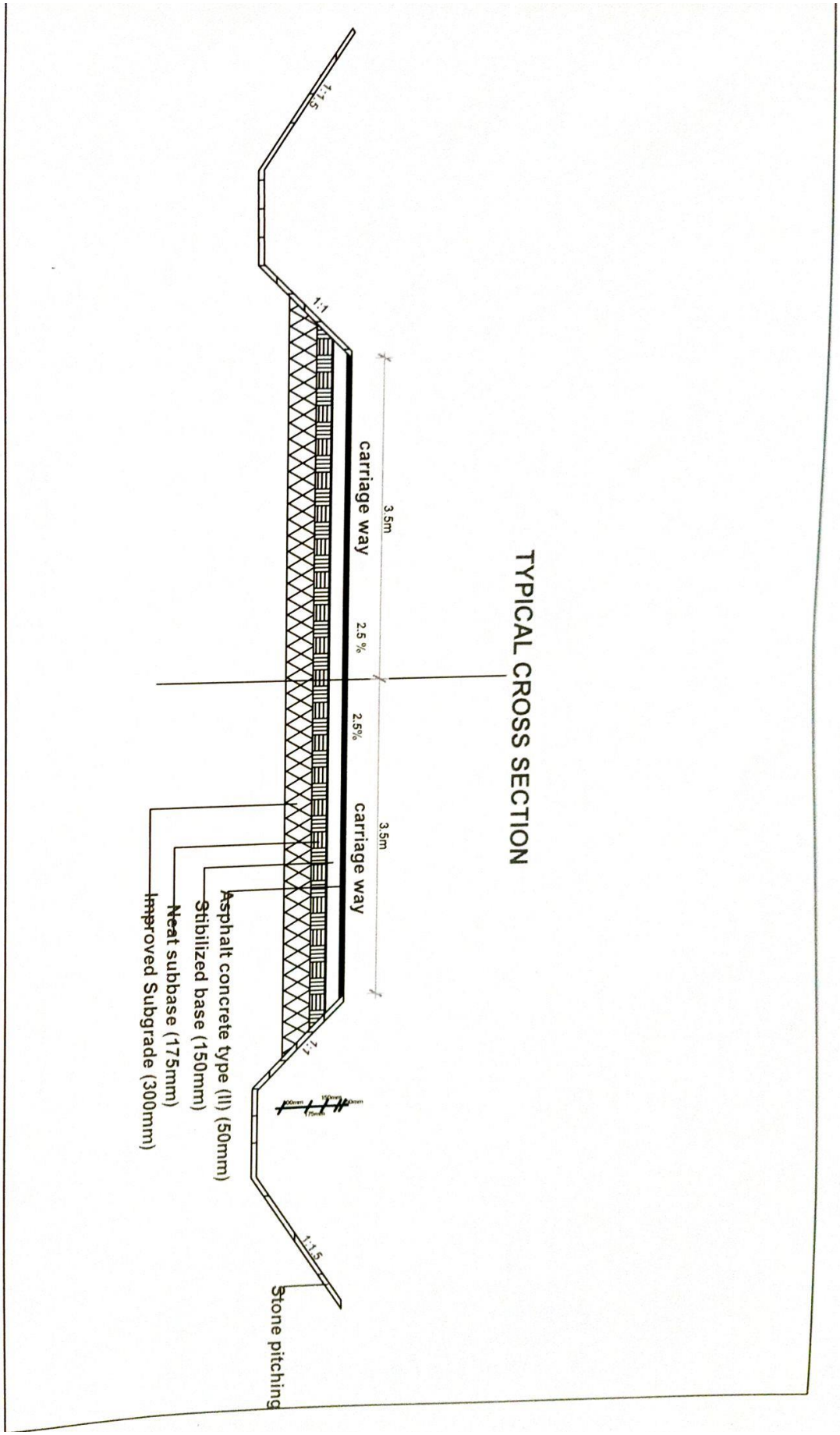
Description	Contract Amt
General office administration,overheads and preliminaries	-
Rock filling	

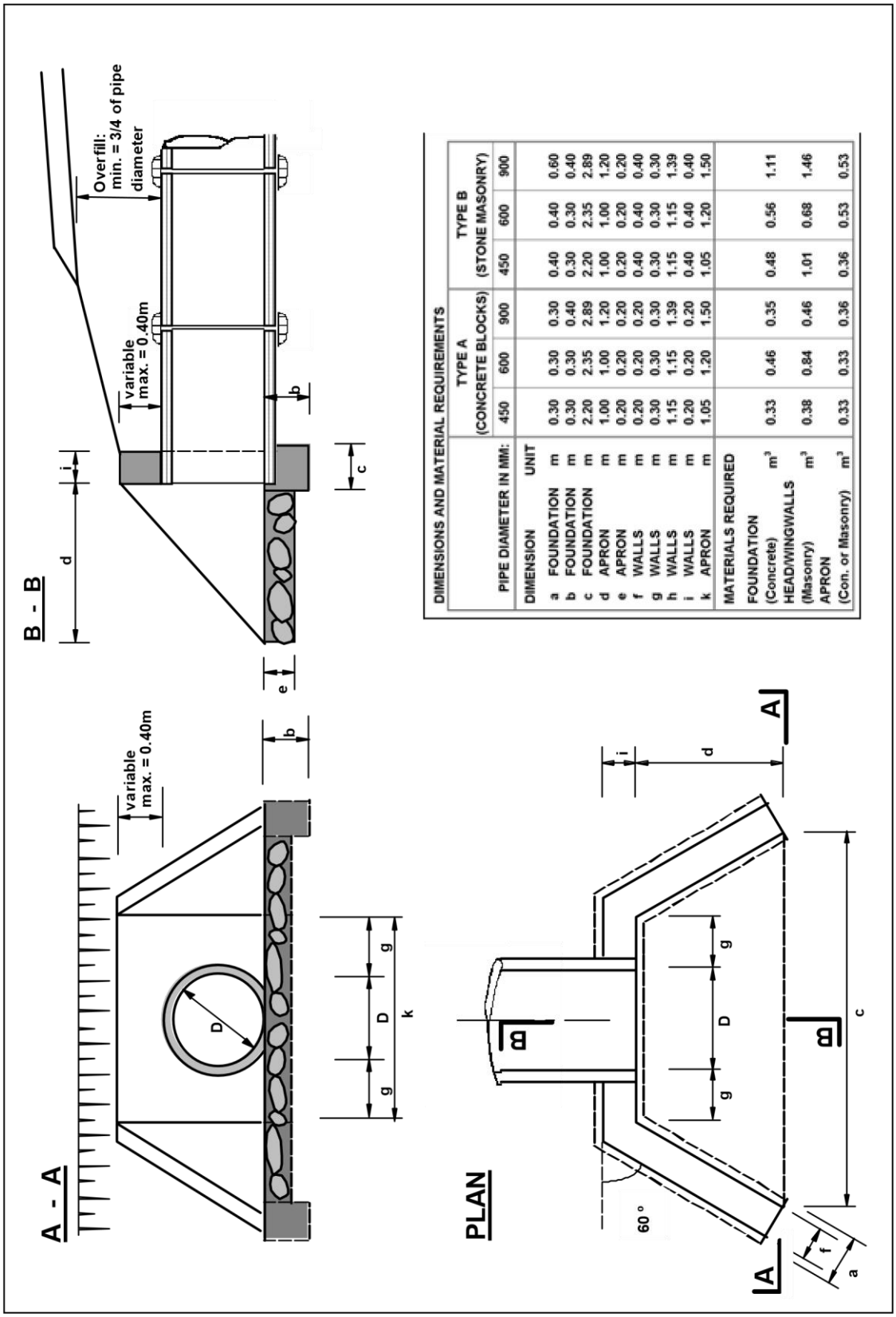
Excavation and filling structures	
Culverts and Drainage works	-
Grading and gravelling	-
Day works	-
Sub total	-
Add 5% contingencies	-
Sub total 2	-
Add 16% VAT	-
Grand Total	-

Signature……Stamp……..

SECTION 13: DRAWINGS

(See the Book of Drawings)


TYPICAL CROSS SECTION
3.5m
3.5m
carriage way
carriage way
2.5 %
2.5%
1:1.5
1:1
1:1
1:1.5
Asphalt concrete type (II) (50mm)
Stibilized base (150mm)
Neat subbase (175mm)
Improved Subgrade (300mm)
Stone pitching



DIMENSIONS AND MATERIAL REQUIREMENTS

PIPE DIAMETER IN MM:		TYPE A (CONCRETE BLOCKS)			TYPE B (STONE MASONRY)		
		450	600	900	450	600	900
DIMENSION	**UNIT**						
a FOUNDATION	m	0.30	0.30	0.30	0.40	0.40	0.60
b FOUNDATION	m	0.30	0.30	0.40	0.30	0.30	0.40
c FOUNDATION	m	2.20	2.35	2.89	2.20	2.35	2.89
d APRON	m	1.00	1.00	1.20	1.00	1.00	1.20
e APRON	m	0.20	0.20	0.20	0.20	0.20	0.20
f WALLS	m	0.20	0.20	0.20	0.40	0.40	0.40
g WALLS	m	0.30	0.30	0.30	0.30	0.30	0.30
h WALLS	m	1.15	1.15	1.39	1.15	1.15	1.39
i WALLS	m	0.20	0.20	0.20	0.40	0.40	0.40
k APRON	m	1.05	1.20	1.50	1.05	1.20	1.50
MATERIALS REQUIRED							
FOUNDATION (Concrete)	m^3	0.33	0.46	0.35	0.48	0.56	1.11
HEAD/WINGWALLS (Masonry)	m^3	0.38	0.84	0.46	1.01	0.68	1.46
APRON (Con. or Masonry)	m^3	0.33	0.33	0.36	0.36	0.53	0.53