



KENYA URBAN ROADS AUTHORITY
Efficient & Safe Urban Roads

IMPROVEMENT OF NAIROBI ROADS - LOT 4

TENDER No.: KURA/RMLF/HQ/224/2019-2020

(WOMEN CATEGORY)

BID DOCUMENT

1. FORM OF BID
2. APPENDIX TO FORM OF BID
3. STANDARD FORMS & SCHEDULES OF SUPPLEMENTARY INFORMATION
4. INSTRUCTIONS TO BIDDERS
5. QUALIFICATION CRITERIA
6. CONDITIONS OF CONTRACT
7. STANDARD SPECIFICATIONS
8. SPECIAL SPECIFICATIONS
9. BILLS OF QUANTITIES
10. DRAWINGS

FEBRUARY 2020

DIRECTOR (URD)
KENYA URBAN ROADS AUTHORITY
P.O. Box 41727 - 00100
NAIROBI.

DIRECTOR GENERAL
KENYA URBAN ROADS AUTHORITY
P.O. Box 41727 - 00100
NAIROBI.

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SECTION 1: FORM OF BID

FORM OF BID

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

IMPROVEMENT OF NAIROBI ROADS ~ LOT 4 TENDER No.: KURA/RMLF/HQ/224/2019-2020

TO: The Director General
Kenya Urban Roads Authority
P. O. Box 41727 - 00100,
NAIROBI.

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 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

Duly authorized to sign bids on behalf of (Name of Bidder)

.....

(Address 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)

DESCRIPTION	Conditions of Contract Clause	DETAILS
Bid Security		The bidder must fill the Bid Securing Declaration Form
Employer	1.1 (a) (i)	Director General Kenya Urban Roads Authority.
Engineer	1.1 (a) (iv)	Director (Urban Roads Development) Kenya Urban Roads Authority.
Contract Documents	5.1 (a)	The language of the contract is English
	5.1 (b)	The law in force is that of the Republic of Kenya
Amount of Performance Security (Unconditional Bank Guarantee from Reputable Bank) FOR CONSTRUCTION WORKS	10.1	The performance security shall be in the form of Unconditional Bank Guarantee in the amount of Ten (10%) Percent of the Bid sum)
Access to Data	11.1	Data made available by the Employer under Subclause 11.1 is open for inspection at the offices of Kenya Urban Roads Authority
Programme to be submitted	14.1	Not later than 21 (twenty-one) days after issuance of Order to Commence
Cash Flow Estimate	14.3	Not later than 21 (twenty-one) days after issuance of Order to Commence
Minimum Amount of Third Party Insurance	23.2	Kshs.1,000,000 (Kenya Shillings Five Million only) per occurrence, with the number of occurrences unlimited.
Period for commencement, from Engineer's Order to Commence	41.1	Not later than 28 (Twenty-Eight) days after Notice of Order to Commence
Time for Completion	43.1	Eighteen (18) Months
Amount of Liquidated Damages	47.1	0.05% of the Contract Price per day
Limit of Liquidated Damages	47.1	5% (Five percent) of the Contract Price.
Defects Liability Period	49.1	Six (6) Months
Minimum Amount of Interim Payment Certificates	60.2	Kshs.10,000,000.00
Retention Money	60.5	5% (five percent) of Interim Payment Certificates

Signature of Bidder.....

Date

(Failure to sign this appendix will imply the bidder doesn't accept the above conditions and hence disqualified)

DESCRIPTION	Conditions of Contract CLAUSE	DETAILS
Limit of Retention Money	60.2	5 (five) percent of the Contract Price
Number of Copies of monthly Statement and statements of Completion and Final Statement	60.2 60.3 60.11 60.12	2 copies
Time within which payment to be made after Interim Payment Certificate signed by Engineer	60.4	90 days
Time within which payment to be made after Final Payment Certificate signed by the Engineer	60.4	90 days
Currency of Payment	60.6 ITB	Kenya Shillings only
Appointer of Arbitrator	67.3	The Chartered Institute of Arbitrators (Kenya)
Notice to Employer and Engineer	68.2	The Employer's address is: Director General Kenya Urban Roads Authority Barabara Plaza, Block D. P.O. Box 41727 – 00100 NAIROBI. Tel. +254 020 8013844 Email: info@kura.go.ke, Web:www.kura.go.ke The Engineer's address is: Director (Urban Roads Development) Kenya Urban Roads Authority Barabara Plaza, Block D, Mazao Road P.O. Box 41727 – 00100 NAIROBI. Tel. +254 020 8013844 Email: info@kura.go.ke, Web:www.kura.go.ke

Signature of Bidder.....

Date

(Failure to sign this appendix will imply the bidder doesn't accept the above conditions and hence disqualified)

SECTION 3: STANDARD FORMS AND SCHEDULES OF SUPPLEMENTARY INFORMATION

STANDARD FORMS & SCHEDULES OF SUPPLEMENTARY INFORMATION

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STANDARD FORMS

FORM OF BID SECURING DECLARATION

TENDER -SECURING DECLARATION FORM

[The Bidder shall complete in this Form in accordance with the instructions indicated]

Date:.....[insert date (as day, month and year) of Bid Submission]

Tender No.[insert number of bidding process]

To: [.....insert complete name of Procuring Entity]

We, the undersigned, declare that:

- 1 We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.
- 2 We accept that we will automatically be suspended from being eligible for bidding in any contract with the Purchaser for the period of time of 5 years starting on the date of expiration of tender validity period, if we are in breach of our obligation(s) under the bid conditions, because we –
 - (a) have withdrawn our Bid during the period of bid validity specified by us in the Bidding Data Sheet; or
 - (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity,
 - (i) Fail or refuse to execute the Contract, if required, or
 - (ii) Fail or refuse to furnish the Performance Security, in accordance with the Instruction to tenderers.
- 3 We understand that this Bid Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of
 - (i) our receipt of a copy of your notification of the name of the successful Bidder; or
 - (ii) twenty-eight days after the expiration of our Tender.
- 4 We understand that if we are a Joint Venture, the Bid Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Bid Securing Declaration shall be in the names of all future

partners as named in the letter of intent.

Signed:[insert signature of person whose name and capacity are shown] in the capacity of [insert legal capacity of person signing the Bid Securing Declaration]

Name:[insert complete name of person signing the Bid Securing Declaration]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on day of, [insert date of signing.

FORM OF INVITATION FOR BIDS

(See www.kura.go.ke/tender notices)

LETTER OF ACCEPTANCE

[Letter head paper of the Employer]

_____ *[date]*

To: _____ *[name of the Contractor]*

_____ *[address of the Contractor]*

Dear Sir,

This is to notify you that your Bid dated _____ for the execution of

**IMPROVEMENT OF NAIROBI ROADS LOT 4
TENDER No.: KURA/RMLF/HQ/224/2019-2020**

For the Contract Price of

Kshs. _____ *[amount in figures]* Kenya

Shillings _____ *(amount in words)* in

accordance with the Instructions to Bidders is hereby accepted.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract documents.

Authorized Signature

.....

Name and Title of Signatory

.....

Attachment: Agreement

FORM OF AGREEMENT

THIS AGREEMENT, made the _____ day of _____ 20____ between the **Director General, Kenya Urban Roads Authority, Barabara Plaza, Block D, Mazao Road P.O. Box 41727 – 00100 NAIROBI., Nairobi** (hereinafter called “the Employer”) of the one part AND

_____ of [or whose registered office is _____ situated _____ at]

(hereinafter called “the Contractor”) of the other part.

WHEREAS THE Employer is desirous that the Contractor executes
IMPROVEMENT OF NAIROBI ROADS LOT 4
TENDER No.: KURA/RMLF/HQ/224/2019-2020

(hereinafter called “the Works”) located in Nairobi County and the Employer has accepted the bid submitted by the Contractor for the execution and completion of such Works and the remedying of any defects therein for the Contract Price of Kshs. _____ [Amount in figures], Kenya Shillings _____ [Amount in words].

NOW THIS AGREEMENT WITNESSETH as follows:

1. 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.
2. The following documents shall be deemed to form and shall be read and construed as part of this Agreement:
 - (i) Letter of Acceptance
 - (ii) Form of Bid and Appendix to Form of Bid
 - (iii) Conditions of Contract, Part I
 - (iv) Conditions of Contract, Part II
 - (v) Specifications
 - (vi) Drawings
 - (vii) Priced Bill of Quantities

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

3. 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.
4. 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:
(Director General, Kenya Urban Roads Authority)
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)

PERFORMANCE BANK GUARANTEE (UNCONDITIONAL)

To: Director General
Kenya Urban Roads Authority
P.O. Box 41727 - 00100
NAIROBI

Dear Sir,

WHEREAS _____ (hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No. dated to execute
IMPROVEMENT OF NAIROBI ROADS LOT 4
TENDER No.: KURA/RMLF/HQ/224/2019-2020
(hereinafter called “the Works”);

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Guarantee by an institution published by PPRA for the sum specified therein 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 of Guarantee in figures*) Kenya Shillings _____ (*amount of Guarantee in words*), and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings _____ (*amount of Guarantee in words*) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed there under 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 change, addition, or modification.

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR _____

Name of Bank: _____

Address: _____

Date: _____

FORM OF LETTER OF NOTIFICATION OF AWARD

Director General
Kenya Urban Roads Authority
P.O. Box 41727 - 00100
NAIROBI

To:

RE: Bid No.

IMPROVEMENT OF NAIROBI ROADS LOT 4
TENDER No.: KURA/RMLF/HQ/224/2019-2020

This is to notify that the contract (s) stated below under the above mentioned Bid have been awarded to you.

.....

1. Please acknowledge receipt of this letter of notification signifying your acceptance.
2. The contract/contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.
3. You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

(FULL PARTICULARS):

Director (Urban Road & Design)
Kenya Urban Roads Authority
P. O. Box 41727 - 00100
Nairobi

Telephone: +254 020 8013844

Email: info@kura.go.ke, Web: www.kura.go.ke.

.....
SIGNED FOR DIRECTOR GENERAL

SCHEDULES OF SUPPLEMENTARY INFORMATION

BID QUESTIONNAIRE

Please fill in block letters.

1. Full names of Bidder.....
.....
 2. Full address of Bidder to which Bid correspondence is to be sent (unless an agent has been appointed below).....
.....
 3. Telephone number (s) of Bidder.....
.....
 4. Telex address of Bidder.....
.....
 5. Name of Bidder's representative to be contacted on matters of the Bid during the Bid period.....
.....
 6. Details of Bidder's nominated agent (if any) to receive Bid notices. This is essential if the Bidder does not have his registered address in Kenya (name, address, telephone, telex).....
.....
.....
.....
- Signature of Bidder

*Make copy and deliver to **the Director General, Kenya Urban Roads Authority.***

CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2 (b) or 2 (c) and 2 (d) 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:Country/Town.....

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 time: Kshs.

Name of your bankers.....

Branch.....

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:

	<u>Name in full</u>	<u>Nationality</u>	<u>*Citizenship Details</u>	<u>Shares</u>
1				
2				
3				

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:

	<u>Name in full</u>	<u>Nationality</u>	<u>*Citizenship Details</u>	<u>Shares</u>
1				
2				
3				
4				

Part 2(d) – Interest in the Firm:

Is there any person/persons in **Kenya Urban Roads Authority** who has interest in this firm?

Yes** ☐

No** ☐

** Tick (√) to agree as necessary (Compulsory)

I certify that the information given above is correct.

.....
(Title) (Signature) (Date)

* Attach proof of citizenship (Certified Copy of National ID or Passport) (Compulsory)

* Attach certified copy of Form CR 12 (Compulsory)

SCHEDULE OF MATERIALS BASIC PRICES
(Ref: Clause 70 of Conditions of Contract)

Item No.	Description	Country of Origin	Name of Supplier	unit	Unit Price Kshs.
1.	Cut-back Bitumen MC 30 in bulk			Litre	
2.	Cut-back Bitumen MC 30 in drums			Litre	
3.	Bitumen 80/100 in bulk			Kg	
4.	Bitumen 80/100 in drums			Kg	
5.	Bitumen Emulsion K1-60 in bulk			Litre	
6.	Bitumen Emulsion K1-60 in drums			Litre	
7.	Cut-back Bitumen MC 70 in bulk			Litre	
8.	Cut-back Bitumen MC 70 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	Kerosene Fuel			Litre	
14	Cement			Tonne	
15	Flex beam Guardrail			Metre	
16	Gabion Mesh			M ²	
17	Reinforcing Steel			Tonne	
18	Lime			Tonne	

I certify that the above information is correct.

.....
(Title)

.....
(Signature)

.....
(Date)

The prices inserted above shall be those prevailing 28 days before the submission of Bids and shall be quoted in Kenya Shillings using the exchange rates specified in the Appendix to Form of Bid.

Prices of imported materials to be quoted CIF Mombasa or Nairobi, as appropriate, depending on whether materials are imported by the Bidder directly or through a local agent.

Transportation costs for imported materials to be quoted from Mombasa or Nairobi as appropriate to mid-point of **IMPROVEMENT OF NAIROBI ROADS LOT 4**

TENDER No.: KURA/RMLF/HQ/224/2019-2020 depending on whether materials are imported directly by the Bidder or through a local agent.

Bidders SHALL attach confirmation of prices from the Supplier

MAJOR ITEMS OF CONSTRUCTION PLANT AND EQUIPMENT

Date of Arrival on Project (Days after commence)	
Power Rating	
Owned/ Leased/ Imported	
Source	
Estimated CIF Mombasa Value (If to be Imported)	
Capacity t or m cu	
New or Used	
Year of Manufacture	
No. of each	
Description Type, Model, Make	

The Bidder shall enter in this schedule all major items of plant and equipment which he proposes to bring to site. Only reliable plant in good working order and suitable for the work required of it shall be shown on this Schedule. Summary of the same shall be entered in Section 5: Qualification Criteria, Part 7. I certify that the above information is correct.

.....
(Title)

.....
(Signature)

.....
(Date)

SCHEDULE OF LABOUR BASIC RATES

(The prevailing KNBS data 28 days prior to bid submission shall apply.)

LABOUR CATEGORY	(MONTH/SHIFT/HOUR)	RATES

Categories to be generally in accordance with those used by the Kenya Building Construction and Engineering and Allied Trades Workers' Union.

.....
(Title)

.....
(Signature)

.....
(Date)

DETAILS OF SUBCONTRACTORS

If the Bidder wishes to sublet any portions of the Works under any heading, he must give below details of the subcontractors he intends to employ for each portion.

Failure to comply with this requirement may invalidate the bid.

(1) Portion of Works to be sublet:

(i) Full name of Subcontractor and address of head office:

.....

(ii) Subcontractor's experience of similar works carried out in the last 3 years with contract value:

	<u>Similar Works</u>	<u>Contract Value</u>
1		
2		
3		

(2) Portion of Works to sublet:

(i) Full name of sub-contractor and address of head office:

.....

(ii) Sub-contractor's experience of similar works carried out in the last 3 years with contract value:

	<u>Similar Works</u>	<u>Contract Value</u>
1		
2		
3		

.....
 [Signature of Bidder]

.....
 (Date)

Note: Bidders shall attach certified copies of letters of award (for each listed project), certified copies of completion certificates or evidence of executed works (for non-completed projects) performed by subcontractors listed above.

CERTIFICATE OF BIDDER'S VISIT TO SITE

This is to certify that

[Name/s].....

.....

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

.....

.....

participated in the organised inspection visit of the site of the works for the **IMPROVEMENT OF NAIROBI ROADS ~ LOT 4:**

TENDER No.: KURA/RMLF/HQ/224/2019-2020 held on

.....day of.....20.....

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.

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 sign the document and receive on his behalf correspondence in connection with the Bid.
(The Bidder consisting of a joint venture shall state here below the name and address of his representative who is authorised to receive on his behalf correspondence in connection with the Bid.)

.....

(Name of Bidder's Representative in block letters)

.....

(Address of Bidder's Representative)

.....

(Signature of Bidder's Representative)

Alternate:

.....

(Name of Bidder's Representative in block letters)

.....

(Address of Bidder's Representative)

.....

(Signature of Bidder's Representative)

*To be filled by all Bidders.

** Bidders must provide a separate written power of Attorney*

**Both representative and alternate must attach a certified copy of National Identification card or Passport.*

KEY PERSONNEL

DESIGNATION	NAME	NATIONALITY	SUMMARY OF QUALIFICATIONS AND EXPERIENCE		
			Qualifications	General experience (Yrs)	Specific experience (Yrs)
Headquarters: 1. Director 2. 3. Etc.					
Site Office: 1. Site Agent 2. 3. 4. 5. etc.					

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 certified copies of academic certificates, valid practicing licenses, and signed CVs of all key staff.

I certify that the above information is correct.

.....
(Title)

.....
(Signature)

.....
(Date)

SCHEDULE OF CIVIL WORKS CARRIED OUT BY THE BIDDER IN THE LAST FIVE YEARS

DESCRIPTION OF WORKS AND CLIENT	TOTAL VALUE OF WORKS (KSHS)*	CONTRACT PERIOD (YEARS)	YEAR COMPLETED
A. <u>Completed Works</u>			
B. <u>Non-completed Works</u>			
C. <u>Specific Construction Experience</u>			

Note: Bidders shall attach certified copies of letters of award (for each listed project), certified copies of completion certificates or evidence of executed works (for non-completed projects).

I certify that the above Civil Works were successfully carried out by ourselves.

.....
(Signature)

.....
(Date)

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

SCHEDULE OF PROJECTS CURRENTLY IN PROGRESS

DESCRIPTION OF WORK AND CLIENT	CONTRACT PERIOD	DATE OF COMMENCEMENT	DATE OF COMPLETION	TOTAL VALUE OF WORKS (KSHS.)	PERCENTAGE COMPLETED TO DATE

Note:

1. Bidders shall attach certified copies of letters of award (for each listed project) and any certified evidence for executed works e.g copy of recent payment certificate and a letter from the Contracting Authority.

2. Bidders must indicate all their on-going works as at the time of bidding. Any non-disclosure shall constitute non-responsiveness)

I certify that the above Civil Works are being carried out by ourselves and that the above information is correct.

.....
(Signature)

.....
(Date)

FINANCIAL STANDING

- 1 Submit copies of audited profit and loss statements and balance sheet for the last Three calendar years with certified English translation where appropriate.
- 2 Give turnover figures for each of the last Three (3) financial years. Quote in millions and decimal thereof.

	Year (20....)	Year (20....)	Year (20.....)
	Kshs. '000,000	Kshs. '000,000	Kshs. '000,000
Road works			
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 (20.....)	Year (20....)	Year (20....)
	Kshs. '000,000	Kshs. '000,000	Kshs. '000,000
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+3-4)			

- (a) Name/Address of Commercial Bank providing credit line, if any

.....

- (b) Total amount of credit line Kshs.....

Attach Bank certified copies of financial bank statements of the last Six (6) months.

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

OTHER SUPPLEMENTARY INFORMATION

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

3. Name, address, telephone, email, fax numbers of the Bidder's Bankers who may provide reference if contacted by the Employer.

4. Information on current litigation / arbitration in which the Bidder is involved.

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

I certify that the above information is correct.

.....
 (Signature)

.....
 (Date)

DECLARATION FORM

Date:

To: Director General
Kenya Urban Roads Authority
P.O. Box 41727 - 00100
NAIROBI

The Bidder (name and address)
.....
.....
.....
.....

declares the following:

- (a) Has not been debarred from participating in public procurement.
- (b) Has not been involved in and will not be involved in corrupt and fraudulent practices regarding public procurement.

.....
(Signature)

.....
(Date)

Official Stamp:

(To be signed by authorized representative and officially stamped)

ANTI CORRUPTION DECLARATION / COMMITMENT / PLEDGE FORM

I/We of Post Office Box
..... declare that I/ We recognize that Public
Procurement is based on a free, fair and competitive tendering process which should not be open
to abuse.

I/We Declare that I/We
will not offer or facilitate, directly or indirectly, any inducement or reward to any public
officer, their relations or business associates, in connection with tender No.
..... for or in the subsequent performance of the
contract if I/We am/are successful.

Signed by C.E.O. or Authorized Representative.

Name

Designation.....

Signature.....

Date.....

In case of sub-contracting

Signed by CEO of the firm to be subcontracted

Name.....

Designation.....

Signature.....

Date.....

SECTION 4: INSTRUCTIONS TO BIDDERS

SECTION 4: INSTRUCTIONS TO BIDDERS

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CONDITIONS OF BID AND INSTRUCTIONS TO BIDDERS

A. GENERAL

CONDITIONS OF BID AND INSTRUCTIONS TO BIDDERS

B. 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 construction 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 Government of Kenya (RMLF)

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
 - (iii) “collusive Practice” is an arrangement between two or more parties, designed to achieve an improper purpose, including to influence improperly the actions of another party
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party

- (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 the National Construction Authority (NCA) in category stated in the invitation to tender / tender notice.
- 4.2 Bidders shall not have a conflict of interest. Bidders shall be considered to have conflict of interest, if;
 - a) They have controlling partners in common; or
 - b) They receive or have received any direct or indirect subsidy from any of them; or
 - c) They have the same legal representative for purposes of this bid; or
 - d) They have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - e) They participated as a Consultant in the preparation of the design, documentation or technical specifications of the works that are the subject of this bid other than as far as required by the Employer; or
 - f) They or any of their affiliates has been hired, or is proposed to be hired, by the Employer for Supervision of the Contract.
- 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 1.222.

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. A bidder who submits or participates in more than one bid 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.
- 7.2 The price to be charged for the bid document shall be Kshs. 1,000 (Kenya Shillings One Thousand Only) in form of a Bankers Cheque payable to the Kenya Urban Roads Authority. However, the same document in soft may be accessed in our website at www.kura.go.ke/tenders free of charge. Bidders who purchase documents will be required to attach a copy of an official receipt as proof of payment. For those who will download the document, they will be required to provide their details by registering at the procurement office immediately after the site visit.
- 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 or herself all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. **The Bidder's designated representative at this pre-bid site visit must be professionally qualified in the field of Civil Engineering.**
- 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. The date, time and venue of the pre-bid conference and site visit shall be the date, time and venue indicated in the Tender Notice, or any subsequent Addenda as the case may be. Failure to attend the organized site visit by any bidder shall lead to disqualification of their Bid.

C. **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(ies)
- (m) Drawings
- (n) BID addenda (BID notices)
- (o) Confidential Business Questionnaire
- (p) Details of Sub-contractors

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 email 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 7 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.ITB

D. 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 **INDELIBLE 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 All rates provided by the bidder shall be checked against market rates. Where the rates are not responsive based on the prevailing market rates, the bidder shall be called upon to give a justification for the rate in form of a breakdown of costs. If the breakdown is not consistent with the prevailing market rates, the bid shall be rejected.

14.6 The rates and prices quoted by the bidder are NOT subject to adjustment during the performance of the contract. The provisions of Clause 70 of the Conditions of Contract is therefore not applicable to this contract.

15 CURRENCIES OF BID AND PAYMENT

15.1 Bids shall be priced in Kenya Shillings.

15.2 Any payments pursuant to the Bid shall be made 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 by filling bid securing form as shown in the **Appendix to Form of Bid**.
- 17.2 The bid security shall be in the form of unconditional guarantee from an institution published by PPRA. 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) 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 guarantees

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 construction 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 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 email, 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 their BID.

20 FORMAT AND SIGNING OF BIDS

- 20.1 The bidder shall prepare one (1) 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 one (1) replica copy of the bid clearly marked “**COPY**”. In the event of discrepancy between them, the original shall prevail.
- 20.2 The original and copy of the bid shall be **TYPED** or written in **INDELIBLE INK** (in the case of copy, 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. Non-initialization shall constitute non-responsiveness.

20.4 The bidder shall serialize all pages of the document using indelible ink. Non-serialization shall constitute non-responsiveness.

E. SUBMISSION OF BIDS

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 not later than **the time and date indicated in the Tender Notice or any subsequent Addenda as the case may be.**

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.

F. 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, **the time, venue and date indicated in the Tender Notice or any subsequent Addenda as the case may be**. The bidders' representatives who are present shall sign a register evidencing their attendance.

25.2 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.

25.3 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.

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

25.5 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 email, but no change in the price or substance of the bid shall be sought, offered, or permitted.

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, taxes, levies, variation of prices and the likes. 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. Any bid found to have an arithmetic error **SHALL** be disqualified.

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 The Employer reserves the right to accept any variation, deviation or alternative offer 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.
- 30.3 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.
- 30.4 Preference where allowed in the evaluation of bids shall not exceed 15%
- 30.5 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.
- 30.6 The procuring entity shall give prompt notice for the termination to the bidders and on request give its reasons for termination within 14 days of receiving the request from any bidder.
- 30.7 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.

- 30.8 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.
- 30.9 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.
- 30.10 Poor past performance of the bidder shall be used as an evaluation criteria in accordance with section 5: *Qualification criteria*.

31 QUALIFICATION AND EVALUATION CRITERIA

- 31.1 Post-qualification will be based on meeting all of the following minimum point scale criteria regarding the Bidder's general and particular experience, personnel and equipment capabilities as well as financial position. The Employer reserves the right to waive minor deviations, if they do not materially affect the capacity of a Bidder to perform the contract. Subcontractor's experience and resources shall not be taken into account in determining the Bidder's compliance with qualifying criteria.
- 31.2 General Experience.
- The Bidder shall meet the following minimum criteria: ~
- (a) Average annual turnover for the last 2 years - KShs.40,000,000/-.
 - (b) Successful completion as a prime contractor or sub-contractor in the execution of at least three roads rehabilitation/new construction projects of a similar nature and comparable in complexity to the proposed contract within the last three years, for which at least one was located in an urban environment in Kenya.
- 31.3 **Personnel Capabilities.** The bidder should list down personnel of minimum qualification of a degree in Civil Engineering (Registered with Engineer's Board of Kenya as a professional Engineer) for Site Agent, Ordinary Diploma for the surveyor and an Ordinary Diploma in Civil Engineering for other supervisory staff. The generality of the above notwithstanding, the Engineer shall be required to approve the Site Agent at the commencement of the construction works.

- 31.4 **Equipment Capabilities.** The Bidder shall list down, the plants and equipment that are in his ownership and the ones proposed for hire which are required for executing and completing the works under the contract. Bidders shall attach evidence of ownership or hiring arrangements.
- 31.5 **Cash flow statement.** The Bidder shall demonstrate that she/he has access to or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means sufficient to meet the construction cash flow, estimated at 20% of the estimated tender sum.
- 31.6 **Balance Sheets.** Signed and stamped Audited balance sheets for the last two years should be submitted and must demonstrate the soundness of the Bidder's financial position, availability of working capital and net worth
- 31.7 **Financial position/Ratios.** The Bidder's financial information shall be assessed in terms of ROCE, current ratio and return on equity, and the point scale criteria on their financial position given on this basis. Where necessary, the Employer may make inquiries with the Bidder's bankers.
- 31.8 **Litigation History.** The Bidder shall provide accurate information on any litigation or arbitration resulting from contracts complete or under execution by him over the last five years. A consistent history of litigation against the Bidder may result in failure of the application.
- 31.9 **Post-qualification criteria** are as provided in the Appendix to instruction to tenderers.

The bidders who pass the technical criteria will be subjected to financial evaluation.

G. FINANCIAL EVALUATION

32 COMPARISON OF MAJOR RATES OF ITEMS OF CONSTRUCTION & CREDIBILITY OF TENDERERS RATES

The Employer will compare the tenderers' rates with the Engineer's estimates for major items of construction. If some bids are seriously unbalanced or front loaded in relation to the Engineer's estimates for the major 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.

33 PREFERENCE FOR CITIZEN BIDDERS

As stated in the law and the tender notice

H. AWARD OF CONTRACT

34 AWARD

- 34.1 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.

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

- 35.1 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.

36 NOTIFICATION OF AWARD

- 36.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing or by email 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").
- 36.2 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.

37 SIGNING OF AGREEMENT

- 37.1 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 format provided in the bidding documents, incorporating all agreements between the parties.
- 37.2 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 securities.
- 37.3 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.

38 PERFORMANCE SECURITY

- 38.1 Within twenty-eight (28) days of receipt of the notification of award from the Employer, the successful bidder shall furnish the Employer with a performance security in the form stipulated in the Conditions of contract. The form of performance security provided in Section 3 of the bidding documents shall be used.
- 38.2 The successful bidder shall provide a performance security in the form of an Unconditional Guarantee from an institution published by PPRA approved by the employer and located in Kenya.
- 38.3 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.

39 ADVANCE PAYMENT

- 39.1 There shall be no provision for advance payment to the contractor under this contract

40 CONTRACT EFFECTIVENESS

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

41 CORRUPT AND FRAUDULENT PRACTICES

- 41.1 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.

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No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
5.1	Eligibility						
5.1.1	Nationality	Nationality in accordance with ITB Subclause 3.2.	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Section 4, Clause 31
5.1.2	Conflict of interest	No conflicts of interest as described in ITB Subclause 3.1(a) i & ii	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Section 4, Clause 31
5.1.3	Employer Ineligibility	Not having been declared ineligible by the Employer, as described in Subclause 3.1(a) i & ii	Must meet requirement	Existing JV must meet requirement	Must meet requirement	N / A	Section 4, Clause 31
5.1.4	Incorporation & Registration	Bidder required to meet conditions of ITB Clause 4. Pursuant to Clause 4, the following shall be submitted; Certified copies of; ▪ Certificate of Incorporation to show that the Bidder is a registered company and legally authorized to do business in	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Section 4, Clause 31

No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		Kenya. ▪ - Proof of registration with the National Construction Authority Class as per Tender Notice as a Paved Roads Contractor ▪ Tax Compliance Certificate (Valid) ▪ VAT Registration Certificate ▪ PIN number					
5.2	Historical Contract Non-Performance						
5.2.1	History of Non-Performing Contracts	Non-performance of a contract did not occur within the last three (3) 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	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 4, Clause 31

No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the Bidder have been exhausted.					
5.2.2	Pending Litigation	All pending litigation shall in total not represent more than Fifty percent (50%) of the Bidder's net worth and shall be treated as resolved against the Bidder. The Bidder to provide Sworn affidavit.	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 4, Clause 31

No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
5.3	Financial Situation						
5.3.1	Financial Performance	Submission of audited financial statements or if not required by the law of the applicant's country, other financial statements acceptable to the Employer, for the last five [5] years to demonstrate: a) The current soundness of the applicants financial position and its prospective long term profitability, and b) Capacity to have and meet the construction cash flow of KShs. 20% of the tender sum.	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 4, Clause 31

No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
5.3.2	Average Annual Construction Turnover	Minimum average annual construction turnover calculated as total certified payments received for contracts in progress or completed, within the last Two (2) years: KShs.40 Million	Must meet requirement	Must meet requirement	Must meet	N/A	Section 4, Clause 31

No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
5.4 Experience							
5.4.1	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 and with activity in at least nine (9) months in each year	Must meet requirement	N / A	Must meet requirement	N / A	Section 4, Clause 31
5.4.2	Specific Construction Experience	a) Participation as contractor, management contractor or subcontractor, in at least two (2) contracts within the last five (5) years 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 8, Special Specification	Must meet requirement	Must meet requirement	N / A	N / A	Section 4, Clause 31
5.4.3	Subject	Requirement	Single Entity	Joint Venture	Submission Requirements	N / A	Give a brief description of how you intend to carry out the work including traffic

No.	Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
							management and quality assurance of works, in not less than three (3) pages and not more than five (5) pages (typed, font 12 and single spaced).

No.		Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
					All Parties Combined	Each Party	One Party	
		5.5 Current Commitments						
5.5.1		On-going contracts	There is no limit on the total value of the on-going contracts.	Must meet requirements	Must meet Requirements	Must meet[100-]/n-1]% of the requirement where n= no of joint venture members	N/A	Section 4, Clause 31
5.6		Personnel Capability						
5.6.1			Provide detailed CVs of all proposed personnel & certified copies of certificates, practicing licenses & academic documents; The site staff shall possess minimum levels set below (NB: Annual Practicing License is mandatory for Engineers);					
(a)		Site Agent	Qualification: BSc. Civil Eng and/or equivalent Be Registered by ERB and/or Professional Bodies Registration (attach current practising licence) General Experience: 15 years Specific Experience in similar works: 10 years	Must meet requirements	Must meet requirements	N/A	Must meet requirements	Section 4, Clause 31

No.		Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
					All Parties Combined	Each Party	One Party	
			Specific Experience as manager of similar works: 5 years					
(b)		Deputy Site Agent / Site Engineer	Qualification: B.Sc. Civil Eng and/or equivalent General Experience: 10 years Specific Experience in similar works: 7 years.	Must meet requirements	Must meet requirements	N/A	Must meet requirements	Section 4, Clause 31
(c)		Site Engineer	Qualification: B.Sc. Civil Eng and/or equivalent Be Registered by ERB and/or Professional Bodies Registration (attach current practising licence) General Experience: 8 years Specific Experience in similar works: 6 years	Must meet requirements	Must meet requirements	N/A	Must meet requirements	Section 4, Clause 31

No.		Subject	Minimum Requirement	Single Entity	Joint Venture			Submission Requirements
					All Parties Combined	Each Party	One Party	
(d)		Site Surveyor	Qualification: BSc Surveying Eng and/or Equivalent General Experience: 10 years Specific Experience in similar works: 8 years	Must meet requirements	Must meet requirements	N/A	N/A	
(e)		Foremen	Qualification: Higher National Diploma in Civil Engineering. General Experience: 10 years Specific Experience in similar works: 8 years	Must meet requirements	Must meet requirements	N/A	N/A	Section 4, Clause 31
(f)		Materials Technologist	Qualification = Dip. Civil Eng General Experience = 6 yrs Specific Experience = 4 Yrs	Must meet requirements	Must meet requirements	N/A	N/A	Section 4, Clause 31

NOTE: BIDDERS ARE INFORMED THAT APART FROM THE ABOVE, THEY MUST MEET THE REQUIREMENTS OF THE PUBLIC PROCUREMENT AND DISPOSAL ACT, 2015.

5.7 Schedule 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 / lease. (* 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	Compliance Requirement	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
A	Bituminous Plants					
	Bitumen Pressure distributor	1	YES/NO			
B	Asphalt concrete paver	1	YES/NO			
	Compactors					
	Vibrating compaction plate 300 mm wide	1	YES/NO			
	Vibrating compaction plate 600 mm wide	1	YES/NO			
	Subtotal for B	<u>2</u>				
C	Concrete Equipment					
	Mobile concrete mixers	1	YES/NO			
	Concrete vibrators	1	YES/NO			
	Subtotal for C	<u>2</u>				
D	Transport (Tippers, dumpers, water tankers)					
	4X2 tippers payload 7 – 12 tonnes	1	YES/NO			
	6X4 tippers payload 16 – 20 tonnes	1	YES/NO			
	8X4 tippers payload 16 – 20 tonnes	1	YES/NO			
	Flat bed lorries	1	YES/NO			
	Subtotal for D – tippers & dumpers	<u>4</u>				
	Water tankers (18,000 – 20,000 litres capacity)	1	YES/NO			
	Subtotal for D	<u>1</u>				
E	Earth – Moving Equipment					
	Wheeled loaders	1	YES/NO			
	Motor graders (93 - 205kW)					

Item No.	Equipment Details	*Minimum Number Required for the Contract for Execution	Compliance Requirement	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
F	Trench excavator	2	YES/NO			
	Subtotal for E	1	YES/NO			
	Excavators	<u>4</u>				
	Hydraulic crawler mounted (7 – 10 tonnes) – 0.25 – 0.4 m3 SAE bucket.					
G	Hydraulic crawler mounted (10 – 16 tonnes) – 0.40 – 0.60 m3 SAE bucket.					
	Hydraulic wheel mounted (7 – 10 tonnes) – 0.25 – 0.4 m3 SAE bucket.					
	Hydraulic wheel mounted (10 – 16 tonnes) – 0.40 – 0.6 m3 SAE bucket.					
	Hydraulic wheel mounted backloader (7 – 10 tonnes) – 0.25 – 0.4 m3 SAE bucket.					
	Subtotal for F					
	Rollers	<u>2</u>	YES/NO			
	Self propelled single drum vibrating (various types)	1	YES/NO			
	Pneumatic rubber tyre (1-2 tonnes/wheel)	1	YES/NO			
	Sheep's foot roller	1	YES/NO			
	Subtotal for G	<u>3</u>	YES/NO			

(Bidders must provide proof of ownership or lease arrangements for all plants and equipment.

All lease agreements must be must be current (within six months from the date of tender opening)

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 Bidder)

.....
(Date)

APPENDIX TO QUALIFICATION CRITERIA

TABLE 1: PRE- QUALIFICATION CHECKLIST FOR COMPLETENESS AND RESPONSIVENESS

S/No	Completeness and Responsiveness Criteria	References	Requirement
1.	Form of Bid	Section 1 Clause 20.2	~ Amount must be indicated ~ Properly fill, sign and stamp
2.	Appendix to Form of Bid	Clause 20.2 Section 2	~ Form Properly fill, sign and stamp
3.	Bid Security	Section 3 Clause 16/17	~ Unconditional Bank guarantee ~ In the format provided with all conditions
4.	Confidential Business Questionnaire	Section 3; Item 3.9	~ Properly fill, sign and stamp ~ Provide all required information
5.	Form of Power of Attorney	Section 3; Item 3.15 Clause 5.1 (a)	~ Properly fill, sign and stamp ~ Provide copies of National Identification card or Passport.
6.	Tax Compliance Certificate	Employer's notice	~ Valid
7.	Registration with National Construction Authority	Employer's notice Item 5.1.4 of QC	~ As per Category in the Tender Notice ~ Copy of certificate Certified by Commissioner of Oaths
8.	Certificate of Incorporation	Employer's notice Item 1.4 of QC	~ Copy of certificate Certified by Commissioner of Oaths
9.	Priced Bill of Quantities	Section 9	~ Fill all rates, prices and amounts
10.	Eligibility	Section 3; Item 3.9 Clause 4.1/4.2	~ Copies of National ID or passport for all directors ~ Certified copy of Form CR12
11.	Conflict of interest	Section 3; item 3.9 Clause 4.2	~ to state explicitly
12.	Debarment	Section 3; item 3.21 Item 1.3 of QC	~ Properly fill, sign and stamp
13.	Pending Litigation	Item 2.2 of QC	~ Provide Sworn affidavit
14.	Litigation History	Section 3; item 3.20	~ Fill in information, sign and stamp
15.	Non-completed works beyond completion date	Section 3; Item 5.2.1 of QC	~ Fill information on non-completed works
16.	Schedule of Major Items of Plant	Item 3.11 of QC Section 3;	~ Properly fill, sign and stamp
17.	Schedule of Key Personnel	Item 3.16 of QC Section 3;	~ Properly fill, sign and stamp
18.	Serialization of document	Item 20.4	~ All pages shall be sequentially serialized

19.	Roadwork Completed Satisfactorily	Item 3.17 of QC Section 3;	~ Properly fill, sign and stamp
20.	Schedule of Ongoing Projects	Item 3.18 of QC Section 3;	~ Properly fill, sign and stamp
21.	Schedule of other Supplementary Information / Financial Standings	Item 3.19/3.20 of QC Section 3;	~ Properly fill, sign and stamp
22.	Anti-Corruption Declaration / Commitment / Pledge Form	Item 3.21 Section 3;	~ Properly fill, sign and stamp
23.	Copy of Bid Document	Clause 20.1	~ Replica of the original ~ Provide 1No.
REMARKS		Clause 13.1/20.2	~ Bid document to be complete, Properly fill, sign and stamp .

Key: QC – Qualification Criteria

TABLE 2: POST- QUALIFICATION SCORE

ITEM		DESCRIPTION	MUST MEET CRITERIA
1		FINANCIAL CAPACITY	YES/NO
	a	Audited Statements	YES/NO
	b	Cash flow statement (forecasts)	YES/NO
		Turnover	YES/NO
2		EXPERIENCE	
		General Experience	YES/NO
		Specific experience in related works	YES/NO
3		CURRENT COMMITMENTS	Max 10
		On-going works	YES/NO
4		KEY PERSONNEL	
		Site Agent	YES/NO
		Deputy Site Agent/Site Engineer	YES/NO
		Senior Foreman	YES/NO
		Surveyor	YES/NO
		Foreman	YES/NO
5		PLANT AND EQUIPMENT	
		Equipment capabilities	YES/NO
6		WORK METHODOLOGY	YES/NO
7		LITIGATION HISTORY	YES/NO
8		County based	YES/NO
		REMARKS	REMARKS ALL PARAMETERS MUST BE MET

ITEM		DESCRIPTION	MUST MEET CRITERIA

- Bidders must achieve YES in all the measured parameters to qualify.
- The bidders who pass the technical criteria will be subjected to financial evaluation

SECTION 6: CONDITIONS OF CONTRACT

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

The Conditions of Contract, Part I: General Conditions shall be those forming Part I of the “Conditions of Contract for Works of Civil Engineering Construction,” fourth edition 1987, reprinted in 1992 with further amendments, prepared by the *Fédération Internationale des Ingénieurs-Conseils* (FIDIC). These Conditions are subject to the variations and additions set out in Part II hereof entitled “Conditions of Particular Application.”.

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

FIDIC Secretariat
P.O. Box 86
1000 Lausanne 12
Switzerland
Facsimile: 41 21 653 5432
Telephone: 41 21 653 5003

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.

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CONDITIONS OF CONTRACT PART II (CONDITIONS OF PARTICULAR APPLICATION)

NOTES:

The Conditions of Particular Application (Conditions of Contract, Part II) modify and compliment like-numbered clauses in the General Conditions of Contract (Conditions of Contract, Part I). Both parts shall be read together, with the Conditions of Particular Application prevailing in case of conflict or discrepancy. Clauses of the General Conditions of Contract not specifically modified and supplemented shall remain in effect.

DEFINITIONS AND INTERPRETATION

1.1 Definitions

- (a) (i) The “Employer” shall be The Director General, Kenya Urban Roads Authority.
- (iv) The “Engineer” shall be The Director (Urban Roads Development) , Kenya Urban Roads Authority or any other competent person appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer.
- (b) (i) Insert in line 2 after “the Bill of Quantities”, the following, ”the rates entered by the Contractor (whether or not such rate be employed in computation of the Contract Price)”.
- (v) The word “Tender” and its derivatives are synonymous with the word ‘Bid,’ and its derivatives, and the words ‘Tender Documents’ with ‘Bidding Documents’. The words “Appendix to Tender” and the words “Appendix to Bid” shall have the same meaning as the words ‘Appendix to the Form of Bid’.”

Add the following paragraph at the end of Subclause 1.1 (f) (vii):

The aforesaid includes lands waters, river beds and other places on, under, in through which the Works are to be carried out including all offices, workshops or places where materials are to be stored or used for the purposes of the Contract. It also includes quarries; borrow pits, stock pile areas and spoil areas”

Add Subclause 1.1 (g) (v):

Dates shall be construed in accordance with the Gregorian Calendar.

Add the following Subclause 1.6:

1.6 Gender Specific Words

Wherever in the Contract Documents the word ‘man’ or ‘men’ is used directly or as a suffix it means ‘woman’ or ‘women’ also. The Word ‘he’ includes ‘she’ also.

ENGINEER AND ENGINEER’S REPRESENTATIVE

2.1 Engineer’s Duties and Authority

With reference to Sub-Clause 2.1(b): Add the following

The Engineer shall obtain specific approval of the Employer before taking any of the following actions specified in the General Conditions of Contract:

- (a) Consenting to the sub-letting of any part of the Works under Clause 4.
- (b) Certifying additional cost determined under Clause 12
- (c) Determining an extension of time under Clause 44
- (d) Issuing a variation under Clause 52
- (e) Certifying payment if the Contract Price will be exceeded
- (f) Authorising the use of provisional sums in excess of the monetary limit for variations
- (g) Issuing any Taking-over Certificate
- (h) Certifying additional payment/costs under Clause 65;
- (i) Issuing a Defects Liability Certificate under Clause 62

- (j) Fixing rates or prices under Clause 52.

Notwithstanding the provisions set out above, to obtain approval of the employer, if in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.”

ASSIGNMENT AND SUBCONTRACTING

4.1 Subcontracting

Delete the second and third sentence and substitute:

No single subcontract may be for more than 10 percent of the Contract Price nor shall the sum of all subcontracts exceed 25 percent of the Contract price. No one subcontractor may be awarded subcontracts to a total value greater than 10 percent of the Contract Price. All subcontracts greater than 2 percent of the Contract Price are to have the prior consent of the Engineer. The Contractor shall however, not require such consent for purchases of materials or to place contracts for minor details or for any part of the Works of which the manufacturer or supplier is named in the Contract. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen.

Add the following:

The Engineer should satisfy whether:

- (a) The circumstances brought out warrant such subcontracting; and
- (b) The subcontractors so proposed for the Work possess the necessary experience, qualifications and equipment for the job proposed to be entrusted to them in proportion to the quantum of work to be subcontracted.

If the contractor proposes payments to be made directly to that subcontractor, this should be subject to specific authorization by the Contractor so that such consent does not relieve him from any liability or obligations under the contract.

CONTRACT DOCUMENTS

5.1 Language and Law

- (a) The language governing this Contract shall be English.

The “Ruling Language” which shall be used to interpret this Contract shall be English. Communication between the Contractor and Engineer or Engineer’s representative shall be in English.

- (b) The laws applicable to this Contract shall be the laws of the Republic of Kenya. Except to the extent otherwise provided by the Contract, the Kenyan courts shall have exclusive jurisdiction to hear and to determine all actions and proceedings in connection with and arising out of the Contract and the Contractor shall submit to the jurisdiction of Kenyan courts for the purpose of any such actions and proceedings.

5.2 Priority of Contract Documents

Delete the documents listed as (1) to (6) and substitute with the following:

- (1) The Contract Agreement (if completed)
- (2) The Letter of Acceptance

- (3) Minutes of Pre-Contract Award Discussion, if any
- (3) Bid and Appendix to Form of Bid
- (4) The Conditions of Contract, Part II; Conditions of Particular Application
- (5) The Conditions of Contract, Part I; General Conditions of Contract
- (6) The Special Specifications
- (7) The Standard Specifications for Road and Bridge Construction, Ministry of Transport and Communications, 1986
- (8) Clarifications and Rectifications accepted by the Employer
- (9) The Drawings
- (10) The priced Bill of Quantities
- (11) Schedules and other documents forming part of the Contract.

Add to Clause 6 the following Subclauses 6.6 to 6.10:

6.6 Metric Units

All units used in the Contract shall be metric and for measurement of angles the 360 degrees circles systems shall be used

6.7 Intent of Drawings and Specifications

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

Where 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. First quality refers to the quality as approved by the Engineer.

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

6.8 Design, Drawings and Specifications Prepared by the Contractor

No payment will be made to the Contractor for undertaking any kind of design work, preparation of drawings and specification, other than that specifically required by the terms of the Contract. Payment for design work, preparation of drawings and specifications, 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.

6.9 Submissions of Designs and Drawings

All detailed working drawings/shop drawings, design calculations and fabrication drawings for Temporary Works (such as formwork, staging, centring, scaffolding, specialized constructional, handling and launching equipment and the like) as well as bar bending and cutting schedules for reinforcement, material lists for structural fabrication including detailed drawings for templates, end anchorage and temporary support details for pre-stressing cables shall be prepared by the Contractor at his own cost and forwarded in triplicate to the Engineer at least six weeks in advance of actual constructional requirements. The Engineer will check and return one copy of the same for the Contractor's use with amendments, if any, noted in red ink. Such approval shall not relieve the Contractor of any of his responsibilities in connection with temporary works.

The Contractor will supply four copies of the approved drawings for the Engineer's use. The cost of preparing all such items of work shall be deemed to have been included in the respective rates/prices quoted by the Contractor in the Bill of Quantities.

6.10 As-Built Drawings

On completion of the Works, the Contractor shall arrange to furnish to the Employer two (2) bound sets of all "As Built" drawings for every component of the Works at his own cost, all such copies being on Polyester film of quality to be approved by the Engineer or his Representative and digitized copy (2 No.) in Compact Discs (CDs) of quality approved by the Engineer or his Representative. The Taking-over Certificate of the Works, as per the provisions of Clause 48.1 herein, shall not be issued by the Engineer in the event of the Contractor's failure to furnish the aforesaid "As Built" drawings for the entire works."

Add to Clause 7 the following Sub-clauses 7.4 to 7.6:

7.4 Drawings for Temporary Works

Drawings for Temporary works to be carried out by the Contractor shall be submitted to the Engineer for approval.

Working drawings of concrete structures consisting of such details as may be reasonably required for the successful execution of the work and which are not included in the plans furnished by the Employer, shall be prepared by the Contractor. Three sets of working drawings shall be submitted to the Engineer for approval.

7.5 Size of Drawings

All drawings submitted by the Contractor shall for convenience in filing be as far as possible of a uniform size, and not more than 1010 mm x 680 mm. The drawings shall be numbered and dated, and shall include the title of the Contract at the bottom of the drawing followed by the title of the drawing. All drawings shall have the appropriate scales drawn on them and notes shall be in English. All amendments to such drawings shall be noted and dated on the drawing.

7.6 Submission to the Engineer

Whenever the Contractor is required to submit to the Engineer proposals, details, drawings, calculations information, literature, materials, test report and certificates, the Engineer will consider each submission and, if appropriate, will reply to the Contractor in accordance with the relevant provision of the Conditions of Contract. Unless a defined period of time is stated in the contract, each submission shall be made by dates to be agreed with the Engineer having regard to the approved programme and the need to give the Engineer adequate time to consider each submission.

The approval of the Engineer of any submission shall not relieve the Contractor of his responsibilities under the Contract.

GENERAL OBLIGATIONS

Add to Subclause 8.1 the following:

8.1 Contractors General Responsibilities

Add to Subclause 8.1 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 superintending personnel.

The Contractor shall maintain this office throughout the Contract period. The said office shall be the legal domicile of the Contractor, and all correspondence sent to this office shall be deemed to have been sent to the Contractor's head office.

- (b) A foreign Contractor or a Kenya-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.

Add to Clause 8 the following Subclause 8.3:

8.3 General Requirements

- (a) Materials delivered to the site by Contractor or materials made available or supplied by the Employer shall be used solely for the execution of the Works.
- (b) The Contractor shall minimise the pollution of and disturbance of lands, roads and other places on and around the Site. No trees or other vegetation shall be removed except to the extent necessary for the works.
- (c) The Contractor shall comply with the current Government regulations with regard to the transport, storage and use of explosives and radio-active materials and use of radio communication equipment.
- (d) The Contractor shall take all reasonable precautions:

- (i) In connection with any rivers, streams, waterways, drains, water courses, lakes and the like to prevent as a consequence of the works, silting, erosion of beds and banks and pollution of the water that may adversely affect the quality or appearance thereof or cause injury or death to human, animal or plant life.
- (ii) In connection with underground water resources, including percolating water, to prevent any interference as a consequence of the work with the supply to or abstraction from such sources and to prevent pollution of water that may adversely affect the quality thereof.
- (e) The Contractor shall provide, maintain and remove on completion of the Works, settling lagoons and other facilities to minimise pollution due to the Contractor's operations including but not limited to quarrying, aggregate washing, concrete mixing and grouting.
- (f) The Contractor shall provide, maintain and remove on completion of the Works, fencing around the site installations including housing, camps, offices and laboratories, providing free access to the Employer, the engineer, other Contractors and any other persons entitled to such access and provide appropriate security measures on such access roads.
- (g) All buildings erected by the Contractor upon the site and camp sites, and the layout of the buildings and the sites, shall comply with the Laws of the country and all local By-laws in so far as they are applicable.
- (h) The Contractor shall be absolutely and solely responsible for the safety and security of Temporary Works including, but not limited to, all work yards, pilings, staging, dams, coffer dams, trenches, fencing or other works and for the Plant and Contractor's Equipment in connection therewith which may be erected or provided for the execution of the Contract Works.

This provision shall be applicable to all temporary Works, Plant and Contractor's Equipment whenever provided and erected by the Contractor or his Subcontractor(s) for the purpose of or in connection with the Contract Works.
- (i) The contractor shall keep in close contact with the police, Labour officers and all other officials as appropriate regarding their requirements for the control of workmen, restricted area permits or other matters and shall provide all assistance and facilities which may be required by such officials in the execution of their duties.

10.1 Performance Security

Replace the text of Subclause 10.1 with the following:

The Contractor shall provide security for his proper performance of the Contract to the Employer within 28 days after the receipt of the Letter of Acceptance. The Performance Security shall be as stipulated in the Appendix to the Form of Bid. The Performance Security shall normally be in the currency or currencies requested for payment by the Contractor and in the same proportions as those requested for payment in the Contract. The Contractor shall notify the Engineer when providing the Performance Security to the Employer.

The Performance Security shall be a bank guarantee which shall be issued either:

- (a) By a bank located in Kenya or a foreign bank through a correspondent established and reputable bank located in Kenya or;

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 and/or legislation or as a result of a variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor, at the Engineer's written request, shall promptly increase the value of the Performance Security in that currency by an equal percentage.

The performance security of a joint venture shall be in the name of the joint venture.

10.2 Period of Validity of Performance Security

The performance security shall be valid until a date 28 days from the date of issue of the Taking-Over Certificate for the last section in case of partial handover. The security shall be returned to the Contractor within 28 days of expiration.

10.3 Claims under Performance Security

Delete sub-clause 10.3

Add the following Subclause 10.4:

10.4 Cost of Performance Security

The cost of complying with the requirements of this clause shall be borne by the Contractor.

11.1 Inspection of Site

Add the words “and the Contractor shall be deemed to have based his tender on all the aforementioned” after the words “affect his tender”.

Delete the last paragraph completely and replace 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 bidding 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.

Add a new Subclause 11.2:

11.2 Access to Data

Data made available by the Employer in accordance with Subclause 11.1 shall be deemed to include data listed elsewhere in the Contract as open for inspection at the address stipulated in Appendix to the Form of Bid.

14.1 Programme to be Submitted

Delete Subclause 14.1 and replace with the following:

The time within which the Programme shall be submitted shall be twenty eight (28) days .This detailed Programme shall be based upon the programme submitted by the Contractor as part of his bid and shall, in no material manner, deviate from the said programme.

The Contractor shall allow in his Programme for the following 11 public holidays per calendar year in Kenya upon which the Contractor shall not be permitted to work:

- New Year’s Day (1st January)
- Good Friday
- Easter Monday
- Labour Day (1st May)
- Madaraka Day (1st June)
- Idd-ul-Fitr
- Moi Day (10th October)
- Mashujaa Day (20th October)
- Jamhuri Day (12th December)
- Christmas Day (25th December)
- Boxing Day (26th December)

The Contractor should also allow per calendar year for a further two (2) unspecified public holidays which may be announced by the Government of Kenya with no prior notification, and upon which he shall not be permitted to work.

The Programme shall be submitted in two copies in the form of a Critical Path Method Network (CPM Network) showing the order of procedure and description of the construction methods and arrangements by which he proposes to carry out the Works. In addition, the aforesaid critical path programme should be supplemented by:

- (i) A Gantt/time-bar chart detailing each construction activity, showing for each construction activity; the periods of construction activity planned; the percentage completion anticipated per month; the total estimated quantity of work; the average monthly production planned, and
- (ii) A detailed work method statement in respect of each construction activity. It should also be supplemented by a time-bar chart of the same programme. The programme shall be coordinated with climatic, groundwater and other conditions to provide for the completion of the works in the order and by the time specified. The Programme shall be revised at quarterly intervals and should include a chart of the principal quantities of the forecast for execution monthly.

The detailed work method statement of each particular construction activity shall list by category/type and quantity the labour, skilled labour, supervisors, plant, equipment and materials to be employed on the particular construction activity; together with: the estimated average daily production anticipated, the estimated equipment availability and utilisation factor anticipated and a detailed step description of the way in which resources are to be utilised to achieve the required rate of construction/production.

The Contractor's attention is particularly drawn to the need to familiarise himself with customs procedures in connection with importation and to allow sufficient time in its programme for these to be completed.

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

If details of the Contractor's proposals for Temporary Works are required by the Engineer for his own information the Contractor shall submit such detail 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 so as to achieve a continuous and consecutive output of fully completed road works inclusive of bridge works and culverts within the time limits specified in the Contract.

The Contractor shall, wherever required by the Engineer, also provided in writing for information a detailed description of the arrangements and methods which the Contractor proposes to adopt for the execution of any particular part of the Works as directed by the Engineer.

Progress reporting by the Contractor should be supported on a monthly basis with an up-to-date analysis of the progress including a statement on items which are or are about to become critical to the Progress of Works, along with proposals on how the Contractor intends to address the situation.

The consent by the Engineer on any programme shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out according to such programme, and that the Contractor undertakes to carry out the work in accordance with the programme, nor shall it limit the right of the Engineer to instruct the Contractor to vary the programme should circumstances make this necessary. The above shall not be taken to limit the right of the Contractor to claim for damage or extension of time to which he may be fairly entitled to in terms of the General Conditions of the Contract for delay or disruption of his activities.

Notwithstanding the General Conditions of Contract Clause 14.1, the programme to be submitted for the execution of the Works shall, in addition to the programme of pure construction activities, include an alleviation programme for Site staff and labour in respect of Sexually Transmitted Disease (STD) including HIV/AIDS. The STD and HIV/AIDS alleviation programme shall indicate when, how and what cost the Contractor plans to satisfy the requirements of Subclause 19.1 herein and the related Technical Specifications. For each component, the programme shall detail the resources to be provided or utilized and any related sub-contracting proposed. The programme shall also include provision of a detailed cost estimate with supporting documentation.

14.2 Revised Programme

Add the following at the end of this subclause:

The Contractor shall, when instructed by the Engineer, amend, correct or modify the Programme of the Works so as to take into account any delays and/or advances and modifications designs or for other reasons considered necessary by the Engineer.

If, during the progress of the work, the quantities of work performed per month fall below those shown in the Programme, or if the sequence of operations is altered, or if the Programme is deviated from in any other way, the Contractor shall, within two weeks after being notified by the Engineer, submit a revised Programme necessary to ensure completion of the Works or any part thereof within the Time for Completion, or any extended time granted pursuant to Clause 43 and Clause 44 of the General Conditions of Contract or so as to take into account any delays or advances or for other reasons considered necessary by the Engineer without prejudice to the Employer's right under Clause 63 of the General Conditions of Contract.

Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on Site, or by using the available labour and plant in a more efficient manner.

Should the Employer request and the Contractor undertake to finish the whole or part of the Works ahead of the time originally required by the Contract, payment for accelerating the work shall only be made if agreed to beforehand in writing and according to the terms of such agreement.

If the Programme is to be revised by reason of the Contractor falling behind his Programme, he shall produce a revised Programme showing the modifications to the original Programme to complete the Works within the time as defined in Clause 43 of the General Conditions of Contract.

The Employer shall have the right to withhold payment at any time if the Contractor fails to submit the contractual construction programmes in accordance with Subclause 14.1 above or revise construction programmes due to his negligence, failure or omission.

14.3 Cash Flow Estimate to be Submitted

The time limit within which a detailed cash flow estimate is to be submitted shall be twenty eight (28) days.

In preparing the estimates, the Contractor shall make provision for Advance payment, repayment of advance, retention, payment for services provided by the Employer and timing implications of Clause 60 Certificates and Payments.

A schedule of Payments for both local and foreign currency expected to be made to the Contractor by the Employer, shall be provided.

The cash flow estimate submitted with the bid shall be revised each time the construction Programme is submitted, and revised, under Subclauses 14.1 and 14.2 above.

15.1 Contractor's Superintendence

Add the following at the end of the first paragraph of Subclause 15.1:

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.

15.2 Contractor's Agent or Representative

Add the following Subclause 15.2:

The Contractor's agent or representative on the Site shall be an Engineer 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, write and speak English fluently.

16.2 Engineer at Liberty to Object

At the end of this clause add "by a competent substitute approved by the Engineer at the Contractor's own expense".

Add the following Subclauses 16.3 and 16.4:

16.3 Language Ability of Superintending Staff

A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the language specified in the Appendix to Form of Bid pursuant to Subclause 5.1(a), or the Contractor shall have available on site at all times a number of competent interpreters, as required by the Engineer, to ensure proper transmission of instructions and information.

16.4 Employment of Local Personnel

The Contractor is encouraged to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications who are Kenyan citizens.

17.1 Setting Out

The following additional paragraph shall apply to the provisions of the Subclause 17.1:

- (d) The checking of all the setting-out of the proposed works relative to existing ground features, to be undertaken prior to the commencement of fabrication of structural steelworks for superstructures. This preparation is to include providing the facility for the Engineer to undertake a timely check on this setting-out and alerting the Engineer to any likely problems foreseen.

The contractor shall give to the Engineer not less than 48 hours of notice of his intention to set out or give layout for any part of the works so that timely assignment can be made for checking the same.

Add the following new Subclause 17.2:

17.2 Notice to Engineer

The Contractor shall give to the Engineer not less than 48 (Forty eight) hours notice of his intention to set out or give levels for any part of the works so that timely arrangement may be made for checking or issuing instructions. He shall indicate therein by which date the information, if any, is required by him."

19.1 Safety, Security and Protection of the Environment

Add Subclauses 19.1 (d), (e), (f), (g), (h), (i), (j), (k), (l) and (m) and the subsequent text as follows:

- (d) Notwithstanding the Contractor's obligation under Subclauses 19.1 (a), (b) and (c) of the Conditions of Contract, the Contractor shall carry out, without limitation, the following measures with a view to reducing or eliminating adverse environmental effects by the site Works:
 - (i) All quarries, borrow pits, diversions and detours shall be filled and landscaped, as far as practical, to their original condition after extraction of construction material.
 - (ii) Soil erosion and sedimentation due to the surface runoff or water from culverts or other drainage structures should be avoided by putting in place proper erosion control measures.
 - (iii) Long traffic diversion roads shall be avoided so as to minimise the effect of dust on the surrounding environment. In any case, all diversions shall be kept damp to reduce dust.
 - (iv) Haulage routes shall be kept as short as possible and watered as necessary.
 - (v) Spillage of oil, fuel, and lubricants shall be avoided. If spilt, they shall be collected and disposed of in such a way that there do not adversely affect the natural environment.
 - (vi) Rock blasting near settlement areas shall be properly coordinated with the relevant officers of the Kenya government in an attempt to minimise levels of noise pollution and community interference.
- (e) The formulation and enforcement of an adequate safety programme shall be the obligation of the Contractor with respect to all the works under this Contract, regardless of whether performed by the Contractor or his Subcontractors. The Contractor shall, within 14 days

after commencement of the Works, meet the Engineer to present and discuss his plan for the establishment of such safety measures as may be necessary to provide against accidents, unsafe acts, and so forth.

Within 28 days after commencement of the Works, the Contractor shall submit a written safety, security and environmental protection programme to the Engineer covering the overall works and based on the laws and regulations of Kenya. In addition, he shall prepare special safety programmes for blasting and handling of explosives as may be stipulated in the Specifications.

- (f) The Contractor shall take all due precautions to avoid soil and water contamination by spillage of oil, grease, fuel and paint in the equipment yard, workshop or the site of works. Lubricants should be recycled.
- (g) The Contractor shall install pollution control device in his asphalt plant.
- (h) The Contractor shall implement re-plantation and grading of steep slopes in quarries and borrow pits to prevent disfiguration of landscape.
- (i) The Contractor shall implement compensatory afforestation plan to counteract destruction of vegetation when required to do so by the Engineer. The Contractor shall pay proper attention to the aspect of borrow pit drainage to prevent formation of stagnant pools of water and incidence of mosquito vectors. All borrow pits will be provided with efficient drains which shall be connected to the natural outfalls.
- (j) Notwithstanding implementation of any other provision contained in the Conditions of Contract, the failure on the part of the Contractor or his staff in the cases listed bellow will be considered default on the part of the Contractor and will attract the terms of Subclause 63.1 for remedies.
 - Poor sanitation and solid waste in the workers camp
 - Possible transmission of communicable diseases, including HIV/AIDS, between local people and the Contractor's workers
 - Poaching by the Contractor's workers
 - Illegal invasion of indigenous people by the Contractor's labour.
- (k) All lights provided by the Contractor shall be screened so as not to interfere with any signal light on the railways or with any traffic or signal lights of any local or other authority.
- (l) The Contractor shall be deemed to be in possession of, and ensure that the Contractor's personnel are fully aware of, relevant safety regulations.
- (m) The Contractor shall ensure that all equipment, tools and other items used in accomplishing the Works, whether purchased, rented or otherwise provided by the Contractor are in safe, sound and good condition for performing the intending function.

Notwithstanding the terms of Clause 19.1 of the General Conditions of Contract, the Contractor shall throughout the contract (including the Defects Liability Period):

- (i) Conduct Information, Education and Consultation (IEC) campaign, at least every other month, addressed to all the Site staff and labour (including all Contractor's Employees, all Subcontractors and Consultant's employees, and all truck drivers and crew marketing deliveries to Site) and to the immediate local communities, concerning the dangers and impact of Sexually Transmitted Diseases (STD) in general and HIV/AIDS in particular;
- (ii) Provide male or female condoms for all Site staff and labour as appropriate; and
- (iii) Provide for STD and HIV/AIDS professional screening, diagnosis, counselling and full treatment (except that in the case of HIV/AIDS cases treatment shall be limited to referral to a dedicated national or regional HIV/AIDS programme) of all Site staff and labour.

Amend Subclause 20.4 to read as follows:

20.4 Employer's Risks

The Employer's risks are:

- (a) Insofar as they directly affect the execution of the Works in Kenya where the Permanent Works are to be executed:
 - (i) War and hostilities (whether war be declared or not), invasion, act of foreign enemies, terrorism
 - (ii) Rebellion, revolution, insurrection, or military or usurped power, or civil war
 - (iii) Ionising radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
 - (iv) Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds
 - (v) Riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works.
- (b) Loss or damage due to the use or occupation by the Employer of any section or part of the Permanent Works, except as may be provided for in the Contract
- (c) Loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible, and
- (d) Any operation of the forces of nature (insofar as it occurs on the 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:
 - i. Prevent loss or damage to physical property from occurring by taking appropriate measures, or
 - ii. Insure against such loss or damage."

21.1 Insurance of Works and Contractor's Equipment

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."

Add the following words at the end of subparagraph (a) and immediately before the last word of subparagraph (b):

"it being understood the insurance shall provide for compensation to be payable in the types and proportions of the currencies required to rectify the loss or damage incurred."

In Subclause 21.1(b), delete the words "or as may be specified in Part II of these Conditions".

21.2 Scope of Cover

- (a) Delete the words "from the start of Work at the Site" and substitute with the words "from the first working day after the commencement date"

Add the following Subclause 21.2 (c):

- (c) 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.

Amend Subclause 21.4 to read as follows:

21.4 Exclusions

There shall be no obligation for the insurances in Subclause 21.1 to include loss or damage caused by the risks listed under Subclause 20.4 subparagraphs (a) (i) to (v) above.

Add the following Subclause 21.5:

21.5 Insurance of Goods

The Contractor shall insure or cause to be insured all imported goods financed out of the proceeds of the Contract against marine and other hazards incidental to the acquisition, transportation and delivery thereof to the place of use or installation and where appropriate against all usual risks pertaining to the construction of the Works.

23.1 Third Party Insurance (Including Employer's Property)

Add the following at the beginning of this Subclause:

Prior to commencement of the Works ...

23.2 Minimum Amount of Insurance

Add the following at the end of this subclause:

... with no limits to the number of occurrences

25.1 Evidence of Terms of Insurance

Insert the words “as soon as practicable after the respective insurances have been taken out but in any case” before the words “prior to the start of Work at the Site”

Add the following Subclauses 25.5 to 25.8:

25.5 Source of Insurance

The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to, the insurance referred to in Clauses 21, 23, and 24) with insurers from any eligible source country which has been determined to be acceptable to the Employer.

25.6 Insurance Notices

Each policy of insurance effected by the Contractor for the purpose 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 not more than thirty (30) days after the giving of such notice.

25.7 Insurance in Kenya

The risks against which the Contractor is obliged to insure under the Contract shall be insured through established and reputable companies approved by the Employer and located in Kenya and any cover against risks which the Contractor may enjoy shall be insured in Kenya by an approved Kenyan Insurance Company in respect of the Contractor's obligations under the Contract.

25.8 Notification to Insurers

It shall be the responsibility of the Contractor to notify the insurers under any of the insurances referred or event which by the terms of such insurances are required to be so notified and 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 subclause whether as a result of avoidance of such insurance or otherwise.

Add the following Subclauses 26.2 and 26.3

26.2 Compliance with Statutes, Regulations

The Employer will repay or allow to the Contractor all such sums as the Engineer shall certify to have been properly payable and paid by the Contractor in respect of such fees, provided always that, without prejudice to Subclause 26.1, nothing contained in this sub clause shall be deemed to render the Employer liable to all claims which may be considered to fall within the provisions of Subclause 22.1.

26.3 Inspection and Audit by the Funding Agency

The Contractor shall permit the funding agency to inspect the Contractor's accounts and records relating to the performance of the Contract and to have them audited by auditors appointed by the agency, if so required by the agency.

28.2 Royalties

Add the following at the end of Subclause 28.2:

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.”

Add the following Subclauses 29.2 to 29.5:

29.2 Passage and Control of Traffic

The Contractor's attention is drawn to Specifications covering the Passage and Control of Traffic and in particular to the requirement for the submission of a detailed Programme for Passage of Traffic as required following the award of the Contract.

In case any operation connected with traffic which necessitates diversion, obstruction or closure of any road, railway or any other right of way, the approval of the Engineer or the Engineer's Representative and the concerned authorities shall be obtained well in advance by the Contractor.

29.3 Reinstatement and Compensation for Damage to Persons or 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 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 to become due to the Contractor.

The Contractor shall promptly refer to the Employer all claims, which may be considered to fall within the provisions of Clause 22.1.

29.4 Protection of Existing Works and Services

The Contractor shall acquaint himself with the position of all existing services, such as sewers, surface water drains, cables for electricity, data and telephone, telephone and lighting poles, water mains, and the like before commencing any excavation or other works likely to affect the existing services.

The Contractor will be held liable for all damage to roads, irrigation ditches, mains pipes, electric cables, lines or services of any kind caused by him or his subcontractors 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 or Engineer's Representative, all at the Contractor's cost. Where work is to be carried out in the vicinity of overhead power lines, the Contractor shall ensure that all persons working in such areas are aware of the relatively large distance that high voltage electricity can “short” to earth when crane, or other large masses of steel, are in the vicinity of power lines. The Contractor's attention is drawn to appropriate standards which gives safe clearances for the various voltages.

The Contractor shall be held responsible for damage to existing works or services, and shall indemnify the Employer against any claims in this respect (including consequential damages). The

Contractor shall be responsible for the reinstatement of the services, so affected, to the satisfaction of the Engineer.

In all cases where such works or services are exposed, they shall be properly shored, hung up or otherwise protected. Special care must be exercised in filling and compaction of the grounds under mains and cable. The exposed water meters, stopcock boxes and similar items shall be left uncovered.

As soon as any such existing works or services or structures are encountered on, over, under, in or through the Site during the performance of the Contract, the Contractor shall make a record of the location and description of such service or structure and shall send the same forthwith to the Engineer.

Installations adjacent to the Works shall be kept securely in place until the work is completed and shall then be made as safe and permanent as before.

Notwithstanding the foregoing requirements, and without reducing the Contractor's responsibility, the Contractor shall inform the Engineer immediately if any existing works or services are located, exposed or damaged.

29.5 Protection of Survey Beacons

The Contractor shall not remove, damage, alter or destroy in any way plot beacons. Should the Contractor consider that any beacons will be interfered with by the Work he shall notify the Engineer who, if he considers it necessary, will make arrangements for the removal and replacement of the beacons.

30.2 Transport of Contractor's Equipment or Temporary Works

Add the following at the end of this subclause.

If it is found necessary for the Contractor to move one or more loads of heavy constructional plant and equipment, materials or pre-constructed units of work over roads, highways, bridges on which such oversized and overweight items are not normally allowed to be moved, the Contractor shall obtain prior permission from the concerned authorities. Payments for complying with the requirements, if any, for protection of or strengthening of the roads, highways or bridges shall be made by the Contractor and such expenses shall be deemed to be included in his Contract Price.

Add the following Subclauses 30.5 and 30.6.

30.5 Complying with State Laws and Regulations

Nothing contained above shall excuse the Contractor or any of his Subcontractor(s) from complying with state laws regulating traffic on highways and bridges.

30.6 Effects of other Concurrent Construction Projects

The Contractor shall be deemed to have fully familiarised himself with planned construction operations or any other concurrent construction projects in Kenya which may have any material effect on the Contractor's own operations. In particular, the Contractor shall be deemed to have allowed for the effects of other concurrent construction contract(s) on any necessary transportation operations in connection with the Contract(s).

LABOUR

Add the following Subclauses 34.2 to 34.23

34.2 Labour Regulations

The Contractor and his Subcontractors shall, at all times, during the Contract period abide fully by the governing local laws and regulations.

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.

34.3 Engagement of Local Labour

The Contractor is encouraged to the extent practicable and reasonable to employ staff and labour with the required qualifications and experience from sources within Kenya, particularly in the vicinity of the Site.

34.4 Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or industry where the work is carried out. In the absence of any rates of wages or conditions of labour so established, the Contractor shall pay rates of wages and observe conditions of labour which are not less favourable than the general level of wages and conditions observed by other employers whose general circumstances in the trade or industry in which the Contractor is engaged are similar.

34.5 Repatriation of Labour

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 the Republic of Kenya shall have left Kenya or the site, as appropriate.

34.6 Housing for Labour

Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such accommodation and amenities as he may consider necessary for all his staff and labour, employed for the purposes of or in connection with the Contract, including all fencing, water supply (both for drinking and other purposes), electricity supply, sanitation, cookhouses, fire prevention and fire-fighting equipment, cookers, refrigerators, furniture, and other requirements in connection with such accommodation or amenities. On completion of the Contract, unless otherwise agreed with the Employer, the temporary camps or housing provided by the Contractor shall be removed and the site reinstated to its original condition, all to the approval of the Engineer.

34.7 Accident Prevention Officer

The Contractor shall have on his staff on Site an officer dealing only with questions regarding the safety and protection against accidents of all staff and labour. This officer shall be qualified for this work and shall have the authority to issue instructions and shall take protective measures to prevent accidents.

34.8 Health and Safety

Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour and, in collaboration with and to the requirements of the local health authorities, to ensure that medical staff, first aid equipment and stores, sick bay and suitable ambulance services are available at the camps, housing, and on the Site at all times throughout the period of the Contract and that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements. Workers shall always be transported using vehicles that meet the current transport regulations.

34.9 Life Saving Appliances and First Aid Equipment

The Contractor shall provide and maintain upon the Works sufficient, proper and efficient life-saving appliances and first-aid equipment to the approval of the Engineer. The appliances and equipment shall be available for use at all times.

34.10 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 bilharzias and wild animals.

34.11 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.

34.12 Burial of the Dead

The Contractor shall make any necessary arrangements for the transport, to any place as required for burial, of any of his expatriate employees or members of their families who may die in Kenya. The Contractor shall also be responsible, to the extent required by the local regulations, for making any arrangements with regard to burial of any of his local employees who may die while engaged upon the Works.

34.13 Supply of Foodstuffs

The Contractor shall arrange for the provision of a sufficient supply of suitable food at reasonable prices for all his staff, labour, and subcontractors for the purposes of or in connection with the Contract.

34.14 Supply of Water

The Contractor shall, so far as is reasonably practicable, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Engineer and his staff, the Contractor's staff and labour.

34.15 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances, and Government Regulations or Orders for the time being in force, import, sell, give, barter, or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale, gift, barter, or disposal by his subcontractors, agents, staff, or labour.

34.16 Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

34.17 Festivals and Religious Customs

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

34.18 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous, or disorderly conduct by or among his staff and labour and take all reasonable precautions for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.

34.19 Records of Labour

The Contractor shall keep proper wages books, in the language stipulated in the Appendix to the Form Bid, pursuant to Sub-Clause 5.1 (a) showing the time worked and wages paid to all employees in and about the execution of the Works, together with such other records as are required by any Statute, Ordinance, Law, Regulation or Bye-Law in force in Kenya governing the employment of labour. He shall be bound, whenever required, to produce such wages books and other records for the inspection of any persons authorized by the Engineer.

34.20 Trade Unions

The Contractor shall recognize the freedom of his employees to be members of trade unions.

34.21 Default in payment of Wages

In the event of default in payment of wages of any workmen employed on the Contract, and if a claim thereafter is filed in the office of the Engineer and satisfactory proof thereof is furnished, the Employer shall be notified forthwith and may, failing payment of such claim by the Contractor,

arrange the payment out of monies at any time payable under the Contract and the amount so paid shall be deemed payment to the Contractor under the Contract.

34.22 Breach and Removal from List

Should the Contractor or any subcontractor be found to be in breach of any of the provisions of Clause 34, the Employer may recommend to the Government for his removal from the list of approved Contractors.

34.23 Observance by Subcontractors

The Contractor shall be responsible for the observance by his subcontractor of the foregoing provisions.

Add the following Subclauses 35.2 and 35.3:

35.2 Maintenance of Records

The Contractor shall maintain such records and make such reports concerning safety, health and welfare of persons and damage to property as the Engineer may prescribe from time to time.

35.3 Reporting of Accidents

The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means. The Contractor shall also notify the relevant authority (ies) whenever such report is required by the law of Kenya.

MATERIALS, PLANT AND WORKMANSHIP

Rename Subclause 36.1 as below.

36.1 Quality of Materials, Equipment, Supplies, Plant, and Workmanship

Add the following paragraph at the end of this subclause.

The Contractor is encouraged, to the extent practicable and reasonable, to use materials, Contractor's Equipment, Plant, and supplies from sources within Kenya.

COMMENCEMENT AND DELAYS

41.1 Commencement of Works

Replace the words “as soon as reasonably possible“ with the words “on Site within 28 days”.

Add the following subclause:

41.2 Definition of Commencement

For the purposes of this subclause, 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 an 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.

42.1 Possession of Site and Access Thereto

At the end of Subclause 42.1, add the following:

The Contractor shall bear all costs and charges for such lands as the Contractor may reasonably require for camps, offices, workshops, diversion roads, borrow pits, and quarries and any additional facilities outside the site required by him for the purpose of works.

Add the following subclause:

42.4 Possession of Site and Access thereto

The Contractor shall not enter any part of the Site until he has requested and received permission to do so from the Employer or the Engineer.

The Contractor shall not use any portion of the Site for any purpose not connected with the Works.

45.1 Restriction on Working Hours

Delete Subclause 45.1 and substitute with the following:

If the Contractor requests for permission to work by day and night and if the Engineer shall grant such permission, the Contractor shall not be entitled to any additional payment 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 carrying out night work and from against all claims, demands, proceeding, costs, charges and expenses whatsoever in regard or in relation to such liability. In addition, the Contractor shall be required to provide, for any work carried out by night or recognised days of rest, adequate lighting and other facilities, so that the work is carried out safely and properly.

45.2 Overtime Hours

Working hours shall be observed by the Contractor as stipulated in the Labour Laws of Kenya. However when deemed necessary to expedite the Works, overtime, night time or holiday working may be allowed by the Engineer in accordance with the provisions of Subclause 46.1. The Contractor, in these cases, shall pay all costs of the Engineer and his staff for such overtime, night time or holiday working at site as stipulated under Subclause 46.1 of the General Conditions of Contract.

47.2 Reduction of Liquidated Damages

The following supplements this subclause.

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.

No bonus for early completion of the Works shall be paid to the Contractor by the Employer.

The sum stated in the Appendix to Form of Bid as liquidated damages shall be increased by a sum equivalent to any amount payable by the Employer to the Contractor under clause 70.1 in respect of an increase in costs in such 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 43.

Add the following Subclause 47.3:

47.3 Currency of Liquidated Damages

Liquidated damages shall be paid by the Contractor to the Employer in the types and proportions of currencies as shall be payable to the Contractor under the Contract.

DEFECTS LIABILITY

49.2 Completion of Outstanding Work and Remedying Defects

Add at the end of this subclause the following sentence:

Any work ordered to be executed under this subclause shall be carried out at a time and in a manner as directed by the Engineer so as to interfere as little as possible with the operations of the

Employer or of other contractors and no extension(s) of the defects liability period will be allowed for the execution of this work.

Add Subclause 49.5 as follows:

49.5 Defects Liability Period Replacements

The provisions of this clause shall apply to all replacements or renewals of Plant and equipment to be provided with respect to the utilities under the Contract, carried out by the Contractor to remedy defects and damages as if the replacements and renewals had been taken over on the date they were completed. The Defects Liability Period for the Works shall be extended by a period equal to the period during which the Works cannot be used by reason of the defect or damage. If only part of the Works is affected the Defects Liability Period shall be extended only for that part.

ALTERATIONS, ADDITIONS AND OMISSIONS

52.1 Valuation of Variation

Add the following final sentences to this subclause:

The agreement, fixing or determination of any rates or prices as aforesaid shall include any foreign currency and the proportion thereof.

Where the Contract provides for the payment of the Contract Price in more than one currency, and varied work is valued at, or on the basis of, the rates and prices set out in the Contract, payment for such varied work shall be made in the proportions of various currencies specified in the Appendix to Form of Bid for payment of the Contract Price. Where the Contract provides for payment of the Contract Price in more than one currency, and new rates or prices are agreed, fixed, or determined as stated above, the amount or proportion payable in each of the applicable currencies shall be specified when the rates or prices are agreed, fixed, or determined, it being understood that in specifying these amounts or proportions the Contractor and the Engineer (or, failing agreement, the Engineer) shall take into account the actual or expected currencies of cost (and the proportions thereof) of the inputs of the varied work without regard to the proportions of various currencies specified in the Appendix to Form of Bid for payment of the Contract Price.

52.2 Power of Engineer to Fix rates

Add a final sentence to the first paragraph as follows:

Where the Contract provides for the payment of the Contract Price in more than one currency, the amount or proportion payable in each of the applicable currencies shall be specified when the rates or prices are agreed, fixed, or determined as stated above, it being understood that in specifying these amounts or proportions the Contractor and the Engineer (or, failing agreement, the Engineer) shall take into account the actual or expected currencies of cost (and the proportions thereof) of the inputs of the varied work without regard to the proportions of various currencies specified in the Appendix to Form of Bid for payment of the Contract Price.

52.3 Daywork

Add the following at the end of this subclause:

The Work so ordered shall immediately become part of the Works under the Contract. The Contractor shall, as soon as practicable after receiving the Daywork 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 Daywork basis, the Contractor shall give a notice to the Engineer stating the exact time of such commencement.

PROCEDURE FOR CLAIMS

53.1 Notice of Claims

Add the following at the end of this subclause:

The Contractor shall also state the references of the Contract Clauses and Subclauses on which he has based his claims.

CONTRACTOR'S EQUIPMENT, TEMPORARY WORKS AND MATERIALS

For the purpose of these subclauses, the term "Equipment" shall be read as "Contractor's Equipment" where the context so requires.

54.1 Contractor's Equipment, Temporary Works and Materials

Amend Subclause 54.1 as follows:

Line 5; add "written" between "the" and "consent".

Add a final sentence to this subclause as follows:

The Contractor shall every month give to the Engineer a statement showing the amount of plant and Contractor's equipment, which has been brought to the Site.

54.2 Employer not Liable for Damage

Delete this subclause entirely.

54.5 Conditions of Hire of Contractor's Equipment

Delete this subclause entirely.

Add Subclauses 54.9 and 54.10 as follows:

54.9 Contractor's Responsibilities for Licenses

The Contractor shall obtain his own information with regard to the granting of import and export licenses for materials, equipment and plant. The Contractor shall bear all expenses for Plant, Materials, Equipment and Maintenance required for the completion and maintenance of the works and shall be deemed to have satisfied himself with regard to all his liabilities under the laws and regulations governing the granting of these licenses. The Contractor shall ensure that requests for import and export licenses are submitted in sufficient time to clear all formalities before the said licenses are required.

54.10 Equipment and Plant

The Contractor shall identify each piece of his equipment, other than hand tools, by means of an identification number plainly stencilled or stamped on the equipment at a conspicuous location, and shall furnish to the Engineer a list giving the description of each piece of equipment and its identification number. In addition, the make, model number and empty gross weight of each unit of compaction equipment shall be plainly stamped or stencilled in a conspicuous place on the unit. The gross weight shall be either the manufacturer's rated weight or the scale weight. The make, model, serial number and manufacturer's rated capacity of each scale shall be clearly stamped on the load-receiving element and its indicator or indicators. All meters shall be similarly identified, rated and marked.

MEASUREMENT

55.1 Quantities

Add the following to this subclause:

The quality and quantity of the Work included in the Contract Price shall be deemed to be that which is set out in the Contract Bill of Quantities. The Bill of Quantities, unless otherwise expressly stated therein, shall be deemed to have been prepared in accordance with the principles of the latest edition of the Civil Engineering Standard Method of Measurement.

Any error in description or in quantity or any omission of items from the Contract Bill of Quantities or Specifications shall not vitiate this Contract but shall be corrected and deemed to be a variation required by the Engineer. Subject to the foregoing, any error whether arithmetical or not in the computation of the Contract Price shall be deemed to have been accepted by the parties hereto.

The Contract Price shall not be adjusted or altered in any way whatsoever otherwise than in accordance with the express provisions of these conditions.

Add the following new sub clause:

55.2 Bill of Quantities with no Rates

Any item of Work described in the Bill 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.

56.1 Works to be Measured

Delete Subclause 56.1 and replace with the following:

The Contractor shall prepare and submit to the Engineer all necessary field notes and other records taken and computations made for the purpose of quantity measurements, of which the forms shall be approved by the Engineer, for the monthly progress payment under Clause 60. The measurement of work quantities made by the Contractor shall be verified and certified by the Engineer based on the above mentioned documents.

The Contractor shall furnish all personnel, equipment and materials to make such surveys and computations as necessary to determine the quantities of work performed. Unless otherwise prescribed in the specifications or the drawings, all measurements for payment shall be made by the dimensions, lines and grades as shown on the drawings or by direct survey of which the methods shall be approved by the Engineer.

The documents submitted for measurement and payment shall become the property of the Employer and shall be used to the extent necessary to determine the monthly progress payment to be made to the Contractor under the Contract. Direct survey, if conducted, shall be subject to checking and verification by the Engineer and all errors in the said survey work and related computations as found during such checking shall be immediately corrected by the Contractor.

In case of any disagreement on an item of measurement, the Engineer's opinion will prevail during the assessment of the statement for monthly interim payments. Should the Contractor consider himself entitled to any form of claim with respect to the disagreement in measurement, the procedure for such is detailed under Clause 53 of the Conditions of Contract.

57.1 Method of Measurement

Delete this subclause and substitute with the following:

The Works shall be measured net with deductions made in accordance with the principles of the latest edition of the Civil Engineering Standard Method of Measurement. All measurements shall be given in metric (SI) units.

PROVISIONAL SUMS

Add the following Subclause 58.4:

58.4 Prime Cost Sum

Wherever an item in the Bill of Quantities has been referred to as a "P.C. Sum" (Prime Cost Sum), that item shall be construed as a Provisional sum and the provisions of Subclauses 58.1 to 58.3 will apply.

NOMINATED SUBCONTRACTORS

59.5 Certification of Payment to Nominated Subcontractors

Add the following paragraph at the end of Subclause 59.5:

If the Engineer desires to secure final payment to any nominated subcontractor before final payment is due to the Contractor and if such subcontractor has satisfactorily indemnified the Contractor against any latent defects, the Engineer may, in an interim certificate, include an amount to cover the said final payment, and thereupon the Contractor shall pay to such nominated subcontractor the amount so certified. Upon such final payment, the amount named in the Appendix to Form of Bid as Limit of Retention Money shall be reduced by the sum which bears the same ratio to the amount as does the subcontract and subcontractor shall be discharged from all liability for the Work, materials or goods executed or supplied by such subcontractor under the Contract to which the payment relates.

CERTIFICATES AND PAYMENTS

Delete Subclauses 60.1 to 60.10 entirely and substitute with the following:

60.2 Interim Payment Certificate

The Contractor shall submit to the Engineer, in the manner required by the Engineer after the end of each month a statement showing the estimated total value of permanent Work properly executed and materials or goods for permanent works brought to Site up to the end of the previous month (if the value shall justify the issue of an interim certificate) together with any adjustments under Clause 70 and any outstanding claims and sums the Contractor considers may be due to him. The Contractor shall amend or correct his estimate as directed by the Engineer and the latter shall not accept it until he is satisfied that it is fair and reasonable. With respect to the said materials and goods, no payment for them shall be made unless:

- (i) The materials are in accordance with the specifications for the Works.
- (ii) The materials have been delivered to Site and are properly stored and protected against loss, damage or deterioration.
- (iii) The Contractor's 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 goods 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.

The Contractor will be paid on the certificate of the Engineer the amount due to him on account of the estimated total value of the permanent Work executed up to the end of the previous month together with such amount (not exceeding 75% of the value) as the Engineer may consider proper on account of materials and goods for permanent Work delivered by the Contractor on Site and in addition, 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, all of which shall be subject to a retention of the percentage named in the Appendix to Form of Bid until the amount retained (hereinafter and in all Contract documents called the "Retention Money") shall reach the "Limit of Retention Money" named in the said Appendix to the Form of Bid. Provided always that no interim certificate shall be issued for a sum [such sum always being the net amount thereof after all deductions for retention etc) less than that named in the Appendix to Form of Bid as "Minimum Amount of Interim Certificate" at one time.

Within 14 days after receiving a statement from the Contractor as aforesaid, and subject to the Contractor having made such further amendments and corrections as the Engineer may require, the Engineer shall issue a Certificate of Payment to the Employer showing the amount due, with a copy to the Contractor.

The Engineer shall not unreasonably withhold certifying an Interim Payment Certificate and where there is a dispute regarding an item for payment, the Engineer may delete this disputed item from the Interim Payment Certificate and certify the remainder for payment provided the said payment is in accordance with the preceding paragraph. In cases of difference in opinion as to the value of any item, the Engineer's view shall prevail.

60.3 Final Account and Final Payment Certificate

As soon as possible after the issue of Taking - Over Certificate or the termination of the Contract and not later than the time of issue of Defects Liability Certificate, the Contractor shall prepare and submit to the Engineer (with a copy to the Employer), a Statement of Final Account showing in detail the total value of work done in accordance with the Contract together with all sums paid in previous payments. Within thirty (30) after receipt of such further information as may be reasonably required from the Contractor for its verification, the Engineer shall check the said statement, prepare and submit a Final Payment Certificate to the Employer (with a copy to the Contractor).

The Final Payment Certificate shall state:

- (a) The (final) total value of all Work executed in accordance with the Contract
- (b) After giving credit to the Employer for all amounts previously paid to the Contractor, the balance, if any, due from the Employer to the Contractor or the Contractor to the Employer, as the case may be.

Unless the Contractor notifies the Engineer of his objection to the Final Payment Certificate within twenty eight [28] days of delivery thereof, he shall be deemed to have agreed that he accepts the total Contract Price as set out in the Final Payment Certificate as full settlement for all work executed under the Contract including any claims, variations and omissions thereof.

However, a Final Certificate of Payment shall not be conclusive:

- (i) To the extent that fraud or dishonesty relates to or affects any matter dealt with in the Certificate, or
- (ii) If any arbitration or court proceedings under the Contract have been commenced by either party before the expiry of 90 days after the issue of the Final Certificate of Payment.

60.4 Payment of Certificates

Payment upon each of the Engineer's Certificates for Interim Payments shall be made by the Employer within the time stated in the Appendix to Form of Bid from the date of the Engineer's signature and issue of each Certificate of Payment to the Employer.

Payment upon the Engineer's Final Payment Certificate shall be made by the Employer within the time stated in the Appendix to Form of Bid from the date of issue of the Final Certificate of Payment signed by the Engineer and countersigned by the Contractor or his authorised agent or representative.

Payments to the Contractor by the Employer shall be made in the currencies in which the Contract Price is payable into a bank account or accounts nominated by the Contractor.

Making of a payment by the Employer shall be considered to have been duly executed on the day that the Employer has issued a cheque.

60.5 Retention Money

One half of the retention money shall become due upon the issue of a Taking – Over Certificate and shall be paid to the Contractor when the Engineer shall certify in writing that the last section of the whole of the Works has been substantially completed and the other half shall be paid to the Contractor after the expiration of the Defects Liability Period and the issue of a Certificate under Clause 62. Provided always that if such time there shall remain to be executed by the Contractor any Works ordered during such period pursuant to Clauses 49 and 50 thereof, the Employer shall be entitled to withhold payment [until the completion of such Works] of so much of the second half of the Retention Money as shall in the opinion of the Engineer represent the Costs of the Works so remaining to be executed. Provided further that in the event of different Defects Liability Periods having become applicable to different parts of the Works pursuant to clause 48 hereof the expression “expiration of the Defect Liability Period” shall for the purpose of this subclause be deemed to mean the expiration of the latest of such periods.

60.6 Currency of Payment

The Contract price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya shillings.

60.7 Overdue Payments

Unless otherwise stated in the Appendix to the Form of Bid interest shall be paid on the overdue amounts and the interest to be paid shall be based on the rates of the Central Bank of Kenya 28 days prior to the opening of the bids.

60.8 Correcting and Withholding

The Engineer may by any interim certificate or through the final account make any correction or modification to any previous certified sum and shall have authority, if any work or part thereof is

not being carried out to his satisfaction, to omit or reduce the value of such work in any Interim Payment Certificate.

60.9 Completion by Sections

If a Taking-Over Certificate shall be issued for any section or part of the Works separately, the payments herein provided for on or after issue of such a Certificate shall be made in respect of such section or part and references to the Contract Price shall mean such part of the Contract Price as shall in the absence of agreement be apportioned thereto by the Engineer.

60.10 Statement at Completion

Not later than 14 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 and in a form approved by the Engineer:

- (a) The final value of all work executed in accordance with the Contract up to the date stated in such Taking-Over Certificate.
- (b) Any further sums which the Contractor considers to be due; and
- (c) An estimate of amounts, which the Contractor considers, will become due to him under the Contract.

Estimated amounts at Completion shall be shown separately in the Statement. The Contractor shall amend and correct the Statement as directed by the Engineer who shall issue a Certificate at Completion to be processed in accordance with Subclause 60.4.

60.11 Final Statement

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

- (a) The final value of all work executed in accordance with the Contract, and
- (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.

60.12 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 Subclause 60.14 has been made and the Performance Security referred to in Subclause 10.1 has been returned to the Contractor.

60.13 Final Payment Certificate

Upon acceptance of the Final Statement as given in Subclause 60.12, 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 executed 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 as the case may be

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.

60.14 Cessation of Employer's Liability

Unless the Contractor notifies the Engineer of his objection to the Final Certificate within 14 (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 executed under the Contract including any variations and omissions thereof.

62.1 Defects Liability Certificate

Delete the last sentence of this subclause beginning “Provided that the issue.....in Sub-Clause 60.3”.

REMEDIES

63.1 Default of Contractor

Delete the last paragraph of this subclause and substitute with the following:

then the Employer may, after giving 14 days’ notice to the Contractor, enter upon the Site and expel the Contractor there from without thereby avoiding the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may himself complete the work or may employ any other contractor to complete the Works. The Employer or such other contractor may use for such completion so much of the Contractor’s Equipment, Plant, Temporary Works and materials, which have been deemed to be reserved exclusively for the execution of the Works, under the provisions of the Contract, as he or they may think proper, and the Employer may, at any time, sell any of the said Contractor’s Equipment, Temporary Works and unused Plant and materials and apply the proceeds of sale in or towards the satisfaction of any sums due or that may become due to him from the Contractor under the Contract.”

63.2 Valuation of Date of Expulsion

Modify the heading of Subclause 63.2 by substituting “Valuation at Date of Termination” for “Valuation at Date of Expulsion.” In Subclause 63.2, delete the word “termination” on the second and fifth lines and substitute “expulsion”.

63. Valuation of Date of Expulsion

Modify the heading of Subclause 63.3 by substituting “Payment after Expulsion” for “Payment after Termination.” In Subclause 63.3, delete the words “terminates the Contractor’s employment” on the first line and substitute “shall enter and expel the Contractor”.

63.4 Assignment of Benefit of Agreement

In Subclause 63.4, delete the word “termination” on the second line, and substitute “expulsion”.

Add the following at the end of this subclause:

But on the terms that a supplier or subcontractor shall be entitled to make any reasonable objection to any further assignment thereof by the Employer and the Employer may pay the supplier or subcontractor for any such materials supplied or Works executed under such agreement, whether the same be assigned as aforesaid or not, before or after the said determination, the amount due by such arrangement in so far as it has not already been paid by the Contractor.

Add the following subclause 63.5:

63.5 Corrupt or Fraudulent Practices

If in the judgment of the Employer the Contractor has engaged in corrupt or fraudulent practices, in competing for or in executing the Contract, then the Employer may, after having given 14 days notice to the Contractor, terminate the Contractor’s employment under the Contract and expel him from the Site, and the provisions of Clause 63 shall apply as if such expulsion had been made under Subclause 63.1.

For the purpose of this Subclause:

“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 contract execution.

“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 Borrower, and includes collusive practice 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.

SPECIAL RISKS

Subclause 65.2 is amended to read as follows:

65.2 Special Risks

The Special Risks are the risks defined under paragraph (a), subparagraphs. (i) to (v) of Subclause 20.4 of the Conditions of Contract”.

65.4 Projectile, Missile

Delete “whenever and wherever occurring” under line 2 and add “on or near the site” after “explosive of war” under line 3.

Add Subclause 65.9 as follows:

65.9 Special Risks

(a) In the event of the Employer unilaterally ordering the final cessation of performance of the Contract for reasons not specified elsewhere in the Conditions of Contract the Contract shall be considered to be frustrated and the Contractor shall be indemnified as provided for under Clause 65.1.

(b) In the event of the Employer ordering the adjournment of the Contract before or after commencement of the Works for reasons not specified elsewhere in the Conditions of Contract, the Contractor shall be entitled to indemnity for any injury which he may have suffered as a consequence of such adjournment.

The Engineer shall award the Contractor payment of such sum as in his opinion shall be reasonable giving regard to all material and relevant factors including the Contractor’s on costs and overheads, and the nature of the instruction to adjourn the Contract.

SETTLEMENT OF DISPUTES

67.1 Engineers Decision

“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) 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. “.

67.2 Amicable Settlement

Where notice to of intention to commence adjudication as to a dispute has been given in accordance with sub clause 67.1, 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

Subclause 67.3 is deleted and substituted with the following sub-clause:

67.3 Arbitration

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.

NOTICES

68.1 Notices to Contractor

Add the following at the end of this sub-clause:

Notwithstanding the foregoing, the Contractor shall either maintain an address close to the Works or appoint an agent residing close to the Works for the purpose of receiving notices to be given to the Contractor under the terms of the Contract. This obligation shall be terminated upon the issue of the Certificate of Completion.

68.2 Notices to Employer and Engineer

Delete the words “nominated for that purpose in Part II of these Conditions” in this sub-clause and substitute with “given in the Appendix to Form of Bid”.

DEFAULT OF EMPLOYER

Under Sub-clause 69.1, 69.4 and 69.5, substitute “Sub-clause 60.4 for “Sub-clause 60.10”.

69.1 Default of Employer

In Sub-clause 69.1 (a), delete the words “28 days” in the second sentence and substitute with the words “60 days”.

Delete Sub-clause 69.1 (d).

69.3 Payment on Termination

Delete from “, but in addition to the payments specified...” to the end of the Sub-clause.

69.4 Contractor’s Entitlement to Suspend Work

Delete the words ‘28 days’ and substitute with ‘60 days’.

Delete sub-clause 69.4 (b) and substitute with the following:

the amount of such cost, which shall be added to the Contract Price. However, the costs due to idle time for plant, equipment and labour shall not be included in the said costs and shall be borne by the Contractor.

Add to Sub-clause 69.4 as follows:

Without prejudice to the Contractor's entitlement to interest under Sub-clause 60.7 (of these Conditions of Particular application) and to terminate under Sub-clause 69.1, the Contractor may suspend work or reduce the rate of work within 56 days after notification by the Foreign Funding Agency to the Kenya Government that the Financier has suspended disbursements from its loan, which finances in whole or in part the execution of the Works.

Add Sub-clause 69.6 as follows:

69.6 Suspension of Funding Agency Loan

In the event that the Foreign Funding Agency suspends the loan or credit to the Employer from which part of the payments to the Contractor are being made:

- (a) The Employer shall notify the Contractor, with a copy to the Engineer, of such suspension within 7 days of having received the suspension notice from the Funding Agency, provided that:
 - (i) The Employer shall state in such notification whether sufficient funds in the appropriate currencies are expected to be available to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of the Funding Agency's notification of the suspension, and
 - (ii) If such funds are not expected to be available, the Employer shall immediately inform the Engineer to instruct the Contractor to suspend progress of the Works pursuant to Subclause 40.1 of the General Conditions of Contract.
- (b) If the Contractor has not received sums due to him upon the expiration of the 14 days from the time when the Foreign Funding Agency's loan or credit, from which part of the payments to the contractor is being made under Interim Certificates, is suspended, the Contractor may, without prejudice to the Contractor's entitlement to interest under Subclause 60.7, immediately take one or both of the following actions:
 - (i) Suspend work or reduce the rate of work, and/or
 - (ii) Terminate his employment under the Contract by giving notice to the Engineer. Such termination shall take effect 14 days after giving of the notice.

70 CHANGES IN COST AND LEGISLATION

Delete Clause 70 in its entirety, and substitute by 70.1 – 70.8 (inclusive):

70.1 Price Adjustment “The amounts payable to the Contractor, in various currencies pursuant to Sub-Clause 60.1, 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 comparing the Basic Rates at tendering stage and the current prevailing market prices.

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.

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 which 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 been taken into account

in any inputs to the Price Adjustment in accordance with the provisions of Sub-Clauses 70.1.

CURRENCY AND RATES OF EXCHANGE

72 Currency Proportions

Delete clause 72 in its entirety and substitute the following:

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

73.4 Duties on Contractor’s Equipment

Notwithstanding the provisions of Subclause 73.2, the Contractor’s Equipment, including essential spare parts therefore, imported by the Contractor for the sole purpose of executing the Contract shall not be exempt from the payment of import duties and any other taxes upon initial importation.

ADDITIONAL CLAUSES

74.1 Illegal Payments

If the Contractor, or any of his Sub-Contractors, agents or servants gives or offers to give to any person any payment, gift, gratuity or commission as an inducement or reward for doing or forbearing to do any action in relation to the Contract or any other contract with the Employer, or for showing or forbearing to show favour or disfavour to any person in relation to the Contract or to any other contract with the Employer, then the Employer may enter upon the Site and the Works and expel the Contractor and the provisions of Clause 63 hereof shall apply as if such entry and expulsion had been made pursuant to that Clause.

75.1 Termination of Contract for Employer’s Convenience

The Employer shall be entitled to terminate this Contract at any time for the Employer’s convenience after giving 56 days prior notice to the Contractor, with a copy to the Engineer. In the event of such termination, the Contractor:

- (a) Shall proceed as provided in Subclause 65.7, and
- (b) Shall be paid by the Employer as provided in Subclause 65.8.

76.1 Restriction on Eligibility

- (a) Any Plant, materials, or services which will be incorporated in or required for the Works, as well as the Contractor’s Equipment and other supplies, shall have their origin in any of the countries and territories eligible under the Foreign Financier’s Rules for Procurement.
- (b) For the purposes of this clause, ‘origin’ means the place where the materials and equipment were mined, grown, produced, or manufactured or from which the services are provided.
- (c) The origin of goods and services is distinct from the nationality of the supplier.

77.1 Joint and Several Liability

If the Contractor is a joint venture of two or more persons, all such persons shall be joint and severally bound to the Employer for the fulfilment of the terms of the Contract and shall designate one of such persons to act as a leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.

78.1 Details to be Confidential

The Contractor shall treat the details of the Contract as private and confidential, save insofar as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract the same shall be referred to the Employer whose determination shall be final.

78.2 Drawings and Photographs of the Works

The Contractor shall not disclose details of drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the work or any part thereof or equipment employed thereon shall be taken or permitted by the Contractor to be taken by any of his employees or any employees of his Subcontractors without the prior approval of the Engineer in writing and no such photographs shall be published or otherwise circulated without the approval of the Engineer in writing.

79.1 Official Visitors

The Contractor shall at all times when authorized by the Engineer give free and undisputed access of all facilities to any authorized employee of the Kenya Government or other authorized person wishing to view or inspect any part of the Site or Works or the materials therein.

80.1 Substantial Completion of the Works

The Contractor shall note that the Engineer reserves the right to certify the Works to be “substantially completed” in accordance with the provisions of Clause 48 of the General Conditions of Contract, unless the following portions of the Works are completed according to the Specifications:

- (a) Works up to and including the bituminous wearing courses,
- (b) All drains and drainage structures including bridges,
- (c) Construction of the shoulders,
- (d) Finishing of medians and slopes of cuts and fills and
- (e) Reinstatement and environmental treatment of quarries and borrow pits.

81.1 Monthly Site Meetings

The Contractor or his authorised representative shall attend monthly meetings on the site with representatives of the Employer and the Engineer at dates and times to be determined by the Engineer. Such meetings will be held for evaluating the progress of the Contract and for discussion of matters pertaining to the Contract which any of the parties represented may wish to raise. Such meetings are not intended for discussing matters concerning the normal day-to-day running of the Contract.

The Contractor shall prepare and submit to the Resident Engineer one week before the meeting a monthly report in the format approved by the Engineer giving all the information and details regarding its accomplishment against the prevailing approved programme.

81.2 Minutes of Site Meetings

Agreements recorded in the Minutes of the Site Meetings are binding to all parties, if objections to the minutes have not been given in due time.

The Minutes of the Site Meetings shall be issued within 7 days and shall be numbered consecutively. Minutes shall be deemed to have been received by the Contractor unless the Contractor gives notice at the following meeting that the Minutes were not received.

Any objections to the Minutes of the Site Meetings shall at the latest be raised at the succeeding Site Meeting or presented to the Engineer in writing not later than 2 weeks after the meeting. If the Contractor at this time has not received the Minutes of the Site Meeting, the objection must be given in writing to the Engineer not later than 2 working days after the subsequent receipt of the said Minutes.

82.1 Legal Provisions

The Contractor shall keep himself fully conversant with the latest enactment's, provisions and regulations of all legislative and statutory bodies, and, in all respects and at all times, shall comply with such enactment's, provisions and regulations in regard to executing the Contract.

83.1 Noise and Disturbance

All works shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify and keep indemnified the Employer from and against any liability for damages on account of noise or other disturbances created while or in carrying out the work and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in regard to or in relation to such liability.

83.2 Pollution

Subject, and without prejudice, to any other provision of the Contract and the law of the land and its obligations as applicable, the Contractor shall take all reasonable precautions in connection with:

- (a) The rivers, streams, waterways, drains, water-course, lakes, reservoirs and the like to prevent:
 - (i) Silting
 - (ii) Erosion of their beds and banks, and
 - (iii) Pollution of the water so as to affect adversely the quality or appearance thereof or cause injury or death to animal and plant life.
- (b) The underground water resources including percolating water to prevent:
 - (i) Any interference with the supply to or obstruction from such sources, and
 - (ii) Pollution of the water which may adversely affect the quality thereof.

The Contractor shall further comply with any and all laws, rules and regulations of governmental agencies having jurisdiction which now exist or which may be promulgated during the course of the works contracted for herein, relating to the control, regulation and prevention of pollution. Not by way of limitation of the foregoing, but in furthermore thereof, the Contractor shall use the highest prevailing and approved standards of care and diligence to prevent and to take care of all waste, oil, water and other waste materials that may accumulate and be caused by the Contractor's operations and performance of this Contract so as to prevent pollution of any nature or kind resulting from the Works performed under this Contract.

SECTION 7: STANDARD SPECIFICATIONS

SECTION 7: STANDARD SPECIFICATIONS

Standard Specifications refers to the Standard Specifications for Road and Bridge Construction, 1986 Edition

SECTION 8: SPECIAL SPECIFICATIONS

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401 SITE CLEARANCE	ERROR! BOOKMARK NOT DEFINED.
500 EARTHWORKS	ERROR! BOOKMARK NOT DEFINED.
502 GENERAL	ERROR! BOOKMARK NOT DEFINED.
502.2 DEFINITIONS FOR EARTHWORKS	ERROR! BOOKMARK NOT DEFINED.
504 PREPARATION PRIOR TO FORMING EMBANKMENTS	ERROR! BOOKMARK NOT DEFINED.
504.2 BENCHING.....	ERROR! BOOKMARK NOT DEFINED.
504.3 GROUND COMPACTION.....	ERROR! BOOKMARK NOT DEFINED.
505 CONSTRUCTION OF EMBANKMENTS	ERROR! BOOKMARK NOT DEFINED.
507.2 ROCKFILL IN CARRIAGEWAY, EMBANKMENT AND BEHIND STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
508 COMPACTION OF EARTHWORKS	ERROR! BOOKMARK NOT DEFINED.
509 MASS HAUL DIAGRAM.....	ERROR! BOOKMARK NOT DEFINED.
511 BORROW PITS.....	ERROR! BOOKMARK NOT DEFINED.

514	TOP SOILING AND GRASSING	ERROR! BOOKMARK NOT DEFINED.
514.2	HYDRO-SEEDING	ERROR! BOOKMARK NOT DEFINED.
514.3	APPLICATION OF CHEMICAL FERTILIZERS	ERROR! BOOKMARK NOT DEFINED.
515	SIDE DRAINS	ERROR! BOOKMARK NOT DEFINED.
517	MEASUREMENT AND PAYMENT	ERROR! BOOKMARK NOT DEFINED.
600	QUARRIES, BORROW PITTS, STOCKPILE AND SPOIL AREAS.....	ERROR! BOOKMARK NOT DEFINED.
601	GENERAL	ERROR! BOOKMARK NOT DEFINED.
602	DEFINITIONS	ERROR! BOOKMARK NOT DEFINED.
700	EXCAVATION AND FILLING FOR STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
703	EXCAVATION OF FOUNDATIONS FOR STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
703.1	PREPARATION OF FOUNDATION AND APPROVAL	ERROR! BOOKMARK NOT DEFINED.
703A	EROSION PROTECTION WORKS AT UPSTREAM AND DOWNSTREAM OF CULVERTS/BRIDGES.....	ERROR! BOOKMARK NOT DEFINED.
703A.1	SCOPE.....	ERROR! BOOKMARK NOT DEFINED.
703A.2	MATERIALS.....	ERROR! BOOKMARK NOT DEFINED.
703A.3	CONSTRUCTION OPERATIONS.....	ERROR! BOOKMARK NOT DEFINED.
707	BACKFILLING OF EXCAVATIONS AND FILLING FOR STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
708	PROTECTION OF STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
709	EXCAVATIONS FOR RIVER TRAINING AND NEW WATERCOURSES.....	ERROR! BOOKMARK NOT DEFINED.
710	STONE PITCHING	ERROR! BOOKMARK NOT DEFINED.
800	CULVERT AND DRAINAGE WORKS.....	ERROR! BOOKMARK NOT DEFINED.
804	EXCAVATION FOR CULVERTS AND DRAINAGE WORKS.....	ERROR! BOOKMARK NOT DEFINED.
805	EXCAVATION IN HARD MATERIAL.....	ERROR! BOOKMARK NOT DEFINED.
809	BEDDING AND LAYING OF PIPE CULVERTS	ERROR! BOOKMARK NOT DEFINED.
810	JOINTING CONCRETE PIPES	ERROR! BOOKMARK NOT DEFINED.
812	BACKFILL.....	ERROR! BOOKMARK NOT DEFINED.
816	MINOR DRAINAGE STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
817	MITRE DRAINS, CUT-OFF DRAINS, CATCH WATER/DRAINS, OUTFALL DRAINS AND EARTH DAMS.....	ERROR! BOOKMARK NOT DEFINED.
817.2	CLEANING EXISTING DRAINS	ERROR! BOOKMARK NOT DEFINED.
817.3	CLEANING OF HYDRAULIC STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
817.4	REMOVAL OF EXISTING PIPES, INLET AND OUTLET STRUCTURES	ERROR! BOOKMARK NOT DEFINED.
817.5	EXTENSION OF EXISTING PIPES	ERROR! BOOKMARK NOT DEFINED.
817.6	CHUTE DRAIN FOR HIGH EMBANKMENT SECTIONS	ERROR! BOOKMARK NOT DEFINED.
817.7	STONE MASONRY AND CONCRETE PAVING	ERROR! BOOKMARK NOT DEFINED.
819.1	REPAIR OF DRAINAGE SPOUTS.....	ERROR! BOOKMARK NOT DEFINED.
820	MEASUREMENT AND PAYMENTS FOR ADDITIONAL ITEMS.....	ERROR! BOOKMARK NOT DEFINED.
821	CEMENT MORTARED STONE MASONRY WALLS.....	ERROR! BOOKMARK NOT DEFINED.
822	SUBSOIL FILTER DRAINS	ERROR! BOOKMARK NOT DEFINED.
823	GULLEY POTS AND CHAMBERS.....	ERROR! BOOKMARK NOT DEFINED.
824	PEDESTRIAN CROSSINGS	ERROR! BOOKMARK NOT DEFINED.
825	MEASUREMENT AND PAYMENT FOR FURTHER ADDITIONAL ITEMS	ERROR! BOOKMARK NOT DEFINED.
900	PASSAGE OF TRAFFIC	ERROR! BOOKMARK NOT DEFINED.
903	MAINTENANCE OF EXISTING ROAD	ERROR! BOOKMARK NOT DEFINED.
903.1	MAINTENANCE OF RIGHT OF WAY	ERROR! BOOKMARK NOT DEFINED.
904	CONSTRUCTION OF DEVIATIONS	ERROR! BOOKMARK NOT DEFINED.
906	PASSAGE OF TRAFFIC THROUGH THE WORKS	ERROR! BOOKMARK NOT DEFINED.
912	MEASUREMENT AND PAYMENT	ERROR! BOOKMARK NOT DEFINED.
1100	SHOULDERS AND FOOTPATHS	ERROR! BOOKMARK NOT DEFINED.
1107	FOOTPATHS	ERROR! BOOKMARK NOT DEFINED.
1107.1	PRE-CAST CONCRETE PAVING BLOCKS	ERROR! BOOKMARK NOT DEFINED.
1107.2	FLEXIBLE SURFACING FOR FOOTPATHS AND OTHER PAVED AREAS.....	ERROR! BOOKMARK NOT DEFINED.
1108	MEASUREMENT AND PAVEMENT	ERROR! BOOKMARK NOT DEFINED.
1203	HANDPACKING	ERROR! BOOKMARK NOT DEFINED.
1204	MATERIAL REQUIREMENTS	ERROR! BOOKMARK NOT DEFINED.
1300	GRADED CRUSHED STONE SUBBASE.....	ERROR! BOOKMARK NOT DEFINED.
1303	MATERIAL REQUIREMENTS.....	ERROR! BOOKMARK NOT DEFINED.
1306	LAYING AND COMPACTING GRADED CRUSHED STONE SUB-BASE	ERROR! BOOKMARK NOT DEFINED.
1311	IN SITU REPROCESSING OF GRADED CRUSHED STONE	ERROR! BOOKMARK NOT DEFINED.
1400	CEMENT TREATED MATERIALS	ERROR! BOOKMARK NOT DEFINED.

1403	CEMENT TREATMENT	ERROR! BOOKMARK NOT DEFINED.
14A	LEAN CONCRETE	ERROR! BOOKMARK NOT DEFINED.
14A/04	MIX REQUIREMENTS	ERROR! BOOKMARK NOT DEFINED.
14A/05	METHOD OF CONSTRUCTION.....	ERROR! BOOKMARK NOT DEFINED.
14A/08	MEASUREMENTS AND PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
1500	BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING.....	ERROR! BOOKMARK NOT DEFINED.
1502B	MATERIALS FOR PRIME COAT AND TACK COAT	ERROR! BOOKMARK NOT DEFINED.
1504B	SPRAYING OF PRIME COAT AND TACK COAT	ERROR! BOOKMARK NOT DEFINED.
1502C	MATERIALS FOR SURFACE DRESSING.....	ERROR! BOOKMARK NOT DEFINED.
1503C	RATE OF APPLICATION OF BINDER AND CHIPPINGS	ERROR! BOOKMARK NOT DEFINED.
1505C	PRE-COATED CHIPPINGS.....	ERROR! BOOKMARK NOT DEFINED.
1508C	APPLICATION OF SURFACE DRESSING.....	ERROR! BOOKMARK NOT DEFINED.
1509C	AFTERCARE AND CONTROL OF TRAFFIC	ERROR! BOOKMARK NOT DEFINED.
1511C	MEASUREMENT AND PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
1600	BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES....	ERROR! BOOKMARK NOT DEFINED.
1600A	GENERAL	ERROR! BOOKMARK NOT DEFINED.
1603A	CONSTRUCTION PLANT	ERROR! BOOKMARK NOT DEFINED.
1606A	SITE TRIALS.....	ERROR! BOOKMARK NOT DEFINED.
1607A	MIXING OF AGGREGATES AND BITUMEN	ERROR! BOOKMARK NOT DEFINED.
1608A	TRANSPORTING THE MIXTURE	ERROR! BOOKMARK NOT DEFINED.
1609A	LAYING THE MIXTURE.....	ERROR! BOOKMARK NOT DEFINED.
1610A	COMPACTION	ERROR! BOOKMARK NOT DEFINED.
1611A	FINISHING JOINTS AND EDGES	ERROR! BOOKMARK NOT DEFINED.
1614A	TOLERANCES.....	ERROR! BOOKMARK NOT DEFINED.
1600B	ASPHALT CONCRETE FOR SURFACING	ERROR! BOOKMARK NOT DEFINED.
1602B	MATERIALS FOR ASPHALT CONCRETE	ERROR! BOOKMARK NOT DEFINED.
1603B	GRADING REQUIREMENTS	ERROR! BOOKMARK NOT DEFINED.
1604B	REQUIREMENTS FOR ASPHALT CONCRETE	ERROR! BOOKMARK NOT DEFINED.
1605B	MIXING AND LAYING ASPHALT CONCRETE	ERROR! BOOKMARK NOT DEFINED.
1606B	COMPACTION	ERROR! BOOKMARK NOT DEFINED.
1608B	SEALING BITUMINOUS SURFACE	ERROR! BOOKMARK NOT DEFINED.
1700	CONCRETE WORKS.....	ERROR! BOOKMARK NOT DEFINED.
1703	MATERIALS FOR CONCRETE	ERROR! BOOKMARK NOT DEFINED.
1703A	LEVELLING OF CONCRETE FOR BOTTOM SLAB INCLUDING FORMWORK COST...	ERROR! BOOKMARK NOT DEFINED.
1703B	REINFORCEMENT BARS FOR WALLS AND SLABS	ERROR! BOOKMARK NOT DEFINED.
1703C	FORMWORK FOR VERTICAL WALLS AND SLABS.....	ERROR! BOOKMARK NOT DEFINED.
1703D	CONCRETE WORKS TO VERTICAL WALLS AND SLABS	ERROR! BOOKMARK NOT DEFINED.
1704	CONCRETE WORKS OF THE BEAMS AND DECK SLABS	ERROR! BOOKMARK NOT DEFINED.
1704.1	DESCRIPTION.....	ERROR! BOOKMARK NOT DEFINED.
1704.2	CONCRETE MATERIALS	ERROR! BOOKMARK NOT DEFINED.
1704.2.1	CONCRETE CLASS 30/20	ERROR! BOOKMARK NOT DEFINED.
1704.2.2	PROPORTIONING CONCRETE.....	ERROR! BOOKMARK NOT DEFINED.
1704.2.3	CONCRETING WORK.....	ERROR! BOOKMARK NOT DEFINED.
1704.3	CONCRETE CLASS 35/20	ERROR! BOOKMARK NOT DEFINED.
1704.4	MEASUREMENT AND PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
1705	MIXING CONCRETE	ERROR! BOOKMARK NOT DEFINED.
1740.2	INTERLOCKING CONCRETE PAVING BLOCK	ERROR! BOOKMARK NOT DEFINED.
1741	MEASUREMENT AND PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
1742	PLANT AND EQUIPMENT FOR AGGREGATES AND CONCRETE.....	ERROR! BOOKMARK NOT DEFINED.
1742.1	AGGREGATE PROCESSING PLANT	ERROR! BOOKMARK NOT DEFINED.
1742.2	CONCRETE PLANT	ERROR! BOOKMARK NOT DEFINED.
2000	ROAD FURNITURE.....	ERROR! BOOKMARK NOT DEFINED.
2001	ROAD RESERVE BOUNDARY POSTS	ERROR! BOOKMARK NOT DEFINED.
2004	PERMANENT ROAD SIGNS	ERROR! BOOKMARK NOT DEFINED.
2004.1	POSTS AND ROAD SIGNS	ERROR! BOOKMARK NOT DEFINED.
2004.2	COLOUR AND CONFIGURATION	ERROR! BOOKMARK NOT DEFINED.
2004.3	MATERIAL	ERROR! BOOKMARK NOT DEFINED.
2004.4	STRUCTURAL DETAILS	ERROR! BOOKMARK NOT DEFINED.
2004.5	RETRO-REFLECTIVE SHEETING	ERROR! BOOKMARK NOT DEFINED.
2004.6	MESSAGES AND BORDERS	ERROR! BOOKMARK NOT DEFINED.

2004.7	COLOUR	ERROR! BOOKMARK NOT DEFINED.
2004.8	ADHESIVES	ERROR! BOOKMARK NOT DEFINED.
2004.9	FABRICATION.....	ERROR! BOOKMARK NOT DEFINED.
2004.10	WARRANTY AND DURABILITY.....	ERROR! BOOKMARK NOT DEFINED.
2004.11	INSTALLATION	ERROR! BOOKMARK NOT DEFINED.
2004.12	FOUNDATION FOR SUPPORT	ERROR! BOOKMARK NOT DEFINED.
2004.13	MEASUREMENT FOR PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
2004.14	RATE.....	ERROR! BOOKMARK NOT DEFINED.
2005	ROAD MARKING.....	ERROR! BOOKMARK NOT DEFINED.
2006	GUARDRAILS	ERROR! BOOKMARK NOT DEFINED.
2006.1	REMOVING, RENOVATING AND RE-ERECTING GUARDRAILS	ERROR! BOOKMARK NOT DEFINED.
2006.2	PEDESTRIAN RAILING	ERROR! BOOKMARK NOT DEFINED.
2007	KERBS	ERROR! BOOKMARK NOT DEFINED.
2007.2	EXISTING KERBS.....	ERROR! BOOKMARK NOT DEFINED.
2007.3	REPAIR OF DAMAGED RAILING AND KERBS	ERROR! BOOKMARK NOT DEFINED.
2010	TREES.....	ERROR! BOOKMARK NOT DEFINED.
2010.1	PLANTATION OF TREES AND HEDGES.....	ERROR! BOOKMARK NOT DEFINED.
2012	SERVICE DUCTS BENEATH ROADS.....	ERROR! BOOKMARK NOT DEFINED.
2013	DUCT MARKERS	ERROR! BOOKMARK NOT DEFINED.
2014	ROAD BUMP AND RUMBLE STRIPS	ERROR! BOOKMARK NOT DEFINED.
2015	BOLLARDS	ERROR! BOOKMARK NOT DEFINED.
WHERE SHOWN ON THE DRAWINGS OR INSTRUCTED BY THE ENGINEER, THE CONTRACTOR SHALL CONSTRUCT PERMANENT BOLLARDS. THE BOLLARDS SHALL BE GAUGE 16 STEEL PIPE BOLLARDS OF DIAMETER MINIMUM 150MM AND 1.0 M ABOVE THE GROUND, EMBEDDED TO A DEPTH OF 0.5M AT PLACE. THE BOLLARDS SHALL BE FILLED USING A MINIMUM CLASS (15/20) CONCRETE AND AS SHOWN ON THE DRAWINGS.....		
2016	RETRO-REFLECTIVE ROAD STUDS.....	ERROR! BOOKMARK NOT DEFINED.
2017	MEASUREMENT AND PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.
2200	DAY WORKS.....	ERROR! BOOKMARK NOT DEFINED.
2201	SCOPE.....	ERROR! BOOKMARK NOT DEFINED.
2202	STANDARDS.....	ERROR! BOOKMARK NOT DEFINED.
2203	MEASUREMENT AND PAYMENTS	ERROR! BOOKMARK NOT DEFINED.
2300	ENVIRONMENTAL MANAGEMENT PLAN	ERROR! BOOKMARK NOT DEFINED.
2400	TRAFFIC MANAGEMENT AND DIVERSION	ERROR! BOOKMARK NOT DEFINED.
2401	GENERAL	ERROR! BOOKMARK NOT DEFINED.
2402	TRAFFIC ROTARY.....	ERROR! BOOKMARK NOT DEFINED.
2403	ROAD DELINEATES	ERROR! BOOKMARK NOT DEFINED.
2404	SIGNS, LIGHTS, BARRIERS AND OTHER TRAFFIC CONTROL DEVICES	ERROR! BOOKMARK NOT DEFINED.
2405	BARRICADES	ERROR! BOOKMARK NOT DEFINED.
2406	PASSAGE THROUGH WORKS	ERROR! BOOKMARK NOT DEFINED.
2406.1	ONE-WAY TRAFFIC OPERATION.....	ERROR! BOOKMARK NOT DEFINED.
2406.2	TWO WAY TRAFFIC OPERATION.....	ERROR! BOOKMARK NOT DEFINED.
2406.3	TRAFFIC CONTROL DEVICES	ERROR! BOOKMARK NOT DEFINED.
2500	HIV/AIDS, GENDER, SOCIAL ISSUES AND LOCAL PARTICIPATION.....	ERROR! BOOKMARK NOT DEFINED.
2501	SCOPE.....	ERROR! BOOKMARK NOT DEFINED.
2502	INTERPRETATION AND DOCUMENTATION.....	ERROR! BOOKMARK NOT DEFINED.
2503	HIV/AIDS AWARENESS CAMPAIGN.....	ERROR! BOOKMARK NOT DEFINED.
2504	AIDS PREVENTION CAMPAIGN	ERROR! BOOKMARK NOT DEFINED.
2505	HIV/AIDS TRAINING.....	ERROR! BOOKMARK NOT DEFINED.
2505.1	OBJECTIVE.....	ERROR! BOOKMARK NOT DEFINED.
2505.2	SCOPE OF ACTIVITIES.....	ERROR! BOOKMARK NOT DEFINED.
2505.3	COLLABORATION.....	ERROR! BOOKMARK NOT DEFINED.
2505.4	CONTRACTOR'S RESPONSIBILITIES	ERROR! BOOKMARK NOT DEFINED.
2505.5	INPUTS	ERROR! BOOKMARK NOT DEFINED.
2505.6	REPORTING.....	ERROR! BOOKMARK NOT DEFINED.
2506	TIMING.....	ERROR! BOOKMARK NOT DEFINED.
2507	MEASUREMENT AND PAYMENT.....	ERROR! BOOKMARK NOT DEFINED.

100 GENERAL

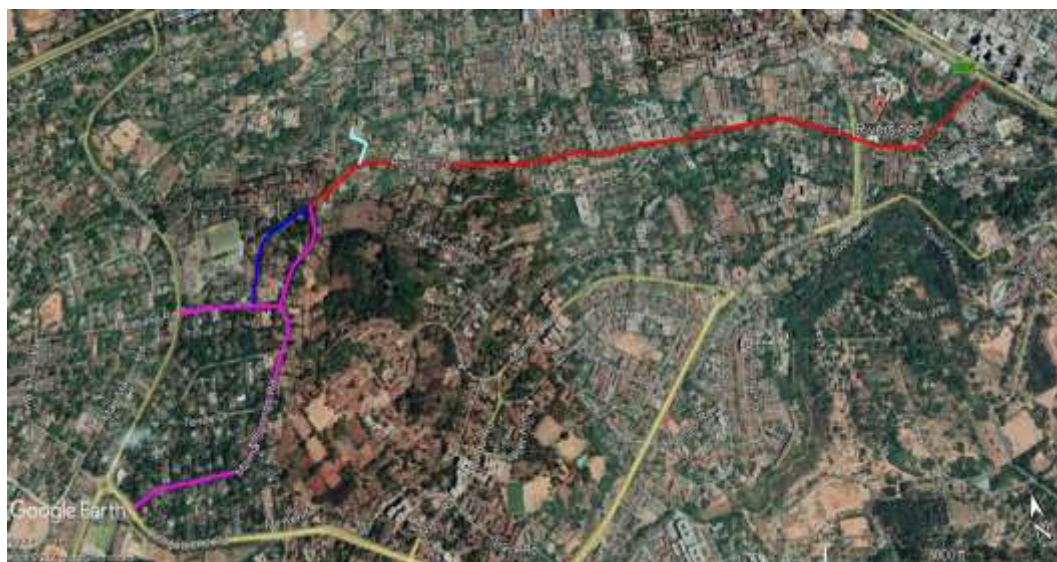
Special Specification is supplementary to the Standard Specification and the two must be read in conjunction. In any case where there appears to be conflict between the two then the Special Specifications will take precedence.

In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and specifications of Design Manual for Roads and Bridges of the Ministry of Transport and communication of the Republic of Kenya, Kenya Bureau of Standards (KeBS), BS, ASTM, AASHTO and in that order. Where even these are silent, the construction and completion of the works shall conform to sound engineering practice as approved by the Engineer and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer shall be final and binding on the Contractor.

Where reference is made in the Contract to specific standards codes to be met by the materials, plant, and other supplies to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards as on the date of the bid and codes/design manual in effect shall apply, unless otherwise expressly stated in the contract. Where such standards and codes/design manual are national, or relate to a particular country or region, other internationally recognised standards which ensure a substantially equal or higher performance than the standards and codes/design manual specified will be accepted subject to the Engineer's prior review and written approval. The difference between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Engineer at least 28 days prior to the date when the Contractor desires the Engineer's approval. In the event that the Engineer determines that such proposed deviations do not ensure substantially equal performance, the Contractor shall comply with the standards specified in the documents.

101 Location and Extent of Site

The main project works is approximately 3.0 km long dual carriageway and single carriageway with intermittent service roads/slip roads situated in Westlands area in Nairobi. The main project works comprise **Rehabilitation and Upgrading Riverside drive Part, Mzima Springs part, Riverside Mews, Laikipia road (Off Western ring road-Kasuku center) and Sri Aurobindo Avenue.**



Drawings and all relevant details pertaining to the associated works shall be issued during construction of the main works; however, the quantities for these works are incorporated in the Bills of Quantities.

102 102 **EXTENT OF CONTRACT**

The works to be executed under the Contract comprise mainly of but not limited to the following:-

1. Road Works

- Clearance of road reserve
- Benching/grading and gravelling of shoulders
- Base repairs with hand packed stones
- Earthworks in some sections
- Pothole patching and regulation with Asphalt concrete
- Asphalt Concrete Wearing Course 35mm

2. Drainage Works

Drainage and Protection Works shall be as follows:

- Removal of existing inadequate and defective cross and access culverts, inlets and outlets structures and replaced as directed by the Engineer.
- Construction of pipe culverts, headwalls, wing-walls and aprons to culverts,
- Construction of side and mitre drains with invert block drains (IBD) and stone pitching including improvement of other drainage structures and soil erosion protection works.
- Carrying 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.

3. Road Furniture

- Provide, lay and joint raised kerbs, precast concrete channels and invert block drains as directed by the Engineer.
- Provide and erect all the road signs and markings as directed by the Engineer.
- Plant selected grass on slopes of embankments and cuttings.

4. Maintenance of passage of traffic through and around the works.

5. Relocation of services.

6. Maintenance of works during Contract Period – Defect Liability Period shall be 2 months.

7. Any other activity not listed above in either category but deemed to be necessary by the Engineer, shall be subject to the Engineer's formal instructions within the mode of payment stipulated either by day works or on a measured basis.

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 under clause 48 of the conditions of Contract shall be the whole length of each section of the road 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 tests 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.

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.

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.

120 PROTECTION OF EXISTING WORKS AND SERVICES

The Contractor shall acquaint himself with the position of all existing services such as sewers, water drains, cables for electricity and telephone, lighting and telephone poles, water mains, etc., before commencing any excavation or other work likely to affect the existing services.

The cost of all plant, equipment and materials, labour, technical and professional staff, transport and the like necessary for determining the locations of existing services, including the making good of any damage caused to such services all to the satisfaction of the Engineer, shall be deemed to be included in the tender rates. No other payment shall be made for the costs of such operations, nor for the making good of damage caused thereby to the existing services.

The Contractor shall be held responsible for injury to existing structures, works or services and shall indemnify and keep indemnified the Employer against any claims in this respect (including consequential damages).

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 therefrom. 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.

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.

131 SIGNBOARDS

The Contractor shall provide and erect two (2) publicity signs on the site as directed. The Engineer shall, as shown in the Drawings, direct the minimum dimensions and thickness of the steel framework and sheet. The framework and sheet shall be prepared and painted black, while the ring at the top of the supporting frames shall be painted white. The wordings and KURA's logo shall be printed on backlit sticker paper resistant to the effects of weather using reflectorised paint or material approved by the Engineer. The sticker shall be placed on both sides of the board. The colours, fonts and heights of the letters shall be as indicated on the typical drawings and as directed by the Engineer.

132 OFFICE FOR THE RESIDENT ENGINEER, SURVEY EQUIPMENT AND FURNITURE

132.1 ENGINEER'S REPRESENTATIVE OFFICE

The contractor, when instructed, shall for the duration of the Contract, furnish and equip Resident engineer's office located at the KURA's Regional offices. 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. 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 and maintenance of the telephone shall be deemed to have been included in the rates for providing and maintaining the Office. The Contractor will be reimbursed, separately, the cost of operating the telephone under appropriate bill item in the BoQ.

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 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 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 datalogger and survey software to match Total Station Datalogger. 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	3No.
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 Contractor shall provide, install and maintain in a good state of repair, such survey and other equipment as listed for the duration of the contract.

Such 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 paid for as instructed above shall revert to the Employer after the 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.

132.3 COMMUNICATION FOR THE ENGINEER

(a) Mobile phones

The Contractor shall provide, connect and maintain mobile phones for the exclusive use by the Engineer for the duration of the contract. The Contractor shall include for the cost of providing the mobile units complete with charger unit, "hands free" headset for each unit, connection to the network and all service charges applicable all as directed by the Engineer. The Contractor shall provide air-time with each mobile phone which shall be paid for under prime cost sum allowed for in the bills of quantities. The mobile telephones shall be WAP enabled with e-mail capabilities and integrated camera of a minimum of 3.0 mega pixels. Payment for these mobiles and associated costs is included in the Bill of Quantities, and ownership of mobile phones will revert to the Employer after completion of the Works.

(b) Internet and e-mail services

Where directed, the contractor shall provide 24 hours terrestrial or wireless internet connectivity with minimum throughput speed of 128kilobytes per second for the exclusive use by the Engineer, including all accessories and Terminal Equipment and pay for all associated installation, maintenance and usage charges throughout the duration of the contract.

The contractor shall allow for the provision and maintenance of internet connectivity and associated costs as per Appendix to item 1.17 of the Bills of Quantities.

137 ATTENDANCE UPON THE ENGINEER AND HIS STAFF

In addition to the staff stated in Clause 135, the following staff will be provided for the supervision of work: 1No. Artisans, 2No. Labourers, 1No. Office assistants, 2No. Lab attendants. Additional attendant staff, as required by the Engineer, shall be paid for under Item 01-80-030 of the Bill of Quantities.

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

In addition to provisions of the Clause 138 of the Standard Specification, the Contractor shall when instructed, provide and maintain in good working condition for the exclusive use of the Engineer and his staff throughout the Contract, the following types and numbers of brand new vehicles or as specified. The Engineer shall approve the type of vehicles and confirm the number of each type to be provided. The Contractor shall insure the vehicles comprehensively for any licensed drivers and shall provide competent drivers during normal working hours and whenever required by the Engineer. The cost of provision of the vehicle shall be inclusive of the first 4,000 kilometers travelled in any month.

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

(a) Type 1 Vehicles (Double Cabin 4WD Pick up)

Type 1 Vehicles should be four Wheel Drive (4WD), with power assisted steering, Double wishbone independent suspension at front axle and rigid axle with leaf springs at rear, diesel

propelled engine maximum 2,500 cc. The starting mileage of the vehicles shall not exceed 60,000km odometer reading. The vehicles should be fitted with other accessories below:

- (a) Spare tyre and wheel jack;
- (b) FM radio and CD player;
- (c) Power Windows;
- (d) Full Air-conditioning;
- (e) Immobilizer and antitheft security system;
- (e) Driver and passenger SRS Airbags;
- (f) Canvas cover over the carrying deck at the back.

At the end of the contract, all type 1 vehicles shall revert to the Contractor.

(c) Type 2 Vehicles (station wagon/saloon)

Specifications for Type 2 Vehicles shall be station wagon/saloon vehicles; petrol propelled engine maximum 1,800 cc. The starting mileage of the vehicles shall not exceed 60,000km odometer reading. shall in addition be fitted with a fibre glass body or similar and two columns of sitting benches on the carting deck at the back.

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.

At the end of the contract, all type 2 vehicles shall revert to the Contractor.

Payment of vehicle shall be per vehicle month in item 01-80-017/18 of the BOQ.

139 MISCELLANEOUS ACCOUNTS

The Contractor maybe 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.

142 ENVIRONMENTAL PROTECTION

The Contractor shall comply with the Statutory Regulations in force in Kenya regarding environmental protection and waste disposal, and shall liaise with the National Environmental Management Agency (NEMA).

The Contractor shall ensure so far as is reasonably practicable and to the satisfaction of the Engineer; that the impact of the construction on the environment shall be kept to a minimum and that appropriate measures are taken to mitigate any adverse effects during the construction.

- i. The Contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the Contractor's construction operations and equipment. All unnecessary destruction, scarring, damage or defacing resulting from the Contractor's operations shall be repaired, replanted, reseeded or otherwise corrected as directed by the Engineer, and at the Contractor's expense.
- ii. The Contractor shall ensure that measures are in place to control soil erosion and water pollution, by use of berms, dykes, silt fences, brush barriers, dams, sediment basins,

filter mats, netting, gravel, mulches, grasses, slope drains, contour banks, and other erosion control devices and methods. Temporary erosion control provisions shall be coordinated with permanent erosion control features to assure economical, effective and continuous measures throughout the period of the works. The Contractor's attention is drawn to the requirements of Clause 502, in that works need to be progressively finished so that permanent vegetation can establish quickly to mitigate soil erosion and erosion of drains.

- iii. The Contractor shall provide all the labour, equipment, materials, and means required and shall carry out proper and efficient measures wherever and as often as necessary to minimise the dust nuisance.
- iv. The Contractor shall comply with all applicable Kenyan laws, orders and regulations concerning the prevention, control and abatement of excessive noise. Blasting, use of jackhammers, pile driving, rock crushing, or any other activities producing high-intensity impact noise may be performed at night only upon approval of the Engineer.
- v. Immediately after extraction of materials, all borrows pits shall be backfilled to the satisfaction of the Engineer. In particular borrow pits near the project road shall be backfilled in such a way that no water collects in them.
- vi. Spilling of bitumen fuels Oils and other pollutants shall be cleared up.
- vii. The Contractor's attention is drawn to the requirements of the Standard Specification in regard to the environment and in particular to the following clauses:
 - Clause 115: Construction Generally
 - Clause 116: Protection from Water
 - Clause 136: Removal of Camps
 - Clause 605: Safety and Public Health Requirements Clause
 - Clause 607: Site Clearance and Removal of Topsoil and Overburden
- (h) 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.

143 STAFF TRAINING

The Contractor shall allow for training of engineers, technicians and other support staff as may be instructed by the Engineer.

The payment of the allowances of such staff shall be made as instructed by the Engineer under the relevant provisions in the Bills of Quantities.

SECTION 2 - MATERIALS AND TESTING OF MATERIALS

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

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 from its top surface. This pin shall be co-ordinated and heighted 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 2 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 subgrade 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.

SECTION 4~ SITE CLEARANCE AND TOP SOIL STRIPPING

401 SITE CLEARANCE

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

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 and payment for this shall be made on day works basis.

SECTION 5 - EARTHWORKS

504 PREPARATION PRIOR TO FORMING EMBANKMENT

Where benching is required for existing pavement to accommodate earthworks subgrade or subbase for widening the road, the rate for compaction of existing ground shall be deemed to cover this activity.

Excavation in the pavement of the existing road shall be kept dry. In the event of water penetrating the underlying layer, construction of the subsequent layers shall be postponed until the underlying layers are dry enough to accommodate the construction plant without deforming or otherwise showing distress.

Step construction shall be carried out per layer at the joint where excavating both vertically and perpendicular to the direction of the travel. The step shall be 500mm perpendicular to the direction of the travel and 150mm vertical unless otherwise instructed by the Engineer.

Special care shall be taken when compacting the new material at the joint ensuring that specified density is achieved.

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

Subgrade: Shall mean upper 300mm of earthworks either insitu or in fill and subgrade shall be provided for as part of earthworks operation and payment shall be made as “fill”. The material for subgrade shall have a CBR of not less than 8% 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%.

Subgrade repair: Where directed by the Engineer, any localized failure in the subgrade shall be repaired by filling in selected soft, hard or natural of minimum CBR 30% and compacted in accordance with clauses in the specifications applying to normal subgrade.

Embankment repair: Where directed by the Engineer, any localized filling in soft, hard or natural; selected material requirements shall be executed in accordance with Clause 505.

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, all fill above ground level upto the underside of the subgrade 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 wingwalls.

Notwithstanding the provision of clause 503 of the standard Specification, Compaction of subgrade 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, this shall be compacted and finished to the same standards and tolerances as those required for normal subgrade and clauses in the specifications applying to normal subgrade shall also apply.

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.

517 MEASUREMENT AND PAYMENT

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).

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.

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.

602 MATERIAL SITES

The information on possible material sites is given for the general guidance of bidders. Bidders are however advised to conduct their own investigation as the information contained therein is neither guaranteed nor warranted

603 PROVISION OF LAND

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.

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.

605 SAFETY AND PUBLIC HEALTH REQUIREMENTS

In addition to clause 605, the contractor shall allow for professionals to conduct lectures to the workers regarding the spread of HIV/Aids.

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.

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.

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.

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.

The Works shall involve removal of the damaged stone pitching and reconstruction of the said areas in accordance with Clause 710 of the Standard Specifications by use of the sound salvaged material together with any necessary additional material where all such materials shall comply with Section 7 of the Standard Specifications.

Contrary to clause 713 of the standard specifications, the rates inserted for stone pitching shall allow for grouting.

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 KURA'S Yard or M.O. R & P.W Department depot.

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

801 SCOPE OF SECTION

The operations specified in this section apply to the installation of drainage works and reinstatement and improvement of the same.

In addition, this Section covers: -

- Extending of existing 450mm, 600mm and 900mm diameter pipes to be compatible with the increased road width or access.
- Desilting and cleaning of existing pipes and outfall drains to make them free flowing.

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 Culverts

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

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, and the volume in m³ of inlet/outlet structure removed. The void left by removal of these pipes shall be carefully preserved in order to accommodate replacement of 450mm, 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 barring and wedging or the use of a mechanical breaker fitted with a rock point in good condition and operated correctly. Boulders of more than 0.2m³ 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 a 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).

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

- a) 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 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 reinstated with compacted stabilised gravel and surfaced with hot asphalt or a surface dressing as instructed by the Engineer.

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.

817 REPAIRS TO DRAINS

817.1 Cleaning and Repair of Existing Drains

In areas of existing side drains, mitre or outfall drains where such are blocked, the Engineer shall instruct the Contractor to clean and clear the drains to free flowing condition.

The work shall consist of:

- (a) Stripping and removal of any extraneous material to spoil including vegetation and roots in the drains to the satisfaction of the engineer.
- (b) Spreading of any spoil to the satisfaction of the Engineer.

Shaping the drains to free flowing condition as directed by the Engineer.

Removing any broken side slabs for inverted block drains and replacing with a new removing any broken inverted block drains and replacing with a new one well jointed.

Measurement and Payment for cleaning drains shall be by linear metre of drain cleaned measured as the product of plan area and vertical depth of extraneous material instructed to be removed. No extra payment will be made for removal of vegetation and roots.

817.2 Channels

The Engineer may instruct that the Contractor provides open channels in place of existing subdrains where the latter may be damaged or in any other place. The rates entered by the Contractor in the bills of quantities must include for removal and disposal of any subdrain material, excavation to line and level, backfilling and compaction as directed by the engineer. The channels shall be constructed of precast class 20/20 concrete of minimum 80mm thickness and lengths or widths not exceeding 1000mm. Joints shall be at least 15mm wide filled with 1:2 cement sand mortar.

817.3 Rubble fills for protection work

Quarry waste or similar approved material shall be used to back fill scoured and eroded side, outfall and cut-off drains. 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.

817.4 Stone Pitching

Stone pitching shall be constructed in accordance with clause 710 of the standard Specification.

817.5 Gabions

Gabions shall be constructed in accordance with clause 711 of the standard Specification.

817.6 Spoil Material

The Contractor shall be responsible for removal from site of all materials excavated in the course of undertaking works in this section of the specifications, unless suitable for re-use, and deposit of the material in a spoil dump to be approved 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.

819 CLEANING AND MAINTENANCE

819.1 Desilting of Pipe Culverts

Where instructed, Contractor shall desilt the existing pipe culverts by removing all the material from the pipe to make them clean and free flowing.

Measurement and payment shall be by the linear metres of pipes de-silted, regardless of diameter size.

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 inadequate prior investigations of this nature by the contractor.

903 MAINTENANCE OF EXISTING ROADS

The Contractor shall when instructed, maintain the existing project road ahead of works using compacted asphalt concrete type I in accordance with the provisions in clause 1601B – 1607B of the Special Specifications or gravel material depending on the nature of the wearing course surface.

904 CONSTRUCTION OF DEVIATIONS

(a) General

In addition to requirement of this clause, the Contractor shall when instructed 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.

Subject to the approval by the Employer, the Contractor may maintain and use existing roads for deviation. Payment for this, made in accordance with clause 912 (a) (i), shall be by the Kilometre used depending on the type of road used, whether bituminous or earth/gravel. The rates shall include for the provision of materials and the works involved.

b) Geometry

The carriageway width of the deviations shall not be less than 6m wide and suitable for 2-way lorry traffic unless otherwise specified.

c) **Construction**

Unless otherwise instructed gravel wearing course for the deviation shall be 150mm compacted thickness 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 to 1.4 litres/M² in regular interval to minimise the effects of dust. Latest sprinkling time shall be one hour before the sunset.

Where existing neighbouring roads are used as deviation, Contractor shall carry out repairs and maintenance in parent materials used for the existing base and surfacing of the road being used.

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.

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 drawing in Book of 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 reflectorised 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. Further, the Contractor shall provide a traffic management plan to be approved by the Engineer before the commencement of any construction works and execute the same, to the satisfaction of the Engineer, during the entire period of project implementation. A draft traffic management plan shall be submitted with Bid.

912 MEASUREMENT AND PAYMENT

Construct Deviation

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.

Where existing neighbouring road has been used as deviation, payment shall be by the kilometre rate and shall include the cost of repairs and maintenance of the road carried out in parent base and subbase materials.

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.

Maintain existing road

Asphalt Concrete or gravel for maintaining the existing road shall be measured by the cubic metre placed and compacted upon the road

Passage of traffic through the works

Payment shall be made on Lump Sum basis.

Assistance to Public

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

SECTION 10 – GRADING AND GRAVELLING

1001 GENERAL

Grading covers the works involved in the reinstatement of the road carriageway to the camber by removing the high points and filling up gullies, corrugations and wheel ruts to restore smooth running surface. Graveling consists of excavation, loading, hauling, spreading, watering and compaction of gravel or softstone wearing course material on the formation of the road carriageway.

Ditch and Shoulder grading

The activity consists of cutting of a V – ditch and reinstating or reforming of the shoulders of road using either Towed or Motor grader.

Carriageway grading

(i) Light grading

This consists of trimming of the carriageway to control roughness and corrugations using either a towed grader or a motorized grader.

(ii) Heavy grading

This consists of scarifying the existing carriageway surface, cutting high spots and moving materials to fill potholes, corrugations and wheel ruts and reshaping of the surface to the specified camber, using either a towed grader or a motorized grader. All loose rocks, roots, grasses shall be removed and disposed well clear off the drains.

Heavy grading will be considered if 70% of the road has potholes, corrugations and wheel ruts of over 200mm deep.

The material shall be bladed toward the center of the road starting from both edges until the specified camber is achieved.

1002 MATERIALS

Gravel shall include lateritic gravel, quartzitic gravel, calcareous gravel, decomposed rock, softstone/quarry waste material, clayey sand and crushed rock.

1003 MATERIAL REQUIREMENTS

Gravel material shall conform to the requirements given below:

GRADING REQUIREMENTS AFTER COMPACTION		
Sieve (mm)	% by weight passing	
40	100	
28	95 – 100	
20	85 – 100	
14	65 – 100	
10	55 – 100	
5	35 – 92	
2	23 – 77	
1	18 – 62	
0.425	14 – 50	
0.075	10 - 40	
PLASTICITY INDEX REQUIREMENTS PI		
Zone	Min	Max
WET	5	15
DRY	10	25

BEARING STRENGTH REQUIREMENTS		
Traffic Commercial VPD	CBR	DCP Equivalent mm/Blow
Greater than 15	20	11
Less than 15	15	14
CBR at 95% at MDD, Modified AASHTO and 4 days soak		
Lower quality material (CBR 15) may be accepted if no better material can be found		

NB: Wet Zone – mean annual rainfall greater than 500mm
 Dry Zone – mean annual rainfall less than 500mm

SECTION 11 – SHOULDERS TO PAVEMENT**1101 GENERAL**

Shoulders shall be constructed in accordance with guidelines given in 1102 and as directed by the Engineer.

For sections where shoulders are extremely low and requires fill material before the shoulder is reconstructed, the construction of fill embankment shall be in accordance with Section 5 of this specification.

1102 MATERIAL FOR CONSTRUCTION OF SHOULDERS

The shoulders shall be 1.0m wide both sides and shall be formed of 150mm thick well compacted soft stone material and topsoiled with red coffee soil and planted with grass.

Low shoulder shall be reconstructed by cutting benches, filling and compacting approved fill material to form the formation to the shoulders.

Shoulder reconstruction shall be same in all sections including the slip roads.

1105 SURFACE TREATMENT OF SHOULDERS

The shoulders shall be planted with creeping type kikuyu grass.

1106 MEASUREMENT AND PAYMENT

Payment for shoulder construction shall be in accordance with the relevant clauses in sections 11, 12, 14, 15 and 23 of the relevant Specifications. Payment for fill material on shoulder shall be in accordance with Section 5 of this specification.

SECTION 12 - NATURAL MATERIAL SUBBASE AND BASE**1201 GENERAL**

Where instructed by the Engineer, the Contractor shall undertake repairs, widening and reprocessing to the existing carriageway and shoulders in accordance with sections 12 and 14 of the Special Specifications.

a) Areas to be scarified and reprocessed

The contractor will scarify, add new material and reprocess sections as determined by the Engineer.

b) Pavement repairs

The Contractor will carry out repairs to base and subbase as directed by the Engineer and according to Specifications given in Sections 12 and 14 of the Standard Specifications.

c) Pavement widening

The Contractor shall, as directed by the Engineer, bench and compact the subgrade to 100% MDD (AASHTO T99), provide lay and compact material for subbase and base as directed by the Engineer and in accordance with Sections 5 and 12 of the Standard Specifications.

1203 MATERIAL REQUIREMENTS

Natural materials for base and subbase shall conform to the specifications given in Section 12 of the Standard Specifications for Road and Bridge Construction for cement and lime improved base and subbase.

1209 MEASUREMENT AND PAYMENT

Natural material for subbase 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.

1210 HAND PACKED STONE

Hand packed stone base is a layer of hand laid stone of defined size and durable in nature, laid in a manner such that when proof rolled and compacted it forms a stable and dense matrix as a road base.

a) Material for Hand Packed Stone Base

This shall consist of durable stone with nominal base dimensions of 75 mm square and minimum height of 150 mm or when compacted to give a layer of 150 mm. The stone shall be class C with the following requirements:

LAA 45 max

ACV 32 max

SSS	12 max
FI	30 max
CR	60 min.

It shall be free from foreign matter. The fines passing 0.425 mm sieve shall be **NONPLASTIC**

b) Laying

The stone shall be laid by hand closely together. The stone shall be carefully bedded and tightly wedged with suitable spalls. The base of the stone shall alternate with the apex in all directions or as directed by the Engineer. The layer shall be proof rolled with a loaded scrapper or truck with a minimum axle load of 8 tonnes in the presence of the Engineer who shall approve of its stability before compaction.

c) Compaction

This shall be by a steel wheeled roller of at least five tonnes per metre width of roll. It shall consist of four static runs or until there is no movement under the roller. There shall follow vibratory compaction until an average dry density of 85% minimum of specific gravity of stone has been achieved. No result shall be below 82% of specific gravity. The surface of the compacted layer shall then be levelled by quarry dust (0/6 mm). The dust shall have the following specifications:

The stone shall be class C

Grading

Sieve Size	% Passing
10	100
6.3	90-100
4	75-95
2	50-70
1	33-50
0.425	20-33
0.300	16-28
0.150	10-20
0.075	6-12

The dust shall be free from foreign matter and fines passing 0.425 mm sieve shall be **NON-PLASTIC**. The maximum layer shall be 40 mm or as directed by the Engineer

d) Measurement and Payment

Payment shall be by the cubic metre laid (m^3). Measurement of volume shall be determined as the product of length and compacted thickness laid. The rate quoted for this item should include the cost for laying the levelling quarry dust layer, as no extra payment shall be made for this layer.

1211 REPROCESSING EXISTING PAVEMENT LAYERS

General

The existing surfacing and the base shall be reprocessed with additional material and the composite mixture shall be compacted to form the subbase layer.

Before commencement of the work the Contractor shall propose plants and equipments he proposes to use for this activity.

The Contractor after approval of his proposal shall carry out test section in accordance with Section 3 of the Standard Specifications.

The existing surfacing and base course shall be broken up to specified depth and reprocessed in place, where required. The underlying layers shall not be damaged, and material from one layer may normally not be mixed with that of another layer. Where unauthorized mixing occurs or where the material is contaminated in any way by the actions of the Contractor, and the contaminated material does not meet the specified requirements of for the particular layer, he shall remove such material and replace it with other approved material, all at his own expense.

Any mixture composition of the new layer must not contain more than 30% of the bituminous material by volume. The mixture must not contain pieces of bound bituminous material larger than 37.5mm, and any such material shall be removed at the Contractor's cost.

The requirements for imported material used in the respective pavement layers shall comply with the limitations, norms, sizes and strengths specified in the Standard Specifications clause 1203(b) and (d) and shall be worked as per Section 14 of the Standard Specification.

Material reworked in-situ or that obtained from existing pavement is not expected to comply with the material requirements but the reworking should achieve the specified requirements.

Where the thickness of any existing pavement layer requires to be supplemented within reprocessing and the thickness of the additional material after compaction will be less than 100mm, the existing layer shall be scarified to a depth that will give a layer thickness of at least 100mm after compacting the loosened existing and the additional material.

Controlling the Reworked Depth

The Contractor shall submit a proven method to method to control the depth of excavation, or layer to be reworked, to the Engineer for approval. The Engineer may order a trial section to be reprocessed before any major length of the road is rehabilitated.

Excavations

Excavations in the pavement shall be kept dry. In the event of water penetrating the underlying layers, construction of the consecutive layers shall be postponed until the underlying layers are dry enough to accommodate the construction plant without deforming or otherwise showing distress.

Step construction shall be carried out per layer at the joint when excavating, both longitudinally (if appropriate) and perpendicular to the direction of travel. The step width shall be 500mm perpendicular to the direction of travel, and 150mm long longitudinally, unless otherwise instructed by the Engineer.

Special care shall be taken when compacting the new material at the joint, ensuring that the specified density is achieved.

Measurement and Payment

(a) Item: In-situ reprocessing of existing pavement layers as subbase compacted to specified density (95% MDD AASHTO T180) and thickness.

Unit: M³

The tendered rate shall include full compensation for breaking up the existing pavement layer to specified depth, breaking down and preparing the material and the spreading and mixing in of any additional material

(b) Item: The addition of extra gravel to subbase.

Unit: M³

The tendered rate shall include full compensation for procuring and addition of the material to the in-situ scarified layers and the transportation of the material over unlimited free-haul distance. The tendered rates will also include full compensation for prospecting for materials and any payments necessary to acquire the specified quality material.

(c) Excavation of existing bituminous pavement materials including unlimited free-haul.

Unit: M³

The tendered rates shall include full compensation for excavating the existing bituminous material from the pavement layers and for loading, transporting the material for unlimited free-haul, off-loading and disposing of the materials as specified.

(d) Excavation of the existing pavement

Unit: M³

The tendered rate shall include full compensation for excavating the existing material from the pavement layers and for loading, transporting the material for unlimited free-haul distance, off-loading and disposing of the material as specified.

Payment will only be made for breaking up and excavating existing pavement layers to the specified depth if the material is to be removed to spoil.

SECTION 15 - BITUMINOUS SURFACE TREATMENTS

1501B PREPARATION OF SURFACE

In addition to requirements of Clause 1503B of the Standard Specifications, the contractor shall prepare and Repair Cracks, Edges, Potholes and Other Failures as follows: ~

a) Cracks 3.0mm or less in width

The entire crack area shall be cleaned by brushing with a wire brush and then blowing with a compressed air jet and the crack sealed with 80/100 cutback bitumen using a pouring pot or pressure lance and hand squeegee. The surface shall then be dusted with sand or crushed dust.

b) Cracks greater than 3.0mm in width

Before these cracks are filled a steel wire brush or router shall be used to clean them and then a compressed air jet shall be used to clean and remove any foreign or loose material in the crack until the entire crack area is clean.

When the crack and surrounding area have been thoroughly cleaned, dry sand shall be forced into the crack until it is sealed in the manner specified for cracks less than 3.0mm width.

c) Potholes, edges and other repair areas

Where instructed, the Contractor shall prepare areas for the repair of potholes, road edges and other repair areas by excavating off unsuitable or failed material and debris, trimming off excavated edges, cleaning and compacting the resulting

surfaces and applying MC 30 or MC 70 cut-back bitumen prime coat at a rate of 0.8-1.2 litres/m², all as directed by the Engineer. Measurement and payment shall be made under the relevant item of Bill No 15. Where the surface repair on potholes and edges are to be carried out, Asphalt Concrete Type I (0/14 gradation) shall be used. Bituminous material for repair of failures and other repair areas shall be paid for under the relevant item of Bill No 16

PART B ~ PRIME COAT

1502B MATERIALS FOR PRIME COAT AND TACK COAT.

For prime coat, the binder shall be a medium-curing cutback MC 70 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 diluents.

Prime coat shall be applied to gravel areas that are to receive bituminous mixes as directed by the Engineer.

The tack coat shall consist of bitumen emulsion KI-60 unless otherwise directed by the Engineer.

The rates of spray of the binder shall be as instructed by the Engineer and shall generally be within the range 0.8-1.2 litres/square metre.

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 °C

SECTION 16 - BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES

This section covers different types of bituminous mixes for base and surface (wearing and binder courses) and is divided into the following parts: -

Part A General

Part B Asphalt Concrete for carriageway

PART A – GENERAL**1601A SCOPE OF PART A**

Part A comprises all the general requirements for bituminous mixes, which apply to Part B as well.

1602A REQUIREMENTS FROM OTHER SECTIONS

The following sections of this Specification apply to Part B of this section and shall be read in conjunction therewith:-

Section 2	Materials and Testing of Materials
Section 3	Setting Out and Tolerances
Section 6	Quarries, Borrow Pits, Stockpile and Spoil Areas
Section 15	Bituminous Surface Treatments and Surface Dressing

1603A CONSTRUCTION PLANT**(a) General**

The Contractor shall submit to the Engineer in accordance with Section 1 of its Specification, full details of the construction plant he proposes to use and the procedures he proposes to adopt for carrying out the permanent Works.

The Engineer shall have access at all times to construction plant for the purposes of inspection. The Contractor shall carry out regular calibration checks in the presence of the Engineer and shall correct forthwith any faults that are found.

All construction plant used in the mixing, laying and compacting of bituminous mixes shall be of adequate rated capacity, in good working condition, and shall be acceptable to the Engineer. Obsolete or worn-out plant will not be allowed on the work.

(b) Mixing Plant

Bituminous materials shall be mixed in a plant complying with ASTM Designation D995 and shall be located on the Site unless otherwise agreed by the Engineer. It shall be equipped with at least three bins for the storage of heated aggregates and a separate bin for filler. All bins shall be covered to prevent the ingress of moisture.

The plant may be either the batch-mix type or the continuous-mix type and shall be capable of regulating the composition of the mixture to within the tolerances specified in Clause 1614A of this Specification.

The bitumen tank shall be capable of maintaining its contents at the specified temperature within a tolerance of 5°C and a fixed thermometer easily read from outside the tank. Any bitumen that has been heated above 180°C or has suffered carbonisation from prolonged heating shall be removed from the plant and disposed of.

(c) **Laying Plant**

Bituminous materials shall be laid by a self-propelled spreader finisher equipped with a hopper, delivery augers and a heated adjustable vibrating screed. It shall be capable of laying bituminous materials with no segregation, dragging, burning or other defects and within the specified level and surface regularity tolerance. Delivery augers shall terminate not more than 200mm from the edge plates.

(d) **Compaction Plant**

The Contractor shall provide sufficient rollers of adequate size and weight to achieve the specified compaction. Prior to commencing the laying of bituminous mixes in the permanent Works the Contractor shall carry out site trials in accordance with Section 2 of this Specification to demonstrate the adequacy of his plant and to determine the optimum method of use and sequence of operation of the rollers.

It is important to achieve as high a density as possible at the time of construction and it is expected that vibrating rollers will be required to produce the best results. However, it is essential that thorough pre-construction trials are carried out to ensure that: -

- (a) The roller is set up to have the optimum amplitude and frequency of vibration for the particular material being laid
- (b) That the roller does not cause breakdown of the aggregate particles.
- (b) That the optimum compaction temperatures are established which allow compaction without causing ripple effects or other distortions of the surfacing.

1604A PREPARATION OF SURFACE

Immediately before placing the bituminous mix in the pavement, the existing surface shall be cleaned of all material and foreign matter with mechanical brooms or by other approved methods. The debris shall be deposited well clear of the surface to be covered.

Any defect of the surface shall be made good and no bituminous mix shall be laid until the Engineer has approved the surface.

A tack coat shall be applied in accordance with Section 15 of this Specification. If the Engineer considers a tack coat is required prior to laying the bituminous mix or between layers of the bituminous mix, due solely to the Contractor's method of working, then such tack coat shall be at the Contractor's expense.

1605A DESIGN AND WORKING MIXES

At least two months prior to commencing work using a bituminous mix, the Contractor shall, having demonstrated that he can produce aggregates meeting the grading requirements of the Specification, submit samples of each constituent of the mix to the Engineer. The Engineer will then carry out laboratory tests in order to decide upon the proportion of each constituent of the initial design mix or mixes to be used for site trials to be carried out in accordance with Clause 1606A of this Specification.

Should the Engineer conclude from the site trials that the mix proportion or aggregate grading are to be changed, the Contractor shall submit further samples of the constituents and carry out further site trials all as directed by the Engineer.

The Engineer may instruct the alteration of the composition of the -75 micron fraction of the aggregates by the addition or substitution of mineral filler. The Engineer may also instruct the alteration of all or part of the -6.3mm fraction of the aggregates by the addition or substitution of natural sand.

The Contractor shall make the necessary adjustments to his plant to enable the revised mix to be produced.

Following laboratory and site trials the Engineer will determine the proportions of the working mix and the Contractor shall maintain this composition within the tolerances given in Clause 1614A.

Should any changes occur in the nature or source of the constituent materials, the Contractor shall advise the Engineer accordingly. The procedure set out above shall be followed in establishing the new mix design.

1606A SITE TRIALS

Full scale laying and compaction site trials shall be carried out by the Contractor on all asphalt pavement materials proposed for the Works using the construction plant and methods proposed by the Contractor for constructing the Works. The trials shall be carried out with the agreement, and in the presence of the Engineer, at a location approved by the Engineer.

The trials shall be carried out to: -

- a) Test materials, designed in the laboratory, so that a workable mix that satisfies the specification requirements can be selected.
- b) To enable the Contractor to demonstrate the suitability of his mixing and compaction equipment to provide and compact the material to the specified density and to confirm that the other specified requirements of the completed asphalt pavement layer can be achieved.

Each trial area shall be at least 100 metres long and to the full construction width and depth for the material. It may form part of the Works provided it complies with this Specification. Any areas that do not comply with this Specification shall be removed.

The Contractor shall allow in his programme for conducting site trials and for carrying out the appropriate tests on them. The trial on any pavement layer shall be undertaken at least 21 days ahead of the Contractor proposing to commence full-scale work on that layer.

The Contractor shall compact each section of trial over the range of compactive effort the Contractor is proposing and the following data shall be recorded for each level of compactive effort at each site trial: -

- i. The composition and grading of the material including the bitumen content and type and grade of bitumen used.
- ii. The moisture content of aggregate in the asphalt plant hot bins.
- iii. The temperature of the bitumen and aggregate immediately prior to entering the mixer, the temperature of the mix on discharge from the mixer and the temperature of the mix on commencement of laying, on commencement of compaction and on completion of compaction. The temperature of the mixture is to be measured in accordance with BS 598, Part 3, Appendix A.
- iv. The type, size, mass, width of roll, number of wheels, wheel load, tyre pressures, frequency of vibration and the number of passes of the compaction equipment, as appropriate for the type of roller.
- v. The target voids and other target properties of the mix together with the results of the laboratory tests on the mix.
- vi. The density and voids achieved.
- vii. The compacted thickness of the layer.
- viii. Any other relevant information as directed by the Engineer.

At least eight sets of tests shall be made by the Contractor and the Engineer on each 100 metres of trial for each level of compactive effort and provided all eight sets of results over

the range of compactive effort proposed by the Contractor meet the specified requirements for the material then the site trial shall be deemed successful. The above data recorded in the trial shall become the agreed basis on which the particular material shall be provided and processed to achieve the specified requirements.

1607A MIXING OF AGGREGATES AND BITUMEN

The bitumen shall be heated so that it can be distributed uniformly and care shall be taken not to overheat it. The temperature shall never exceed 170°C for 80/100-penetration grade bitumen.

The aggregates shall be dried and heated so that they are mixed at the following temperatures: -

125-165°C when 80/100 bitumen is used

The dried aggregates shall be combined in the mixer in the amount of each fraction instructed by the Engineer and the bitumen shall then be introduced into the mixer in the amount specified. The materials shall then be mixed until a complete and uniform coating of the aggregate is obtained.

The mixing time shall be the shortest required to obtain a uniform mix and thorough coating. The wet mixing time shall be determined by the Contractor and agreed by the Engineer for each plant and for each type of aggregate used. It shall normally not exceed 60 seconds.

1608A TRANSPORTING THE MIXTURE

The bituminous mix shall be kept free of contamination and segregation during transportation. Each load shall be covered with canvas or similar covering to protect it from the weather and dust.

1609A LAYING THE MIXTURE

Immediately after the surface has been prepared and approved, the mixture shall be spread to line and level by the laying plant without segregation and dragging.

The mixture shall be placed in widths of one traffic lane at a time, unless otherwise agreed by the Engineer. The compacted thickness of any layer shall be at least 2.5 times the maximum size of the aggregate for wearing course and at least 2 times for binder course. The minimum thickness shall be 25mm.

Only on areas where irregularities or unavoidable obstacles make the use of mechanical laying impracticable, may the mixture be spread and compacted by hand.

1610A COMPACTION

Immediately after the bituminous mixture has been spread, it shall be thoroughly and uniformly compacted by rolling.

The layer shall be rolled when the mixture is in such a condition that rolling does not cause undue displacement or shoving.

The number, weight and type of rollers furnished shall be sufficient to obtain the required compaction while the mixture is in a workable condition. The sequence of rolling operations shall be as agreed with the Engineer and proved during site trials. Initial rolling with steel tandem or three-wheeled roller shall follow the laying plant as closely as possible. The rollers shall be operated with the drive roll nearest the laying plant, at a slow and uniform speed (not exceeding 5 Km/Hr).

Rolling shall normally commence from the outer edge and proceed longitudinally parallel to the centreline, each trip overlapping one half of the roller width. On super elevated curves, rolling shall begin at the low side and progress to the high side. Where laying is carried out in lanes care must be taken to prevent water entrapment.

Intermediate rolling with a pneumatic-tyred or vibratory roller shall follow immediately. Final rolling with a steel-wheeled roller shall be used to eliminate marks from previous rolling.

To prevent adhesion of the mixture to the rollers, the wheels shall be kept lightly moistened with water.

In areas too small for the roller, a vibrating plate compactor or a hand tamper shall be used to achieve the specified compaction.

1611A FINISHING, JOINTS AND EDGES

Any mixture that becomes loose and broken, mixed with dirt or foreign matter or is in any way defective, shall be removed and replaced with fresh hot mixture, which shall be compacted to conform to the surrounding area.

Spreading of the mixture shall be as continuous as possible. Transverse joints shall be formed by cutting neatly in a straight line across the previous run to expose the full depth of the course. The vertical face so formed shall be painted lightly with hot 80/100 penetration grade bitumen just before the additional mixture is placed against it.

Longitudinal joints shall be rolled directly behind the paving operation. The first lane shall be placed true to line and level and have an approximately vertical face. The mixture placed in the abutting lane shall then be tightly crowded against the face of the previously placed lane. The paver shall be positioned to spread material overlapping the joint face by 20-30mm. Before rolling, the excess mixture shall be raked off and discarded.

When the abutting lane is not placed in the same day, or the joint is destroyed by traffic, the edge of the lane shall be cut back as necessary, trimmed to line and painted lightly with hot 80/100 penetration grade bitumen just before the abutting lane is placed.

Any fresh mixture spread accidentally on the existing work at a joint shall be carefully removed by brooming it back on to uncompacted work, so as to avoid formation of irregularities at the joint. The finish at joints shall comply with the surface requirements and shall present the same uniformity of finish, texture and density as other sections of the work.

The edges of the course shall be rolled concurrently with or immediately after the longitudinal joint. In rolling the edges, roller wheels shall extend 50 to 100mm beyond the edge.

1612A SAMPLING AND TESTING OF BITUMINOUS MIXTURES

The sampling of bituminous mixtures shall be carried out in accordance with AASHTO T168 (ASTM Designation D979).

1613A QUALITY CONTROL TESTING

During mixing and laying of bituminous mixtures, control tests on the constituents and on the mixed material shall be carried out in accordance with Clause 1612A and Section 2 of this Specification.

If the results of any tests show that any of the constituent materials fail to comply with this Specification, the Contractor shall carry out whatever changes may be necessary to the materials or the source of supply to ensure compliance.

If the results of more than one test in ten on the mixed material show that the material fails to comply with this Specification, laying shall forthwith cease until the reason for the failure has been found and corrected. The Contractor shall remove any faulty material laid and replace it with material complying with this Specification all at his own expense.

1614A TOLERANCES

Surfacing courses and base shall be constructed within the geometric tolerances specified in Section 3 of this Specification.

The Contractor shall maintain the composition of the mixture as determined from the laboratory and site trials within the following tolerances, per single test:

Bitumen Content	0.3% (by total weight of total mix)
Passing 10mm sieve and larger sieves	6% (by total weight of dry aggregate including mineral filler)
Passing sieves between 10mm and 1.0mm sieves	4% (by total weight of dry aggregate including mineral filler)
Passing sieves between 1.0mm and 0.075mm sieve	3% (by total weight of dry aggregate including mineral filler)
Passing 0.075mm sieve	2% (by total weight of dry aggregate including mineral filler)

The average amount of bitumen in any length of any layer, calculated as the product of the bitumen contents obtained from single tests and the weight of mixture represented by each test, shall not be less than the amount ordered.

The average amount of bitumen for each day's production calculated from the checked weights of mixes shall not be less than the amount ordered.

The average amount of bitumen in any length of any layer, calculated as the product of the bitumen contents obtained from single tests and the weight of mixture represented by each test, shall not be less than the amount ordered.

The average amount of bitumen for each day's production calculated from the checked weights of mixes shall not be less than the amount ordered.

The final average overall width of the upper surface of a bituminous mix layer measured at six equidistant points over a length of 100m shall be at least equal to the width specified. At no point shall the distance between the centreline of the road and the edge of the upper surface of a bituminous mix layer be narrower than that specified by more than 13mm.

1615A MEASUREMENT AND PAYMENT

No separate measurement and payment shall be made for complying with the requirements of Clauses 1601A to 1614A inclusive and the Contractor shall be deemed to have allowed in his rates in Parts B and C of Section 16 of this Specification for the costs of complying with the requirements of Part A of Section 16 of this Specification

PART B - ASPHALT CONCRETE FOR SURFACING**1601B DEFINITION**

Asphalt concrete means a thoroughly controlled, hot-mixed, hot-laid, plant mixture of well-graded dried aggregate and penetration grade bitumen, which, when compacted forms a dense material.

A distinction is drawn between asphalt concrete Type I (High Stability) and asphalt concrete Type II (Flexible). The asphalt concrete type to be used will be Type I.

1602B MATERIALS FOR ASPHALT CONCRETE TYPE 1**a) Type of bituminous material**

The type of material to be used on severe sites will be of the continuously graded type similar to Asphaltic Concrete or Close Graded Macadam. It is essential that these materials are sealed with a single or double surface dressing or a Cape seal.

b) Penetration Grade Bitumen

Bitumen shall be 80/100 penetration grade since material is being laid at an altitude of more than 2,500m.

c) Aggregate

Coarse aggregate (retained on a 6.3mm sieve) shall consist of crushed stone free from clay, silt, organic matter and other deleterious substances. The aggregate class will be specified in the Special Specification and it shall comply with the requirements given in Table 16B-1(b). The grading for 0/20 mm for carriageway and 0/14mm for shoulders for binder course is as specified below:

1

Sieve size	0/20	0/14
28	100	-
20	90-100	100
14	75-95	90-100
10	60-82	70-90
6.3	47-68	52-75
4	37-57	40-60
2	25-43	30-45
1	18-32	20-35
0.425	11-22	12-24
0.300	9-17	10-20
0.150	5-12	6-14
0.075	3-7	4-8

TABLE 16B-1(b) - REQUIREMENTS FOR COARSE AGGREGATE

Coarse Aggregate (Retained on a 6.3mm Sieve)	

Test	Maximum Value
LAA	30
ACV	25
SSS	12
FI	25

Fine aggregate (passing a 6.3mm sieve) shall be free from clay, silt, organic and other deleterious matter and shall be non-plastic. Unless otherwise specified in the Special Specification it shall consist of entirely crushed rock produced from stone having a Los Angeles Abrasion of not more than 40. The Sand Equivalent of the fine aggregate shall not be less than 40 and the SSS not more than 12.

b) Mineral Filler

Mineral Filler shall consist of ordinary Portland Cement 42.5 Grade

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(b), for 0/14mm as specified for binder course, as described below.

GRADING REQUIREMENTS

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 25mm 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 more than 75mm.

1604B REQUIREMENTS FOR ASPHALT CONCRETE TYPE 1

The mixture shall comply with the requirements given in Table 16B-2 as specified in the Specification. In addition, minimum Marshall Stability for 2 x 75 blows shall be 9 kN and maximum 18 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) 0/20 of this Specification should be tested (but with 100% passing the 25mm sieve) and it shall meet the requirements of Table 16B-2 of this Specification.

Having established the suitability of the aggregate source several gradings 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 $145 \pm 5^\circ\text{C}$ 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.

1605B MIXING AND LAYING HEAVY DUTY ASPHALT

The temperature of the bitumen and aggregates when mixed shall be $110 \pm 3^\circ\text{C}$ above the softening point (R&B) of the bitumen.

Compaction should commence as soon as the mix can support the roller without undue displacement of material and completed before the temperature of the mix falls below 90°C .

The minimum thickness of individual layers should be as follows:-

- | | | |
|----|--------------------|------|
| a) | For the 37.5mm mix | 65mm |
| b) | For the 25.0mm mix | 60mm |
| c) | For the 19.0mm mix | 50mm |
| d) | For the 12.5mm mix | 40mm |

1606B COMPACTION

Rolling shall be continued until the voids measured in the completed layer are in accordance with the requirement for a minimum density of 98% of Marshall optimum, or, a minimum mean value of 95% of refusal density (no value less than 93%) as appropriate.

1607B MEASUREMENT AND PAYMENT

- | | | | |
|----|------|---|---------------------------------------|
| a) | Item | : | Asphalt Concrete |
| | Unit | : | m^3 of Asphalt Concrete Used |

Asphalt concrete shall be measured by the cubic metre compacted on the road calculated as the product of the length instructed to be laid and the

compacted cross-sectional area shown on the Drawings or instructed by the Engineer.

The rate for asphalt concrete shall include for the cost of providing, transporting, laying and compacting the mix with the nominal binder content and complying with the requirements of Parts A and B of Section 16 of this Specification.

SECTION 17 - CONCRETE WORKS**1703 MATERIALS FOR CONCRETE**

This work shall consist of placing selected approved material of 250mm minimum diameter on the foundation put after excavation to receive levelling concrete in accordance with these specifications and in conformity with the lines, grades and cross sections shown on the Drawings as directed by the Engineer.

(a) Materials

Selected rock: The selected rock builders to be placed for this work shall be hard, sound, durable quarry stones as approved by the Engineer. Samples of the stone to be used shall be submitted to and approved by the Engineer before any stone is placed.

The maximum size of the stone boulders shall be 300mm.

(b) Construction Method

After completion of the structural excavation the surface of the loose soil shall be levelled and compacted. Then the stone of the above sizes shall be placed in one layer of 250mm over the compacted bed where the bottom slab will rest. Coarse sand shall be spread to fill up the voids in the stone boulders, and compaction with vibratory compactors should be performed to make this layer dense whereon a concrete of levelling course shall be placed.

(c) Measurement and payment

Measurement for the bedding materials shall be made in cubic metres for the completed and accepted work, measured from the dimension shown on the Drawings, unless otherwise directed by the Engineer.

Payment for the bedding Materials for Levelling Concrete Works shall be full compensation for furnishing and placing all materials, all labour equipment, tools and all other items necessary for proper completion of the work in accordance with the Drawings and specifications and as directed by the Engineer.

1703(A) LEVELLING CONCRETE (CLASS 15/20) FOR BOTTOM SLAB INCLUSIVE OF COST OF FORM WORKS

This work shall consist of placing and levelling lean concrete class 15/20 over the prepared bed of stone boulders in the foundation for bottom slab and wingwalls in accordance with these specifications and which conformity with the lines, grades, thickness and typical cross-sections shown on the drawings unless otherwise directed by the Engineer.

(a) Materials for Levelling Concrete

Requirement for the concrete class 15/20 is specified as follows:-

Design compressive strength (28) days : 15N/mm²

Maximum size of coarse aggregate : 20mm

Maximum cement content : 300 kg/m³.

Maximum water/cement ration of 50% with slump of 80mm.

(b) **Construction Method**

The bed of stone boulders upon which the levelling concrete will be placed shall be smooth, compacted and true to the grades and cross-section shall be set to the required lines and grades.

(c) **Measurement and payment**

Measurement for levelling concrete (class 15/20) shall be made in cubic metres completed and accepted levelling concrete work measured in place which is done in accordance with the Drawings and the Specifications.

Payment for this work shall be the full compensation for furnishing and placing all materials, labour, equipment and tools, and other incidentals to Specifications and as directed by the Engineer.

Pay item No. 17/02 Levelling Concrete Works (Class 15/20) for Box Culvert and wingwalls inclusive of Cost of Form works.

1703 (C) FORMWORK FOR CULVERT WALLS

This work shall consist of all temporary moulds for forming the concrete for culvert walls and slabs together with all temporary construction required for their support. Unless otherwise directed by the Engineer all formworks shall be removed on completion of the walls and slabs.

(a) **Materials**

Forms shall be made of wood or metal and shall conform to the shape, lines and dimensions shown on the Drawings.

All timber shall be free from holes, loose material, knots, cracks, splits and warps or other defects affecting the strength or appearance of the finished structure.

Release Agents – Release agents shall be either neat oils containing a surface activating agent, cream emulsions, or chemical agents to be approved by the Engineer.

(b) **Construction Method**

(i) **Formworks**

Formworks shall be designed to carry the maximum loads that may be imposed, and so be rigidly constructed as to prevent deformation due to load, drying and wetting, vibration and other causes. After forms have been set in correct location, they shall be inspected and approved by the Engineer before the concrete is placed.

If requested, the contractor shall submit to the Engineer working drawings of the forms and also, if requested, calculations to certify the rigidity of the forms.

1703(D) CONCRETE WORKS (CLASS 25/20) OF CULVERT WALLS AND SLABS

This work shall consist of furnishing, mixing, delivering and placing of the concrete for the construction of culvert walls and slabs, in accordance with these Specifications and in conformity with the requirements shown on the Drawings.

Concrete class 25/20 shall be used for Culvert walls and slabs.

(a) Concrete Materials

(i) Cement: Cement shall be of Portland type and shall conform to the requirements of BS 12 or equivalent.

The contractor shall select only one type or brand of cement or others. Changing of type or brand of cement will not be permitted without a new mix design approved by the Engineer. All cement is subject to the Engineer's approval; however, approval of cement by the Engineer shall not relieve the Contractor of the responsibility to furnish concrete of the specified compressive strength.

Conveyance of cement by jute bags shall not be permitted. Storage in the Contractor's silo or storehouse shall not exceed more than two (2) months, and age of cement after manufacture at mill shall not exceed more than four (4) months. The Contractor shall submit to the Engineer for his approval the result of quality certificate prepared by the manufacturer.

Whenever it is found out that cement have been stored too long, moist, or caked, the cement shall be rejected and removed from the project.

(b) Aggregates

Fine and coarse aggregates must be clean, hard, strong and durable, and free from absorbed chemicals, clay coating, or materials in amounts that could affect hydration, bonding, strength and durability of concrete.

Grading of aggregates shall conform to the following requirements:

(i) Grading of Fine Aggregates

Sieve Size	Percentage by Weight Passing
10 mm	100
5 mm	89-100
2.5 mm	60-100
1.2 mm	30-100
0.6 mm	15- 54
0.3 mm	5- 40
0.15 mm	0 – 15

(ii) Grading of Coarse Aggregates

Size of Coarse Aggregate	Amounts finer than each standard sieve percentage by weight						
	40	30	25	20	15	10	5
2.5							
	100	~	~	90-100	~	30-69	0-10
	~						

Other requirements for aggregates are as follows:

(iii) Fine Aggregates

Fitness Modulus, AASHTO M-6 : 2.3 – 3.1
 Sodium Sulphate Soundness, AASHTO T104: Max. 10% loss
 Content of Friable Particles AASHTO 112 : Max 1% by weight
 Sand Equivalent, AASHTO T176 : Min. 75

(iv) Coarse Aggregate

Abrasion, AASGTO T96 : Max. 405 loss
 Soft Fragment and shale, AASHTO M80 : Max. 5% by weight
 Thin and elongated Pieces, AASHTO M80 : Max. 15%

(v) Water

All sources of water to be used with cement shall be approved by the Engineer. Water shall be free from injurious quantities of oil, alkali, vegetable matter and salt as determined by the Engineer.

(vi) Admixture

Only admixture, which have been tested and approved in the site laboratory through trial mixing for design proportion shall be used. Before selection of admixture, the Contractor shall submit to the Engineer the specific information or guarantees prepared by the admixture supplier.

The contractor shall not exclude the admixture from concrete proportions.

Concrete class 20/20

Concrete class 25/20 shall be used for culvert walls and slabs. The requirements of Concrete class 25/20 are provided as follows unless otherwise the Engineer will designate any alteration.

Design compressive strength (28 days)	: 25N/mm ²
Maximum size of coarse aggregates	: 20mm
Maximum water/cement ratio of 45% with slump of 80mm	

(d) **Proportioning Concrete**

The Contractor shall consult with the Engineer as to mix proportions at least thirty (30) days prior to beginning the concrete work. The actual mix proportions of cement, aggregates, water and admixture shall be determined by the Contractor under supervision of the Engineer in the site laboratory.

The Contractor shall prepare the design proportions which has 120% of the strength requirement specified for the designated class of concrete.

No class of concrete shall be prepared or placed until its job-mix proportions have been approved by the Engineer.

(e) **Concrete Work**

b. Batching

Batching shall be done by weight with accuracy of:

Cement	: ½ percent
Aggregate	: ½ percent
Water and Admixture	: 1 percent.

Equipment should be capable of measuring quantities within these tolerances for the smartest batch regularly used, as well as for larger batches.

The accuracy of batching equipment should be checked every month in the presence of the Engineer and adjusted when necessary.

c. Mixing and delivery

Slump of mixed concrete shall be checked and approved at an accuracy of +25mm against designated slump in these specifications.

d. Concrete in hot weather

No concrete shall be placed when the ambient air temperature is expected to exceed thirty three degrees celsius (33°C) during placement operations).

e. Concreting at night

No concrete shall be mixed, placed or finished when natural light is insufficient, unless an adequate approved artificial lighting

system is operated; such night work is subject to approval by the engineer.

f. Placing

In preparation of the placing of concrete, the interior space of forms shall be cleaned and approved by the engineer prior to placing concrete. All temporary members except tie bars to support forms shall be removed entirely from the forms and not buried in the concrete. The use of open and vertical chute shall not be permitted unless otherwise directed by the engineer.

The Contractor shall provide a sufficient number of vibrators to properly compact each batch immediately after it is placed in the forms.

(f) Measurement and Payment

Measurements for the Concrete Works Class 20/20 of culvert walls and slabs shall be made in cubic metres for the walls and slabs actually constructed, measured from their dimensions shown on the Drawings. Payment for the Concrete Works (Class 20/20) of culvert walls and slabs shall be the full compensation for furnishing all materials of the concrete mixing, delivering, placing and curing the concrete, equipment and tools, labour and other incidental necessary for the completion of the work in accordance with the Drawings and these Specifications and as directed by the Engineer.

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 50m. intervals along the boundary of the road reserve.

2003 EDGE MARKER POST

Edge marker post shall be provided as directed by the Engineer and in compliance with 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.

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 reflectorised hot applied thermoplastic material in accordance with Clause 219 of the Standard Specification.

The rates inserted in the Bills of Quantities for road marking shall include for prior application of approved tack coat.

2005A RAISED PAVEMENT MARKERS – ROAD STUDS

MATERIAL

Road 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 of the marker is of optical menthly methacrylic.

CONSTRUCTION

The road studs 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 98.5. m². The height of the marker shall not exceed 17mm and the underside shall contain a non-honeycomb base (flat).

REQUIREMENTS

The markers shall conform to the following requirements

Colour

Shall be white, yellow or red as specified and the Retro – reflectance values should conform to the testing procedures of ASTM E 809.

Impact Resistance

The marker shall not crack or break when tested using a 1000-gram weight from a height of 1 metre. (ASTM D 2444) or BS 3900 Part E3.

Resistance to Water Penetration

Shall not have water penetration behind the lens after submerged in a water bath at 70 ± 5 °C for 10 minutes. And it should still meet the reflectance Requirement. BS 998.

Heat Resistance

Shall comply with the initial brightness as per BS 873 Part IV of 1978

Night Visibility

The marker shall be bright as per BS 873 Part IV of 1978

Compression Resistance

There shall be no cracking sound at a pressure lower than 25 tones as per BS 873 Part IV of 1978.

Corrosion Resistance

After immersing a sample of Road stud in a solution containing 30g/l of sodium chloride for 30 days, there shall not be any signs of corrosion -(BS998).

NOTE: These markers are intended for application directly to pavement surfaces and are compatible with raised pavement markers. These adhesives should be of high quality and tested for conformance to customer requirements.

ADHESIVES

They shall be of Resin Type–Epoxy of 2 different components part 1 and 2 i.e Adhesive and Reactor without any volatile solvents in both.

Pot life:	not less than 20 minutes at 20 °C
Rotational cure time:	between 20 and 30 minutes at 20 °C
Hard cure:	Between 40 and 60 minutes at 20 °C

APPLICATION INSTRUCTION

Preparation of Pavements

Make sure that the road surface is absolutely dry and free of oil and grease.

Mixing of Adhesive

Pour component B into the container of component A. Stir mixture by hand with a wooden or metal stick until uniform Grey Tint without a striae is obtained.

Installation

Pour the mixture on to the underside of the road stud. Then place the road stud firmly on the road surface. Adhesive should stand out for about 5mm to 10 mm over the edges of the stud.

Protection from the Traffic

Protect studs from traffic for 2 hours until the adhesive has properly hardened. Try by touching the adhesive.

NUMBER OF STUDS NEEDED FOR LABORATORY TESTS.

In order to approve a particular type of road stud, 4 sample road studs of each colour shall be submitted.

2006 GUARDRAILS

Contrary to the Standard Specification, guardrail posts shall be concrete 200 mm diameter set vertically at least 1.2m into the shoulder as directed by the Engineer. Spacer blocks shall also be made of concrete.

Beams for guardrails shall be "Armco Flexbeam" or similar obtained from a manufacturer approved by the Engineer.

2007 KERBS

a) Vertical Joints

Vertical joints between adjacent Kerbs shall not be greater than 5 mm in width and shall be filled with a 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. The transition between flush and raised kerbs shall occur within a length of 2.0 m.

2008 KILOMETRE MARKER POSTS

Kilometre marker posts shall be provided as directed by the Engineer and in compliance with Standard Specification clause 2008.

2009 RUMBLE STRIPS

Where directed by the Engineer, the Contractor shall provide, place, trim, shape and compact to line and level asphalt concrete rumble strips on the finished shoulders. This shall be done to the satisfaction of the Engineer

2011 MEASUREMENT AND PAYMENT

Road reserve boundary posts

Road reserve boundary posts shall be measured by the number erected

Permanent road signs

Permanent road signs shall be measured by the number of each particular size erected.

Road marking

Road markings in yellow or white material shall be measured in square metres calculated as the plan area painted.

Road Studs

Road studs shall be measured by the number of each particular size erected.

Guardrail

Guardrail shall be measured by the metre as the length of the guardrail constructed.

Kerbs

Kerbs shall be measured by the metre as the length of kerb constructed

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 if such items of plant are 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 Dayworks that has a power rating lower than specified above shall be paid for at rates lower than those in the schedule of Dayworks. The reduction in the rate payable shall be in proportion to the reduction in power rating below that specified above.

SECTION 23: CONCRETE PAVING BLOCKS

This works shall consist of providing, laying and fixing of concrete paving blocks and concrete paving slabs on a sand base on the driveway and walkways and other areas as directed by the Engineer.

a. Concrete Paving Blocks

The paving blocks shall be of type S of any shape fitting within a 295 mm square coordinating space and a work size thickness of at least 30 mm. The blocks shall conform to the requirements of BS 6717:Pt. 1:1986 or Kenya standard equivalent.

The laying shall be broken at intervals of 50 m by concrete ribs of class 25 concrete.

The blocks shall be laid on a 40 mm minimum sand base whose specifications are as in section (b) of this specification.

b. Sand For Sand Base

Sand used as bedding for paving blocks and slabs shall be natural sand either pit or river sand. The grading shall conform and be parallel as much as possible to KS02 – 95 Parts 1 &2: 1984 for zones 1,2 or 3. The other requirements shall be as specified in section 1703 (c) of Standard Specifications.

c. Measurement and Payment

Payment for paving blocks and paving slabs shall be by square metre laid. The rate quoted would include the cost of haulage to site of the blocks, slabs and sand, as no extra payment shall be made for haulage

SECTION VI: SUPERVISION AND CONTRACT EVALUATION MANUAL 2012

The Manual refers to the Ministry of Roads ‘Supervision and Contract evaluation Manual for Road Maintenance Works 2012.

SECTION VII: ROAD MAINTENANCE MANUAL

The Manual refers to the Ministry of Roads ‘Road Maintenance Manual, May 2010 Edition’.

SECTION IX: 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. The rates inserted in any road in the tender shall apply to other roads within the same lot upon written instructions to be issued by the Engineer or his representative during execution of works and shall be used only to pay for activities of similar description and nature which may not have been included in the Bills of Quantities for that road.
6. 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.
7. Provisional sums (including Dayworks) in the Bills of Quantities shall be expended in whole or in part at the discretion of the Engineer or his representative.
8. Where there are no quantities against the line item especially on dayworks, the bidder shall only fill his rates
9. Quantified instructions shall be extracted from the main BOQ for purposes of part implementation of the works and interim measurements/payments shall be based on the quantified instructions read together with the bills of quantities.

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 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.

Errors in the pricing of the Bills of Quantities will be corrected in accordance with Clause (29) of instructions to bidders.

BILLS OF QUANTITIES

BILL № 1: Preliminary and General Items					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
1.01	Allow a Prime Cost sum of Ksh. 300,000.00 for laboratory items and reagents as indicated in the special specifications or as instructed by the Engineer.	PC Sum	1		
1.02	Extra Over on Item 1.01 for the Contractor's Overheads and Profit.	%			
1.03	Allow a sum of KShs 400,000 for the Engineer's miscellaneous account to be spent in whole or part as instructed by the Engineer and to be reimbursed against receipts.	PC Sum	1		
1.04	Extra Over on Item 1.03 for the Contractors Overheads and Profit.	%			
1.05	Allow a Prime Cost sum of Ksh. 50,000.00 for off-site materials testing.	PC Sum	1		
1.06	Extra Over on Item 1.05 for the Contractors Overheads and Profit.	%			
1.07	Provide, erect and maintain publicity signs as shown in the drawings or as instructed by the Engineer.	№	3		
1.08	Allow for attendance upon the Engineer by the following staff in accordance with Clause 137 of Special Specification.				
	(a) 1 No. Assistant Engineer	M. month	6		
	(b) 1 No. Inspector of Works	M. month	6		
	(c) Laboratory technician	M. month	6		
	(f) Survey assistant	M. month	6		
	(g) Secretary / Admin	M. month	6		
	(h) Chainmen	M. month	6		
	(i) General Attendant	M. month	6		
1.09	Extra over item 1.08 (a) - (h) for Contractor's overheads and profits	%			
BILL 1 SUB-TOTAL CARRIED TO SUMMARY PAGE					

BILL № 1: Preliminary and General Items					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	Bill 1 Sub-total Brought from Previous Page				-
1.10	Provide with driver and maintain one(1), minimum 2.8 litre turbocharged 4-wheel drive, twin- cab pick up vehicle or similar approved by the Engineer, fitted with air bags, mobile telephone hand free headset and a two way radio for the exclusive use of the Engineer inclusive of the first 4,000 km per vehicle month.	V. month	6		
1.11	Extra Over on Item 1.11 inclusive of fuels, maintenance, lubricants and servicing for kilometrage over 4,000 km per vehicle month.	km	40,000		
1.12	Allow a Prime Cost sum of Ksh.750,000.00 for payment of wages and allowances for Engineer's staff including overtime.	PC Sum	1		
1.13	Extra Over on Item 1.13 for the Contractors Overheads and Profit.	%			
BILL 1 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 4: Site Clearance and Topsoil Stripping					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
4.01	Clear site on road reserve including removal of trees (girth less than equal to or less than 400 mm), hedges, bushes and other vegetation and other deleterious materials, grub up roots and backfill to 100% MDD (AASHTO T.99) with approved material in accordance with the Specifications and as instructed by Engineer.	ha	1.20		
4.02	Removal of top soil to a maximum depth of 200 mm including removal of grass and other vegetation as directed by the Engineer.	m ³	3,600		
4.03	Demolish / Scarify Existing pavement of any material on footpaths, busbays, carriageways and parking lots and cart away to spoil	m ³	700		
4.04	Excavate, remove and cart away quadrants	No.	20		
4.05	Excavate, remove and dispose existing culverts, OG pipes, IBD and drain side slabs of any material	m	150		
4.06	Demolish concrete of any class and cart away to spoil including any reinforcements	m ³	50		
4.07	Provide for removal and reinstatement of services including electric power poles, water & sewers etc and demolition of structures and buildings on the road reserve.	Lump Sum	1		
4.08	Provide for Environmental and Social Impact Assesment studies (ESIA) and other environmental mitigation measures.	Lump Sum	1		
BILL 4 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 5: Earthworks					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	<i>No separate payments shall be made for the overhaul of the material and the cost of such haulage shall be included in the rates and or prices.</i>				
5.01	Cut to fill in soft material to 95% MDD (AASHTO) as directed by the Engineer.	m ³	4,900		
5.02	Cut to spoil in soft material	m ³	2,800		
5.03	Cut to spoil in hard material	m ³	350		
5.03	Fill suitable granular material	m ³	840		
5.04	Provide rock fill to formation level or as directed by the Engineer	m ³	140		
BILL 5 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 8: Culvert and Drainage Works					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	<i>No separate payment shall be made for the haulage of surplus or unsuitable excavated material and the cost of such haulage shall be included in the rates and/or prices</i>				
8.01	Clean existing drains and culverts to free flowing conditions.	m	30		
8.02	Excavate in soft material for pipe culverts, headwalls, wingwalls, aprons, toe walls, drop inlets, minor drainage structures and compact excavated surface as specified by the Engineer.	m ³	80		
8.03	As item 8.02 but in hard material	m ³	100		
8.04	Provide, lay, joint and backfill with suitable material 300mm I.D. concrete pipes for service ducts	m	30		
8.05	Provide, lay, joint and backfill with suitable material 450mm I.D. concrete pipes	m	40		
8.06	Provide, lay, joint and backfill with suitable material 600mm I.D. concrete pipes	m	80		
8.07	Provide, lay, joint and backfill with suitable material 900mm I.D. concrete pipes	m	40		
8.08	Provide and place Class 25(20) concrete to headwalls, wing walls and aprons, to pipe culverts including formwork and provision and placing of reinforcement as shown on the drawings	m ³	92		
8.09	Provide, place and compact Class 15(20) concrete to beds, surrounds and haunches including all formwork and provision and placing of reinforcement as shown in the drawings.	m ³	120		
8.10	Provide, place and compact class 20/20 concrete including reinforcement for Drain beds.	m ³	90		
8.11	Provide, place and join PVC pipes 50mm diameter or less as weep holes	m	100		
8.12	Provide, lay and joint 450mm x 225mm Invert Block Drain (IBD) complete with 2 side slabs as per the specifications or as instructed by the Engineer.	m	3,500		

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	Bill 8 Sub-total Brought from Previous Page				
8.13	Excavate in any material , Provide, lay, joint and backfill with suitabel material shallow invert block drain (IBD) inclusive of bed as directed by the Engineer as mitre drains	m	1,000		
8.13	Extra over item 8.12 for precast side slabs of 600x225x75mm	m ²	100		
8.14	Provide and place A142 fabric mesh reinforcement for item 8.10.	m ²	450		
8.14	Provide and place stone pitching, 200mm thick blue masonry stones and grout with mortar as specified or as directed by the Engineer.	m ²	1,800		
BILL 8 TOTAL CARRIED TO SUMMARY PAGE					-

BILLS OF QUANTITIES

BILL № 9: Passage of Traffic					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
9.01	Allow for the passage of traffic through the works	LS			
BILL 9 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 11: Shoulder to Pavement					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	<i>Measurements and payment by method 'A' as defined in the standard specifications. No separate payments shall be made for the overhaul of material and the cost of such haulage shall be included in the rates and or prices</i>				
11.01	Prepare surface of shouldwer locations, accesses and bus bays including benching where necessary, waterproof and compact in accordance with the Specifications and as directed by the Engineer to receive gravel.	m ³	1,650		
11.02	Provide, lay and compact quarry waste material to shoulder , accesses and busbays as directed by the Engineer.	m ³	1,500		
BILL 11 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 12: Natural Material for Sub-base and Base					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	<i>Measurements and payment by method 'A' as defined in the standard specifications. No separate payments shall be made for the overhaul of material and the cost of such haulage shall be included in the rates and or prices</i>				
12.01	Provide, spread, water, process and compact natural gravel for carriageway sub base and footpath subbase and base material as directed by the Engineer.	m ³	5,775		
12.02	Provide, lay and compact 200mm hand packed stone material including filling of voids with stone dust and watering as directed by the Engineer.	m ³	5,390		
12.03	Provide, lay and compact GCS material with the grading as specified for base layer and as directed by the Engineer.	m ⁴	3,850		
BILL 12 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 15: Bituminous Surface Treatments and Surface Dressing					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	<i>Note: No haulage will be paid for bitumen, chippings or sand this should be included in the rates billed rates.</i>				
15.01	Clean and prepare surfaces of main carriageway, shoulders, footpaths, bus bays, accesses and junctions, provide, heat and spray on the same MC 30 cutback bitumen prime coat at a rate of spray in the range of 1.0 litre/m ² to 1.2 litres/m ² or as instructed by the Engineer	litre	27,720		
15.02	Clean and prepare surfaces of main carriageway, shoulders, footpaths, bus bays, accesses and junctions, provide, heat and spray K1-60 bitumen emulsion as tack coat on the bituminous layer in Item 15.01 at a spray rate in the range of 0.3 litre/m ² to 0.8 litre/m ² or as instructed by the Engineer	litre	23,760		
15.03	Prepare existing surface or new bituminous surface, provide and spray 80/100 penetration grade bitumen at a spray rate of 1.0-1.2 lts/m ² as binder for single or second seal on carriageway shoulders, bus bays and junctions	litre	26,950		
BILL 15 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 16: Bituminous Mix Bases, Binder Courses and Wearing Courses.					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
	<i>Note: No haulage will be paid for bituminous mix bases and Asphalt Concrete (AC) binder course and the rate shall be all inclusive.</i>				
	<i>The rate to include for providing and mixing of mineral filler necessary to achieve specified gradings</i>				
16.01	Excavate, trim and clean potholes, failed and damaged areas of the carriageway and edges including cart to spoil the excavated materials.	m ³	480		
16.02	Provide, place and compact asphaltic concrete Type 1 to repair areas and for regulation to carriageway as directed by the Engineer.	m ³	160		
16.04	Prepare surfaces, provide, mix, lay and compact 35mm Asphaltic Concrete (AC) Type 1 as overlay of 0/14 mm aggregates on prepared surface of bituminous layer	m ³	1,617		
16.05	Prepare surfaces, provide, mix, lay and compact Dense Bitumen Macadam (DBM) with 3.0 - 4.05% nominal bitumen content by weight of total mix for road surface regulation on repair areas exceeding 50mm thick as directed by the Engineer.	m ⁴	462		
BILL 16 TOTAL CARRIED TO SUMMARY PAGE					

BILLS OF QUANTITIES

BILL № 20: Road Furniture					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
20.01	Provide and lay hot applied thermoplastic road marking compound in approved colour and shade (ASTM 9) for road marking on bituminous surface on centerline, 100 mm, edge line 150 mm wide 3.0 mm thick, using fully automatic extrusion machine and using pre-melter for melting thermoplastic material including cleaning the surface of all dirt, dust, and other foreign matter, complete with demarcation at site/pre-marking, finishing and managing the traffic movements. Marking to be done as per the specifications, detailed drawings and as instructed by the Engineer.				
	(i) For edge / centre lines marking with white paint, 100 mm wide	m ²	960		
	(ii) For centre lines with yellow paint, 100 mm wide	m ²	440		
20.02	Provide all materials, excavate for and lay 350x200mm precast concrete class 20/20 raised straight / circular kerbs (to include concrete class 15/20 for bedding and haunching) as per specifications and as directed by the Engineer				
	(a) Straight kerbs	m	8,000		
	(b) Kerbs radius: 12mm - 6mm	m	1,000		
	(c) Ditto but radius 5m - 1m	m	1,000		
20.03	Provide all materials, excavate for and lay 100x125mm precast concrete channels (to include concrete class 15/20 for bedding and haunching)				
	(a) Straight kerbs	m	8,000		
	(b) Kerbs radius: 12mm - 6mm	m	1,000		
	(c) Ditto but radius 5m - 1m	m	1,000		
20.04	Provide and place approved road signs (Area <1m ²) as directed by the Engineer;				
	i) Warning Signs	No.	10		
	ii) Priority, Prohibitory and Mandatory signs	No.	10		
	iii) Standard Informatory Signs	No.	10		
20.05	Place and provide gauge 16 steel pipe Bollards of diameter 150mm and 1.0 m above the ground, embedded to a depth of 0.5m at place painted and fitted and refrectozed as shown on the drawing and as directed by the Engineer. Rate to include filling with concrete minimum class 15/20	No.	30		
20.06	Provide and place 100mm-diameter high density smooth internal bore pvc pipe, having a minimum wall thickness of 5mm and surruonded / microtunneled with concrete min. class 15/20 as shown on the drawings and as directed by the Engineer. Ducts should be orange in colour.	m	20		
20.07	Provide and install reflective cat eyes as directed by the Engineer	No.	400		
BILL 20 SUB-TOTAL CARRIED TO NEXT PAGE					

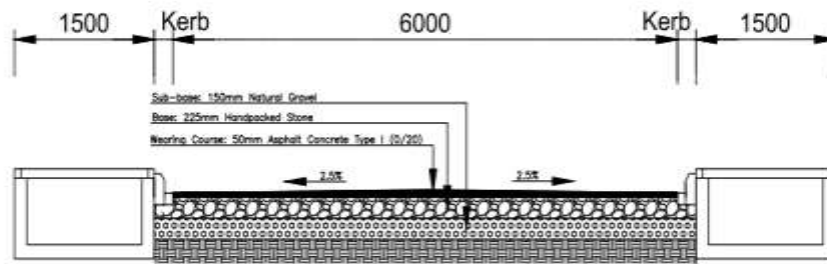
BILLS OF QUANTITIES

BILL № 25: HIV/AIDS Awareness					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KShs)	AMOUNT (KShs)
25.01	Implement HIV/AIDS awareness campaign amongst the workers for the duration of the Contract	month	5		
25.02	Allow for the availability of condoms to workers and staff for the duration of Contract	month	5		
25.03	Allow for the preparation and submission of monthly report for HIV/AIDS awareness and prevention activities report to be tabled at site meetings	month	5		
BILL 25 TOTAL CARRIED TO SUMMARY PAGE					

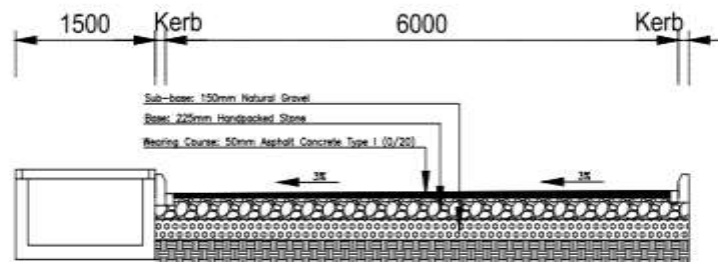
SUMMARY BILLS OF QUANTITIES

ITEM	DESCRIPTION	AMOUNT (Kshs)
1	Preliminary and General Items	
4	Site Clearance and Topsoil Stripping	
5	Earthworks	
8	Culverts and Drainage Works	
9	Passage of Traffic	
11	Pavement to shoulders	
12	Natural Material for Sub-base and Base	
15	Bituminous Surface Treatments and Surface Dressing	
16	Bituminous Mix Bases, Binder Courses and Wearing Courses	
20	Road Furniture	
25	HIV/AIDS Awareness	
	Sub-total 1	
	Add 1% of Sub-total 2 for contingency to be used partly or in full as approved by the Engineer	
	Sub-total 2	
	Add 16% of Sub-total 2 for Value Added Tax (VAT)	
	TOTAL CARRIED FORWARD TO FORM OF BID	

SECTION 10: DRAWINGS

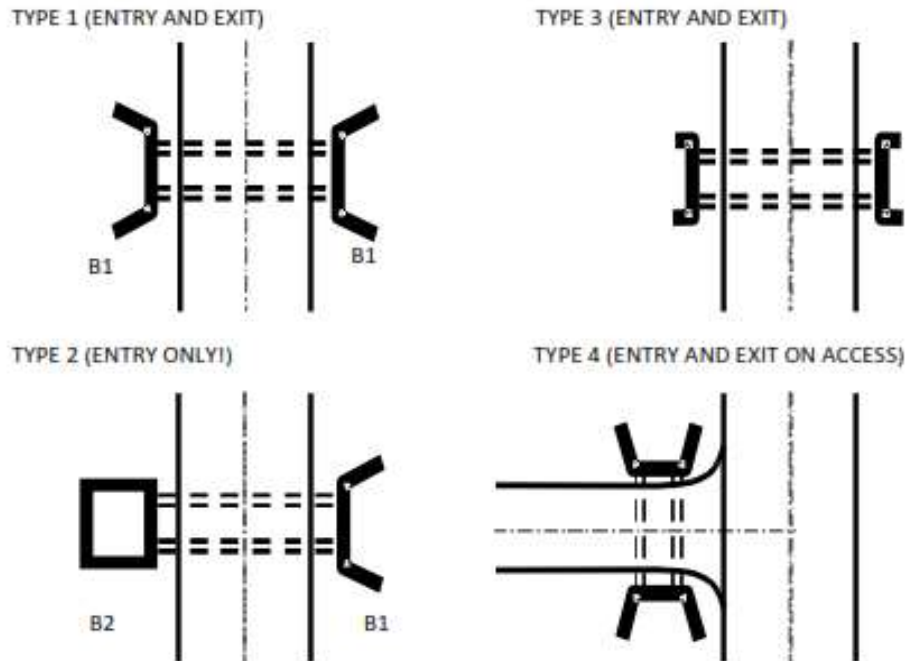


TYPICAL CROSS SECTION MUGI ROAD



0+00 – 0+350 CROSS SECTION MUGI ROAD

FIGURE C.1 - CULVERT ENTRY / EXIT STRUCTURE TYPES



NOTE:

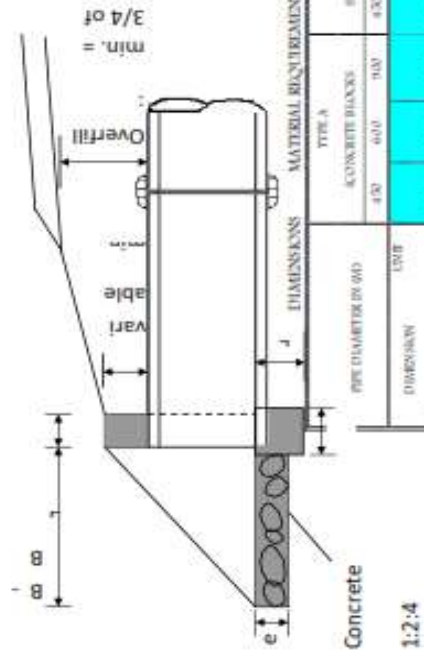
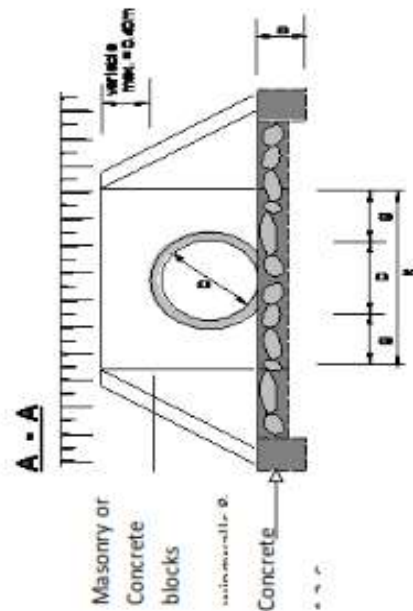
Coding system has been used in describing the standardised designs of the various culvert entry and exit structures. The code names consist of a number

to specify shape and function as elaborated in above while the used construction materials are identified through an alphabetic symbol as follows:

- A = Concrete block
- B = Stone masonry
- C = Dressed stones

An example code of “B2” would therefore stand for a drop inlet type structure to be built in stone masonry.

**FIGURE C.2 -
HEADWALL TYPE 1
(HEAD AND
WINGWALLS)**

[illegible]

CULVERT PIPES	
X-SECTION WIDTH	No. of Pipes
4.50	6.00
5.50	7.00
6.50	8.00

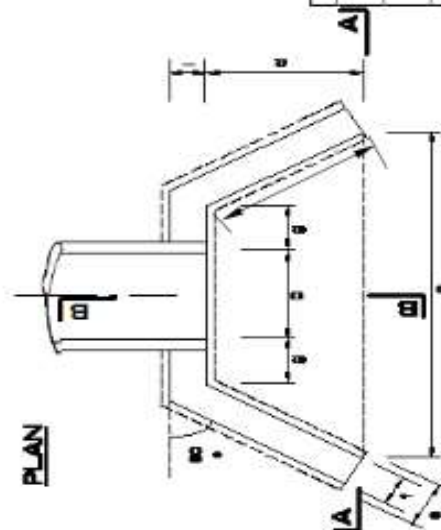


FIGURE C.3 - HEADWALL TYPE 2 (DROP INLET)

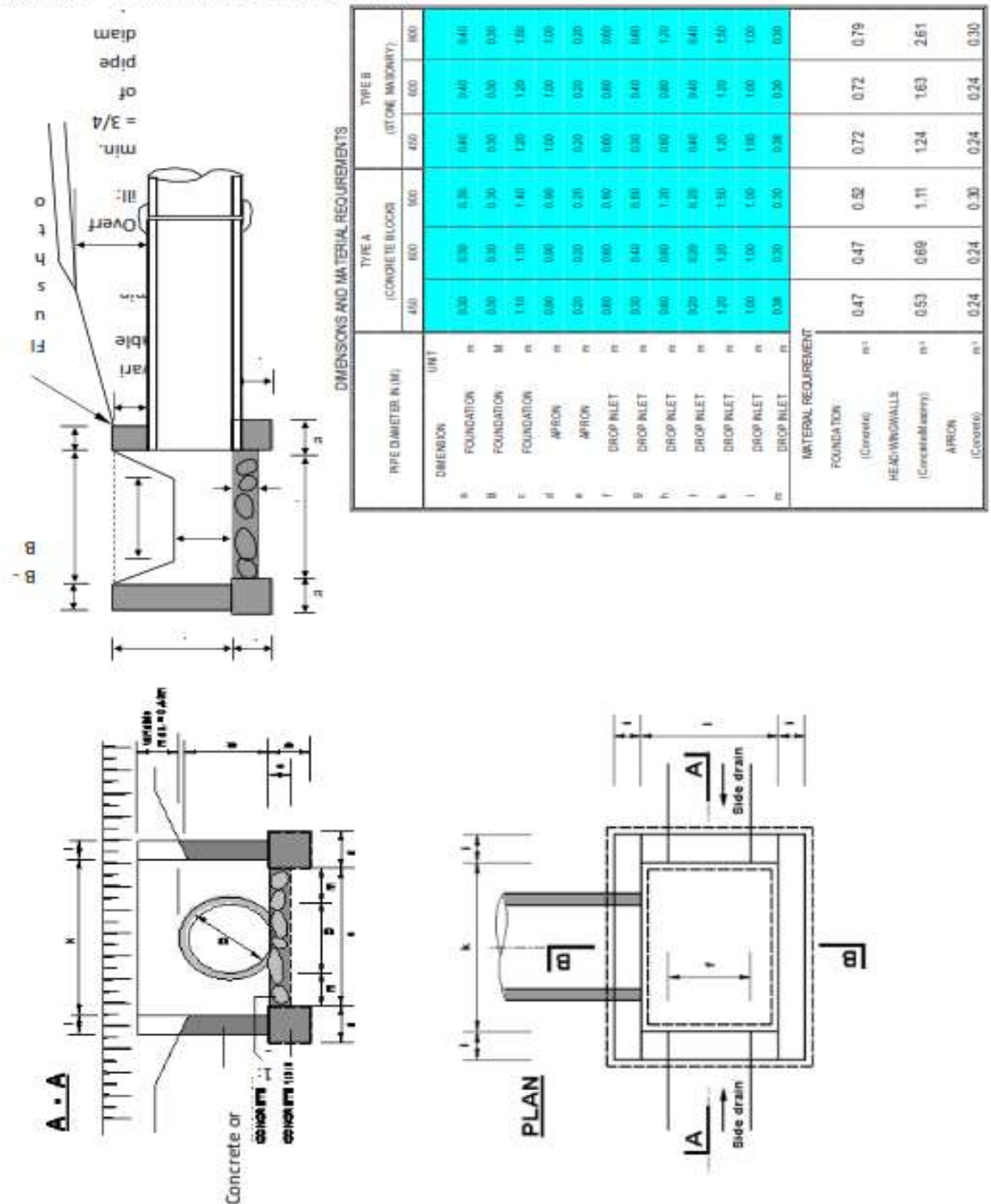


FIGURE C.4 - HEADWALL TYPE 3A (CONCRETE BLOCK HEADWALLS)

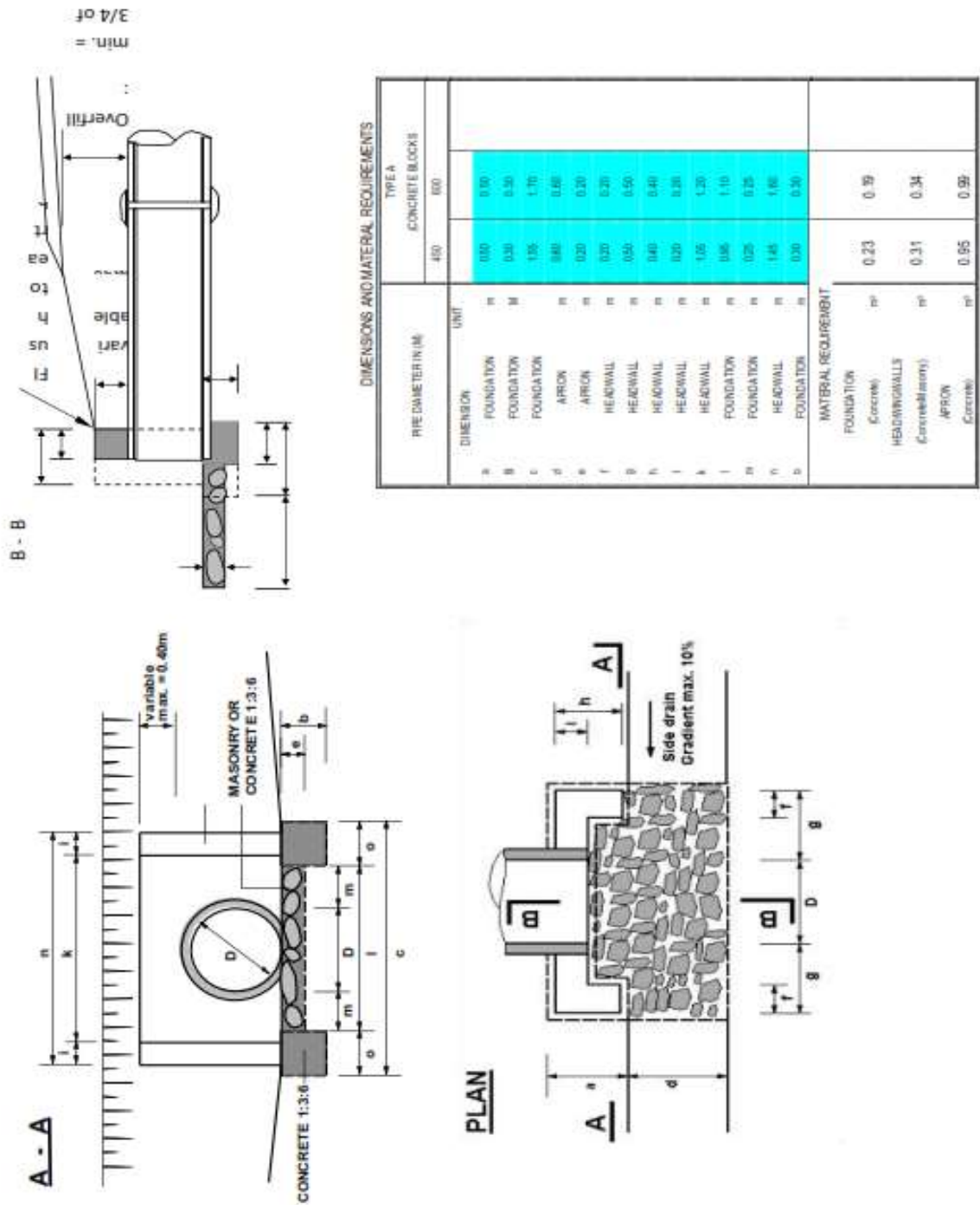


FIGURE C.5 - HEADWALL TYPE 3B (STONE MASONRY HEADWALLS)

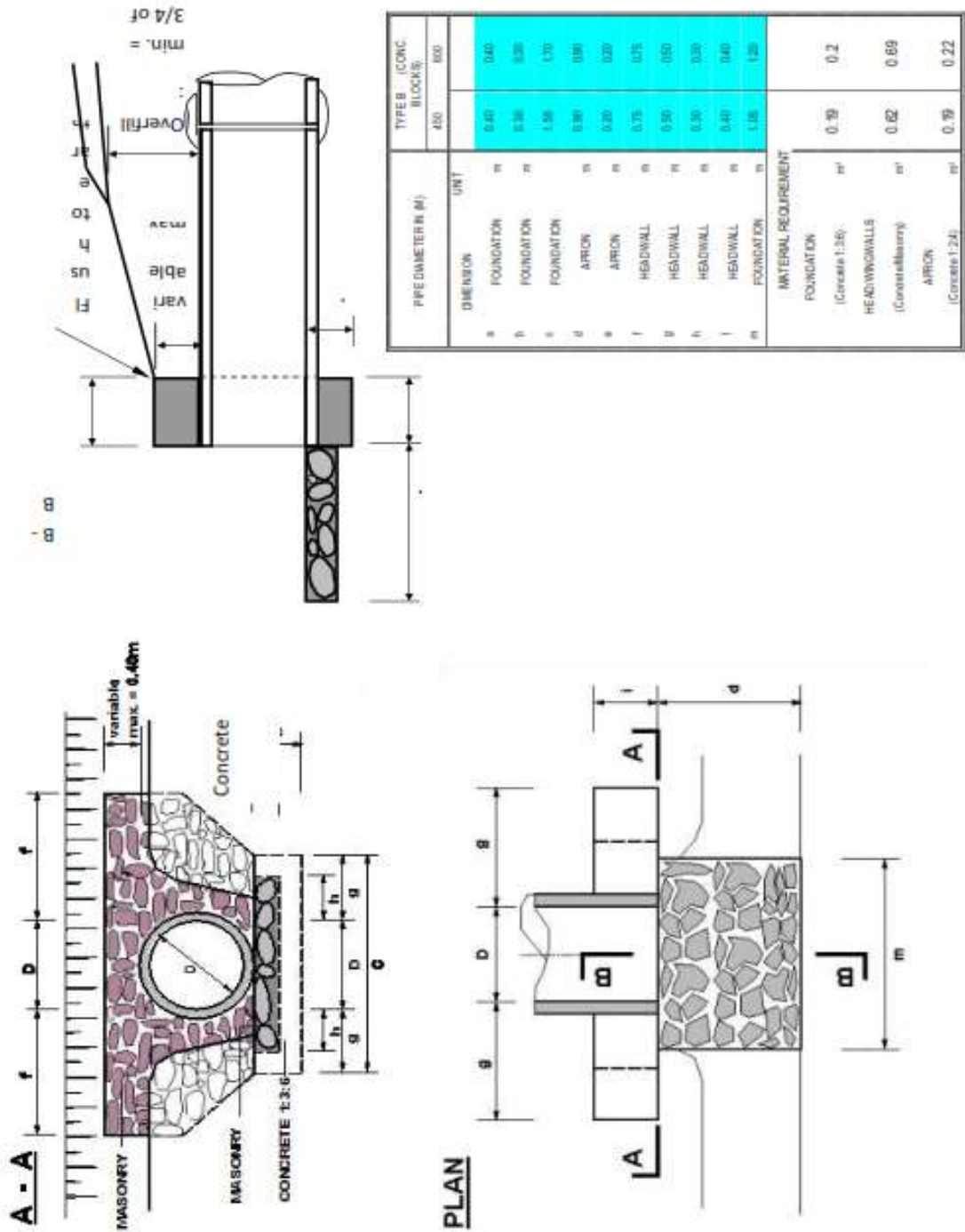


FIGURE C.6 - HEADWALL TYPE 4 (FOR ACCESS CULVERTS)

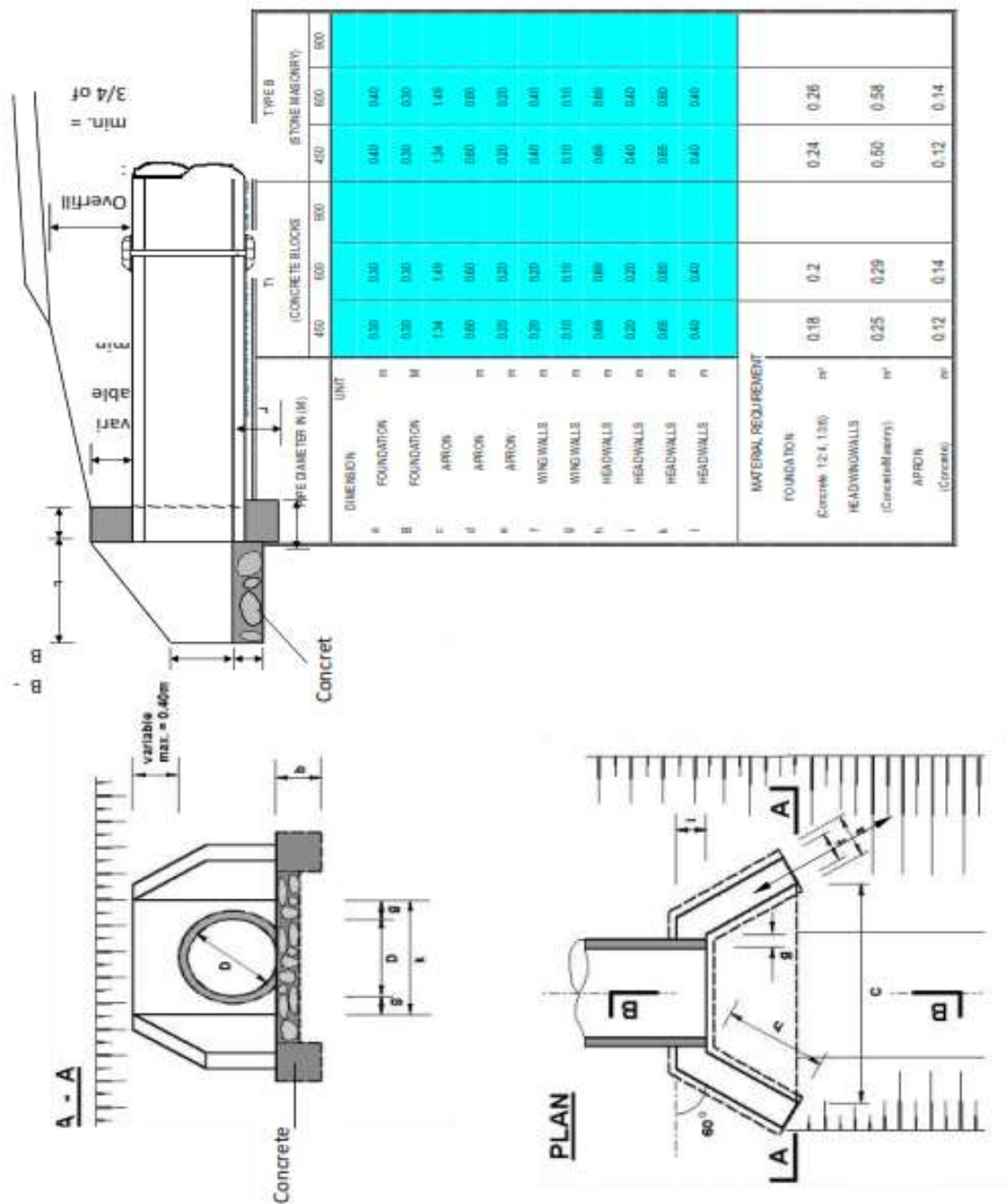
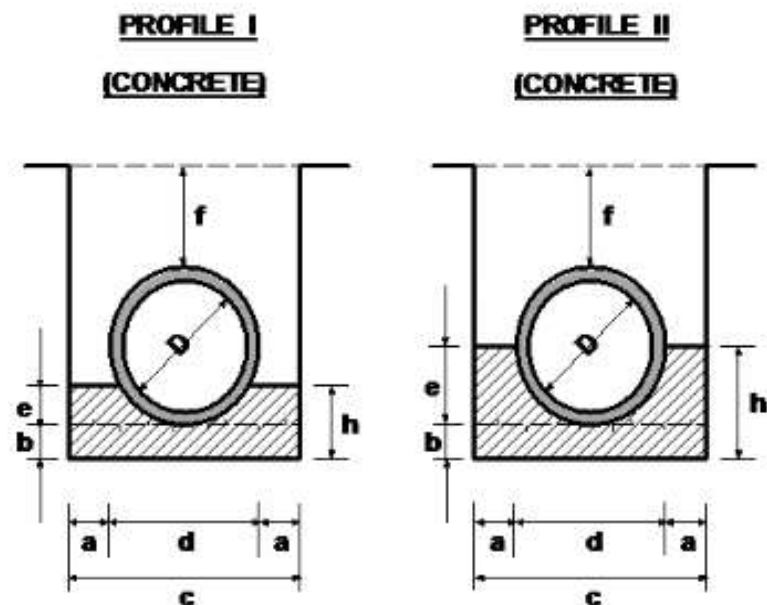


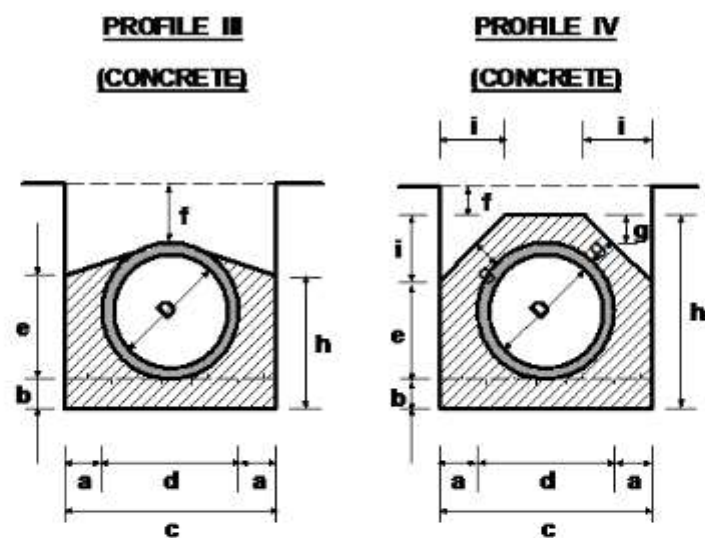
FIGURE C.7- BEDDING AND HAUNCH PROFILES TYPES I & II



Diameter (D)	450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)			
a	0.15	0.2	0.2
b	0.1	0.15	0.15
c	0.86	1.12	1.48
d	0.56	0.72	1.08
e	0.14	0.18	0.27
f (min.)	0.34	0.45	0.68
g	-	-	-
h	0.24	0.33	0.42
i	-	-	-
Concrete	Volume in (m ³ /m)		
	0.16	0.3	0.48
Application	- Fair subgrade condition; - Overfill > ¼ Diameter; - Seasonal waterflow only.		
Remarks	- Use gravel material for back/ overfill.		

450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)		
0.15	0.2	0.2
0.1	0.15	0.15
0.86	1.12	1.48
0.56	0.72	1.08
0.28	0.36	0.54
0.34	0.45	0.68
-	-	-
0.38	0.51	0.69
-	-	-
Volume in (m ³ /m)		
0.2	0.37	0.56
- Fair to poor subgrade Condition; - Overfill > ¼ Diameter; - Seasonal waterflow only.		
- Use gravel material for back/ overfill.		

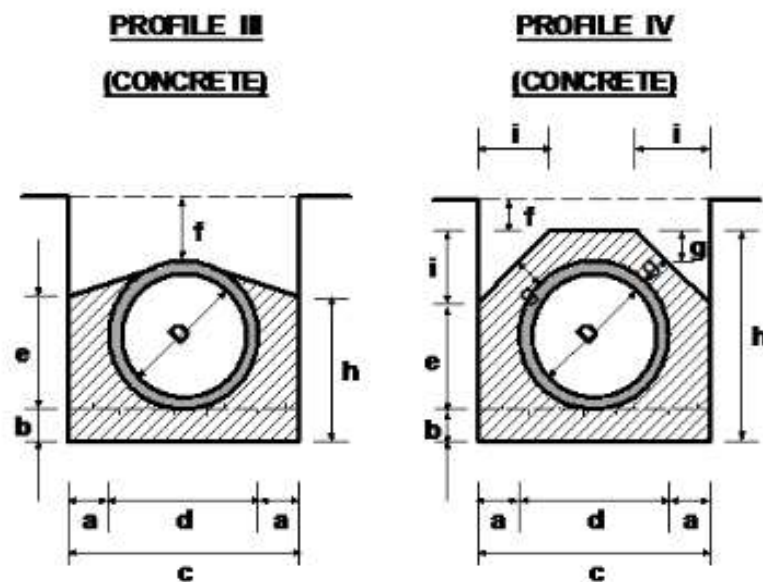
FIGURE C.8 - BEDDING AND HAUNCH PROFILES TYPES III & IV



Diameter (D)	450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)			
a	0.15	0.2	0.2
b	0.1	0.15	0.15
c	0.86	1.12	1.48
d	0.56	0.72	1.08
e	0.42	0.54	0.81
f (min.)	0.23	0.3	0.45
g	-	-	-
h	0.52	0.69	0.96
i	-	-	-
Concrete	Volume in (m ³ /m)		
	0.26	0.47	0.71
Application	- Fair subgrade condition; - Overfill > ¼ Diameter; - Seasonal waterflow only.		
Remarks	- Use gravel material for back/overfill.		

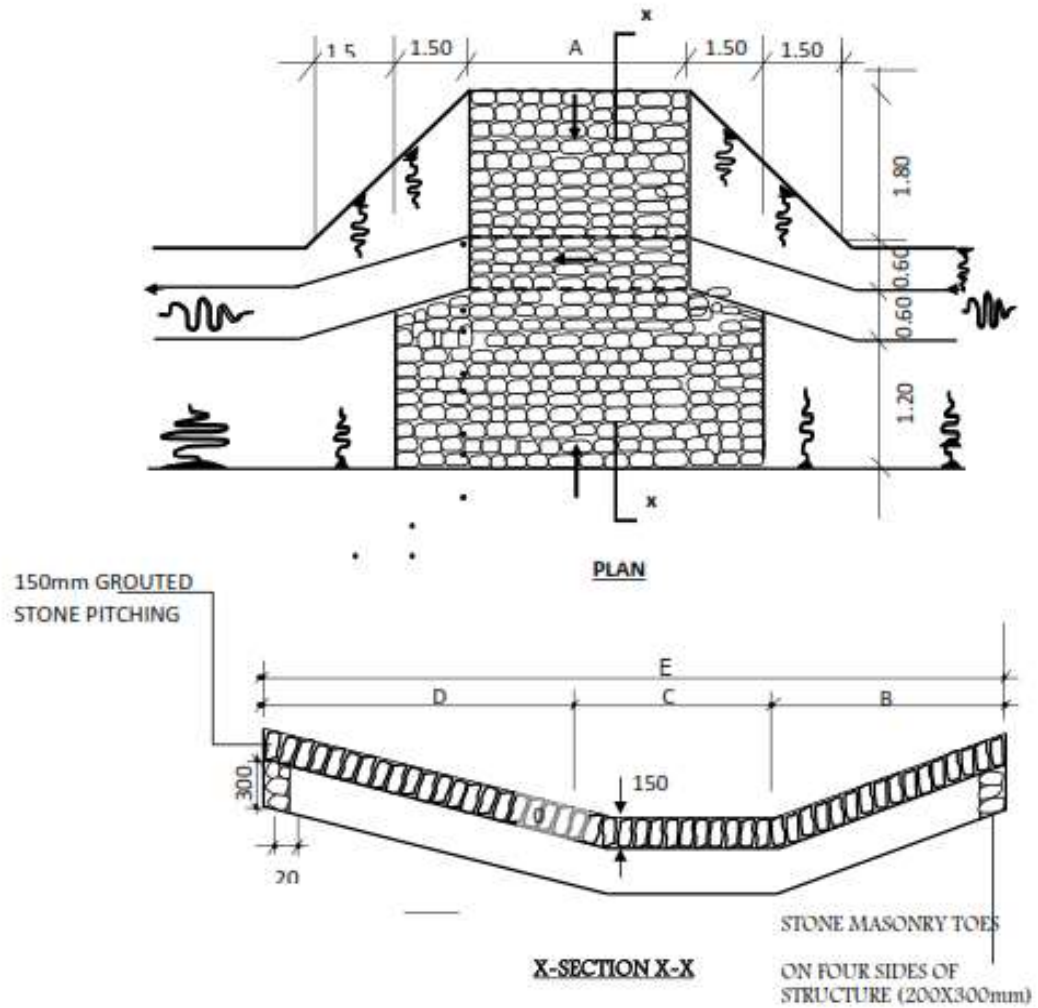
450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)		
0.15	0.2	0.2
0.1	0.15	0.15
0.86	1.12	1.48
0.56	0.72	1.08
0.46	0.52	0.78
0.15	0.15	0.15
0.15	0.15	0.15
0.81	1.02	1.38
0.28	0.35	0.45
Volume in (m ³ /m)		
0.37	0.61	0.92
- Fair to poor subgrade Condition; - Overfill > ¼ Diameter; - Seasonal waterflow only.		
- Use gravel material for back/overfill.		

FIGURE C.8 - BEDDING AND HAUNCH PROFILES TYPES III & IV



Diameter (D)	450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)			
a	0.15	0.2	0.2
b	0.1	0.15	0.15
c	0.86	1.12	1.48
d	0.56	0.72	1.08
e	0.42	0.54	0.81
f (min.)	0.23	0.3	0.45
g	-	-	-
h	0.52	0.69	0.96
i	-	-	-
Concrete	Volume in (m ³ /m)		
	0.26	0.47	0.71
Application	- Fair subgrade condition; - Overfill > ¼ Diameter; - Seasonal waterflow only.		
Remarks	- Use gravel material for back/ overfill.		

450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)		
0.15	0.2	0.2
0.1	0.15	0.15
0.86	1.12	1.48
0.56	0.72	1.08
0.46	0.52	0.78
0.15	0.15	0.15
0.15	0.15	0.15
0.81	1.02	1.38
0.28	0.35	0.45
Volume in (m ³ /m)		
0.37	0.61	0.92
- Fair to poor subgrade Condition; - Overfill > ¼ Diameter; - Seasonal waterflow only.		
- Use gravel material for back/ overfill.		



QUANTITIES TABLE								
Cross section	DIMENSIONS					Excavation (m ³)	Stone masonry (m ³)	150mm Grouted stone pitching (m ³)
	A	B	C	D	E			
A	4000	1000	600	1000	4200	7.50	1.50	21.75
	6000	1000	600	1000	4200	10.00	1.60	30.15
B	4000	1400	400	1000	3600	7.00	1.20	18.30
	6000	1400	400	1000	3600	9.00	1.50	25.50

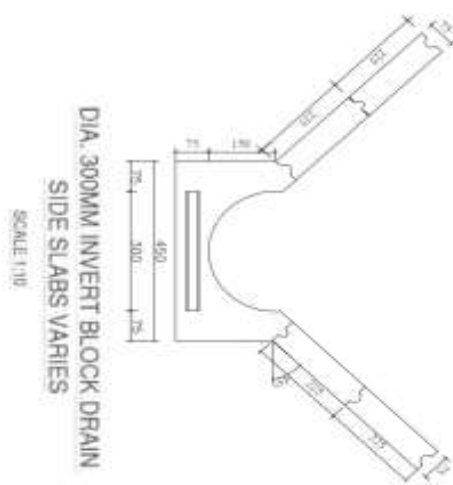


FIGURE 1 ~ PUBLICITY SIGN

