



**TENDER FOR
SUPPLY, DELIVERY, INSTALLATION, TESTING
AND COMMISSIONING OF BOREHOLE DRILLING
AND EQUIPPING, WATER STORAGE TANKS AND
WATER RETICULATION WORKS FOR THE
PROPOSED BOREHOLE DRILLING AND
EQUIPPING WORKS AT NATIONAL INDUSTRIAL
TRAINING AUTHORITY (NITA) ATHI RIVER.
(OPEN NATIONAL TENDER)**

TENDER NO. NITA/12/2020-2021

**NATIONAL INDUSTRIAL TRAINING AUTHORITY
P.O BOX 74494 – 00200
Commercial Street, Industrial Area
NAIROBI KENYA**

DATE: Wednesday, 2nd June 2021

CLOSING DATE: Thursday, 17th June 2021 10.00 A.M



REPUBLIC OF KENYA

**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING, URBAN
DEVELOPMENT AND PUBLIC WORKS**

STATE DEPARTMENT FOR PUBLIC WORKS

**PROPOSED BOREHOLE DRILLING AND EQUIPPING AT NITA ATHI
RIVER**

W.P. ITEM NO. D117 / EN / MKS / 2001 – JOB NO. 10837 A

SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING

OF

**BOREHOLE DRILLING AND EQUIPPING, WATER STORAGE TANKS, AND
WATER RETICULATION**

CHIEF ARCHITECT
MINISTRY OF TRANSPORT,
INFRASTRUCTURE, PUBLIC
WORKS,
HOUSING AND URBAN
DEVELOPMENT
P.O.BOX 30743-00100
NAIROBI

CHIEF QUANTITY SURVEYOR
MINISTRY OF TRANSPORT,
INFRASTRUCTURE, PUBLIC
WORKS,
HOUSING AND URBAN
DEVELOPMENT
P.O.BOX 30743-00100
NAIROBI

**CHIEF ENGINEER
(STRUCTURAL)**
MINISTRY OF TRANSPORT,

INFRASTRUCTURE, PUBLIC WORKS,
HOUSING AND URBAN DEVELOPMENT
P.O.BOX 30743-00100 NAIROBI

CHIEF ENGINEER (ELECTRICAL)
MINISTRY OF TRANSPORT,
INFRASTRUCTURE, PUBLIC WORKS,
HOUSING AND URBAN DEVELOPMENT
P.O.BOX 41191-00100 NAIROBI

CHIEF ENGINEER [MECHANICAL (BS)]
MINISTRY OF TRANSPORT,
INFRASTRUCTURE, PUBLIC WORKS,
HOUSING AND URBAN DEVELOPMENT
P.O.BOX 41191-00100 NAIROBI

CLIENT
The Director General
National Industrial Training Authority
P.O. BOX 74494-00200
NAIROBI

TABLE OF CONTENTS

Section	DESCRIPTION	PAGE
	Contents	i
	Definitions	ii
	Special notes	iii
	Form of tender	iv
	Form of tender security from bank	v
	Form of tender security from insurance	vi
A	Instructions to Tenderers A-1 to A-23	
B	Conditions of Contract B-1 to B-22	
C	Contract Preliminaries and Conditions C-1 to C-22	
D	General Mechanical Specifications D-1 to D-4	
E	Particular specifications for borehole drilling and equipping E-1 to E-5	
F	Particular specifications for water storage tanks and booster pumps F-1 to F-8	
G	Particular specifications for plumbing and drainage G-1 to G-15	
H	Specifications for pipes and associated accessories H-1 to H-5	
I	Bills of quantities and schedule of unit rates I-1 to I-18	
J	Technical schedule of items to be supplied J-1 to J-6	
K	Schedule of drawings K-1	
L	Standard forms L-1 to L-14	

DEFINITIONS

The following terms and expressions used in the contract document shall have the following meanings:

The Employer: **Government of the Republic of Kenya**

Represented by: The Director General
National Industrial Training Authority
P.O. BOX 74494-00200
NAIROBI.

Project Manager: Works Secretary
Ministry of Transport, Infrastructure, Housing, Urban Development
and Public Works
P.O. Box 30743-00100
NAIROBI

Architect: Chief Architect
Ministry of Transport, Infrastructure, Housing, Urban Development
and Public Works
P.O. Box 30743-00100
NAIROBI

Engineer: Chief Engineer [Mechanical (BS)]
Ministry of Transport, Infrastructure, Housing, Urban Development
and Public Works
P.O. Box 41191 - 00100
NAIROBI

Electrical Engineer: Chief Engineer (Electrical)
Ministry of Transport, Infrastructure, Housing, Urban Development
and Public Works
P.O. Box 41191 - 00100
NAIROBI

Quantity Surveyor: Chief Quantity Surveyor
Ministry of Transport, Infrastructure, Housing, Urban Development
and Public Works
P.O. Box 30743-00100
NAIROBI

Structural Engineer: Chief Engineer (Structural)
Ministry of Transport, Infrastructure, Housing, Urban Development
and Public Works
P.O. Box 30743-00100

NAIROBI

Main Contractor: The firm appointed to carry out the supply, delivery, installation, testing and commissioning of borehole drilling and equipping, water storage tanks and water reticulation.

Site: **National Industrial Training Authority (NITA) Athi River off Namanga Road.**

SPECIAL NOTES FOR ALL TENDERERS:

1. These notes shall form part of these specifications and conditions.

IMPORTANT:

2. The contractor will be required to ensure there's no interference with supply of services to resident organizations. The contractor will be required to take all precaution and care so that no damage will occur to the existing installations on site. The contractor is also advised to secure all the necessary insurance policies as he will be solely held responsible for any damages to the existing system, injuries to persons resulting from his activities and/or interference with normal operations of the building that may result from his negligence, actions or otherwise.
3. The tenderer is required to check the number of pages in this document and should any be found to be missing or the figures indistinct, he must inform the Engineers at once and have the same rectified. Should the tenderer be in doubt about the precise meaning of any item, word or figures, or for any reason whatsoever observe any apparent omission of words or figures, he must inform the Engineer in order that the correct meaning may be decided upon before the date for the submission of the tenders.
4. No liability whatsoever will be admitted nor claim allowed in respect of errors in the completed tender due to mistakes in this document which should have been rectified in the manner described above.
5. The tenderer shall not alter or otherwise qualify the text of this specification. Any alteration or qualification made without authority will be ignored and the text of the specification as printed will be adhered to.
6. The tenderer shall be deemed to have made allowances in his unit prices generally to cover items of preliminaries or additions to Prime Cost Sums or other items, if those have not been priced against the respective items.
7. The tenderer's price shall include all government taxes including duties, V.A.T. etc. No claims whatsoever will be allowed in respect of duties, VAT etc. if the tenderer fails to include them in his unit prices. It is also to be noted that VAT will be included in the unit rates and NOT worked out as a percentage of the total.
8. In no case will any expenses incurred by the tenderer in preparation of this tender be reimbursed.
9. The copyright of this specification is vested in the Engineers and no part thereof may be reproduced without their express permission, given in writing.
10. The specifications must be priced in Kenya Currency i.e. shillings and cents.
11. All the tenderers must make a declaration that they have not and will not make any payment to any person which can be perceived as an inducement to enable them to win this tender.

Signed (As in Tender)

Date/Stamp

To: The Director General

FORM OF TENDER

National Industrial Training Authority
P.O. Box 74494 - 00200
NAIROBI

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF BOREHOLE DRILLING AND EQUIPPING, WATER STORAGE TANKS AND WATER RETICULATION WORKS FOR THE PROPOSED BOREHOLE DRILLING AND EQUIPPING WORKS AT NATIONAL INDUSTRIAL TRAINING AUTHORITY (NITA) ATHI RIVER.

1. In accordance with the Instructions to Tenderers, Conditions of Contract, Specifications and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of:

Kshs..... [Amount in figures]

Kenya Shillings.....
..... [Amount in words]

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer's Representative's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.
3. We agree to abide by this tender for a period of 150 days from the date of tender opening, and shall remain binding upon us and may be accepted at any time before the expiry of that period.
4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this day of20.....

Signaturein the capacity of

duly authorized to sign tenders for and on behalf of:

..... [Name of Tenderer]

of..... [Address of Tenderer]

To: The Director General

PIN No.

VAT CERTIFICATE No.

Witness: Name
 Address
 Signature

To: The Director General

FORM OF TENDER SECURITY (Bank Security)

National Industrial Training Authority
P.O. Box 74494 -002000
NAIROBI

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF BOREHOLE DRILLING AND EQUIPPING, WATER STORAGE TANKS AND WATER RETICULATION WORKS FOR THE PROPOSED BOREHOLE DRILLING AND EQUIPPING WORKS AT NATIONAL INDUSTRIAL TRAINING AUTHORITY (NITA) ATHI RIVER.

WHEREAS.....[Name of tenderer] (hereinafter called “the Tenderer”) has submitted his tender dated.....for the SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF BOREHOLE DRILLING AND EQUIPPING, WATER STORAGE TANKS AND WATER RETICULATION WORKS FOR THE PROPOSED BOREHOLE DRILLING AND EQUIPPING WORKS at NATIONAL INDUSTRIAL TRAINING AUTHORITY (NITA) ATHI RIVER.

KNOW ALL PEOPLE by these presents that WE.....of[Name of Bank]..having our registered office at(hereinafter called “the Bank”), are bound unto(hereinafter called “the Employer” in the sum of Kshs.....for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank thisDay of20.....

THE CONDITIONS of this obligation are:

- 1) If after tender opening the tenderer withdraws his tender during the period of tender validity specified in the instructions to tenderers
- 2) If the tenderer, having been notified of the acceptance of this tender by the Employer during the period of tender validity:
 - a) fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or
 - b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to

To: The Director General

the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force for a period of 150 days from the date of tender opening, and any demand in respect thereof should reach the Bank not later than the said date.

_____	_____
[date]	[signature of the Bank]
_____	_____
[witness]	[seal]

To: The Director General

FORM OF TENDER SECURITY (Insurance security)

National Industrial Training Authority
P.O. Box 74494 - 00200
NAIROBI

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF BOREHOLE DRILLING AND EQUIPPING, WATER STORAGE TANKS AND WATER RETICULATION WORKS FOR THE PROPOSED BOREHOLE DRILLING AND EQUIPPING WORKS AT NATIONAL INDUSTRIAL TRAINING AUTHORITY (NITA) ATHI RIVER.

WHEREAS.....[Name of tenderer] (hereinafter called “the Tenderer”) has submitted his tender dated.....for the SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF BOREHOLE DRILLING AND EQUIPPING, WATER STORAGE TANKS AND WATER RETICULATION WORKS FOR THE PROPOSED BOREHOLE DRILLING AND EQUIPPING WORKS AT NATIONAL INDUSTRIAL TRAINING AUTHORITY (NITA) ATHI RIVER.

KNOW ALL PEOPLE by these presents that WE.....of...(Name of Insurance Company)...having our registered office at(hereinafter called “ the Guarantor”), are bound unto(hereinafter called “the Procuring Entity” in the sum of Kshs.....for which payment well and truly to be made to the said Procuring Entity , the Guarantor bind itself, its successors and assigns by these presents sealed with the Common Seal of the said Guarantor thisDay of.....20.....

THE CONDITIONS of this obligation are:

- 1) If after tender opening the tenderer withdraws his tender during the period of tender validity specified in the instructions to tenderers
- 2) If the tenderer, having been notified of the acceptance of this tender by the Employer during the period of tender validity:
 - a) fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or
 - b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to

To: The Director General

the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force for a period of 150 days from the date of tender opening, and any demand in respect thereof should reach the Guarantor not later than the said date.

_____	_____
[date]	[signature of the Guarantor]
_____	_____
[witness]	[seal]

SECTION A:

INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

CONTENTS

CLAUSE NUMBERS	<u>DESCRIPTION</u>	PAGE
	<u>GENERAL</u>	
1.	Definitions	A-1
2.	Eligibility and Qualification Requirements	A-1
3.	Cost of Tendering	A-3
4.	Site Visit	A-3
	<u>TENDER DOCUMENTS</u>	
5.	Tender Documents	A-3
6.	Clarification of Tender Documents	A-4
7.	Amendments of Tender Documents	A-4
	<u>PREPARATION OF TENDER</u>	
8.	Language of Tender	A-5
	Documents Comprising the Tender	9. A-5
10.	Tender Prices	A-5
11.	Currency of Tender and Payment	A-7
12.	Tender Validity	A-7
13.	Tender Surety	A-7
14.	No Alternative Offers	A-8
15.	Pre-tender meeting	A-8
16.	Format and Signing of Tenders	A-9
	<u>SUBMISSION OF TENDERS</u>	
17.	Sealing and Marking of Tenders	A-9
18.	Deadline and Submission of Tenders	A-10
19.	Modification and Withdrawal of Tenders	A-10
	<u>TENDER OPENING AND EVALUATION</u>	
20.	Tender Opening	A-11
21.	Process to be Confidential	A-11
22.	Clarification of Tenders	A-12
23.	Determination of Responsiveness	A-12
24.	Correction of Errors	A-13
25.	Conversion to Single Currency	A-13
26.	Evaluation and Comparison of Tenders	A-13
	<u>AWARD OF CONTRACT</u>	
27.	Award	A-14
28.	Notification of Award	A-15

29. Performance Guarantee A-15
30. Advance Payment A-16
30. Appendix to Instructions to Tenderers A-17

INSTRUCTIONS TO TENDERERS

Note: The tenderer must comply with the following conditions and instructions and failure to do so is liable to result in rejection of the tender.

GENERAL

1. Definitions

- (a) **“Tenderer”** means any person or persons partnership firm or company submitting a sum or sums in the Bills of Quantities in accordance with the Instructions to Tenderers, Conditions of Contract Parts I and II, Specifications, Drawings and Bills of Quantities for the work contemplated, acting directly or through a legally appointed representative.
- (b) **“Approved tenderer”** means the tenderer who is approved by the Employer.
- (c) Any noun or adjective derived from the word **“tender”** shall be read and construed to mean the corresponding form of the noun or adjective **“bid”**. Any conjugation of the verb “tender” shall be read and construed to mean the corresponding form of the verb “bid.”
- (d) **“Employer”** means a Central Government Ministry, Local Authority, State Corporation or any other Public Institution.

2. Eligibility and Qualification Requirements

2.1 This invitation to tender is open to all tenderers who have been prequalified.

2.2 To be eligible for award of Contract, the tenderer shall provide evidence satisfactory to the Employer of their eligibility under Sub clause 2.1 above and of their capability and adequacy of resources to effectively carry out the subject Contract. To this end, the tenderer shall be required to update the following information already submitted during prequalification: -

- (a) Details of experience and past performance of the tenderer on the works of a similar nature within the past five years and details of current work on hand and other contractual commitments.
- (b) The qualifications and experience of key personnel proposed for administration and execution of the contract, both on and off site.
- (c) Major items of construction plant and equipment proposed for use in carrying out the Contract. Only reliable plant in good working order and suitable for the work required of it shall be shown on this

schedule. The tenderer will also indicate on this schedule when each item will be available on the Works. Included also should be a schedule of plant, equipment and material to be imported for the purpose of the Contract, giving details of make, type, origin and CIF value as appropriate.

- (d) Details of subcontractors to whom it is proposed to sublet any portion of the Contract and for whom authority will be requested for such subletting in accordance with clause 4 of the Conditions of Contract.
- (e) A draft Program of Works in the form of a bar chart and Schedule of Payment which shall form part of the Contract if the tender is accepted. Any change in the Program or Schedule shall be subjected to the approval of the Engineer.
- (f) Details of any current litigation or arbitration proceedings in which the Tenderer is involved as one of the parties.

2.3 Joint Ventures

Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements: -

- (a) The tender, and in case of a successful tender, 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 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 of the 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 Tender 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.

3. Cost of Tendering

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

4. Site Visit

4.1 The tenderer is advised to visit and examine the Site and its surroundings and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a contract. The costs of visiting the Site shall be the tenderer's own responsibility.

4.2 The tenderer and any of his personnel or agents will be granted permission by the Employer to enter upon premises and lands for the purpose of such inspection, but only upon the express condition that the tenderer, his personnel or agents, will release and indemnify the Employer from and against all liability in respect of, 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.

4.3 The Employer shall organize a site visit at a date to be notified. A representative of the Employer will be available to meet the intending tenderers at the Site.

Tenderers must provide their own transport. The representative will not be available at any other time for site inspection visits.

Each tenderer shall complete the Certificate of Tenderer's Visit to the Site, whether he in fact visits the Site at the time of the organized site visit or by himself at some other time.

TENDER DOCUMENTS

5. Tender Documents

5.1 The Tender documents comprise the documents listed here below and should be read together with any Addenda issued in accordance with Clause 7 of these instructions to tenderers.

- a. Form of Invitation for Tenders
- b. Instructions to Tenderers
- c. Form of Tender
- d. Appendix to Form of Tender
- e. Form of Tender Surety
- f. Statement of Foreign Currency Requirements
- g. Form of Performance Security
- h. Form of Agreement
- i. Form of Advance payment Bank Guarantee
- j. Schedules of Supplementary Information
- k. General Conditions of Contract – Part I
- l. Conditions of Particular Application – Part II

- m. Specifications
- n. Bills of Quantities
- o. Drawings

5.2 The tenderer is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the tender documents. Failure to comply with the requirements for tender submission will be at the tenderer's own risk. Pursuant to clause 22 of Instructions to Tenderers, tenders which are not substantially responsive to the requirements of the tender documents will be rejected.

5.3 All recipients of the documents for the proposed Contract for the purpose of submitting a tender (whether they submit a tender or not) shall treat the details of the documents as "private and confidential".

6. Clarification of Tender Documents

6.1A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by telex, cable or facsimile at the Employer's mailing address indicated in the Invitation to Tender. The Employer will respond in writing to any request for clarification which he receives earlier than 28 days prior to the deadline for the submission of tenders. Written copies of the Employer's response (including the query but without identifying the source of the inquiry) will be sent to all prospective tenderers who have purchased the tender documents.

7. Amendment of Tender Documents

7.1At any time prior to the deadline for submission of tenders the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective tenderer, modify the tender documents by issuing Addenda.

7.2Any Addendum will be notified in writing or by cable, telex or facsimile to all prospective tenderers who have purchased the tender documents and will be binding upon them.

7.3If during the period of tendering, any circular letters (tender notices) shall be issued to tenderers by, or on behalf of, the Employer setting forth the interpretation to be placed on a part of the tender documents or to make any change in them, such circular letters will form part of the tender documents and it will be assumed that the tenderer has taken account of them in preparing his tender. The tenderer must promptly acknowledge any circular letters s/he may receive.

7.4In order to allow prospective tenderers reasonable time in which to take the Addendum into account in preparing their tenders, the Employer may, at his discretion, extend the deadline for the submission of tenders.

PREPARATION OF TENDERS

8. Language of Tender

8.1 The tender and all correspondence and documents relating to the tender exchanged between the tenderer and the Employer shall be written in the English language. Supporting documents and printed literature furnished by the tenderer with the tender 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 tender, the English language shall prevail.

9. Documents Comprising the Tender

9.1 The tender to be prepared by the tenderer shall comprise: the Form of Tender and Appendix thereto, a Tender Surety, the Priced Bills of Quantities and Schedules, the information on eligibility and qualification, and any other materials required to be completed and submitted in accordance with the Instructions to Tenderers embodied in these tender documents. The Forms, Bills of Quantities and Schedules provided in the tender documents shall be used without exception (subject to extensions of the schedules in the same format and to the provisions of clause 13.2 regarding the alternative forms of Tender Surety).

10. Tender Prices

10.1 All the insertions made by the tenderer shall be made in INK and the tenderer shall clearly form the figures. The relevant space in the Form of Tender and Bills of Quantities shall be completed accordingly without interlineations or erasures except those necessary to correct errors made by the tenderer in which case the erasures and interlineations shall be initialled by the person or persons signing the tender.

10.2A price or rate shall be inserted by the tenderer for every item in the Bills of Quantities whether the quantities are stated or not items against which no rate or 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 and taxes 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 the submission of tenders, shall be included in the rates and prices and the total tender prices submitted by the Tenderer.

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

Every rate entered in the Bills of Quantities, whether or not such rate is associated with a 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 tenderer and it is the intention of the Employer to take full advantage of unbalanced low rates.

10.3 Unless otherwise specified the tenderer must enter the amounts representing 10% of the sub-total of the summary of the Bills of Quantities for Contingencies and Variation of Prices [V.O.P.] payments in the summary sheet and add them to the sub-total to arrive at the tender amount.

10.4 The tenderer shall furnish with his tender written confirmation from his suppliers or manufacturers of unit rates for the supply of items listed in the Conditions of Contract clause 47 where appropriate.

10.5 The rates and prices quoted by the tenderer are subject to adjustment during the performance of the Contract only in accordance with the provisions of the Conditions of Contract. The tenderer shall complete the schedule of basic rates and shall submit with his tender such other supporting information as required under clause 47 of the Conditions of Contract Part II.

11. Currencies of Tender and Payment

11.1 Tenders shall be priced in Kenya Shillings and the tender sum shall be in Kenya Shillings.

11.2 Tenderers are required to indicate in the Statement of Foreign Currency Requirements, which forms part of the tender, the foreign currency required by them. Such currency should generally be the currency of the country of the tenderer's main office. However, if a substantial portion of the tenderer's expenditure under the Contract is expected to be in countries other than his country of origin, then he may state a corresponding portion of the contract price in the currency of those other countries. However, the foreign currency element is to be limited to two (2) different currencies and a maximum of 30% (thirty per cent) of the Contract Price.

11.3 The rate of rates of exchange used for pricing the tender shall be selling rate or rates of the Central Bank ruling on the date thirty (30) days before the final date for the submission of tenders.

11.4 Tenderers must enclose with their tenders, a brief justification of the foreign currency requirements stated in their tenders.

12. Tender Validity

12.1 The tender shall remain valid and open for acceptance for a period of one hundred and twenty (120) days from the specified date of tender opening or from the extended date of tender opening (in accordance with clause 7.4 here above) whichever is the later.

12.2 In exceptional circumstances prior to expiry of the original tender validity period, the Employer may request the tenderer for a specified extension of the period of validity. The request and the responses thereto shall be made in writing or by cable, telex or facsimile. A tenderer may refuse the request without forfeiting his Tender Surety. A tenderer agreeing to the request will not be required nor permitted to modify his tender, but will be required to extend the validity of his Tender Surety correspondingly.

13. Tender Surety

13.1 The tenderer shall furnish as part of his tender, a Tender Surety in the amount stated in the Appendix to Instructions to Tenderers.

13.2 The unconditional Tender Surety shall be in Kenya Shillings and be in form of a certified cheque, a bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank approved by the Employer located in the Republic of Kenya.

The format of the Surety shall be in accordance with the sample form of Tender Surety included in these tender documents; other formats may be permitted subject to the prior approval of the Employer. The Tender Surety shall be valid for twenty-eight (28) days beyond the tender validity period.

13.3 Any tender not accompanied by an acceptable Tender Surety will be rejected by the Employer as non-responsive.

13.4 The Tender Sureties of unsuccessful tenderers will be returned as promptly as possible, but not later than twenty-eight (28) days after concluding the Contract execution and after a Performance Security has been furnished by the successful tenderer. The Tender Surety of the successful tenderer will be returned upon the tenderer executing the Contract and furnishing the required Performance Security.

13.5 The Tender Surety may be forfeited:

- (a) if a tenderer withdraws his tender during the period of tender validity:
or
- (b) in the case of a successful tenderer, if he fails
 - (i) to sign the Agreement, or
 - (ii) to furnish the necessary Performance Security
- (c) if a tenderer does not accept the correction of his tender price pursuant to clause 23.

14. No Alternative Offers

14.1 The tenderer shall submit an offer which complies fully with the requirements of the tender documents.

Only one tender may be submitted by each tenderer either by himself or as partner in a joint venture.

14.2 The tenderer shall not attach any conditions of his own to his tender. The tender price must be based on the tender documents. The tenderer 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 tender notices, if any, for the calculation of his tender price.

14.3 Any tenderer who fails to comply with this clause will be disqualified.

15. Pre-Tender Meeting

15.1 The tenderer's designated representative is invited to attend a pre-tender meeting, which if convened, will take place at the venue and time stated in the Invitation to Tender. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

15.2 The tenderer is requested as far as possible to submit any questions in writing or by cable, to reach the Employer not later than seven days 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 following:

- (a) 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 tender documents. Any modification of the tender documents listed in --Clause 9 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of a tender notice pursuant to Clause 7 and not through the minutes of the pre-tender meeting.
- (b) Non-attendance at the pre-tender meeting will not be cause for disqualification of a bidder.

16. Format and Signing of Tenders

16.1 The tenderer shall prepare his tender as outlined in clause 9 above and mark appropriately one set "ORIGINAL" and the other "COPY".

16.2 The copy of the tender and Bills of Quantities shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the tenderer. Proof of authorization shall be furnished in the form of the written power of attorney which shall accompany the tender. All pages of the tender where amendments have been made shall be initialled by the person or persons signing the tender.

16.3 The complete tender shall be without alterations, interlineations or erasures, except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialled by the person or persons signing the tender.

SUBMISSION OF TENDERS

17. Sealing and Marking of Tenders

17.1 The tenderer shall seal the original and copy of the tender in separated envelopes, duly marking the envelopes as "ORIGINAL" and "COPY". The envelopes shall then be sealed in an outer envelope.

17.2 The inner and outer envelopes shall be addressed to the Employer at the address stated in the Appendix to Instructions to Tenderers and bear the name and identification of the Contract stated in the said Appendix with a warning not to open before the date and time for opening of tenders stated in the said Appendix.

17.3 The inner envelopes shall each indicate the name and address of the tenderer to enable the tender to be returned unopened in case it is declared "late", while the outer envelope shall bear no mark indicating the identity of the tenderer.

17.4 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 tender. A tender opened prematurely for this cause will be rejected by the Employer and returned to the tenderer.

18. Deadline for Submission of Tenders

18.1 Tenders must be received by the Employer at the address specified in clause 17.2 and on the date and time specified in the Letter of Invitation, subject to the provisions of clause 7.4, 18.2 and 18.3. Tenders delivered by hand must be placed in the "tender box" provided in the office of the Employer.

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

18.2 The Employer may, at his discretion, extend the deadline for the submission of tenders through the issue of an Addendum in accordance with clause 7, in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

18.3 Any tender received by the Employer after the prescribed deadline for submission of tender will be returned unopened to the tenderer.

19 Modification and Withdrawal of Tenders

19.1 The tenderer may modify or withdraw his tender after tender submission, provided that written notice of the modification or withdrawal is received by the Employer prior to prescribed deadline for submission of tenders.

19.2 The tenderer's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions for the submission of tenders, with the inner and outer envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.

19.3 No tender may be modified subsequent to the deadline for submission of tenders.

19.4 No tender may be withdrawn in the interval between the deadline for submission of tenders and the period of tender validity specified on the tender form. Withdrawal of a tender during this interval will result in the forfeiture of the Tender Surety.

19.5 Subsequent to the expiration of the period of tender validity prescribed by the Employer, and the tenderer having not been notified by the Employer of the award of the Contract or the tenderer does not intend to conform with the request of the Employer to extend the period of tender validity, the tenderer may withdraw his tender without risk of forfeiture of the Tender Surety.

TENDER OPENING AND EVALUATION

20 Tender Opening

20.1 The Employer will open the tenders in the presence of the tenderers' representatives who choose to attend at the time and location indicated in the Letter of Invitation to Tender. The tenderers' representatives who are present shall sign a register evidencing their attendance.

20.2 Tenders for which an acceptable notice of withdrawal has been submitted, pursuant to clause 19, will not be opened. The Employer will examine the tenders to determine whether they are complete, whether the requisite Tender Sureties have been furnished, whether the documents have been properly signed and whether the tenders are generally in order.

20.3 At the tender opening, the Employer will announce the tenderer's names, total tender price, tender price modifications and tender withdrawals, if any, the presence of the requisite Tender Surety and such other details as the Employer, at his discretion, may consider appropriate. No tender shall be rejected at the tender opening except for late tenders.

20.4 The Employer shall prepare minutes of the tender opening including the information disclosed to those present.

20.5 Tenders not opened and read out a tender opening shall not be considered further for evaluation, irrespective of the circumstances.

21 Process to be Confidential

21.1 After the public opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations concerning the award of Contract shall not be disclosed to tenderers or other persons not officially concerned with such process until the award of Contract is announced.

21.2 Any effort by a tenderer to influence the Employer in the process of examination, evaluation and comparison of tenders and decisions concerning award of Contract may result in the rejection of the tenderer's tender.

22 Clarification of Tenders

22.1 To assist in the examination, evaluation and comparison of tenders, the Employer may ask tenderers individually for clarification of their tenders, including breakdown of unit prices. The request for clarification and the response shall be in writing or by cable, facsimile or telex, but no change in the price or substance of the tender shall be sought, offered or permitted except as required to confirm the correction of arithmetical errors discovered by the employer during the evaluation of the tenders in accordance with clause 24.

22.2 No Tenderer shall contact the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Employer, he shall do so in writing.

23 Determination of Responsiveness

23.1 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender is substantially responsive to the requirements of the tender documents.

23.2 For the purpose of this clause, a substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation and has a valid bank guarantee. A material deviation or reservation is one which affects in any substantial way the scope, quality, completion timing or administration of the Works to be undertaken by the tenderer under the Contract, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderers obligations under the Contract and the rectification of which would affect unfairly the competitive position of other tenderers who have presented substantially responsive tenders.

23.3 Each price or unit rate inserted in the Bills of Quantities shall be a realistic estimate of the cost of completing the works described under the particular item including allowance for overheads, profits and the like.

Should a tender be seriously unbalanced in relation to the Employer's estimate of the works to be performed under any item or groups of items, the tender shall be deemed not responsive.

23.4A tender determined to be not substantially responsive will be rejected by the Employer and may not subsequently be made responsive by the tenderer by correction of the non-conforming deviation or reservation.

24 Correction of Errors

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

- (a) Where there is a discrepancy between the amount in figures and the amount in words, the amount in words will govern.
- (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case adjustment will be made to the entry containing that error.
- (c) The amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 13.

25 Conversion to Single Currency

25.1 For compensation of tenders, the tender price shall first be broken down into the respective amounts payable in various currencies by using the selling rate or rates of the Central Bank of Kenya ruling on the date twenty-eight (28) days before the final date for the submission of tenders.

25.2 The Employer will convert the amounts in various currencies in which the tender is payable (excluding provisional sums but including Day works where priced competitively) to Kenya Shillings at the selling rates stated in clause 25.1.

26 Evaluation and Comparison of Tenders

26.1 The Employer will evaluate only tenders determined to be substantially responsive to the requirements of the tender documents in accordance with clause 23.

26.2 In evaluating tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:

- (a) Making any correction for errors pursuant to clause 24.
- (b) Excluding Provisional Sums and provision, if any, for Contingencies in the Bills of Quantities, but including Day works where priced competitively.

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

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

26.5 If the lowest evaluated tender is seriously unbalanced or front loaded in relation to the Employer's estimate of the items of work to be performed under the Contract, the Employer may require the tenderer to produce detailed price analyses for any or all items of the Bills of Quantities, to demonstrate the relationship between those prices, proposed construction methods and schedules. After evaluation of the price analyses, the Employer may require that the amount of the Performance Security set forth in clause 29 be increased at the expense of the successful tenderer to a level sufficient to protect the Employer against financial loss in the event of subsequent default of the successful tenderer under the Contract.

26.6 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

AWARD OF CONTRACT

27 Award

27.1 Subject to clause 27.2, the Employer will award the Contract to the tenderer whose tender is determined to be substantially responsive to the tender documents and who has offered the lowest evaluated tender price subject to possessing the capability and resources to effectively carry out the Contract Works.

27.2 The Employer reserves the right to accept or reject any tender, and to annul the tendering process and reject all tenders, at any time prior to award of Contract, without thereby incurring any liability to the affected tenderers or any obligation to inform the affected tenderers of the grounds for the Employer's action.

28 Notification of Award

28.1 Prior to the expiration of the period of tender validity prescribed by the Employer, the Employer will notify the successful tenderer by cable, Telefax or telex and confirmed in writing by registered letter that his tender has been accepted. This letter (hereinafter and in all contract documents called "Letter of Acceptance") shall name the sum (hereinafter and in all contract documents called "the Contract Price") which the Employer will pay to the contractor in consideration of the execution and completion of the Works as prescribed by the contract.

28.2 Notification of award will constitute the formation of the Contract.

28.3 Upon the furnishing of a Performance Security by the successful tenderer, the unsuccessful tenderers will promptly be notified that their tenders have been unsuccessful.

28.4 Within twenty-eight [28] days of receipt of the form of Contract Agreement from the Employer, the successful tenderer shall sign the form and return it to the Employer together with the required Performance Security.

29 Performance Guarantee

29.1 Within twenty-eight [28] days of receipt of the notification of award from the Employer, the successful tenderer shall furnish the Employer with a Performance Security in an amount stated in the Appendix to Instructions to Tenderers.

29.2 The Performance Security to be provided by the successful tenderer shall be an unconditional Bank Guarantee issued at the tenderer's option by an established and a reputable Bank approved by the Employer and located in the Republic of Kenya and shall be divided into two elements namely, a performance security payable in foreign currencies (based upon the exchange rates determined in accordance with clause 35.4 of the Conditions of Contract) and a performance security payable in Kenya Shillings. The value of the two securities shall be in the same proportions of foreign and local currencies as requested in the form of foreign currency requirements.

29.3 Failure of the successful tenderer to lodge the required Performance Security shall constitute a breach of Contract and sufficient grounds for the annulment of the award and forfeiture of the Tender Security and any other remedy under the Contract the Employer may award the Contract to the next ranked tenderer.

30 Advance Payment

An advance payment, if approved by the Employer, shall be made under the Contract, if requested by the Contractor, in accordance with clause 33.1 of the Conditions of Contract. The Advance Payment Guarantee shall be denominated in the proportion and currencies named in the form of foreign

currency requirements. For each currency, a separate guarantee shall be issued. The guarantee shall be issued by a bank located in the Republic of Kenya, or a foreign bank through a correspondent bank located in the Republic of Kenya, in either case subject to the approval of the Employer.

APPENDIX TO INSTRUCTIONS TO TENDERERS

1. ADD TO CLAUSE 1. (d)

The Employer as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The successful tenderer will be expected to complete the Works by the Intended Completion Date specified in the tender documents.

2. CLAUSE 2.1

Change to read, "this invitation to tender is open to all eligible tenderers as per the tender advertisement notice"

3. CLAUSE 2.2

Omit the following words "To this end, the tenderer shall be required to update the following information already submitted during prequalification" and add the following words "all tenderers shall include the following information and documents with their tenders, unless otherwise stated"

4. OMIT Clause 2.2 (d)

5. ADD TO CLAUSE 2.2

- (g) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer;
- (h) total monetary value of construction work performed for each of the last five years;
- (i) reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;
- (j) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
- (k) authority to seek references from the tenderer's bankers; and
- (l) proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

6. ADD TO CLAUSE 2.3

As (f) "the tender shall include all the information listed in clause 2.2 above for each joint venture partner"

7. OMIT

Clauses 4.3, 5.1 (a), (d), (f), (i), (j), 10.3, 10.4, 10.5, 11.2, 11.3, 11.4, 15, 25, 26.6, 30

8. ADD TO CLAUSE 13.1

Amount of tender surety will be 2% of the tender sum in the form of tender.

9. ADD TO CLAUSE 13.2

Tender security to be valid for 150 days from tender opening date.

10. ADD TO CLAUSE 17.1

Only original tender document shall be submitted as stated in the tender advertisement notice.

11. ADD TO CLAUSE 28.4

Amend to read '.... within 21 days.....'

12. ADD TO CLAUSE 29.1

Amend to read '.... within 21 days.....'

Amount of performance security will be ten per cent (10%)

13. ADD TO CLAUSE 29.2

Performance security shall not be divided in two elements and shall be payable in Kenya Shillings Only.

14. ADD TO CLAUSE 24

- i) In the event of a discrepancy between the tender amount as stated in the form of tender and the corrected tender figure in the main summary of the bills of quantities the amount as stated in the form of tender shall prevail.
- ii) The correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected sub-contract works. (i.e. corrected tender sum less PC and provisional sums)
- iii) The Error correction factor shall be applied to all contract works (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

15. ADD TO CLAUSE 26

The evaluation criteria as detailed on pages (A-19 to A-25) of this clause shall be applied.

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in **4 stages**, namely:

1. Preliminary examination;
2. Technical evaluation;
3. Financial Evaluation; and 4.Recommendation for Award.

STAGE 1: PRELIMINARY EXAMINATION

This stage of evaluation shall involve examination of the pre-qualification conditions as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions may include the following:

- i) Current Class of Licenses with the relevant bodies as stipulated in the tender advertisement/ invitation letter.
- ii) The Bid has been submitted in the format required by the procuring entity;
- iii) Provision of a tender Security, that is in the required form, amount and that the tender is valid for the period required;
- iv) Dully filled Form of Tender;
- v) Valid Tax Compliance Certificate; vi) Dully filled Confidential Business Questionnaire; vii) Dully signed Statement of Compliance; and
- viii) The required number of copies of the tender has been submitted and all required documents, information and samples have been submitted if stipulated in the tender advertisement/ Invitation letter. If not stated in the tender advertisement notice it is required that the **original** and **a copy** (1 No.) be submitted.

Note:

The bid security shall be in accordance with clauses 13 and 23.2 of Instruction to Tenderers which states as follows:

- **Clause 13.1** of Instruction to Tenderers, "the tenderers shall furnish as part of his tenders a tender surety in the amount stated in the tender document in the Appendix to Instructions to Tenderers".
- **Clause 13.2** of Instruction to Tenderers, "the unconditional Tender surety shall be in Kenya shillings and be in form of a certified cheque, bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank/ Insurance approved by PPOA located in the Republic of Kenya. The format of the surety shall be in accordance with the sample form included in the tender documents and the tender surety shall be valid for **150 days** from the date of tender opening".
- **Clause 23.2** of Instruction to Tenderers: "For the purposes of this clause, a substantially responsive tender is one which conforms to all terms and condition and specifications of the tender document without material deviation or reservation and has a valid Bank/Insurance guarantee".

The employer/procuring entity may seek further clarification/confirmation if necessary to confirm authenticity/compliance of any condition of the tender. Further, in case of a discrepancy between the amounts stated in the appendix to instruction to tenderers and the one stated in the advertisement or invitation letter, the bid security shall be taken as the amount in the advertisement/ letter of invitation.

The tenderers who do not satisfy any of the above requirements shall be considered Non-Responsive and their tenders will not be evaluated further

STAGE 2 TECHNICAL EVALUATION

A)Assessment for eligibility

The tender document shall be examined based on clause 2.2 of the Instruction to Tenderers which states as follows:

'In accordance with clause 2.2 of Instruction to Tenderers, the tenderers will be required to provide evidence for eligibility of the award of the tender by satisfying the employer of their eligibility under sub clause 2.1 of Instruction to Tenderers and adequacy of resources to effectively carry out the subject contract. The tenderers shall be required to fill the Standard Forms provided for the purposes of providing the required information. The tenderers may also attach the required information if they so desire.

The award of points for the STANDARD FORMS considered in this section shall be as shown below

<u>PARAMETER</u>	<u>MAXIMUM POINTS</u>
(i) Tender Questionnaire -----	5
(ii) Key personnel -----	20
(iii) Contract Completed in the last Five (5) years -----	20
(iv) Schedules of on-going projects -----	8
(v) Schedules of contractors equipment -----	20
(vi) Audited Financial Report for the last 3 years -----	10
(vii) Evidence of Financial Resources -----	15
(viii) Litigation History -----	2
TOTAL	<u>100</u>

The detailed scoring plan shall be as shown in table 1 below: -

TABLE 1: Assessment for Eligibility

Item	Description	Point Scored	Max. Point
i.	Tender Questionnaire Form <ul style="list-style-type: none"> • Completely filled ----- 5 • Not filled ----- 0 		5
ii	Key Personnel (Attach evidence)		20
	Director of the firm <ul style="list-style-type: none"> • Holder of degree in relevant Engineering field - 6 • Holder of diploma in relevant Engineering field -5 • Holder of certificate in relevant Engineering field ----- - 3 • Holder of trade test certificate in relevant Engineering field -----2 • No relevant certificate ----- 1 	6	
	At least 1No. degree/diploma of key personnel in relevant Engineering field <ul style="list-style-type: none"> • With over 10 years relevant experience ----- 6 • With over 5 years relevant experience----- 4 • With under 5 years relevant experience ----- 2 	6	
	At least 1No certificate holder of key personnel in relevant Engineering field <ul style="list-style-type: none"> • With over 10 years relevant experience----- 4 • With over 5 years relevant experience ----- 3 • With under 5 years relevant experience -----1 	4	
	At least 2No artisan (trade test certificate in relevant Engineering field) <ul style="list-style-type: none"> • Artisan with over 10 years relevant experience ----- 2 □ Artisan with under 10 years relevant experience ----- - 1 • Non skilled worker with over 10 years relevant experience ----- 1 	4	
iii	Contract completed in the last five (5) years (Max of 5 No. Projects)- Provide Evidence <ul style="list-style-type: none"> • Project of similar nature, complexity and magnitude --- 4 • Project of similar nature but of lower value than the one in consideration ----- 3 • No completed project of similar nature -----0 		20

iv	On-going projects – Provide Evidence <ul style="list-style-type: none"> Four and above Project of similar nature, complexity and magnitude ----- 8 Three and below Project of similar, nature complexity and magnitude -----6 No project of similar, nature complexity and 		8
Item	Description	Point Scored	Max. Point
	magnitude - -----4		

V	Schedule of contractors equipment and transport (proof or evidence of ownership/Lease) <p>a)Relevant Transport</p> <ul style="list-style-type: none"> Means of transport (Vehicle) ----- 10 No means of transport ----- 0 		10	20
	<p>b)Relevant Equipment</p> <ul style="list-style-type: none"> Has relevant equipment for work being tendered----- -- 10 No relevant equipment for work being tendered----- --- 0 		10	
vi	Financial report <p>a)Audited financial report (last three (3) years)</p> <ul style="list-style-type: none"> Average Annual Turn-over equal to or greater the cost of the project ----- 10 Average Annual Turn-over above 50% but below 100% of the cost of the project ----- 6 Average Annual Turn-over below 50% of the cost of the project ----- 3 			10
	<p>b)Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc.)</p> <ul style="list-style-type: none"> Has financial resources to finance the projected monthly cash flow* for three months -----15 Has financial resources equal to the projected monthly cash flow* -----10 Has financial resources less than the projected monthly cash flow* -----5 Has not indicated sources of financial resources --0 			
vi	Litigation History <ul style="list-style-type: none"> Filled ----- 2 Not filled ----- 0 			2
TOTAL				100

Any bidder who has a score of 60 points and above shall be considered for further evaluation

Monthly Cash Flow = Tender Sum/Contract Period

B) Compliance with Specialist Works specifications

In this section, the bid will be analyzed to determine compliance with General and Particular technical specifications for the works as indicated in the tender document. The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer of the Item/Equipment they propose to supply.

The tenderer shall also submit relevant technical brochures/catalogues with the tender document, highlighting the catalogue Numbers of the proposed items. Such brochures/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

- a) Standards of manufacture;
- b) Performance ratings/characteristics;
- c) Material of manufacture;
- d) Electrical power ratings; and
- e) Any other necessary requirements (Specify).

Following the above analyses, where the proposed equipment is found not to conform to the stipulated specifications, the tender will be deemed Non-Responsive and will not be evaluated further.

C) Assessment of deviations

Pursuant to section 64 of the act, a tender is deemed responsive if it conforms to all the mandatory requirements and it **does not contain major** deviations. Section 23.2 of the instruction to tenderers, defines major deviations as

- a) One that affects in a substantial way the scope, quality, completion timing, administration of works to be undertaken by the tenderer under the contract, inconsistent with the tender document; or
- b) Which limits in any substantial way the rights of the employer or the tenderers obligations; or
- c) Whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

Where the deviations are minor in the view of the tender committee, with the concurrence of the procuring entity representative, the evaluation committee shall quantify such deviations pursuant to section 64 (3) of the act which requires that a minor deviation shall:

- a) Be quantified to the extent possible; and
- b) Be taken into account in the evaluation and comparison of tenders.

Where the deviation in the view of the tender committee with the concurrence of the procuring entity representative is major, the tender shall be deemed **nonresponsive and will not be evaluated further**

TABLE 2: Assessment of Deviations

Item	Does the Deviation Substantively Affect the following?	YES	NO
1	Scope of the Works or Services to be delivered		
2	Quality of the Works or Services to be delivered		
3	Completion Timing		
4	Administration of the Works		
5	Consistency with the tender document		
6	Rights of the Employer in a negative manner		
7	Limit the Tenderer's Obligation		
8	Affect unfairly the competitive position of other tenderers		
COMMENT			

Any bidder who OBTAINS A YES in the above table shall be considered NONRESPONSIVE and shall not be evaluated further.

STAGE 3 - FINANCIAL EVALUATION

Upon completion of the technical evaluation a detailed financial evaluation shall follow. The financial evaluation shall proceed in the manner described in the Public Procurement and Asset Disposal Act 2015 of the laws of Kenya and the Public Procurement and Disposal Regulations, 2020 section 72.

The evaluation shall be in **three stages**

- a) Preliminary examinations;

- b) Comparison of Rates; and
- c) Consistency of the Rates.

A) Preliminary Examinations

The preliminary examination in the Financial Evaluation shall be in accordance with clause 26 of Instruction to Tenderers.

The parameter to be considered under this section includes;

Arithmetic Errors

The bid shall be checked for arithmetic errors based on the rates and the total sums indicated in the bills of quantities.

- a) Confirmation shall be sought in writing from the tenderers whose tender sums will be determined to have a significant arithmetic error to their disadvantage, to confirm whether they stand by their tender sums. The error shall be treated as per **clause 24 of Instructions to Tenderers**.

Non-compliance with the above shall lead to **automatic disqualification from further evaluation**.

Discount if any shall be treated as an error in pursuant to **clause 26.3** of Instructions to Tenderers

B) Comparison of rates-

Items that are underpriced or overpriced may indicate potential for non-delivery and front-loading respectively. The committee shall promptly write to the tenderer asking for detailed breakdown of costs for any of the quoted items, relationship between those prices, proposed construction/installation methods and schedules.

The evaluation committee shall evaluate the responses and make an appropriate recommendation to the procuring entity's tender committee giving necessary evidence. Such recommendations may include but not limited to:

- a) Recommend no adverse action to the tenderer after a convincing response;
- b) Employer requiring that the amount of the performance bond be raised at the expense of the successful tenderer to a level sufficient to protect the employer against potential financial losses;
- c) Recommend non-award based on the response provided and the available demonstrable evidence that the scope, quality, completion timing, administration of works to be undertaken by the tenderer, would adversely be affected or the rights of the employer or the tenderers obligations would be limited in a substantial way.

C) Consistency of the Rates

The evaluation committee will compare the consistency of rates for similar items and note all inconsistencies of the rates for similar items.

STAGE 4 - RECOMMENDATION FOR AWARD

The successful bidder shall be the tenderer with the lowest evaluated tender price.

SECTION B:
CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT

CONTENTS

<u>CLAUSE No.</u>	<u>PAGE</u>
1. Definitions.....	B-1
2. Interpretation.....	B-3
3. Language and Law	B-4
4. Project Manager's Decisions.....	B-4
5. Delegation	B-4
6. Communications	B-4
7. Subcontracting.....	B-4
8. Other Contractors.....	B-4
9. Personnel	B-4
10. Works	B-5
11. Safety and Temporary Works.....	B-5
12. Discoveries	B-5
13. Work Program.....	B-5
14. Possession of Site	B-6
15. Access to Site	B-6
16. Instructions	B-6
17. Extension of Acceleration of Completion Date.....	B-6
18. Management Meetings	B-7
19. Early Warning	B-7
20. Defects	B-7
21. Bills of Quantities	B-8
22. Variations	B-8
23. Payment Certificates, Currency of Payments and Advance Payments ..	B-9
24. Compensation Events	B-12
25. Price Adjustment	B-13
26. Retention	B-15
27. Liquidated Damages	B-15

28. Securities	B-16
29. Dayworks	B-16
30. Liability and Insurance	B-16
i	
31. Completion and Taking Over	B-18
32. Final Account	B-18
33. Termination	B-18
34. Payment Upon Termination	B-19
35. Release from Performance	B-20
36. Corrupt Gifts and Payment of Commission	B-20
37. Settlement of Disputes	B-21
APPENDIX TO CONDITIONS OF CONTRACT	B-24

CONDITIONS OF CONTRACT

1.0 Definitions

1.1 In this contract, except where context otherwise requires, the following terms shall be interpreted as indicated;

"Bills of quantities" means the priced and completed bill of quantities forming part of the tender.

"Compensation Events" are those defined in clause 24 hereunder

"Completion date" means the date of completion of the works as certified by the Project Manager, in accordance with Clause 31.

"The Contract" Means the agreement entered into between the Employer and the Contractor as recorded in the Agreement Form and signed by the parties including all attachments and appendices thereto and all documents incorporated by reference therein to execute, complete, and maintain the Works,

"The Contractor" refers to the person or corporate body whose tender to carry out the Works has been accepted by the Employer.

"The Contractor's Tender" is the completed tendering document submitted by the Contractor to the Employer.

"The Contract Price" is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

"Days" are calendar days; **"months"** are calendar months.

"Defects" is any piece of work not completed in accordance with the Contract.

"The Defects Liability Certificate" is the certificate issued by project Manager upon correction of defects by the Contractor.

"The Defects Liability Period" is the period named in the Contract Data and calculated from the Completion Date.

"Drawings" include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

"Dayworks" are Work inputs subject to payment on a time basis for labour and the associated materials and plant.

“Employer” or the **“procuring entity”** as defined in the Public Procurement Regulations (i.e. Central or Local Government administration, Universities, Public Institutions and Corporations, etc. is the party who employs the Contractor to carry out the Works.

“Equipment” is the Contractor's machinery and vehicles brought temporarily to the Site for the execution of the Works.

“The intended completion date” is the date on which it is intended that the Contractor shall complete the works. The intended Completion Date may be revised only by the Project manager by issuing an extension of time or acceleration in the Works.

“Materials” are all supplies, including consumables, used by the Contractor for incorporation in order.

“Plant” is any integral part of the Works that shall have a mechanical, electrical, chemical or biological function.

“Project Manager” is the person named in the Appendix to Conditions of Contract (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract and shall be an “Architect” or a “Quantity Surveyor registered under the Architects and Quantity Surveyors Act Cap 525 or an “Engineer” registered under Engineers Registration Act Cap 530.

“Site” means the place or places where the permanent Works are to be carried out including workshops where the same is being prepared.

“Site Investigation Reports” are those reports that may be included in the tendering documents which are factual and interpretative about the surface and subsurface conditions at the Site.

“Specifications” means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

“Start Date” is the date when the Contractor shall commence execution of the Works.

“A Sub-contractor” is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which Includes Work on the Site.

“Temporary works” are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

“Employer’s Representative” is the person appointed by the Employer and notified to the Contractor for the purpose of supervision of the Works.

“A Variation” is an instruction given by the Project Manager which varies the Works.

“The Works” are what the Contract requires the Contractor to construct, install, and turnover to the Employer.

2. Interpretation

2.1. In interpreting the Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.

2.2. If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).

2.3. The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;

- (1) Agreement,
- (2) Letter of acceptance,
- (3) Contractor’s Tender,
- (4) Appendix to Conditions of Contract,
- (5) Conditions of Contract,
- (6) Specifications,
- (7) Drawings,
- (8) Bills of Quantities,
- (9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the contract.

2.4. Immediately after the execution of the contract, the Project Manager shall furnish both the Employer and the Contractor with two copies each of all the Contract documents. Further, as and when necessary the Project manager shall furnish the Contractor {always with a copy to the Employer} with three (3) copies of such further drawings or details or descriptive schedules as are reasonably necessary either to explain or amplify the Contract drawings or to enable the Contractor to carry out and complete the Works in accordance with these Conditions.

3. Language and Law

3.1. Language of Contract and the law governing the Contract shall be English language and the Laws of Kenya respective unless otherwise stated.

4. Project Manager's Decisions

4.1. Except where otherwise specifically stated, the Project Manager will decide contractual matters between the Employer and the Contract in the role representing the Employer.

5. Delegation

5.1. The Project manager may delegate any of his duties and responsibilities to others after notifying the Contractor.

6. Communications

6.1. Communication between parties shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1. The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1. The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities etc. as listed in the Appendix to Conditions of Contract and also with the Employer, as per the directions of the Project Manager. The Contractor shall also provide facilities and services for them. The employer may modify the said List of Other Contractors etc., and shall notify the Contractor of any such modification.

9. Personnel

9.1. The Contractor shall employ the key personnel named in the Qualification Information, to carry out the functions stated in the said information or other personnel approved by the Project Manager. The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Qualification Information. If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within Seven days and has no further connection with the Work in the Contract.

10.Works

10.1.The Contractor shall construct and install the works in accordance with the Specifications and Drawings. The Works may commence on the Start Date and shall be carried out in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

11.Safety and Temporary Works

11.1.The Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.

11.2.The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary works and all drawings prepared by the Contractor for the execution of the temporary or permanent works, shall be subject to prior approval by the Project Manager before they can be used.

11.3. The Contractor shall be responsible for the safety of all activities on the Site.

12.Discoveries

12.1.Anything of historical or other interest or of significant value unexpectedly discovered on Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project manager's instructions for dealing with them.

13.Work Program

13.1.Within the time stated in the appendix to Conditions of Contract, the Contractor shall submit to the Project Manager for approval a program showing the general methods, arrangements, order, and timing for all the activities in the Works. An update of the program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

13.2.The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract.

13.3.If the Contractor does not submit an updated program within this period, the Project Manager may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount

until the next payment after the date on which the overdue program has been submitted.

13.4. The Project Manager's approval of the program shall not alter the Contractor's obligations. The Contractor may revise the program and submit it to the Project Manager again at any time. A revised program shall show the effect of Variations and Compensation Events.

14. Possession of Site

14.1. The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Appendix to Conditions of Contract, the Employer will be deemed to have delayed the start of the relevant activities, and this will be Compensation Event.

15. Access to Site

15.1. The Contractor shall allow the Project manager and any other person authorized by the Project Manager, access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

16. Instructions

16.1. The Contractor shall carry out all instructions of the Project Manager which are in accordance with the Contract.

17. Extension of Acceleration of Completion Date

17.1. The Project manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost. The Project Manager shall decide whether and by how much to extend the Intended Completion Date with 21 days of the Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a caused by such failure shall not be considered in assessing the new (extended) Completion Date.

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

18. Management Meetings

18.1. A contract management meeting shall be held monthly and attended by the Project Manager and the Contractor. Its business shall be to review the plans for the remaining Work and to deal with matters raised in accordance with the early warning procedure. The Project manager shall record the minutes of management meetings and provide copies of the same to those

attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

19.Early Warning

19.1.The Contractor shall warn the Project at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the Work increase the Contract Price or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

19.2.The Contractor shall cooperate with the Project Manager in making and considering proposals on how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the Work and in carrying out any resulting instruction of the Project Manager.

20.Defects

20.1.The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any work that the Project manager considers may have defects.

20.2.Should the defect be found, the cost of uncovering and making good shall be borne by the contractor carrying out this works. However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.

20.3.The Project Manager shall give notice to the Contractor of any defects before the end of the Defect Liability Period, which begins at completion, and is defined in the Appendix to Conditions of contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.

20.4.Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Project Manager's notice. If the Contractor has not corrected a defect within the time specified in the Project Manager's notice, the Project Manager will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

21. Bills of Quantities

- 21.1. The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the work to be done by the Contractor. The Contractor will be paid for the quantity of the work done at the rate in the Bills of Quantities for each item.
- 21.2. If the final quantity of the work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contractor price, the Project Manager shall adjust the rate to allow for the change.
- 21.3. If requested by the Project Manager, the Contractor shall provide the Project manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

- 22.1. All variations shall be included in updated programs produced by the Contractor.
- 22.2. The Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered.
- 22.3. If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the contractor shall be in the form of new rates for the relevant items of work.
- 22.4. If the Contractor's quotation is unreasonable, the Project manager may order the variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the variation on the Contractor's cost
- 22.5. If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the works, no quotation shall be given and the variation shall be treated as a Compensation Event.

22.6. The Contractor shall not be entitled to additional payment for cost that could have been avoided by giving early warning.

22.7. When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

23.1. The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of work executed and payable shall be determined by the Project Manager.

23.2. The value of work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed; materials delivered on site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from site without the Project Manager's instructions except for use upon the works.

23.3. Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.

23.4. If an amount certified is increased in a later certificate as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

23.5. Items of the works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

23.6. The Contract Price shall be stated in Kenya Shillings. All payments to the contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein.

23.7. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services. The Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services.

23.8. The Employer and the Project manager shall be notified promptly by the Contractor of any changes in the expected foreign currency requirements of the Contractor during the execution of the works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

23.9. In the event that an advance payment is granted, the following shall apply:

-

- a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the contract. The advance shall not be subject to retention money.
- b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.
- c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the contract. It shall have been completed by the time 80% of this amount is reached.

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

$$R = \frac{A(X^1 - X^{11})}{80 - 20}$$

Where:

R = the amount to be reimbursed

- A = the amount of the advance which has been granted
- X¹ = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This will exceed 20% but not exceed 80%.
- X₁₁ = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80% but not less than 20%.

- d) With each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

24.Compensation Events

24.1. The following issues shall constitute Compensation Events.

- a) The Employer does not give access to a part of the site by the Site Possession Date stated in the Appendix to Conditions of Contract.
- b) The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.
- c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the works on time.
- d) The Project Manager instructs the contractor to uncover or to carry out additional tests upon the work, which is then found to have no defects.
- e) The Project Manager unreasonably does not approve a subcontract to be let.
- f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the site investigation reports), from information available publicly and from a visual inspection of the site.

- g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional works required for safety or other reasons.
- h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- i) The effects on the Contractor of any of the Employer's risks.
- j) The Project Manager unreasonably delays issuing a Certificate of Completion.
- k) Other compensation events described in the Contract or determined by the Project manager shall apply

24.2. If a compensation event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

24.3. As soon as information demonstrating the effect of each compensation event upon the Contractor's forecast cost has been provided by the Contract, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly.

24.4. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager will assume that the Contractor will react competently and promptly to the event.

24.5. The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having co-operated with the Project Manager.

24.6. Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Contract.

24.7. The Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.

24.8. Provided always that should the event giving rise to the claim of continuing effect, the Contractor shall submit an interim claim within the said thirty days and a final claim within thirty days of the end of the event giving rise to the claim.

25.Price Adjustment

25.1.The Project Manager shall adjust the Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor.

25.2.The Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Contractor of materials to be specifically imported (by express provision in the Contract Bills of Quantities or Specifications) for permanent incorporation in the Works.

25.3.Unless otherwise stated in the Contract, if any time during the period of the Contract exchange rates shall be varied and this shall affect the cost to the Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Contract Price, as the case may be.

25.4. Unless otherwise stated in the Contract, the Contract Price shall be deemed to have been calculated in the manner set out below and in subclauses 25.4 and 25.5 and shall be subject to adjustment in the events specified thereunder;

- i) The price contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.
- ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum

of labour incorporated within the amount of work remaining to be executed at the date of publication of such increase or decrease.

- iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.5. The price contained in the Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the works as determined by the J.B.C. and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

25.6. Upon the J.B.C. determining that any of the said basic prices are increased or decreased then the Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.

25.7. No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.8. The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rate.

26.Retention

26.1.The Employer shall retain from the payment due to the Contractor the proportion stated in the Appendix to Conditions of Contract until Completion of the whole of the works. On Completion of the whole of the works, half the total amount retained shall be repaid to the Contractor and the remaining half when the Defects Liability Period has passed and the Project manager has certified that all defects notified to the Contractor before the end of this period have been corrected.

27.Liquidate Damages

27.1.The Contractor shall pay liquidated damages to the Employer at the rate stated in the Appendix to Conditions of Contract for each day that the actual Completion Date is later than the Intended Completion Date. The

Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not alter the Contractor's liabilities.

27.2.If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rate specified in Clause 23.30.

28.Securities

28.1.The Performance Security shall be provided to the Employer not later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

29.Dayworks

29.1.If applicable, the Dayworks rates in the Contractor's tender shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

29.2.All work to be paid for as Dayworks shall be recorded by the Contractor on Forms approved by the Project Manager. Each completed form shall be verified and signed by the Project manager within two days of the work being done.

29.3. The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

30.Liability and Insurance

30.1. From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer's risks:

- a) The risk of personal injury, death or loss of or damage to property (excluding the works, plant, materials and equipment), which are due to;
 - i) use or occupation of the site by the works or for the purpose of the works, which is the unavoidable result of the works, or
 - ii) negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- b) The risk of damage to the works, plant, materials, and equipment to the extent that it is due to a fault of the

Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the works are being executed.

30.2. From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the works, plant, and materials is the Employer's risk except loss or damage due to;

- a) a defect which existed on or before the Completion Date.
- b) An event occurring before the Completion Date, which was not itself the Employer's risk.
- c) The activities of the Contractor on the Site after the Completion Date.

30.3. From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the works, plant, materials, and equipment) which are not Employer's risk are contractor's risks.

The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Contract for the following events;

- a) loss of or damage to the works, plant and materials;
- b) loss of or damage to Equipment;
- c) loss of or damage to property (except the works, plant materials, and equipment) in connection with the Contract, and
- d) Personal injury or death.

30.4. Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.

30.5. If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

30.6. Alterations to the terms of insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

31. Completion and Taking over

31.1. Upon deciding that the works are complete, the Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the works. The Employer shall take over the site and the works within seven (7) days of the Project manager's issuing a Certificate of Completion.

32. Final Account

32.1. The Contractor shall issue the Project Manager with a detailed account of the total amount that the Contractor considers payable to him by the Employer under Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete.

32.2. If it is not, the Project Manager shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a Payment Certificate.

32.3. The Employer shall pay the Contractor the amount due in the Final certificate within 60 days.

33. Termination

33.1. The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These fundamental breaches of Contract shall include, but shall not be limited to, the following;

- a) The Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Project Manager.
- b) The Project Manager instructs the Contractor to delay the progress of the works, and the instruction is not withdrawn within 30 days.
- c) The Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
- d) A payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate) of issue.
- e) The Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager.

f) The Contractor does not maintain a security, which is required.

33.2. When either party to the contract gives notice of Contract to the Project Manager for a cause other than those listed under Clause 33.1 above, the Project Manager shall decide whether the breach is fundamental or not.

33.3. Notwithstanding the above, the Employer may terminate the Contract for convenience.

33.4. If the Contractor is terminated, the contractor shall stop work immediately, make the site safe and secure, and leave the site as soon as reasonably possible.

33.5. The Project Manager shall immediately thereafter arrange for a meeting for the purpose of taking record of the works executed and materials, goods, equipment and temporary buildings on site.

34. Payment Upon Termination

34.1. If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and materials ordered and delivered to site up to the issue of the certificate. Additional liquidated damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable by the contractor.

34.2. If the contract is terminated for the Employer's convenience or because of a fundamental breach of contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the works, and the Contractor's costs of protecting and securing the works.

34.3. The Employer may employ and pay other persons to carry out and complete the works and to rectify and defects and may enter upon the works and use all materials on the site, plant, equipment and temporary works.

34.4. The contractor shall, during the execution or after the completion of the works under this clause remove from the site as and when required, within such reasonable time as the Project Manager may in writing specify, any temporary building, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, hold the proceeds less all costs incurred to the credit of the Contractor.

34.5. Until after completion of the works under this clause the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

35. Release from Performance

35.1. If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it.

36. Corrupt gifts and Payment of Commission

36.1. The Contractor shall not;

- a) Offer or give or agree to give to any person in the service of the Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Employer.
- b) Enter into this or any other contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

36.2. Any breach of this Condition by the Contractor or by anyone employed by his or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement Regulations issued under the Exchequer and Audit Act Cap 412 of the Laws of Kenya.

37.Settlement of Disputes

37.1. In case any dispute or difference shall arise between the Employer or the Project Manager on his behalf and the Contractor, either during the progress or after the completion or termination of the works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the Chairman or Vice Chairman of any of the following professional institutions;

- (i) Architectural Association of Kenya
- (ii) Institute of Quantity Surveyors of Kenya
- (iii) Association of Consulting Engineers of Kenya
- (iv) Chartered Institute of Arbitrators (Kenya Branch)
- (v) Institute of Engineers of Kenya

37.2. On the request of the applying party, the institution written to first by the aggrieved party shall take precedence over all other institutions.

37.3. The arbitration may be on the construction of this Contract or on any matter or thing of whatsoever nature arising hereunder or in connection therewith, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to be entitled to or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.

37.4. Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.

37.5. Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties. Proof of such attempt shall be required.

37.6. Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the works or abandonment of the works or termination of the Contract by either part:

- a. The appointment of a replacement Project Manager upon the said person ceasing to act.
- b. Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
- c. Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- d. Any dispute or difference arising in respect of war risks or war damage.

37.7. All other matter shall only be referred to arbitration after the completion or alleged completion of the works or termination or alleged termination of the Contract, unless the Employer and the Contractor agree otherwise in writing.

37.8. The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.

37.9. The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.

37.10. The award of such Arbitrator shall be final and binding upon the parties.

APPENDIX TO CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT CLAUSE 1

The Employer is: **Government of the Republic of Kenya.**

Represented by: **The Director General** **National** **Industrial**
Training Authority,
P.O Box 74494-0200,
Nairobi.

Name of Employer's Representative: **The Director General**
National Industrial Training
Authority, P.O Box 74494-00200,
Nairobi.

CONDITIONS OF CONTRACT CLAUSE 1

The Project Manager is: **The Works Secretary, Ministry of Transport, Infrastructure, Public Works, Housing and Urban Development – State Department for Public Works, Nairobi**

Address: **P.O. Box 30743 - 00100, NAIROBI**

CONDITIONS OF CONTRACT CLAUSE 1

The name (and identification number) of the Contract is :**proposed borehole drilling and equipping at National Industrial Training Authority (NITA) Athi River (W.P. Item No. D117 EN/MKS/2001 Job No. 10837 A).**

CONDITIONS OF CONTRACT CLAUSE 1

The contract works consist of **the supply, installation, testing and commissioning of borehole drilling and equipping, water storage tanks and water reticulation at National Industrial Training Authority (NITA) Athi River.**

CONDITIONS OF CONTRACT CLAUSE 1

The start date shall be **as agreed with the project manager.**

CONDITIONS OF CONTRACT CLAUSE 1

The Intended Completion Date for the whole of the Works shall be **12 weeks from date of possession.**

CONDITIONS OF CONTRACT CLAUSE 2

The following documents also form part of the Contract: **Only as listed in Clause 2 of the conditions of contract.**

The Site Possession Date shall be as **stated in the Letter of Acceptance.**

CONDITIONS OF CONTRACT CLAUSE 1

The Site is located at Athi River off Namanga Road.

CONDITIONS OF CONTRACT CLAUSE 13

The contractor shall submit a revised program for the works within **7 days** of delivery of the letter of acceptance.

CONDITIONS OF CONTRACT CLAUSE 1

The Defects Liability Period is 12 months from practical completion date

CONDITIONS OF CONTRACT CLAUSE 32

Period of final measurement: **12 months after practical completion**

INSTRUCTION TO TENDERERS CLAUSE 20

The tender opening date and time is **as stated in the Tender Advertisement Notice.**

INSTRUCTION TO TENDERERS CLAUSE 20

The name and Address of the Employer's representative for the purposes of submission of Tenders is **as stated in the Tender Advertisement Notice**

INSTRUCTION TO TENDERERS CLAUSE 13

Amount of Tender Security is **2 % of the Tender Sum in the form of tender.**

INSTRUCTION TO TENDERERS CLAUSE 29

The amount of performance security is **10 percent** bank guarantee of the Contract Price.

CONDITIONS OF CONTRACT CLAUSE 27

Liquidated and Ascertained damages: **At the rate of Kshs. 20,000.00 per week or part thereof.**

CONDITIONS OF CONTRACT CLAUSE 23

Period of honouring certificate : **30 days**

Percentage of certified value retained : **10%**

Limit of certified value retained : **5%**

Period between program updates is **14 days**

The completion period for the Contract works: **6 months**

OMIT CLAUSE 23.7

SECTION C:

CONTRACT PRELIMINARIES

AND

GENERAL CONDITIONS

CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

<u>CLAUSE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1.01	Examination of Tender Documents	C-1
1.02	Discrepancies	C-1
1.03	Conditions of Contract Agreement	C-1
1.04	Payments	C-1
1.05	Definition of Terms	C-1
1.06	Site Location	C-3
1.07	Duration of contract	C-3
1.08	Scope of contract Works	C-3
1.09	Extent of the Contractor's Duties	C-3
1.10	Execution of the Works	C-4
1.11	Validity of Tender	C-4
1.12	Firm – Price Contract	C-4
1.13	Variation	C-4
1.14	Prime Cost and Provisional Sums	C-5
1.15	Bond	C-5
1.16	Government Legislation and Regulations	C-5
1.17	Import Duty and Value Added Tax	C-5
1.18	Insurance Company Fees	C-5
1.19	Provision of Services by the Main Contractor	C-6
1.20	Suppliers	C-6
1.21	Samples and Materials Generally	C-6

1.22	Administrative Procedure and Contractual Responsibility	C-6
1.23	Bills of Quantities	C-6
1.24	Contractor's Office in Kenya	C-6
1.25	Builders Work	C-8
1.26	Structural Provision for the Works	C-8
1.27	Position of Services, Plant, Equipment, Fittings and Apparatus	C-8
1.28	Checking of Work	C-9
1.29	Setting to Work and Regulating System	C-9
1.30	Identification of Plant and Components	C-10
1.31	Contract Drawings	C-10
1.32	Working Drawings	C-10
1.33	Record Drawings (As Installed) and Instructions	C-11
1.34	Maintenance Manual	C-12
1.35	Hand – Over	C-13
1.36	Painting	C-14
1.37	Spares	C-14
1.38	Testing and Inspection – Manufactured Plant	C-14
1.39	Testing and Inspection – Installation	C-14
1.40	Labour Camps	C-14
1.41	Storage of Materials	C-15
1.42	Initial Maintenance	C-15
1.43	Maintenance and Servicing after Completion of the Initial Maintenance	C-15
1.44	Trade Names	C-16

1.45	Water and Electricity for the Works	C-16
1.46	Protection	C-16
1.47	Defects After Completion	C-16
1.48	Damages for Delay	C-16
1.49	Clear Away on Completion	C-16
1.50	Final Account	C-16
1.51	Fair Wages	C-17
1.52	Supervision	C-17
1.53	Test Certificates	C-17
1.54	Labour	C-17
1.55	Discount to the Main Contractor	C-17
1.56	Guarantee	C-17
1.57	Direct Contracts	C-18
1.58	Attendance Upon the Tradesmen	C-18
1.59	Trade Union	C-18
1.60	Local and other Authorities notices and fees	C-18
1.61	Assignment or Subletting	C-18
1.62	Partial Completion	C-18
1.63	Temporary Works	C-19
1.64	Patent Rights	C-19
1.65	Mobilization and Demobilization	C-19
1.66	Extended Preliminaries	C-19
1.67	Supervision by Engineer and Site Meetings	C-20
1.68	Amendment to Scope of Contract Works	C-20

1.69	Contractors Obligation and Employers Obligation	C-20
1.70	Appendix to Sub-Contract preliminaries and General conditions	C-22

CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1.01 Examination of Tender Documents

The tenderer is required to check the number of pages of this document and should he find any missing or indistinct, he must inform the Engineer at once and have the same rectified.

All tenderers shall be deemed to have carefully examined the following:
Work detailed in the Specification and in the Contract Drawings.

The Republic of Kenya Document "General Conditions of Contract for
Electrical and Mechanical Works".

Other documents to which reference is made

He shall also be deemed to have included for any expenditure which may be incurred in conforming with the above items (in Clause 1.01) and observe this expense as being attached to the contract placed for the whole or any part of the work.

The tenderer shall ensure that all ambiguities, doubts or obscure points of detail, are clarified with the Engineer before submission of his tender, as no claims for alleged deficiencies in the information given shall be considered after this date.

1.02 Discrepancies

The Contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.

Should the drawing and the specification appear to conflict, the Contractor shall query the points at the time of tendering and satisfy himself that he has included for the work intended, as no claim for extra payment on this account shall be considered after the contract is awarded.

1.03 Conditions of Contract Agreement

For the purpose of this contract the Agreement and Schedule of Conditions and any such modifications and amendments shall be read and construed together. In any event of discrepancy, the modifications and amendments shall prevail.

1.04 Payment

Payment will be made through certificates. All payments will be less retention as specified in the Contract. No payment will become due until materials are delivered to site.

1.05 Definition of Terms

Throughout these contract documents units of measurements, terms and expressions are abbreviated and wherever used hereinafter and in all other documents they shall be interpreted as follows:

- i) **Employer:** The term “**Employer**” shall mean **The Principal Secretary State Department for Culture and Heritage.**
- ii) **Architect:** The term “**Architect**” shall mean **The Chief Architect, Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.**
- iii) **Quantity Surveyor:** The term “**Quantity Surveyor**” shall mean **The Chief Quantity Surveyor, Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.**
- iv) **Civil/Structural Engineers:** The term “**Civil/Structural Engineers** ” shall mean **The Chief Engineer(Structural), Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.**
- v) **Engineer:** The term “**Engineer**” shall mean **Chief Engineer [Mechanical (BS)], Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.**
- vi) **Electrical Engineer:** The term “**Electrical Engineer**” shall mean **Chief Engineer (Electrical), Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.**
- vii) **Main Contractor:** The term “**Main Contractor**” shall mean the firm or company appointed to carry out this contract works and shall include his or their heir, executors, assigns, administrators, successors, and duly appointed representatives.
- viii) **Sub-contractor:** The term “**Sub-contractor**” shall mean the persons or person, firm or Company whose tender for sub-contract work has been accepted, and who has entered into a sub-contract agreement with the Contractor for the execution of the Sub-contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.
- ix) **Contract Works:** The term “**Contract Works**” shall mean all or any portion of the work, materials and articles, whether the same are being manufactured or prepared, which are to be used in the execution of this contract and whether the same may be on site or not.
- x) **Contract Drawings:** The term “**Contract Drawings**” shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.
- xi) **Working Drawings:** The term “**Working Drawings**” shall mean those drawings required to be prepared by the Contractor as hereinafter described.
- xii) **Record Drawings:** The term “**Record Drawings**” shall mean those drawings required to be prepared by the Contractor showing “as installed” and other records for the Contract Works.
- xiii) **Abbreviations:**

CM shall mean **Cubic Metre**
SM shall mean **Square Metre**
LM shall mean **Linear Metre**
LS shall mean **Lump Sum mm**
shall mean **Millimetres**
No.
Shall mean **Number**
Kg. shall mean **Kilogramme**
KEBS or **KS** shall mean **Kenya Bureau of Standards**
BS shall mean. **Current standard British Standard Specification published by the British Standard Institution, 2 Park Street, London W1, England**

“**Ditto**” shall mean the whole of the preceding description in which it occurs. Where it occurs in description of succeeding item it shall mean the same as in the first description of the series in which it occurs except as qualified in the description concerned. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.

1.06 Site Location

The site of the Contract Works is situated in **Athi River off Namanga Road**. The tenderer is recommended to visit the site and shall be deemed to have satisfied himself with regard to access, possible conditions, the risk of injury or damage to property on/or adjacent to the site, and the conditions under which the Contract Works shall have to be carried out and no claims for extras will be considered on account of lack of knowledge in this respect.

1.07 Duration of Contract

The Contractor shall be required to phase his work in accordance with the programme (or its revision) as agreed upon with the project manager.

1.08 Scope of Contract Works

The Contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.

The contractor shall supply all accessories, whether of items or equipment supplied by the Sub-Contractor but to be fixed and commissioned under this contract.

1.09 Extent of the Contractor's Duties

At the commencement of the works, the contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work

and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. Failure to do so shall in no way relieve the contractor from supplying the specified materials and equipment in time.

Materials supplied by others for installation and/or connection by the Contractor shall be carefully examined in the presence of the supplier before installation and connection. Any defects noted shall immediately be reported to the Engineer.

The contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.

The Contractor shall mark accurately on one set of drawings and indicate all alterations and/or modifications carried out to the designed system during the construction period. This information must be made available on site for inspection by the Engineer.

1.10 **Execution of the Works**

The works shall be carried out strictly in accordance with:

- a) All relevant Kenya Bureau of Standards Specifications.
- b) All relevant British Standard Specifications and Codes of Practice (Hereinafter referred to B.S. and C.P. respectively).
- c) General specifications of materials and works Section D of this document
- d) The Contract Drawings.
- e) The Bye-laws of the Local Authority.
- f) The Architect's and/or Engineer's Instructions.

The Contract Drawings and Specifications are to be read and construed together.

1.11 **Validity of Tender**

The tender shall remain valid for acceptance within 120 days from the final date of submission of the tender, and this has to be confirmed by signing the Tender Bond. The tenderer shall be exempted from this Bond if the tender was previously withdrawn in writing to the Employer before the official opening.

1.12 **Firm – Price Contract**

Unless specifically stated in the documents or the invitation to tender, this is a firm-price contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The contractor will be deemed to have allowed in his tender for any increase in the cost of

materials, which may arise as a result of currency fluctuation during the contract period.

1.13 **Variation**

No alteration to the Contract Works shall be carried out until receipt by the Contractor of written instructions from the Project Manager.

Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works.

Where the Architect or Engineer requires additional work to be performed, the contractor, will give notice within seven (7) days.

If the contractor fails to give such notice he will be deemed responsible for the claims arising from the delay occasioned by reason of such extension of time.

1.14 **Prime Cost and Provisional Sums**

A specialist Sub-Contractor may be nominated by the Project Manager to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Contract documents.

The work covered by Prime Cost and Provisional Sums may or may not be carried out at the discretion of the Project Manager.

The whole or any part of these sums utilized by the Contractor shall be deducted from the value of the Contract price when calculating the final account.

1.15 **Bond**

The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Government for an amount equal to 7½ % of the Contract amount as Clause 28 of the Conditions of Contract.

1.16 **Government Legislation and Regulations**

The Contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable.

The Contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.

The Contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements.

1.17 Import Duty and Value Added Tax

The Contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes.

1.18 Insurance Company Fees

Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.

No allowance shall be made to the contractor with respect to fees should these have been omitted by the tenderer due to his negligence in this respect.

1.19 Suppliers

The Contractor shall submit names of any supplier for the materials to be incorporated, to the Engineer for approval. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without prior approval.

Each supplier must be willing to admit the Engineer or his representative to his premises during working hours for the purpose of examining or obtaining samples of the materials in question.

1.21 Samples and Materials Generally

The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.

1.22 Administrative Procedure and Contractual Responsibility

Wherever within the Specification it is mentioned or implied that the Contractor shall deal direct with the Employer or Engineer, it shall mean "through the Project Manager who is responsible to the Employer for the whole of the works including the Sub-Contract Works.

1.23 Bills of Quantities

The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Contractor but the value

thereof shall be deducted from the Contract Sum and the value of the work ordered by the Engineer and executed thereunder shall be measured and valued by the Engineer in accordance with the conditions of the Contract.

All work liable to adjustment under this Contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Contractor shall make default in these respects he shall, if the Engineer so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.

1.24 **Contractor's Office in Kenya**

The Contractor shall maintain (after first establishing if necessary) in Kenya an office staffed with competent Engineer or Manager and such supporting technical and clerical staff as necessary to control and coordinate the execution and completion of the Contract Works.

The Engineer, Manager and his staff shall be empowered by the Contractor to represent him at meetings and in discussions with the Project Manager, the Engineer and other parties who may be concerned and any liaison with the Contractor's Head Office on matters relating to the design, execution and completion of the Contract Works shall be effected through his office in Kenya.

It shall be the Contractor's responsibility to procure work permits, entry permits, licences, registration, etc., in respect of all expatriate staff.

The Contractor shall prepare a substantial proportion of his Working Drawings at his office in Kenya. No reasons for delays in the preparation or submission for approval or otherwise of such drawings or proposals will be accepted on the grounds that the contractor's Head Office is remote from his office in Nairobi or the site of the Contract Works or otherwise.

1.25 **Builder's Work**

All chasing, cutting away and making good will be done by the subcontractor carrying out builder's work. The Contractor (carrying out main works) shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.

The Contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.

Any purpose made fixing brackets shall be provided and installed by the Contractor.

1.26 **Structural Provision for the Works**

Preliminary major structural provision has been made for the Contract Works based on outline information ascertained during the preparation of the Specification.

The preliminary major structural provision made will be deemed as adequate unless the Contractor stated otherwise when submitting his tender.

Any major structural provision or alteration to major structural provisions required by the Contractor shall be shown on Working Drawings to be submitted to the Engineer within 30 days of being appointed.

No requests for alterations to preliminary major structural provisions will be approved except where they are considered unavoidable by the Engineer. In no case will they be approved if building work is so far advanced as to cause additional costs or delays in the works.

1.27 **Position of Services, Plant, Equipment, Fittings and Apparatus**

The Contract Drawings give a general indication of the intended layout. The position of the equipment and apparatus, and also the exact routes of the ducts, main and distribution pipework shall be confirmed before installation is commenced. The exact siting of appliances, pipework, etc., may vary from that indicated.

The routes of services and positions of apparatus shall be determined by the approved dimensions detailed in the Working Drawings or on site by the Engineer in consultation with the Contractor.

Services through the ducts shall be arranged to allow maximum access along the ducts and the services shall be readily accessible for maintenance. Any work, which has to be re-done due to negligence in this respect, shall be the Contractor's responsibility.

The Contractor shall be deemed to have allowed in his Contract Sum for locating terminal points of services (e.g. lighting, switches, socket outlets, lighting points, control switches, thermostats and other initiating devices, taps, stop cocks) in positions plus or minus 1.2m horizontally and vertically from the locations shown on Contract Drawings. Within these limits no variations in the Contract Sum will be made unless the work has already been executed in accordance with previously approved Working Drawings and with the approval of the Engineer.

1.28 **Checking of Work**

The Contractor shall satisfy himself to the correctness of the connections he makes to all items of equipment supplied under the Contract agreement and equipment supplied under other contracts before it is put into operation. Details of operation, working pressures, temperatures, voltages, phases,

power rating, etc., shall be confirmed to others and confirmation received before the system is first operated.

1.29 **Setting to Work and Regulating System**

The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications or equal and approved codes as specified hereinafter and as customary.

No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Contractor's own preliminary and proving tests excepted).

It will be deemed that the Contractor has included in the Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.

The Contractor shall commission the Contract Works and provide attendance during the commissioning of all services, plant and apparatus connected under the Contract Agreement or other Sub-Contract Agreements, related to the project.

Each system shall be properly balanced, graded and regulated to ensure that correct distribution is achieved and where existing installations are affected, the Contractor shall also regulate these systems to ensure that their performance is maintained.

The proving of any system of plant or equipment as to compliance with the Specification shall not be approved by the Engineer, except at his discretion, until tests have been carried out under operating conditions pertaining to the most onerous conditions specified except where the time taken to obtain such conditions is unreasonable or exceeds 12 months after practical completion of the Contract Works.

1.30 **Identification of Plant Components**

The Contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment including valves, with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. The labels shall be mounted on equipment and in the most convenient positions. Care shall be taken to ensure the labels can be read without difficulty. This requirement shall apply also to major components of items of control equipment.

Details of the lettering of the labels and the method of mounting or supporting shall be forwarded to the Engineer for approval prior to manufacture.

1.31 **Contract Drawings**

The Contract Drawings when read in conjunction with the text of the Specification, have been completed in such detail as was considered necessary to enable competitive tenders to be obtained for the execution and completion of the Contract works.

The Contract Drawings are not intended to be Working Drawings and shall not be used unless exceptionally they are released for this purpose.

1.32 **Working Drawings**

The Contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works.

If the Contractor requires any further instructions, details, Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Contractor shall accept at his own cost, the risk that any work, commenced or which he intends to commence at site may be rejected.

The Engineer, in giving his approval to the Working Drawings, will presume that any necessary action has been, or shall be taken by the Contractor to ensure that the installations shown on the Working Drawings have been cleared with the Project Manager and any other Sub-contractors whose installations and works might be affected.

If the Contractor submits his Working Drawings to the Engineer without first liaising and obtaining clearance for his installations from the Project Manager and other Sub-contractors whose installations and works might be affected, then he shall be liable to pay for any alterations or modification to his own, or other Sub-contractor's installations and works, which are incurred, notwithstanding any technical or other approval received from the Engineer.

Working Drawings to be prepared by the Contractor shall include but not be restricted to the following:

Any drawings required by the Engineer to enable structural provisions to be made including Builder's Working Drawings or Schedules and those for the detailing of holes, fixings, foundations, cables and paperwork ducting below or above ground or in or outside or below buildings.

General arrangement drawings of all plant, control boards, fittings and apparatus or any part thereof and of installation layout arrangement of such plant and apparatus.

Schematic Layout Drawings of services and of control equipment.

Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.

Complete circuit drawings of the equipment, together with associated circuit description.

Such other drawings as are called for in the text of the Specification or Schedules or as the Engineer may reasonably require.

Three copies of all Working Drawings shall be submitted to the Engineer for approval. One copy of the Working Drawings submitted to the Engineer for approval shall be returned to the Contractor indicating approval or amendment therein.

Six copies of the approved Working Drawings shall be given to the Project Manager by the contractor for information and distribution to other Subcontractors carrying out work associated with or in close proximity to or which might be affected by the contract Works.

Approved Working Drawings shall not be departed from except as may be approved or directed by the Engineer.

Approval by the Engineer of Working Drawings shall neither relieve the Contractor of any of his obligations under the contract nor relieve him from correcting any errors found subsequently in the Approved Working Drawings or other Working Drawings and in the Contract Works on site or elsewhere associated therewith.

The Contractor shall ensure that the Working Drawings are submitted to the Engineer for approval at a time not unreasonably close to the date when such approval is required. Late submission of his Working Drawings will not relieve the Contractor of his obligation to complete the Contract Works within the agreed Contract Period and in a manner that would receive the approval of the Engineer.

1.33 **Record Drawings (As Installed) and Instructions**

During the execution of the Contract Works the Contractor shall, in a manner approved by the Engineer record on Working or other Drawings at site all information necessary for preparing Record Drawings of the installed Contract Works. Marked-up Working or other Drawings and other documents shall be made available to the Engineer as he may require for inspection and checking.

Record Drawings, may, subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Contractor as a correct record of the installation of the Contract Works.

They shall include but not restricted to the following drawings or information:
Working Drawings amended as necessary but titled "Record Drawings" and certified as a true record of the "As Installed" contract Works. Subject to the approval of the Engineer such Working Drawings as may be inappropriate may be omitted.

Fully dimensioned drawings of all plant and apparatus.

General arrangement drawings of equipment, other areas containing plant forming part of the Contract Works and the like, indicating the accurate size and location of the plant and apparatus suitability cross-referenced to the drawings mentioned in (b) above and hereinafter.

Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.

Relay adjustment charts and manuals.

Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.

System schematic and trunking diagrams showing all salient information relating to control and instrumentation.

Grading Charts

Valve schedules and locations suitability cross-referenced.

Wiring and piping diagrams of plant and apparatus.

Schematic diagrams of individual plant, apparatus and switch and control boards. These diagrams to include those peculiar to individual plant or apparatus and also those applicable to system operation as a whole.

Operating Instruction

Schematic and wiring diagrams shall not be manufacturer's multipurpose general issue drawings. They shall be prepared specially for the Contract Works and shall contain no spurious or irrelevant information.

Marked-up drawings of the installation of the Contract Works shall be kept to date and completed by the date of practical or section completion. Two copies of the Record Drawings of Contract Works and two sets of the relay adjustment and grading charts and schematic diagrams on stiff backing shall be provided not later than one month later.

The Contractor shall supply for fixing in sub-stations, switch-rooms, boiler houses, plant rooms, pump houses, the office of the Maintenance Engineer and other places, suitable valve and instructions charts, schematic diagrams of instrumentation and of the electrical reticulation as may be requested by the Engineer providing that the charts, diagrams, etc., relate to installations forming part of the Contract Works. All such charts and diagrams shall be of

suitable plastic material on a stiff backing and must be approved by the Engineer before final printing.

Notwithstanding the Contractor's obligations referred to above, if the Contractor fails to produce to the Engineer's approval, either: -

The Marked-up Drawings during the execution of the Contract Works or

The Record Drawings, etc., within one month of the Section or Practical Completion

The Engineer shall have these drawings produced by others. The cost of obtaining the necessary information and preparing such drawings, etc., will be recovered from the Contractor.

1.34 **Maintenance Manual**

Upon Practical Completion of the Contract Works, the Contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Contract Works.

The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index.

There shall be a separate volume dealing with Air Conditioning and Mechanical Ventilation installation where such installations are included in the Contract Works.

The manual shall contain full operating and maintenance instructions for each item of equipment, plant and apparatus set out in a form dealing systematically with each system. It shall include as may be applicable to the Contract Works the following and any other items listed in the text of the Specifications:

- System Description.

- Plant

- Valve Operation

- Switch Operation

- Procedure of Fault Finding

- Emergency Procedures

- Lubrication Requirements

- Maintenance and Servicing Periods and Procedures

- Color Coding Legend for all Services

Schematic and Writing Diagrams of Plant and Apparatus Record Drawings, true to scale, folded to International A4 size Lists of Primary and Secondary Spares.

The manual is to be specially prepared for the Contract Works and manufacturer's standard descriptive literature and plant operating instruction cards will not be accepted for inclusion unless exceptionally approved by the Engineer. The Contractor shall, however, affix such cards, if suitable, adjacent to plant and apparatus. One spare set of all such cards shall be furnished to the Engineer.

1.35 **Hand-over**

The Contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer.

The procedure to be followed will be as follows:

On the completion of the Contract Works to the satisfaction of the Engineer and the Employer, the Contractor shall request the Engineer, at site to arrange for handing over.

The Engineer shall arrange a Hand-over Meeting or a series thereof, at site.

The Contractor shall arrange with the Engineer and Employer for a complete demonstration of each and every service to be carried out and for instruction to be given to the relevant operation staff and other representatives of the Employer.

In the presence of the Employer and the Engineer, Hand-over will take place, subject to Agreement of the Hand-over Certificates and associated check lists.

1.36 **Painting**

It will be deemed that the Contractor allowed for all protective and finish painting in the Contract Sum for the Contract Works, including color coding of service pipework to the approval of the Engineer. Any special requirements are described in the text of the Specifications.

1.37 **Spares**

The Contractor shall supply and deliver such spares suitably protected and boxed to the Engineer's approval as are called for in the Specifications or in the Price Schedules.

1.38 Testing and Inspection – Manufactured Plant

The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials.

The right of the Engineer relating to the inspection, examination and testing of plant during manufacture shall be applicable to Insurance companies and inspection authorities so nominated by the Engineer.

The Contractor shall give two week's notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections.

Six copies of all test certificates and performance curves shall be submitted as soon as possible after the completion of such tests, to the Engineer for his approval.

Plant or equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Contractor's own risk and should the test certificate not be approved new tests may be ordered by the Engineer at the Contractor's expense.

The foregoing provisions relate to tests at manufacturer's works and as appropriate to those carried out at site.

1.39 Testing and Inspection -Installation

Allow for testing each section of the Contract Works installation as described hereinafter to the satisfaction of the Engineer.

1.40 Labour Camps

The Contractor shall provide the necessary temporary workshop and messroom in position to be approved by the Architect.

The work people employed by the Contractor shall occupy or be about only that part of the site necessary for the performance of the work and the Contractor shall instruct his employees accordingly.

If practicable, W.C. accommodation shall be allocated for the sole use of the Contractor's workmen and the Sub-contractor will be required to keep the same clean and disinfected, to make good any damage thereto and leave in good condition.

1.41 Storage of Materials

The Contractor shall provide storerooms and workshop where required. He shall also provide space for storage to nominated sub-contractors who shall be responsible for these lock-up shades or stores provided.

Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored

or stacked on suspended slabs without the prior approval of the Project manager.

1.42 Initial Maintenance

The Contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer.

The Contractor shall also provide a 24 -hour break-down service to attend to faults on or malfunctioning of the installation between the routine visits of inspection.

The Contractor shall allow in the contract Sum of the initial maintenance, inspection and break-down service and shall provide for all tools, instruments, plant and scaffolding and the transportation thereof, as required for the correct and full execution of these obligations and the provision, use or installation of all materials as oils, greases, sandpaper, etc., or parts which are periodically renewed such as brake linings etc., or parts which are faulty for any reason whatsoever excepting always Acts of God such as storm, tempest, flood, earthquake and civil revolt, acts of war and vandalism.

1.43 Maintenance and Servicing After Completion of the Initial Maintenance The Contractor shall, if required, enter into a maintenance and service agreement with the employer for the installation for a period of up to five years from the day following the last day of the liability for Defects Period which offers the same facilities as specified in Clause 1.42 (Initial Maintenance).

The terms of any such agreement shall not be less beneficial to the employer than the terms of Agreements for either similar installation.

The Contractor shall submit with his tender for the works, where called upon a firm quotation for the maintenance and service of the installation as specified herein, which shall be based upon the present day costs and may be varied only to take into account increases in material and labour unit rate costs between the time of tendering and the signing of the formal maintenance and service agreement and which shall remain valid and open for acceptance by the Employer to and including the last day of the fifth complete calendar month following the end of the liability for Defects Period.

1.44 Trade Names

Where trade names of manufacturer's catalogue numbers are mentioned in the Specification or the Bills of Quantities, the reference is intended as a guide to the type of article or quality of material required. Alternate brands of equal and approved quality will be acceptable.

1.45 **Water and Electricity for the Works**

These will be made available by the Contractor who shall be liable for the cost of any water or electric current used and for any installation provided especially for his own use.

1.46 **Protection**

The Contractor shall adequately cover up and protect his own work to prevent injury and also to cover up and protect from damage all parts of the building or premises where work is performed by him under the Contract.

1.47 **Defects after Completion**

The defects liability period will be 12 months from the date of practical completion of the Works in the Contract and certified by the Engineer.

1.48 **Damages for Delay**

Liquidated and Ascertained damages as stated in the Contract Agreement will be claimed against the Contractor for any unauthorized delay in completion. The Contractor shall be held liable for the whole or a portion of these damages should he cause delay in completion.

1.49 **Clear Away on Completion**

The Contractor shall, upon completion of the works, at his own expense, remove and clear away all plant, equipment, rubbish and unused materials, and shall leave the whole of the works in a clean and tidy state, to the satisfaction of the Engineer. On completion, the whole of the works shall be delivered up clean, complete and perfect in every respect to the satisfaction of the Engineer.

1.50 **Final Account**

On completion of the works the Contractor shall agree with the Engineer the value of any variations outstanding and as soon as possible thereafter submit to the Engineer his final statement of account showing the total sum claimed sub-divided as follows:

Statement A - detailing the tender amounts less the Prime Cost and Provisional Sums, included therein.

Statement B - detailing all the variation orders issued on the contract.

Statement C - Summarizing statement A and B giving the net grand total due to the Contractor for the execution of the Contract.

1.51 **Fair Wages**

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

The Contractor shall pay rates of the wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the district where work is carried out.

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

1.52 **Supervision**

During the progress of the works, the Contractor shall provide and keep constantly available for consultation on site experienced English - speaking Supervisor and shall provide reasonable office facilities, attendance, etc., for the Supervisor.

In addition, during the whole of the time the works are under construction, the Contractor shall maintain on site one experienced foreman or charge-hand and an adequate number of fitters, etc., for the work covered by the Specification. The number of this staff shall not be reduced without the prior written approval of the Project manager or Engineer.

Any instructions given to the Supervisor on site shall be deemed to have been given to the contractor.

One copy of this Specification and one copy of each of the Contract Drawings (latest issue) must be retained on site at all times, and available for reference by the Engineer or contractor.

1.53 **Test Certificates**

The Contractor shall provide the Engineer with three copies of all test reports or certificates that are or may be required by this Specification.

1.54 **Labour**

The Contractor shall provide skilled and unskilled labour as may be necessary for completion of the contract.

1.55 **Discounts to the Contractor**

No discount to any Contractor will be included in the tender for this installation.

1.56 **Guarantee**

The whole of the work will be guaranteed for a period of twelve months from the date of the Engineer's certification of completion and under such guarantee the contractor shall remedy at his expense all defects in materials and apparatus due to faulty design, construction or workmanship which may develop in that period.

1.57 **Direct Contracts**

Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C Sum in the Bills of Quantities and to pay for the same direct. In any such instance, profit relative to the P.C Sum in the priced Bills of Quantities will be adjusted as deserved for P.C Sum allowed.

1.58 **Attendance upon the Tradesmen etc**

The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this contract every facility for carrying out their work and also for the use of ordinary scaffolding. The contractor however, shall not be required to erect any special scaffolding for them.

1.59 **Trade Unions**

The contractor shall recognize the freedom of his work people to be members of trade unions.

1.60 **Local and other Authorities notices and fees**

The contractor shall comply with and give all notices required by any Regulations, Act or by Law of any Local Authority or of any Public Service, Company or Authority who have any jurisdiction with regard to the works or with those systems the same are or will be connected and he shall pay and indemnify the Government against any fees or charges legally demandable under any regulation or by-law in respect of the works; provided that the said fees and charges if not expressly included in the contract sum or stated by way of provisional sum shall be added to the contract sum.

The contractor before making any variation from the contract drawings or specification necessitated by such compliance shall give the Project Manager written notice specifying and giving the reason for such variation and applying for instructions in reference thereto.

If the contractor within seven days of having applied for the same does not receive such instructions, he shall proceed with the works in conforming to the provision regulation or by-law in question and any variation thereby necessitated shall be deemed to be a variation in accordance to the conditions of contract.

1.61 **Assignment or subletting**

The contractor shall not without the written consent of the Project Manager assign this contract or sublet any portion of the works, provided that such consent shall not be unreasonably withheld to the prejudice of the contractor.

1.62 **Partial Completion**

If the Government shall take over any part or parts works, apparatus, equipment etc. then within seven days from the date on which the

Government shall have taken possession of the relevant part, the Project Manager shall issue a Certificate stating his estimate of the approximate total value of the works which shall be the total value of that part and practical completion of the relevant part shall be deemed to have occurred, and the Defects Liability Period in respect of the relevant part be deemed to have commenced on the date Government shall have taken possession thereof.

The contractor shall make good any defects or other faults in the relevant part that had been deemed complete.

The contractor shall reduce the value of insurance by the full value of the relevant part

The contractor shall be paid for the part of works taken possession by the Government

1.63 Temporary Works

Where temporal works shall be deemed necessary, such as Temporary lighting, the contractor shall take precaution to prevent damage to such works.

The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works. For temporary lighting, electricity shall be metered and paid for by the contract

1.64. Patent Rights

The contractor shall fully indemnify the Government of Kenya; against any action, claim or proceeding relating to infringement of any patent or design rights, and pay any royalties which may be payable in respect of any article or any part thereof, which shall have been supplied by the contractor to the Project Manager. In like manner the Government of Kenya shall fully indemnify the contractor against any such action, claim or proceedings for infringement under the works, the design thereof of which shall have been supplied by the Project Manager to the contractor, but this indemnify shall apply to the works only, and any permission or request to manufacture to the order of the Project Manager shall not relieve the contractor from liability should he manufacture for supply to other buyers.

1.65 Mobilization and Demobilization

The contractor shall mobilize labour plant and equipment to site according to his programme and schedule of work. He shall ensure optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and equipment. Where necessary he shall demobilize and mobilize the labour, plant and equipment, as he deems fit to ensure optimum progress of the works and this shall be considered to be a continuous process as works progress. He shall make provision for this item in his tender. No claim will be entertained where the contractor has not made any provision for mobilization

and demobilization of labour, plant and equipment in the preliminary bills of quantities or elsewhere in this tender.

1.66 Extended Preliminaries

Where it shall be necessary to extend the contract period by the Project manager the contractor shall still ensure availability on site, optimum labour, materials, plant and equipment.

The contractor shall make provision for extended preliminaries, should the contract period be extended and this shall be in a form of a percentage of the total contractor works.

Where called upon in the Appendix to these Preliminaries the Contractor shall insert his percentage per month for extended preliminaries that shall form basis for compensation.

Lack of inserting the percentage shall mean that the contractor has provided for this requirement elsewhere in the Bills of Quantities.

1.67 Supervision by Engineer and Site Meetings

A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing.

The project engineer and (or) the Engineer shall attend management meetings arranged by the Project Manager and for which the Contractor or his representative shall also attend. For the purpose of supervising the project, sums are provided to cover for transport and allowances. The Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit, all relevant taxes and attendance on these funds. The funds shall be expended according Project Manager's instructions to the contractor.

1.68 Amendment to Scope of Contract Works

No amendment to scope of the contract works is expected and in case of amendment or modification to scope of work, these shall be communicated to all tenderers in sufficient time before the deadline of the tender submission. However, during the contract period and as the works progress the Project Manager may vary the works as per conditions of contract by issuing site instructions.

No claims shall be entertained on account of variation to scope of works either to increase the works (pre-financing) or reduction of works (loss of profit-see clause 1.70)

1.69 **Contractor Obligation and Employers Obligation**

The contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. No claims will be entertained for pre-financing of the project by the contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works. No interest shall be payable to the Contractor, except as relates to late payment as in the conditions of contract clause 23.3. The contractor shall where called upon, insert his price to compensate for any of the occurrence stated here (premature termination, reduction or increase of works), as a percentage of the contract sum in the Appendix to this section.

1.70 APPENDIX TO CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1 OMIT CLAUSE 1.12

This is a firm price contract

2 MODIFY CLAUSE 1.15

Amount of performance security will be ten per cent (10%)

3 ADD TO CLAUSE 1.17

Prices quoted shall include 14% Value Added Tax (the percentage is subject to change based on Government policy at the time). In accordance with Government policy, VAT and Withholding Tax shall be deducted from all payments made to the contractor, in accordance with instructions on the percentage to be used to get the amount and the same shall subsequently be forwarded to the Kenya Revenue Authority (KRA).

4 ADD TO CLAUSE 1.40 There are no labour camps.

5. ADD TO CLAUSE 1.66

The amount or percentage that may be inserted in the bills of quantities for this item should not exceed the anticipated Liquidated damages amount for the same period.

SECTION D:

GENERAL MECHANICAL SPECIFICATIONS

SECTION D

GENERAL MECHANICAL SPECIFICATION

<u>CLAUSE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
2.01	GENERAL	D-1
2.02	QUALITY OF MATERIALS	D-1
2.03	REGULATIONS AND STANDARDS	D-1
2.04	ELECTRICAL REQUIREMENTS	D-1
2.05	TRANSPORT AND STORAGE	D-2
2.06	SITE SUPERVISION	D-2
2.07	INSTALLATION	D-2
2.08	TESTING	D-2
2.09	COLOR CODING	D-4
2.10	WELDING	D-4

GENERAL MECHANICAL SPECIFICATION

2.01 General

This section specifies the general requirement for plant, equipment and materials forming part of the Contract Works and shall apply except where specifically stated elsewhere in the Specification or on the Contract Drawings.

2.02 Quality of Materials

All plant, equipment and materials supplied as part of the Contract Works shall be new and of first-class commercial quality, shall be free from defects and imperfections and where indicated shall be of grades and classifications designated herein.

All products or materials not manufactured by the Contractor shall be products of reputable manufacturers and so far as the provisions of the Specification is concerned shall be as if they had been manufactured by the Contractor.

Materials and apparatus required for the complete installation as called for by the Specification and Contract Drawings shall be supplied by the Contractor unless mention is made otherwise.

Materials and apparatus supplied by others for installation and connection by the Contractor shall be carefully examined on receipt. Should any defects be noted, the Contractor shall immediately notify the Engineer.

Defective equipment or that damaged in the course of installation or tests shall be replaced as required to the approval of the Engineer.

2.03 Regulations and Standards

The Contract Works shall comply with the current editions of the following:

- a) The Kenya Government Regulations.
- a) The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.
- b) The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.
- c) British Standard and Codes of Practice as published by the British Standards Institution (BSI)
- e) The Local Council By-laws.
- f) The Electricity Supply Authority By-laws.
- g) Local Authority By-laws.
- h) The Kenya Building Code Regulations.
- i) The Kenya Bureau of Standards

2.04 Electrical Requirements

Plant and equipment supplied under this Contract shall be complete with all necessary motor starters, control boards, and other control apparatus. Where control panels incorporating several starters are supplied, they shall be complete with a main isolator.

The supply power up to and including local isolators shall be provided and installed by the Electrical Contractor. All other wiring and connections to equipment shall form part of this Contract and be the responsibility of the Contractor.

The Contractor shall supply three copies of all schematic, cabling and wiring diagrams for the Engineer's approval.

The starting current of all electric motors and equipment shall not exceed the maximum permissible starting currents described in the Kenya Power and Lighting Company (KPLC) By-laws.

All electrical plant and equipment supplied by the Contractor shall be rated for the supply voltage and frequency obtained in Kenya, that is 415 Volts, 50Hz, 3-Phase or 240Volts, 50Hz, 1-phase.

Any equipment that is not rated for the above voltages and frequencies shall be rejected by the Engineer.

2.05 **Transport and Storage**

All plant and equipment shall, during transportation be suitably packed, crated and protected to minimise the possibility of damage and to prevent corrosion or other deterioration.

On arrival at site all plant and equipment shall be examined and any damage to parts and protective priming coats made good before storage or installation.

Adequate measures shall be taken by the Contractor to ensure that plant and equipment do not suffer any deterioration during storage.

Prior to installation all piping and equipment shall be thoroughly cleaned.

If, in the opinion of the Engineer any equipment has deteriorated or been damaged to such an extent that it is not suitable for installation, the Contractor shall replace this equipment at his own cost.

2.06 **Site Supervision**

The Contractor shall ensure that there is an English-speaking supervisor on the site at all times during normal working hours.

2.07 **Installation**

Installation of all special plant and equipment shall be carried out by the Contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 2.03 of this Section.

2.08 **Testing**

2.08.1 General

The Contractor's attention is drawn to Part 'C' Clause 1.38 of the "Preliminaries and General Conditions".

2.08.2 Material Tests

All material for plant and equipment to be installed under this Contract shall be tested, unless otherwise directed, in accordance with the relevant B.S Specification concerned.

For materials where no B.S. Specification exists, tests are to be made in accordance with the best modern commercial methods to the approval of the Engineer, having regard to the particular type of the materials concerned.

The Contractor shall prepare specimens and performance tests and analyses to demonstrate conformance of the various materials with the applicable standards.

If stock material, which has not been specially manufactured for the plant and equipment specified is used, then the Contractor shall submit satisfactory evidence to the Engineer that such materials conform to the requirements stated herein in which case tests of material may be partially or completely waived.

Certified mill test reports of plates, piping and other materials shall be deemed acceptable.

2.08.3 Manufactured Plant and Equipment – Work Tests

The rights of the Engineer relating to the inspection, examination and testing of plant and equipment during manufacture shall be applicable to the Insurance Companies or Inspection Authorities so nominated by the Engineer.

The Contractor shall give two week's notice to the Engineer of the manufacturer's intention to carry out such tests and inspections.

The Engineer or his representative shall be entitled to witness such tests and inspections. The cost of such tests and inspections shall be borne by the Contractor.

Six copies of all test and inspection certificates and performance graphs shall be submitted to the Engineer for his approval as soon as possible after the completion of such tests and inspections.

Plant and equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Contractor's own risk

and should the test and inspection certificates not be approved; new tests may be ordered by the Engineer at the Contractor's expense.

2.08.4 Pressure Testing

All pipe work installations shall be pressure tested in accordance with the requirements of the various sections of this Specification. The installations may be tested in sections to suit the progress of the works but all tests must be carried out before the work is buried or concealed behind building finishes. All tests must be witnessed by the Engineer or his representative and the Contractor shall give 48 hours' notice to the Engineer of his intention to carry out such tests.

Any pipe work that is buried or concealed before witnessed pressure tests have been carried out shall be exposed at the expense of the Contractor and the specified tests shall then be applied.

The Contractor shall prepare test certificates for signature by the Engineer and shall keep a progressive and up-to-date record of the section of the work that has been tested.

2.09 **Colour Coding**

Unless stated otherwise in the Particular Specification all pipe work shall be color coded in accordance with the latest edition of B.S 1710 and to the approval of the Engineer or Architect.

2.10 **Welding**

2.10.1 Preparation

Joints to be made by welding shall be accurately cut to size with edges sheared, flame cut or machined to suit the required type of joint. The prepared surface shall be free from all visible defects such as lamination, surface imperfection due to shearing or flame cutting operation, etc., and shall be free from rust scale, grease and other foreign matter.

2.10.2 Method

All welding shall be carried out by the electric arc processing using covered electrodes in accordance with B.S. 639.

Gas welding may be employed in certain circumstances provided that prior approval is obtained from the Engineer.

2.10.3 Welding Code and Construction

All welded joints shall be carried out in accordance with the following Specifications:

a) Pipe Welding

All pipe welds shall be carried out in accordance with the requirements of B.S.806.

b)General Welding

All welding of mild steel components other than pipework shall comply with the general requirements of B.S. 1856.

2.10.4Welders Qualifications

Any welder employed on this Contractor shall have passed the trade tests as laid down by the Government of Kenya.

The Engineer may require to see the appropriate certificate obtained by any welder and should it be proved that the welder does not have the necessary qualifications the Engineer may instruct the Contractor to replace him by a qualified welder.

SECTION E
PARTICULAR SPECIFICATIONS
FOR
BOREHOLE DRILLING AND EQUIPPING

Table of Contents

1. Purpose 1	E-
2. Scope of Works 1	E-
3. Local Conditions 1	E-
4. Borehole Data 1	E-
5. Casings 2	E-
6. Screens 2	E-
7. Grouting 2	E-
8. Construction Method 2	E-
9. Gravel Pack 2	E-
10. Cementation 2	E-
11. Development 3	E-
12. Test Pumping 3	E-
13. Sample Formation	E-3
14. Water Samples 3	E-
15. Reports 3	E-
16. Cessation of Work 4	E-
17. Retention Time 4	E-
18. Supply and Installation of Pump	E-4

PARTICULAR SPECIFICATIONS FOR BOREHOLE DRILLING AND EQUIPPING

1. Purpose

The borehole to be drilled, constructed, test pumped and equipped with a submersible pump under this contract will be to provide water intended for domestic use (human consumption).

The maximum ground water abstraction permitted from the borehole shall be 90m³/day with the maximum abstraction period not exceeding 10 hours per day.

The execution of the works shall be in full compliance with relevant provisions of the Water Act.

The proposed drilling site will be at National Industrial Training Authority (NITA) Athi River off Namanga Road. The contractor is deemed to have visited the site at National Industrial Training Authority (NITA) Athi River off Namanga Road, and if unable to locate it or its details apply to the Chief Engineer [Mechanical (BS)] Ministry of Transport, Infrastructure, Public Works Housing and Urban Development in the State Department of Public Works P.O. Box 41191-00100 Nairobi.

No claims will be allowed for the traveling or other expenses, which may be incurred by the contractor's works.

2. Scope of the Work

The works included in the contract consist of: -

- (i) The drilling of one borehole of sufficient diameter to provide for a finished cased and screened borehole of 200mm diameter to the provisional depth of about 350metres.
- (ii) The provision and installation of steel casings, steel screens, and gravel pack, borehole cap, together with cementation works necessary.
- (iii) The collection of formation samples at 2-meter interval of drilling progress to the bottom and also water sample at every aquifer struck and at the beginning and at the end of test pumping operation for both chemical and biological analysis.
NOTE: - These depths and any other works can be varied by the Engineer depending on the actual conditions encountered in the process of executing of the works.
- (iv) The supply and installation of 1No. Submersible borehole pump, complete with the necessary controls.
- (v) Connection of the water from the borehole to the water storage tank.

3. Local Conditions

The borehole will be drilled, constructed and test pump in both unconsolidated and consolidated formation and the contractor must be prepared to carry out the required work through any type of formation in the project area.

4. Borehole Data

- (a) Total depth – 320m of 200mm diameter from surface (**Provisional**)

- (b) Casings to be 152mm diameter and screened depth to be determined after borehole construction.
- (c) Static water level – not known
- (d) Dynamic water level – not known
- (e) Recommended pumping rate – 8 m³/hr. (for the purpose of quotation but to be confirmed after testing)
- (f) (Pump) setting level – 200m (for the purpose of quotation but to be confirmed after testing)
- (g) Total dynamic head to be determined on site

5. **Casings**

- (a) Casings to be used as part of the permanent borehole structure shall be black steel pipe conforming to BS 1387 and having nominal diameter of 200mm.
- (b) If any casing other than that to be left permanently in the borehole is required temporarily for execution of work, it shall be supplied by the contractor at the borehole free of charge.

6. **Screens**

The screens to be furnished and installed shall be of the pipe size variety having a minimum nominal diameter of 152mm and can be fabricated in three meter lengths. The screens shall be of continuous slot type and constructed entirely of stainless steel. The screen shall have slot size opening of 1.4m.

7. **Grouting**

Grouting shall be done by either cement or bentonite to seal off unwanted upper aquifers under direction of the Engineer.

8. **Construction Method**

The borehole to be constructed shall be drilled by cable-tool percussion method or the combination air/ hydraulic rotary method. The method of drilling shall be left to the discretion of the Contractor. After drilling to the final depth the Contractor shall proceed to insert permanent casings and screens as directed by the Engineer.

9. **Gravel Pack**

If filter gravel will be necessary, it will consist of durable, naturally rounded quartzitic particles properly washed and cleaned prior to insertion in the borehole. The gravel shall be introduced in the annular space between the wall of the borehole and the 200mm casing from the bottom to about 2 meters below surface. The final casing and screens must be centralized before gravel back and the Contractor must supply suitable equipment for lowering of gravel pack.

10. **Cementation**

The space above the gravel pack shall be grouted with a mix of one part of cement to two parts of sand and two parts of ballast, in order of 1:2:2 concrete may be used near the surface to form an annular plug around the casing of dimensions 1.0 x 1.0 x 1.0 meters. There shall be 2000mm diameter concrete plinth on top of the borehole and shall be constructed as shall be directed by the Project Engineer and the Structural Engineer. Any other cementation works to be done as directed by the Project Engineer.

11. Development

The Contractor shall furnish all necessary pumps, compressor, plungers, bailing or other needed equipment and shall develop the borehole by such approved methods as shall be necessary to give the maximum yield of water per increment of drawdown and extract from the formation of maximum practical quality of such sands as may, during the life of the borehole, be drawn through the screens when the borehole is operating under maximum conditions of draw down.

12. Test Pumping

After the borehole has been completed, constructed and developed, the subcontractor shall make necessary arrangements for conducting a 24-hour continuous test pumping up to a maximum of 30hr and 12-hour recovery test under the supervision of the Engineer. Where the Engineer or his representative cannot be present on such pumping test, the Contractor may continue without him keeping accurate records of the test in terms of discharge and drawn down but must seek permission from the Project Engineer. Should the Contractor fail to keep such records, the Engineer shall order the test to be repeated at no extra cost.

13. Sample Formation

The Contractor shall keep an accurate record of the top and bottom of each stratum penetrated and shall save and deliver to the Engineer a sample of materials taken from each 1m of formation, or at every change of formation and at such other intervals as may be ordered by the Engineer. Those samples shall be placed in approved Contractor supplied containers with labels which indicate the depth at which the sample was obtained.

14. Water Samples

Water samples shall be collected at every water struck while drilling and also shall be collected at the start of every test and toward the end of the test in a three litre sterilized plastic container for both chemical and bacteriological analysis and submitted in a competent laboratory for analysis.

15. Reports

The contractor shall submit to the Engineer daily progress reports showing: -

- (i) The depth each day indicating drilling in meters per hour with comments on degree of hardness of materials being penetrated.

- (ii) Depth at which each water bearing zone is encountered and the rise and fall of water level in different formations.
- (iii) The full details of work carried out in respect of operations which are paid for at hourly rate.
- (iv) The full details of the number of hours worked each day.

16. Cessation of Work

The Engineer reserves the rights to stop drilling operations if in his opinion: -

- (a) A sufficient supply of water has been obtained.
- (b) The work is not being carried out in a satisfactory manner or
- (c) Further drilling is unlikely to be advantageous or for any other reason

In this event, payment shall be made only for the amount of work done up to the date of stoppage.

17. Retention Time

Waiting time shall be such time as the whole of the drilling equipment and staff is on site and is available for use, and all the operation connected with the Contract are at a standstill due to the absence of instructions from the Engineer.

The request for the necessary instructions and/ or guidance to the Project Manager by the Contractor shall be within 48 hours, provided that the Project Manager does not delay the said instructions/ or guidance to the Contractor unnecessarily.

All claims for waiting time shall be made on the basis of a normal 8-hour day, including Sundays and Public holidays.

18. Supply and Installation of Pump

The Contractor shall supply and install: -

- (a) One electric submersible pump which will conform to the specification stated, for operation on 415 volts, 3-phase.
- (b) All necessary electrical equipment for the pump such as control panel with starter, ammeter, single phasing cut-out, low voltage cut-out and all necessary cables for connection.
- (c) Suitable diameter Galvanized Steel pipe class 'C' to carry water to the surface/ to water storage tank
- (d) Low level cut-out switch
- (e) Airline 20mm galvanized steel pipe for water level measurements
- (f) Pressure gauge
- (g) The gate valves, non-return valves before the master meter (h) Master meter for measuring the water from the borehole.

In addition, the Contractor shall carry out 24 hours' test run at the completion of the works. This test has to be certified by the Project Manager.

Note on Pump Installation

The Contractor shall make the necessary electrical connections and include in his prices all cable, starter-panel, switches etc. required to put the pump in operation while

tendering for this part of the document and return it with full description literature and performance curves for the proposed equipment together with the tender for drilling works.

The installation of the submersible pump into the borehole shall be done immediately the borehole drilling is completed, test pumped and water analysed for suitability for human consumption.

The final production pump to be installed in the newly drilled borehole shall be determined and installed as per the actual conditions encountered on completion of the drilling works. Hence the specifications given under the section of 'borehole data' are only for the purpose of quotation. After establishing the actual conditions of the drilled borehole, only the engineer's approved submersible pump shall be installed.

19. Electrical works

It shall be the responsibility of the Contractor to provide all electrical wiring between all items of his Contract to ensure the correct function of his equipment. The Contractor's electrical works shall start from the nearest electrical isolator.

SECTION F

PARTICULAR SPECIFICATIONS

FOR

WATER STORAGE TANKS AND BOOSTER PUMPS

PARTICULAR SPECIFICATION FOR THE DESIGN SUPPLY AND ERECTION OF WATER STORAGE TANKS AND BOOSTER PUMPS

1.00 DESCRIPTION OF SITE

The contractor is deemed to have visited the site and if unable to locate it or its details apply to the Principal Secretary, State Department of Public Works, Ngong Road, Nairobi.

No claims will be allowed for the traveling or other expenses, which may be incurred by the contractor's works. However, the contractor may allow that he may have to, during contract time, do part of the works and therefore three visits may be catered for.

1.01 SCOPE OF CONTRACT

The work to be carried out under, this contract comprises the design, manufacture, supply, delivery, erection, together with testing and commissioning of water tanks as here-in specified and shown on the contract drawings.

All work shall be performed in straightforward manner by competent workmen under skilled supervision to the entire satisfaction of the project manager.

1.02 COMPLIANCE WITH REGULATIONS.

The contractor shall comply in all respects to the provisional and regulations of the Bylaws of the Local Authority, Kenya Building Code, as 449 Part B5 1964. BS 4211, CP2 chapters V part 1 and 2 MOPW Structural steel work specification (1973) code of practice for design and construction of buildings and structures in Relation to Earthquake (1972) wherever applicable to the contract works.

The State Department of Public Works are responsible for the design of the foundation subject to giving approval of the contractor's design of the tower and due allowance should be given for this work to be carried out in contractor's programme of works. The contractor is responsible for the construction of the foundation in accordance to approved designs.

1.03 STRUCTURAL DRAWINGS AND CALCULATIONS

2 No. copies of general arrangement and fabrication drawings properly dimensioned and detailed showing the whole tower and its accessories together with **2 No. copies** of the structural calculations complying with all the relevant BS and CP are to be submitted for approval prior to the commencement of the work.

The calculation is to indicate the maximum downward and upward loads on the foundations for the Ministry of Roads and Public Works Structural Department to design the foundation.

2.00 STEEL WATER TANKS

- a) The tanks shall be pressed steel sectional tanks complying in all respects to BS 1564 Types 1 or 2. The jointing materials shall be non-toxic and non-insulable to water and the tank cover shall be joined throughout the tank top ensuring that the joint is both water proof and dust proof.
- b) Cover framing and members shall be designed to withstand super-imposed loading complying with the requirement complying with the requirements of CP2 Chapter V part 1 and BS 149 Part 2.
- c) All internal stays are to be provided as required by the tank manufacture and the contractor shall be responsible for ensuring the stays are adequate in number and position and properly tightened. These are to be manufactured from steel to BS 4360, Grade 43 A.

- d) All Bolts, nuts and washers used in the construction should comply with BS 4190. The contractor to allow in his pricing, for a complete set of spanners, spare bolts and Washers for maintenance purposes.
- e) Access manhole with hinged cover together with a filtered vent outlet shall be installed.
- f) The contractor is to notify the Project Manager of the type of panel he is proposing to use and the manufacturer who is to be approved.
- g) The inflow and outflow connection shall be as shown on the drawing.
- h) The outflow supply pipe shall be at least 50mm above the tank bottom while the inflow pipe shall be 200mm below the tank rim. The overflow pipe shall be about 1000mm long, away from the tank. The drain pipe shall be at the lowest part of the tank.

2.01LOW LEVEL TANK

Tank Capacity: 640,113 litres

Preferred dimensions: 13 420 mm x 13 420 mm x 3 660 mm Plate thickness: 6 mm Plate size: 1220 mm x 1220 mm

The Structural Department will give details of foundations and R.C walls for the low-level tank.

The base is to be cast by the contractor unless otherwise instructed by the Project Manager

2.02HIGH LEVEL TANK

Tank Capacity: as will be specified by the engineer **Preferred dimensions:**
Plate thickness:

2.03 PIPEWORK

The contractor shall supply and fix all pipe work and fitting up to ground level as detailed on the drawing or in this specification.

All pipe work shall be adequately supported and secured to the tank structure.

The washout pipe will have a bend leading to a reasonable place where the drainage will not interfere with the structure.

The inflow outflow and washout pipes shall be fixed against the tower structure so as to facilitate fixing and good support.

The following pipework shall be used depending on the condition: -

- (a) Medium Grade Galvanized steel and must conform with BS 1987 1967 class 'B'
- (b) PP-R pipe work to be manufactured in accordance with the current European standards i.e. DIN 8077 and DIN 8078 for PN 20 tubing, with metallic joints to DIN 8076, joints and fittings for tubing to DIN 16962.

The contractor shall provide high pressure ball valve capable of coping with the maximum area's local water supply pressure.

2.04 Access Ladder

Internal ladder shall be supplied for the tank and shall be fixed adjacent at the manhole but easily removable for cleaning the inside of the tank (i.e. hooked connection).

The tanks shall be provided with an external ladder leading to the manhole and complying to BS 4211. The stringers shall be parallel, minimum width 15 inches apart and of flat bar of minimum dimensions 1½" by 2/8 inches. The rungs shall be of round bars not less than ¾ inches diameter and the distance between centers shall be 9 – 10 inches. The external ladder shall be fitted with safety hoofs made to conform with BS 4211.

2.05 Platform

The tower is to have a periphery walkway at tank level having minimum width of 600mm clear between the edge of the tank and the inside of the protective safety handrail. The platform is to be provided with a steel chequered plate floor of similar approved and to be completely sealed so as not to allow anybody or items such as bolts and spanners to fall on persons on the ground.

All loading for the design of such platform are to be provided in the structural calculations.

2.06 Painting

The tank shall be painted inside with one coat of bituminous non-toxic paint (or any other equivalent and approved) and on the outside with coat of primer before erection. After erection, the tank inside shall be painted with two coats of aluminium paint. The other structures shall be cleaned and painted one coat lead oxide or red lead before erection and two coats of aluminium paints after erection.

All the painting shall be approved by the Engineer.

2.07 Erection

The contractor shall erect the tank complete, on foundation prepared and designed by others and with all necessary pipes, ladders, tower etc. as listed herein and shown on the drawing.

The contractor shall prepare the foundation to the contractor's and State Department of Public Works Structural Department's details. The main contractor shall also concrete or grout in the HD bolts to the contractor's requirements.

3.0. Booster pumps

One set of pumps will be provided:

- 1.2 No. electrically operated pumps capable of pumping 60 cubic metres per hour of water against 40 metres static head shall be installed.

Each of the set of pumps shall be directly driven by a three-phase motor, the pump motor being mounted on a common base.

Pump casing shall be manufactured from good quality cast iron and impellers, shafts and other material in contact with water shall be of corrosion resistant metal. The pumps shall be suitable for pumping filtered water treated for human consumption.

The motor shall be completely protected against possible damage due to entry of water, dust etc. It shall be fitted with glands for the entry of PVC armored cables with overall PVC sheath. The completed cable connection to the motor terminal box shall be proof against ingress of water or dust.

The pump shall be mounted on concrete plinth which shall be constructed by the main contractor in accordance with specifications from the contractor.

Holes for holding down bolts shall be left in concrete and after the concrete has cured the pumps shall be placed in position and bolts grounded into position. A grout shall be floated under pump motor base to ensure an even surface for the pump to rest upon.

4.0 Electrical works

It shall be the responsibility of the contractor to provide all electrical wiring between all items of his contract works to ensure the correct functioning of his equipment. The contractor's electrical works shall start from electrical distribution board.

5.0 Control panel

The contractor shall provide an electric control panel and shall be responsible for its fixing and satisfactory operation. The panel shall be fabricated from minimum thickness of 1.2mm steel sheet and finished grey stoved enamel.

The panel shall be wall mounted with a removable hinged front access panel. Motor control switch gear shall be of approved type.

The panel shall have an integral isolator.

Pump changeover shall be automatic alternating after each duty cycle. A green 'running' red 'trip' lamp shall be provided for each pump. The control system (float switches etc) shall be energized when a pump is started.

The motor system shall be wired so that they operate only automatically as called for by the switches except that starter push button shall be connected so as to enable the pumps to be started and run and cease to run when the push button is allowed to its normal position.

An emergency stop button shall be located adjacent to each pump.

The level regulator shall be wired and set in such a manner that the duty pumps shall be called to start when the high-level tank is full.

The electrode in the low-level tank shall override instructions from high level regulator and stop when the water is approximately 600mm high.

Where a three-phase motor is used, a single phasing protector shall be provided if the motor does not have one.

A phase failure relay shall be installed in 3 phase – operated pumps. **6.0**

Testing

Testing shall be done by filling the tank with water after erection. The water will be from the local supply and the main contractor shall apply from the Authority for connection.

In cases where water is already on site and being used by the client, the contractor will make necessary arrangements and reimburse the client amount equivalent to volume of water used.

Testing shall be witnessed by the Project Manager or his representative.

7.0 Guarantee

The contractor shall guarantee the tanks against leaks, and the tower for a period of (12) months from the testing date. Any damage incurred due to bad workmanship shall be made good by the contractor.

8.0 SCHEDULES

Introduction

The tenderer shall complete all schedules. The schedules shall be read in conjunction with the specification. The GRAND TOTAL of prices in the main summary of prices schedule shall be deemed to have been included in another part of section.

Note: -

The list of recommended initial spare parts prices is to be submitted separately on tenderer's own paper. The spares prices are not to be included in the GRAND TOTAL or prices as the spares are an extra item only to be purchased if and when convenient to the Government of Kenya.

All prices shall be in Kenya shillings and shall be inclusive of all taxes and duties current at the time of tendering.

SECTION G

PARTICULAR SPECIFICATIONS

FOR

PLUMBING AND DRAINAGE

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

CLAUSE No.	DESCRIPTION	PAGE
3.1	General.....	G-1
3.2	Materials and standards.....	G-1
3.2.1	Pipework and Fittings.....	G-1
3.2.2	Valves.....	G-2
3.2.3	Waste Fitment Traps.....	G-3
3.2.4	Pipe Supports.....	G-3
3.2.5	Sanitary Appliances.....	G-6
3.2.6	Pipe Sleeves.....	G-6
3.3	Installation.....	G-5
3.3.1	General.....	G-5
3.3.2	Above Ground Installation.....	G-5
3.4	Testing Inspection.....	G-6
3.4.1	Site Tests – Pipework Systems.....	G-6
3.4.2	Site Test – Performance.....	G-7
3.5	Sterilisation of Hot and Cold Water System.....	G-7

PARTICULAR SPECIFICATIONS FOR PLUMBING AND DRAINAGE

3.1 GENERAL

This section specifies the general requirements for plant, equipment and materials forming part of the plumbing and drainage installations.

3.2 MATERIALS AND STANDARDS

3.2.1 Pipework and Fittings

Pipework materials are to be used as follows:

a) Galvanized Steel Pipework

Galvanized steel pipe work up to 65mm nominal bore shall be manufactured in accordance with B.S. 1387 Medium Grade, with tapered pipe threads in accordance with B.S. 21. All fittings shall be malleable iron and manufactured in accordance with B.S. 143.

Pipe joints shall be screwed and socketed and sufficient coupling unions shall be allowed so that fittings can be disconnected without cutting the pipe. Running nipples and long screws shall not be permitted unless exceptionally approved by the Engineer.

Galvanized steel pipe work, 80mm nominal bore up to 150mm nominal bore shall be manufactured to comply in all respects with the specification for 65mm pipe, except that screwed and bolted flanges shall replace unions and couplings for the jointing of pipes to valves and other items of plant. All flanges shall comply with the requirements of B.S.

10 to the relevant classifications contained hereinafter under Section 'C' of the Specification.

Galvanizing shall be carried out in accordance with the requirements of B.S. 1387 and B.S. 143 respectively.

b) **Copper Tubing**

All copper tubing shall be manufactured in accordance with B.S. 2871 from C.160 'Phosphorous De-oxidized Non-Arsenical Copper' in accordance with B.S. 1172.

Pipe joints shall be made with soldered capillary fittings and connections to equipment shall be with compression fittings manufactured in accordance with B.S. 864.

Short copper connection tubes between galvanized pipe work and sanitary fittings shall not be used because of the risk of galvanic action.

If, as may occur in certain circumstances, it is not possible to make the connection in any way than the use of copper tubing, then a brass straight connector shall be positioned between the galvanized pipe and the copper tube in order to prevent direct contact.

c) **P.V.C. (Hard) Pressure Pipes and Fittings**

All P.V.C. pipes and fittings shall be manufactured in accordance with B.S. 3505: 1968.

Jointing

The method of jointing to be employed shall be that of solvent welding, using the pipe and manufacturer's approved cement. Seal ring joint shall be introduced where it is necessary to accommodate thermal expansion.

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used. Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

d) **A.B.S. Waste System**

Where indicated on the Drawings and Schedules, the Contractor shall supply and fix A.B.S. waste pipes and fittings.

The pipes, traps and fittings shall be in accordance with the relevant British Standards, including B.S. 3943, and fixed generally in accordance with manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding, the manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding. The manufacturer's recommended method of joint preparation and fixing shall be followed.

Standard brackets, as supplied for use with this system, shall be used wherever possible. Where the building structure renders this

impracticable the Contractor shall provide purpose made supports, centers of which shall not exceed one meter.

Expansion joints shall be provided as indicated. Supporting brackets and pipe clips shall be fixed on each side of these joints.

e) **PVC Soil System**

The Contractor shall supply and fix PVC soil pipes and fittings as indicated on the Drawings and Schedules.

Pipes and fittings shall be in accordance with relevant British Standards, including B.S. 4514 and fixed to the manufacturer's instructions and B.S. 5572.

The soil system shall incorporate synthetic rubber gaskets as provided by the manufacturer whose fixing instructions shall be strictly adhere to.

Connections to WC pans shall be effected by the use of a WC connector, gasket and cover, fixed to suit pan outlet.

Suitable supporting brackets and pipe clips shall be provided at maximum of one metre centres.

The Contractor shall be responsible for the joint into the Gully Trap on Drain as indicated on the Drawings.

3.2.2 **Valves**

a) Draw-off Taps and Stop Valves (Up to 50mm Nominal Bore)

Draw-off taps and valves up to 50mm nominal bore, unless otherwise stated or specified for attachment or connection to sanitary fitment shall be manufactured in accordance with the requirements of B.S.1010.

b) Gate Valves

All gate valves 80mm nominal bore and above, other than those required for fitting to buried water mains shall be of cast iron construction, in accordance with the requirements of B.S. 3464. All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S.1218.

All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S. 1952. The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

c) Globe Valves

All globe valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S.3061. The pressure classification of all globe valves shall depend upon the pressure conditions pertaining to the site of works.

3.2.3 **Waste Fitment Traps**

a) Standard and Deep Seal P & S Traps

Where standard or deep seal traps are specified they shall be manufactured in suitable non-ferrous materials in accordance with the full requirements of B.S. 1184.

In certain circumstances, cast iron traps may be required for cast iron baths and in these instances bath traps shall be provided which are manufactured in accordance with the full requirements of B.S.1291.

b) Anti-Syphon Traps

Where anti-syphon traps are specified, these shall be similar or equal to the range of traps manufactured by Greenwood and Hughes Limited, Deacon Works Littlehampton, Sussex, England.

The trade name for traps manufactured by this company is 'Grevak'.

3.2.4 Pipe Supports

a) General

This sub-clause deals with pipe supports securing pipes to the structure of buildings for above ground application.

The variety and type of support shall be kept to a minimum and their design shall be such as to facilitate quick and secure fixings to metal, concrete, masonry or wood.

Consideration shall be given, when designing supports, to the maintenance of desired pipe falls and the restraining of pipe movements to a longitudinal axial direction only.

The Contractor shall supply and install all steelwork forming part of the pipe support assemblies and shall be responsible for making good damage to builders work associated with the pipe support installation.

The Contractor shall submit all his proposals for pipe supports to the Engineer for approval before any erection works commence.

b) Steel and Copper Pipes and Tubes

Pipe runs shall be secured by clips connected to pipe angles, wall brackets, or trapeze type supports. 'U' bolts shall not be used as a substitute for pipe clips without the prior approval of the Engineer.

An approximate guide to the maximum permissible supports spacing in metres for steel and copper pipe and tube is given in the following table for horizontal runs.

Size Nominal Bores	Copper Tube to B.S. 659	Steel Tube to B.S. 1387
15mm	1.25m	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
32mm	2.5m	3.0m
40mm	2.5m	3.0m
50mm	2.5m	3.0m
65mm	3.0m	3.5m
80mm	3.0m	3.5m
100mm	3.0m	4.0m
125mm	3.0m	4.5m
150mm	3.5m	4.5m

The support spacing for vertical runs shall not exceed one and a half times the distances given for horizontal runs.

The Contractor shall submit all his proposals for pipe supports to the Engineer for approval before any erection works commence.

c) Expansion Joints and Anchors

Where practicable, cold pipework systems shall be arranged with sufficient bends and changes of direction to absorb pipe expansion providing that the pipe stresses are contained within the working limits prescribed in the relevant B.S. specification.

Where piping anchors are supplied, they shall be fixed to the main structure only. Details of all anchor design proposals shall be submitted to the Engineer for approval before erection commences.

The Contractor when arranging his piping shall ensure that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.

The Contractor shall supply flexible joints to prevent vibrations and other movements being transmitted from pumps to piping systems or vice versa.

3.2.5 **Sanitary Appliances**

All sanitary appliances supplied and installed as part of the Sub-contract works shall comply with the general requirements of B.S. Code of Practice 305 and the particular requirements of the latest B.S.

Specifications.

3.2.6 **Pipe Sleeves**

Main runs of pipework are to be fitted with sleeves where they pass through walls and floors. Generally the sleeves shall be of P.V.C. except where they pass through the structure, where they shall be mild steel. The sleeves shall have 6mm – 12mm clearance all around the pipe or for insulated pipework all around the installation. The sleeve will then be packed with slag wool or similar.

3.3 **INSTALLATION**

3.3.1 **General**

Installation of all pipework, valves, fittings and equipment shall be carried out under adequate supervision from skilled staff to the relevant codes and standards as specified herein. The Contractor shall be responsible to the Main Contractor for ensuring that all builders work associated with his piping installation is carried out in a satisfactory manner to the approval of the Engineer.

3.3.2 **Above Ground Installation**

a) Water Services

Before any joint is made, the pipes shall be hung in their supports and adjusted to ensure that the joining faces are parallel and any falls which shall be required are achieved without springing the pipe.

Where falls are not shown on the Contract Drawings or stated elsewhere in the Specification, pipework shall be installed parallel to the lines of the buildings and as close to the walls, ceilings, columns, etc., as is practicable.

All water systems shall be provided with sufficient drain points and automatic air vents to enable them to function correctly.

Valves and other user equipment shall be installed with adequate access for operation and maintenance. Where valves and other operational equipment are unavoidably installed beyond normal reach or in such position as to be difficult to reach from a small step ladder, extension spindles with floor or wall pedestals shall be provided.

Screwed piping shall be installed with sufficient number of unions to facilitate easy removal of valves and fittings, and to enable alterations of pipework to be carried out without the need to cut the pipe.

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe movements are not transmitted to valves, equipment or plant.

All screwed joints to piping and fittings shall be made with P.T.F.E. tape.

The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time. A general leakage of 4.5 litres per 25mm of diameter, per 1.6 kilometres per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

b) Sanitary Services

Soil, waste and vent pipe system shall be installed in accordance with the best standard of modern practice as described in B.S. 5572 to the approval of the Engineer.

The Contractor shall be responsible for ensuring that all ground waste fittings are discharged to a gully trap before passing to the sewer via a manhole.

The Contractor shall provide all necessary rodding and inspection facilities within the draining system in positions where easy accessibility is available.

Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.

The vent stacks shall terminate above roof level and where stack passes through roof, a weather skirt shall be provided. The Contractor shall be responsible for sealing the roof after installation of the stacks.

The open end of each stack shall be fitted with a plastic coated or galvanised steel wire guard.

Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

All sanitary appliances associated with the Sub-contract works shall be installed in accordance with the best standard of modern practice as described in C.P. 305 to the approval of the Engineer.

3.4 TESTING AND INSPECTION

3.4.1 Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure.

If preferred, the Contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer. During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Contractor and the section re-tested.

The Contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be repaired or replaced at the Contractor's expenses.

b) Above Ground Soil Waste and Ventilation System

All soil, waste and ventilating pipe system forming part of the above ground installation, shall be given appropriate test procedures as described in B.S. 5572, 1972.

Smoke tests on above ground soil, waste and ventilating pipe system shall not be permitted.

Pressure tests shall be carried out before any work which is to be concealed is finally enclosed.

In all respects, tests shall comply with the requirements of B.S. 5572.

3.4.2 **Site Test – Performance**

Following satisfactory pressure test on the pipework system operational tests shall be carried out in accordance with the relevant B. S. Code of practice on the systems as a whole to establish that special valves, gauges, control, fittings, equipment and plant are functioning correctly to the satisfaction of the Engineer.

All hot water pipework shall be installed with pre-formed fibre glass lagging to a thickness of 25mm where the pipe runs above a false ceiling or in areas where the ambient temperature is higher than normal with the result that pipe "sweating", due to condensation will cause nuisance.

All lagged pipes which run in a visible position after erection shall be given a canvas cover and prepared for painting as follows:

- i) Apply a coating of suitable filler until the canvas weave disappears and allow to dry.
- ii) Apply two coats of an approved paint and finish in suitable gloss enamel to colors approved by the Engineer.

All lagging for cold and hot water pipes erected in crawlways, ducts and above false ceiling which after erection are not visible from the corridors of rooms, shall be covered with a reinforced aluminium foil finish banded in colours to be approved by the Engineer.

In all respects, unless otherwise stated, the hot and cold water installation shall be carried out in accordance with the best standard of modern practice and described in C.P.342 and C.P.310 respectively to the approval of the Engineer.

The test pressure shall be applied by means of a manually operated test pump or, in the case of long main or mains of large diameter, by a power driven test pump which shall not be left unattended. In either case precaution shall be taken to ensure that the required pressure is not exceeded.

Pressure gauges should be recalibrated before the tests.

The Contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

The test pressure shall be one and a half times the maximum working pressure except where a pipe is manufactured from a material for which the relevant B.S. specification designates a maximum test pressure.

3.5 **STERILISATION OF COLD WATER SYSTEM**

All water distribution system shall be thoroughly sterilised and flushed out after the completion of all tests and before being fully commissioned for handover.

The sterilisation procedures shall be carried out by the Contractor in accordance with the requirements of B.S. Code of Practice 301, Clause 409 and to the approval of the Engineer.

SECTION H:

**SPECIFICATION FOR PIPES AND ASSOCIATED
ACCESSOIRES Polypropylene Pipes –Random copolymer (PP-R) Type**

3

PP-R pipework shall be manufactured in accordance with ISO 15874-1 or manufactured in accordance with DIN 8077 and DIN 8078.

Joining

The method of joining to be employed shall be that of fusion welding using the pipe and manufacturer's approved equipment.

And fittings to be in accordance DIN 16962.

The threaded connections shall conform to BS EN 10226-1 or ISO 7-1.

Dimensions and quality of PP-R Pipes shall be as follows:

Nominal Diameter	Approx. Wall Thickness (Minimum and Maximum)				Inner Diameter (mm)	
	SDR 7.4		SDR 6		SDR 7.4	SDR 6
	PN 16		PN 20		PN 16	PN 20
DN (OD)	Min	Max	Min	Max		
20	2.80	3.30	3.40	4.00	13.90	12.60

25	3.50	4.10	4.20	4.90	17.40	15.90
32	4.40	5.10	5.40	6.20	22.50	20.40
40	5.50	6.30	6.70	7.60	28.20	25.70
50	6.90	7.80	8.30	9.40	35.30	32.30
63	8.60	9.70	10.50	11.80	44.70	40.70
75	10.30	11.60	12.50	14.00	53.10	48.50
90	12.30	13.80	15.00	16.70	63.90	58.30
110	15.10	16.90	18.30	20.40	78.00	71.30
125	17.10	19.10	20.80	23.10	88.80	81.10
140	19.20	21.40	23.30	25.90	99.40	90.80
160	21.90	24.30	26.60	29.50	113.80	103.90

Fusion guideline shall be as follows:

Pipe Diameter(mm)	Minimum wall thickness (mm)	Insert depth (mm)	Heating time (sec)	Jointing time (sec)	Cooling time (sec)
20	3, 4	14	6	4	2
25	4, 2	16	7	4	3
32	5, 4	18	8	6	4
40	6, 7	20	12	6	4
50	8, 4	23	18	6	5
63	10, 5	26	25	8	6
75	12, 5	28	30	8	8
90	15, 0	31	40	10	8
110	18, 4	33	50	10	8

Galvanised Mild Steel Pipe Work and Associated Accessories

Galvanized steel pipework up to 65mm nominal bore shall be manufactured in accordance with KS 06.366, EN 10255, Class B/Medium, with tapered pipe threads in accordance with BS EN 10226-1 or ISO 7-1.

All fittings shall be made of galvanised malleable iron and manufactured in accordance with KS 06-885:1995 or EN 10255.

Galvanized steel pipe work from 80mm nominal bore up to 150mm nominal bore shall be manufactured to comply in all respects with the specification for 65mm pipe, except that screwed and bolted flanges shall replace unions and couplings for the jointing of pipes to valves and other items of plant.

Specifications for galvanized mild steel pipe work to be as follows:

Nominal bore		Outside diameter	Thickness		Mass	
		Medium/ Heavy	Medium	Heavy	Medium	Heavy
in	mm	mm	mm	mm	kg/m	kg/m
1/4	8	13.90	2.30	2.90	0.641	0.765
3/8	10	17.40	2.30	2.90	0.839	1.020
1/2	15	21.70	2.60	3.20	1.210	1.440
3/4	20	27.20	2.60	3.20	1.560	1.870
1	25	34.20	3.20	4.00	2.410	2.940
1 1/4	32	42.90	3.20	4.00	3.100	3.800
1 1/2	40	48.80	3.20	4.00	3.570	4.380

2	50	60.80	3.60	4.50	5.030	6.190
2 1/2	65	76.60	3.60	4.50	6.430	7.930
3	80	89.50	4.00	5.00	8.370	10.300
4	100	114.90	4.50	5.40	12.200	14.500
5	125	140.60	5.00	5.40	16.600	17.900
6	150	166.10	5.00	5.40	19.700	21.300

Poly-vinyl Chloride (CPVC) Pipes and Fittings

All CPVC pressure pipes and fittings shall be as manufactured in accordance with ASTM F 441/F441M or DIN 8079/8080 or EN ISO 15877, KS06-478-2:1993 (B.S. 3505: 1968).

Jointing

The method of jointing to be employed shall be that of solvent welding, using the pipe and manufacturer's approved cement. Seal ring joint shall be introduced where it is necessary to accommodate thermal expansion. This shall be in accordance to ASTM F438 and ASTM F439

The threaded connections shall conform to ASTM F437 or BS EN 10226-1 or ISO 7-1.

The specification for chlorinated polyvinyl chloride (CPVC) pipe made for water distribution shall be as follows:

ASTM F441/F441M

Nominal Size	Mean Outside Diameter (mm)		WALL THICKNESS (MM) & PRESSURE RATING (PSI)							
			Schedule 40				Schedule 80			
inch	Min	Max	Min	Ma x	PSI		Min	Ma x	PSI	
					23° C	82° C			23° C	82° C
1/2	21.20	21.20	2.77	3.28	600	150	3.73	4.24	850	210

3/4	26.60	26.60	2.87	3.28	480	120	3.91	4.42	690	170
1	33.27	33.27	3.38	3.89	450	110	4.55	5.08	630	155
1 1/4	42.07	42.07	3.56	4.06	370	90	4.85	5.44	520	130
1 1/2	48.15	48.15	3.68	4.19	330	80	5.08	5.69	470	155
2	60.15	60.15	3.91	4.42	280	70	5.54	6.20	400	100
2 1/2	72.82	72.82	5.91	5.77	300	75	7.01	7.85	420	105
3	88.70	88.70	5.49	6.15	260	65	7.85	8.53	370	90
4	114.0 7	114.0 7	6.02	6.73	220	55	8.56	9.58	320	80
6	168.0 2	168.0 2	7.11	7.97	180	45	10.9 7	12.2 9	280	70
8	218.6 2	218.6 2	8.18	9.17	160	40	12.7	14.2 2	250	60

DIN 8079/8080

Nominal Size	Mean Outside Diameter (mm)		WALL THICKNESS (MM) & PRESSURE RATING (BAR)			
			SDR 13.6		SDR 11	
mm	Min	Max	(16 Bar)/PN 16		(20 Bar)/PN 20	
			Min	Max	Min	Max
20	20.0	20.2	1.5	1.9	1.9	2.3
25	25.0	54.2	1.9	2.3	2.3	2.8
32	32.0	32.2	2.4	2.9	2.9	3.4
40	40.0	40.2	3.0	3.5	3.7	4.3
50	50.0	50.2	3.7	4.3	4.6	5.3
63	63.0	63.2	4.7	5.4	5.8	6.6
75	75.0	75.3	5.6	6.4	6.8	7.7
90	90.0	90.3	6.7	7.6	8.2	9.3
110	110.0	110.3	8.1	9.2	10.0	11.2
125	125.0	125.3	9.2	10.4	11.4	12.8
140	140.0	140.4	10.3	11.6	12.7	14.2
160	160.0	160.4	11.8	13.2	14.6	16.3

The pipe to be made out high quality material with high impact resistance, chemical resistance, good thermal qualities, low flame spread and low smoke generation.

SECTION I:

BILLS OF QUANTITIES

AND

SCHEDULE OF UNIT RATES

SECTION I:

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

CONTENTS

<u>CLAUSE No.</u>	<u>PAGE</u>
5.01 GENERAL NOTES TO TENDERERS	I-1
5.02 STATEMENT OF COMPLIANCE	I-2
5.03 BILLS OF QUANTITIES	I-3 to I-16
5.04 SUMMARY PAGE	I-17
5.05 SCHEDULE OF UNIT RATES	I-18

5.01 SPECIAL NOTES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (**including 14% VAT**).

In accordance with Government policy, **3% Withholding Tax shall be deducted** from all payments made to the Tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA)**.

3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part thereof.
4. The brief descriptions of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the contractor shall adhere. Otherwise alternative brands of **equal** quality will be accepted.

Should the contractor install any material not specified here in before receiving **written approval** from the Project Manager, the contractor shall remove the material in question and, **at his own cost**, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.

Tenderers must enclose, together with their submitted tenders, detailed manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

5.02 STATEMENT OF COMPLIANCE

- a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.
- b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed:*for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

5.03 BILLS OF QUANTITIES

A) PRICING OF PRELIMINARIES ITEMS.

Prices will be inserted against item of preliminaries in the contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections: -

a. Preliminaries – Bill 1

Contractor's preliminaries are as per those described in section C – contractor preliminaries and conditions of contractor. The contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer has been limited to tangible items such as site office, temporary works and others. However, the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

b. Installation Items – Other Bills

- i. The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
- ii. The unit of measurements and observations are as per those described in clause 3.05 of the section

c. Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contract shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

BILL No. 1 PRELIMINARIES

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
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1	Discrepancies clause 1.02				
2	Conditions of sub-contract Agreement clause 1.03				
3	Payments clause 1.04				
4	Site location clause 1.06				
5	Scope of Contract Works clause 1.08				
6	Extent of the Contractor's Duties clause 1.09				
7	Firm price contract clause 1.12				
8	Variation clause 1.13				
9	Prime cost and provisional sum clause 1.14 (insert profit and attendance which is a percentage of expended PC or provisional sum.)				
10	Bond clause 1.15				
11	Government Legislation and Regulations clause 1.16				
12	Import Duty and Value Added Tax clause 1.17 (Note this clause applies for materials supplied only. VAT will also be paid by the contractor as allowed in the summary page)				
13	Insurance company Fees clause 1.18				
14	Provision of services by the Main contractor clause 1.19				
15	Samples and Materials Generally clause 1.21				
SUB-TOTAL CARRIED TO PAGE..... I -6					

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
16	Supplies clause 1.20				
17	Bills of Quantities clause 1.23				
18	Contractor's Office in Kenya clause 1.24				
19	Builder's Work clause 1.25				
20	Setting to work and Regulating system clause 1.29				
21	Identification of plant components clause 1.30				
22	Working Drawings clause 1.32				
23	Record Drawings (As Installed) and Instructions clause 1.33				
24	Maintenance Manual clause 1.34				
25	Hand over clause 1.35				
26	Painting clause 1.36				
27	Testing and Inspection – manufactured plant clause 1.38				
28	Testing and Inspection – Installation clause 1.39				
29	Storage of Materials clause 1.41				
30	Initial Maintenance clause 1.42				

SUB-TOTAL CARRIED TO PAGE..... I-6	
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ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
31	Attendance Upon Tradesmen, etc. (Insert percentage only) clause 1.58				
32	Local and other Authorities notices and fees clause 1.60				
33	Temporary Works clause 1.63				
34	Patent Rights clause 1.64				
35	Mobilization and Demobilization Clause 1.65				
36	Extended Preliminaries Clause 1.66(see appendix on page C- 17)				
37	Supervision by Engineer and Site Meetings Clause 1.67	1	Item	1,200,000	1,200,000.00
38	Allow for profit, taxes and Attendance for the above				
39	Sum for Clerk of Works on site				
40	Amendment to Scope of Sub-contract Works Clause 1.68				
41	Contractor Obligation and Employers Obligation clause 1.69(see appendix page C- 18)				
42	Any other preliminaries; Allow a sum of for professional development for staff training in the State Department for Public Works	1	Item	200,000	200,000.00
Subtotal above					

Sub-total brought forward from page..... I-4	
Sub-total brought forward from page..... I-5	
TOTAL FOR BILL NO. 1- PRELIMINARIES CARRIED FORWARD TO PRICE MAIN SUMMARY PAGE..... I-17	

Bill No. 2: Borehole Drilling

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<u>NB: All measurements are provisional and are subject to remeasurements once on site.</u>				
	<u>Hydrological Survey</u>				
A	Allow sum for conduction of Hydrological survey and development of Report.	1	Item		
	<u>Drilling Permit</u>				
B	Allow for application and acquisition of permit for drilling from relevant authorities before commencing the works (Note: No payments to be made before the permit is acquired and submitted to the Engineer).	1	Item		
	<u>Mobilization/Demobilization</u>				
C	Mobilization/demobilization of drilling unit, equipment materials, personnel and all other required supplies. This shall include erecting/dismantling of drilling unit.	1	Item		
	<u>Allow for:</u>				
D	(a) Supply of water and drilling fluids for drilling operations and field camp	1	Item		
E	(b) Allow for site and access route clearance	1	Item		
	<u>Drilling</u>				
F	Drilling of 254mm diameter borehole from the surface through all types of loose formations until a stable formation is encountered, including disposal of excavated material, taking any remedial measures to overcome caving-in, or over drilling to accommodate sloughed material and keeping drilling records as specified.	20	Lm		
G	Drilling of 225mm diameter borehole from stable formation upto 100m from the surface through all types of stable strata, including disposal of excavated material, taking any remedial measures to overcome caving-in, or over drilling to accommodate sloughed material and keeping drilling records as specified.	80	Lm		
H	Ditto but from 101-200m below surface.	100	Lm		
I	Ditto but from 201-300m below surface.	1	Lm		
J	Ditto but from 301-350m below surface.	1	Lm		
Sub-total carried forward to the Borehole Drilling collection page..... I-10					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
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	<u>Allow for:</u>				
A	(a) Reaming and boring	10	Lm		
B	(b) Supply, install and retain 254mm diameter temporary casing	10	Lm		
	<u>Drill Cutting Samples</u>				
C	Allow for taking of drill cuttings samples at two (2) meters intervals.	1	Item		
	<u>Casing</u>				
D	Supply and install of 152mm diameter plain steel (class B) casing into the borehole	200	Lm		
E	Supply and installation of 152mm diameter slotted steel (class B) casing at appointed intervals of the borehole	100	Lm		
	<u>Case Grouting</u>				
F	Grout between the casing and the borehole for the top ten (10) meters.	1	Item		
	<u>Gravel Pack</u>				
G	Supply and install 2-4mm inert quartz gravel pack in the annular space between the borehole and the casing.	7	Ton		
	<u>Well Development</u>				
H	Physical and chemical development of the borehole including inserting and removal of development equipment	12	Hrs		
	<u>Constant Discharge Test</u>				
I	Undertake a constant discharge test to ascertain borehole yield for at least 24 hours including installation and withdrawal of pumping unit and recovery measurements.	1	Item		
	<u>Water Level Observation</u>				
J	Undertake water level observation and record recovery	12	Hrs		
	<u>Borehole Sterilisation</u>				
K	Carry out borehole Sterilisation	1	Item		
Sub-total carried forward to the Borehole Drilling collection page.....					
I-10					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<u>Bacteriological and Chemical Analysis</u>				

A	Allow for taking of samples, conduction of bacteriological and chemical analyses of the borehole water and development of the completion report.	1	Item	
<u>Borehole cap and Plinth</u>				
B	Supply and install a 152mm diameter borehole cap and construction of concrete(1:3:6) plinth size 1.0mx1.0mx1.0m around the well head.	1	Item	
<u>Making Good</u>				
C	Reinstate and make good the area surrounding the borehole on completion of drilling works.	1	Item	
D	Allow a 3mm steel cable for securing the pump in position after installation. The cable shall be galvanised and corrosion free to allow for removal of pump if the supply pipe has been damaged	300	Lm.	
E	Borehole inspection camera as directed by the Engineer	1	Item	

Sub-total carried forward to the Borehole Drilling collection page..... I-10				
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Bill No. 2: Borehole Drilling Collection Page

Item	Description	Amount (Kshs)
A	Sub-total b/f from Page..... I-7	

B	Sub-total b/f from Page..... I-8	
C	Sub-total b/f from Page..... I-9	
Total for Borehole Drilling Works carried forward to the Main Summary Page..... I-17		

Bill No. 3: Borehole Equipping

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<u>Borehole Pump</u>				
A	Supply and install centrifugal multistage submersible borehole pump, continuously rated and capable of pumping 8m³/hr of water against a total head of 280m . The entire pump-set body, impellers, shaft etc shall be made of heavy duty stainless steel material and shall be complete with submersible cable, level controls and their cabling. The pump shall have inbuilt non-return valve, tail strainer and cable guard. The pump shall be suitable for 3- phase 415V. The pump shall be as ' GRUNDFOS SP17-27 ' or equal and approved with a maximum assembly diameter of 130mm.	1	Item		
B	Supply and install a control panel to be mounted off the wall. The control panel shall allow automatic duty operation of the pump with manual switch override. The panel to have an isolator switch indicator, indicator lights for pump status, ammeter, voltmeter, hour meter and main switch and power available light indication for the panel. The panel to also have, among other items, but not limited to: over and under voltage protection, phase failure, overload relays, connections for tank and borehole level controls, and volt free contacts for remote indication all housed in a stove baked enamel painted cabinet mounted on wall and with a plastic envelope sheathed circuit wiring diagram locked in the cabinet to approval. The panel to be as ' Dayliff ' or approved equivalent.	1	Item		
	<u>Level Control Electrodes</u>				
C	Level Control and dry run protection electrodes for the borehole complete with cabling, interconnections and connections to the control panel	1	Lot		

D	Level Control electrodes for the storage tank complete with cabling and associated accessories. Cabling	1	Lot		
E	6mm ² 4-core PVC round hardened PVC submersible electric cable. Waterproof.	300	Lm		
F	6mm ² 4-core armoured underground electric cable to control panel	150	Lm		
Sub-total carried forward to the Borehole Equipping collection page..... I-14					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	2.5mm ² 4-core PVC round hardened PVC electrode cables waterproof.	300	Lm		
B	2.5mm ² 4-core armoured underground electrode cables to control panel	150	Lm		
C	2.5mm ² 4-core PVC/SWA/PVC cable from control panel to water tanks.	100	Lm		
Termination/Junction Box					
D	Supply and install an IP67 rated junction for termination of submersible pump and level control cables from the borehole and the armoured cables from the control panel	1	Item		
Ducts					
E	25mm diameter heavy gauge PVC ducts at roads crossing.	50	Lm		
Excavation					
F	Excavate trench 300mm wide and 500mm deep to lay cables. The laid cables to be covered with 50mm thick layer of fine soil, covered with tiles as 'Hatari' then back filled, rammed and excess soil carted away.	150	Lm		
Well Head					
G	Supply and install a well head comprising a test tap, pressure gauges, sockets for services as 'Grundfos' well discharge head to approval. Borehole Protection Cover	1	Item		
H	Supply and install a galvanised lockable borehole protection cover size 750 x 750 x 400mm complete with two (2 No.) heavy duty stainless steel padlocks.	1	Item		
Observation Pipe					
I	Supply and install 40mm diameter galvanised steel water pipe (observation pipe), Class C.	300	Lm		
Water Meter					

J	Supply and install high quality pressure gauge as Kent or equivalent range 0-7kgf/cm ² complete with accessories for mounting on galvanised pipe.	1	No		
Sub-total carried forward to the Borehole Equipping collection page..... I-14					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<u>Water Pipe</u>				
A	Supply and install 50mm diameter rising main GMS water pipe upto the water tank, Class C.	300	Lm		
B	50mm diameter GMS bend	12	No		
C	50mm diameter GMS socket	50	No		
	<u>Excavation</u>				
D	Excavate trench 300mm wide and 500mm deep to lay plumbing pipes. The laid pipes to be covered with 50mm thick layers of fine soil, back filled, rammed and excess soil carted away.	150	Lm		
	<u>Valves</u>				
E	Supply and install 50mm diameter single orifice air valve, complete with pipe mounting accessories as ' Glenfield '.	2	No.		
F	50mm diameter gate valve as ' Pegler ' or approved equivalent	2	No		
G	50mm diameter non-return valve as ' Pegler ' or approved equivalent.	2	No		
H	<u>Valve Chamber</u> Standard precast concrete valve chamber of size 450 x 450 x 450mm deep made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal.	2	No		
I	Allow for 3-phase electric power to conduct the necessary tests for the borehole equipment on site.	1	Item		
J	Allow for testing and commissioning of the entire borehole installation to approval	1	Item		
K	Allow for preparation and submission of operation and maintenance manuals including all circuit diagrams for the installations to be submitted in 3 copies all to approval.	1	Item		

L	Any other item necessary to complete the works (please specify).				
Sub-total carried forward to the Borehole Equipping collection page..... G-14					

Bill No. 3: Borehole Equipping Collection Page

Item	Description	Amount (Kshs)
A	Sub-total b/f from Page..... I-11	
B	Sub-total b/f from Page..... I-12	
C	Sub-total b/f from Page..... I-13	
Total for Borehole Equipping Works carried forward to the Main Summary Page..... I-17		

Bill No.3: Low Level Water Tanks

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p><u>LOW LEVEL WATER TANKS</u></p> <p><u>Low Level Water Tank</u></p> <p>Low level water storage tank as "Braithwaite" or equal made of 6mm thick pressed, hot-dipgalvanised mild steel sectional plates of size 1220mm x 1220mm. Free board capacity of tank to be 640,113Litres of preferred dimensions 13,420 x 13,420 by 3,660mm high. All pipe connections namely: supply inlet pipe, outlet pipe, overflow pipe, tank washout, warning pipe to be in place. The tank to be complete with:</p> <ul style="list-style-type: none"> - 1 No. Highly visible Water Level Indicator - 2 No. Lockable, hinged Steel Cover Manhole - 1 No. internal Ladder - Appropriate float valve chamber - 1 No. External Ladder to ground Level with safety cage - Pitched dustproof and weatherproof tank cover made of hot-dip galvanised 3mm thick steel sheets capable of withstanding loading imposed by the maintenance personnel. - All necessary cleats, stays, braces, rafters and reinforcements - All necessary bolts, nuts, washers, sealing and insulation material. <p>The tank to come accompanied by 9 No., 4mm thick, 50mm wide flate plate 8,200mm long for laying above the qwarf walls before tank placement.</p> <p>Tank connections include 50mm inlet, 75mm outlet, 100mm overflow, 100mm washout, 100mm hydrant outlet</p>	1	Item		
<p>Total for low level water tank carried forward to main summary page I-17</p>					

FOUNDATION WORKS FOR LOW LEVEL WATER TANKS

ITEM	DESCRIPTION	UNIT	QTY	RATE	Amount Kshs.
	Excavations				
A	Excavate for strip footing starting from stripped level not exceeding 1.80 metres deep.	CM	450		
B	Allow for keeping excavations free from mud and all water including springs and running water by pumping ,bailing or other approved means	ITEM	4000		
	Disposal and Filling				
C	Cart away from site surplus material around foundations	CM	337		
D	Approved hardcore bed in making up levels well compacted	CM	68		
	Concrete				
E	50 mm thick concrete blinding under foundations. (mix 1:4:8)	SM	13		
	In situ Vibrated Reinforced Concrete: (mix 1:1.5:3) grade 20 (20mm aggregate):in-				
F	Foundation Strip Footing	CM	54		
G	Bearers	CM	215		
	High yield square twisted bar reinforcement to BS 4449; including bends, hooks, binding wire, distance blocks and spacers supporting all in position.				
	Strip Footing				
H	12 mm diameter	Kg	1432		
I	10 mm diameter	Kg	729		
	Bearers				
J	10 mm diameter	Kg	12918		
K	8 mm diameter	Kg	0		
	Steel Plate				

L	10mm Plate	Kg	118		
	Sawn formworks				
M	Sides of foundations bases, Columns, Beams, Slabs	SM	2260		
Total for foundation works carried forward to main summary page I-17					

SUMMARY PAGE

Item	Description	Amount (Ksh)
1	Preliminaries Bill No. 1 on page I-6	
2	Total for borehole drilling works on page I-10	
3	Total for borehole equipping works on page I-14	
4	Total for low level water tank on page I-15	
5	Total for foundation works on page I-16	
6	A provisional sum for project stationery	50,000.00
7	A provisional sum to carry out water treatment works	7,000,000.00
8	A provision for unforeseen work that will be carried out once authorised variations have been issued	1,000,000.00
Total amount for the installation carried to form of tender		

Amount in words

.....

Tenderer's Name and Stamp

Address

Period To Execute The Works

Telephone No Mobile

Phone No.

Tenderer's V.A.T No

Tenderer's P.I.N No
.....

Tenderer's Signature Date.....

Witness Signature Date.....

SCHEDULE OF UNIT RATES

ITEM	DESCRIPTION	UNIT	RATE (Kshs)
1.	110mm PPR pipe	LM	
2.	75mm PPR pipe	LM	
3.	63mm PPR pipe	LM	
4.	50mm PPR pipe	LM	
5.	40mm PPR pipe	LM	
6.	25mm PPR pipe	LM	
7.	Water tanks 24,0000 litres	No.	
8.	Water tanks 10,000 litres	No.	
9.	50mm gate valve	No.	
10.	110mm gate valve	No.	
11.	110mm HDPE bend	No.	
12.	110mm HDPE Tee	No.	
13.	110mm HDPE pipe	No.	
14.	65mm HDPE pipe	No.	
15.	Booster pump 5 cum/hr. And its controls and control panel	Set	

SECTION J:

**TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED
CONTENTS**

<u>CLAUSE No.</u>	<u>PAGE</u>
1. TABLE OF CONTENTS.....	(i)
2. GENERAL NOTES TO THE TENDERER.....	J-1
3. TECHNICAL SCHEDULE.....	J-2
4. MAINTENANCE SERVICE	J-3
5. APPENDIX A	J-4
6. APPENDIX B	J-5
7. APPENDIX C	J-6

General Notes to the Tenderer

- 1.1The tenderer shall submit technical schedules for all materials and equipment upon which he has based his tender sum.
- 1.2The tenderer shall also submit separate comprehensive descriptive and performance details for all plant apparatus and fittings described in the technical schedules. Manufacturer's literature shall be accepted. Failure to comply with this may have his tender disqualified.
- 1.3Completion of the technical schedule shall not relieve the Contractor from complying with the requirements of the specifications except as may be approved by the Engineer.

TECHNICAL SCHEDULE

The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer **MUST SUBMIT** comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule (fill forms attached).

ITEM	DESCRIPTION	MANUFACTURER	COUNTRY OF ORIGIN	REMARKS (Catalogue No. etc.)
1	Borehole pump			
2	Galvanised steel plates 6mm thick 1220 mm x 1220 mm			
3	Borehole camera			

--	--	--	--	--

Catalogue must be attached for all the items in the schedule of material above

MAINTENANCE SERVICE

FULL-SERVICE MAINTENANCE DURING 60 MONTHS AFTER DEFECTS LIABILITY PERIOD

1.1The tenderer is advised to note that their price shall be used in the evaluation of the tenders.

1.2The tenderer shall price for both labour and consumables (materials) during the 60 months' full-service period in appendix A of this section. The price shall be for supply, installation, testing and commissioning including all taxes applicable at the time of tender.

- 1.3The tenderer shall list and price the consumables/spares/materials to be used during the 60 months' full-service period in appendix B of this section. The price shall be for supply, installation, testing and commissioning including all taxes applicable at the time of tender.
- 1.4The tenderer shall list and price the consumables/spares/materials to be used during the 60 months' full-service period. This list is to be comprehensive as possible and shall include major spares as cards, fan motors etc. The price shall be for supply, installation, testing and commissioning including all taxes applicable at the time of tender. These are spare parts that are not required during normal routine maintenance and shall only be paid for as and when replaced. The tenderer shall give the details of these spare parts in appendix C of this section.
- 1.5The tenderer is required to read clause 1.41 on page C-16 while completing this section.
- 1.6The tenderer must fill all the prices and rates in the appendixes A, B, and C of this section. Failure to do so shall lead to disqualification.

APPENDIX A

PRICE FOR FULL NORMAL ROUTINE MAINTENANCE DURING 60 MONTHS AFTER DEFECTS LIABILITY PERIOD

ITEM	DESCRIPTION	Kshs.	Cts.
A	Labour costs per month		
B	Material costs for spare parts (consumables) per month – see Appendix C of this section		
Sub-total for one (1No.) month maintenance after the defect’s liability period (Not to be carried to form of tender)			
Grand total for 60 months maintenance after the defect’s liability period (Not to be carried to form of tender)			

Signed by the Tenderer:

Official stamp:

Date:

APPENDIX C

PRICE BREAKDOWN OF SPARES/CONSUMABLES TO BE USED DURING 60 MONTHS AFTER DEFECTS LIABILITY MAINTENANCE PERIOD (ATTACHMENTS ARE ALLOWED IF THE LIST IS LONG)

Note: the price total in this appendix C should tally with the grand price total in appendix A of this section

ITEM	DESCRIPTION	Unit	Qty	Amount in Kshs.
Grand total (Not to be carried to form of tender)				

Signed by the Tenderer:

Official stamp:

Date:

SECTION K:

DRAWING SCHEDULE

CONTENTS

<u>CLAUSE No.</u>	<u>PAGE</u>
1. DRAWING SCHEDULE.....	K-1

DRAWING SCHEDULE:

As shall be provided during project implementation.

K-1

SECTION L:

STANDARD FORMS

CONTENTS

<u>FORM</u>	<u>PAGE</u>
1. PERFORMANCE BANK GUARANTEE.....	L-1
2. TENDER QUESTIONNAIRE.....	L-2
3. CONFIDENTIAL BUSINESS QUESTIONNAIRE.....	L-3
4. KEY PERSONNEL.....	L-5
5. CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS....	L-6
6 SCHEDULE OF ON-GOING PROJECTS.....	L-7
7 FINANCIAL REPORTS FOR THE LAST FIVE YEARS	L-8
8 EVIDENCE OF FINANCIAL RESOURCES.....	L-9
9 NAME OF THE BANKERS.....	L-10
10 DETAILS OF LITIGATIONS OR ARBITRATION PROCEEDINGS	L-11
11 SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED FOR CARRYING OUT THE WORKS..... 12	L-
12 FORM OF AGREEMENT..... 13	L-

NOTE: ALL FORMS IN THIS SECTION MUST BE FILLED AS THEY SHALL BE PART OF THE EVALUATION CRITERIA

PERFORMANCE BANK GUARANTEE

To: THE DIRECTOR GENERAL
NATIONAL INDUSTRIAL TRAINING AUTHORITY,
P.O. Box 74494-00200
NAIROBI.

Dear Sir,

WHEREAS (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. dated to execute (hereinafter called "the Works");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified 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

TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of Tenderer:

.....

2. Full address of Tenderer to which tender correspondence is to be sent (unless an agent has been appointed below):

.....

3. Telephone number (s) of Tenderer:

.....

4. Telex/Fax Address of Tenderer:

.....

5. Name of Tenderer's representative to be contacted on matters of the tender during the tender period:

.....

6. Details of Tenderer's nominated agent (if any) to receive tender notices. This is essential if the Tenderer does not have his registered address in Kenya (name, address, telephone, telex):

.....

.....

Signature of Tenderer

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 (2d) 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:

Kenya Shillings.....

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:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details</i>	<i>Shares</i>
1.

- 2.
- 3.
- 4.

Part 2(c) – Registered Company

Private or Public

State the nominal and issued capita of the company:

Nominal KShs.

Issued KShs.

Give details of all directors as follows:

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

Part 2(d) Interest in the Firm:

Is there any person/persons in the employment of the Government of Kenya WHO has interest in this firm? Yes/No (Delete as necessary)

I certify that the above information is correct.

.....

 Title Signature
 Date

* Attach proof of citizenship

KEY PERSONNEL

Qualifications and experience of key personnel proposed for administration and execution of the Contract.

POSITION	NAME	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

I certify that the above information is correct.

.....
Title

.....
Signature

.....
Date

CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature and volume over the last five years.

<u>PROJECT NAME</u>	<u>NAME OF CLIENT</u>	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

.....
Title

.....
Signature

.....
Date

SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.

PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETI ON DATE

I certify that the above works are currently being carried out by ourselves.

.....
Title

.....
Signature

.....
Date

FINANCIAL REPORTS FOR THE LAST FIVE YEARS
(Balance sheets, Profits and Loss Statements, Auditor's reports, etc.
List below and attach copies)

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.
7. _____.
8. _____.
9. _____.
10. _____.

**EVIDENCE OF FINANCIAL RESOURCES TO MEET QUALIFICATION
REQUIREMENTS**

(Cash in Hand, Lines of credit, e.t.c. List below and attach copies of supportive documents.)

1. . _____ .
2. . _____ .
3. . _____ .
4. . _____ .
5. . _____ .
6. . _____ .
7. . _____ .
8. . _____ .
9. . _____ .
- 10 . _____ .

NAME, ADDRESS AND TELEPHONE, TELEX AND FACSIMILE OF BANKS
(This should be for banks that may provide reference if contacted by the employer)

NAME	ADDRESS	TELEPHONE	TELEX	FACSIMILE

--	--	--	--	--

**DETAILS OF LITIGATIONS OR ARBITRATION PROCEEDINGS IN WHICH THE
TENDERER IS INVOLVED AS ONE OF THE PARTIES**

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.
7. _____.
8. _____.
9. _____.
10. _____.

**SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED
FOR CARRYING OUT THE WORKS**

ITEM OF EQUIPMENT	DESCRIPTION, MAKE AND AGE (Years)	CONDITION (New, good, poor) and number available	OWNED, LEASED (From whom?), or to be purchased (From whom?)

FORM OF AGREEMENT

THIS AGREEMENT, Made the _____ day of _____

Between **Government of Kenya (The Director General, National Industrial Training Authority)** of (or whose registered office is situated at) **Nairobi** (herein after called “the Employer”) of the one part AND of (or whose registered office is situated at _____ (herein after called “the Contractor”) of the other part.

WHEREAS THE Employer is desirous that the Contractor executes

_____ (Name and identification number of contract) (herein after called “the Works”) located at (place/location of the Works) and the

Employer has appointed **THE CHIEF ENGINEER MECHANICAL (BS), State Department for Public Works** of (or whose registered office is situated at) **NAIROBI** as the **PROJECT MANAGER** for the purposes thereof and has accepted the tender submitted by the Contractor for the execution and completion of the said works and the remedying of any defects therein in the sum of Kshs. _____ (amount in figures) Kenya Shillings

_____ (amount in words) (herein after called “the Contract price”).

NOW THAT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as _____ respectively assigned to them in the conditions of Contract herein after referred to.
2. The following documents shall be deemed to form and shall be read and _____ construed as part of this Agreement i.e.
 - (i) Letter of acceptance
 - (ii) Form of Tender
 - (iii) Conditions of Contract
 - (iv) Specifications
 - (v) Priced Bills of Quantities
 - (vi) Drawings
 - (vii) Appendix to conditions of contract
3. In consideration of the payments to be made by the Employer to the Contractor as herein mentioned, the contractor hereby covenants with the Employer to execute and complete the Works and any defects therein in conformity in all respects with the provision of the contract.

4. The Employer hereby covenants to pay the contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract price or such other

sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first written.

The common Seal of

Was hereunto affixed in the presence of _____

Signed, Sealed and Delivered by the said _____ -

Binding Signature of Employer _____

Binding Signature of Contractor _____

In the presence of

(i) Name _____

Address _____

Signature _____

Date _____

(ii) Name _____

Address _____

Signature_____

Date_____