



TANA WATER WORKS DEVELOPMENT AGENCY

DRILLING, DEVELOPMENT AND TEST PUMPING OF LARGE DIAMETER BOREHOLE AT TIMAU (RESERVED FOR FIRMS OWNED BY YOUTHS)

TENDER NO: TWWDA/T/017/2022-2023

TENDER DOCUMENTS

CLOSING DATE: 15th February 2023

TIME: 10.00 AM.

Employer

Tana Water Works Development
Agency
P. O. Box 1292 – 10100
NYERI



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ABBREVIATIONS AND ACRONYMS

CDS	Contract Data Sheet
GCC	General Conditions of Contract
IFT	Invitation for Tender
ITT	Instruction to Tenderers
PE	Procuring Entity
PM	Project Manager
PPADA 2015	Public Procurement and Asset Disposal Act, 2015
PPADR 2020	Public Procurement and Asset Disposal Regulations, 2020
PPRA	Public Procurement Regulatory Authority
STD	Standard Tender Documents
SOR	Statement of Requirements
SP	Service Provider
TDS	Tender Data Sheet
VAT	Value Added Tax



INTRODUCTION

- 1.1 Procurement for works under public-financed projects is carried out in accordance with policies and procedures laid down in The Public Procurement and Asset Disposal Act, 2015.
- 1.2 This Standard Bidding Document (SBD) for procurement of works has been prepared for use by the Procuring Entities in Kenya in the procurement of Works through Restricted Competitive Tendering (RCB) procedures and is reserved for construction firms owned by **YOUTHS**;
- 1.3 This SBD is mandatory for use in works contracts of a value not exceeding KShs.30 million, as defined in The Public Procurement and Asset Disposal Act, 2015.
- 1.4 The following guidelines should be observed when using the document:
 - (i). Specific details should be furnished in the Invitation for Tenders and in the Contract Data Sheet (where applicable). The Tender document issued to Tenderers should not have blank spaces or options;
 - (ii). The Instructions to Tenderers and the General Conditions of Contract should remain unchanged. Any necessary amendments to these parts should be made through the Tender Data Sheet and Contract Data Sheet respectively;
 - (iii). Information contained in the Invitation for Tenders shall conform to the data and information in the Tender documents to enable prospective Tenderers to decide whether or not to participate in the Tender and shall indicate any important Tender requirements;
 - (iv). The Invitation for Tenders shall be as an advertisement in accordance with the regulations or a letter of invitation addressed to Tenderers who have been prequalified following a request for pre-qualification.
- 1.5 The cover of the document shall be modified to include:
 - a. Tender number;
 - b. Tender name;
 - c. Name of Procuring Entity;

SECTION I: INVITATION FOR TENDERS (IFT)

1. Tana Water Works Development Agency (TWWDA) has funds for the **Drilling, Development and Test Pumping of Large Diameter Borehole at Timau during FY 2022/2023**. It is intended that part of the proceeds of the fund will be used to cover eligible payments under the contract for the named works.
2. TWWDA, the Procuring Entity now invites sealed Tenders from eligible contractors (**firms owned by YOUTHS**) registered with NCA 7 and above under the **construction works**.
3. Tendering will be conducted through the **Restricted** tender procedures specified in the Public Procurement and Asset Disposal Act, 2015, and is open to all Tenderers as defined in the Regulations. All **Firms owned by YOUTHS** in this category of works/service/s are encouraged to tender for the works whereof their bids shall be accorded appropriate consideration in accordance with the procurement laws.
4. Interested eligible Tenderers may obtain further information from and inspect the Tendering Documents at the offices of the Tana Water Works Development Agency, Maji House, along Baden Powell Road, P.O. Box 1292-10100, Nyeri from 8.00 a.m. to 5.00 p.m. from Mondays to Thursdays and from 8:00 am to 4:00 pm on Fridays except on public holidays.
5. A complete set of Tender document (s) shall be emailed to all pre-qualified firms in this category and can also be obtained from TWWDA's Supply Chain Management Office during normal working hours upon payment of a non-refundable fee of Kshs1, 000 cash or Bankers Cheque.
6. Two (2) hard copies (one original and one copy) of tender documents must be submitted enclosed in a plain sealed envelope marked with the tender name and tender reference number, addressed to the **Chief Executive Officer, Tana Water Works Development Agency P.O. Box 1292 – 10100 Nyeri, Maji House, Baden Powell Road** and deposited in the **tender box at Tana Water Works Development Agency** at the reception, so as to be received on or before **Wednesday, 15th February 2023 at 10.00am**.
7. The Bids upon receipt SHALL be opened immediately thereafter in the presence of the interested bidders on **Wednesday, 15th February 2023 from 10.15 a.m.**
8. For further clarification, kindly use the email address indicated: ceo@tanawwda.go.ke.
9. Late or incomplete Tenders shall not be accepted.



SECTION II: INSTRUCTIONS TO TENDERERS (ITT)



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a) Introduction

- **Scope of Tender**
 - 1.1 The Procuring Entity indicated in the **Tender Data Sheet** (TDS) invites Tenders for the construction of works as specified in the **Tender Data Sheet** and VOL. II (Technical Specifications) and BOQ
 - 1.2 The successful Tenderer will be expected to complete the works by the required completion date specified in the **Tender Data Sheet**.
 - 1.3 The objectives of the works are listed in the **Tender Data Sheet**. These are mandatory requirements. Any subsequent detail is offered to support these objectives and must not be used to dilute their importance.
- **Source of Funds**
 - 2.1 The Government of Kenya has set aside funds for the use of the Procuring Entity named in the **Tender Data Sheet** during the Financial Year indicated in the **Tender Data Sheet**. It is intended that part of the proceeds of the funds will be applied to cover eligible payments under the contract for the works as described in the **Tender Data Sheet**.
 - 2.2 Payments will be made directly by the Procuring Entity (or by financing institution specified in the **Tender Data Sheet** upon request of the Procuring Entity to so pay) and will be subject in all respects to the terms and conditions of the resulting contract placed by the Procuring Entity.
- **Eligible Tenderers**
 - 3.1 A Tenderer may be a natural person, private or public company, government-owned institution, subject to sub-Clause 3.4 or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a joint venture, consortium, or association. In the case of a joint venture, consortium, or association, unless otherwise specified in the **Tender Data Sheet**, all parties shall be jointly and severally liable.
 - 3.2 The Invitation for Tenders is open to the pre-qualified suppliers as defined in the Public Procurement and Asset Disposal Act, 2015 and The Public Procurement and Asset Disposal Regulations, 2020 except as provided hereinafter.
 - 3.3 The Tenderers shall satisfy all relevant licensing and/or registration with the appropriate statutory bodies in Kenya, such as the Ministry of Water, Sanitation and Irrigation, Ministry of Public Works or the Energy Regulatory Commission.

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- 3.4** A Tenderer shall not have a conflict of interest. All Tenderers found to have a conflict of interest shall be disqualified. A Tenderer may be considered to have a conflict of interest with one or more parties in this Tendering process, if they:
- a) Are associated or have been associated in the past directly or indirectly with employees or agents of the Procuring Entity or a member of a board or committee of the Procuring Entity;
 - b) Are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Entity to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the works under this Invitation for Tenders;
 - c) Have controlling shareholders in common; or
 - d) Receive or have received any direct or indirect subsidy from any of them; or
 - e) Have the same legal representative for purposes of this Tender; or
 - f) Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Tender of another Tenderer, or influence the decisions of the Procuring Entity regarding this Tendering process; or
 - g) Submit more than one Tender in this Tendering process; however, this does not limit the participation of subcontractors in more than one Tender or as Tenderer and subcontractor simultaneously.
- 3.5** A Tenderer will be considered to have a conflict of interest if they participated as a consultant in the preparation of the design or technical specification of the project and related services that are the subject of the Tender.
- 3.6** Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Kenya in accordance with GCC sub-Clause 3.2.
- 3.7** Tenderers shall provide such evidence of their continued eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.

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- **One Tender per Tenderer**
 - 4.1 A firm shall submit only one Tender, in the same Tendering process, either individually as a Tenderer or as a partner in a joint venture pursuant to ITT Clause 5.
 - 4.2 No firm can be a subcontractor while submitting a Tender individually or as a partner of a joint venture in the same Tendering process.
 - 4.3 A firm, if acting in the capacity of subcontractor in any Tender, may participate in more than one Tender but only in that capacity.
 - 4.4 A Tenderer who submits or participates in more than one Tender (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the Tenders in which the Tenderer has participated to be disqualified.
 - **Alternative Tenders by Tenderers**
 - 5.1 Tenderers shall submit offers that comply with the requirements of the Tendering documents, including the basic Tenderer's technical design as indicated in the specifications and Drawings and Bill of Quantities. Alternatives will not be considered, unless specifically allowed for in the **Tender Data Sheet**. If so allowed, sub-Clause 5.2 and 5.3 shall govern.
 - 5.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **Tender Data Sheet** as will be the method of evaluating different times for completion.
 - 5.3 If so allowed in the **Tender Data Sheet**, Tenderers wishing to offer technical alternatives to the requirements of the Tendering documents must also submit a Tender that complies with the requirements of the Tendering documents, including the basic technical design as indicated in the specifications. In addition to submitting the basic Tender, the Tenderer shall provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, including technical specifications, breakdown of prices, and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Tenderer conforming to the basic technical requirements shall be considered by the Procuring Entity.
 - **Cost of Tendering**
 - 6.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

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- **Site Visit and Pre-Tender Meeting**
 - 7.1 The Tenderer, at the Tenderer's own responsibility and risk, is advised to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Tenderer's own expense.
 - 7.2 The Procuring Entity may conduct a site visit and a pre-Tender meeting. The purpose of the pre-Tender meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
 - 7.3 The Tenderer's designated representative is invited to attend a site visit and pre-tender meeting which, if convened, will take place at the venue and time stipulated in the **Tender Data Sheet**.
 - 7.4 The Tenderer is requested as far as possible, to submit any questions in writing or by electronic means to reach the procuring Entity before the pre-Tender meeting. It may not be practicable at the meeting to answer all questions, but questions and responses will be transmitted in accordance with sub-Clause 7.5.
 - 7.5 Minutes of the pre-tender meeting, including the text of the questions raised and the responses given together with any responses prepared after the pre-Tender meeting will be transmitted within the time stated in the **Tender Data Sheet** to all purchasers of the Tendering documents. Any modification of the Tendering documents listed in sub-Clause 8.1 that may become necessary as a result of the pre-tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT sub Clause 10.2 and not through the minutes of the pre-Tender meeting.
 - 7.6 Non-attendance during the site visit or pre-Tender meeting will not be a cause for disqualification of a Tenderer unless specified to the contrary in the **Tender Data Sheet**.

b) Tendering Documents

- **Content of Tendering Documents**
 - 8.1 The works required, Tendering procedures, and contract terms are prescribed in the Tendering Documents. In addition to Section I Invitation for Tenders, Tendering documents which should be read in conjunction with any addenda issued in accordance with ITT sub Clause 10.2 include:

Section I	Invitation for Tenders (IFT)
Section II	Instructions to Tenderers (ITT)
Section III	Tender Data Sheet
Section IV	Contract Data Sheet (CDS)
Section V	Tender Forms
	<ul style="list-style-type: none"> • Form of Tender • Appendix to Tender • Tender Securing Declaration • Confidential Business Questionnaire • Integrity Declaration • Anti-corruption Declaration commitment/Pledge • Tender Security (Bank Guarantee)
Section VI	Evaluation Criteria
Section VIII	Bill of Quantities
Volume I	General Conditions
Volume II	Technical Specification
Volume III	Application for Public Procurement Review Board
Volume IV	Drawings
Volume V	Letter of Acceptance
Volume VI	Form of Agreement
Volume VII	Performance Bank or Insurance Guarantee
Volume VIII	Advance Payment Guarantee

- 8.2** The number of copies to be completed and returned with the Tender is specified in the **Tender Data Sheet**.
- 8.3** The Invitation for Tenders (Section I) issued by the Procuring Entity is not part of the Tendering Documents and is included for reference purposes only. In case of discrepancies between the Invitation for Tenders and the Tendering Documents listed in sub-Clause 8.1 above, the said Tendering Documents will take precedence.
- 8.4** The Procuring Entity is not responsible for the completeness of the Tendering Documents and their addenda, if they were not obtained directly from the authorized staff of the Procuring Entity.
- 8.5** The Tenderer is expected to examine all instructions, forms, terms and specifications in the Tendering documents. Failure to furnish all information required by the Tendering Documents or to submit a Tender substantially responsive to the Tendering documents in every respect will be at the Tenderer's risk and may result in the rejection of its Tender.

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- **Clarification of Tendering Documents**
 - 9.1 A prospective Tenderer requiring any clarification of the Tendering documents may notify the Procuring Entity in writing, e-mail or facsimile at the Procuring Entity's address indicated in the **Tender Data Sheet**.
 - 9.2 The Procuring Entity will within the period stated in the **Tender Data Sheet** respond in writing to any request for clarification provided that such request is received not later than the period indicated in the **Tender Data Sheet** prior to the deadline for the submission of Tenders prescribed in sub-Clause 22.1.
 - 9.3 Copies of the procuring entity's response will be forwarded to all Purchasers of the Tendering documents, including a description of the inquiry, but without identifying its source.
 - 9.4 Should the Procuring Entity deem it necessary to amend the Tendering documents as a result of a clarification, it shall do so following the procedure under ITT Clause 10.
 - **Amendments of the Tendering Documents**
 - 10.1 Before the deadline for submission of Tenders, the Procuring Entity may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, modify the Tendering documents by issuing addenda.
 - 10.2 Any addendum issued shall be part of the Tender documents pursuant to sub-Clause 8.1 and shall be communicated in writing, by e-mail or facsimile to all who have obtained the Tendering documents directly from the Procuring Entity.
 - 10.3 In order to allow prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity at its discretion shall extend, as necessary, the deadline for submission of Tenders, in accordance with sub-Clause 22.2

c) Preparation of Tenders

- **Language of Tender**
 - 11.1 The Tender, and all correspondence and documents related to the Tender exchanged by the Tenderer and the Procuring Entity shall be written in the Tender language stipulated in the **Tender Data Sheet**. Supporting documents and printed literature furnished by the Tenderer may be in another language provided they are accompanied by an accurate translation of the relevant passages in the above stated language, in which case, for purposes of interpretation of the Tender, the translation shall prevail.

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- **Documents Constituting the Tender**

12.1 The Tender submitted by the Tenderer shall consist of the following components:

 - a) The Form of Tender (in the format indicated in Section IX) completed in accordance with ITT Clause 15, 16 and 17;
 - b) Information requested by Instructions to Tenderers ITT sub-Clause 13.2; 13.3 and 13.4;
 - c) Tender Security or Tender Securing Declaration in accordance with Instructions to Tenderers ITT Clause 19;
 - d) Priced Bill of Quantities;
 - e) Qualification Information Form and Documents;
 - f) Alternative offers where invited in accordance with Instructions to Tenderers ITT Clause 5;
 - g) Written confirmation authorizing the signatory of the Tender to commit the Tenderer in accordance with Instructions to Tenderers ITT sub Clause 19.2; and
 - h) And any information or other materials required for completing and submitting by Tenderers, as specified in the **Tender Data Sheet**.

 - **Documents Establishing Eligibility and Qualifications of the Tenderer**

13.1 Pursuant to ITT Clause 13, the Tenderer shall furnish, as part of its Tender, documents establishing the Tenderer's eligibility to Tender and its qualifications to perform the contract if its Tender is accepted.

13.2 In the event that pre-qualification of potential Tenderers has been undertaken, only Tenders from pre-qualified Tenderers will be considered for award of contract. These qualified Tenderers should submit their Tenders with any information updating the original pre-qualification applications or, alternatively, confirm in their Tenders that the originally submitted pre-qualification information remains essentially correct as of the date of Tender submission. The update or confirmation should be provided in Section IX.

13.3 If the Procuring Entity has not undertaken pre-qualification of potential Tenderers, to qualify for

award of the contract, Tenderers shall meet the minimum qualifying criteria specified in the **Tender Data Sheet**:

13.4 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated in the **Tender Data Sheet**:

- a) The Tender shall include all the information listed in the **Tender Data Sheet** pursuant to sub-Clause 13.3 above for each joint venture partner;
- b) The Tender shall be signed so as to be legally binding on all partners;
- c) One of the partners will 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;
- d) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of a joint venture and the entire execution of the Contract, including payment, shall be done exclusively with the partner in charge;
- e) 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 statement to this effect shall be included in the authorization mentioned under (c) above as well as in the Tender and in the Agreement (in case of a successful Tender); and
- f) A copy of the joint venture agreement entered into by all partner shall be submitted with the Tender. Alternatively, a Letter of Intent to execute a joint venture agreement in the event of a successful Tender shall be signed by all partners and submitted with the Tender, together with a copy of the proposed Agreement.
- g) The Tender Security and Tender Securing Declaration as stated in accordance with ITT Clause 19, and in case of a successful Tender, the Agreement, shall be signed so as to be legally binding on all partners.

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- **Lots Package**
 - 14.1** When Tendering for more than one contract under the lots arrangements, the Tenderer must provide evidence that it meets or exceeds the sum of all the individual requirements for the lots being tendered in regard to:
 - a) Average annual turnover;
 - b) Particular experience including key production rates;
 - c) Financial means, etc.;
 - d) Personnel capabilities; and
 - e) Equipment capabilities.
 - 14.2** In case the Tenderer fail to fully meet any of these criteria, it may be qualified only for those lots for which the Tenderer meets the above requirement.
 - **Form of Tender**
 - 15.1** The Tenderer shall fill the Form of Tender furnished in the Tendering Documents. The Form of Tender must be completed without any alterations to its format and no substitute shall be accepted.
 - **Tender Prices**
 - 16.1** The Contract shall be for the whole Works, as described in sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Tenderer.
 - 16.2** The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the Tenderer will not be paid for by the Procuring Entity when executed and shall be deemed covered by the other rates and prices in the Bill of quantities.
 - 16.3** All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 15 days prior to the deadline for submission of Tenders, shall be included in the rates, prices and total Tender price submitted by the Tenderer.
 - 16.4** The rates and prices quoted by the Tenderer shall be subject to adjustment during the performance of the Contract if provided for in the **Tender Data Sheet** and the provisions of the Conditions of Contract. The Tenderer shall submit with the Tender all the information required under the **Contract Data Sheet**.

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- **Tender Currencies**
 - 17.1** The unit rates and prices shall be quoted by the Tenderer in the currency as specified in the **Tender Data Sheet**.
 - 17.2** Tenderers shall indicate details of their expected foreign currency requirements in the Tender, if any. The rates of exchange to be used by the Tenderers in arriving at the local currency equivalent shall be the selling rates for similar transactions established by the authority specified in the **Tender Data Sheet** prevailing on the date 28 days prior to the latest deadline for submission of Tenders. These exchange rates shall apply for all payments so that no exchange risk will be borne by the Tenderer. In any case, payments will be computed using the rates quoted in the Tender.
 - 17.3** Tenderers may be required by the Procuring Entity to clarify their foreign currency requirements and to substantiate that the amounts included in the rates and prices and in the Contract Data Sheet are reasonable and responsive to sub-Clause 17.1.
 - **Tender Validity Period**
 - 18.1** Tenders shall remain valid for the period specified in the **Tender Data Sheet** after the Tender submission deadline prescribed by the Procuring Entity, pursuant to ITT Clause 22. A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.
 - 18.2** In exceptional circumstances, prior to expiry of the original Tender validity period, the Procuring Entity may request that the Tenderers extend the period of validity for a specified additional period. The request and the Tenderers' responses shall be made in writing or by cable. A Tenderer may refuse the request without forfeiting its Tender Security or causing to be executed its Tender Securing declaration. A Tenderer agreeing to the request will not be required or permitted to otherwise modify the Tender, but will be required to extend the validity of its Tender Security or Tender Securing declaration for the period of the extension, and in compliance with ITT Clause 19 in all respects.
 - 18.3** In the case of fixed price contracts, if the award is delayed by a period exceeding sixty (60) days beyond the expiry of the initial Tender validity period, the contract price will be increased by a factor specified in the request for extension. The Tender evaluation shall

be based on the Tender price without taking into consideration on the above correction.

- **Tender Security and Tender Securing Declaration**

19.1 Pursuant to ITT Clause 12, where required in the **Tender Data Sheet**, the Tenderer shall furnish as part of its Tender, a Tender Security in original form and in the amount and currency specified in the **Tender Data Sheet**.

A Tender Securing Declaration as specified in the **Tender Data Sheet** in the format provided in section X shall be provided as a mandatory requirement.

19.2 The Tender Security or Tender Securing Declaration is required to protect the Procuring Entity against the risk of Tenderer's conduct which would warrant the security's forfeiture, pursuant to ITT sub-Clause 19.9.

19.3 The Tender Security shall be denominated in the currency of the Tender and shall be in the following form:

a) A Bank Guarantee

19.4 The Tender Security shall be in accordance with the Form of the Tender Security included in Section X or another form approved by the Procuring Entity prior to the Tender submission.

19.5 The Tender Security shall be payable promptly upon written demand by the Procuring Entity in case any of the conditions listed in sub-Clause 19.8 are invoked.

19.6 Any Tender not accompanied by a Tender Security in accordance with sub-Clauses 19.1 or 19.3 shall be rejected by the Procuring Entity as non-responsive, pursuant to ITT Clause 28.

19.7 The Procuring Entity shall immediately release any Tender Security if:

a) The procuring proceedings are terminated;

b) The Procuring Entity determines that none of the submitted Tenders is responsive;

c) A contract for the procurement is entered into.

19.8 The Tender Security shall be forfeited and the Tender Securing Declaration executed if the Tenderer:

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- a) Withdraws its Tender after the deadline for submitting Tenders but before the expiry of the period during which Tenders must remain valid;
 - b) Rejects a correction of an arithmetic error pursuant to sub-Clause 29.2;
 - c) Refuse to enter into a written contract in accordance with ITT Clause 40;
 - d) Fails to furnish the Performance Security in accordance with ITT Clause 41.

19.9 The Tender Security and Tender Securing Declaration of a joint venture must be in the name of the joint venture submitting the Tender.

19.10 A Tenderer shall be suspended from being eligible for Tendering in any contract with the Procuring Entity for the period of time indicated in the Tender Securing Declaration:

- a) If the Tenderer withdraws its Tender, except as provided in ITT sub-Clauses 18.2 and 29.2; or
- b) In the case of a successful Tenderer, if the Tenderer fails within the specified time limit to:
 - (i) Sign the contract; or
 - (ii) Furnish the required Performance Security.

• **Format and Signing of Tender**

20.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT Clause 12 of these Instructions to Tenderers, with the Form of Tender, and clearly marked “**ORIGINAL**”. In addition, the Tenderer shall submit copies of the Tender, in the number specified in the **Tender Data Sheet**, and clearly marked as “**COPIES**”. In the event of discrepancy between them, the original shall prevail.

20.2 The original and all copies of the Tenders 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. This authorization shall consist of a written confirmation as specified in the **Tender Data Sheet** and shall be attached to the Tender. The name

and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender, except for un-amended printed literature, shall be initialled by the person or persons signing the Tender.

20.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialled by the person or persons signing the Tender.

20.4 The Tenderer shall furnish information as described in the Form of Tender on commissions or gratuities, if any, paid or to be paid to agents relating to this Tender and to contract execution if the Tenderer is awarded the contract

d) Submission of Tenders

- **Sealing and Marking of Tenders**

21.1 The Tenderer shall seal the original copy of the Tender in an envelope, duly marked as “**ORIGINAL**”. **A copy will also be submitted.** The envelopes shall then be sealed in an outer envelope securely sealed in such a manner that opening and resealing cannot be achieved undetected.

21.2 The inner and outer envelopes shall:

a) Be addressed to the Procuring Entity at the address given in the **Tender Data Sheet**; and

b) Bear the Project name indicated in the **Tender Data Sheet**, the Invitation for Tenders (IFB) title and number indicated in the **Tender Data Sheet**, and a statement: “**DO NOT OPEN BEFORE,**” to be completed with the time and the date specified in the **Tender Data Sheet**, pursuant to ITT sub-Clause 22.1.

21.3 In addition to the identification required in sub-Clause 21.2, the inner envelopes shall also indicate the name and address of the Tenderer to enable the Tender be returned unopened in case it is declared late, pursuant to sub-Clause 22.1 and for matching purpose under ITT Clause 23

21.4 If the outer envelope is not sealed and marked as required by ITT sub clause 21.2, the Procuring Entity shall assume no responsibility for misplacement or premature opening of the Tender.

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- **Deadline for Submission of Tenders**
 - 22.1 Tenders shall be received by the Procuring Entity at the address specified under ITT sub-Clause 21.2 no later than the date and time specified in the **Tender Data Sheet**.
 - 22.2 The Procuring Entity may, in exceptional circumstances and at its discretion, extend the deadline for the submission of Tenders by amending the Tendering documents in accordance with ITT Clause 9, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline will thereafter be subject to the new deadline.
 - 22.3 The extension of the deadline for submission of Tenders shall not be made later than the period specified in the **Tender Data Sheet** before the expiry of the original deadline.
 - **Late Tenders**
 - 23.1 The Procuring Entity shall not consider for evaluation any Tender that arrives after the deadline for submission of Tenders, in accordance with ITT Clause 22.
 - 23.2 Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected and returned unopened to the Tenderer
 - **Modification, Substitution and Withdrawal of Tenders**
 - 24.1 A Tenderer may modify or substitute or withdraw its Tender after it has been submitted, provided that written notice of the modification, including substitution or withdrawal of the Tender, is received by the Procuring Entity prior to the deadline prescribed for submission of Tenders prescribed under ITT sub-Clause 22.1.
 - 24.2 The Tenderer's modification or substitution or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITT Clauses 20 and 21 with the outer and inner envelopes additionally marked "**MODIFICATION**" or "**SUBSTITUTION**" or "**WITHDRAWAL**" as appropriate. The notice may also be sent by electronic mail and facsimile, but followed by a signed confirmation copy, postmarked no later than the deadline for submission of Tenders.
 - 24.3 No Tender may be withdrawn, replaced or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Tender Form. Withdrawal of a Tender during this interval shall result in the Tenderer's forfeiture of its Tender Security or execution

of Tender Securing Declaration, pursuant to the ITT sub-Clause 19.9.

24.4 Withdrawal of a Tender between the deadline for submission of Tenders and the expiration of the period of Tender validity specified in the **Tender Data Sheet** or as extended pursuant to sub-Clause 22.2 shall result in the forfeiture of the Tender Security and execution of Tender Securing Declaration pursuant to ITT sub-Clause 19.9.

24.5 Tenderers may only offer discounts to, or otherwise modify the prices of their Tenders by submitting Tender modifications in accordance with this Clause, or included in the original Tender submission.

e) Opening and Evaluation of Tenders

- **Opening of Tenders**

25.1 The Procuring Entity will open all Tenders including modifications, substitution or withdraw notices made pursuant to ITT Clause 24, in public, in the presence of Tenderers or their representatives who choose to attend and other parties with legitimate interest and Tender proceedings, at the place on the date and at time specified in the **Tender Data Sheet**. The Tenderers' representatives who are present shall sign a register as proof of their attendance.

25.2 Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Tenders for which an acceptable notice of withdrawal has been submitted pursuant to ITT Clause 24 shall not be opened but returned to the Tenderer. If the withdrawal envelope does not contain a copy of the "Power of Attorney" confirming the signature as a person duly authorized to sign on behalf of the Tenderer, the corresponding Tender will be opened. Subsequently, all envelopes marked "**MODIFICATION**" shall be opened and the submissions therein read out in appropriate detail. Thereafter all envelopes marked or "**SUBSTITUTION**" opened and the submissions therein read out in appropriate detail.

25.3 All other envelopes shall be opened one at a time. The Tenderers' names, the Tender prices, the total amount of each Tender and of any alternative Tender (if alternatives have been requested or permitted), any discounts, the presence or absence of Tender security, and such other details as the appropriate tender opening committee may consider appropriate, will be announced by the Secretary of the Tender Opening Committee at the opening.

25.4 Tenders or modifications that are not opened and not read out at Tender opening shall not be considered further for evaluation, irrespective of the circumstances. In particular, any discount offered by a Tenderer which is not read out at Tender opening shall not be considered further.

25.5 Tenderers are advised to send in a representative with the knowledge of the content of the Tender who shall verify the information read out from the submitted documents. Failure to send a representative or to point out any un-read information by the sent Tenderer's representative shall indemnify the Procuring Entity against any claim or failure to read out the correct information contained in the Tenderer's Tender.

25.6 No Tender will be rejected at Tender opening except for late Tenders which will be returned unopened to the Tenderer, pursuant to ITT Clause 23.

25.7 The Secretary of the appropriate tender opening committee shall prepare minutes of the Tender opening. The record of the Tender opening shall include, as a minimum: the name of the Tenderers and whether or not there is a withdrawal, substitution or modification, the Tender price per Lot if applicable, including any discounts and alternative offers and the presence or absence of a Tender Security or Tender Securing Declaration.

25.8 The Tenderers' representatives who are present shall be requested to sign the record. The omission of a Tenderer's signature on the record shall not invalidate the contents and affect the record.

25.9 A copy of the minutes of the Tender opening shall be furnished to individual Tenderers upon request.

- **Confidentiality**

26.1 Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a Contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced.

26.2 Any effort by a Tenderer to influence the Procuring Entity's processing of Tenders or award decisions may result in the rejection of his Tender.

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- 26.3** Notwithstanding sub-Clause 26.2, from the time of Tender opening to the time of Contract award, if any Tenderer wishes to contact the Procuring Entity on any matter related to the Tendering process, it should do so in writing.
- **Clarification of Tenders**
- 27.1** To assist in the examination, evaluation, comparison of Tenders and post-qualification of the Tenderer, the Procuring Entity may, at its discretion, ask a Tenderer for clarification of its Tender including breakdown of prices. Any clarification submitted by a Tenderer that is not in response to a request by the Procuring Entity shall not be considered.
- 27.2** The request for clarification and the response shall be in writing. No change in the prices or substance of the Tender shall be sought, offered, or permitted except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of Tenders in accordance with ITT Clause 29.
- 27.3** From the time of Tender opening to the time of Contract award if any Tenderer wishes to contact the Procuring Entity on any matter related to the Tender it should do so in writing.
- **Preliminary Examination of Tenders**
- 28.1** Prior to the detailed evaluation of Tenders, the Procuring Entity will determine whether:
- f) The Tender has been submitted in the required format;
 - g) Any Tender Security submitted is in the required form, amount and validity period;
 - h) The Tender has been signed by the person lawfully authorized to do so;
 - i) The required number of copies of the Tender have been submitted;
 - j) The Tender is valid for the period required;
 - k) All required documents and information have been submitted; and
 - l) Any required samples have been submitted.
- 28.2** The Procuring Entity will confirm that the documents and information specified under ITT Clause 12 and ITT

Clause 13 have been provided in the Tender. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Tenderers, the Tender shall be rejected.

28.3 The Procuring Entity may waive any minor informality, nonconformity, or irregularity in a Tender which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Tenderer

28.4 A substantially responsive Tender is one which conforms to all the terms, conditions, and specifications of the Tendering documents, without material deviation or reservation. A material deviation or reservation is one that:

- a) Affects in any substantial way the scope, quality, or execution of the Works;
- b) Limits in any substantial way, inconsistent with the Tendering documents, the Procuring Entity's rights or the Tenderer's obligations under the Contract; or
- c) If rectified, would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders.

28.5 If a Tender is not substantially responsive, it will be rejected by the Procuring Entity, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

- **Correction of Errors**

29.1 Tenders determined to be substantially responsive will be checked by the Procuring Entity for any arithmetic errors. Errors will be corrected by the Procuring Entity as follows:

- a) If there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Entity there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

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- b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - c) Where there is a discrepancy between the amounts in figures and in words, the amount in figures will govern.
 - 29.2** The amount stated in the Tender will, be adjusted by the Procuring Entity in accordance with the above procedure for the correction of errors and, with, the concurrence of the Tenderer, shall be considered as binding upon the Tenderer. If the Tenderer does not accept the corrected amount, its Tender will then be rejected, and the Tender Security may be forfeited and the Tender Securing Declaration may be executed in accordance with sub-Clause 19.9.
 - **Conversion to Single Currency**

30.1 To facilitate the evaluation and comparison, the Procuring Entity will convert all Tender prices expressed in the amounts in various currencies in which the Tender prices are payable to Kenya Shillings at the selling exchange rate established for similar transactions by the Central Bank of Kenya ruling on the date specified in the **Tender Data Sheet**.
 - **Comparison of Tenders**

31.1 The Procuring Entity shall evaluate and compare only the Tenders determined to be substantially responsive in accordance with ITT Clause 28.

31.2 In evaluating the Tenders, the Procuring Entity will determine for each Tender the evaluated Tender price by adjusting the Tender price as follows:
 Making any correction for errors pursuant to ITT Clause 29;
 Excluding provisional sums and the provision, if any for contingencies in the Bill of Quantities, but including Day work , where priced competitively ; and
 Making appropriate adjustments to reflect discounts or other price modifications offered in accordance with sub-Clause 24.5.

31.3 The Procuring Entity may waive any minor informality or non-conformity, which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative standing of any Tenderer. Variations, deviations, and alternative offers and other factors, which are in excess of the requirements of the Tendering documents or otherwise result in unsolicited benefits for

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- the Procuring Entity will not be taken into account in Tender evaluation.
- **National Preference**
 - 32.1 In the evaluation of Tenders the Procuring Entity shall apply exclusive preference to citizens of Kenya where:
 - a) The funding is 100% from the Government of Kenya or a Kenyan body;
 - b) The amounts are below the prescribed threshold of KShs.30 million;
 - 32.2 To qualify for the preference the candidate shall provide evidence of eligibility by:
 - a) Proving Kenyan citizenship by production of a Kenyan Identity Card; or
 - b) Providing proof of being a “citizen contractor” in terms of section 3(1) of the Act, i.e. being a natural person or an incorporated company wholly owned and controlled by persons who are citizens of Kenya.
 - 32.3 The Minister of Finance may prescribe additional preference and/or reservation schemes, for example for procurements above these thresholds. If such additional preference schemes apply, details will be given in the **Tender Data Sheet**.
 - **Determination of the Lowest Evaluated Tender**
 - 33.1 The Tender with the lowest evaluated price from among those which are eligible, compliant and substantially responsive shall be the lowest evaluated Tender.
 - **Post-qualification of Tenderer**
 - 34.1 If specified in the **Tender Data Sheet**, post-qualification shall be undertaken.
 - 34.2 The Procuring Entity will determine to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated responsive Tender is qualified to perform the contract satisfactorily, in accordance with the criteria listed in sub-Clause 13.3.
 - 34.3 The determination will take into account the Tenderer’s financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Tenderer’s qualifications submitted by the Tenderer, pursuant to sub-Clause 13.3, as well as such other information as the Procuring Entity deems necessary and appropriate. Factors not included in these Tendering

documents shall not be used in the evaluation of the Tenderer's qualifications.

- 34.4** An affirmative determination will be a prerequisite for award of the contract to the Tenderer. A negative determination will result in rejection of the Tenderer's Tender, in which event the Procuring Entity will proceed to the next lowest evaluated Tender to make a similar determination of that Tenderer's capabilities to perform satisfactorily.

m) Award of Contract

- **Criteria of Award**

35.1 Subject to ITT Clause 35 and 36, the Procuring Entity will award the Contract to the Tenderer whose Tender has been determined to be substantially responsive to the Tendering documents and who has offered the lowest Evaluated Tender Price, provided that such Tenderer has been determined to be:

- a) Eligible in accordance with the provisions of ITT Clause 3;
- b) Is determined to be qualified to perform the Contract satisfactorily;
- c) Successful negotiations have been concluded.

35.2 If, pursuant to sub-Clause 14.1, this Contract is being awarded on a "lot and package" basis, the lowest evaluated Tender price will be determined when evaluating this Contract in conjunction with other Contracts to be awarded concurrently, taking into account any discounts offered by the Tenderer for award of more than one Contract.

- **Clarifications**

36.1 Clarifications may be undertaken with the lowest evaluated Tenderer relating to the following areas:

- a) A minor alteration to the technical details of the statement of requirements;
- b) Reduction of quantities for budgetary reasons, where the reduction is in excess of any provided for in the Tendering documents;

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- c) A minor amendment to the Contract Data Sheet;
 - d) Finalizing payment arrangements;
 - e) Mobilization arrangements;
 - f) Agreeing final delivery or work schedule to accommodate any changes required by the Procuring Entity;
 - g) The methodology or staffing; or
 - h) Clarifying details that were not apparent or could not be finalized at the time of Tendering.
 - 36.2** Clarifications shall not change the substance of the tender.
 - Procuring Entity's Right to accept any Tender and to Reject any or all Tenders**

 - 37.1** Notwithstanding ITT Clause 35, the Procuring Entity reserves the right to accept or reject any Tender, and to cancel the Tendering process and reject all Tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers.
 - 37.2** Notice of the rejection of all Tenders shall be given promptly within 14 days to all Contractors that have submitted Tenders.
 - 37.3** The Procuring Entity shall upon request communicate to any Tenderer the grounds for its rejection of its Tenders, but is not required to justify those grounds.
 - Procuring Entities Right to Vary Quantities at the Time of Award**

 - 38.1** The Procuring Entity reserves the right at the time of contract award to increase or decrease the quantity of goods or related services originally specified in these Tendering documents (schedule of requirements) provided this does not exceed by the percentage indicated in the **Tender Data Sheet**, without any change in unit price or other terms and conditions of the Tender and Tendering documents.
 - Notification of Award**

 - 39.1** The Tenderer whose Tender has been accepted will be notified of the award by the Procuring Entity prior to expiration of the Tender validity period by e-mail or facsimile confirmed by

registered letter. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") will state the sum that the Procuring Entity will pay the Contractor in consideration of the provision and maintenance of the Work(s) as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

39.2 The notification of award will constitute the formation of the Contract, subject to the Tenderer furnishing the Performance Security in accordance with ITT Clause 41 and signing the Contract in accordance with sub-Clause 40.2

39.3 At the same time as the person submitting the successful Tender is notified, the Procuring Entity will notify each unsuccessful Tenderer, the name of the successful Tenderer and the Contract amount and will discharge the Tender Security and Tender Securing Declaration of the Tenderer pursuant to ITT sub Clause 19.7.

39.4 If, after notification of award, a Tenderer wishes to ascertain the grounds on which it's Tender or application for pre-qualification was unsuccessful, it should address its request to the secretary of the Tender Committee that authorized the award of contract. The secretary of the Tender Committee shall, within fourteen days after a request, provide written reasons as to why the Tender, proposal or application to be pre-qualified was unsuccessful. However, failure to take this opportunity to clarify the grounds for rejection does not affect the Tenderer's right to seek immediate review by the Public Procurement Administrative Review Board under Clause 45.

- **Signing of Contract**

40.1 Promptly, and in no case later than 14 days, after notification and acceptance of award, Procuring Entity shall send the successful Tenderer the Agreement and Contract Data Sheet, incorporating all agreements between the parties obtained as a result of Contract negotiations;

40.2 Within the period specified in the notification or Tender Data Sheet but not earlier than fourteen (14) days since notification of award of contract and acceptance thereof, the successful Tenderer

shall sign and date the contract and return it to the Procuring Entity;

40.3 The signing of the Contract shall be made only after the successful tenderer has submitted the performance security as specified.

- **Performance Security**

41.1 Within thirty (30) days but after 14 days after receipt of the Letter of Acceptance, the successful Tenderer shall deliver to the Procuring Entity a Performance Security in the amount and in the form stipulated in the **Tender Data Sheet** and the Contract Data Sheet, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.

41.2 If the Performance Security is provided by the successful Tenderer in the form of a Bank Guarantee or Insurance Bond, it shall be issued either:

- a) At the Tenderer's option, by a bank or insurance firm located in Kenya, or a foreign bank or insurance firm through a correspondent bank or insurance firm located in Kenya;
- b) With the consent of the Procuring entity, directly by a foreign bank acceptable to the Procuring entity.

41.3 Failure of the successful Tenderer to comply with the requirement of sub-Clause 41.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security, in which event the Procuring Entity may make the award to the next lowest evaluated Tenderer or call for new Tenders.

- **Advance Payment**

42.1 Advance payment is not applicable in this Contract.

- **Adjudicator**

43.1 The Procuring Entity proposes the person named in the Tender Data Sheet to be appointed as Adjudicator under the Contract, at an hourly fee specified in the **Tender Data Sheet**, plus reimbursable expenses. If the Tenderer disagrees with this proposal, the Tenderer should so state in

the Tender. If, in the Letter of Acceptance, the Procuring Entity has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by the Appointing Authority designated in the Contract Data Sheet at the request of either party.

n) Review of Procurement Decisions

- **Right to Review**
 - 44.1** A Tenderer who claims to have suffered or risk suffering, loss or damage or injury as a result of breach of a duty imposed on a Procuring Entity or an Approving Authority by the Public Procurement and Asset Disposal Act, 2015 and The Public Procurement and Asset Disposal Regulations, 2020, the procurement proceedings or processes, may seek administrative review as prescribed by the Act. The following matters, however, shall not be subject to the administrative review:
 - a) The choice of procurement method;
 - b) a decision by the Procuring Entity to reject all Tenders, proposals or quotations;
 - c) Where a contract is signed in accordance to Section 68 of the Public Procurement and Asset Disposal Act, 2015;
 - d) Where an appeal is frivolous.
- **Time Limit on Review**
 - 45.1** The Tenderer shall submit an application for review in the number of copies and pay fees as prescribed by The Public Procurement and Asset Disposal Regulations, 2020 within fourteen (14) days of the time the Tenderer became or should have become aware of the circumstances giving rise to the complaint or dispute.
- **Submission of Applications for Review by the Public Procurement Administrative Review Board**
 - 46.1** Any application for administrative review shall be submitted in writing to the Secretary, Public Procurement Administrative Review Board on Form RB 1 at the address shown in the **Tender Data Sheet**. The secretary to the review board shall immediately after filing of the request, serve a copy thereof on the Procuring Entity or Director-General as the case may be.

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- 46.2** The application for administrative review shall be in accordance with the requirements of Regulation 73 of the Public Procurement and Asset Disposal Regulations, 2020, including:
- a) Reasons for the complaint, including any alleged breach of the Act or Regulations;
 - b) An explanation of how the provisions of the Act and or Regulation has been breached or omitted, including the dates and name of the responsible public officer, where known;
 - c) Statements or other evidence supporting the complaint where available as the applicant considers necessary in support of its request;
 - d) Remedies sought;
 - e) Any other information relevant to the complaint.
- **Decision by the Public Procurement Administrative Review Board**
- 47.1** The Administrative Review Board shall within thirty (30) days after receipt of an application for administrative review deliver a written decision which shall indicate:
- a) Annuling anything the Procuring Entity has done in the procurement proceedings, including annulling the procurement proceedings in their entirety;
 - b) Giving directions to the Procuring Entity with respect to anything to be done or redone in the procurement proceedings;
 - c) Substituting the decision of the Review Board for any decision of the Procuring Entity in the procurement proceedings;
 - d) Order the payment of costs between parties to the review.
- 47.2** The decision made by the Review Board shall, be final and binding on the parties unless judicial review thereof commences within fourteen (14) days from the date of the Review Board's decision.

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- **Appeal on the decision of the Review Board**
- 48.1** Any party to the review aggrieved by the decision of the Review Board may appeal to the High Court and the decision of the High Court shall be final.



SECTION III: TENDER DATA SHEET



Tender Data Sheet (TDS)

Instructions to Tenderers Clause Reference

TDS Reference Number	ITT Clause Number	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers
A. Introduction		
1.	1.1	The Procuring Entity is Tana Water Works Development Agency
2.	1.1	Name of Project: DRILLING, DEVELOPMENT AND TEST PUMPING OF 1No. LARGE DIAMETER BOREHOLE AT TIMAU (RESERVED FOR FIRMS OWNED BY YOUTHS)
3.	1.2	The expected completion date of the works is: 30 days (1 month) from commencement date.
4.	1.3	The Objectives of the Project is Exploitation of Ground Water to increase access to safe water to Timau area
5.	2.1	Name of financing institution: Government of Kenya Name of the Procuring Entity: Tana Water Works Development Agency Financial Year: 2022-2023 Description of works under the contract: Description of works under the contract: 1) Drilling and casing, 2) Development. 3) Test pumping.
6.	3.1	This is a Restricted Tender and Contractors are required to have valid registration with the Ministry of Water, Irrigation and Sanitation as Borehole Drilling/Equipping Contractors, National Construction Authority
7.	5.1	Alternative Tenders: Not allowed in this Tender.
8.	5.2	Alternative time for completion: N/A
9.	5.3	Technical Alternatives: N/A
10	7.3	Pre-Tender site meeting will take place at the site on Thursday, 2nd February 2023 at 9.30 a.m. The place of converging shall be at Maritati Police Post in Maritati Market, Timau
11.	7.5	The minutes of the pre-Tender meeting will be transmitted within 3 days

12.	7.6	Non-attendance at the pre-tender meeting will result in disqualification
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B. Tendering Documents		
13.	8.2	The number of copies to be completed and returned with the Tender is One (1) Original and One (1) Copy.
14.	9.1	Address for clarification of Tender Document is: Manager Supply Chain Management, Tana Water Works Development Agency, Maji House, Baden Powell Road, P.O. Box 1292 – 10100 Nyeri, Kenya; Telephone +061 2032282 or 0724259891 Email: ceo@tanawwda.go.ke
15.	9.2	Period to Respond to request for clarification by TWWDA: 2 days. Period Prior to deadline for submission of Tenders for Tenderers' request for clarification: 7 days.

C. Preparation of Tenders		
16.	11.1	Language of Tender and all correspondence shall be in English.

17.	13.3	<p>Other information or materials required to be completed and submitted by the Tenderers and of which will form the</p> <p>EVALUATION CRITERIA:</p> <p><u>A. Mandatory Requirements</u></p> <p>a) Form of Bid MUST be duly filled, stamped and signed by an authorized person and any Cancellations in the Form of Bid MUST be countersigned</p> <p>b) The BoQ MUST be duly filled, stamped and signed by an authorized person and any cancellations in BoQs and MUST be Countersigned</p> <p>c) The Bidder MUST provide Power of Attorney to the person signing the tender</p> <p>d) A copy of AGPO certificate for YOUTHS;</p> <p>e) Original Pre Bid Site Visit Certificate must be attached</p> <p><u>B. Financial Status</u></p> <p>At this stage, bidders' tender price will be compared with each other. The award will be to the lowest evaluated bidder (who will be position one). The Evaluation Committee should rank the bidders from the lowest evaluated bidder to the highest Evaluated to provide a fall back where the lowest evaluated bidder formally declines to accept the offer upon notification.</p> <p><u>C. Critical Equipment</u></p> <p>e) The essential minimum equipment to be made available for the Contract by the successful Tenderer (proposals for timely acquisition or own, lease, hire, etc.) shall be: Insert mandatory equipment.</p> <p>i) 1 No. Drilling rig,</p> <p>ii) 1 no pump testing machine.</p> <p>iii) Means of transport for staff and materials</p>
18.		<p><u>D. Experience of Key Personnel</u></p> <p>f) A Project Manager, Site Manager, Ge o logist, driller, soil logging and testing specialist, Materials Engineer as espoused in GCC 10.1</p>

19.	13.4	<p>In the case of joint venture each partner shall submit information required under Clause ITT Clause 13.4. In addition, the Tenderer shall furnish the following,</p> <p>a) A Joint Venture deed executed by the Commissioner of Oaths</p> <p>b) Payment modality</p> <p>c) Specific responsibility of each partner in Joint Venture</p>
20.	16.4	The quoted price/tender sum shall be fixed
21.	17.1	The currency in which the prices shall be quoted shall be in Kenya Shilling

22.	17.2	The authority for establishing the rates of exchange shall be Central Bank of Kenya. The applicable date for exchange rates for tendering and evaluation purposes is 28 days earlier than the final deadline for the submission of tenders.
23.	18.1	The Tender validity period shall be 180 days after tender opening.
24.	19.1	The amount of Tender Security shall be: KES 2% of tender sum
25.	20.1	The Tenderer should submit: One (1) Original Tender and One (1) copy.
26.	20.2	Written confirmation of authorization is: Power of Attorney.

D. Submission of Tenders

27.	21.2 a)	Tenders shall be submitted to: Chief Executive Officer, TANA WATER WORKS DEVELOPMENT AGENCY Maji House, Baden Powell Road P.O. Box 1292, Nyeri, Kenya; Telephone +254 0612032282, 0724259891 Email: ceo@tanawwda.go.ke
28.	21.2 b)	Tender No: TWWDA/T/017/2022 - 2023 PROJECT NAME: DRILLING, DEVELOPMENT AND TEST PUMPING OF 1NO. BOREHOLE AT TIMAU (Firms owned by Youths)
29.	22.1	The deadline for Tender submission is: a) Day: Wednesday, b) Date: 15th February 2023 c) Time: 10.00am
30.	22.3	The extension of the deadline for submission of Tenders shall be made not later than: 7 days before the expiry of the original deadline.

E. Opening of Tenders

31.	25.1	The Tender opening shall take place at: Maji house - Baden Powell Road Building: Maji House City/Town: Nyeri Country: Kenya Date: 15th February 2023 Time: 10.15am
32.	32.3	Additional Preference: Not Applicable.
33.	34.1	Post- qualification: Shall be undertaken for bidders who have not worked with the procuring entity (N/A)
34.	38.1	Percentage for quantities increase or decrease is: 15% .
F. Award of Contract		
35.	41.1	The amount of Performance Security shall be: 10% of the Contract Sum NB: This shall be in form of a Bank Guarantee.
36.	42.1	Advance payment shall not be applicable.
37	43.1	The proposed adjudicator for the project is: Appointee by Chairman Institute of Arbitrators, Kenya Branch.
38	46.1	Address for submitting appeals to Administrative Review Board: The Secretary, Public Procurement Administrative Review Board The Public Procurement Regulatory Authority, 10 th Floor, National Bank House P.O Box 58583 – 00200, NAIROBI, KENYA. E mail: info@ppra.go.ke Website: www.ppra.go.ke

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- **General**

1. Definitions

1.1 Boldface type is used to identify defined terms.

The **Adjudicator** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in Clauses 27 and 28 hereunder.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Tender.

Compensation Events are those defined in Clause 47 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with Sub-Clause 58.1.

The **Contract** is the Contract between the Procuring Entity and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contractor** is a person or corporate body whose Tender to carry out the Works has been accepted by the Procuring Entity.

The **Contractor's Tender** is the completed Tendering document submitted by the Contractor to the Procuring Entity.

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.

Day works are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.

A **Defect** is any part of the Works not completed in accordance with the Contract.

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

The **Defects Liability Period** is the period named in the **Contract Data Sheet** 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.

The **Procuring Entity** 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 to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Procuring Entity's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the **Contract Data Sheet**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

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

The **Project Manager** is the person named in the **Contract Data Sheet** (or any other competent person appointed by the Procuring Entity 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.

The **Site** is the area defined as such in the **Contract Data Sheet**.

Site Investigation Reports are those that were included in the Tendering documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.

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

The **Start Date** is given in the **Contract Data Sheet**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** 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 that are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Project Manager that varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Procuring Entity, as defined in the **Contract Data Sheet**.

“**Force Majeure**” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

2. Interpretation

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way round. Headings have no significance. Words have their normal meaning under the language of the Contract 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 **Contract Data Sheet**, references 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 Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the order of priority given in the **Contract Data Sheet**:
- (1) Agreement;
 - (2) Letter of Acceptance;
 - (3) Contract Data Sheet;
 - (4) Conditions of Contract;
 - (5) Technical Specifications;
 - (6) Contractor’s Tender;
 - (7) Drawings (if any);
 - (8) Bill of Quantities; and
 - (9) Any other document listed in the **Contract Data Sheet** as forming part of the Contract.

3. Language, Law, Fraud and Corruption

3.1 The language of the Contract and the law governing the Contract are stated in the **Contract Data Sheet**.

3.2 The Government requires that Procuring Entities (including beneficiaries of Government funded projects) as well as Tenderers/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. It is the responsibility of the Procuring Entity to ensure that Tenderers, suppliers, and contractors and their subcontractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy:

For the purpose of this provision, the following definitions are provided:

- (i). **“Corruption”** has the meaning assigned to it in the Anti-Corruption and Economic Crime Act 2003 and includes the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement or disposal process or in contract execution;
- (ii). **“Fraudulent Practice”** includes a misrepresentation of fact in order to influence a procurement or disposal process or the execution of a contract to the detriment of the Procuring Entity and includes collusive practices amongst Tenderers prior to or after Tender submission designed to establish Tender prices at artificial non-competitive levels and deprive the Procuring Entity of the benefits of free and open competition;
- (iii). **“Collusive Practice”** means an arrangement between two or more suppliers, contractors and subcontractors designed to achieve an improper purpose, including to influence improperly the actions of the Procuring Entity prior to or after Tender submission, designed to establish Tender prices at artificial non-competitive levels and to deprive the Procuring Entity of the benefit of free and open competition;
- (iv). **“Coercive Practice”** means impairing or harming, or threatening to impair or harm, directly or indirectly a supplier, contractor or subcontractor or the property of any of them to

influence improperly the actions of a Procuring Entity;

- (v). **“Obstructive Practice”** means deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and /or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation.

A Procuring Entity has the right to require that Tenderers, suppliers, and contractors and their subcontractors permit persons duly appointed by EACC/PPRA/KNAO to inspect their accounts and records and other documents relating to the Tender submission and contract performance;

The Procuring Entity will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt, fraudulent practices or others stated under Clause 44.1.a in competing for the contract;

In pursuit of the policy defined in sub-Clause 44.1 the Procuring Entity will cancel the portion of the funds allocated to a contract for goods, works, or services if it at any time determines that corrupt or fraudulent practices were engaged in by representatives of the Procuring Entity or Approving Authority or of a beneficiary of the funds during the procurement or the execution of that contract;

In the event that the Procuring Entity or Approving Authority does not take timely and appropriate action satisfactory to the Government of Kenya to remedy the situation, then the Director-General may order an investigation of procurement proceedings for the purpose of determining whether there has been a breach of the Public Procurement and Asset Disposal Act, 2015.

- 3.3 The Director-General may, on the advice of the Advisory Board, debar a person from participating in procurement proceedings on the ground that the person has committed an offence under the Public Procurement and Asset Disposal Act, 2015. A debarment shall be for a period of time of not less than five years. Before a person is so debarred, he/she will be given an opportunity to make

representations to the Director-General and may request the Review Board to review the debarment.

- 3.4 Any communication between the Tenderers and the Procuring Entity related to matters of alleged fraud or corruption must be made in writing.

- 4. Confidentiality** 4.1 The Service Providers, their Subcontractors, and the Personnel of either of them shall not disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Procuring Entity's business or operations without the prior written consent of the Procuring Entity.
- 5. Project Manager's Decisions** 5.1 Except where otherwise specifically stated, the Project Manager will decide contractual matters between the Procuring Entity and the Contractor in the role representing the Procuring Entity.
- 6. Delegation** 6.1 The Project Manager may delegate any of his duties and responsibilities to other people except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
- 7. Communications** 7.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.
- 8. Subcontracting** 8.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Procuring Entity in writing. Subcontracting shall not alter the Contractor's obligations.
- 9. Other Contractors** 9.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the Schedule of Other Contractors, as referred to in the **Contract Data Sheet**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Procuring Entity may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification
- 10. Personnel** 10.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel, as referred to in the **Contract Data Sheet**, who shall be appropriately qualified and registered with the appropriate bodies to carry out the functions stated in the Schedule 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 Schedule.

10.2 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.

11. Procuring Entity's and Contractor's Risks

11.1 The Procuring Entity carries the risks which this Contract states are Procuring Entity's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

12. Procuring Entity's Risks

12.1 From the Start Date until the Defects Correction Certificate has been issued, the following are Procuring Entity'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 Procuring Entity 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 Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

12.2 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 an Procuring Entity's risk except loss or damage due to:

- (a) A Defect which existed on the Completion Date;
- (b) An event occurring before the Completion Date, which was not itself an Procuring Entity's risk; or
- (c) The activities of the Contractor on the Site after the Completion Date.

13. Contractor's Risks

13.1 From the Starting 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 Procuring Entity's risks are Contractor's risks.

14. Insurance

14.1 The Contractor shall provide, in the joint names of the Procuring Entity and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the **Contract Data Sheet** for the following events which are due to the Contractor's risks:

- (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.

14.2 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 to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

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

14.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager.

14.5 Both parties shall comply with any conditions of the insurance policies.

15. Site Investigation Reports

15.1 The Contractor, in preparing the Tender, shall rely on any Site Investigation Reports referred to in the **Contract Data Sheet**, supplemented by any information available to the Tenderers.

16. Queries about the Contract Data Sheet

16.1 The Project Manager will clarify queries on the **Contract Data Sheet**.

17. Contractor to Construct the Works

17.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

18. Commencement and Completion	18.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Programme submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
19. Approval by the Project Manager	<p>19.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, who is to approve them if they comply with the Specifications and Drawings.</p> <p>19.2 The Contractor shall be responsible for the design of Temporary Works.</p> <p>19.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.</p> <p>19.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.</p> <p>19.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before their use.</p>
20. Protection of the Environment	<p>20.1 The Contractors shall take all reasonable steps to protect the environment and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.</p> <p>20.2 The Contractors shall ensure that emissions, surface discharges and effluent from his activities shall not exceed prescribed values in the environmental laws.</p>
21. Labour Laws	<p>21.1 The Contractor shall comply with all the relevant labour laws applicable in the Country, including laws relating to workers employment, working hours, health, safety, welfare, and immigration, and shall allow them all their legal rights.</p> <p>21.2 The Contractor shall require his employees to obey all applicable laws, including those concerning safety at work.</p>
22. Health and Safety	<p>22.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of his personnel.</p> <p>22.2 The Contractor shall ensure that first aid facilities are available at all times at the site and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.</p>

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- 22.3 The Contractor shall notify the Procuring Entity details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety, and welfare of persons, and damage to the property, as the Procuring Entity may reasonably require.
- 22.4 The Contractor shall conduct an HIV-Aids and COVID-19 awareness programme, and shall take other such measures as specified in the **Contract Data Sheet** to reduce the risk of transfer of HIV and COVID-19 virus between and among Contractor personnel, the Procuring Entity's Staff and the surrounding community.
- 23. Discoveries**
- 23.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Procuring Entity. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
- 24. Possession of the Site**
- 24.1 The Procuring Entity 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 **Contract Data Sheet**, the Procuring Entity will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event.
- 25. Access to the Site**
- 25.1 The Contractor shall allow the Project Manager and any 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.
- 26. Instructions, Inspections and Audits**
- 26.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.
- 26.2 The Contractor shall permit the Kenya Government to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Kenya Government, if so required by the Kenya Government
- 27. Disputes**
27. 1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision.

28. Procedure for Disputes

28.1 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

28.2 The Adjudicator shall be paid by the hour at the rate specified in the **Tender Data Sheet** and **Contract Data Sheet**, together with reimbursable expenses of the types specified in the **Contract Data Sheet**, and the cost shall be divided equally between the Procuring Entity and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

28.3 The arbitration shall be conducted in accordance with the arbitration procedure published by the institution named and in the place shown in the **Contract Data Sheet**.

29. Replacement of Adjudicator

29.1 Should the Adjudicator resign or die, or should the Procuring Entity and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator will be jointly appointed by the Procuring Entity and the Contractor. In case of disagreement between the Procuring Entity and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the **Contract Data Sheet** at the request of either party, within 14 days of receipt of such request.

Time Control

30. Programme

- 30.1 Within the time stated in the **Contract Data Sheet**, the Contractor shall submit to the Project Manager for approval a Programme showing the general methods, arrangements, order, and timing for all the activities in the Works.
- 30.2 An update of the Programme shall be a programme 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.
- 30.3 The Contractor shall submit to the Project Manager for approval an updated Programme at intervals no longer than the period stated in the **Contract Data Sheet**. If the Contractor does not submit an updated Programme within this period, the Project Manager may withhold the amount stated in the **Contract Data Sheet** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.
- 30.4 The Project Manager's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Project Manager again at any time. A revised Programme shall show the effect of Variations and Compensation Events

31. Extension of the Intended Completion Date

- 31.1 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.
- 31.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager 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 delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

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- 32. Acceleration**
- 32.1 When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Project Manager will obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date will be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.
- 32.2 If the Contractor's priced proposals for acceleration are accepted by the Procuring Entity, they shall be incorporated in the Contract Price and treated as a Variation.
- 33. Delays Ordered by the Project Manager**
- 33.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
- 34. Management Meetings**
- 34.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 34.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Procuring Entity. 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.
- 35. Early Warning**
- 35.1 The Contractor shall warn the Project Manager 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.
- 35.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for 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.

Quality Control

36. Identifying Defects

36.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking 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 a Defect.

36.2 The procuring entity through the Accounting Officer will, upon commencement of the project works, appoint a project/contract Implementation team, pursuant to the PPAD Act 2015, section 151.

37. Tests

37.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

38. Correction of Defects

38.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the **Contract Data Sheet**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

38.2 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.

38.3 If the Contractor has not corrected a defect within the time specified in the Procuring Entity's notice, a penalty for lack of performance will be paid by the Contractor. The amount to be paid will be calculated as a percentage of the cost of having the defect correct, assessed as described in Clause 39.

39. Uncorrected Defects

39.1 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, and the Contractor will pay this amount.

Cost Control

40. Bill of Quantities

40.1 The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.

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- 40.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor shall be paid for the quantity of the work done at the rate in the Bill of Quantities for each item.
- 41. Changes in the Quantities**
- 41.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall **adjust the rate** to allow for the change.
- 41.2 The Project Manager shall not adjust rates from changes in quantities if thereby the **Initial Contract Price** is exceeded by more than **15 percent**, except with the prior approval of the Procuring Entity.
- 41.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
- 42. Variations**
- 42.1 All Variations shall be included in the updated Programmes produced by the Contractor.
- 43. Payments for Variations**
- 43.1 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 43.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work is above the limit stated in Sub-Clause 41.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill 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 Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.
- 43.3 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 costs.
- 43.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be

given and the Variation shall be treated as a Compensation Event.

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

44. Cash Flow Forecasts

44.1 When the Programme is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

45. Payment Certificates

45.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

45.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor within twenty eight 28 days of receipt of the certificate from the contractor.

45.3 The value of work executed shall be determined by the Project Manager.

45.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

45.5 The value of work executed shall include the valuation of Variations and Compensation Events.

45.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

45.7 The Project Manager shall not be bound to certify any payment, if the net amount, after all retentions and deductions would be less than minimum amount of Interim Payment Certificate stated in the **Contract Data Sheet**.

46. Payments

46.1 Payments shall be adjusted for deductions for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Project Manager within 90 days of the date of each certificate. If the Procuring Entity makes a late payment, the Contractor shall be paid interest on the late payment in the next payment Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which

payments are made as indicated in the **Contract Data Sheet**.

- 46.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or 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.
- 46.3 Unless otherwise stated, all payments and deductions will be paid or charged in the proportions of currencies comprising the Contract Price.
- 46.4 Items of the Works for which no rate or price has been entered in will not be paid for by the Procuring Entity and shall be deemed covered by other rates and prices in the Contract.

47. Compensation Events

- 47.1 The following shall be Compensation Events:
- (a) The Procuring Entity does not give access to a part of the Site by the Site Possession Date stated in the **Contract Data Sheet**.
 - (b) The Procuring Entity modifies the Schedule of Other Contractors 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 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 Procuring Entity, or additional work required for safety or other reasons.

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- (h) Other contractors, public authorities, utilities, or the Procuring Entity 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 advance payment is delayed.
 - (j) The effects on the Contractor of any of the Procuring Entity's Risks.
 - (k) The Project Manager unreasonably delays issuing a Certificate of Completion.
 - (l) Other Compensation Events described in the Contract or determined by the Project Manager shall apply.

47.2 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.

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

47.4 The Contractor shall not be entitled to compensation to the extent that the Procuring Entity's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

48. Taxes

48.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 28 days before the submission of Tenders for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of Clause 50.

49. Currencies

49.1 Where payments are made in currencies other than the Kenya Shillings, the exchange rates used for calculating the

amounts to be paid shall be the exchange rates stated in the Contractor's Tender.

50. Price Adjustment

50.1 The amounts payable to the Contractor, in various currencies pursuant to Sub-Clause 45.1, shall be adjusted in respect of the rise or fall in the cost of labour, Contractor's Equipment, Plant, materials, and other inputs to the Works, by applying to such amounts the formulae prescribed in this clause based on the prevailing consumer price index obtained from the Central Bureau of Statistics or the monthly inflation rate issued by the Central Bank of Kenya.

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

50.3 The adjustment to be applied to amount payable to the Contractor as certified in Payment Certificates shall be determined formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be as follows;

$$P_n = a + b \frac{L_n - L_o}{L_o} + c \frac{M_n - M_o}{M_o} + d \frac{E_n - E_o}{E_o} + etc.$$

where;

P_n is a price adjustment factor to be applied to the amount in each specific currency for the payment of the work carried out in the subject month, where such variations and day work are not otherwise subject to adjustment;

a is a constant, specified in the **Appendix to Tender**, representing the nonadjustable portion in contractual payments;

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

Ln, Mn, En, etc., are the current cost indices or reference prices of the cost elements in the specific currency of origin for month “**n**,” determined pursuant to Sub-Clause 50.5, applicable to each cost element; and

Lo, Mo, Eo, etc., are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 50.5

The value of net work done, certified by the Project Manager, in any monthly Interim or Final Certificate as payable by the Procuring Entity to the Contractor before deduction of any retention money shall be increased or decreased by an amount of ‘**F**’.

$$F = P_n x P_c$$

where;

The effective value **Pc** of work done which is to be subjected to increase or decrease shall be the difference between:

- (i) the amount which, in the opinion of the Project Manager, is due to the Contractor under Clause 45 (before deduction of retention money and before deducting sums previously paid on account) less:
 - any amount for payment or repayment of any advance payment;
 - any amount for materials on site (if any);
 - any amounts for nominated sub-contractors (if any)
 - any amounts for any other items based on actual cost or current prices; or
 - any sums for increase or decreases in the Contract Price paid under this Sub-Clauseand
- (ii) the amount calculated in accordance with (i) above of this Sub-clause and included in the last preceding statement.

50.4 The sources of indices shall be those listed in the **Appendix to Tender**, as approved by the Engineer. Indices shall be

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

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

50.6 If the Contractor fails to complete the Works within the time for completion prescribed under Clause 58 adjustment of prices thereafter until the date of completion of the Works shall be made using either the indices or prices relating to the prescribed time for completion, or the current indices or prices, whichever is more favourable to the Procuring Entity, provided that if an extension of time is granted pursuant to Clause 28, the above provision shall apply only to adjustments made after the expiry of such extension of time.

50.7 The weightings for each of the factors of cost given in the **Appendix to Tender** shall be adjusted if, in the opinion of the Engineer, they have been rendered unreasonable, unbalanced, or inapplicable as a result of varied or additional work already executed or instructed under Clause 43 or for any other reason.

51. Retention

51.1 The Procuring Entity shall retain from each payment due to the Contractor the proportion stated in the **Contract Data Sheet** until Completion of the whole of the Works.

51.2 On completion of the whole of the Works, half the total amount retained shall be paid to the Contractor and the other half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected.

51.3 On completion of the whole Works, the Contractor may substitute retention money with an “on demand” Bank guarantee.

52. Liquidated Damages

52.1 The Contractor shall pay liquidated damages to the Procuring Entity at the rate per day stated in the **Contract Data Sheet** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **Contract Data Sheet**. The Procuring Entity may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor’s liabilities.

52.2 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 rates specified in Sub-Clause 46.1.

52.3 If the Contractor has not corrected a defects within the time specified in the Procuring Entity’s notice, the Procuring Entity will assess the cost of having the defect corrected, the Contractor will pay this amount, and a penalty for lack of performance calculated as described in Clause 38.

53. Bonus

53.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the **Contract Data Sheet** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

54. Advance Payment

54.1 The Procuring Entity shall make advance payment to the Contractor where any such amount/s is/are stated in the **Contract Data Sheet** by the date stated in the **Contract Data Sheet**, against provision by the Contractor of an Unconditional Advance Payment Bank Guarantee in a form and by a bank acceptable to the Procuring Entity in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest will not be charged on the advance payment.

54.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses

required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

54.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

55. Performance Securities

55.1 The Performance Security shall be provided to the Procuring Entity no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Procuring Entity, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

56. Day-works

56.1 If applicable, the Day-works 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.

56.2 All work to be paid for as day works 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.

56.3 The Contractor shall be paid for day works subject to obtaining signed Day works forms.

57. Cost of Repairs

57.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost.

Finishing the Contract

58. Completion Certificate

58.1 The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project

Manager will do so upon deciding that the work is completed.

- 59. Taking Over** 59.1 The Procuring Entity shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.
- 60. Final Account** 60.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the 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 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 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.
- 61. Operating and Maintenance Manuals** 61.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **Contract Data Sheet**.
- 61.2 If the Contractor does not supply any required Drawings and/or manuals by the dates stated in the **Contract Data Sheet**, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the **Contract Data Sheet** from payments due to the Contractor.
- 62. Termination** 62.1 The Procuring Entity or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 62.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:
- (a) The Contractor stops work for **28 days** when no stoppage of work is shown on the current Programme 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 28 days;
 - (c) The Procuring Entity or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

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- (d) A payment certified by the Project Manager is not paid by the Procuring Entity to the Contractor within 84 days of the date of the Project Manager's certificate;
 - (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; and
 - (g) The Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **Contract Data Sheet**.
 - (h) If the Contractor, in the judgment of the Procuring Entity has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph:

“corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution and includes inter alia, bribery and extortion or coercion which involves threats of injury to person ,property or reputation, and.

“fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Entity, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Procuring Entity of the benefits of free and open competition.

- 62.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under Sub-Clause 62.2 above, the Project Manager shall decide whether the breach is fundamental or not.
- 62.4 Notwithstanding the above, the Procuring Entity may terminate the Contract for convenience.
- 62.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

63. Payment upon Termination

- 63.1 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 less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the **Contract Data Sheet**. Additional Liquidated Damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

63.2 If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, 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, and less advance payments received up to the date of the certificate.

64. Property

64.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Procuring Entity if the Contract is terminated because of the Contractor's default.

65. Release from Performance

65.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Procuring Entity 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 and for any work carried out afterwards to which a commitment was made.

66. Suspension of Financing

66.1 In the event that the source of financing is suspended to the Procuring Entity, from which part of the payments to the Contractor are being made:

- (a) The Procuring Entity is obligated to notify the Contractor of such suspension within 7 days of having received the financing agency's suspension notice.
- (b) If the Contractor has not received sums due it within the 28 days for payment provided for in Sub-Clause 46.1, the Contractor may immediately issue a 14-day termination notice.

SECTION V: CONTRACT DATA SHEET (CDS)

67. Contract Data Sheet

Instructions for completing the Contract Data Sheet

CDS Clause	GCC Clause	Description
1	1.1	<p>A. General</p> <p>(Itemise Definitions to take the same numbering as per the General Conditions)</p> <p>The Procuring Entity is Tana Water Works development agency P.O. Box 1292 - 10100 Maji House, Baden Powell Road, NYERI.</p> <p>The Adjudicator is Chairman, Institute of Engineers of Kenya</p> <p>The Defects Liability Period is 6 Months</p> <p>The Project Manager is CHIEF MANAGER- TECHNICAL SERVICES</p> <p>The name and identification number of the Contract is. Drilling, Development and Test Pumping of 1No. Borehole at Timau</p> <p>TENDER NO: TWWDA/T/017/2022-2023</p> <p>The objectives of the contract are Exploitation of Ground Water to improve water access to Timau area</p> <p>The Start Date shall be 14 Days on Issuance of Commencement Letter.</p> <p>The Intended Completion Date for the whole of the Works shall be 30 days from commencement.</p> <p>The following documents also form part of the Contract:</p> <ol style="list-style-type: none">1. Contact Agreement

		2. Letter of Acceptance 3. Form of Tender 4. Tender Data Sheet 5. Contract Data Sheet 6. Conditions of Contract 7. Specifications 8. Drawings (if any) 9. Priced Bills of Quantities The Site is located in Maritati Police Post, Timau Division, Meru County
2.	2.2	Indicate whether there is sectional completion: N/A
3.	2.3(9)	List other documents that form part of the contract if any: See CDS Clause 1 above
		a)..... b)..... c).....
4.	3.1	The language of the Contract documents is English The law that applies to the Contract is the Kenyan Law.
5.	9.1	Include the Schedule of Other Contractors, if any. <i>[give list of other contractors]</i>
6.	10.1	Include the Schedule of Key Personnel. <i>[Give list of key personnel]</i>
7.	14.1	The minimum insurance covers shall be: (a) loss of or damage to the Works, Plant, and Materials <i>[insert amount]</i> ; (b) loss of or damage to Equipment <i>[insert amount]</i> ; (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract <i>[insert amount]</i> ; and (d) personal injury or death <i>[insert amount]</i> .
8.	15.1	Site Investigation Reports available to the Tenderers are: N/A a)..... b)..... c).....

9.	22.4	<p>The other measures include:</p> <ul style="list-style-type: none"> a. Minimising the number of migrant workers employed on the project and household in the site camp b. Providing access to voluntary counselling and testing (VCT) c. Providing psychological support and health care including prevention and treatment of opportunistic infections for workers infected and affected, as well as their families d. Providing condoms (male and female) to workers; e. Strictly adhering to COVID-19 preventive measures by way of maintaining personnel/workers distancing, wearing of surgical face masks at all times and timely seeking of medical attention in case of any notable signs of COVID-19 infection on worker/s f. Providing Personal Protective Equipment (PPEs) to workers on site.
10.	24.1 & 47.1	The Site Possession Date shall be <i>after issuance of commencement letter.</i>

12.	28.3	Arbitration will take place in accordance with rules and regulations published in Kenya in accordance with the provisions of the Arbitration Act of the Laws of Kenya or any other enactment replacing or modifying the same for the time being in force, by a single arbitrator appointed by the Chairman of the Engineer's Registration Board of Kenya on application by either party
13.	29.1	Appointing Authority for the Adjudicator: <i>Chairman of the Engineer's Registration Board of Kenya</i>
B. Time Control		
14.	30.1	The Contractor Shall Submit a Programme for the Works within 14 days of delivery of the Letter of Acceptance.
15.	30.3	The period between Programme updates is 28 days .
16.	30.3	The amount to be withheld by the Project Manager in the case the contractor does not submit an updated programme is: N/A.

C. Quality Control		
17.	38.1	The Defects Liability Period is 6 Months .
D. Cost Control		
18.	45.7	Interim Payment Certificate will NOT be applicable
19.	46.1	The interest rate shall be N/A above prevailing interest rate for commercial borrowing from the contractors' bank
20.	47.1(a)	The Site Possession Date shall be 7 days after issuance of commencement letter
21.	50	The contract is not subject to price adjustment.
22.	51.1	The amount of retention is 5% of value of works certified for payment.
		Limit of retention will be 5% of contract price.
23.	52.1	The rate of liquidated damages is 0.15 % of contract price per day
	52.1 62.2 (g)	The maximum amount of liquidated damages is 10% of Contract Price
24.	53.1	The bonus for early completion is N/A
25.	54.1	The amount of advance payment shall be N/A
		Monthly Recovery of Advance Payment: N/A . per cent of amount of Interim Payment Certificate.
26.	55.1	The Performance Security shall be 10% of the contract price. NB: This shall be in form of a Bank guarantee.
E. Finishing the Contract		
27.	61.1	As built drawings shall be supplied by the contractor 30 days after completion

28.	61.2	<p>The amount to be withheld by the Project Manager in case the contractor does not submit a built drawing is: N/A</p> <p>The amount to be withheld by the Project Manager in the case the contractor does not submit operating manual is: N/A</p>
29.	63.1	<p>The percentage to apply to the value of the work not completed, representing the Procuring Entity's additional cost for completing the Works, is 10%.</p>

SECTION VI: TECHNICAL SPECIFICATIONS

SECTION VI: TECHNICAL SPECIFICATIONS

SPECIFICATIONS, DRAWINGS AND BILLS OF QUANTITIES:

1. SPECIFICATIONS

GENERAL:

General introduction

This contract is **Drilling, Development and Test Pumping of 1No. Borehole at Timau** within the TWWDA area of Jurisdiction

Location of the works

The project is located at **Maritati Police Post, Timau Division, Meru County**

Extent of contract

The works shall be as per the attached detailed Bill of Quantities (BQ) and drawings.

Particular specification

These general specifications together with the specific specification contained in the bills of quantities and the tender document will form the specification for the works.

Provision of equipment, material and labour

The contractor shall provide all equipment, transport consumable materials and labour necessary for the satisfactory completion of the works in compliance with the specifications herein. The Engineer reserves the right to inspect plant and materials prior to contractor selection, and may reject plant or material that in his/her opinion is substandard or inappropriate. The contractor shall provide full descriptions of all plants to be deployed for these works. The contractor shall also present method statements describing in detail the proposed approach to work.

The contractor shall provide summary detail of the experience of key personnel to be deployed for these works.

Occupation of site

The Procuring Entity will provide land on which the works shall be constructed. The contractor shall secure at his own cost site that he requires for activities related to works including storage of raw materials, equipment and setting up of camp during the period of contract. The Contractor must ensure that his operation does not interfere with the daily activities of the local community.

The Contractor shall not enter upon or occupy with men, tools, equipment and materials any land other than the land or right of way provided by the Procuring Entity

Diligent performance

The contractor shall at all times perform the Works diligently and in accordance with sound professional practice. He/she shall not proceed from one stage of works to another without the express permission of the Engineer.

Decisions regarding Temporary halt, discontinuing of any element or part of any element of these works, or abandonment of these works, shall be discussed jointly between the contractor and the Engineer before any further actions are authorised by the Engineer. The Engineer's decision shall be final.

The Engineer will require a written submission justifying any steps taken by the Contractor without the Engineer's approval. An unsatisfactory explanation shall lead to non-payment for works undertaken without prior agreement, and may be included for consideration as liquidated Damages.

Units of Measurement

The Contract shall be conducted in the Systems International d'Units (SI) system of units in accordance with the provisions of ISO 31 and ISO 1000.

British Standards BS

"B.S." Followed by the reference number and date of issue where appropriate, shall refer to the latest British standard for the quality and/or workmanship of the items described. Material required to conform to a particular B.S may be obtained from any country provided it complies with the minimum requirements of the relevant B.S.

Drawings

The project drawings shall comprise

- (a) The drawings listed in of the tender documents
- (b) Such other drawings and/or sketches as are issued from time to time by the Engineer to deal with design modifications in response to on-site conditions.

Record drawing

As the work proceeds the Contractor shall mark-up "As Built" details on a set of prints of the contract Drawings modified to portray the works as actually constructed and issue to the Engineer's representatives for approval within 7 days of completion of the works covered by each drawing.

Level datum

It shall be the responsibility of the Contractor before commencing work to obtain from the Engineer in writing the values and locations of the benchmarks to be used in these works. All temporary benchmarks shall be referred thereto. The Contractor shall construct such temporary benchmarks as the Engineer may direct and shall agree the levels thereof with the Engineer. The establishment of such temporary benchmarks shall be deemed part of the Contractor's responsibility in setting out the works.

Setting out

The Contractor shall appoint and employ the necessary qualified and experienced staff to set out the works accurately.

The Contractor shall establish and locate all lines and levels and be responsible for the correct location of all works.

Where directed by the Engineer, the Contractor shall take such levels and dimensions as may be required for the purposes of measurement before disturbance of the ground. These shall be agreed between the Contractor and the Engineer in writing before any ground surface is disturbed or covered up. Any work commenced without taking the said levels and dimensions shall be measured on the Engineer's recording of their values before disturbance. The Engineer's decision on this matter shall be final.

And checking of work

The Contractor shall be solely responsible for and shall provide all labour, tools, lifting tackle, and other equipment required for the checking of the works.

No operative shall be allowed to execute any type of work which is normally carried out by a skilled tradesman, unless the operative is thoroughly experienced and proficient in the trade concerned. Supervisors and operatives may be required to demonstrate their proficiency or produce certificates of competence to the satisfaction of the Engineer.

As each part of the work is carried out, it shall be subject to the approval of the Engineer.

Supervision and labour

The Contractor will be required to maintain a competent supervising Foreman on Site throughout the period until completion of the works, and thereafter as may be required during the Defects Liability Period. The Engineer shall give prior approval to the appointment of this Foreman and shall have the authority to withdraw this approval at any time in accordance with the Conditions of Contract.

All staff and labour employed on the works shall be employed in accordance with the labour and employment laws and regulations of the Republic of Kenya.

Priority to Local Labour

The Contractor shall give priority to the local community when hiring unskilled and skilled labour. The recommended proportion of local labour to the total workforces will be as follows;

- Unskilled labour 80%
- Semi-skilled labour 60%
- Skilled labour 20%

Contractor's site offices, staff, workshops, storage and working areas, communication, etc.

The contractor shall be allowed use the existing fenced site compound to establish the site office, workshops and for storage. Responsibility for the compounds security will however remain with the contractor until handover. The contractor shall advise the Engineer at which of his offices any notices may be served in accordance with the conditions of contract.

Language of correspondence and records

All communication from contractor to the Engineer and the Engineer's Representative shall be in English language.

All site books, time sheets, records, notes drawings, documents, specifications etc. shall be in English language

Contractor 's duty staff & offices

At least one responsible representative of the contractor shall be immediately available at all times and he shall be on site during normal working hours.

To such representative shall be delegated full authority to confer with Engineer's Representatives or his deputy and to take all steps and to issue all those instructions which may be required in an emergency to ensure the safety of all personnel of the works and of all the Procuring Entity, and other property on the site and in the immediate vicinity thereof. The Engineer's Representative may from time to time at his discretion after taking into consideration all the prevailing conditions allow some relaxation of this clause but such relaxation shall be made only with his written permission and subject to any special conditions which he may then require.

The contractor shall maintain at the site, offices for the use of representative and to which written instructions by the Engineer's Representative can be delivered. Any instructions delivered to such offices shall be deemed to have been delivered to the contractor.

Demolition of contractor's temporary structures

The Engineer may at any time before the end of the period of maintenance give the contractor notice in writing to demolish and remove those buildings and works which are no longer required, whereupon the title to such buildings and works and materials connected therewith shall revert to the contractor. After the demolition and removal of building and works as required by the Engineer, the contractor shall level, clear, restore and make good the sites and surrounding ground and fill in and compact all latrines (N/A), drains, pits and similar works leaving the satisfaction of the Engineer's Representative.

Public Relations

The contractor shall designate within his site organization competent staff whose responsibility shall be to ensure good relations.

The location of all yards, stores, workshops, offices, etc. shall be agreed beforehand with the Engineer's Representatives and shall be such as to avoid obstruction and nuisance to public and/or the client.

The contractor shall provide and maintain at or near the site suitable and sufficient shelters, mess rooms, washrooms, latrines etc. as are necessary and customary, to the satisfaction of the Engineer and in accordance with the law and regulations of the relevant authorities.

Definition and use of the Site

Definition of the Site

The Site shall include all those areas of land which, being public or private:

- a) Are being provided by the Procuring Entity for the permanent works.
- b) Are being provided by the Procuring Entity for temporary works, including camps, offices and stores.

- c) Are acquired, leased, or operated by the Contractor as borrow pits or spoil tips for the permanent works, including all access roads.

Use of the Site

Access to the Site is gained from public and private roads. The Contractor shall be responsible for maintaining all existing site roads affected by his work while he is on Site. He shall also be responsible for repairing and making good any damage to these roads. If the Contractor, his subcontractors or suppliers, causes the damage, then the repairs will be at his own cost.

The Contractor shall be responsible for the, maintenance and repair of any temporary works access roads. The lands and other places outside the Site, which are the property of or under the control of the Procuring Entity, shall not be used except with the approval of the Engineer.

The Contractor shall promptly remove any vehicle, wagon, barge or vessel or any other obstruction under his control that the Engineer may require to be moved for any purpose. The Contractor shall remove such obstruction promptly upon receiving such instruction and at his own cost, unless the Engineer shall decide otherwise.

The Contractor shall maintain access for the inspection, operation and maintenance of any of the Procuring Entity's assets within the Site or elsewhere.

The Contractor shall not use any portion of the Site for any purpose not connected with the works unless the written permission of the Engineer has been obtained.

Except with the written permission of the Engineer, to be given when necessary for the execution of the works, the Contractor's employees will not be permitted to enter any of the Procuring Entity's buildings or lands or sites under the control of other contractors or the Engineer. The Contractor shall warn his employees that any person found within such buildings or sites without authority is liable to be removed from the works in accordance with the Conditions of Contract

Possession of the Site

The Contractor shall restrict his activities to those areas of the Site adjacent to the works being executed and shall avoid any encroachment upon lands outside the areas for which possession has been given. Any trespass or damage or any claim arising from such encroachment shall be the Contractor's sole responsibility and he shall hold the Procuring Entity indemnified against all claims arising from such trespass or damage.

Interference with existing works

The Contractor shall not interfere in any way, with any existing works, be it the property of the Procuring Entity or of a third party, whether such works has been shown to the Contractor by the Engineer, except where such interference is specifically described as part of the works, either in the Contract or in instructions from the Engineer to take over such works.

Materials for the works

All materials shall comply with the appropriate Standard Specifications unless otherwise required hereinafter. The Contractor, shall, before placing any order of materials, manufactured articles or machinery for incorporation in the works, submit for the approval of the Engineer the names of the suppliers from whom he proposes to obtain such materials, manufactured articles or machinery, together with a list of the same, giving the origin, quality, weight, strength, description and other relevant details. No materials, manufactured articles or machinery shall be ordered or obtained from any suppliers not approved in writing by the Engineer. All materials shall be delivered to the Site a

sufficient period of time before they are required for use in the works, to enable the Engineer to take such samples as he may wish for testing and approval.

Notwithstanding the fact that approval has been given to the source of supply, the Engineer may forbid the use of any materials if, upon delivery, they are found to be defective, or he considers them unsuitable for Incorporation in the works. Such rejected materials shall be removed from the site forthwith.

The Contractor may propose alternative materials of equivalent quality to those specified, and subject to the Engineer's approval, such materials may be used in the works.

The Contractor shall have no claim against the Procuring Entity in respect of any financial loss which he may suffer as a result of the rejection of any such materials, and he shall also bear the cost of removing them from the Site.

The Engineer shall have the right to inspect materials and plant for the permanent works during the course of manufacture. The Contractor shall arrange for the right of access to manufacturing premises for the Engineer and his staff during normal working hours. The Contractor shall give the Engineer sufficient notice to allow him to observe the testing of any materials for the works at the place of manufacture. The Engineer shall also be given the opportunity to inspect any material or plant in their completed state before packing for transport to the site.

If requested by the Engineer, the Contractor shall provide the Engineer with copies of orders for the supply of goods or materials required for the works.

Rejected materials and defective work

Materials or work which, in the opinion of the Engineer, do not comply with the Specification, shall be classified as rejected materials or defective work, and shall be cut out and removed from the works and replaced as directed by the Engineer.

Alternatives

The Contractor's main Bid shall comply fully with the Specification.

The Contractor is however at liberty to include alternative materials, items of Plant or methods of for which he claims advantages to those indicated in the Specification and Drawings, provided the modes of operation and methods of are fully described and are at least equal to those shown on the Drawings or Implied in the Specification.

The Contractor shall submit manufacturer's detailed descriptions of alternatives and he shall draw attention to any aspect of each component that does not fully comply with the requirements of this Specification. These detailed descriptions, including any departure from the requirements of the Specification may, after approval by the Engineer, be included among the Contract Documents and each item shall be in accordance with the description of it. Approval of a manufacturer's description shall not include approval of any departure from the requirements of the Specification unless the Engineer in writing specifically approves the departure.

Where materials, Plant or methods of differ from those specified, the Contractor shall submit with his Bid drawings showing any amendments of system design necessary to suit the alternative. The Engineer will either approve these drawings or issue others if he approves the components concerned.

The Engineer however, may not necessarily accept any alternative put forward.

Existing works and services

The Contractor shall acquaint himself with the positions of all existing works and services including water mains, sewers, storm water drains, cables for electricity and lighting poles before any excavation is commenced.

The Contractor will be held responsible for any damage, however caused, in the course of the execution of the works, to such existing works and services. Any damage caused shall be made good at the Contractor's expense.

Such existing works and services, where exposed by the execution of the works, shall be properly shored, hung-up and supported to the satisfaction of the Engineer and of the authority concerned. The Contractor shall exercise special care when refilling trenches or other excavations around such existing services. Stop cock boxes, water meters and the like shall not be covered up.

Poles supporting cables and the like adjacent to the works shall be kept securely in place until the works are completed and shall then be made as safe and permanent as before.

Notwithstanding the foregoing requirements and without lessening the Contractor's responsibility, the Contractor shall inform the Engineer immediately any existing works have been exposed and shall comply with any requirements of the authority concerned.

Only when and as directed by the Engineer shall the position of existing works or services be changed by the Contractor to meet the requirements of the proposed work.

The Contractor shall make adequate provision so that when carrying out his work, no interference, damage or pollution is caused to roads and footpaths, or to any mains, drains, sewers, and the like or other parts of the works.

The Contractor shall not store any plant or materials or spoil heaps over existing works and services including water mains, sewers, storm water drains cables for electricity and lighting poles. Approval by the Engineer to the means of protection employed shall not relieve the Contractor of any responsibility in respect of damage occasioned by his operations.

When breaking out and making good use of the existing structures, the Contractor shall disturb the existing structures as little as possible. All structures shall be made good with materials similar to those used in the existing works, or such materials which are considered by the Engineer to be of similar appearance and suitable in all other respects.

Overhead power lines

Where work is being carried out in the vicinity of overhead power lines, the Contractor shall be responsible for ensuring that all persons working in such areas are aware of the safe working distances in the vicinity of high voltage overhead power lines especially when cranes or other large masses of steel are in the vicinity of the power lines.

The Contractor's attention is drawn to BS 162, which gives safe clearance for various voltages.

The Contractor shall take all necessary precautions to ensure the safety of his employees and all other persons where work is being carried out near overhead power lines.

Excavation across roads and tracks

Before excavating across any public or private road or track, the Contractor shall give the Engineer seven days' notice of his attention to excavate and shall include, in writing, the precautions he proposes to take for the continuance of passage and safety of traffic, and details of the warning signs and lights to be provided and operated. The excavation shall not commence until the written approval of the Engineer has been given.

Liaison with police and other officials

The Contractor shall keep in close contact with the police and other officials in the areas concerned regarding their requirements for the control of workmen, movement of traffic, or other matters and shall provide all assistance and facilities which may be required by such officials in the execution of their duties.

Preservation of trees

No tree shall be removed without prior written permission of the Engineer who will limit the removal of trees to the minimum necessary to accommodate the permanent works.

If trees are removed or damaged by the Contractor or his employees, without approval, then the Contractor shall replace such trees.

Replacement trees shall be not less than two years of age, obtained from a reputable nursery and of a species approved by the Engineer.

The Contractor shall plant, water and ensure that the replacement trees are properly established.

Protection from water

The Contractor shall keep the whole of the works free from water and shall be deemed to have included for all pumping, shoring, temporary drains, sumps and other measures and provisions necessary for such purposes and for clearing away and making good to the satisfaction of the Engineer any damage caused thereby.

Protection against fires

The Contractor is advised that, at all times, it is necessary to guard against fires starting within the Site or in the environs thereof, particularly as the result of the works or from the actions of his employees. The Contractor shall have available, at all times; a trained fire-fighting team provided with adequate fire-fighting equipment and shall deal with all fires on the Site howsoever caused.

Watching, fencing and lighting

The Contractor shall employ competent watchmen and guard the works both by day and by night.

Any excavations, material dumps, spoil dumps or other obstructions likely to cause injury to any person or thing shall be suitably fenced off and at night marked by red warning lights.

Fences shall consist of at least three 15 mm diameter hemp ropes or 4mm diameter wires, or more if required, stretched tightly between poles, and standards securely planted in solid ground, well clear of the excavation. The poles and standards shall not be more than 15 metres apart, and where circumstances require, they shall be placed closer. Ropes or wires shall be stretched tight approximately 0.4 m, 0.8 m and 1.2 m above the ground. The Engineer may accept banks of spoil instead of fencing, if of suitable height and form.

Fences and spoil banks shall be clearly marked at the ends, all corners, and along the length at intervals of not more than fifteen metres by means of white lime-washed boards, discs, stones or oil drums during the daytime and by red lamps burning at night. Markers shall be freshly lime-washed at regular intervals to ensure that they are white and clean.

If a road is closed, or partly closed to traffic, temporary traffic signs and barricades shall be erected by the Contractor to the satisfaction of the Engineer and the police, or other relevant authority, to give proper warning to traffic and the public. Lettering on road signs shall be black on a yellow background and shall incorporate reflective material. The signs shall be adequately illuminated at night.

Water and power for use on the works

The Contractor shall be solely responsible for the location, procurement and maintenance of a water supply adequate in quality and quantity to meet his obligations under the Contract.

The Contractor shall be solely responsible for the location and continuity of the supply of water for use on the works. Supplies may be derived from boreholes, rivers and streams, but shall in all cases be to the Engineer's approval. The abstraction of water from any sources shall not interfere with any permanent water supply. The Contractor shall be solely responsible for the transporting of water from its source to the point at which it is required for purposes, and in such quantities and quality as to enable the works to proceed without hindrance due to the shortage of adequate water supplies.

The Contractor shall take care to avoid unnecessary use of water and to prevent any water running to waste.

The Contractor shall make his own arrangements for power supplies and shall be solely responsible for the location, procurement and maintenance of a power supply, adequate to meet his obligations under the Contract.

Telephone and communications

The Contractor shall obtain suitable means of communications during the course of the Contract. The use of radio communications may be permitted but the Contractor shall be responsible for obtaining all the necessary permits and licenses.

Sanitation

The Contractor shall provide adequate sanitation and refuse collection and disposal facilities complying with state laws and local by-laws for all houses, offices, workshops, and the like, erected on the site, all to the satisfaction of the Engineer.

The toilet facilities provided at the site by the Contractor shall be made available, free of charge, to the employees of the Contractor and any of his subcontractors.

The Contractor shall warn his employees and subcontractors that any employee found fouling the site shall be removed from the site immediately in accordance with the Conditions of Contract.

First aid and medical services

The Contractor shall provide and maintain all equipment necessary to render first aid in case of accidents, snakebites or other emergencies. This equipment shall be kept in readiness at the sites of the works, at camps and wherever the Contractor's staff may regularly live and work. The Contractor shall ensure that there are persons available at all such places with knowledge of simple first aid procedures and able to administer snakebite treatment.

Health checks

The Procuring Entity may arrange for the taking of swabs, urine and stool samples from all persons who will be working in and around the works, to ensure that all such persons are free from contagious diseases.

The Procuring Entity will pay all medical costs incurred in the taking and analyses of these samples. The Contractor shall make his employees available during normal working hours for undergoing the

Above-mentioned health checks. Reasonable notice will be given.

The Contractor shall keep records in respect of all his employees, showing the dates on which health checks have been and will be carried out.

Every employee whom the Contractor intends to engage on the works shall, in addition to being available for the above tests, successfully undertake a test for typhoid and paratyphoid at an approved hospital or medical centre. The medical certificate for each employee shall be submitted to the Engineer before the employee shall be allowed on Site.

Inspections by the Engineer during the Defects Liability Period

The Engineer will give the Contractor due notice of his intention to carry out any inspection during the defects liability period. The Contractor shall, upon receipt of such notice, arrange for a responsible representative to be present at the times and dates named by the Engineer.

This representative shall render all necessary assistance and shall take note of all matters and things to which the Engineer shall direct his attention.

Health and safety

General

The Contractor shall use his best endeavour to ensure, so far as is reasonably practicable and to the satisfaction of the Engineer, the health, safety and welfare at work of his employees, including those of his Subcontractors, and of all other persons on the Site. His responsibilities shall include:

1. Provision and maintenance of safe and properly illuminated Contractor's Equipment;
2. Establishment of safe and well-illuminated systems of working;
3. Provision of protective clothing and equipment;

- 4 Establishment of first aid stations, staffed and equipped to provide information, instruction, training and supervision on all aspects of safety and health on site;
- 5 Appointing as Safety Officer one of his senior staff who shall have specific knowledge of safety regulations and have had experience of safety precautions on similar works and who shall advise the Contractor on all aspects of safety and health on Site; Provision and maintenance of safe access to all work areas on the Site;
- 6 Provision of adequate sanitary facilities and maintenance of these in a clean and hygienic state for use by all persons employed by the Procuring Entity, Engineer, Contractor or other contractors on the Site;
- 7 Measures to control flies, mosquitoes and pests in both working and recreational areas including chemical spraying, if necessary, in compliance with the rules and regulations of the Procuring Entity;
- 8 Reporting details of any accident to the Site Safety Officer as soon as possible after its occurrence;
- 9 Reasonable prevention of non-site personnel from entering the work areas.

Safety equipment and training

The Contractor shall provide:

- 1 All necessary breathing apparatus, safety harnesses and any other equipment required to ensure safe working of all his personnel on Site;
- 2 Test certificates for all safety equipment;
- 3 Proof that all relevant personnel have received appropriate training.

Health and safety plan

The Contractor is required to produce a health and safety plan covering the hazards that may apply during the Contract, the rules and standards to be used in assessing risk and in undertaking work and the methods that he will employ to ensure compliance with his plan.

The Health and Safety Plan shall include details of the following:

- (a) Details of all potential risks and the proposals for dealing with such hazards;
- (b) Controls to regulate risks that occur during all, testing and commissioning activities;
- (c) Measures to avoid health risk in connection with the use, handling, storage and transportation of hazardous and harmful substances;
- (d) Safety equipment and training proposals in respect of equipment referred to above.

Sign boards

Before the erection of any signboards or posters by the Contractor, the Contractor shall obtain the approval of the Procuring Entity and the Engineer to the size, location and wording of such sign boards or posters.

Building regulations

All buildings erected by the Contractor upon the Site and campsite or sites and the layout of the buildings shall comply with the Laws of the Land and all local by-laws as far as they are applicable.

Progress photographs

Photographs showing the progress of the works shall be taken by a competent photographer every month from positions to be selected by the Engineer.

Special photographs showing particular features of the works or matters of interest concerning the works or their surroundings shall also be taken from time to time as and when required by the Engineer.

Photographs shall not be less than 120 mm x 90 mm and shall be inscribed with the date when taken and a brief description or title.

All negatives shall be numbered; retained on the site and on completion of the works the negatives shall become the property of the Procuring Entity.

An item is included in the Bill of Quantities for the cost of such photographs

Contractor's tracked equipment

The Contractor's tracked equipment may not be run on any public or private road without the written permission of the owner or authority concerned.

Site meetings

The Contractor shall be obliged to attend all site meetings at the appointed time.

Pollution

During the execution of the works, the Contractor shall ensure that no pollution of existing watercourses is allowed to take place because of his activities. The Contractor shall take all reasonable steps to protect the environment on and off the site and to avoid damage or nuisance to persons or to property of the republic or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

Site clearance

On completion of the works, the Contractor shall clear the site and remove all temporary buildings, equipment and debris. The Contractor shall level off and grade all areas used for haul roads and all building, store and workshop areas. The whole of the site shall be left in a clean and tidy condition.

EXCAVATION AND FILLING SITE CLEARANCE

Areas occupied by Permanent Works

The Contractor shall clear all borrow areas and other areas where it is intended to use the material below for purposes by removing all trees, roots, stumps, topsoil, vegetable matter and other debris which is unsuitable for fill. The Contractor shall deal similarly with all areas under permanent and temporary embankments, in other foundation areas, under permanent roads where organic material is present, and where it is intended to place fill directly on the existing ground surface.

Areas Occupied by Temporary Works

The bush clearing for the contractor's camps, offices, stores, working areas and for his access roads and his own borrow areas shall be at the Contractor's expense. Clearance for temporary works shall be kept to a minimum and be subject to the approval of the Engineer.

Structures

Structures shall not be demolished unless specified or directed. Methods of demolition shall be approved.

Spoil Materials

Material shall not be left lying around just outside the periphery of the area to be cleared, but shall be properly disposed of or removed completely to the approval of the Engineer.

The Contractor shall dispose of all trees, bushes and other vegetable matter by stockpiling in piles or windrows (longitudinal heaps) and burning. Secondary burning shall be carried out as necessary such that all material is reduced to a white ash. All burning shall be kept under full control. Unburnt tree trunks shall be either restock piled and included in further burning operations or cut up and removed from the area.

Programming

The programming of all clearing works shall be subject to the approval of the Engineer.

GENERAL EXCAVATION CLAUSES

Advance Notification of Proposed

Methods

The Contractor shall submit for the consent of the Engineer detailed proposals for methods, dewatering and safety arrangements in respect of each major or critical section of excavation, including drilling and blasting where appropriate. Except as may be otherwise agreed, the proposals shall be presented at least 1 weeks before the intended start date and the Engineer shall comment on the proposals within 4 days. Only after the receipt and revision of these proposals as may be requested, and with the written consent of the Engineer, shall the Contractor commence the excavation work to which the proposals refer.

The Engineer shall not unreasonably withhold consent and will request revisions of proposals only if he considers that an acceptable end result would otherwise be unlikely. The Contractor

shall not subsequently vary the agreed procedure, except in detail, without having obtained the written consent of the Engineer to the change.

No consent as described above shall relieve the Contractor of his responsibility for carrying out his operations in a workmanlike manner and as safely as is reasonably possible to the lines and levels shown on the Drawings or as instructed by the Engineer.

Dewatering of Excavations

The Contractor shall maintain all excavations free from water, irrespective of its source, to the extent necessary for the execution of the Works or in the interests of safety, and to the satisfaction of the Engineer. He shall provide, install, operate and maintain all necessary appliances and Plant for this purpose.

The Contractor shall take all necessary precautions at points of discharge of water to avoid flooding or damage to the Works, adjoining works or property and to avoid pollution of watercourses.

The dewatering of excavations immediately prior to concreting shall not be commenced until at least one standby pump is on hand.

Remedial Work

Any damage resulting from the Contractor's operations during excavation, including damage to foundations and excavated surfaces shall be repaired at the expense of the Contractor and to the satisfaction of the Engineer.

Safety of Excavations and Persons

Safety of Excavations

The Contractor shall take full responsibility for the stability and safety of all excavation works and methods of including temporary support of excavated surfaces, diversion of water, pumping etc. He shall assume full responsibility for the safety and prevention of injury to personnel and for damage. His safety provisions shall comply with relevant local regulations and the requirements of Section 1.8.

The Contractor shall provide and install handrails, toe boards and all necessary temporary supporting works such as timbering, shoring, anchorages and the like wherever such support is required. All support arrangements must be to the approval of the Engineer, who may order such support to be strengthened or altered if it is considered necessary in the interests of the work or to safeguard against accidents to workmen.

If the Contractor wishes to batter and/or cut back the face of an excavation in order to eliminate or reduce the quantity of timbering and shoring required, he shall obtain permission from the Engineer. Both the slope and the extent to which such battering is to be carried out must be agreed with the Engineer before excavation is commenced.

Timbering and shoring shall be so designed and constructed that, if necessary, it can be inserted as excavations proceed and safely withdrawn as backfilling is raised. Waling and struts shall be

suitably positioned to permit pipes and other materials to be installed in the excavations. No temporary supports shall remain in excavations after backfilling unless approved by the Engineer.

If slips of material occur in any part of the excavations during the execution of the Works or during the Defects Liability Period, the necessary remedial works shall be executed to the approval of the Engineer. Such remedial work shall be at the Contractor's expense in cases where the Engineer considers that the Contractor has not exercised reasonable preventive measures.

Inspection and Surveys by the Engineer

The Engineer shall have the right to gain access to any area of excavation giving adequate notice. The Contractor shall provide whatever assistance and incidental materials may be required. This work will be arranged so as not unduly to disrupt the Contractor's normal working arrangements and he shall allow for it in his programme.

Classification of Excavated Material

General

Excavation shall be classified for payment purposes only as follows:

(a) Class 1:

All soil overburden, weathered and shattered rock, or cemented sand in river terrace areas and other material which can be removed by hand, by single shank ripping and bull-dozing with a track mounted tractor at least equivalent to a modern Caterpillar D6 in weight and horsepower of 165Hp or, in confined areas, by a mechanical excavator equivalent to a modern Caterpillar 446B of flywheel horsepower of 102Hp (or gross horsepower of 110Hp) fitted with an extreme service trenching bucket. When used for classifying materials the condition of the equipment should be as new

(b) Class 2:

Rock and artificial hard materials which cannot be removed effectively by the methods described in

(a) above and which normally require recognized rock excavation methods such as drilling and blasting or use of hydraulic breakers.

In the event of a dispute as to the classification of a material, the decision of the Engineer shall be final.

The Engineer shall be empowered to require rock to be excavated without explosives and payment will be made accordingly.

Limits of Excavation

General

The surfaces exposed by open cut excavation against which concrete (N/A) is to be placed shall be excavated to the lines shown on Drawings or as required by the Engineer. No material shall remain within the outline of structural concrete. Elsewhere in open cut, the excavation shall be to the lines and levels shown on the Drawings or as required by the Engineer except that local points of undisturbed hard rock may be permitted to extend within the required lines of excavation where approved by the Engineer.

Revision of Limits

During the progress of the work, the Engineer may find it necessary or desirable to revise the required

lines and levels of any part of the excavations because of the conditions disclosed by the excavations or for any other reason. When the Contractor is advised of such revision before the excavation of such part has been commenced to the lines and levels shown on the Drawings, the revised excavation will be paid for at the billed rate for the main excavation. If, however, such revision requires additional excavation to be made after the excavation of such part has already been carried out to a point where the normal procedure for the main excavation cannot reasonably be used, the additional work shall be carried out as specified and will be paid for under the contractual provisions for variations. This will include removal of rock and filling of resultant voids which, in the opinion of the Engineer, could not reasonably have been anticipated and are beyond the control of the Contractor.

Excavation beyond Limits

The Contractor shall not deliberately excavate beyond the lines and levels shown on the Drawings or designated by the Engineer (as above or otherwise) without prior written approval. Any deliberate excavation beyond the required lines and levels which is performed by the Contractor for any purpose (such as for working space) shall be at the expense of the Contractor. If such excavation should, in the opinion of the Engineer, require to be backfilled, such backfilling shall be done at the Contractor's expense to the satisfaction of the Engineer with concrete or material similar to the fill to be placed against the excavated surface. Beneath load bearing structures, foundations and other reinforced concrete work, the filling to any over excavation shall be of the same quality concrete as that required for the associated concrete structure unless the Engineer permits leaner concrete.

Where it is intended that concrete (N/A) be cast against the side of excavated material the Contractor may alternatively propose to the Engineer to over excavate, back shutter and backfill, but the Engineer will be under no obligation to accept the proposal and, subject to the conditions listed in the notes on measurement, no extra payment will be made if the alternative proposal is accepted.

Sources of Fill Materials

The Contractor shall obtain the necessary general fill materials for of the works from excavations required to be undertaken for the permanent works.

Other fill materials such as sand, graded aggregate and rock fill for use as fill materials shall be obtained by the Contractor from sources to be approved by the Engineer. The Contractor will be entirely responsible for ensuring that the materials supplied meet the requirements of the Specification including for any necessary crushing, blending or other preparation.

Acceptance by the Engineer of the source of any material in no way will be deemed to imply approval by the Engineer of the material to be supplied, nor shall approval of a potential borrow area be construed as constituting approval of all materials contained therein.

Use of Material from Excavations for the Works

General

Depending on its nature and quality, excavated material will either be:-

- Re-used as fill or backfill;
- taken to spoil.

The Contractor shall select materials as required and use his skills to avoid unnecessary waste of potentially usable materials.

Re - Used Material

Where the Contractor has been informed that the intention is that excavated material is to be re-used elsewhere in the Works, the Contractor shall ensure that his excavation techniques result in material suitable for the particular re-use requirement which is described.

In order to achieve particular materials the Contractor shall be prepared to sort materials into different stockpiles, which he must maintain in an uncontaminated condition. Any contaminated material shall be abandoned and replaced at the Contractor's expense. The contractor may be required to cart the excess contaminated material to spoil or dispose them in-situ as directed by the Engineer. No extra costs will be paid to the contractor for complying with such instructions. In executing the instructions issued by the Engineer, the contractor will be required to give effect to the environmental concerns specified in these specifications.

In all such cases it will be to the Contractor's advantage to phase as far as possible the excavation work to suit the in which the excavated material is to be re-used, particularly as no additional payment for double handling of materials will be made.

Requirements Specific to Excavations for Particular Parts of the Works

Trenches, Manholes and Confined Foundations (N/A)

Confined and narrow excavations, such as for trenches and manholes, shall be excavated with particular care and attention to adequacy of temporary strutting because trench collapses are one of the commonest causes of death and injury on sites. The dangers inherent in inadequate supervision of such work, particularly in water bearing ground or damp conditions, cannot be over-emphasized. Continuous dewatering may be necessary in water bearing ground.

Excavated material shall be cast or moved to a position sufficiently far away from the edge of the trench that instability of the trench wall (supported or otherwise) will not be called into question.

Excavated material which will clearly be unsuitable as backfill shall be removed to spoil as soon as possible after being excavated.

Disposal of Excavated Material

Material which has to be excavated in order to execute the Works, but is unsuitable for purposes or which is surplus to requirements as fill, shall be kept separate from other materials and not allowed to cause contamination of material required for use in the Works. Such unwanted material shall be disposed of by spreading the material in layers in designated spoil areas as directed by the Engineer. The material shall be compacted to the maximum practicable extent by routing the haulage traffic over the area. Permanent spoil areas visible after completion shall be shaped to follow existing contours such that the tips blend in with the local topography. Such disposal areas shall be kept neat and tidy. Surfaces shall be finished and graded to the extent necessary to provide surface drainage, and grassed to prevent future erosion of the materials.

Dust and Noise Prevention

The Contractor shall make masks and ear muffers available to those personnel engaged on operating inherently noisy equipment and other work entailing long-term exposure to dust and noise and the consequent danger of contracting ill effects there from.

The Engineer shall be empowered to ask for excessively noisy equipment to be removed and replaced.

Procedure on Completion of Excavation

Upon substantial completion of excavation, the excavated surface shall be cleared of spoil sufficiently to allow inspection by the Engineer. Final clearing and surface preparation procedures shall not commence until the Engineer has approved the excavated level. Neither shall any excavated surface for the Permanent Works be covered until the Contractor has obtained the approval of the Engineer. The Contractor shall at his own expense uncover any excavation which has been covered without such approval.

Where the material replaced in an excavation is other than the material removed, supports shall be removed before or during filling and in such a way that the material from the walls of the excavation does not contaminate the replacement material.

Excavated surfaces which are to have fill material or concrete placed upon them shall be prepared as specified elsewhere.

Site Investigation

Information regarding the geology of the soil in the region is not provided to the Contractor, the Contractor will be deemed to have made his own enquiries and investigation at the time of tender.

Backfilling of Excavations

Scope

These clauses cover the backfilling of excavations for particular works.

Materials

Fill material used for backfilling/blinding excavations shall be approved Class 1 material free from large clods, large rocks, rubbish and other undesirable constituents. Where free draining material is shown on the Drawings, all layers thereof shall be of consistent quality.

Backfill material shall normally be selected by the Contractor from excavated material at the Site which he has set aside for this purpose. When suitable backfill material cannot be obtained in this manner, it shall be obtained by the Contractor from another borrow source and brought to the Site. Both the source and the type of material to be used will be subject to approval by the Engineer.

Procedure

Unless otherwise agreed, backfilling shall be carried out in layers not exceeding 150 mm after compaction. Each layer shall be watered to the approximate optimum moisture content and thoroughly compacted uniformly over the full area of each layer to the density of the surrounding ground. Unless otherwise instructed, vibrating plate or similar compaction equipment shall be used in confined areas. Where appropriate the final layer of backfill shall be neatly finished to accord with the surrounding ground levels and any settlement which occurs shall be made good by re-compacting and the addition of further compacted backfill/blinding.

CONCRETE WORKS

General

Code of practice

All workmanship, materials, tests and performances in connection with the reinforced concrete work are to be in conformity with the latest edition of British Standard Code of Practice (C.P. 8110 for "Structural Use of Concrete") where not inconsistent with these specifications.

Materials

Cement

Cement, unless otherwise specified, shall be Portland cement of the Blue Triangle brand, or Bamburi Portland Cement brand. Any other brand must be approved by the Engineer and shall comply with the requirements of B.S. 12 with the exceptions that it may contain reactive volcanic ash (of not more than

10% of total weight) and the quantity of insoluble residue permitted in B.S. 12 may be exceeded. A manufacturer's Certificate of Test in accordance with B.S. shall be supplied for each consignment delivered to site.

Should the Contractor require using cement of the rapid hardening variety, he shall obtain the approval of the Engineer and also obtain any instructions regarding the modifications to the preambles caused thereby. Any additional cost that may be caused by the use of the rapid hardening cement shall be at the Contractor's expense.

Cement may be delivered to site either in bags or in bulk. If delivered in bags, each bag shall be properly sealed and marked with the manufacturer's name and on the site is to be stored in a weather-proof shed of adequate dimensions with a raised floor. Each consignment shall be kept separate and marked so that it may be used in the sequence in which it was received. Any bag found to contain cement which has set or partly set shall be completely discarded and not used in the Works. Bags shall not be stored more than 1500 mm in height.

If delivered in bulk the cement shall be stored in a weather-proof silo either provided by the cement supplier or by the Contractor, but in either case the silo shall be to the approval of the Engineer.

Aggregates

The aggregates shall conform to the requirements of B.S. 882 and the sources and all types of all aggregates are to be approved in all respects by the Engineer before work commences.

The grading of aggregates shall be one within the limits set out in B.S. 882 and as later specified and the grading, once approved, shall be adhered to throughout the Works and not varied without the approval of the Engineer. Fine aggregate shall be clean,

coarse, siliceous sand of good, sharp, hard quality and shall be free from lumps of stone, earth, loam, dust, salt, organic matter and any other deleterious substances. It shall be graded within the limits set out in zone 1 or 2 of B.S. 882.

Coarse aggregate shall be good, hard, clean approved black trap or similar stone, free from dust, decomposed stone, clay, earthy matter, foreign substances or friable thin elongated or laminated pieces. It shall be graded within the limits of Table 1 of B.S. 882 for its respective nominal size.

If in the opinion of the Engineer the aggregate meets the above requirements, but is dirty or adulterated in any manner it shall be screened and/or washed with clean water if he so directs at the Contractor's expense.

Aggregates shall be delivered to the site in their prescribed sizes or grading and shall be stockpiled on paved areas or boarded platforms in separate units to avoid intermixing.

Fine aggregate

Fine aggregate shall be sand free from impurities and complying with British Standard No. 882. Grading zone 2 of Table 2.

Coarse aggregate

Coarse aggregate shall be hard crushed rock free from impurities and complying with British Standard No. 882 "graded aggregate" 20 mm to 5 mm nominal size as Table 1.

Water

Water for concrete shall be free from impurities, complying with BS 3148

Sand

The sand shall be as described for fine aggregate but that for plastering shall be light in colour and well graded to a suitable fineness in accordance with the nature of work in order to obtain the finish directed.

SPECIFIC SPECIFICATIONS

NOTES:

The general specifications together with the specific specifications contained in the bills of quantities and the contract drawing will form the specification for the works.

All the general specifications will apply where applicable. In cases where the specifications specified in the general list do not apply; all the specifications specified in the Bill of Quantities shall be adhered to strictly

TECHNICAL SPECIFICATION

1. LEGAL REQUIREMENTS

The Water Act 2002 and Legislative Supplement No. 52 of 28th September 2007 makes provision with respect to the use of groundwater and the construction of wells, and shall apply to the extraction of ground water whether or not in circumstances, which require a permit.

2. DRILLING SITE

The Contractor shall drill the boreholes at the exact locations designated by the Procuring Entity or the Engineer after confirmatory survey has been carried out. The Procuring Entity is responsible for providing all land, way-leaves and easements for the permanent works. The Contractor shall be deemed to have fully informed himself as to the suitability of the roads or tracks to the site and shall exercise due care in the use of such roads and shall make good any damage caused by their use. The Contractor shall provide such temporary tracks to the actual boreholes locations as are necessary, with as little as possible interference with existing fences and cultivated land. Compensation for damage to crops, fences, etc will not be the contractor's responsibility.

3. ENVIRONMENTAL PROTECTION OF THE SITE

Care must be taken in the handling and storage of all drilling fluids, oils, greases and fuel on site to avoid any degradation. The Contractor shall dispose of any toxic materials, drilling fluid and other additives, cuttings and discharged water in a manner approved by the Engineer so as not to create damage to public and private property.

4. SUBMISSION OF SAMPLES

Before incorporating in the permanent works any materials or products, which he supplies under the contract, the Contractor shall submit to the Engineer for his approval a sample of each respective material or product and such samples shall be delivered to and kept by him for reference.

All the respective types of materials and products used in the works shall be at least equal in quality to the approved samples. Each and every sample shall be a fair average of the bulk material or of the product that it represents. The Engineer may decide the method by which each sample to be taken from bulk shall be obtained.

5. WORKMANSHIP

The Contractor is expected to carry out all the works as instructed by the Engineer in a thorough and workman-like manner, and up to current professional standards. He shall carry out operations with the efficiency and dispatch in accordance with the terms of the contract and to the satisfaction of the Engineer. For this purpose the contractor shall use suitable machinery and gear, and supply efficient and experienced staff.

6. STANDARDS

Kenyan, ISO and British Standards current at the date of tender shall apply for materials and Workmanship. Should there be any inconsistency between the three standards, then the Kenyan Standards (KBS) shall apply.

7. CONTRACTOR'S PLANT AND EQUIPMENT

All machinery, equipment and materials to carry out the drilling, test pumping, well-head construction, etc. as specified in the BoQ are to be mobilized to the site. Test Pumping equipment should be independent from the

drilling rig (s). At the start of the contract the Engineer will verify the specifications and state of repair of all major items of plant. He shall have the right to order the removal and/or replacement of any plant that in his opinion is insufficient or unsatisfactory.

8. SITE AGENT

The Contractor shall ensure that during the full construction period, a capable site agent shall be present on site.

9. SUPERVISION OF CONTRACT

The contract is to be supervised by the Procuring Entity's appointed Engineer.

10. BOREHOLE DEPTH AND DIAMETER

The Contractor shall drill to such depth and diameter as will be instructed by the Procuring Entity or the Engineer. No borehole will be acceptable if drilled to such depth and diameter other than instructed by the Procuring Entity or the Engineer. The recommended borehole diameter shall be 203 mm. Drilling at smaller diameter followed by reaming to the recommended diameter will not be acceptable and such reaming shall be the responsibility of the Contractor.

Where yields' exceeding 15 cubic-meters is attained through airlifting estimate, reaming from 203-mm diameter to 254-mm (diameter) may be advisable. This would allow for more than 150 mm (diameter) casing for ease of equipping with bigger capacity pumps for long-term development/advancement in water supply for future demand. Surface casings of 254mm to a depth of 10m followed by 203mm drilling casing and then 152.4mm plain and screen casings should be used. Refer to the Bill of quantities for further specifications.

11. DRILLING METHOD

The Contractor may use any rotary or percussion drilling technique that he feels applicable to Achieve the depth and diameters required within the time for completion specified in the contract.

12. SAMPLING OF CUTTINGS

Representative, continuous samples (minimum, 250 grams) of the strata penetrated shall be collected for each 2-m interval and by whatever method that is standard for the drilling technique in use and approved by the Engineer. Samples are not to be washed! The samples shall be put into suitable sample bags, labeled with waterproof labels with the depth interval and delivered to respective District Water Offices without delay. Geological logging will be the responsibility of the Contractor and is to be carried out by his qualified Hydro-geologist.

13. TEMPORARY CASING

Installation and diameter of any temporary casing required for the construction of the borehole will be left to the Contractor so long as the finished product meets the borehole specifications. Cost for supply, installation and removal of temporary casing shall be borne entirely by the Contractor. The Contractor shall not claim any casing that is not retrievable and left in the borehole.

14. WATER SUPPLY FOR DRILLING/DEVELOPMENT

The Contractor shall make his own arrangements for obtaining, storing, transporting and pumping of water required for drilling/development purposes, and for use by the drilling crew at their campsite. The costs for the same are deemed to be included in the BOQ rates.

15. PLAIN AND SCREEN CASING

160-mm OD (outer diameter) Steel plain and screen casing shall have a minimum wall thickness of 5 mm. The screen open area shall not be less than 4% and shall have a uniform slot size of 1 mm. Aquifer zones shall be completely or partly lined with screen casing as decided and approved by the Engineer. Sections of the plain and screen casing shall be provided in maximum lengths of 6 and 3 meters respectively, and joined watertight by flush threaded connections, or welded, with the joints having the same structural strength as the plain and screen casings and a sump of minimum, 0.5 meters and maximum 2 meters length. The bottom end shall be sealed with bottom cap as shown in the standard design drawing.

- The Engineer in consultation with the Contractor shall provide installation details of the borehole after drilling is completed. One type of standard borehole design is given below;



- Drill 254-mmØ (diameter) to 2.0 meters depth, case at 210 mmØ (OD) with mild steel casing (wall thickness 5 mm) and cement grout for sanitary seal.
- Drill with 203-mm bit to final depth.
- Install 152-mmØ (OD) Steel, (5 mm minimum wall thickness) plain and screen casings as appropriate.
- Screened sections adjacent to the aquifer zone(s) are to be gravel packed to overlap the plain casing by at least 2 meters.

The plain and screen casings must be centralized in the borehole so that a minimum annular space of 20 mm exists between the borehole wall and the casing. Suitable centralizers should be provided to allow the casings to be set correctly in the center of the drilled bore. Along the screened sections a centralizer shall be inserted at every 3-metre interval while along the plain casing the interval shall be every 6-metre interval.

16. VERTICALITY

If required by the Engineer, the Contractor will conduct a verticality test during and after drilling by approved methods to demonstrate that the departure from the verticality does not exceed 3 in 100 between ground level and the base of the borehole. If this departure is exceeded, the Contractor shall make the necessary corrections to the approval of the Engineer without additional payment. If the error cannot be corrected, drilling shall cease, and a new borehole shall be drilled at a position nearby as shall be indicated by the Engineer. No payment shall be made for the alternative drilling and the sealing of the abandoned borehole or for moving to the alternative point.

17. GRAVEL PACK

The Contractor shall supply suitable gravel pack. The gravel pack shall consist of well-rounded particles of uniform grading with 90% siliceous material and conform to the 2-4 mm diameter. There shall be no clay, shales, silt, fines, excessive amounts of calcareous materials and no crushed rock. The Contractor shall be required to submit samples of the material prior to delivery of the supply to be analysed.

The gravel shall be washed before installation. Sufficient amount of gravel pack shall be installed to completely cover the uppermost screen and yonder by additional 2-metres to allow for settling. A good supply of water should be introduced with the gravel to prevent bridging. The gravel pack shall be capped with a 2-metre vertical column of clay seal to prevent any seepage that may contaminate aquifers with subsequent pollution of ground water

The annular space above the clay seal shall be back filled with inert drill-cuttings. The quantity of the gravel pack and backfill to be installed shall be measured using a suitable volumetric method as approved by the Engineer.

18. SANITARY SEAL

To provide an effective seal to the entry of contaminants, up to 2.0-metres depth of the borehole from the surface shall be grouted using cement slurry 1.85-2.15 kg / liter. Grout is to be injected, by a method approved by the Engineer, into the annulus between the casing and the wall of the hole. In addition, any aquifer bearing saline or poor quality water shall also be sealed.

19. YIELD ESTIMATE DURING DRILLING

If rotary drilling method is used, a 90° V-notch flow measurement shall be used in the drain line so that continuous monitoring of air -lift yields can be obtained. Care should be taken to ensure that no floating debris impede the flow of water over the V-notch. The weir shall at all times be kept clear of a build up of silt and other fines. The Contractor shall provide the calibration curve, to be verified and approved by the Engineer, for the V-notch weir. Average yields shall be read and rated at every aquifer struck and as otherwise directed by the Engineer.

For percussion drilling, a bailer test of at least 30 minutes duration shall be carried out for each aquifer encountered.

20. DEVELOPMENT AND CLEANING OF BOREHOLE

The Contractor shall carry out development and cleaning of borehole by airlifting and air jetting methods upon completion of the drilling and installation of casing and gravel pack. This shall be done to remove silts, clays and drilling fluid residues deposited on the borehole wall and adjacent portions of the aquifer during the drilling process.

If organic drilling fluids are used, they shall be broken down chemically according to the manufacturer's recommendations before or during development. Cleaning shall be carried out by airlift pumping, airlift surging, and backwash or jetting. Clay disaggregation by means of sodium hexametaphosphate (Calgon) treatment might be necessary.

Development of the borehole shall be done by airlifting and shall be effective from the depth at which water is encountered to the bottom of the borehole. Development shall continue until the water is completely free from fine particles, as to be decided by the Engineer. Upon completion of development, any accumulation of material shall be removed from the bottom of the borehole by airlifting.

21. TEST PUMPING

Establishing Aquifer Parameters by Borehole Test Pumping

Test pumping of borehole enables measures of aquifer and Borehole parameters. The British Standard BS 6316: 1992 Code of Practice for Test Pumping of Water Wells prescribes the Following elements of test pumping;

- a) A period of recovery after production pumping/development;
- b) A pre-test (calibration, typically 2 to 3 hours);
- c) A period of recovery after pre-test
- d) A step draw-down test (typically five steps, each of 2 hours duration; total 10 hours);
- e) A period of recovery after step draw-down test
- f) A constant discharge test (typically 48 hours); and
- g) A recovery test (typically 24 hours).
- h) Analysis of test results

Step drawdown test results will be analysed to determine:

- I. The turbulent pressure losses at the well face, and
- II. An estimate of the aquifer's transmissivity to determine a suitable pump rate for the constant discharge test.

The constant discharge test results will be analysed to determine:

- a) Whether the aquifer is confined, unconfined or semi-confined;
- b) The aquifer's transmissivity; and where measurements from an observation well are also available, the aquifer's storage coefficient.

The Contractor shall perform test pumping to establish well performance and yield of the borehole. A test-pumping unit shall be provided for the testing of borehole. The method for varying the discharge rate of the pumps used will depend on the type of the pump used. The Contractor shall provide a suitable means of achieving the rate of flow specified. Test pumping should start at least 12 hours after completion of development and cleaning of the borehole. Sufficient time shall be allowed for the recovery of water levels between each type of test. This shall be at the discretion of the Engineer.

Discharge measurements shall be made by volumetric method or otherwise approved calibrated measuring device. During the test pumping, the discharged water must be handled and disposed of in an appropriate manner to a point of overland drainage sufficiently far from the well to prevent recharge. The water shall be diverted over a distance of at least 100-metre from the wellhead. This condition may not be required for confined aquifer but approval to vary this distance must be obtained from the Engineer.

During all test-pumping operations, once the flow rate has been determined and preliminary adjustments made, the measured discharge rate shall be maintained within 5% of the required rate for the duration of the test.

Failure of the pump operation during the tests shall require abortion of the whole test and the test shall be repeated after recovery of the water level. No pay shall be made for aborted tests nor for standing time during water level recovery after aborted tests. Test pumping comprises the following activities:

> **Calibration Test:** - The borehole shall be subject to calibration test to establish the approximate yield and draw down characteristics and to decide upon pumping rates for step draw down or constant discharge tests.

> **Step draw down Test:** - The step draw down test shall comprise pumping the well at three to five separate discharge rates as shall be specified by the Engineer. Each discharge rate shall be pumped for a period of two hours. The change from one pumping rate to the next shall be effected without stopping the pump, but by means of regulating a gate valve in the discharge pipe, or by any other means to be approved by the Engineer. The change from one step to the next shall take place in the shortest time possible. During each step of the draw down test, water levels and discharge measurements shall be taken at appropriate time intervals as shall be instructed by the Engineer; while at the same time electrical conductivity (EC) readings shall be taken. After completion of the last step, 12 hours recovery is to be undertaken. For a very low yielding borehole (<3 m³ /h), the Engineer may waive the requirement of step draw down test.

> **Constant Discharge Test:** - Separate constant discharge test for maximum duration of twenty-four (24) hours of pumping and twelve (12) hours of recovery shall be implemented. The discharge rate at which the well is to be pumped shall be specified prior to the test. During the test, water level and discharge measurements shall be taken at the same time intervals as for the step draw down test. Test pumping data from all tests conducted from each borehole shall be supplied to the Engineer. These will show dates, water levels, discharge rates, EC values, and times of starting and stopping the pumping, change in discharge, weather and other conditions that could affect the test data.

22. WATER LEVEL OBSERVATIONS

The Contractor shall supply appropriate electric contact level gauges for measuring water levels in the borehole to the nearest 10-millimetre at pre-determined intervals. Wellhead arrangements shall permit these gauges to be inserted and passed freely. Hereto the Contractor shall be required to install a dipping tube; minimum .19-millimetre internal diameter (ID) lowered approximately 1-metre above the pump intake or approximately 2-metres below anticipated maximum draw down level. Other methods for measuring water levels are subject to the approval by the Engineer. Cost of water level observations is included in the BOQ rates for test pumping.

23. ELECTRICAL CONDUCTIVITY MEASUREMENTS

The Contractor shall have an operational EC meter on site to take electrical conductivity readings whenever required during drilling, development and test pumping. Costs of taking these readings are included in the rates for drilling, development and test pumping.

24. RECORDS

The Contractor shall keep daily activity records for each borehole. Separate records shall be supplied for borehole upon completion. The records shall contain the information as specified below.

DAILY RECORDS

- a) Site Name;
- b) Borehole Reference Number;
- c) Date of Reporting;
- d) Names of Drilling Team Staff;
- e) Drilling Method;
- f) Bore Diameter and depth, including diameter changes and their corresponding depths;
- g) Depth of the Bore at the start and end of shift/working day;
- h) Depth and size of casing at start and end of shift/working day;
- i) Description of rocks drilled with depths of transitions encountered;
- j) Depths of water struck levels;
- k) Depth of main aquifer;
- l) Estimated yield of airlift measurement when drilling and developing with air;
- m) Time log (min/metre), for penetration rates for given type of bit and standby time due to breakdown;
- n) Depth intervals at which each formation samples are taken;
- o) Records of components and quantities used or added to the drilling or air;
- p) Water level at the start of each working day;
- q) EC measurements;
- r) Problems encountered during drilling;
- s) Details on installation in the borehole (if any);
- t) Depth and description of well plain and screen casing, and
- u) Details of work to be invoiced at hourly rates (e.g. test pumping).

A copy of the daily record shall be made available daily to the Engineer for signature, including any other pertinent data as may be requested by the Engineer.

BOREHOLE COMPLETION RECORD

The borehole completion record should include the following.

Filling borehole construction information as per MoW&I/WRMA standard borehole completion record form;

- a) Driller's log;
- b) Copy of standard chemical water quality test, and
- c) Borehole design and installation details (as-built drawing).
- d) A copy of borehole completion record shall be made available to and approved by the Engineer on completion of the borehole.

25. WATER SAMPLING

Water samples for testing the chemical water quality will be taken by the Engineer at the end of the test pumping. The Engineer shall take the samples to a nearby government laboratory or any other competent laboratory for bacteriological and chemical analyses. The Procuring Entity shall bear the cost of the analysis and related charges.

26. CAPPING THE BOREHOLE

During borehole construction, installation, development and test pumping, the Contractor shall use all reasonable measures to prevent entrance of foreign matter into the borehole. The Contractor shall be responsible for any objectionable materials that may fall into the borehole and any effect it may have on water quality and/or quantity until completion of works and acceptance by the Engineer and/or the Procuring Entity.

27. ACCEPTANCE OF THE BOREHOLE

Borehole shall only be accepted by the Engineer upon satisfactory completion of all borehole construction operations as per the technical specifications.

28. LOSS OF EQUIPMENT

Any equipment lost down a borehole must be removed or the borehole will be considered a lost bore. A replacement borehole will have to be constructed and tested at the Contractor's expense.

29. LOST BORE

Should any incident to the plant, behaviour of the ground, jamming of tools or casing, or any other cause prevent the satisfactory completion of the works, a borehole shall be deemed lost and no payment shall be made for that bore or for any materials not recovered there from, nor for any time spent during drilling or while attempting to overcome problems.

In the event of a lost bore, the Contractor shall permanently seal the bore and construct a borehole immediately adjacent to the lost bore or at a site indicated by the Engineer. The option of declaring any bore lost shall rest with the Contractor, subject to the approval of the Engineer.

The abandoned borehole shall be treated as follows.

The Contractor may salvage as much casing from the bore as possible and use it in the alternative borehole with the approval by the Engineer;

Salvaged materials shall be property of the Contractor;

The lost bore shall be sealed by concrete, cement grout, or neat cement, and shall be placed from bottom upwards by methods that avoid segregation or dilution of materials, and

- (i) The upper two (2)-metres of the bore shall be backfilled with native topsoil. Sealing of the bore shall be done in such a manner as to avoid accidents and to prevent it from acting as a vertical conduit for transmitting contaminated surface or subsurface waters into the water bearing formations.

30. STANDBY TIME

In the event of delays occurring as a result of action or inaction by the Engineer for which the Contractor would be entitled to claim standby time, the contractor should notify the Engineer immediately in writing that such claims are becoming applicable.

32. CONSTRUCTION OF WELLHEAD

The Contractor shall, on completion of each borehole, cap the top of the borehole with a 5-mm-thick mild steel blank flange. The blank flange shall be 300-mm above the ground level and be spot-welded to the 2-rn Song mild steel casing coated internally and externally with two coats of non-toxic bitumen or epoxy paint to the approval of the Engineer.

This casing shall fit neatly over the Steel casing and be permanently grouted in at the time of completion of the borehole (refer to clause 17). Prior to, during and after the construction of the wellhead, the Contractor must ensure that no debris whatsoever falls into the borehole.

33. WELL DISINFECTION

Disinfection of the borehole shall be carried out by the Contractor before demobilization from the site. This shall be done by placing a chlorine solution into the well so that a concentration of at least 50 mg/l of available chlorine exists in all parts of the borehole at static conditions. All the borehole surfaces above the static water level shall be completely flushed with the solution. The solution shall remain in the borehole for a minimum of 2 hours before pumping the borehole to waste.

34. CLEARING THE SITE

On completion of each borehole, the site must be left clean and free from all debris, hydrocarbons and waste, and all pits filled to the approval of the Engineer. A site not delivered clean may render the borehole unacceptable. The specification should be itemized together with

35. STANDARD BOREHOLE DESIGN

In all the boreholes top section of 2.0-m drilled at 254-mm and 210-mm OD, 5-mm wall-thickness, mild steel casing installed and grouted. Borehole drilled at 203-mmØ to final depth. Install 152-mm OD Steel, 5-mm (minimum) wall-thickness, plain and screen casing. Screened sections adjacent to the aquifer zones at depths as instructed by the Engineer. The screened sections to be gravel packed and sealed on top with clay seal.

PREAMBLE TO BILL OF QUANTITIES

- a) These Bills of Quantities form part of the Contract Documents and are to be read in conjunction with the Conditions of Contract Standard Specifications and Drawings.
- b) It shall be the responsibility of the Contractor to arrange for the removal of or alteration to existing services where necessitated by works. Any costs incurred will be paid by the Contractor.
- c) The rates and prices inserted by the bidder in the Bill of quantities are to be fully inclusive of work described under the items and shall cover all overhead charges, incidentals, contingency expenses, taxation and profits.
- d) Unless described as a separate item, the contractor's prices shall include his establishment on site.
- e) The contractor is responsible for the timing and adequacy of material supplies for the contract, and the contractor should give particular attention to the early and sufficient ordering of imported items.
- f) **Should the contractor have any doubt about the exact meaning of any item, Work or figure, he is to inform the Engineer/Procuring Entity and obtain the correct meaning**
- g) The following units of measurement and abbreviation have been used in the BoQ:

Unit

Abbreviation

Millimeter(s)	mm
Metre(s)	m
Square metre(s)	m ²
Cubic metre(s)	m ³
Kilogramme(s)	kg

Unit

Abbreviation

Litre(s)	l
Number(s)	No
Minute(s)	min
Hour(s)	h
Week(s)	Wk
Year(s)	yr.

SECTION IX: TENDER FORMS

• Form of Tender

[date]

To: [name and address of Procuring Entity]

We offer to execute the [name and identification number of contract] in accordance with the Conditions of Contract accompanying this Tender for the Contract Price of [amount in numbers], [amount in words] [name of currency].

The Contract shall be paid in the following currencies:

Currency	Percentage payable in currency	Rate of exchange: one foreign equals [insert local]	Inputs for which foreign currency is required
(a)			
(b)			

The advance payment required is:-

Amount	Currency
(a)	
(b)	

We accept the appointment of [name proposed in Tender Data Sheet] as the adjudicator.

or

We do not accept the appointment of [name proposed in Tender Data Sheet] as the Adjudicator, and propose instead that [name] be appointed as Adjudicator, whose daily fees and biographical data are attached.

We are not participating, as Tenders, in more than one Tender in this Tendering process other than alternative Tenders in accordance with the Tendering documents.

Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the contract has not been declared ineligible by the Kenya Government under Kenya's laws or any other official regulations.

This Tender and your written acceptance of it shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any Tender you receive.

We hereby confirm that this Tender complies with the Tender validity and Tender Security required by the Tendering documents and specified in the Tender Data Sheet.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Tenderer: _____

Address: _____



Confidential Business Questionnaire

- 1 **Individual Tenderer or Individual Members of joint Ventures**
- 1.1 Constitution or legal status of Tenderer: *[attach copy]*
- Place of registration: *[insert]*
- Principal place of business: *[insert]*
- Power of attorney of signatory of Tender: *[attach]*
- Registration certificate *[attach]* current Business License *[attach]*
- 1.2 Total annual volume of construction work performed in two years, in Kenyan shillings as specified in the Tender Data Sheet; *[insert]*
- 1.3 Work performed as prime Contractor on works of a similar nature and volume over the last two years or as specified in the Tender Data Sheet in Kenyan Shillings. Also list details of work under way or committed, including expected completion dates.

Project name and country	Name of client and contact person	Contractors Participation	Type of work performed and year of completion	Value of contract
(a)				
(b)				

- 1.4 Major items of Contractor's Equipment proposed for carrying out the works. List all information requested below. Refer also to sub-Clause 12.3 of the Instructions to Tenderers.

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?)
(a)			
(b)			
(c)			
(d)			

- 1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to sub-Clause 12.3 of the Instructions to Tenderers and Sub-Clause 10.1 of the General Conditions of Contract.

Position	Name	Years of Experience (general)	Years of experience in proposed position
(a)			
(b)			

- 1.6 Proposed sub-contractor and firms involved. Refer to Clause 7 of General Conditions of Contract.

Sections of the Works	Value of subcontract	Subcontractor (name and address)	Experience in similar work
(a)			
(b)			

- 1.7 Financial reports for the number of years specified in the Tender Data Sheet.
- 1.8 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of support documents.
- 1.9 Name, address, and telephone, e-mail address, and facsimile numbers of banks that may provide references if contracted by the Procuring Entity.
- 1.10 Information on current litigation in which the Tenderer is involved.

Other party(ies)	Cause of dispute	Amount involved
(a)		
(b)		

1.11 Statement of compliance with the requirements of sub-Clause 3.2 of the Instructions to Tenderers.

1.12 Proposed Program (work method and schedule). Descriptions, drawings, and charts, as necessary, to comply with the requirements of the Tendering documents.

2. Joint Ventures

2.1 The information listed in 1.1 – 1.11 above shall be provided for each partner of the joint venture.

2.2 The information in 1.12 above shall be provided for the joint venture.

2.3 Attach the power of attorney of the signatory (ies) of the Tender authorizing signature of the Tender on behalf of the joint venture.

2.4 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:

- (a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- (b) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
- (c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

3. Additional Requirements

3.1 Tenderers should provide any additional information required in the **Tender Data Sheet** or to fulfil the requirements of sub-Clauses 12.1 of the Instructions to Tenderers, if applicable.

Integrity Declaration

UNDERTAKING BY TENDERER ON ANTI – BRIBERY POLICY / CODE OF CONDUCT AND COMPLIANCE PROGRAMME

1. Each Tenderer must submit a statement, as part of the Tender documents, in either of the two given formats which must be signed personally by the Chief Executive Officer or other appropriate senior corporate officer of the Tendering company and, where relevant, of its subsidiary in the Kenya. If a Tender is submitted by a subsidiary, a statement to this effect will also be required of the parent company, signed by its Chief Executive Officer or other appropriate senior corporate officer.
2. Tenderers will also be required to submit similar No-bribery commitments from their subcontractors and consortium partners; the Tenderer may cover the subcontractors and consortium partners in its own statement, provided the Tenderer assumes full responsibility.
3.
 - a) Payment to agents and other third parties shall be limited to appropriate compensation for legitimate services.
 - b) Each Tenderer will make full disclosure in the Tender documentation of the beneficiaries and amounts of all payments made, or intended to be made, to agents or other third parties (including political parties or electoral candidates) relating to the Tender and, if successful, the implementation of the contract.
 - c) The successful Tenderer will also make full disclosure [quarterly or semi-annually] of all payments to agents and other third parties during the execution of the contract.
 - d) Within six months of the completion of the performance of the contract, the successful Tenderer will formally certify that no bribes or other illicit commissions have been paid. The final accounting shall include brief details of the goods and services provided that they are sufficient to establish the legitimacy of the payments made.
 - e) Statements required according to subparagraphs (b) and (d) of this paragraph will have to be certified by the company's Chief Executive Officer, or other appropriate senior corporate officer.
4. Tenders which do not conform to these requirements shall not be considered.
5. If the successful Tenderer fails to comply with its No-bribery commitment, significant sanctions will apply. The sanctions may include all or any of the following:
 - a) Cancellation of the contract;

- b) Liability for damages to the public authority and/or the unsuccessful competitors in the Tendering possibly in the form of a lump sum representing a pre-set percentage of the contract value (liquidated).
- 6. Tenderers shall make available, as part of their Tender, copies of their anti-Bribery Policy/Code of Conduct, if any, and of their-general or project - specific - Compliance Program.
- 7. The Government of Kenya has made special arrangements for adequate oversight of the procurement process and the execution of the contract, and has invited civil society and other competent Government Departments to participate in the oversight. Those charged with the oversight responsibility will have full access to all documentation submitted by Tenderers for this contract, and to which in turn all Tenderers and other parties involved or affected by the project shall have full access (provided, however, that no proprietary information concerning a Tenderer may be disclosed to another Tenderer or to the public).

ANTI-CORRUPTION DECLARATION COMMITMENT/ PLEDGE

(Sections 176, 177 & 178 of the PPADA Act, 2015)

I/We/Messrs.....

of Street, Building, P O Box.....

.....

Contact/Phone/E mail.....

declare that Public Procurement is based on a free and fair competitive Tendering process which should not be open to abuse.

I/We

declare that I/We will not offer or facilitate, directly or indirectly, any inducement or reward to any public officer, their relations or business associates, in connection with

Tender/Tender No

.....

for or in the subsequent performance of the contract if I/We am/are successful.

Authorized Signature.....

Name and Title of Signatory.....

Letter of Acceptance

[Letter head paper of the Procuring Entity]

[date]

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

This is to notify you that your Tender dated [date] for execution of the [name of the Contract and identification number, as given in the Contract Data Sheet] for the Contract Price of the equivalent of [amount in numbers and works] [name of currency], as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by us.

We confirm that *[insert name proposed by the procuring entity]* to be the Adjudicator.

We accept that *[name proposed by Tenderer]* be appointed as Adjudicator.

Or

We do not accept that *[name proposed by Tenderer]* be appointed as adjudicator, and by sending a copy of this letter of acceptance to *[insert the name of the Appointing Authority]*, we are hereby requesting *[name]*, the Appointing Authority, to appoint the adjudicator in accordance with Clause 44.1 of the Instructions to Tenderers.

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

Please return the contract dully signed.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

ATTACHMENT: FORM OF CONTRACT

Form of Contract Agreement

THIS AGREEMENT, made on the _____ (**Day, Date, Month, Year**) between Tana Water Works Development Agency (TWWDA), Maji House, Baden Powell Road, P.O. Box 1292 – 10100, NYERI (hereinafter called “the Employer”) of the one part AND _____ (Name of winning bidder and address, Town) (hereinafter called “the Contractor”) of the other part covers the _____ (**Tender No. TWWDA/---/-----**).

Whereas the Employer is desirous that the Contractor executes the _____ (hereinafter called “the Works”) and the Employer has accepted the Tender submitted by the Contractor for the execution and completion of such Works and the remedying of any defects therein for the Contract Price of **KES** _____ (**Kenya Shillings** _____) **16% VAT Inclusive**.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents that were uploaded on TWWDA website (www.tanawwda.go.ke) as part of the tender document shall be deemed to form part of the tender document and shall be read and construed as part of this or any subsequent Agreement arising from this contract, that may be entered into between the winning bidder and the Procuring Entity thereby binding the parties thereto:
 - (i) Instruction to tenderers (ITT);
 - (ii) General Condition of Contract (GCC);
 - (iii) Special Condition of Contract (If any);
 - (iv) Technical Specifications;

- (v) Performance Bank Guarantee and Bank Guarantee for advance payment (where applicable);
 - (vi) Application to PPARB;
 - (vii) Drawings (where provided).
3. The following documents shall be deemed to form a summarized contract document and shall be read and construed as a summarized Agreement between the winning bidder and the Employer (TWWDA):
- i. Introduction;
 - ii. Invitation to Tender;
 - iii. Tender Data Sheet (TDS) as per the bid document;
 - iv. Contract Data Sheet (CDS) as submitted in the bid document;
 - v. Form of Tender duly filled by the contractor in the bid document ;
 - vi. Duly filled Tender Security Bank Guarantee/ Filled Tender Security Declaration Form (for firms under Special Groups) as the case may be;
 - vii. Confidential Business Questionnaire form as submitted in the bid document;
 - viii. Integrity Declaration/Anti-Corruption Declaration Commitment/Pledge;
 - ix. Form of Agreement/Contract;
 - x. Evaluation criteria;
 - xi. Priced Bills of Quantities (BOQ) by the contractor as submitted in the bid document;
 - xii. The Procuring Entity`s signed Notification of Intention to enter into a Contract;
 - xiii. Signed Letter of Acceptance from the contractor;

- xiv. Policies and certificates for insurance (if any) and where the contractor fails to submit original copies of such policies and certificates of insurance (if it is a requirement), the P.E. shall have a right to recover any premiums that may be paid from the amount due from cost/s payable to the contractor.
4. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
5. 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 hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of **TANA WATER WORKS DEVELOPMENT AGENCY**

Name: _____

Designation: **CHIEF EXECUTIVE OFFICER-TWWDA**

Signature: _____

Date: _____

In the presence of:

Witness: Name: _____

Address: **1292-10100, NYERI**

Signature: _____

Date: _____

.....

For and on behalf of the Contractor: **MS** _____

Full name of Contractor's

Authorized representative: _____

Designation: _____

Signature: _____

Date: _____

In the presence of:

Witness: Name: _____

Address: _____

Signature: _____

Date: _____

SECTION X: FORMS OF SECURITY

- **Tender Security (Bank Guarantee)**

*[If required, the **Bank /Tenderer** shall fill in this Guarantee form in accordance with the instructions indicated in brackets.]*

[insert bank's name, and address of issuing branch or office]

Beneficiary: *[insert name and address of Procuring Entity]*

Date: *[insert date]*

TENDER GUARANTEE No.: *[insert number]*

We have been informed that *[insert name of the Tenderer; if a joint venture, list complete legal names of partners]* (hereinafter called "the Tenderer") has submitted to you its Tender dated *[insert date]* (hereinafter called "the Tender") for the execution of *[insert name of Contract]* under Invitation for Tenders No. *[insert IFT number]* ("the IFT").

Furthermore, we understand that, according to your conditions, Tenders must be supported by a Tender Guarantee.

At the request of the Tenderer, we *[insert name of bank or insurance company]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures expressed in the currency of the Purchaser's Country or the equivalent amount in an international freely convertible currency]* (*[insert amount in words]*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Tenderer is in breach of its obligation(s) under the Tender conditions, because the Tenderer;

- a) Has withdrawn its Tender during the period of Tender validity specified by the Tenderer in the Form of Tender; or
- b) Does not accept the correction of errors in accordance with the Instructions to Tenderers (hereinafter "the ITT") of the IFT; or
- c) Having been notified of the acceptance of its Tender by the Procuring Entity during the period of Tender validity;
 - (i). Fails or refuses to execute the Contract Form, if required, or
 - (ii). Fails or refuses to furnish the Performance Security, in accordance with the ITT.

This Guarantee shall expire;

- a) If the Tenderer is the successful Tenderer, upon our receipt of copies of the Contract signed by the Tenderer and of the Performance Security issued to you by the Tenderer; or

- b) If the Tenderer is not the successful Tenderer, upon the earlier of;
- (i) Our receipt of a copy of your notification to the Tenderer that the Tenderer was unsuccessful, or
 - (ii) Thirty days after the expiration of the Tenderer's Tender.

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date.

[signature(s) of authorized representative(s)]

Tender-Securing Declaration

Date: *[insert **date** (as day, month and year)]*

Tender No.: *[insert **number of Tendering process**]*

Alternative No.: *[insert **identification No if this is a Tender for an alternative**]*

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

We, the undersigned, declare that:

We understand that, according to your conditions, Tenders must be supported by a Tender-Securing Declaration.

We accept that we will automatically be suspended from being eligible for Tendering in any contract with the Procuring Entity for the period of time of *[insert **number of months or years**]* starting on *[insert **date**]*, if we are in breach of our obligation(s) under the Tender conditions, because we;

- a) Have withdrawn our Tender during the period of Tender validity specified in the Form of Tender; or
- b) Having been notified of the acceptance of our Tender by the Procuring Entity during the period of Tender validity,
 - (i). Fail or refuse to execute the Contract, if required, or
 - (ii). Fail or refuse to furnish the Performance Security, in accordance with the ITT.

We understand this Tender Securing Declaration shall expire if we are not the successful Tenderer, upon the earlier of;

- 1) Our receipt of your notification to us of the name of the successful Tenderer; or
- 2) Thirty days after the expiration of our Tender.

Signed: *[insert signature of person whose name and capacity are shown]* In the capacity of *[insert legal capacity of person signing the Tender Securing Declaration]*

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

Duly authorized to sign the Tender for and on behalf of: *[insert **complete name of Tenderer**]*

Dated on _____ day of _____, _____ *[insert **date of signing**]*
Corporate Seal (where appropriate)

Performance Bank Guarantee [Unconditional]

[The **Bank /successful Tenderer** providing the Guarantee shall fill in this form in accordance with the instructions indicated in brackets, if the Procuring Entity requires this type of security.]

[insert bank's or insurance company's name, and address of issuing branch or office]

Beneficiary: *[insert name and address of Procuring Entity]*

Date: *[insert date]*

PERFORMANCE GUARANTEE No.: *[insert Performance Guarantee number]*

We have been informed that *[insert name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. *[insert reference number of the Contract]* dated with you, for the execution of *[insert name of Contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Contractor, we *[insert name of Bank or Insurance Company]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or 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 expire not later than thirty days from the date of issuance of the Taking-Over Certificate.

[signature(s) of an authorized representative(s) of the Bank]

Bank Guarantee for Advance Payment

[Bank's Name and Address of Issuing Branch or Office]

Beneficiary: _____ *[Name and Address of Procuring Entity]*

Date: _____

ADVANCE PAYMENT GUARANTEE No.: _____

We have been informed that *[name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. *[reference number of the contract]* dated _____ with you, for the execution of *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[amount in figures]* (____) *[amount in words]* is to be made against an advance payment guarantee.

At the request of the Contractor, we *[name of Bank or Insurance Company]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in figures]* (____) *[amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between _____ *[name of Procuring Entity]* and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

No drawing may be made by you under this guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Contractor pursuant to the Contract.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the ____ day of _____, 2____, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,

Signature and seal: _____

Name of Bank: _____

Address: _____

Date: _____

SECTION XI: APPLICATION TO PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

FORM RB 1

REPUBLIC OF KENYA
PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO.....OF.....20.....

BETWEEN

.....APPLICANT

AND

.....RESPONDENT (*Procuring Entity*)

Request for review of the decision of the..... (*Name of the Procuring Entity*) of
.....dated the...day of20.....in the matter of Tender No.....of
.....20...

REQUEST FOR REVIEW

I/We.....,the above named Applicant(s), of address: Physical
address.....Fax No.....Tel. No.....Email, hereby request the Public
Procurement Administrative Review Board to review the whole/part of the above mentioned
decision on the following grounds , namely:-

- 1.
 - 2.
- etc.

By this memorandum, the Applicant requests the Board for an order/orders that: -

- 1.
 - 2.
- etc

SIGNED (Applicant)

Dated on.....day of/...20...

FOR OFFICIAL USE ONLY

Lodged with the Secretary Public Procurement Administrative Review Board on day of
.....20.....

SIGNED

Board Secretary

SECTION XII: EVALUATION CRITERIA

**TANA WATER WORKS DEVELOPMENT AGENCY
EVALUATION CRITERIA**

BIDDER NO.....BIDDER NAME.....

STAGE 1 – MANDATORY REQUIREMENTS

**ALL BIDDERS BEING FROM THE LIST OF THE 2021-2023 TWWDA/PQ/028/2021-2023
REGISTRATION OF CONTRACTORS FOR DRILLING OF BOREHOLES**

In this stage bidders are to be evaluated on yes or no basis. Any bidder who does not meet any of the requirements in this stage does not proceed to stage 2. The evaluator must clearly indicate the reasons for disqualification (if any) at the bottom of the table

	MANDATORY REQUIREMENTS	Yes	No	Remarks (Fail or Pass) at the bottom
	Submission of valid documents under listed:-			
1.	Tender Security as described in the ITT and in the prescribed format indicated in the tender forms. The expiry period MUST not be less than Thirty days after the expiration of the Tenderer's Tender.			
2	Form of Tender MUST be duly filled in the prescribed format, stamped and signed by an authorized person and any Cancellations in the Form of Tender MUST be countersigned.			
3	The BoQ MUST be duly filled, stamped and signed by an authorized person and any cancellations in BoQs and MUST be Countersigned.			
4	The Bidder MUST provide Power of Attorney to the person signing the tender			
5	Original Pre Bid Site visit Certificate must be attached			
6.	A copy of a valid AGPO certificate (Youths Category)			
	REMARKS			

In this stage bidders are to be evaluated on marks. Any bidder who does not achieve at least 75% in this stage will not proceed to stage 3

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STAGE 3 – FINANCIAL COMPARISONS

At this stage, bidders' financial quotations will be compared with each other. The award will be to the lowest evaluated bidder (who will be position one). The Evaluation Committee should rank the bidders from the lowest evaluated bidder to the highest Evaluated to provide a fall back where the lowest evaluated bidder formally declines to accept the offer upon notification.

Bidder's Name	
Financial Quotation	KES
Position	Out of

Evaluation carried out by.....Sign.....

Confirmed by:

1.Sign.....
2.Sign.....
3.Sign.....
4.Sign.....
5.Sign.....

Date.....

BILLS OF QUANTITIES

PREAMBLE TO THE BILLS OF QUANTITIES

GENERAL DIRECTIONS

1. The Conditions of Contract together with the Specification and the Drawings shall be read in conjunction with the Bill of Quantities and in so far as they have any bearing shall be referred to for details of the description, quality, test and strength of material used and the workmanship, conditions, obligations, liabilities and instructions generally which shall be complied with in carrying out this Contract. The cost of complying with all conditions, obligations and liabilities described in the Conditions of Contract and Specification and in the Bill of Quantities, including all overhead charges shall be deemed to be spread over and included in the prices or sums stated by the Contractor in the Bill of Quantities.
2. Each item shall be priced and extended to the "Amount" column by the Contractor with the exception of the items for which a rate only is required or which already have Provisional Sums affixed thereto. If the Contractor omits to price any items in the bill of quantities then the cost of the work of such items shall be held to be spread over and included in the prices given in the other items of work. The Day work Schedule shall also be completed.

The Bill of Quantities has been divided into sections, where possible. Notwithstanding such division of the Works for convenience of pricing and re-measurement thereof, nothing contained therein shall in any way relieve nor be deemed to relieve the Contractor of his responsibility set forth elsewhere in the contract.

3. The quantities of work and material set forth in the Bill of Quantities are in estimate only and are not to be considered as limiting nor as extending the amount of work to be done and material to be supplied by the Contractor. The Works as completed in accordance with the Contract shall be measured and paid for as described in this Bill of Quantities and in accordance with the Conditions of Contract and Specification.
4. Progress payments in the Interim Certificate referred to in Clause 60 of the Conditions of Contract in respect of "sum" items in the Bill of Quantities shall be by means of interim progress instalments, such instalments not exceeding in aggregate the total of each sum item. Such interim progress instalments shall be assessed by the Engineer based on the extent that the work to be done or liabilities or charges to be incurred by the Contractor under the description of each item bears to the extent of such work, liabilities or charges actually carried out under each sum item from time to time.

Such progress payments in respect of sum items shall be subject to the terms of retention referred to in Clause 60 of the Conditions of Contract.

5. The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:-

km	=	Kilometre
m	=	Metre
mm	=	Millimetre
m ²	=	Square Metre
m ³	=	Cubic Metre
mm ²	=	Square Millimetre
nr.	=	Number
kg	=	Kilogramme
Mg	=	Megagramme (metric tonne)
litre	=	Litre
ml	=	Millilitre (cubic centimetres)

All rates and sums of money quoted in the Bill of Quantities shall be in Kenya Shillings and Cents.

The Contractor is referred to the Additional General Instructions Clause 1 to 17 inclusive hereafter regarding measurement and pricing of the various items in the Bill of Quantities, and these instructions shall be read in conjunction with the Specification, Conditions of Contract and Drawings as stated in 1 above.

6. The following abbreviations are used in the description of items in the Bills of Quantities:-

A.C.	=	Asbestos Cement
C.I.	=	Cast Iron (Grey Iron)
D.I.	=	Ductile Iron
E.O.	=	Extra Over
m.h.	=	Manhole
n.e.	=	Not exceeding
r.c.	=	Reinforced concrete
p.c.	=	Precast Concrete
uPVC	=	unplasticized Poly Vinyl Chloride

PARTICULAR INSTRUCTIONS FOR MEASUREMENTS AND PRICING OF ITEMS IN THE BILL OF QUANTITIES

NB: These terms shall apply only where appropriate in so far as Drilling, Development and Test Pumping borehole is concerned. (REFER TO BOQ)

• 1. Dealing with Water

No measurement will be taken for the construction, maintenance and removal of temporary diversion works or other works including pumping required for dealing with water during the execution of the Works except where specifically required and items appear in the Bill of Quantities.

2. Site Clearance and Demolition

The units of measurement shall be:

(i)	General Site Clearance	square metres
(ii)	General Site clearance for pipelines	metre
(iii)	Removal of trees and stumps	number
(iv)	Demolition of building and structures	sum
(v)	Demolition of pipelines	metre

Girths of trees shall be measured 600 mm above ground level.

There will be no measurement of the stumps of trees which are themselves to be removed.

General Site clearance shall include the removal of trees with a girth less than 500 mm and stumps of diameter less than 150mm.

3. Excavation and Earthworks

(a) The units of measurements shall be:

(i)	Bulk excavation and filling	cubic metre
(ii)	Excavation, filling and compaction for pipelines	metre
(iii)	Excavation in rock, extra over (i) and (ii) above	cubic metre
(iv)	Preparation of surface, trimming of slopes, pitching, soiling and grassing	square metres

(b) Method of Measurement

- (i) Earthworks measured by the cubic metre. The measured volume shall be the net-in-situ volume obtained from the difference between the lines, levels and profiles of the ground or rock surface agreed with the Engineer before excavation is commenced and the lines, levels and profiles as shown on the Drawings, or as may be ordered by the Engineer as necessary for the Works. Where the Drawings do not indicate the profiles of the excavation, the measured volume shall be the volume of the voids that would be formed if the completed structure, for which the excavation is performed, were to be lifted vertically out of the ground.

- (ii) Pipelines measured by the cubic metre.

Where excavation for pipe runs is measured in the Bill of Quantities by the cubic metre then the measurement shall be taken as the vertical depth from the commencing surface down to formation level and the width of the excavation as 400 mm wider than the nominal internal diameter of the pipe or as directed by the Engineer.

- (iii) Pipelines measured by the metre

Depths used for classification in the Bill of Quantities shall be measured from the commencing surface to the inverts of the pipes.

- (iv) No measurement will be taken for material excavated beyond the limits and levels specified above.

(c) Item Coverage

No separate payment will be made beyond the rates for excavation for:-

- (i) All necessary Temporary Works including dealing with water in the excavation;
- (ii) Any over breakage and any additional working space required and refilling of same;
- (iii) Making good all slips or falls of materials;
- (iv) Trimming of excavation to correct lines levels and profiles;
- (v) Preparation of foundations as specified except where specifically provided for in separate Bill items;
- (vi) Reinstatement of ground along pipelines to its former nature except where specifically provided for in separate Bill items
- (vii) Location, uplifting, transportation, handling and sorting of approved selected material from the excavations for use in the backfilling of trench and other excavations;
- (viii) Backfilling and disposal of materials and removal of surplus to spoil dump all as specified.

(d) Filling:

Normal material from store forming embankments around structures shall be measured by the cubic metre as the net compacted volume of filling comprised within the sections shown on the Drawings to the approval of the Engineer. No extra payment will be made for additional material placed to allow for the effect of settlement.

4. Concrete and Reinforced Concrete

- (a) The units of measurement shall be:

- (i) In-situ concrete other than blinding and granolithic concrete cubic metre
- (ii) Blinding concrete and granolithic concrete with the thickness stated square metre

- (b) Method of measurement:

All cast-in-situ concrete will be the quantity calculated from the dimensions shown on the Drawings or as approved by the Engineer. No deductions in the measurement will be made for:

- (i) Mortar beds;
- (ii) chamfers, ducts, chases, fillets, splays, drips, rebates, recesses, grooves and the like, not exceeding 0.005 square metres in cross sectional area;
- (iii) Bolt holes, pockets, sockets, mortices and the like formed in the concrete not exceeding 0.1 cubic metres in volume.
- (iv) Cast in components each less than 0.1 cubic metres in volume;
- (v) Reinforcement and other metal sections.

(c) Item coverage:

No separate payment will be made beyond the rates for concrete for:-

- (i) Trial mixes (for Specification Classes of concrete only);
- (ii) Supply of cement, water and processed aggregates;
- (iii) Supply and placing of mortar beds or rendering as specified;
- (iv) Mixing, transporting, placing, compacting, surface tamping to provide U finish, protecting and curing the concrete;
- (v) hacking, cleaning and roughening by wet sand blasting, scrubbling or other means concrete surfaces on or against which further concrete is to be placed;
- (vi) Rubbing down faces;
- (vii) shuttering and waterstops to construction joints, not expressly required by the Engineer, Keys and the like.
- (viii) Providing samples and testing of materials and concrete;
- (ix) Provision and use of admixtures;
- (x) Placing and compacting concrete around steel reinforcement and other cast in components;
- (xi) Placing and compacting concrete at varying heights;
- (xii) Creating falls, cambers and shaped profiles;
- (xiii) Formwork to edge of concrete in blinding layers;
- (xiv) All additional concrete to fill overbreak and/or working space;
- (xv) Where concretes of different cement contents are required to be placed simultaneously in the same life of concrete;
- (xvi) Placing and compacting concrete to inclined or battered faces including any necessary upper surfaces formwork inclined at an angle of less than 15E to be horizontal.

5. Precast Concrete

(a) The units of measurement shall be:

- | | | |
|------|---|--------|
| (i) | Beams, slabs, segmental units: | number |
| (ii) | Copings, sills and the like of uniform cross-section: | metre |

- (b) The term "precast concrete" applies to any concrete unit or member cast on site but not in its final position and to concrete units or members manufactured off site.

- (c) Item coverage:

No separate payment will be made beyond the rates for precast concrete for:

- (i) trial mixes;
- (ii) reinforcement, cement and processed aggregates;
- (iii) formwork, surface finishing, lifting devices and bearing plates;
- (iv) forming sockets, holes, grooves, rebates recesses and ducts; and except where otherwise indicated,
- (v) handling, laying and fixing the units in position;
- (vi) aligning members and units, adjusting levels and soffit profiles, and temporary fixing to prevent displacement;
- (vii) cutting and trimming copings, sills and the like to size.

6. Steel Reinforcement

- (a) The Units of measurement shall be:

- | | | |
|-------|--|-----------------|
| (i) | Steel rod reinforcement | kilogramme (kg) |
| (ii) | Steel fabric reinforcement | square metres |
| (iii) | Steel dowels of stated diameter and length | number |

- (b) Method of measurement:

The weight of steel rod reinforcement shall be calculated on the basis that steel weighs 7,850 kgs per cubic metre. The steel rod reinforcement shall be measured as the net theoretical calculated weight of the steel actually used in the work (including laps as specified) in accordance with the bending schedules prepared by the Engineer with no allowance being made in the measurement thereof for rolling margin or otherwise. Tying wire shall not be measured.

Fabric reinforcement shall be measured as the area of work covered, the weight per square metre being stated.

- (c) Item coverage:

No separate payment will be made beyond the rates for steel reinforcement for:

- (i) Supplying, cutting to length, cleaning, bending, hooking, waste incurred by cutting, handling;

- (ii) Placing and fixing in the required position, including binding wire or other approved material;
- (iii) Placing supports and spacers;
- (iv) Extra fabric reinforcement in laps;
- (v) In the case of dowels - drilling holes or forming pockets in the structure and casting dowels into their final position.

7. Formwork

(a) The units of measurement shall be:

- (i) General formwork square metre
- (ii) Formwork less than 300mm wide metre
- (iii) Boxouts, pockets, etc. of stated size number
- (iv) Rebates, chases, etc. of staged size metre

(b) Method of measurement

Subject to the limitations stated below general formwork will be measured as the superficial area of formwork actually in contact with the finished face of the concrete but no deduction shall be made for openings in formwork of 0.4 square metres or less.

Formwork shall not be measured:

- (i) for forming construction joints (whether shown or not on the Drawings), skewbacks, stunt ends, steppings, bonding chases, keys and the like;
- (ii) for forming boxouts, pockets, etc., of stated size that are measured by number;
- (iii) for forming rebates, chases, etc., of stated size that are measured by the metre;
- (iv) to edge of concrete in blinding layers;
- (v) to upper surfaces of concrete inclined at angle of less than 15EC to the horizontal.

(c) Classification of formwork;

Plane formwork shall be classified according to its angle of inclination as follows:-

Class	Angle of inclination to the vertical
Horizontal	5E- 90E
Sloping	10E- 85E
Battered	0E- 10E
Vertical	0E

(d) Item coverage:

No separate payment will be made beyond the rates for formwork for:

- (i) falsework, centering, fabricating, assembling, cutting, fitting and fixing in position and taking all measurement necessary to produce the required profiles;
- (ii) forming cambers or falls;
- (iii) linings and taking all measures necessary to produce the required finish to the surfaces of the concrete;
- (iv) cutting and fitting around projecting members, pipes reinforcement and the like;
- (v) forming fillets, chamfers, splays, drips, rebates, recesses, grooves and the like not exceeding 0.0025 square metre in cross-sectional area, unless itemised in the Bill of Quantities.
- (vi) maintaining in place until it is struck and allowing for any variation from the minimum period for striking arising from prevailing weather conditions.
- (vii) striking, taking down and removing;
- (viii) any additional concrete provided in lieu of formwork to fill overbreak or working space.

8. Building in Plant, Equipment and Pipework

Items appear in the Bill of Quantities for building-in plant equipment and pipework. The rates in the Bill of Quantities shall include for all materials, formwork, etc. required for such building-in. No additional payment will be made should the Contractor choose to form boxouts, pockets, etc., and grout in at a later date.

9. Unshuttered Surfaces

The unit of measurement shall be square metre

Unshuttered surfaces are described in the Specification. Items are provided where appropriate for surface finish type U2, U3 and U4 and the rates entered under these items shall include for all material, plant and labour required to finish the unshuttered concrete as specified.

No measurement shall be made for the normal screeded finish type U1.

10. Breaking out Reinforced Concrete and Blockwork

(a) The units of measurement shall be:

- (i) Breaking out, section thickness stated or shown on the Drawings -cubic metres
- (ii) Making good perimeter of permanent openings, section thickness stated or shown on the Drawings square metre
- (iii) Building in pipe work, etc of stated size number

(b) Method of measurement:

- (i) Breaking out. The section thicknesses stated or shown on the Drawings are nominal thicknesses only. For measurement the thicknesses of the sections shall be as measured on Site.
 - (ii) Making good. For measurement purposes the perimeter shall be that existing after any making good of permanent openings. The perimeters and section thicknesses shall be as measured on site. The rates in the Bill of Quantities shall include for all materials, formwork, etc. and for filling of overbreak.
- (c) Item coverage:

No separate payment will be made beyond the rates for breaking out for:

- (i) All equipment necessary;
- (ii) Any temporary supports, staging and the like;
- (iii) Any overbreak;
- (iv) Material for building in pipes and supporting the pipe;
- (v) Formwork;
- (vi) Removal of broken out materials off site;
- (vii) Cutting through reinforcement.

11. Pipes and Pipe work

- (a) The units of measurement shall be:

- (i) Pipelines : metre
- (ii) Pipework, fittings and valves : number

- (b) Method of measurement:

- (i) Lengths of pipelines shall be measured net as laid along their centre lines.
- (ii) Short lengths of pipes, the dimensions of which are detailed in the Bill of Quantities, shall be measured by number.
- (iii) Lengths of drainage pipes built into manholes and other chambers shall be measured from the inside faces of chambers.

- (c) Item coverage:

No separate payment will be made beyond the rates for pipes and pipework for:-

- (i) Cost of supplying all pipes, jointing materials and short lengths to suit fittings;
- (ii) All necessary cutting and waste;
- (iii) All plant, labour and materials required for handling, distribution, laying and jointing in position;
- (iv) Testing of the pipe system.

12. Pipework Ancillaries

(a) The units of measurement shall be:

- | | | |
|------|---|-------------|
| (i) | Beds, haunches and surrounds: | metre |
| (ii) | Concrete stools and thrust and anchor blocks: | cubic metre |

(b) Method of measurement:

- (i) Separate measurement shall not be made for beds to haunched or surrounded pipes where the same material is used for beds and haunches or beds and surrounds respectively.

(c) Item coverage:

No separate payment will be made beyond the rates for thrust blocks, surrounds and the like for:

- (i) Excavation including working space;
- (ii) Formwork type F1 finish;
- (iii) Providing unshuttered surfaces to type U1.

13. Structural and Miscellaneous Metal Work

(a) The units of measurement shall be:

- | | | |
|-------|---|---------------------------|
| (i) | Structural and miscellaneous metal work including stairways, landings, walkways and platforms . | Megagramme (Metric tonne) |
| (ii) | Ladders, handrails and the like | metre |
| (iii) | Flooring, duct covers and the like | square metre |
| (iv) | Tanks | number |

(b) Method of measurement:

The weight of mild steel to B.S 4360 grades 43A1 and 43A shall be taken for measurement as 7,850 kg/cu. m.

The measurement of metal work in (a) (i), including bolts, washers, and all other fixing shall be the net theoretical calculated weights of metalwork used in the work in accordance with the Drawings or as ordered by the Engineer. No allowance shall be made in the measurement thereof for rolling margin and other permissible deviations from standard weights.

(c) Item coverage:

No separate payment will be made beyond the rates for metal work for:

- (i) Cost of supplying materials;
- (ii) moulding, fabricating, welding, drilling, machining, screwing, galvanizing or painting as may be specified.
- (iii) Handling, transporting, hoisting, fitting and fixing in position complete;
- (iv) supply of all fixings;
- (v) Painting after erection as specified;

14. Brickwork, Blockwork and Masonry

(a) The units of measurements shall be:

- (i) Brickwork, blockwork and masonry not exceeding 1 metre in thickness square metres
- (ii) Brickwork, blockwork and masonry exceeding 1 metre in thickness cubic metres
- (iii) Damp proof courses, wall thickness stated metre

(b) Method of measurement:

- (i) Volumes and areas measured for brickwork, blockwork and masonry shall include the volumes and areas of joints.
- (ii) No deduction or addition to the volumes and areas measured shall be made for rebates, projecting courses or other surface features each less than 0.05 square metre in cross sectional area.
- (iii) No deduction from the Volumes and areas measured shall be made for holes and openings in walls or surfaces each less than 0.25 square metre in cross-sectional area.
- (iv) Areas shall be measured at the centre lines of brickwork, blockwork and masonry.

(c) Item coverage:

No separate payment will be made beyond the rates for the rates for brickwork, blockwork and masonry for:

- (i) Jointing, pointing and fair-faced work, in any type of bond including all rough and fair cutting;
- (ii) Plinths, corbels, bull noses, chases, rebates, quoins, brick copings string courses and the like;
- (iii) Centring and all temporary supports;
- (iv) Bonding into existing work;
- (v) Protection of work;
- (vi) Building in pipes, holdfasts, bolts and the like and forming openings less than 0.25 square metre in cross section;
- (vii) Ties and reinforcement.

.15. Doors and Windows

- (a) The unit of measurement shall be number.
- (b) The rate in the Bill of Quantities shall include for the supply and building-in of all frames, glazing and all iron mongery as specified.

17. Refurbishment of Valves

Valves shall be refurbished as follows:-

- (a) Cut off water by closing up stream valve.
- (b) Remove bolts attaching bonnet (top half) to body (bottom half).
- (c) Withdraw bonnet including stem (spindle) and wedge (gate), leaving body only in pipeline.
- (d) Place steel blanking plate and gasket and bolt in position.
- (e) Turn on water.

The time for the above shall be kept to an absolute minimum by loosening bolts etc. early and shall not exceed one hour.

Valve interiors shall be fully stripped inspected and cleaned (wire brushed) in a workshop and reassembled, greased with new gland packing and new external bolts and gaskets. Any worn out parts e.g. spindles shall be replaced as instructed.

When valves have been refurbished, the water shall be turned off, the blanking plate removed, the interior of the body cleaned by wire brushing and the valve reassembled. The time for the above shall be kept to an absolute minimum and shall not exceed one hour.

The rate in the BoQ for refurbishment shall include for all labour, plant and tools to turn off and on the water supply for the removal, stripping, inspection, cleaning and reassembly of the valve both on site and in the workshop, for the supply of the temporary blanking plate, gasket and bolts, and for the supply of new gland packing, new gaskets and bolts and all oils and greases.

The Contractor shall be paid extra for the material costs only of any additional parts he is instructed to renew e.g. spindles and wedges.

18. Measurement and Payment for Gabions

- (a) Chain Link Fencing, Weld mesh etc.:

The unit of measurement for chain link fencing weld mesh etc for the manufacture of gabions will be per square metre, calculated from the area required to construct the boxes as shown on the drawings or directed by the Engineer without allowing for waste.

The rate shall include for supplying, transporting to any point on the site, cutting, waste, bending, welding or binding, placing in position and binding, and all labour, tools plant, supervision, overheads and profit.

(b) Rock Fill to Gabions:

The unit measurement shall be per cubic metre of rock fill calculated from the volume of the boxes shown on the drawing or directed by the Engineer. The rate shall include for providing and selecting rock or boulders, transporting to any point on site, hand packing inside boxes trimming and compaction of surface to receive boxes, and all labour, plant, supervision, overheads and profit.

(c) Any excavation and backfilling required to place gabions in cut will be paid for as "Excavation for Structure". No additional payment will be made for filling behind gabions placed in front of embankments or fills and any additional work shall be included in the rate for earthworks.