



UNIVERSITY OF EMBU

TENDER NO. UOEM/TEND/15/2024 – 2025

FOR

**PROPOSED ENGINEERING LABORATORIES BLOCK
FOR THE UNIVERSITY OF EMBU (PHASE 1)**

CLOSING DATE: 11th JUNE, 2025

TIME: 11.00AM

UNIVERSITY OF EMBU

Embu - Meru Road,

P.O. Box 6 - 60100

Embu - Kenya

Tel: +254 0714243682

Email: procurement@embuni.ac.ke

Website: www.embuni.ac.ke

INVITATION TO TENDER

PROCURING ENTITY: UNIVERSITY OF EMBU OF P.O. BOX 6-60100 EMBU

CONTRACT NAME AND DESCRIPTION: PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

1. The University of Embu invites sealed tenders for Proposed Engineering Laboratories Block for The University of Embu (Phase 1).
2. Tendering will be conducted under open competitive method (National) using a standardized tender document. Tendering is open to **all qualified and interested bidders who have appropriate and valid accreditations NCA 5 and above**
3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours; Monday- Friday (0800 hrs to 1700 hrs) at the address given below.
4. Tender documents may be obtained electronically from www.embuni.ac.ke. Tender documents obtained electronically will be free of charge.
5. Tender documents may be viewed and downloaded for free from the website www.embuni.ac.ke. Tenderers who download the tender document must forward their particulars immediately to **procurement@embuni.ac.ke** , Tel: **0714243682** and **P.O. Box 6-60100 Embu** to facilitate any further clarification or addendum.
6. Tenders shall be quoted be in Kenya Shillings and shall include all taxes. Tenders shall remain valid for **One Hundred & Nineteen (119) days** from the date of opening of tenders.
7. All Tenders must be accompanied by a Tender security from a reputable bank or insurance company in the amount of (in figures) Kshs. **500,000.00 (Five Hundred Thousand)** only
8. The Tenderer shall **chronologically serialize all pages** of the tender documents submitted.
9. Completed tenders must be delivered to the address below on or before **11th June, 2025 at 11:00 am**. Electronic Tenders will not be permitted.
10. Tenders will be opened immediately after the deadline date and time specified above or any deadline date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives who choose to attend at the address below.
11. Late tenders will be rejected.

12. The addresses referred to above are:

A. Address for obtaining further information and for purchasing tender documents

University of Embu

Physical address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Embu County.

Procurement Office, 1st Floor, of the Administration Block

P.O BOX 6 – 60100 Embu

Email: procurement@embuni.ac.ke

Tel: 0714243682

B. Address for Submission of Tenders.

University of Embu

Physical address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Embu County.

Tender Box situated at the Reception Area of University of Embu Administration Block.

P.O BOX 6 – 60100 Embu

Email: procurement@embuni.ac.ke

Tel: 0714243682

C. Address for Opening of Tenders.

University of Embu

Physical address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Embu County.

Procurement Boardroom, 1st Floor, of the University of Embu Administration Block.

Official of the Procuring Entity issuing the invitation:

Vice – Chancellor

University of Embu

P.O BOX 6 – 60100 Embu

Date: 27/05/2025

**NB: THE UNIVERSITY OF EMBU DOES NOT LEVY ANY FEE IN ORDER TO AWARD TENDERS;
BEWARE OF CONMEN WHO CALL SOLICITING FOR MONEY.**

PART 1: TENDERING PROCEDURES

SECTION I - INSTRUCTIONS TO TENDERERS

A GENERAL PROVISIONS

10 Scope of tender

11 The Procuring Entity as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The name, identification, and number of lots (contracts) of this Tender Document are specified in the TDS.

12 Throughout this tendering document:

- a) The term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the TDS, distributed or received through the electronic-procurement system used by the Procuring Entity) with proof of receipt;
- b) if the context so requires, “singular” means “plural” and vice versa;
- c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Procuring Entity. It excludes official public holidays.

20 Fraud and corruption

21 The Procuring Entity requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015, Section 62 “Declaration not to engage in corruption”. The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-contractors are not debarred from participating in public procurement proceedings.

22 The Procuring Entity requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/or civil sanctions may be imposed. To this effect, Tenders shall be required to complete and sign the “Certificate of Independent Tender Determination” annexed to the Form of Tender.

23 Tenderers shall permit and shall cause their agents (whether declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, pre-qualification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Procuring Entity.

24 Unfair Competitive Advantage - Fairness and transparency in the tender process require that the firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. To that end, the Procuring Entity shall indicate in the **Data Sheet** and make available to all the firms together with this tender document all information that would in that respect give such firm any unfair competitive advantage over competing firms.

30 Eligible tenderers

- 31** A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.8, or an individual or any combination of such entities in the form of a joint venture (JV) under an existing agree mentor with the intent to enter in to such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender. The maximum number of JV members shall be specified in the **TDS**.
- 32** Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.
- 33** A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:
- a) Directly or indirectly controls, is controlled by or is under common control with another tenderer;
 - b) Receives or has received any direct or indirect subsidy from another tenderer;
 - c) Has the same legal representative as another tenderer;
 - d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process;
 - e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods or works that are the subject of the tender;
 - f) Any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as a consultant for Contract implementation;
 - g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document;
 - h) Has a close business or personal relationship with senior management or professional staff of the Procuring Entity who has the ability to influence the bidding process and:
 - i) Are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or
 - ii) May be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.
- 34** A tenderer shall not be involved in corrupt, coercive, obstructive or fraudulent practice. A tenderer that is proven to have been involved in any of these practices shall be automatically disqualified.

- 35** A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. Members of a joint venture may not also make an individual tender, be a sub-contractor in a separate tender or be part of another joint venture for the purposes of the same Tender. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender.
- 36** A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 37** A Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPRA www.ppra.go.ke.
- 38** A Tenderer that is a state-owned enterprise or a public institution in Kenya may be eligible to tender and be awarded Contract(s) only if it is determined by the Procuring Entity to meet the following conditions, i.e. if it is:
- i) A legal public entity of Government and/or public administration,
 - ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and;
 - (iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.
- 39** Firms and individuals shall be ineligible if their countries of origin are:
- (a) As a matter of law or official regulations, Kenya prohibits commercial relations with that country;
 - (b) By an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.
- 310** Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, local sub-contracts and labor) from citizen suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided for this purpose in “SECTION II - EVALUATION AND QUALIFICATION CRITERIA, Item 9”.

- 311** Pursuant to the eligibility requirements of ITT 3.10, a tender is considered a foreign tenderer, if it is registered in Kenya and has less than 51 percent ownership by nationals of Kenya and if it does not subcontract to foreign firms or individuals more than 10 percent of the contract price, excluding provisional sums. JVs are considered as foreign tenderers if the individual member firms registered in Kenya have less 51 percent ownership by nationals of Kenya. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.
- 312** The National Construction Authority Act of Kenya requires that all local and foreign contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall be a condition for tender.
- 313** The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke.
- 314** All tenderers shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing valid tax compliance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

40 Eligible goods, equipment, and services

- 41** Goods, equipment and services to be supplied under the Contract may have their origin in any country that is not ineligible under ITT 3.9. At the Procuring Entity's request, Tenderers may be required to provide evidence of the origin of Goods, equipment and services.
- 42** Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

50 Tenderer's responsibilities

- 51** The tenderer shall bear all costs associated with the preparation and submission of his/her tender, and the Procuring Entity will in no case be responsible or liable for those costs.
- 52** The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the Site of the 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.
- 53** The Tenderer and any of its personnel or agents will be granted permission by the Procuring Entity to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify the Procuring Entity against liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the examination and inspection.
- 54** The tenderer shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including charts, as necessary or required.

B. CONTENTS OF TENDER DOCUMENTS

60 Sections of Tender Document

- 61** The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT 10.

PART 1: Tendering Procedures

Section I – Instructions to Tenderers

Section II – Tender Data Sheet (TDS)

Section III- Evaluation and Qualification

Criteria Section IV – Tendering Forms

PART 2: Works' Requirements

Section V - Bills of Quantities

Section VI - Specifications

Section VII - Drawings

PART 3: Conditions of Contract and Contract Forms

Section VIII - General Conditions (GCC)

Section IX - Special Conditions of Contract

Section X- Contract Forms

- 62** The Invitation to Tender Notice issued by the Procuring Entity is not part of the Contract documents. Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of a pre-arranged site visit and those of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 10. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

- 63** The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document and to furnish with its Tender all information and documentation as is required by the Tender document.

70 Clarification of Tender Document, Site Visit, Pre-tender Meeting

- 71** A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting if provided for in accordance with ITT 7.2. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender documents in accordance with ITT 7.4, including a description of the inquiry but without identifying its source. If so specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents following the procedure under ITT 8 and ITT 22.2.

- 72** The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the site(s) of the required contracts and obtain all information that may be necessary for preparing a tender. The costs of visiting the Site shall be at the Tenderer's own expense. The Procuring Entity shall specify in the **TDS** if a pre-arranged Site visit and or a pre-tender meeting will be held, when and where. The Tenderer's designated representative is invited to attend a pre-arranged site visit and a pre-tender meeting, as the case may be. The purpose of the site visit and the pre-tender meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 73** The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not later than the period specified in the **TDS** before the meeting.
- 74** Minutes of a pre-arranged site visit and those of the pre-tender meeting, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents. Minutes shall not identify the source of the questions asked.
- 75** The Procuring Entity shall also promptly publish anonymized (no names) Minutes of the pre-arranged site visit and those of the pre-tender meeting at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-arranged site visit and those of the pre-tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Non-attendance at the pre-arranged site visit and the pre-tender meeting will not be a cause for disqualification of a Tenderer.
- 80** **Amendment of Tender Documents**
- 81** At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.
- 82** Any addendum issued shall be part of the Tender Documents and shall be communicated in writing to all who have obtained the Tender Documents from the Procuring Entity. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's website in accordance with ITT 7.5.
- 83** To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity should extend the dead line for the submission of Tenders, pursuant to ITT 22.2.

C. PREPARATION OF TENDERS

9. Cost of Tendering

The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

10.0 Language of Tender

The Tender, as well as all correspondence and documents relating to the tender exchanged by the tenderer and the Procuring Entity, shall be written in the English Language. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate and notarized translation of the relevant passages into the English Language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

11.0 Documents Comprising the Tender

11.1 The Tender shall comprise the following:

- a) Form of Tender prepared in accordance with ITT 12;
- b) Schedules including priced Bill of Quantities, completed in accordance with ITT 12 and ITT 14;
- c) Tender Security or Tender-Securing Declaration, in accordance with ITT 19.1;
- d) Alternative Tender, if permissible, in accordance with ITT 13;
- e) **Authorization:** written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 20.3;
- f) **Qualifications:** documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
- g) **Conformity:** a technical proposal in accordance with ITT 16;
- h) Any other document required in the **TDS**.

11.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed JV Agreement. Change of membership and conditions of the JV prior to contract signature will render the tender liable for disqualification.

12.0 Form of Tender and Schedules

12.1 The Form of Tender and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITT 20.3. All blank spaces shall be filled in with the information requested. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

12.2 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender.

13. Alternative Tenders

13.1 Unless otherwise specified in the TDS, alternative Tenders shall not be considered.

13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **TDS**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.

- 133 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price the Procuring Entity's design as described in the Tender Documents and shall further provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Winning Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.
- 134 When specified in the **TDS**, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in the **TDS**, as will the method for their evaluating, and described in Section VII, Works' Requirements.

140 Tender Prices and Discounts

- 141 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bills of Quantities shall conform to the requirements specified below.
- 142 The Tenderer shall fill in rates and prices for all items of the Works described in the Bills of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bills of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bills of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.
- 143 The price to be quoted in the Form of Tender, in accordance with ITT 12.1, shall be the total price of the Tender, including any discounts offered.
- 144 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.
- 145 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except in cases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Procuring Entity may require the Tenderer to justify its proposed indices and weightings.
- 146 Where tenders are being invited for individual lots (contracts) or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the same time.
- 147 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

150 Currencies of Tender and Payment

- 151** The currency(ies) of the Tender and the currency(ies) of payments shall be the same.
- 152** Tenderers shall quote entirely in Kenya Shillings. The unit rates and the prices shall be quoted by the Tenderer in the Bill of Quantities, entirely in Kenya shillings.
- a) A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya (referred to as “the foreign currency requirements”) shall (if so allowed in the **TDS**) indicate in the Appendix to Tender the percentage(s) of the Tender Price (excluding Provisional Sums), needed by the Tenderer for the payment of such foreign currency requirements, limited to no more than two foreign currencies.
 - b) The rates of exchange to be used by the Tenderer in arriving at the local currency equivalent and the percentage(s) mentioned in (a) above shall be specified by the Tenderer in the Appendix to Tender and shall be based on the exchange rate provided by the Central Bank of Kenya on the date 30 days prior to the actual date of tender opening. Such exchange rate shall apply for all foreign payments under the Contract.
- 153** Tenderers may be required by the Procuring Entity to justify, to the Procuring Entity's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Tender are reasonable, in which case a detailed breakdown of the foreign currency requirements shall be provided by Tenderers.

16.0 Documents Comprising the Technical Proposal

The Tenderer shall furnish a technical proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Tender Forms, in sufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work's requirements and the completion time.

17.0 Documents Establishing the Eligibility and Qualifications of the Tenderer

- 171** Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.
- 172** In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.
- 173** If a margin of preference applies as specified in accordance with ITT 33.1, national tenderers, individually or in joint ventures, applying for eligibility for national preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.
- 174** Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.

- 175** The purpose of the information described in **ITT 17.4** above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.
- 176** The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which in information on any changes to the information which was provided by the tenderer under ITT 6.4. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.
- 177** All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.
- 178** If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.
- 179** If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:
- i) If the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
 - ii) if the contract has been awarded to that tenderer, the contract award will be set aside depending the outcome of (iii),
 - iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other person have committed any criminal offence.
- 17.10** If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 17.8 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tender.

18.0 Period of Validity of Tenders

- 18.1.** Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Procuring Entity in accordance with ITT 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 the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 19, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender.

190 Tender Security

191 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency **specified** in the **TDS**. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms.

192 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:

- I) cash;
- ii) a bank guarantee;
- iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority;
- (iv) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.

193 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 18.2.

194 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Procuring Entity as non-responsive.

195 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the TDS. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined non-responsive or a bidder declines to extend tender validity period.

196 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security, and any other documents required in the TDS.

- 197** The Tender Security may be forfeited or the Tender-Securing Declaration executed:
- a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or
 - b) if the successful Tenderer fails to: -
 - i) sign the Contract in accordance with ITT47; or
 - ii) furnish a Performance Security and if required in the TDS, and any other documents required in the TDS.
- 198** Where tender securing declaration is executed, the Procuring Entity shall recommend to the PPRA to debar the Tenderer from participating in public procurement as provided in the law.
- 199** The Tender Security or the Tender-Securing Declaration of a JV shall be in the name of the JV that submits the Tender. If the JV has not been legally constituted into a legally enforceable JV at the time of tendering, the Tender Security or the Tender-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITT 4.1 and ITT 11.2.
- 19.10** A tenderer shall not issue a tender security to guarantee itself.
- 200** **Format and Signing of Tender**
- 201** The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 11 and clearly mark it “ORIGINAL.” Alternative Tenders, if permitted in accordance with ITT 13, shall be clearly marked “ALTERNATIVE.” In addition, the Tenderer shall submit copies of the Tender, in the number specified in the **TDS** and clearly mark them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.
- 202** Tenderers shall mark as “CONFIDENTIAL” all information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.
- 203** The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified in the **TDS** 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 where entries or amendments have been made shall be signed or initialed by the person signing the Tender.
- 204** In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 205** Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. SUBMISSION AND OPENING OF TENDERS

21.0 Sealing and Marking of Tenders

21.1 The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

- a) in an envelope or package or container marked “ORIGINAL”, all documents comprising the Tender, as described in ITT 11; and
- b) in an envelope or package or container marked “COPIES”, all required copies of the Tender; and
- c) if alternative Tenders are permitted in accordance with ITT 13, and if relevant:
 - i) in an envelope or package or container marked “ORIGINAL –ALTERNATIVE TENDER”, the alternative Tender; and
 - ii) in the envelope or package or container marked “COPIES- ALTERNATIVE TENDER”, all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

- a) bear the name and address of the Procuring Entity,
- b) bear the name and address of the Tenderer; and
- c) bear the name and Reference number of the Tender.

21.2 If an envelope or package or container is not sealed and marked as required, the Procuring Entity will assume no responsibility for the misplacement or premature opening of the Tender. Tenders misplaced or opened prematurely will not be accepted.

22.0 Deadline for Submission of Tenders

22.1 Tenders must be received by the Procuring Entity at the address specified in the **TDS** and no later than the date and time also specified in the **TDS**. When so specified in the **TDS**, tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified in the **TDS**.

22.2 The Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders by amending the Tender Documents in accordance with ITT 8, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

23.0 Late Tenders

23.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 22. 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.

240 Withdrawal, Substitution, and Modification of Tenders

- 241** A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:
- a) prepared and submitted in accordance with ITT 20 and ITT 21 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and
 - b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 22.
- 242** Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.
- 243** No Tender may be withdrawn, substituted, 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 Form of Tender or any extension thereof.

25. Tender Opening

- 251** Except in the cases specified in ITT 23 and ITT 24.2, the Procuring Entity shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified **in the TDS**, in the presence of Tenderers' designated representatives who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 22.1, shall be as specified in the **TDS**.
- 252** First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelopes with the corresponding Tender shall not be opened but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 253** Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 254** Next, envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is readout at Tender opening.
- 255** Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.

- 256 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bill of Quantities (to be decided on by the tender opening committee) are to be initialed by the members of the tender opening committee attending the opening.
- 257 At the Tender Opening, the Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).
- 258 The Procuring Entity shall prepare minutes of the Tender Opening that shall include, as a minimum: -
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) the Tender Price, per lot (contract) if applicable, including any discounts;
 - c) any alternative Tenders;
 - d) the presence or absence of a Tender Security, if new as required;
 - e) number of pages of each tender document submitted.
- 259 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers.

E. EVALUATION AND COMPARISON OF TENDERS

26 Confidentiality

- 261 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 43.
- 262 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.
- 263 Notwithstanding ITT 26.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact the Procuring Entity on any matter related to the tendering process, it shall do so in writing.

270 Clarification of Tenders

- 271 To assist in the examination, evaluation, and comparison of the tenders, and qualification of the tenderers, the Procuring Entity may, at its discretion, ask any tenderer for a clarification of its tender, given a reasonable time for a response. Any clarification submitted by a tenderer that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, 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 the tenders, in accordance with ITT 31.
- 272 If a tenderer does not provide clarifications of its tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

28.0 Deviations, Reservations, and Omissions

28.1 During the evaluation of tenders, the following definitions apply: -

- a) “Deviation” is a departure from the requirements specified in the tender document;
- b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and
- c) “Omission” is the failure to submit part or all of the information or documentation required in the Tender document.

29.0 Determination of Responsiveness

29.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 11.

29.2 A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:

- a) Affect in any substantial way the scope, quality, or performance of the Works specified in the Contract;
- b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract;
- c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

29.3 The Procuring Entity shall examine the technical aspects of the tender submitted in accordance with ITT 16, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

29.4 If a tender is not substantially responsive to the requirements of the tender document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30.0 Non-material Non-conformities

30.1 Provided that a tender is substantially responsive, the Procuring Entity may waive any non-conformities in the tender.

30.2 Provided that a Tender is substantially responsive, the Procuring Entity may request that the tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify non-material non- conformities in the tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the tender. Failure of the tenderer to comply with the request may result in the rejection of its tender.

303 Provided that a tender is substantially responsive, the Procuring Entity shall rectify quantifiable non-material non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the TDS**.

31.0 Arithmetical Errors

31.1 The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity.

31.2 Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis: -

- a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.
- b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
- c) if there is a discrepancy between words and figures, the amount in words shall prevail

31.3 Tenderers shall be notified of any error detected in their bid during the notification of award.

32.0 Conversion to Single Currency

For evaluation and comparison purposes, the currency(ies) of the Tender shall be converted in to a single currency as specified in the **TDS**.

33.0 Margin of Preference and Reservations

33.1 A margin of preference may be allowed only when the contract is open to international competitive tendering where foreign contractors are expected to participate in the tendering process and where the contract exceeds the value/threshold specified in the Regulations.

33.2 A margin of preference shall not be allowed unless it is specified so in the **TDS**.

33.3 Contracts procured on basis of international competitive tendering shall not be subject to reservations exclusive to specific groups as provided in ITT 33.4.

33.4 Where it is intended to reserve a contract to a specific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be), and who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses or firms belonging to the specified group are eligible to tender. No tender shall be reserved to more than one group. If not so stated in the Invitation to Tender and in the Tender documents, the invitation to tender will be open to all interested tenderers.

34.0 Nominated Subcontractors

- 34.1** Unless otherwise stated in the **TDS**, the Procuring Entity does not intend to execute any specific elements of the Works by subcontractors selected/nominated by the Procuring Entity. In case the Procuring Entity nominates a subcontractor, the subcontract agreement shall be signed by the Subcontractor and the Procuring Entity. The main contract shall specify the working arrangements between the main contractor and the nominated subcontractor.
- 34.2** Tenderers may propose sub-contracting up to the percentage of total value of contracts or the volume of works as specified in the **TDS**. Subcontractors proposed by the Tenderer shall be fully qualified for their parts of the Works.
- 34.3** Domestic subcontractor's qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated so by the Procuring Entity in the **TDS** as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

35. Evaluation of Tenders

- 35.1** The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Procuring Entity shall determine the Lowest Evaluated Tender in accordance with ITT 40.
- 35.2** To evaluate a Tender, the Procuring Entity shall consider the following:
- a) Price adjustment in accordance with ITT 31.1 (iii); excluding provisional sums and contingencies, if any, but including Day work items, where priced competitively;
 - b) price adjustment due to discounts offered in accordance with ITT 14.4;
 - c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 32;
 - d) price adjustment due to quantifiable non material non-conformities in accordance with ITT 30.3; and
 - e) any additional evaluation factors specified in the **TDS** and Section III, Evaluation and Qualification Criteria.
- 35.3** The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.
- 35.4** Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers base done lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36.0 Comparison of tenders

36.1 The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 35.2 to determine the Tender that has the lowest evaluated cost.

37.0 Abnormally low tenders and abnormally high tenders

Abnormally Low Tenders

37.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.

37.2 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

37.3 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

Abnormally high tenders

37.4 An abnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

37.5 In case of an abnormally high price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:

- i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.
- ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

37.6 If the Procuring Entity determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (often due to collusion, corruption or other manipulations), the Procuring Entity shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

380 Unbalanced and/ or front-loaded tenders

- 381** If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or frontloaded, the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.
- 382** After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:
- a) accept the Tender;
 - b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price;
 - c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works;
 - d) reject the Tender,

390 Qualifications of the tenderer

- 391** The Procuring Entity shall determine to its satisfaction whether the eligible Tenderer that is selected as having submitted the lowest evaluated cost and substantially responsive Tender, meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 392** The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 17. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Sub-contractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.
- 393** An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event the Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated price to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

400 Lowest evaluated tender

Having compared the evaluated prices of Tenders, the Procuring Entity shall determine the Lowest Evaluated Tender. The Lowest Evaluated Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be:

- a) Most responsive to the Tender document; and
- b) the lowest evaluated price.

41.0 Procuring entity's right to accept any tender, and to reject any or all tenders.

The Procuring Entity reserves the right to accept or reject any Tender and to annul the Tender process and reject all Tenders at any time prior to Contract Award, without there by incurring any liability to Tenderers. In case of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. AWARD OF CONTRACT

42.0 Award criteria

The Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender.

43.0 Notice of Intention to Enter into a Contract/Notification of Award

Upon award of the contract and prior to the expiry of the Tender Validity Period the Procuring Entity shall issue a Notification of Intention to Enter into a Contract/Notification of award to all tenderers which shall contain, at a minimum, the following information:

- a) the name and address of the Tenderer submitting the successful tender;
- b) the Contract price of the successful tender;
- c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (b) above already reveals the reason;
- d) the expiry date of the Standstill Period; and
- e) instructions on how to request a debriefing and/ or submit a complaint during the stand still period;

44.0 Stand still Period

44.1 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

44.2 Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter into a Contract with the successful Tenderer.

45.0 Debriefing by The Procuring Entity

45.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 43, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.

45.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

46.0 Letter of Award

Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 42.1, upon addressing a complaint that has been filed with in the Standstill Period, the Procuring Entity shall transmit the Letter of Award to the successful Tenderer. The letter of award shall request the successful tenderer to furnish the Performance Security within 21 days of the date of the letter.

47.0 Signing of Contract

47.1 Upon the expiry of the fourteen days of the Notification of Intention to enter in to contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

47.2 Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.

47.3 The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period.

48.0 Performance Security

48.1 Within twenty-one (21) days of the receipt of the Letter of Award from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 38.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent bank is not required.

48.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security and other documents required in the **TDS** or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next Best Evaluated Tender.

48.3 Performance security shall not be required for contracts estimated to cost less than the amount specified in the Regulations.

49.0 Publication of Procurement Contract

Within fourteen days after signing the contract, the Procuring Entity shall publish the awarded contract at its notice boards and websites; and on the Website of the Authority. At the minimum, the notice shall contain the following information:

- a) name and address of the Procuring Entity;
- b) name and reference number of the contract being awarded, a summary of its scope and the selection method used;
- c) the name of the successful Tenderer, the final total contract price, the contract duration;
- d) dates of signature, commencement and completion of contract;
- e) names of all Tenderers that submitted Tenders, and their Tender prices as readout at Tender opening.

50.0 Procurement related Complaints and Administrative Review

50.1 The procedures for making Procurement-related Complaints are as specified in the **TDS**.

50.2 A request for administrative review shall be made in the form provided under contract forms.

Section II - Tender Data Sheet (TDS)

The following specific data shall complement, supplement, or amend the provisions in the Instructions to Tenderers (ITT). Whenever there is a conflict, the provisions herein shall prevail over those in ITT.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
A. General	
ITT 1.1	<p>The name of the contract is:</p> <p>Proposed Engineering Laboratories Block for The University of Embu (Phase 1)</p> <p>The reference number of the Contract is: UoEm/Tend/15/2024-2025</p> <p>The number and identification of lots (contracts) comprising this Tender are N/A</p>
ITT 2.4	<p>The Information made available on competing firms is as follows:</p> <p>N/A</p>
ITT 3.1	<p>Maximum number of members in the Joint Venture (JV) shall be: None.</p>
B. Contents of Tender Document	
ITT 7.1	<p>(i) The Tenderer will submit any request for clarifications in writing at the Address</p> <p>University of Embu Physical Address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Embu County. Procurement Office, 1st Floor, of the Administration Block P.O BOX 6 – 60100 Embu Email: procurement@embuni.ac.ke Tel: 0714243682</p> <p>to reach the Procuring Entity not later than 5 days before the date of submission of tenders</p> <p>(ii) The Procuring Entity shall publish its response at the website www.embuni.ac.ke</p>
ITT 7.2	N/A
ITT 7.3	<p>The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than 5 days before the closing date.</p>
ITT 7.5	<p>The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender will be published is <u>N/A</u></p>

ITT 9.1	<p>For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:</p> <p>University of Embu Physical Address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Embu County. Procurement Office, 1st Floor, of the Administration Block P.O BOX 6 – 60100 Embu Email: procurement@embuni.ac.ke Tel: 0714243682</p>
C. Preparation of Tenders	
ITT 11.1 (h)	The Tenderer shall submit the following additional documents in its Tender: Any additional information that is listed in the tender evaluation criteria and does not form part of the documents listed in ITT 11.1.
ITT 13.1	Alternative Tenders shall not be considered.
ITT 13.2	Alternative times for completion shall not be permitted.
ITT 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: Not applicable
ITT 14.5	The prices quoted by the Tenderer shall be: <u>fixed</u>
ITT 15.2 (a)	Foreign currency requirements not allowed.
ITT 18.1	The Tender validity period shall be 119 days.
ITT 18.2	<p>(a) The Number of days beyond the expiry of the initial tender validity period will be 30 days.</p> <p>(b) The Tender price shall be adjusted by the following percentages of the tender price:</p> <p style="padding-left: 40px;">(i) By 0% of the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and</p> <p style="padding-left: 40px;">(ii) By 0% the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.</p>
ITT 19.1	Tenderer shall provide a Tender Security. The type of Tender security shall be a bank guarantee or a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority or a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya in the amount of Kenya shillings Five Hundred Thousand in the prescribed format valid for 149 days from the tender opening date.
ITT 20.1	In addition to the original of the Tender, the number of copies is: 1 (One)
ITT 20.3	<p>The written confirmation of authorization to sign on behalf of the Tenderer shall consist of:</p> <p>Delegated Authority through Power of Attorney certified by a Commissioner of Oaths.</p>

D. Submission and Opening of Tenders	
ITT 22.1	<p>(A) For <u>Tender submission purposes</u> only, the Procuring Entity's address is:</p> <p>University of Embu P.O. Box 6-60100, Embu (Attn: Vice Chancellor) Physical address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Procurement Office, Administration Block, 1st floor</p> <p>Email: <u>procurement@embuni.ac.ke</u>. Tel: 0714243682</p> <p>Date and time for submission of Tenders is 6th June, 2025 at 11:00AM.</p> <p>Tenderers shall not submit tenders electronically.</p>
ITT 25.1	<p>The Tender opening shall take place at the time and the address for Opening of Tenders provided below:</p> <p>University of Embu Physical address: 4 Kilometers from Embu Town along the Nairobi-Meru Highway, Embu County. Tender Box situated at the Reception Area of University of Embu Administration Block. P.O BOX 6 – 60100 Embu Email: <u>procurement@embuni.ac.ke</u> Tel: 0714243682</p> <p>Attention: To The Vice – Chancellor University of Embu P.O BOX 6 – 60100 Embu</p> <p>Date and time of tender opening is 11th June, 2025 at 11:00AM.</p>
ITT 25.1	N/A
E. Evaluation, and Comparison of Tenders	
ITT 30.3	<p>The adjustment shall be based on the average price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.</p>

TT 32.1	<p>The currency that shall be used for Tender evaluation and comparison purposes only to convert at the selling exchange rate all Tender prices expressed in various currencies into a single currency is: Kenya Shilling</p> <p>The source of exchange rate shall be: The Central bank of Kenya (mean rate)</p> <p>The date for the exchange rate shall be: the deadline date for Submission of the Tenders.</p> <p>For comparison of Tenders, the Tender Price, corrected pursuant to ITT 31, shall first be broken down into the respective amounts payable in various currencies by using the selling exchange rates specified by the Tenderer in accordance with ITT 15.1.</p> <p>In the second step, the Procuring Entity will convert the amounts in various currencies in which the Tender Price is payable (excluding Provisional Sums but including Day work where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and, on the date, stipulated above.</p>
ITT 33.2	A margin of preference shall not apply.
ITT 33.4	The invitation to tender is extended to the following group that qualify for Reservations: Women Enterprises, Youth Enterprises and Enterprises of persons living with disability.
ITT 34.1	At this time, the Procuring Entity, University of Embu, does not intend to execute certain specific parts of the Works by subcontractors selected in advance.
ITT 34.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: % of the total contract amount. Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience. NOT APPLICABLE
ITT 34.3	N/A
ITT 35.2 (e)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 48.1	<p>Other documents required in addition to the Performance Security are:</p> <ol style="list-style-type: none"> 1. All the requisite Insurances 2. Program of Works / Progress Chart
ITT 50.1	<p>The procedures for making a Procurement-related Complaint are detailed in the "Notice of Intention to Award the Contract" herein and are also available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke.</p> <p>If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to:</p> <p>For the attention: Prof. Daniel Mugendi</p> <p>Title/position: Vice Chancellor</p> <p>Procuring Entity: University of Embu</p> <p>Email address: vc@embuni.ac.ke , procurement@embuni.ac.ke</p>

	<p>In summary, a Procurement-related Complaint may challenge any of the following (among others):</p> <ul style="list-style-type: none">(i) the terms of the Tender Documents; and(ii) the Procuring Entity’s decision to award the contract.
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SECTION III - EVALUATION AND QUALIFICATION CRITERIA

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

1. Preliminary Examination
2. Technical Examination.
3. Financial Evaluation.
4. Recommendation for award
5. Post qualification: Due diligence

A. PRELIMINARY / MANDATORY REQUIREMENTS

MANDATORY REQUIREMENTS		
S/NO.	DESCRIPTION OF REQUIREMENTS	ATTACH/ FILL/ SIGN & STAMP
1.	Certificate of Incorporation/Business Registration/ partnership deed to show that the applicant is a registered company and legally authorized to do business in Kenya.	Attach
2.	Copy of CR 12	Attach
3.	Copy of a Valid Tax Compliance Certificate (Validity to be confirmed through TCC Checker)	Attach
4.	Copy of Valid Registration Certificate issued by the National Construction Authority(NCA) as follows: - Building Works – NCA 5 and above The Registration Certificates Must be accompanied by Valid NCA Practicing Licenses. (Validity to be confirmed via the NCA Portal)	Attach
5.	Tender Security amounting to Kshs. 500,000 (Kenya Shillings Five Hundred Thousand) Only in the prescribed format valid for 149 days from the tender opening date.	Attach
6.	Provide proof of Power of Attorney (Where Applicable) (Power of Attorney will be provided for tenderers whose signatory of the submitted tender document is not the director of the company/partner, This should be signed and stamped by Commissioner of Oaths).	Attach
7.	A joint venture (or sub contract) agreement between parties if applicable	Attach
8.	Duly filled, signed and stamped Form of Tender in the Tenderer's Letter Head.	Fill, Sign and Stamp attached Form on Page 47 - 50
9.	Duly filled, signed and stamped Confidential Business Questionnaire	Fill, Sign and Stamp attached Form on Page 51 - 52
10.	Disclosure of Interest Form	Duly Filled, Signed and Stamped attached Form on Page 53 - 54

11.	Duly filled, signed and stamped Certificate of Independent Tender Determination	Fill, Sign and Stamp attached Form on Page 55- 56
12.	Duly filled, signed and stamped Self-Declaration on Debarment (Form SD1)	Fill, Sign and Stamp attached Form on Page 57
13.	Duly filled, signed and stamped Self-Declaration on Corruption (Form SD2)	Fill, Sign and Stamp attached Form on Page 58
14.	Duly filled, signed and stamped Declaration and Commitment to the Code of Ethics	Fill, Sign and Stamp attached Form on Page 59
15.	Duly filled, signed and stamped Tenderer Information Form	Fill, Sign and Stamp attached Form on Page 34
16.	Serialized Bid Documents	All pages of the submitted bid documents must be chronologically Paginated in the sequential format of 1, 2, 3, 4, 5 including attachments.
17.	An Original and Copy of the Filled Tender Document	Submit
18.	Copy of a Valid AGPO Certificate (Where Applicable)	Attach

NOTE ON DOCUMENT PREPARATION:

1. The submitted tender documents **MUST** be properly bound (perfect cover, hardcover or case bound). Loose documents will **NOT** be accepted and will **NOT** be evaluated leading to automatic disqualification.

NOTE: A bidder who will not meet all the above mandatory requirements will be disqualified and shall not be evaluated further.

The following is the Technical Qualification Requirement – The Tenderer is advised to refer to the Qualification & Standard Forms provided

S/No.	DESCRIPTION OF REQUIREMENTS	EVIDENCE REQUIRED
1.	Proof of access to liquid assets of not less than Kshs. 10 million or capacity to have a minimum cash flow of Kshs.10 million .	Provide any of the following; <ol style="list-style-type: none"> Letter showing line of credit from an approved financial institution. specific to this project and indicating the amount available. Overdraft facility from a commercial bank specifically for this project and indicating the amount to be availed. Current bank statement for the last six months Or a combination of the above.
2.	<p>Qualifications and Technical Experience of following Site Personnel to Manage and Execute the Works on the Site.</p> <p>Site Agent</p> <p>Site Agent with a minimum of 7 years' experience and Degree in Building / Architecture/ Construction Management/ Civil Engineering qualification from a recognized institution.</p> <p>Site Foreman</p> <ol style="list-style-type: none"> Diploma in Construction/ Building Management/ architecture/ civil engineering qualification from a recognized institution. Experience – Minimum Ten (10) years 	<ol style="list-style-type: none"> Attach copies of academic certificates Attach evidence of experience Attach curriculum vitae which should be duly signed by the staff Attach a commitment letter signed the employer committing that the nominated site personnel shall be available throughout the construction period
3.	Audited accounts for the last three years which must demonstrate the current soundness of the tenderers financial position and its prospective long-term profitability.	<p>Provide copies of certified audited accounts for the company for the last three years (2022, 2023, 2024).</p> <p>Note: For purpose of the evaluation the accounts are considered to be certified if issued by a registered CPA Firm recognized by ICPAK and signed by the Companies Directors. (Attach valid Certificate for Audit Firm/Auditor for each year of audit).</p>
4.	Project Work Plan	Resourced work program relevant to this specific project in the form of a Gantt chart prepared using MS project or similar computer software

5.	<p>Company past works experience in the last 5 years</p> <p>Proof of at least Three (3) similar works in general building works, costing not less than Kshs. 40 million (Kenya Shillings Forty Million) on average previously undertaken in the last Five years (2019 to date)</p>	<p>i. Attach copies of the Letters of Award</p> <p>ii. Attach completion certificates for each Letter of award attached in (i) above.</p> <p>iii. Attach recommendation letter from the client for each project submitted.</p>
6.	<p>Equipment and Machinery</p> <p>Must demonstrate access to the following key minimum equipment necessary to undertake the work;</p> <ol style="list-style-type: none"> 1. Concrete Mixers – Two (2) 2. Concrete Poker Vibrator – Two (2) 3. Lorries – One (1) 4. Power Tools and workshop Equipment 	<p>i) Attach evidence of ownership or hire of the equipment by providing: Copies of Lease Agreement/ Logbook/Receipts</p> <p>ii) Attach a commitment letter signed the employer committing that the equipment and machinery shall be available throughout the construction period</p>

NOTE: A bidder must satisfy all the technical requirements to proceed to the financial evaluation stage.

C. FINANCIAL EVALUATION

Upon completion of the technical evaluation a detailed financial evaluation shall follow. The financial evaluation shall proceed in the manner described in the Public Procurement and Disposal Act Rev 2022 (2015) of the laws of Kenya and the Public Procurement and Disposal Regulations, 2020.

The financial evaluation shall be in **three stages**;

- a) Checking for arithmetic errors
- b) Comparison of Rates; and
- c) Consistency of the Rates.

a) **Arithmetic errors**

Arithmetic Errors will be treated as follows; -

In the event of a discrepancy between the amount as stated in the form of tender and the corrected tender figure in the main summary of the Bills of Quantities, the amount in the Form of Tender shall prevail. Pursuant to Section 82 (1) of the Public Procurement and Asset Disposal Act Rev 2022 (2015), the tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, revision, adjustment or amendment in any way by any Procuring Entity'. Further, section 74 (2) of the Public Procurement and Asset Disposal Regulations 2020, any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive".

b) **Comparison of rates**

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

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

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

+

c) **Consistency of the Rates**

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

The financial evaluation will be based on the **lowest evaluated price**.

RECOMMENDATION

The Award of the tender shall be recommended for to the firm submitting the technically responsive and lowest priced bid.

POST QUALIFICATION: DUE DILIGENCE

Bidders are hereby notified that due diligence shall be carried out on documentation/information provided by the bidder. Any false information provided will lead to automatic disqualification irrespective at any stage of the procurement process or contract execution.

30 TENDER EVALUATION (ITT 35)

Price evaluation: in addition to the criteria listed in ITT 35.2 (a) – (d) the following criteria shall apply:

- (i) Alternative Completion Times, if permitted under ITT13.2, will be evaluated as follows:
.....
- (ii) Alternative Technical Solutions for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows:.....
- (iii) Other Criteria; if permitted under ITT 35.2(j):

40 MULTIPLE CONTRACTS

- 41** Multiple contracts will be permitted in accordance with ITT 35.4. Tenderers are evaluated on basis of Lots and a lowest evaluated tenderer identified for each Lot. The Procuring Entity will select one Option of the two Options listed below for award of Contracts.

OPTION 1

- (i) If a tenderer wins only one Lot, the tenderer will be awarded a contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.
- (ii) If a tenderer wins more than one Lot, the tender will be awarded a contract for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots. The tenderer will be awarded only the combinations for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

OPTION2

The Procuring Entity will consider all possible combinations of won Lots [contract(s)] and determine the combination with the lowest evaluated price. Tenders will then be awarded to the Tenderer or Tenderers in the combination provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots.

5.0 ALTERNATIVE TENDERS (ITT 13.1)

Alternative Tenders (ITT 13.1)

An alternative if permitted under ITT 13.1, will be evaluated as follows:

The Procuring Entity shall consider Tenders offered for alternatives as specified in Part 2 - Works requirements. Only the technical alternatives, if any, of the Tenderer with the Best Evaluated Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.

60 MARGIN OF PREFERENCE

- 61** If the TDS so specifies, the Procuring Entity will grant a margin of preference of fifteen percent (15%) to be loaded on evaluated prices of the foreign tenderers, where the percentage of shareholding of Kenyan citizens is less than fifty- one percent (51%).

62 Contractors shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference.

63 After Tenders have been received and reviewed by the Procuring Entity, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders shall be classified into the following groups:

- i) Group A: tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).
- ii) Group B: tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares of less than fifty one percent (51%).

64 All evaluated tenders in each group shall, as a first evaluation step, be compared to determine the lowest tender, and the lowest evaluated tender in each group shall be further compared with each other. If, as a result of this comparison, a tender from Group A is the lowest, it shall be selected for the award of contract. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 6.1 of the respective tender price, including unconditional discounts and excluding provisional sums and the cost of day works, if any, shall be added to the evaluated price offered in each tender from Group B. All tenders shall then be compared using new prices with added prices to Group B and the lowest evaluated tender from Group A. If the tender from Group A is still the lowest tender, it shall be selected for award. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

7. Post qualification and Contract award (ITT 39), more specifically,

- a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.
- b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.
 - i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings;
 - ii) Minimum average annual construction turnover of Kenya Shillings, 50 Million, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last five years.
 - iii) At least three of contract(s) of a similar nature executed within Kenya, or the East African Community or a broad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings, 40 million.

- iv) Contractor's Representative and Key Personnel, which are specified as
 - a) Site Agent with a minimum of 7 years' experience and Degree in Building/Architecture/Construction Management/ Civil Engineering qualification from a recognized institution
 - b) Site Foreman with a minimum of 10 years' experience and Diploma in Building/Architecture or Civil Engineering qualification from a recognized institution.
- v) Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as:
 - a) Appropriate Transport e.g lorries, tippers, tankers, pickups etc
 - b) Power Tools and workshop Equipment
 - c) Concrete making equipment e.g. concrete mixers, truck mixers, concrete pumps e.t.c
- iv) Detailed technical evaluation shall be carried out for determination of responsiveness before financial evaluation. Tenders meeting all requirements as detailed in the technical evaluation shall be subjected to financial evaluation and comparison to determine the lowest evaluated tender. Tenders which shall fail to meet the minimum score shall not be evaluated further.
- v) Other conditions depending on their seriousness.

a) **History of non-performing contracts:**

Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that Non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last **5 years**. The required information shall be furnished in the appropriate form.

b) **Pending Litigation**

Financial position and prospective long-term profit ability of the Single Tenderer, and in the case the Tenderer is a JV, of each member of the JV, shall remain sound according to criteria established with respect to Financial Capability under Paragraph (i) above if all pending litigation will be resolved against the Tenderer. Tenderer shall provide information on pending litigations in the appropriate form.

c) **Litigation History**

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last **5 years**. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or on going under its execution over the years specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

QUALIFICATION FORM*– BIDDERS TO USE THE CRITERIA GIVEN IN NO.2 ABOVE IN CONJUNCTION WITH THE BELOW SUMMARY AND ALL THE TENDERING FORMS REFERRED HEREIN

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer	For Procuring Entity's Use (Qualification met or Not Met)
1	Nationality	Nationality in accordance with ITT 3.6	Forms ELI – 1.1 and 1.2, with attachments	
2	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by Kenya Revenue Authority in accordance with ITT 3.14.	Attachment	
3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender	
4	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.8	Forms ELI – 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI – 1.1 and 1.2, with attachments	
7	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since 1 st January 2019.	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	
9	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.	Form CON – 2	

10	Litigation History	No consistent history of court/arbitral award decisions against the Tenderer since 1 st January 2019	Form CON – 2	
11	Financial Capabilities	<p>(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings 10 million equivalent for the subject contract(s) net of the Tenderer's other commitments.</p> <p>(ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.</p> <p>(iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last three (3) years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.</p>	Form FIN – 3.1, with attachments	
12	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings 15 million, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 5 years, divided by 5 years	Form FIN – 3.2	
13	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last ten years, starting 1 st January 2014	4. Form EXP – 4.1 Experience	
14	Specific Construction &	A minimum number of 3 similar contracts specified	Form EXP 4.2(a)	

	Contract Management Experience	<p>below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2019 and tender submission deadline i.e. 3 contracts, each of minimum value Kenya shillings 15 million. equivalent.</p> <p>The similarity of the contracts shall be based on the following: the proposed project entails construction of an ablution block as described in the bills of quantities and drawings.</p>		
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SECTION IV - TENDERING FORMS

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40%RULE

Pursuant to ITT 3.9, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

ITEM	Description of Work Item	Describe location of Source	COST in K. shillings	Comments, if any
A	Local Labor			
1				
2				
3				
4				
5				
B	Sub contracts from Local sources			
1				
2				
3				
4				
5				
C	Local materials			
1				
2				
3				
4				
5				
D	Use of Local Plant and Equipment			
1				
2				
3				
4				
5				
E	Add any other items			
1				
2				
3				
4				
5				
6				
	TOTAL COST LOCAL CONTENT			
	PERCENTAGE OF CONTRACT PRICE			

2. **FORMEQU: EQUIPMENT**

The Tenderer shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Tenderer.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

3. FORM PER -1

Contractor's Representative and Key Personnel Schedule

Tenderers should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	Title of position: Contractor's Representative	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
2.	Title of position: [_____]	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
3.	Title of position: [_____]	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
4.	Title of position: [_____]	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
5.	Title of position: [insert title]	
	Name of candidate	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]

Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]

4. **FORM PER - 2:**

Resume and Declaration - Contractor's Representative and Key Personnel.

Name of Tenderer

Position [#1]: [title of position from Form PER-1]		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: [language and levels of speaking, reading and writing skills]	
Details	Address of Procuring Entity:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present Procuring Entity:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	Role	Duration of involvement	Relevant experience
[main project details]	[role and responsibilities on the project]	[time in role]	[describe the experience relevant to this position]

Declaration

I, the undersigned [insert either “Contractor’s Representative” or “Key Personnel” as applicable], certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Tender:

Commitment	Details
Commitment to duration of contract:	[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]
Time commitment:	[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]

I understand that any misrepresentation or omission in this Form may:

- (a) be taken into consideration during Tender evaluation;
- (b) result in my disqualification from participating in the Tender;
- (c) result in my dismissal from the contract.

Name of Contractor’s Representative or Key Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

To establish its qualifications to perform the contract in accordance with Section III, Evaluation and Qualification Criteria the Tenderer shall provide the information requested in the corresponding Information Sheets included hereunder.

51 FORM ELI -1.1 Tenderer Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: [indicate country of Constitution]
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law <ol style="list-style-type: none">1. Establishing that the Tenderer is not under the supervision of the Procuring Entity2. Included are the organizational chart and a list of Board of Directors

Tenderer's JV Information Form
(to be completed for each member of Tenderer's JV)

Date: _____

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
<p>1. Attached are copies of original documents of</p> <p><input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6.</p> <p><input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.5.</p> <p>2. Included are the organizational chart and a list of Board of Directors.</p>

53 FORM CON -2**Historical Contract Non-Performance, Pending Litigation and Litigation History**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria

☐ Contract non-performance did not occur since 1st January 2019 specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.

☐ Contract(s) not performed since 1st January 2019 specified in Section III, Evaluation and Qualification Criteria, requirement 2.1

☐ Contract(s) withdrawn since 1st January 2019 specified in Section III, Evaluation and Qualification Criteria, requirement 2.1

Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)
[insert year]	[insert amount and percentage]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Procuring Entity: [insert full name] Address of Procuring Entity: [insert street/city/country] Reason(s) for nonperformance: [indicate main reason(s)]	[insert amount]

Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria

☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.

☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. <input type="checkbox"/> Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
[insert year]	[insert percentage]	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: [insert full name] Address of Procuring Entity: [insert street/city/country] Matter in dispute: [indicate main issues in dispute] Party who initiated the dispute: [indicate “Procuring Entity” or “Contractor”] Reason(s) for Litigation and award decision [indicate main reason(s)]	[insert amount]

Include details relating to potential bid-rigging practices such as previous occasions where tenders were withdrawn, joint bids with competitors, subcontracting work to unsuccessful tenderers, etc.

54 FORM FIN – 3.1:**Financial Situation and Performance**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

5.4.1. Financial Data

Type of Financial information in _____ (currency)	Historic information for previous _____ years, (amount in currency, currency, exchange rate*, USD equivalent)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITT 15 for the exchange rate

5.4.2 Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (Kenya Shilling equivalent)
1		
2		
3		

5.4.3 Financial documents

The Tenderer and its parties shall provide copies of financial statements for _____ years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

- (a) reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).
- (b) be independently audited or certified in accordance with local legislation.
- (c) be complete, including all notes to the financial statements.
- (d) correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements¹ for the _____ years required above; and complying with the requirements

¹ If the most recent set of financial statements is for a period earlier than 12 months from the date of Tender, the reason for this should be justified.

Average Annual Construction Turnover

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

		Annual turnover data (construction only)	
Year	Amount Currency	Exchange rate	Kenya equivalent Shilling
[indicate year]	[insert amount and indicate currency]		
Average Annual Construction Turnover *			

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

56 FORM FIN – 3.3:

Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III, Evaluation and Qualification Criteria.

Financial Resources		
No.	Source of financing	Amount (Kenya Shilling equivalent)
1		
2		
3		

57 FORM FIN – 3.4:

Current Contract Commitments / Works in Progress

Tenderers and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Current Contract Commitments					
No.	Name of Contract	Procuring Entity's Contact Address, Tel,	Value of Outstanding Work [Current Kenya Shilling /month Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month]
1					
2					
3					
4					
5					

General Construction Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Page _____ of _____ pages

Starting Year	Ending Year	Contract Identification	Role of Tenderer
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	

Specific Construction and Contract Management Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Similar Contract No.	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	Kenya Shilling			
If member in a JV or sub-contractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address:				
Telephone/fax number				
E-mail:				

5.9 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Similar Contract No.	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount				Kenya Shilling
If member in a JV or sub-contractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address:				
Telephone/fax number				
E-mail:				

5.9 FORM EXP - 4.2 (a) (cont.)

Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

5.10 **FORM EXP - 4.2(b)**

Construction Experience in Key Activities

Tenderer's Name: _____

Date: _____

Tenderer's JV Member Name: _____

Sub-contractor's Name² (as per ITT 34): _____

ITT No. and title: _____

All Sub-contractors for key activities must complete the information in this form as per ITT 34 and Section III, Evaluation and Qualification Criteria, Sub-Factor 4.2.

1. Key Activity No One: _

Information	
Contract Identification	
Award date	
Completion date	
Role in Contract	Prime Contractor <input type="checkbox"/> Member in JV <input type="checkbox"/> Management Contractor <input type="checkbox"/> Sub-contractor <input type="checkbox"/>
Total Contract Amount	Kenya Shilling
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i) Percentage participation (ii) Actual Quantity Performed (i) x (ii)
Year 1	
Year 2	
Year 3	
Year 4	
Procuring Entity's Name:	
Address: Telephone/fax number E-mail:	

Information	
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	

² If applicable

OTHER FORMS

6. FORM OF TENDER

(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS

- i) All italicized text is to help the Tenderer in preparing this form.
- ii) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.
- iii) Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (xxii) below.

Date of this Tender submission:.....[insert date (as day, month and year) of Tender submission]
Tender Name and Identification:.....[insert identification]
Alternative No.:.....[insert identification No if this is a Tender for an alternative]
To:.....[Insert complete name of Procuring Entity]

Date of this Tender submission: [insert date (as day, month and year) of Tender submission] **Request for Tender No.:** [insert identification] **Name and description of Tender** [Insert as per ITT]
Alternative No.: [insert identification No if this is a Tender for an alternative]

To: [insert complete name of Procuring Entity]

Dear Sirs,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct and complete the Works and remedy any defects therein for the sum³ of Kenya Shillings [[Amount in figures] _____ Kenya Shillings [amount in words] _____]

The above amount includes foreign currency⁴ amount (s) of [state figure or a percentage and currency] [figures] _____ [words] _____

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Architect notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Special Conditions of Contract.
3. We agree to adhere by this tender until _____ [Insert date], and it shall remain binding upon us and may be accepted at any time before that date.

³ This sum should be carried forward from the Summary of the Bills of Quantities.

⁴ The percentage quoted above should not include provisional sums, and not more than two foreign currencies are allowed.

4. We understand that you are not bound to accept the lowest or any tender you may receive.
5. We, the under signed, further declare that:
- i) No reservations: We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
 - ii) Eligibility: We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
 - iii) Tender - Securing Declaration: We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8;
 - iv) Conformity: We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: [insert a brief description of the Works];
 - v) Tender Price: The total price of our Tender, excluding any discounts offered in item 1 above is: [Insert one of the options below as appropriate]
 - vi) Option 1, in case of one lot: Total price is: [insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies]; or
Option2, in case of multiple lots:
 - (a) Total price of each lot [insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]; and
 - (b) Total price of all lots (sum of all lots) [insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];
 - vii) Discounts: The discounts offered and the methodology for their application are:
 - viii) The discounts offered are: [Specify in detail each discount offered.]
 - ix) The exact method of calculations to determine the net price after application of discounts is shown below: [Specify in detail the method that shall be used to apply the discounts];
 - x) Tender Validity Period: Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
 - xi) Performance Security: If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;
 - xii) One Tender Per Tender: We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a sub-contractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;

- xiii) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, Engineer, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.
- xiv) **State-owned enterprise or institution:** [select the appropriate option and delete the other] [We are not a state- owned enterprise or institution]/[We are a state-owned enterprise or institution but meet the requirements of ITT3.8];
- xv) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: [insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate “none.”)

- xvi) **Binding Contract:** We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- xvii) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;
- xviii) **Fraud and Corruption:** We here by certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption; and
- xix) **Collusive practices:** We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the “Certificate of Independent Tender Determination” attached below.
- xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from___(specify website) during the procurement process and the execution of any resulting contract.
- xxi) **Beneficial Ownership Information:** We commit to provide to the procuring entity the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.

xxii) We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:

- a) Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are not in any conflict of interest.
- (c) Certificate of Independent Tender Determination - to declare that we completed the tender without colluding with other tenderers.
- (a) Self-Declaration of the Tenderer - to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
- (d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

Further, we confirm that we have read and understood the full content and scope of fraud and corruption as informed in “**Appendix 1 - Fraud and Corruption**” attached to the Form of Tender.

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

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: **[insert complete name of person duly authorized to sign the Tender]

Title of the person signing the Tender: [insert complete title of the person signing the Tender]

Signature of the person named above: [insert signature of person whose name and capacity are shown above]

Date signed [insert date of signing] day of [insert month], [insert year]

Date signed _____ day of _____, _____

Notes

* In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer.

**Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.

TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM

a) Instruction to Tenderer

Tender is instructed to complete the particulars required in this Form, *one form for each entity if Tender is a JV*. Tenderer is further reminded that it is an offence to give false information on this Form.

A. Tenderer's details

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	
2	Reference Number of the Tender	
3	Date and Time of Tender Opening	
4	Name of the Tenderer	
5	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address (postal and physical addresses, email, and telephone number) of Registering Body/Agency	
8	Description of Nature of Business	
9	Maximum value of business which the Tenderer handles.	
10	State if Tenders Company is listed in stock exchange, give name and full address (postal and physical addresses, email, and telephone number) of state which stock exchange	

General and Specific Details

b) Sole Proprietor, provide the following details.

Name in full_____

Age_____ Nationality_____

Country of Origin_____ Citizenship _____

c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

(d) Registered Company, provide the following details.

i) Private or public Company _____

ii) State the nominal and issued capital of the Company-

Nominal Kenya Shillings (Equivalent)

Issued Kenya Shillings (Equivalent)

iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

Sign:

Date:

Stamp:

(e) DISCLOSURE OF INTEREST- Interest of the Firm in the Procuring Entity.

- (i) Are there any person/persons in (*Name of Procuring Entity*) who has an interest or relationship in this firm? Yes/No.....

If yes, provide details as follows.

S/No.	Names of Person	Designation in the Procuring Entity	Interest or Relationship with Tenderer
1			
2			
3			

(ii) Conflict of interest disclosure

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be involved in the implementation or supervision of the Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract?		

(f) Certification

On behalf of the Tenderer, I certify that the information given above is correct.

Full Name_____

Title or Designation_____

Signature: _____

Date: _____

Bidders Official Stamp: _____

b) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Letter of Tender to the _____
_____[Name of Procuring Entity] for:
_____[Name and number of tender] in
response to the request for tenders made by: _____[Name of Tenderer] do
hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of _____[Name of Tenderer] that:

1. I have read and I understand the contents of this Certificate;
2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;
4. For the purposes of this Certificate and the Tender, I understand that the word “competitor” shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
 - a) Has been requested to submit a Tender in response to this request for tenders;
 - b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;
5. The Tenderer discloses that [check one of the following, as applicable]:
 - a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
 - b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;
6. In particular, without limiting the generality of paragraphs (5)(a) or(5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;
 - b) methods, factors or formulas used to calculate prices;
 - c) the intention or decision to submit, or not to submit, a tender; or
 - d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;
7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph(5)(b) above;

8. The terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name _____

Title _____

Date _____

[Name, title and signature of authorized agent of Tenderer and Date]

(c) **SELF- DECLARATION FORMS**

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 2015.

I,, of Post Office Box being a resident of..... in the Republic of do hereby make a statement as follows: -

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Direct or of (insert name of the Company) who is a Bidder in respect of **Tender No.** for (insert tender title/description) for (insert name of the Procuring entity) and duly authorized and competent to make this statement.
2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.
3. THAT what is deponed to here in above is true to the best of my knowledge, information and belief.

.....
(Title)

.....
(Signature)

.....
(Date)

.....
Bidder Official Stamp

FORM SD2

SELF DECLARATION THAT THE PERSON/TENDERER WILL NOT ENGAGE IN ANY CORRUPT OR FRAUDULENT PRACTICE.

I,of P.O. Boxbeing a resident of in the Republic of.....do hereby make a statement as follows:
-

- 1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of (insert name of the Company) who is a Bidder in respect of **Tender No.....**for (insert tender title/description) for(insert name of the Procuring entity) and duly authorized and competent to make this statement.
- 2. THAT the aforesaid Bidder, its servants and/or agents/subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of (insert name of the Procuring entity) which is the procuring entity.
- 3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of(name of the procuring entity).
- 4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender
- 5. THAT what is deponed to here in above is true to the best of my knowledge information and belief.

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

.....
Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

I..... (Person) on behalf of (*Name of the Business/Company/Firm*).....declare that I have read and fully understood the contents of the Public Procurement & Asset Disposal Act, 2015, Regulations and the Code of Ethics for persons participating in Public Procurement and Asset Disposal and my responsibilities under the Code.

I do hereby commit to abide by the provisions of the Code of Ethics for persons participating in Public Procurement and Asset Disposal.

Name of Authorized signatory.....

Sign.....

Position.....

Office address..... Telephone.....

E-mail.....

Name of the Firm/Company.....

Date.....

Bidders Official Stamp:

Witness:

Name

Sign.....

Date.....

(d) APPENDIX 1 - FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

- 1.1 The Government of Kenya's Anti-Corruption and Economic Crime laws and their sanction's policies and procedures, Public Procurement and Asset Disposal Act (no. 33 of 2015) and its Regulation, and any other Kenya's Acts or Regulations related to Fraud and Corruption, and similar offences, shall apply with respect to Public Procurement Processes and Contracts that are governed by the laws of Kenya.

2. Requirements

- 2.1 The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.
- 2.2 Kenya's public procurement and asset disposal act (no. 33 of 2015) under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behavior:
- 1) A person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or as set disposal proceeding;
 - 2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
 - 3) Without limiting the generality of the subsection (1) and (2), the person shall be: -
 - a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
 - b) if a contract has already been entered into with the person, the contract shall be voidable;
 - 4) The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;
 - 5) An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement: -
 - a) Shall not take part in the procurement proceedings;
 - b) shall not, after a procurement contract has been entered in to, take part in any decision relating to the procurement or contract; and

- c) shall not be a subcontract or for the tender to whom was awarded contract, or a member of the group of tenderers to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
 - 6) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;
 - 7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.
3. In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:
- a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
 - i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii) "fraudulent practice" is any act or omission, including is representation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - iv) "obstructive practice" is:
 - Deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya 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; or
 - acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.
 - b) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst 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.

- c) Rejects a proposal for award¹ of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- d) Pursuant to the Kenya's above stated Acts and Regulations, may recommend to appropriate authority(ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;
- e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring(i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect² all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and
- f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a “Self-Declaration Form” as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

¹For the avoidance of doubt, a party's in eligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and tendering, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by the Procuring Entity to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies there of as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

FORM OF TENDER SECURITY-[Option 1–Demand Bank Guarantee]

Beneficiary:_____

Request for Tenders No:

Date: _____

TENDER GUARANTEE No.:_____

Guarantor: _____

1. We have been informed that _____ (herein after called "the Applicant") has submitted or will submit to the Beneficiary its Tender (herein after called "the Tender") for the execution of _____ under Request for Tenders No. ("the ITT").
2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.
3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:
 - (a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or
 - b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.
4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

[signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.: _____

1. Whereas [Name of the tenderer] (hereinafter called “the tenderer”) has submitted its tender dated [Date of submission of tender] for the [Name and/or description of the tender] (hereinafter called “the Tender”) for the execution of _____ under Request for Tenders No. _____ (“the ITT”).
2. **KNOW ALL PEOPLE** by these presents that WE of [**Name of Insurance Company**] having our registered office at (hereinafter called “the Guarantor”), are bound unto [Name of Procuring Entity] (hereinafter called “the Procuring Entity”) in the sum of (Currency and guarantee amount) for which payment well and truly to be made to the said Procuring Entity, the Guarantor binds itself, its successors and assigns, jointly and severally, firmly by these presents.

Sealed with the Common Seal of the said Guarantor this ____ day of _____ 20 ____.

3. **NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION** is such that if the Applicant:
 - a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender (“the Tender Validity Period”), or any extension thereto provided by the Principal; or
 - b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers (“ITT”) of the Procuring Entity's Tendering document.

then the guarantee undertakes to immediately pay to the Procuring Entity up to the above amount upon receipt of the Procuring Entity's first written demand, without the Procuring Entity having to substantiate its demand, provided that in its demand the Procuring Entity shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) twenty-eight days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

[Date]

[Signature of the Guarantor]

[Witness]

[Seal]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

FORM OF TENDER - SECURING DECLARATION

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

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

Tender No..... [insert number of tendering process]

To: [insert complete name of Purchaser] I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.
2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser 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 bid conditions, because we—(a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.
3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
 - a) Our receipt of a copy of your notification of the name of the successful Tenderer; or
 - b) thirty days after the expiration of our Tender.
4. I/We understand that if I am /we are/ in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:..... Capacity/title (director or partner or sole proprietor, etc.)

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

Dated on day of, [Insert date of signing] Seal or stamp

Appendix to Tender

Schedule of Currency requirements

Summary of currencies of the Tender for _____ [insert name of Section of the Works]

Name of currency	Amounts payable
Local currency: _____	
Foreign currency #1: _____	
Foreign currency #2: _____	
Foreign currency #3: _____	
Provisional sums expressed in local currency _____	[To be entered by the Procuring Entity]

PART II - WORKS REQUIREMENTS

SECTION V - BILLS OF QUANTITIES

(a) Preambles

1. The method of measurement of completed work for payment shall be in accordance with [insert the name of a standard reference guide, or full details of the methods to be used.
2. The Site is situated in the University of Embu. It is approximately 130 Kilometers from Nairobi. Access to the site shall be through Embu -Nairobi Highway,
Which is an existing public road. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor may visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.
3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.
4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the Procuring Entity or Procuring Entity's Representative during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Engineer.
5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.
6. The Contractor shall carry out the various sections of the Works in such an order as the Architect May direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.
7. The main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub- Contractor involve.
8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession, to be agreed with the Engineer. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. No claim for extension of time due to the normal inclement weather for this area shall be entertained.
9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates thereof. This Chart shall be agreed with the Architect and no deviation from the order set out in it will be permitted without the written consent of the Engineer. The Contractor will be responsible for arranging the above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.

10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progress on all important items of each section or portion of the Works.
11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Engineer. The Photographs shall provide a record of the Site and adjacent areas as prior to the commencement of the Works and shall cover such portion of the works in progress and completion as the Architect shall direct. All prints shall be full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect within two weeks of exposure.
12. Figured dimensions are to be followed in preference to dimensions scaled from the Drawings, but whenever possible dimensions are to be taken on the Site or from the buildings. Before any work is commenced by Sub- Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.
13. Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, water pipes or other services in the area and he shall make whatever provisions may be required by the Authorities concerned for the support and protection of such services. Any damage or disturbance caused to any services shall be reported immediately to the Architect and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging if necessary, to locate precisely the position and details of the services which are likely to affect his operations.
14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.
15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundary of the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Engineer.
16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.
17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub-contractors). If need be, he shall make arrangements with the Local Water Authority for the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.
18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.

19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of the Engineer.
20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard–rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.
21. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.
22. The Contractor must take steps necessary to safe guard and shall beheld fully responsible for any damage caused to existing and adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.
23. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.
24. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998. Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-up of his rates.
25. The Contractor shall provide temporary sheds, offices meshrooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.
26. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.
27. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.
28. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.

29. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.
30. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.
31. The Contractor shall take all necessary precautions such as temporary fencing, hoarding fans, planked footways, guard-rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.
32. Cover up all and protect from damage, including damage from inclement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion of the Contract.
33. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken to leave clean all floors and windows and to remove all paint and cement all rubbish and dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.
34. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.
35. The Contractors shall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure for submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer. The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.
36. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all interim payments. The contractor shall allow for any costs arising resulting there from in the build-up of rates.
37. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.

38. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT as instructed elsewhere.
39. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

(BILL OF QUANTITIES ATTACHED HEREWITH)

SECTION VI - SPECIFICATIONS

(SPECIFICATIONS ATTACHED HEREWITH)

SECTION VII - DRAWINGS

(DRAWINGS ATTACHED HEREWITH)

**PART III –
THE CONDITIONS OF CONTRACT
AND CONTRACT**

SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

General Conditions of Contract

1 GENERAL PROVISIONS

1.1 Definitions

In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated below. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

“Accepted Contract Amount” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

“Base Date” means a date 30 day prior to the submission of tenders.

“Bill of Quantities” means the priced and completed Bill of Quantities forming part of the tender.

“Completion Date” means the date of completion of the Works as certified by the Engineer.

“Contract Price” means the price defined in the contract and thereafter as adjusted in accordance with the provisions of the Contract.

“Contract” means the agreement entered into between the Procuring Entity and the Contractor as recorded in the Agreement Form and signed by the parties including all attachments and appendices thereto and all documents incorporated by reference therein to execute, complete, and maintain the Works.

“Contractor's Documents” means the calculations, computer programs and other software, progress reports, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.

“Contractor's Equipment” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Procuring Entity's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

“Contractor's Personnel” means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, who may include the staff, labor and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

“Contractor's Representative” means the person named by the Contractor in the Contractor appointed from time to time by the Contractor who acts on behalf of the Contractor.

“Contractor” means the person(s) named as contractor in the Form of Tender accepted by the Procuring Entity.

“Cost” means expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

“Day” means a calendar day and **“year”** means 365 days.

“Dayworks” means Work inputs subject to payment on a time basis for labour and the associated materials

and plant.

“Defect” means any part of the Works not completed in accordance with the Contract.

“Defects Liability Certificate” means the certificate issued by Architect upon correction of defects by the Contractor.

“Defects Liability Period” means the period named in the Special Conditions of Contract and calculated from the Completion Date, within which the contractor is liable for any defects that may develop in the handed over works.

“Defects Notification Period” means the period for notifying defects in the Works or a Section (as the case maybe) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over the days stated in the Special Conditions of Contract.

“Drawings” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Procuring Entity in accordance with the Contract.

“Final Payment Certificate” means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

“Final Statement” means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate]. **“Force Majeure”** is defined in Clause 19 [Force Majeure].

“Foreign Currency” means a currency of another country (not Kenya) in which part (or all) of the Contract Price is payable, but not the Local Currency.

“Goods” means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

“Interim Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

“Laws” means all national legislation, statutes, ordinances, and regulations and by-laws of any legally constituted public authority.

“Letter of Acceptance” means the letter of formal acceptance of a tender, signed by Procuring Entity, including any annexed memoranda comprising agreements between and signed by both Parties.

“Local Currency” means the currency of Kenya.

“Materials” means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

“Notice of Dissatisfaction” means the notice given by either Party to the other under Sub-Clause 20.3 indicating its dissatisfaction and intention to commence arbitration.

“Special Conditions of Contract” means the pages completed by the Procuring Entity entitled Special Conditions of Contract which constitute Part A of the Special Conditions.

“Party” means the Procuring Entity or the Contractor, as the context requires.

“Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment].

“Performance Certificate” means the certificate issued under Sub-Clause 11.9 [Performance Certificate].

“Performance Security” means the security (or securities, if any) under Sub-Clause 4.2 [Performance

Security]. **“Permanent Works”** means the permanent works to be executed by the Contractor under the Contract.

“Plant” means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Procuring Entity and relating to the construction or operation of the Works.

“Procuring Entity's Equipment” means the apparatus, machinery and vehicles (if any) made available by the Procuring Entity for the use of the Contract or in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Procuring Entity.

“Procuring Entity's Personnel” means the Engineer, the Engineer, the assistants and all other staff, labor and other employees of the Architect and of the Procuring Entity; and any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as Procuring Entity's Personnel.

“Procuring Entity” means the Entity named in the Special Conditions of Contract.

“Engineer” is the person named in the Appendix to Conditions of Contract (or any other competent person appointed by the Procuring Entity and notified to the Contractor, to act in replacement of the Engineer) 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.

“Engineer” means the person appointed by the Procuring Entity to act as the Architect for the purposes of the Contract and named in the Special Conditions of Contract, or other person appointed from time to time by the Procuring Entity and notified to the Contractor

“Provisional Sum” means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].

“Retention Money” means the accumulated retention moneys which the Procuring Entity retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].

“Schedules” means the document(s) entitled schedules, completed by the Contractor and submitted with the Form of Tender, as included in the Contract.

“Section” means a part of the Works specified in the Special Conditions of Contract as a Section (if any)

“Site Investigation Reports” are those reports that may be included in the tendering documents which a ref actual and interpretative about the surface and sub-surface condition sat the Site.

“Site” means the places where the Permanent Works are to be executed, including storage and working areas, and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

“Specification” means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

“Start Date” or “Commencement Date” is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with the Site possession date(s).

“Statement” means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

“Subcontractor” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works.

“Taking-Over Certificate” means a certificate issued under Clause 10 [Procuring Entity's Taking Over].

“Temporary Works” means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

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

“Tender” means the Form of Tender and all other documents which the Contractor submitted with the Form of Tender, as included in the Contract.

“Tests after Completion” means the tests (if any) which are specified in the Contract and which are carried out in accordance with the Specification after the Works or a Section (as the case may be) are taken over by the Procuring Entity.

“Tests on Completion” means the tests which are specified in the Contract agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Procuring Entity.

“Time for Completion” means the time for completing the Works or a Section (as the case may be) as stated in the Special Conditions of Contract (with any extension calculated from the Commencement Date.

“Unforeseeable” means not reasonably foreseeable by an experienced contractor by the Base Date.

“Variation” means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

“Works” means the items the Procuring Entity requires the Contractor to undertake as defined in the Appendix to Conditions of Contract. **“Works”** may also mean the Permanent Works and the Temporary Works, or either of them as appropriate.

12 Interpretation

In the Contract, except where the context requires otherwise:

- a) Words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

13 Communications

- 13.1 Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:
- a) In writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Special Conditions of Contract; and
 - b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Special Conditions of Contract. However:
 - i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
 - ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.
- 13.2 Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Architect or the other Party, as the case may be.

14 Law and Language

- 14.1 The Contract shall be governed by the laws of **Kenya**.
- 14.2 The ruling language of the Contract shall be **English**.

15 Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a) The Contract Agreement,
- b) The Letter of Acceptance,
- c) The Special Conditions – Part A,
- d) the Special Conditions – Part B
- e) the General Conditions of Contract
- f) the Form of Tender,
- g) the Specifications and Bills of Quantities
- h) the Drawings, and
- i) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Architect shall issue any necessary clarification or instruction.

16 Contract Agreement

The Parties shall enter into a Contract Agreement within 14 days after the Contractor receives the Contract Agreement, unless the Special Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Special Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Procuring Entity.

17 Assignment

The Contractor shall not assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, the contractor:

- a) May assign the whole or any part with the prior consent of the Procuring Entity, and
- b) may, as security in favor of a bank or financial institution, assign its right to moneys due, or to become due, under the Contract.

18 Care and Supply of Documents

- 1.81 The Specifications and Drawings shall be in the custody and care of the Procuring Entity. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawings and Bills of Quantities shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
- 1.82 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.
- 1.83 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Procuring Entity's Personnel shall have the right of access to all these documents at all reasonable times.
- 1.84 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

19 Timely provision of Drawings or Instructions

- 1.91 The Contractor shall give notice to the Architect whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.

- 192 If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Architect to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any other associated costs accrued, which shall be included in the Contract Price.
- 193 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 194 However, if and to the extent that the Architect failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, or costs accrued.

1.10 Procuring Entity's Use of Contractor's Documents

- 1.10.1 As agreed between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.
- 1.10.2 The Contractor shall be deemed (by signing the Contract) to give to the Procuring Entity a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:
- a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
 - b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
 - c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.
- 1.10.3 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Procuring Entity for purposes other than those permitted under Sub-Clause 1.10.2.

1.11 Contractor's Use of Procuring Entity's Documents

As agreed between the Parties, the Procuring Entity shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Procuring Entity. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Procuring Entity's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

1.12 Confidential Details

- 1.121 The Contractor's and the Procuring Entity's Personnel shall ensure confidentiality at all times. The confidentiality shall survive termination or completion of the contract. They shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.
- 1.122 The Contractor's and the Procuring Entity's Personnel shall also treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

1.13 Compliance with Laws

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Special Conditions of Contract:

- a) The Procuring Entity shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specifications as having been (or to be) obtained by the Procuring Entity; and the Procuring Entity shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and
- b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Procuring Entity harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

1.14 Joint and Several Liability

If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

- a) These persons shall be deemed to be jointly and severally liable to the Procuring Entity for the performance of the Contract;
- b) these persons shall notify the Procuring Entity of their leader who shall have authority to bind the Contractor and each of these persons; and
- c) the Contractor shall not alter its composition or legal status without the prior consent of the Procuring Entity.

115 Inspections and Audit by the Procuring Entity

Pursuant to paragraph 2.2(e). of Appendix B to the General Conditions, the Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Public Procurement Regulatory Authority, Procuring Entity and/or persons appointed or designated by the Government of Kenya to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Procuring Entity if requested by the Procuring Entity. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 15.6 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Procuring Entity's prevailing sanctions procedures).

2 THE PROCURING ENTITY

21 Right of Access to the Site

- 21.1 The Procuring Entity shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **Special Conditions of Contract**. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Procuring Entity is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Procuring Entity shall do so in the time and manner stated in the Specification. However, the Procuring Entity may withhold any such right or possession until the Performance Security has been received.
- 21.2 If no such time is stated in the Special Conditions of Contract, the Procuring Entity shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the programme submitted under Sub-Clause 8.3 [Programme].
- 21.3 If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Procuring Entity to give any such right or possession within such time, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.
- 21.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 21.5 However, if and to the extent that the Procuring Entity's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

22 Permits, Licenses or Approvals

- 22.1 The Procuring Entity shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:
- a) Copies of the Laws of Kenya which are relevant to the Contract but are not readily available, and

- b) any permits, licenses or approvals required by the Laws of Kenya:
 - i) which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
 - ii) for the delivery of Goods, including clearance through customs,
 - and
 - iii) for the export of Contractor's Equipment when it is removed from the Site.

23 Procuring Entity's Personnel

The Procuring Entity shall be responsible for ensuring that the Procuring Entity's Personnel and the Procuring Entity's other contractor son the Site:

- a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
- b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

24 Procuring Entity's Financial Arrangements

The Procuring Entity shall make and maintain all necessary financial arrangements which will enable the Procuring Entity to pay the Contract Price punctually (as estimated at that time) in accordance with Clause14 [Contract Price and Payment].

3 THE ENGINEER

3.1 Architect Duties and Authority

- 3.1.1 The Procuring Entity shall appoint the Architect who shall carry out the duties as signed to him in the Contract. The Architect staff shall include suitably qualified Assistants and other professionals who are competent to carry out these duties. The Architect Name and Address shall be provided in the **Special Conditions of Contract**.
- 3.1.2 The Architect shall have no authority to amend the Contract.
- 3.1.3 The Architect May exercise the authority attributable to the Architect as specified in or necessarily to be implied from the Contract. If the Architect is required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the **Special Conditions of Contract**. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Engineer.
- 3.1.4 However, whenever the Architect exercises a specified authority for which the Procuring Entity's approval is required, then (for the purposes of the Contract) the contractor shall require the Architect to provide evidence of such approval before complying with the instruction.
- 3.1.5 Except as otherwise stated in these Conditions:
 - a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Architect shall be deemed to act for the Procuring Entity;
 - b) the Architect has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
 - c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal,

request, test, or similar act by the Architect (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and

- d) any act by the Architect in response to a Contractor's request shall be notified in writing to the Contractor within 14 days of receipt.

3.16 The following provisions shall apply:

The Architect shall obtain the specific approval of the Procuring Entity before taking action under the-following Sub-Clauses of these Conditions:

- a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost.
- b) Sub-Clause 13.1: instructing a Variation, except;
 - i) In an emergency situation as determined by the Engineer, or
 - ii) If such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the **Special Conditions of Contract**.
- c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2.
- d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable three currencies.

3.17 Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forth with comply, despite the absence of approval of the Procuring Entity, with any such instruction of the Engineer. The Architect shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Procuring Entity.

32 Delegation by the Engineer

3.21 The Architect may from time to time assign duties and delegate authority to assistants and may also revoke such assignment or delegation. These assistants may include a resident Engineer, and/or independent inspectors appointed to inspect and/ or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Architect shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

3.22 Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- a) Any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Architect to reject the work, Plant or Materials;

- b) If the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

33 Instructions of the Engineer

- 33.1 The Architect may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under Clause 3.2.1.
- 33.2 The Contractor shall comply with the instructions given by the Architect or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Architect or a delegated assistant:
 - a) Gives an oral instruction,
 - b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
 - c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

Then the confirmation shall constitute the written instruction of the Architect or delegated assistant (as the case may be).

34 Replacement of the Engineer

If the Procuring Entity intends to replace the Engineer, the Procuring Entity shall, in not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended person to replace the Engineer.

35 Determinations

- 35.1 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Architect shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Architect shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.
- 3.5.1 The Architect shall give notice to both Parties of each agreement or determination, with supporting particulars, within 30 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

4 THE CONTRACTOR

4.1 Contractor's General Obligations

- 4.1.1 The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Architect instructions, and shall remedy any defects in the Works.
- 4.1.2 The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.
- 4.1.3 All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country.
- 4.1.4 The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.
- 4.1.5 The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.
- 4.1.6 If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Special Conditions:
- a) The Contractor shall submit to the Architect the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
 - b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Architect to add to the Drawings for co-ordination of each Party's designs;
 - c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
 - d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Architect the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Procuring Entity to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

42 Performance Security

- 421 The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the **Special Conditions of Contract** and denominated in the currency (ies) of the Contract or in a freely convertible currency acceptable to the Procuring Entity. If an amount is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.
- 422 The Contractor shall deliver the Performance Security to the Procuring Entity within 30 days after receiving the Notification of Award and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form annexed to the Special Conditions, as stipulated by the Procuring Entity in the Special Conditions of Contract, or in another form approved by the Procuring Entity.
- 423 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.
- 424 The Procuring Entity shall not make a claim under the Performance Security, except for amounts to which the Procuring Entity is entitled under the Contract.
- 425 The Procuring Entity shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Procuring Entity was not entitled to make the claim.
- 426 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.
- 427 Without limitation to the provisions of the rest of this Sub-Clause, whenever the Architect determines an addition or a reduction to the Contract Price as a result of a change in cost and/ or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Architect request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

43 Contractor's Representative

- 431 The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. The Contractor's Representative's Name and Address shall be provided in the **Special Conditions of Contract**.
- 432 Unless the Contractor's Representative **is named in the Contract**, the Contractor shall, prior to the Commencement Date, submit to the Architect for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

- 433 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint any replacement.
- 434 The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Architect prior consent, and the Architect shall be notified accordingly.
- 435 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].
- 436 The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Architect has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.
- 437 The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

44 Sub-contractors

- 441 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.
- 442 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Special Conditions:
- a) The Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
 - b) The prior consent of the Procuring Entity shall be obtained to other proposed Subcontractors;
 - c) the Contractor shall give the Procuring Entity not less than 14 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
 - d) each subcontract shall include provisions which would entitle the Procuring Entity to require the subcontract to be assigned to the Procuring Entity under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity].
- 443 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.
- 444 Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

45 Assignment of Benefit of Subcontract

If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Procuring Entity, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Procuring Entity for the work carried out by the Subcontractor after the assignment takes effect.

46 Co-operation

- 46.1 The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:
- a) The Procuring Entity's Personnel,
 - b) Any other contractors employed by the Procuring Entity, and
 - c) The personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract.
- 46.2 Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.
- 46.3 If, under the Contract, the Procuring Entity is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Architect in the time and manner stated in the Specification.

47 Setting Out of the Works

- 47.1 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contractor notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.
- 47.2 The Procuring Entity shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.
- 4.73 If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/ or Cost, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such costs accrued, which shall be included in the Contract Price.

- 4.7.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this.

48 Safety Procedures

The Contractor shall:

- a) Comply with all applicable safety regulations,
- b) Take care for the safety of all persons entitled to be on the Site,
- c) Use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Procuring Entity's Taking Over], and
- e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

49 Quality Assurance

- 49.1 The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Architect shall be entitled to audit any aspect of the system.
- 49.2 Details of all procedures and compliance documents shall be submitted to the Architect for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor itself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

410 Site Data

- 4.10.1 The Procuring Entity shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Procuring Entity's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Procuring Entity shall similarly make available to the Contractor all such data which come into the Procuring Entity's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.
- 4.10.2 To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- a) The form and nature of the Site, including sub-surface conditions,
- b) the hydrological and climatic conditions,
- c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- d) the Laws, procedures and labour practices of Kenya, and
- e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

4.11 Sufficiency of the Accepted Contract Amount

4.11.1 The Contractor shall be deemed to:

- a) Have satisfied itself as to the correctness and sufficiency of the Accepted Contract Amount, and
- b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].

4.11.2 Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

4.12 Unforeseeable Physical Conditions

4.12.1 In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

4.12.2 If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Architect as soon as practicable.

4.12.3 This notice shall describe the physical conditions, so that they can be inspected by the Architect and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Architect may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

4.12.4 If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such Cost, which shall be included in the Contract Price.

- 4.125 Upon receiving such notice and inspecting and/or investigating these physical conditions, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.
- 4.126 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Architect may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.
- 4.127 The Architect shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

4.13 Rights of Way and Facilities

Unless otherwise specified in the Contract the Procuring Entity shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.

4.14 Avoidance of Interference

- 4.14.1 The Contractor shall not interfere unnecessarily or improperly with:
- a) The convenience of the public, or
 - b) The access to and use and occupation of all roads and foot paths, irrespective of whether they are public or in the possession of the Procuring Entity or of others.
- 4.14.2 The Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

4.15 Access Route

- 4.15.1 The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

4.15.2 Except as otherwise stated in these Conditions:

- a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- c) the Procuring Entity shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- d) the Procuring Entity does not guarantee the suitability or availability of particular access routes; and
- e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

416 Transport of Goods

Unless otherwise stated in the Special Conditions:

- a) the Contractor shall give the Architect not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- c) the Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods and shall negotiate and pay all claims arising from their transport.

417 Contractor's Equipment

The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

418 Protection of the Environment

4.18.1 The contractor shall comply with the applicable environmental laws, regulations and policies.

4.18.2 The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

4.18.3 The Contractors shall ensure that emissions, surface charges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

419 Electricity, Water and Gas

- 4.19.1 The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.
- 4.19.2 The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specifications. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.
- 4.19.3 The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.

420 Procuring Entity's Equipment and Free-Issue Materials

- 4.20.1 The Procuring Entity shall make the Procuring Entity's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:
- a) The Procuring Entity's shall be responsible for the Procuring Entity's Equipment, except that
 - b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.
- 4.20.1 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.
- 4.20.2 The Procuring Entity shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Procuring Entity shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them and shall promptly give notice to the Architect of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Procuring Entity shall immediately rectify the notified shortage, defect or default.
- 4.20.3 After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Procuring Entity of liability for any shortage, defect or default not apparent from a visual inspection.

421 Progress Reports

- 421.1 Unless otherwise stated in the Special Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Architect in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.
- 421.2 Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works. Each report shall include:
- a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
 - b) photographs showing the status of manufacture and of progress on the Site;
 - c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
 - i) commencement of manufacture,
 - ii) Contractor's inspections,
 - iii) tests, and
 - iv) shipment and arrival at the Site;
 - d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
 - e) copies of quality assurance documents, test results and certificates of Materials;
 - f) list of notices given under Sub-Clause 2.5 [Procuring Entity's Claims] and notices given under Sub-Clause 20.1 [Contractor's Claims];
 - g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
 - h) comparison so factual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

422 Security of the Site

Unless otherwise stated in the Special Conditions:

- a) The Contractor shall be responsible for keeping unauthorized persons off the Site, and
- b) authorized persons shall be limited to the Contractor's Personnel and the Procuring Entity's Personnel; and to any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as authorized personnel of the Procuring Entity's other contractors on the Site.

423 Contractor's Operations on Site

- 423.1 The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Architect as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.
- 423.2 During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.
- 423.3 Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

424 Fossils

- 424.1 All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Procuring Entity. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.
- 424.2 The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub- Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost, which shall be included in the Contract Price.
- After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

5 NOMINATED SUBCONTRACTORS

5.1 Definition of “nominated Subcontractor”

In this Contract, “nominated Subcontractor” means a Subcontractor:

- a) Who is nominated by the Procuring Entity, or
- b) Contractor has nominated as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].

52 Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Procuring Entity as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Procuring Entity agrees in writing to indemnify the Contractor against and from the consequences of the matter:

- a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;
 - ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities, and
 - iii) be paid only if and when the Contractor has received from the Procuring Entity payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].

53 Payments to nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor's invoices approved by the Contractor which the Architect certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

54 Evidence of Payments

54.1 Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Architect may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- (a) Submits this reasonable evidence to the Engineer, or
- (b)
 - i) Satisfies the Architect in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - iii) Submits to the Architect reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement, then the Procuring Entity may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Procuring Entity, the amount which the nominated Subcontractor was directly paid by the Procuring Entity.

6 STAFF AND LABOR

61 Engagement of Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within Kenya.

62 Rates of Wages and Conditions of Labor

621 The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by Procuring Entity's whose trade or industry is similar to that of the Contractor.

622 The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in Kenya in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of Kenya for the time being in force, and the Contractor shall perform such duties in regard to such deductions there of as may be imposed on him by such Laws.

63 Persons in the Service of Procuring Entity

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Procuring Entity's Personnel.

64 Labor Laws

The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, employment of children, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights. The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

65 Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the **Special Conditions of Contract**, unless:

- a) Otherwise stated in the Contract,
- b) The Architect gives consent, or
- c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer, provided that work done outside the normal working hours shall be considered and paid for as overtime.

66 Facilities for Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities on site for the Contractor's Personnel. The Contractor shall also provide facilities for the Procuring Entity's Personnel as stated in the Specifications. The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

67 Health and Safety

- 67.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Procuring Entity's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- 67.2 The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- 67.3 The Contractor shall send, to the Engineer, 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 property, as the Architect may reasonably require.
- 67.4 The Contractor shall conduct an awareness programme on HIV and other sexually transmitted diseases via an approved service provider and shall undertake such other measures taken to reduce the risk of the transfer of these diseases between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

68 Contractor's Superintendence

- 68.1 Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.
- 68.2 Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

69 Contractor's Personnel

- 691 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractor's Key personnel shall be named in the Special Conditions of Contract. The Architect may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:
- a) Persists in any misconduct or lack of care,
 - b) Carries out duties incompetently or negligently,
 - c) fails to conform with any provisions of the Contract,
 - d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
 - e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.
- 692 If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

610 Records of Contractor's Personnel and Equipment

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

611 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

612 Foreign Personnel

- 6121 The Contractor shall not employ foreign personnel unless the contractor demonstrates that there are no Kenyans with the required skills.
- 6122 The Contractor shall be responsible for the return of any foreign personnel to the place where they were recruited or to their domicile. In the event of the death in Kenya of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

613 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

614 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

615 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of Kenya, onsite, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.

616 Prohibition of Forced or Compulsory Labor

The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

617 Prohibition of Harmful Child Labor

The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of Kenya have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

618 Employment Records of Workers

The Contractor shall keep complete and accurate records of the employment of labor at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

619 Workers' Organizations

The Contractor shall comply with the relevant labor laws that recognize workers' rights to form and to join workers' organizations of their choosing without interference.

620 Non-Discrimination and Equal Opportunity

The Contractor shall base the labor employment on the principle of equal opportunity and fair treatment and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment, retirement, and discipline.

7. PLANT, MATERIALS AND WORKMANSHIP

7.1 Manner of Execution

The Contractor shall carry out the manufacture/assemble of plant, the production and manufacture of Materials, and all other execution of the Works:

- a) In the manner (if any) specified in the Contract,
- b) in a proper workman like and careful manner, in accordance with recognized good practice, and
- c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2 Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Architect for consent prior to using the Material sin or for the Works:

- a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
- b) additional samples instructed by the Architect as a Variation.

Each sample shall be labeled as to origin and intended use in the Works.

7.3 Inspection

7.3.1 The Procuring Entity's Personnel shall at all reasonable times:

- a) Have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

7.3.2 The Contractor shall give the Procuring Entity's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

7.3.3 The Contractor shall give notice to the Architect whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Architect shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Architect does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and there after reinstate and make good, all at the Contractor's cost.

74 Testing

- 741 This Sub-Clause shall apply to all tests specified in the Contract.
- 742 Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labor, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.
- 743 The Architect may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.
- 744 The Architect shall give the Contractor not less than 24 hours' notice of the Architect intention to attend the tests. If the Architect does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Architect presence.
- 745 If the Contractor suffers delay and/ or incurs Cost from complying with these instructions or as a result of a delay for which the Procuring Entity is responsible, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.
- 746 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 747 The Contractor shall promptly forward to the Architect duly certified reports of the tests. When the specified tests have been passed, the Architect shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Architect has not attended the tests, he shall be deemed to have accepted the readings as accurate.

75 Rejection

- 751 If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Architect may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.
- 752 If the Architect requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Procuring Entity to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity.

7.6 Remedial Work

- 7.6.1 Notwithstanding any previous test or certification, the Architect may instruct the Contractor to:
- a) Remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
 - b) remove and re-execute any other work which is not in accordance with the Contract, and
 - c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseen able event or otherwise.
- 7.6.2 The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).
- 7.6.3 If the Contractor fails to comply with the instruction, the Procuring Entity shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity all costs arising from this failure.
- 7.6.4 If the contractor repeatedly delivers defective work, the Procuring Entity may consider termination in accordance with Clause 15.

7.7 Ownership of Plant and Materials

Except as otherwise provided in the Contract, each item of Plant and Materials shall become the property of the Procuring Entity at whichever is the earlier of the following times, free from liens and other encumbrances:

- a) When it is incorporated in the Works;
- b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

7.8 Royalties

Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

- a) Natural materials obtained from outside the Site, and
- b) The disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

8 COMMENCEMENT, DELAYS AND SUSPENSION

8.1 Commencement of Works

- 8.1.1 Except as otherwise specified in the Special Conditions of Contract, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Architect notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:
- a) Signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of Kenya;
 - b) except if otherwise specified in the Special Conditions of Contract, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works.
 - c) Receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.
- 8.1.2 If the said Architect instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 6.2 [Termination by Contractor].
- 8.1.3 The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shall then proceed with the Works with due expedition and without delay.

8.2 Time for Completion

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- a) Achieving the passing of the Tests on Completion, and
- b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

8.3 Programme

- 8.3.1 The Contractor shall submit a detailed time programme to the Architect within 4 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:
- a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
 - b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
 - c) the sequence and timing of inspections and tests specified in the Contract, and
 - d) a supporting report which includes:

i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

ii) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and

details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

832 Unless the Engineer, within 14 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Procuring Entity's Personnel shall be entitled to rely upon the programme when planning their activities.

833 The Contractor shall promptly give notice to the Architect of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works.

834 If, at any time, the Architect gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contractor to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Architect in accordance with this Sub-Clause.

84 Extension of Time for Completion

841 The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- c) exceptionally adverse climatic conditions,
- d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- e) any delay, impediment or prevention caused by or attributable to the Procuring Entity, the Procuring Entity's Personnel, or the Procuring Entity's other contractors.

842 If the Contractor considers itself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Architect in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Architect shall review previous determinations and may increase, but shall not decrease, the total extension of time.

85 Delays Caused by Authorities

If the following conditions apply, namely:

- a) The Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in Kenya,
- b) These authorities delay or disrupt the Contractor's work, and
- c) the delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

86 Rate of Progress

86.1 If, at anytime:

- a) Actual progress is too slow to complete within the Time for Completion, and/or
- b) Progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme], other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Architect may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

86.2 Unless the Architect notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Procuring Entity to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity, in addition to delay damages (if any) under Sub-Clause 8.7 below.

86.3 Additional costs of revised methods including acceleration measures, instructed by the Architect to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Procuring Entity, without generating, however, any other additional payment benefit to the Contractor.

87 Delay Damages

87.1 If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay delay damages to the Procuring Entity for this default. These delay damages shall be the sum stated in the **Special Conditions of Contract**, which shall be paid for everyday which shall elapse between the relevant Time for Completion and the date stated in the taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Special Conditions of Contract.

87.2 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

8.8 Suspension of Work

- 8.8.1 The Architect may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.
- 8.8.2 The Architect may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

8.9 Consequences of Suspension

- 8.9.1 If the Contractor suffers delay and/or incurs Cost from complying with the Architect instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) Payment of any such Cost, which shall be included in the Contract Price.
- 8.9.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 8.9.3 The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

8.10 Payment for Plant and Materials in Event of Suspension

The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site, if:

- a) The work on Plant or delivery of Plant and/or Materials has been suspended for more than 30 days, and
- b) the Contractor has marked the Plant and/or Materials as the Procuring Entity's property in accordance with the Architect instructions.

8.11 Prolonged Suspension

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Architect permission to proceed. If the Architect does not give permission within 30 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

8.12 Resumption of Work

After the permission or instruction to proceed is given, the Contractor and the Architect shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Architect an instruction to this effect under Clause 13 [Variations and Adjustments].

9 TESTS ON COMPLETION

9.1 Contractor's Obligations

- 9.1.1 The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].
- 9.1.2 The Contractor shall give to the Architect not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Architect shall instruct.
- 9.1.3 In considering the results of the Tests on Completion, the Architect shall make allowances for the effect of any use of the Works by the Procuring Entity on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

9.2 Delayed Tests

- 9.2.1 If the Tests on Completion are being unduly delayed by the Procuring Entity, Sub-Clause 7.4 [Testing] (fifth paragraph) and/ or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.
- 9.2.2 If the Tests on Completion are being unduly delayed by the Contractor, the Architect may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.
- 9.2.3 If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Procuring Entity's Personnel may proceed with the Test at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

9.3 Retesting of related works

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Architect or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

94 Failure to Pass Tests on Completion

- 94.1 If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Architect shall be entitled to:
- a) Order further repetition of Tests on Completion under Sub-Clause 9.3; or
 - b) if the failure deprives the Procuring Entity of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Procuring Entity shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 1.4 [Failure to Remedy Defects].

10. PROCURING ENTITY'S TAKING OVER

10.1 Taking Over of the Works and Sections

- 10.1.1 Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Procuring Entity when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.
- 10.1.2 The Contractor may apply by notice to the Architect for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.
- 10.1.3 The Architect shall, within 30 days after receiving the Contractor's application:
- a) Issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
 - b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.
- 10.1.4 If the Architect fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 30 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

10.2 Taking Over of Parts of the Works

- 10.2.1 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.

- 1022 The Procuring Entity shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Architect has issued a Taking-Over Certificate for this part. However, if the Procuring Entity does use any part of the Works before the Taking-Over Certificate is issued:
- a) The part which is used shall be deemed to have been taken over as from the date on which it is used,
 - b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Procuring Entity, and
 - c) if requested by the Contractor, the Architect shall issue a Taking-Over Certificate for this part.
- 1023 After the Architect has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.
- 1024 If the Contractor incurs Cost as a result of the Procuring Entity taking over and/or using a part of the Works, other than such use as is specified in the Contractor agreed by the Contractor, the Contractor shall (i) give notice to the Architect and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such accrued costs, which shall be included in the Contract Price. After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this accrued cost.
- 1025 If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages] and shall not affect the maximum amount of these damages.

103 Interference with Tests on Completion

- 103.1 If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Procuring Entity is responsible, the Procuring Entity shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.
- 103.2 The Architect shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Architect shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.
- 103.3 If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause

8.4 [Extension of Time for Completion], and

- b) payment of any such accrued costs, which shall be included in the Contract Price.

1034 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

104 Surfaces Requiring Reinstatement

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

11 DEFECTS LIABILITY

11.1 Completion of Outstanding Work and Remedying Defects

11.1.1 In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:

- a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and
- b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Procuring Entity on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

11.1.2 If a defect appears or damage occurs, the Contractor shall be notified accordingly by the Engineer.

11.2 Cost of Remedying Defects

11.2.1 All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

- a) Any design for which the Contractor is responsible,
- b) Plant, Materials or workmanship not being in accordance with the Contract, or
- c) Failure by the Contractor to comply with any other obligation.

11.2.2 If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Procuring Entity, and Sub-Clause 13.3 [Variation Procedure] shall apply.

11.3 Extension of Defects Notification Period

11.3.1 The Procuring Entity shall be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.

- 11.3.2 If delivery and/ or erection of Plant and/ or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/ or Materials would otherwise have expired.

11.4 Failure to Remedy Defects

- 11.4.1 If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by the Engineer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.
- 11.4.2 If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Procuring Entity may (at his option):
- (a) Carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity the costs reasonably incurred by the Procuring Entity in remedying the defect or damage;
 - (b) Require the Architect to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
 - (c) if the defect or damage deprives the Procuring Entity of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contractor otherwise, the Procuring Entity shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

11.5 Removal of Defective Work

If the defect or damage cannot be remedied expeditiously on the Site and the Procuring Entity gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

11.6 Further Tests

- 11.6.1 If the work of remedying of any defect or damage may affect the performance of the Works, the Architect may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 14 days after the defect or damage is remedied.
- 11.6.2 These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

11.7 Right of Access

Until the Completion Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with the Procuring Entity's reasonable security restrictions.

11.8 Contractor to Search

The Contractor shall, if required by the Engineer, search for the cause of any defect on parts of the works that have already accepted, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Architect in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

11.9 Completion Certificate

- 11.9.1 Performance of the Contractor's obligations shall not be considered to have been completed until the Architect has issued the Completion Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.
- 11.9.2 The Architect shall issue the Completion Certificate within 30days after the latest of the expiry dates of the Defects Liability Period, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Completion Certificate shall be issued to the Procuring Entity.
- 11.9.3 Only the Completion Certificate shall be deemed to constitute acceptance of the Works.

11.10 Unfulfilled Obligations

After the Completion Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

11.11 Clearance of Site

- 11.11.1 Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
- 11.11.2 If all these items have not been removed within 30 days after receipt by the Contractor of the Completion Certificate, the Procuring Entity may sell or otherwise dispose of any remaining items. The Procuring Entity shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- 11.11.3 Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Procuring Entity's costs, the Contractor shall pay the outstanding balance to the Procuring Entity.

12 MEASUREMENT AND DEVALUATION

12.1 Works to be Measured

- 12.1.1 The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.
- 12.1.2 Whenever the Architect requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:
- a) promptly either attend or send another qualified representative to assist the Architect in making the measurement, and
 - b) supply any particulars requested by the Engineer.
- 12.1.3 If the Contractor fails to attend or send a representative, the measurement made by the Architect shall be accepted as accurate.
- 12.1.4 Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.
- 12.1.5 If the Contractor examines and disagrees the records, and/ or does not sign them as agreed, then the Contractor shall give notice to the Architect of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Architect shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Architect within 14 days after being requested to examine the records, they shall be accepted as accurate.

12.2 Method of Measurement

Except as otherwise stated in the Contract:

- a) Measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

12.3 Evaluation

- 12.3.1 Except as otherwise stated in the Contract, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of work done by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.
- 12.3.2 For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contractor, if there is no such item, specified for similar work.
- 12.3.3 Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately.

- 1234 However, for a new item of work, a new rate or price shall be appropriate for such item of work if:
- a) The work is instructed under Clause 13 [Variations and Adjustments],
 - b) no rate or price is specified in the Contract for this item, and
 - c) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.
- 1235 Each new rate or price shall be derived from any relevant rates or prices in the Contract. If no rates or prices are relevant for the new item of work, it shall be derived from the reasonable Cost of executing such work, prevailing market rates, together with profit, taking account of any other relevant matters.
- 1236 Until such time as an appropriate rate or price is agreed or determined, the Architect shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.
- 1237 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (which would be the tender price), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: (corrected tender price – tender price) / tender price X 100.

124 Omissions

Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

- a) The Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- b) The omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
- c) this cost is not deemed to be included in the evaluation of any substituted work; then the Contractor shall give notice to the Architect accordingly, with supporting particulars. Upon receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

13 VARIATIONS AND ADJUSTMENTS

13.1 Right to Vary

- 13.1.1 Variations may be initiated by the Architect at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. No Variation instructed by the Architect under this Clause shall in any way vitiate or invalidate the Contract.
- 13.1.2 The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Architect stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Architect shall cancel, confirm or vary the instruction.

13.13 Each Variation may include:

- a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
- b) changes to the quality and other characteristics of any item of work,
- c) changes to the levels, positions and/ or dimensions of any part of the Works,
- d) omission of any work unless it is to be carried out by others,
- e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- f) changes to the sequence or timing of the execution of the Works.

13.14 The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Architect instructs after obtaining approval of the Procuring Entity.

132 Variation Order Procedure

1321 Prior to any Variation Order under Sub-Clause 13.1.4 the Architect shall notify the Contractor of the nature and form of such variation. As soon as possible after having received such notice, the Contractor shall submit to the Engineer:

- a) A description of work, if any, to be performed and a programme for its execution, and
- b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 8.3 or to any of the Contractor's obligations under the Contract, and
- c) the Contractor's proposals for adjustment to the Contract Price.

Following the receipt of the Contractor's submission the Architect shall, after due consultation with the Employer and the Contractor, decide as soon as possible whether or not the variation shall be carried out. If the Architect decides that the variation shall be carried out, he shall issue a Variation Order clearly identified as such in accordance with the Contractor's submission or as modified by agreement.

If the Architect and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause 13.2.2 shall apply.

1322 Disagreement on Adjustment of the Contract Price

If the Contractor and the Architecture unable to agree on the adjustment of the Contract Price, the adjustment shall be determined in accordance with the rates specified in the Bills of Quantities or Schedule of Daywork Prices. If the rates contained in the Bills of Quantities or Dayworks Prices are not directly applicable to the specific work in question, suitable rates shall be established by the Architect reflecting the level of pricing in the Dayworks Prices. Where rates are not contained in the said Prices, the amount shall be such as is in all the circumstances reasonable, reflecting a market price. Due account shall be taken of any over-or under-recovery of overheads by the Contractor in consequence of the variation. The Contractor shall also be entitled to be paid:

- a) The cost of any partial execution of the Works rendered useless by any such variation,
- b) The cost of making necessary alterations to Plant already manufactured or in the course of manufacture or of any work done that has to be altered in consequence of such a variation,
- c) any additional costs incurred by the Contractor by the disruption of the progress of the Works as detailed in the Programme, and

- d) the net effect of the Contractor's finance costs, including interest, caused by the variation.

The Architect shall on this basis determine the rates or prices to enable on-account payment to be included in certificates of payment.

1323 Contractor to Proceed

On receipt of a Variation Order, the Contractor shall forth with proceed to carry out the variation and be bound to these Conditions in so doing as if such variation was stated in the Contract. The work shall not be delayed pending the granting of an extension of the Time for Completion or an adjustment to the Contract Price under Sub-Clause 31.3.

133 Value Engineering

- 133.1 The Contractor may, at any time, submit to the Architect written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Procuring Entity of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Procuring Entity of the completed Works, or (iv) otherwise be of benefit to the Procuring Entity.
 - 133.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].
 - 1323 If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:
 - a) The Contractor shall design this part,
 - b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
 - c) if this change results in a reduction in the contract value of this part, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
 - i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.8 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and
 - ii) the reduction (if any) in the value to the Procuring Entity of the varied works, taking account of any improvement in quality, anticipated life or operational efficiencies.
 - 13.3.4 However, if the amount established in item 13.2.3 (c) (i) is less than amount established in item 13.2.3 (c) (ii), there shall not be a fee. However, if the if the amount established in item 13.2.3 (c) (i) is more than amount established in item 13.2.3 (c) (ii), it shall result in a price variation to the Procuring Entity.
- ### **134 Variation Procedure for Value Engineering proposal**
- 134.1 If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:
 - a) A description of the proposed work to be performed and a programme for its execution,

- b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- c) the Contractor's proposal for evaluation of the Variation.

13.4.2 The Architect shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Project Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

13.4.3 Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Architect to the Contractor, who shall acknowledge receipt.

13.4.4 Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Architect instructs or approves otherwise in accordance with this Clause.

135 Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

136 Provisional Sums

13.6.1 Each Provisional Sum shall only be used, in whole or in part, in accordance with the Architect instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Architect shall have instructed. For each Provisional Sum, the Architect May instruct:

- a) Work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
- b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
 - i) The actual amounts paid (or due to be paid) by the Contractor, and
 - ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in **the Special Conditions of Contract** shall be applied.

13.6.2 The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

137 Dayworks

- 13.7.1 For work of a minor or incidental nature, the Architect may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.
- 13.7.2 Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.
- 13.7.3 Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Architect accurate statements induplicate which shall include the following details of the resources used in executing the previous day's work:
- a) The names, occupations and time of Contractor's Personnel,
 - b) the identification, type and time of Contractor's Equipment and Temporary Works, and
 - c) the quantities and types of Plant and Materials used.
- 13.7.4 One copy of each statement will, if correct, or when agreed, be signed by the Architect and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

138 Adjustments for Changes in Legislation

- 13.8.1 The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of Kenya (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.
- 13.8.2 If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost, which shall be included in the Contract Price.
- 13.8.3 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 13.8.4 Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments for Changes in Cost].

139 Adjustments for Changes in Cost

- 139.1 In this Sub-Clause, “table of adjustment data” means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply.
- 139.2 If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labor, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included a mounts to cover the contingency of other rises and falls in costs.
- 139.3 The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from 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 of the following general type:

Price Adjustment Formula

Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies:

$$P = A + B \frac{I_m}{I_o}$$

where:

P is the adjustment factor for the portion of the Contract Price payable.

A and **B** are coefficients **specified in the SCC**, representing then on adjustable and adjustable portions, respectively, of the Contract Price payable and

I_m is the index prevailing at the end of the month being invoiced and **I_o** is the index prevailing 30 days before Bid opening for inputs payable.

NOTE: The sum of the two coefficients A and B should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient A, for the nonadjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency are added to the Contract Price.

- 13.9.4 The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. Forth is purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.
- 13.9.5 In cases where the “currency of index” is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the Central Bank of Kenya, of this relevant currency on the above date for which the index is required to be applicable.
- 13.9.6 Until such time as each current cost index is available, the Architect shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.
- 13.9.7 If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices there after shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favorable to the Procuring Entity.
- 13.9.8 The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or in applicable, as a result of Variations.

14 CONTRACT PRICE AND PAYMENT

14.1 The Contract Price

14.1.1 Unless otherwise stated in the Special Conditions:

- a) The value of the payment certificate shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
- b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];
- c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:
 - i) of the Works which the Contractor is required to execute, or
 - ii) for the purposes of Clause 12 [Measurement and Evaluation]; and
- d) the Contractor shall submit to the Engineer, within 30 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Architect may take account of the break down when preparing Payment Certificates but shall not be bound by it.

14.1.2 Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts there for, imported by the Contractor for the sole purpose of executing the Contract shall not be exempt from the payment of import duties and taxes upon importation.

14.2 Advance Payment

14.2.1 The Procuring Entity shall make an advance payment, as an interest-free loan for mobilization and cashflow support, when the Contractor submits a guarantee in accordance with this Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the **Special Conditions of Contract**.

14.2.2 Unless and until the Procuring Entity receives this guarantee, or if the total advance payment is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.

14.2.3 The Architect shall deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Procuring Entity receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable bank or financial institutions elected by the Contractor and shall be in the form annexed to the Special Conditions or in another form approved by the Procuring Entity.

14.2.4 The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

- 1425 Unless stated otherwise in **the Special Conditions of Contract**, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Architect in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:
- a) Deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount less Provisional Sums; and
 - b) deductions shall be made at the amortization rate stated in the **Special Conditions of Contract** of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.
- 1426 If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Procuring Entity], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 14.2.7 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to the Procuring Entity.

143 Application for Interim Payment Certificates

- 143.1 The Contractor shall submit a Statement (in number of copies indicated in the **Special Conditions of Contract**) to the Architect after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers itself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].
- 143.2 The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:
- a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in subparagraphs (b) to (g) below);
 - b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
 - c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in **the Special Conditions of Contract** to the total of the above amounts, until the amount so retained by the Procuring Entity reaches the limit of Retention Money (if any) stated **in the Special Conditions of Contract**;
 - d) any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
 - e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];

- f) any other additions or deductions which may have become due under the Contractor otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- g) the deduction of amounts certified in all previous Payment Certificates.

144 Schedule of Payments

- 144.1 If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:
- a) The instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
 - b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
 - c) If these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.
- 144.2 If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

145 Plant and Materials intended for the Works

- 145.1 If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].
- 145.2 If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Schedules, this Sub-Clause shall not apply.
- 145.3 The Architect shall determine and certify each addition if the following conditions are satisfied:
- a) The Contractor has:
 - i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
 - (ii) submitted statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;and either:
 - b) the relevant Plant and Materials:
 - i) are those listed in the Schedules for payment when shipped,
 - ii) have been shipped to Kenya, enroute to the Site, in accordance with the Contract; and

- iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Architect together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Procuring Entity in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or

c) the relevant Plant and Materials:

- i) are those listed in the Schedules for payment when delivered to the Site, and
- ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration and appear to be in accordance with the Contract.

145.4 The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Architect determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

145.5 The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

14.6 Issue of Interim Payment Certificates

14.6.1 No amount will be certified or paid until the Procuring Entity has received and approved the Performance Security. Thereafter, the Architect shall, within 30 days after receiving a Statement and supporting documents, deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate which shall state the amount which the Architect fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Architect on the Statement if any.

14.6.2 However, prior to issuing the Taking-Over Certificate for the Works, the Architect shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated **in the Special Conditions of Contract**. In this event, the Architect shall give notice to the Contractor accordingly.

14.6.3 An Interim Payment Certificate shall not be withheld for any other reason, although:

- a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

4.6.4 The Architect may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Architect acceptance, approval, consent or satisfaction.

147 Payment

147.1 The Procuring Entity shall pay to the Contractor:

- a) The advance payment shall be paid within 60 days after signing of the contract by both parties or within 60 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub- Clause 14.2 [Advance Payment], whichever is later;
- b) The amount certified in each Interim Payment Certificate within 90 days after the Architect Issues Interim Payment Certificate; and
- c) the amount certified in the Final Payment Certificate within 90 days after the Procuring Entity Issues Interim Payment Certificate; or after determination of any disputed amount shown in the Final Statement in accordance with Sub-Clause 16.2 [Termination by Contractor].

147.2 Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (forth is currency) specified in the Contract.

148 Delayed Payment

148.1 If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges (simple interest) monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b) of the date on which any Interim Payment Certificate is issued.

148.2 These financing charges shall be calculated at the annual rate of three percentage points above the mean rate of the Central Bank in Kenya of the currency of payment, or if not available, the interbank offered rate, and shall be paid in such currency.

148.3 The Contractor shall be entitled to this payment without formal notice and certification, and without prejudice to any other right or remedy.

149 Payment of Retention Money

149.1 When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Architect for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall behalf (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

149.2 Promptly after the latest of the expiry dates of the Defects Liability Periods, the outstanding balance of the Retention Money shall be certified by the Architect for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall behalf (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

- 1493 However, if any work remains to be executed under Clause 11 [Defects Liability], the Architects shall be entitled to withhold certification of the estimated cost of this work until it has been executed.
- 1494 When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].
- 1495 Unless otherwise stated in the Special Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a Retention Money Security guarantee, in the form annexed to the Special Conditions or in another form approved by the Procuring Entity and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money.
- 1496 The Procuring Entity shall return the Retention Money Security guarantee to the Contractor within 14 days after receiving a copy of the Completion Certificate.

14.10 Statement at Completion

- 14.10.1 Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Architect three copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:
- a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
 - b) any further sums which the Contractor considers to be due, and
 - c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.
- 14.10.2 The Architect shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11 Application for Final Payment Certificate

- 14.11.1 Within 60 days after receiving the Completion Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:
- a) The value of all work done in accordance with the Contract, and
 - b) Any further sums which the Contractor considers to be due to him under the Contract otherwise.
- 14.11.2 If the Architect disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Architect may reasonably require within 30 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Architect the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

14.113 However, if, following discussions between the Architect and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Architect shall deliver to the Procuring Entity (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Procuring Entity (with a copy to the Engineer) a Final Statement.

14.12 Discharge

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

14.13 Issue of Final Payment Certificate

14.131 Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall deliver, to the Procuring Entity and to the Contractor, the Final Payment Certificate which shall state:

- a) The amount which he fairly determines is finally due, and
- b) After giving credit to the Procuring Entity for all amounts previously paid by the Procuring Entity and for all sums to which the Procuring Entity is entitled, the balance (if any) due from the Procuring Entity to the Contractor or from the Contractor to the Procuring Entity, as the case may be.

14.132 If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Architect shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14 Cessation of Procuring Entity's Liability

14.141 The Procuring Entity shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- a) in the Final Statement and also,
- b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

14.142 However, this Sub-Clause shall not limit the Procuring Entity's liability under his indemnification obligations, or the Procuring Entity's liability in any case of fraud, deliberate default or reckless misconduct by the Procuring Entity.

14.15 Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Schedule of Payment Currencies. If more than one currency is so named, payments shall be made as follows:

- a) If the Accepted Contract Amount was expressed in Local Currency only:
 - i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of Payment Currencies, except as otherwise agreed by both Parties;
 - ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
 - iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a) (i) above;
- b) payment of the damages specified in the Special Conditions of Contract, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;
- c) other payments to the Procuring Entity by the Contractor shall be made in the currency in which the sum was expended by the Procuring Entity, or in such currency as may be agreed by both Parties;
- d) if any amount payable by the Contractor to the Procuring Entity in a particular currency exceeds the sum payable by the Procuring Entity to the Contractor in that currency, the Procuring Entity may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
- e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the Central Bank of Kenya.

15 TERMINATION BY PROCURING ENTITY

15.1 Notice to correct any defects or failures

If the Contractor fails to carry out any obligation under the Contract, the Architect may by notice require the Contractor to make good the failure and to remedy it within 30 days.

15.2 Termination by Procuring Entity

15.2.1 The Procuring Entity shall be entitled to terminate the Contract if the Contractor breaches the contract based on following circumstances which shall include but not limited to:

- a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
- b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
- c) without reasonable excuse fails:
 - i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
 - ii) to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 30 days after receiving it,
- d) subcontracts the major part or whole of the Works or assigns the Contract without the consent of the Procuring Entity,

- e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
- f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an induce mentor reward:
- i) for doing or for bearing to do any action in relation to the Contract, or
- ii) for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
- iii) if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such induce mentor reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or
- g) If the contract or repeatedly fails to remedy delivers defective work,
- h) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, in competing for or in executing the Contract.

1522 In any of these events or circumstances, the Procuring Entity may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub- paragraph (e) or (f) or (g) or (h), the Procuring Entity may by notice terminate the Contract immediately.

1523 The Procuring Entity's election to terminate the Contract shall not prejudice any other rights of the Procuring Entity, under the Contractor otherwise.

1524 The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

1525 After termination, the Procuring Entity may complete the Works and/ or arrange for any other entities to do so. The Procuring Entity and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

1526 The Procuring Entity shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Procuring Entity, these items may be sold by the Procuring Entity in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

153 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

154 Payment after Termination

After a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Procuring Entity may:

- a) Proceed in accordance with Sub-Clause 2.5 [Procuring Entity's Claims],
- b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Procuring Entity, have been established, and/ or
- c) recover from the Contractor any losses and damages incurred by the Procuring Entity and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Procuring Entity shall pay any balance to the Contractor.

155 Procuring Entity's Entitlement to Termination for Convenience

The Procuring Entity shall be entitled to terminate the Contract, at any time at the Procuring Entity's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 30 days after the later of the dates on which the Contractor receives this notice or the Procuring Entity returns the Performance Security. The Procuring Entity shall not terminate the Contract under this Sub-Clause in order to execute the Works itself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor]. After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

156 Fraud and Corruption

The Contractor shall ensure compliance with the Kenya Government's Anti-Corruption Laws and its prevailing sanctions.

157 Corrupt gifts and payments of commission

157.1 The Contractor shall not;

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

- 15.7.2 Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement and Asset Disposal Act (2015) and the Anti-Corruption and Economic Crimes Act (2003) of the Laws of Kenya.

16 SUSPENSION AND TERMINATION BY CONTRACTOR

16.1 Contractor's Entitlement to Suspend Work

- 16.1.1 If the Architect fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], or not receiving instructions that would enable the contractor to proceed with the works in accordance with the program, the Contractor may, after giving not less than 30 days' notice to the Procuring Entity, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.
- 16.1.2 The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor].
- 16.1.3 If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.
- 16.1.4 If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

- 16.2** After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

16.3 Termination by Contractor

- 16.3.1 The Contractor shall be entitled to terminate the Contract if:
- a) the Architect fails, within 60 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
 - b) the Contractor does not receive the amount due under an Interim Payment Certificate within 90 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Procuring Entity's Claims]),
 - c) the Procuring Entity substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,
 - d) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or

- e) the Procuring Entity becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.
- f) the Contractor does not receive the Architect instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

1632 In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Procuring Entity, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

1633 The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract otherwise.

164 Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- a) cease all further work, except for such work as may have been instructed by the Architect for the protection of life or property or for the safety of the Works,
- b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

165 Payment on Termination

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Procuring Entity shall promptly:

- a) Return the Performance Security to the Contractor,
- b) pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and
- c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

17. RISK AND RESPONSIBILITY

17.1 Indemnities

17.1.1 The Contractor shall indemnify and hold harmless the Procuring Entity, the Procuring Entity's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- a) Bodily injury, sickness, disease or death, of any person what so ever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful actor breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and

- b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

17.1.2 The Procuring Entity shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property], unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the contractor, the contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

17.2 Contractor's Care of the Works

17.2.1 The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Procuring Entity. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Procuring Entity.

17.2.2 After responsibility has accordingly passed to the Procuring Entity, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

17.2.3 If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

17.2.4 The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3 Procuring Entity's Risks

The risks referred to in Sub-Clause 17.4 [Consequences of Procuring Entity's Risks] below, in so far as they directly affect the execution of the Works in Kenya, are:

- a) War hostilities (whether war be declared or not),
- b) rebellion, riot, commotion or disorder, terrorism, sabotage by persons other than the Contractor's Personnel,
- c) explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such explosives, radiation or radio-activity,

- d) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
- e) use or occupation by the Procuring Entity of any part of the Permanent Works, except as may be specified in the Contract,
- f) design of any part of the Works by the Procuring Entity's Personnel or by others for whom the Procuring Entity is responsible, and
- g) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventive precautions.

174 Consequences of Procuring Entity's Risks

- 174.1 If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Architect and shall rectify this loss or damage to the extent required by the Engineer.
- 174.2 If the Contractor suffers delay and/ or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- (a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - (b) Payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (e) and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Accrued Costs shall be payable.
- 174.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

175 Intellectual and Industrial Property Rights

- 175.1 In this Sub-Clause, "infringement" shall refer to an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" shall refer to a claim (or proceedings pursuing a claim) alleging an infringement.
- 175.2 Whenever a Party does not give notice to the other Party of any claim within 30 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.
- 175.3 The Procuring Entity shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:
- a) An unavoidable result of the Contractor's compliance with the Contract, or
 - b) A result of any Works being ingested by the Procuring Entity:
 - i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.
- 175.4 The Contractor shall indemnify and hold the Procuring Entity harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

1755 If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

1756 For operation and maintenance of any plant or equipment installed, the contractor shall grant a non-exclusive and non-transferable license to the Procuring Entity under the patent, utility models ,or other intellectual rights owned by the contractor or a third party from whom the contract or has received the rights to grant sub-licenses and shall also grant to the Procuring Entity a non-exclusive and non-transferable rights (without the rights to sub-license) to use the knowhow and other technical information disclosed to the contract or under the contract. Nothing contained here-in shall be construed as transferring ownership of any patent, utility model, trademark, design, copy right, know-how or other intellectual rights from the contractor or any other third party to the Procuring Entity.

17.6 Limitation of Liability

17.6.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contractor for any in director consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4(b) [Consequences of Procuring Entity's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

17.6.2 The total liability of the Contractor to the Procuring Entity, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Procuring Entity's Equipment and Free- Issue Materials], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in **the Special Conditions of Contract**, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.

17.6.3 This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

17.7 Use of Procuring Entity's Accommodation/Facilities

17.7.1 The Contractor shall take full responsibility for the care of the Procuring Entity provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

17.7.2 If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Procuring Entity is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

18 INSURANCE

18.1 General Requirements for Insurances

- 18.1.1 In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.
- 18.1.2 Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Procuring Entity. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.3 Wherever the Procuring Entity is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.4 If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Procuring Entity shall act for Procuring Entity's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.
- 18.1.5 Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.
- 18.1.6 The relevant insuring Party shall, within the respective periods stated in **the Special Conditions of Contract** (calculated from the Commencement Date), submit to the other Party:
- a) Evidence that the insurances described in this Clause have been affected, and
 - b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].
- 18.1.7 When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.
- 18.1.8 Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.
- 18.1.9 Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

- 18.1.10 If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contractor fails to provide satisfactory evidence and copies of policies in accordance with this Sub- Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.
- 18.1.11 Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Procuring Entity, under the other terms of the Contractor otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Procuring Entity.
- 18.1.12 Procuring Entity in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.
- 18.1.13 Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub- Clause 20.1 [Contractor's Claims], as applicable.
- 18.1.14 The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.

182 Insurance for Works and Contractor's Equipment

- 1821 The insuring Party shall insure the Works, Plant, Material and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.
- 1822 The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).
- 1823 The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.
- 1824 Unless otherwise stated in the Special Conditions, insurances under this Sub-Clause:
- a) Shall be effected and maintained by the Contractor as insuring Party,
 - b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,
 - c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks],
 - d) shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the

Procuring Entity of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated **in the Special Conditions** of Contract (if an amount is not so stated, this sub-paragraph (d) shall not apply), and

- e) may however exclude loss of, damage to, and reinstatement of:
- i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - iii) a part of the Works which has been taken over by the Procuring Entity, except to the extent that the Contractor is liable for the loss or damage, and
 - iv) Goods while they are not in Kenya, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].

1825 If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Procuring Entity, with supporting particulars. The Procuring Entity shall then (i) be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

183 Insurance against Injury to Persons and Damage to Property

183.1 The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

183.2 This insurance shall be for a limit per occurrence of not less than the amount stated in **the Special Conditions of Contract**, with no limit on the number of occurrences. If an amount is not stated in the **Special Conditions of Contract**, this Sub-Clause shall not apply.

183.3 Unless otherwise stated in the Special Conditions, the insurances specified in this Sub-Clause:

- a) Shall be effected and maintained by the Contractor as insuring Party,
- b) shall be in the joint names of the Parties,
- c) shall be extended to cover liability for all loss and damage to the Procuring Entity's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and
- d) may however exclude liability to the extent that it arises from:
 - i) the Procuring Entity's right to have the Permanent Works executed on, over, under, in or
 - ii) through any land, and to occupy this land for the Permanent Works,
 - iii) damage which is an unavoidable result of the Contractor's obligations to execute the
 - iv) Works and remedy any defects, and

- v) a cause listed in Sub-Clause 17.3 [Procuring Entity's Risks], except to the extent that cover is available at commercially reasonable terms.

184 Insurance for Contractor's Personnel

- 184.1 The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.
- 184.2 The insurance shall cover the Procuring Entity and the Architect against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Procuring Entity or of the Procuring Entity's Personnel.
- 184.3 The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

19. FORCE MAJEURE

19.1 Definition of Force Majeure

- 19.1.1 In this Clause, "Force Majeure" means an exceptional event or circumstance:
 - a) Which is beyond a Party's control,
 - b) Which such Party could not reasonably have provided against before entering into the Contract,
 - c) which, having arisen, such Party could not reasonably have avoided or overcome, and
 - d) which is not substantially attributable to the other Party.
- 19.1.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:
 - a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
 - b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
 - c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,
 - d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
 - e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2 Notice of Force Majeure

- 19.2.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.
- 19.2.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

1923 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

193 Duty to Minimize Delay

Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

194 Consequences of Force Majeure

194.1 If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/ or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in sub-paragraphs (ii) to (iv), occurs in Kenya, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub- Clause 18.2 [Insurance for Works and Contractor's Equipment].

194.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

195 Force Majeure Affecting Subcontractor

If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

196 Optional Termination, Payment and Release

196.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

196.2 Upon such termination, the Architect shall determine the value of the work done and issue a Payment Certificate which shall include:

- a) the amount payable for any work carried out for which a price is stated in the Contract;
- b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Procuring Entity when paid for by the Procuring Entity, and the Contractor shall place the same at the Procuring Entity's disposal;

- c) other Cost or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- e) the Cost of repatriation of the Contractor's staff and lab or employed wholly in connection with the Works at the date of termination.

19.7 Release from Performance

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- a) The Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- b) The sum payable by the Procuring Entity to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

20 SETTLEMENT OF CLAIMS AND DISPUTES

20.1 Contractor's Claims

- 20.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.
- 20.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
- 20.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.
- 20.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Procuring Entity's liability, the Architect may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/ or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Architect to inspect all these records and shall (if instructed) submit copies to the Engineer.

- 20.15 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Architect fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/ or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:
- a) This fully detailed claim shall be considered as interim;
 - b) The Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/ or amount claimed, and such further particulars as the Architect may reasonably require; and
 - c) The Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.
- 20.16 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Architect and approved by the Contractor, the Architect shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars but shall nevertheless give his response on the principles of the claim within the above defined time period.
- 20.17 Within the above defined period of 42 days, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.
- 20.18 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.
- 20.19 If the Architect does not respond within the time frame defined in this Clause, either Party may consider that the claim is rejected by the Architect and any of the Parties may refer the dispute for amicable settlement in accordance with Clause 20.3.
- 20.1.10 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/ or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause 20.3.

202 Procuring Entity's Claims

- 2021 If the Procuring Entity considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Architect shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.
- 2022 The notice shall be given as soon as practicable and no longer than 30 days after the Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.
- 2023 The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which the Procuring Entity considers itself to be entitled in connection with the Contract. The Architect shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Procuring Entity is entitled to be paid by the Contractor, and/ or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].
- 2024 This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

203 Amicable Settlement

Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 20.1 above should move to commence arbitration after 60 days from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

204 Matters that may be referred to arbitration

Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the Works or abandonment of the Works or termination of the Contract by either party:

- a) Whether or not the issue of an instruction by the Architect is empowered by these Conditions.
- b) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- c) Any dispute arising in respect risks arising from matters referred to in Clause 17.3 and Clause 19.
- d) All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Procuring Entity and the Contractor agree otherwise in writing.

20.5 Arbitration

- 205.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.3 shall be finally settled by arbitration.
- 205.2 No arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.
- 205.3 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.
- 205.4 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 205.5 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision require prior notice had been given.
- 205.6 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Architect from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.
- 205.7 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.
- 205.7 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Architect shall not be altered by reason of any arbitration being conducted during the progress of the Works.
- 205.8 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

20.6 Arbitration with National Contractors

- 206.1 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

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

2062 The institution written to first by the aggrieved party shall take precedence over all other institutions.

20.7 Arbitration with Foreign Contractors

207.1 Arbitration with foreign contractors shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.

207.2 The place of arbitration shall be a location specified in the **SCC**; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

20.8 Alternative Arbitration Proceedings

Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

20.9 Failure to Comply with Arbitrator's Decision

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

209.2 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

20.10 Contract operations to continue

Notwithstanding any reference to arbitration herein,

- 1.1.1 the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- 1.1.2 the Procuring Entity shall pay the Contractor any monies due the Contractor.

Section IX - Special Conditions of Contract

The following Special Conditions shall supplement the GCC. Whenever there is a conflict, the provisions here in shall prevail over those in the GCC.

Conditions	Sub-Clause	Data
Part A - Contract Data		
Procuring Entity's name and address	Heading	Insert
Name and Reference No. of the Contract	Heading and 1.1	Insert
Engineers Name and address	Heading and 3.1.1	Insert
Contractor's Representative's name	4.3.1	[insert the name of the Contractor's Representative agreed by the Procuring Entity prior to Contract signature]
Key Personnel names	16.9.1	[insert the name of each Key Personnel agreed by the Procuring Entity prior to Contract signature]
Time for Completion	1.1.	_____days If Sections are to be used, refer to Table: Summary of Sections below
Defects Notification Period	1.1	_____days
Sections	1.1	If Sections are to be used, refer to Table: Summary of Sections below
Electronic transmission systems	1.3	
Time for the Parties entering into a Contract Agreement	1.6	Within 30days
Commencement Date	8.1.1	
Time for access to the Site	2.1.1	No later than the Commencement Date, and not later than _____days after Commencement Date
Architect Duties and Authority	3.1.6 (b) (ii)	Variations resulting in an increase of the Accepted Contract Amount in excess of __% shall require approval of the Procuring Entity.
Performance Security	4.2.1	The performance security will be in the form of a [insert either one of "demand guarantee" or "performance bond"] in the amount(s) of [insert related figure(s)] percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.
Normal working hours	6.5	Specify
Delay damages for the Works	8.7 & 14.15(b)	_____ % of the Contract Price per day. If Sections are to be used, refer to Table: Summary of Sections below
Maximum amount of delay damages	8.7.1	_____ % of the final Contract Price.

Conditions	Sub-Clause	Data
Provisional Sums	13.6. (b)(ii)	[If there are Provisional Sums, insert a percentage for adjustment of Provisional Sums] _____ %
Adjustments for Changes in Cost	13.9	Period “n” applicable to the adjustment multiplier “Pn”: _____ [Insert the period if different from one (1) month; if period “n” is one (1) month, insert “not applicable”]
Total advance payment	14.2.1	__% Percentage of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable [Insert number and timing of installments if applicable]
Repayment amortization rate of advance payment	14.2.5 (b)	_____ %
Percentage of Retention	14.3.2 (c)	_____ %
Limit of Retention Money	14.3.2 (c)	_____ % of the Accepted Contract Amount
Plant and Materials	14.5.3(b)(i))	If Sub-Clause 14.5 applies: Plant and Materials for payment Free on Board _____ [list].
	14.5.3(c)(i))	Plant and Materials for payment when delivered to the Site _____ [list].
Minimum Amount of Interim Payment Certificates	14.6.2	_____ % of the Accepted Contract Amount.
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	Specify _____ % rate per month of delayed payment.
Maximum total liability of the Contractor to the Procuring Entity	17.6.2	[Select one of the two options below as appropriate] The product of _____ [insert a multiplier less or greater than one] times the Accepted Contract Amount, or _____ [insert amount of the maximum total liability]
Periods for submission of insurance: a. evidence of insurance. b. relevant policies	18.1.6	[Insert period for submission of evidence of insurance and policy. Period may be from 14 days to 30days.] _____ days _____ days
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	[Insert maximum amount of deductibles]
Minimum amount of third-party insurance	18.3.2	[Insert amount of third-party insurance]
The place of arbitration	20.7.2	Insert city and Country

SECTION X - CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM NO. 2 – REQUEST FOR REVIEW

FORM No. 3 - LETTER OF AWARD

FORM No. 4 - CONTRACT AGREEMENT

FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]

FORM No. 6 - PERFORMANCE SECURITY [Option 2– Performance Bond]

FORM No. 7 - ADVANCE PAYMENT SECURITY

FORM No. 8 - RETENTION MONEY SECURITY

FORM No 1: NOTIFICATION OF INTENTION TO AWARD OF CONTRACT

This Notification of Award shall be sent to each Tenderer that submitted a Tender and was not successful. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

FORMAT

1. For the attention of Tenderer's Authorized Representative

- i) Name: [insert Authorized Representative's name]
- ii) Address: [insert Authorized Representative's Address]
- iii) Telephone: [insert Authorized Representative's telephone/fax numbers]
- iv) Email Address: [insert Authorized Representative's email address]

[IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

2. Date of transmission: [email] on [date] (local time)

This Notification is sent by (Name and designation) _____

3. Notification of Award

- i) Procuring Entity: [insert the name of the Procuring Entity]
- ii) Project: [insert name of project]
- iii) Contract title: [insert the name of the contract]
- iv) ITT No: [insert ITT reference number from Procurement Plan]

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender by submitting a Procurement-related Complaint in relation to the decision to award the contracts.

- a) The successful tenderers

i) Name of successful Tender _____

ii) Address of the successful Tender _____

iii) Contract price of the successful Tender Kenya Shillings _____
(in words _____)

- b) The reasons for your tender being unsuccessful are as follows:

c) Other Tenderers

Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out.

SNo	Name of Tender	Tender Price as read out	Tender's evaluated price (Note a)	One Reason Why Not Evaluated
1				
2				
3				
4				
5				

(Note a) State NE if not evaluated

5. How to request a debriefing

- a) **DEADLINE:** The dead line to request a debriefing expires at midnight on [insert date] (local time).
- b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
 - i) Attention: [insert full name of person, if applicable]
 - ii) Title/position: [insert title/position]
 - iii) Agency: [insert name of Procuring Entity]
 - iv) Email address: [insert email address]
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. **How to make a complaint**

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
 - i) Attention: [insert full name of person, if applicable]
 - ii) Title/position: [insert title/ position]
 - iii) Agency: [insert name of Procuring Entity]
 - iv) Email address: [insert email address]
- c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.
- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website www.ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

- e) There are four essential requirements:
 - i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process and is the recipient of a Notification of Intention to Award.
 - ii) The complaint can only challenge the decision to award the contract.
 - iii) You must submit the complaint within the period stated above.
 - iv) You must include, in your complaint, all of the information required to support your complaint.

7. **Standstill Period**

- i) DEADLINE: The Standstill Period is due to end at midnight on [insert date] (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5(d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

FORM NO. 2- REQUEST FOR REVIEW

FORM FOR REVIEW (r.203(1))

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.....of20..... for (Tender description).

REQUEST FOR REVIEW

I/We.....,the above named Applicant(s), of address: Physical address.....P. O. Box 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.

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

- 1.
- 2.

SIGNED(Applicant) Dated on.....day of/...20.....

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on.....day of20.....

SIGNED

Board Secretary

FORM NO 3: LETTER OF AWARD

letterhead 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] for the Accepted Contract Amount [amount in numbers and words] [name of currency], as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by (name of Procuring Entity).

You are requested to furnish the Performance Security within in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:

Name and Title of Signatory:

Name of Procuring Entity:

Attachment: Contract Agreement:

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the day of..... 20....., between.....

.....of..... (hereinafter “the Procuring Entity”), of the one part, and..... of..... (hereinafter “the Contractor”), of the other part:

WHEREAS the Procuring Entity desires that the Works known as..... should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects there in,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - a) The Notification of Award
 - b) the Form of Tender
 - c) the addenda Nos.....(if any)
 - d) the Special Conditions of Contract
 - e) the General Conditions of Contract;
 - f) the Specifications
 - g) the Drawings; and
 - h) the completed Schedules and any other documents forming part of the contract.
3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor here by covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity here by covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects there in, 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.

INWITNESS where of the parties here to have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by.....(for the Procuring Entity)

Signed and sealed by.....(for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: [insert name and Address of Procuring Entity]

Date: _____[Insert date of issue]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with (name of Procuring Entity) _____ (the Procuring Entity as the Beneficiary), for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (in words),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.
4. This guarantee shall expire, no later than the Day of, 20.....², and any demand for payment under it must be received by us at the office indicated above on or before that date.
5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.”
.....

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

¹The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency of the Contract or a freely convertible currency acceptable to the Beneficiary.

²Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

FORM No. 6- PERFORMANCE SECURITY

[Option 2– Performance Bond]

[**Note:** Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee in stead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code] **Beneficiary:** [insert name and Address of Procuring Entity] **Date:** _____[Insert date of issue] **PERFORMANCE BOND No.:** _____

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. By this Bond _____ as Principal (hereinafter called “the Contractor”) and _____] as Surety (hereinafter called “the Surety”), are held and firmly bound unto _____] as Obligee (hereinafter called “the Procuring Entity”) in the amount of _____ for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the _____ day of _____, 20_____, for _____ in accordance with the documents, plans, specifications, and amendments there to, which to the extent here in provided for, are by reference made part here of and are here in after referred to as the Contract.
3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations there under, the Surety may promptly remedy the default, or shall promptly:
 - a) Complete the Contract in accordance with its terms and conditions; or
 - b) Obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
 - c) Pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.
4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named here in or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.
6. In testimony whereof, the Contractor has here unto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly at tested by the signature of his legal representative, this day _____ of _____ 20____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ [Insert name and Address of Procuring Entity] **Date:** _____ [Insert date of issue]

ADVANCE PAYMENT GUARANTEE No.: _____ [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (in words _____) is to be made against an advance payment guarantee.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (in words _____) ¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
 - a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
 - b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____.
5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified 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 ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the ____ day of _____, 20____, 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.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

¹The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.

²Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

FORM NO. 8 – RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ [Insert name and Address of Procuring Entity]

Date: _____ [Insert date of issue]

Advance payment guarantee no. [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that _____ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (hereinafter called "the Contractor") has entered into Contract No. _____ [insert reference number of the contract] dated _____ with the Beneficiary, for the execution of _____ [insert name of contract and brief description of Works] (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of [insert the second half of the Retention Money] is to be made against a Retention Money guarantee.
3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of [insert amount in figures] _____ ([insert amount in words _____])¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or showgrounds for your demand or the sum specified there in.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number _____ at _____ [insert name and address of Applicant's bank].
5. This guarantee shall expire no later than the Day of², and any demand for payment under it must be received by us at the office indicated above on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

¹The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.

²Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM

(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the legal person (tenderer) or arrangements or a natural person on whose behalf a transaction is conducted, and includes those persons who exercise ultimate effective control over a legal person (Tenderer) or arrangement.

Tender Reference No.: _____ [insert identification no] Name of the
Tender Title/Description: _____ [insert name of the assignment] to: _____ [insert
complete name of Procuring Entity]

In response to the requirement in your notification of award dated __ [insert date of notification of award] to
furnish additional information on beneficial ownership: _____ [select one option as applicable and delete
the options that are not applicable]

I) We here by provide the following beneficial ownership information.

	Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
1.	Full Name		Directly-----% of shares Indirectly---% of shares	Directly.....% of voting rights Indirectly-----% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes - ----No---- 2. Is this right held directly or indirectly?: Direct..... Indirect.....	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes ---- No--- 2. Is this influence or control exercised directly or indirectly? Direct..... Indirect.....
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality					
	Date of birth [dd/mm/yyyy]					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
2.	Full Name		Directly-----% of shares Indirectly---% of shares	Directly.....% of voting rights Indirectly-----% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes - ----No---- 2. Is this right held directly or indirectly?:	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes ---- No--- No----
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth [dd/mm/yyyy]					

	Postal address				Direct.....	2.Is this influence or control exercised directly or indirectly? Direct..... Indirect.....
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
3. e. t. c						

Details of Beneficial ownership

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

- (a) holds at least ten percent of the issued shares in the company either directly or indirectly;
- (b) exercises at least ten percent of the voting rights in the company either directly or indirectly;
- (c) holds a right, directly or indirectly, to appoint or remove a director of the company; or
- (d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

Name of the Tenderer:.....*[insert complete name of the Tenderer]_____

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: ** [insert complete name of person duly authorized to sign the Tender]

Designation of the person signing the Tender: [insert complete title of the person signing the

Tender]

Signature of the person named above: [insert signature of person whose name and capacity are shown above]

Date this [insert date of signing] day of [Insert month], [insert year]

Bidder Official Stamp

**PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY
OF EMBU (PHASE 1)**

BILLS OF QUANTITIES

Employer:

Vice Chancellor
University of Embu
P. O. Box 6 - 60100
Embu.

Project Architect:

Architect (A1605)
University of Embu
P. O. Box 6 - 60100
Embu.

Project

Civil/Structural:

Mirsa & Associates Ltd
P. O. Box 54904-00200
Nairobi.

Project Quantity Surveyor:

Quantity Surveyor (Q840)
University of Embu
P. O. Box 6 - 60100
Embu.

Project Services Engineers:

Associated Services Ltd
P. O. Box 55284-00200
Nairobi.

MAY 2025

GENERAL SPECIFICATIONS

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GENERAL SPECIFICATIONS

EXCAVATION AND EARTHWORK

- A. The Contractor shall comply with the requirement of the following codes of Practice.

Codes of Practice

- | | | |
|----|---|-----------|
| B. | Site investigations | C.P. 2001 |
| C. | Earthworks | C.P. 2003 |
| D. | Foundations | C.P. 2004 |
| E. | Protection of building against
water from the ground | C.P. 102 |

Note: The Contractor's attention is drawn to section "D" of the Standard Method of Measurements.

- F. The Contractor shall visit the site and ascertain for himself the nature of the soil to be excavated. The rates for excavation shall include excavation in any type of material or made up ground excluding rock as defined below. No claim will be allowed for want of knowledge in this respect.
- G. Setting out shall be approved before work is commenced.
- H. Generally clear the site of all shrubs and trees, grub up roots and fill the holes with red earth. Trees and shrubs shall only be cut as directed on site, and any damage caused to such trees and shrubs not directed to be made good at the Contractor's expense.
- I. Excavation for bases and strip foundation shall be to the widths, depth, and levels shown on the Architect's and/or Engineer's drawings. Rates shall be deemed to include for whatsoever alternative method the Contractor chooses to adopt.
- J. The Engineer shall be called to inspect the completed excavations. The Contractor shall keep all excavations dry and free from rain or other surface water.
- K. Excavations made below required levels shall be filled with Mass Concrete (1:3:6) at the Contractor's expense.
- L. Rates for filling or disposal of earth shall include for any double handling, except that resulting from a written order by the Architect and/or Engineer to deposit earth in temporary soil heaps pending its final disposal. Filling shall be in approved filling material to required levels in specified layers carefully rammed and consolidated. Disposal of all surplus excavated material shall be as instructed and rates shall include for loading and wheeling off the site to a pit to be provided by the Contractor.

GENERAL SPECIFICATIONS

EXCAVATION AND EARTHWORK (CTD.)

- A. Hardcore shall be stone, coarse gravel or other inert material yielding, when thoroughly consolidated, a freely porous bed and blinded with fine hardcore, ashes and similar materials shall include for all temporary retaining boards and for rolling with an 8-10 tonne roller unless otherwise described, in layers not exceeding 150mm deep.
- B. Anti-termite treatment shall be fine sprayed using an approved environmentally safe insecticide.

A guarantee of ten (10) years minimum shall be supplied.

- C. The Contractor shall at his own expense and before commencing excavations ascertain in writing from the Postal and Power Authorities, Municipal Council and other public bodies, companies and persons who may be affected, the position and depths of their respective ducts, cables, mains, or piles and appurtenances.

The Contractor shall there upon search and locate such services in order to appropriately prop, protect, underpin, alter, divert, restore and make good all pipes, cables or ducts, poles or wires and their appurtenances disturbed or damaged during the progress of the works or consequent thereof.

Such services as required to be removed or altered by virtue of the situation of the permanent work and not the manner in which the work is carried out, shall be so removed or altered at the expenses of the Employer.

- D. Rock excavation shall be deemed to mean excavating in such hard material as will necessitate the use of wedges or compressed air equipment or other special plant.
- E. Blasting will only be allowed with the prior express permission of the Architect and/or Engineer.

All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect and/or Engineer governing the use and storage of explosives.

- F. 'Rates are to include also for destroying any white ants' nests found in the vicinity of the buildings, destroying queen ants, depositing cyanide lumps in hole and tunnels and filling with hardcore and murrum well rammed and sealed.

GENERAL SPECIFICATIONS

CONCRETE WORK

GENERAL

Definitions

- A. The term "ARCHITECT" or "ENGINEER" wherever used hereinafter shall have the same meaning as stated in the Preliminaries.
- B. The Engineer is authorised to act on behalf of the Architect in all relevant matters in the contract price.
- C. The terms "APPROVED", "DIRECTED" AND "SELECTED" wherever used hereinafter shall mean upon approval, direction and selection of or the Engineer, in writing, at their absolute discretion.
- D. The Engineer is authorised to act on behalf of the Architect after due consultations in all relevant matters in the contract approvals.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS**GENERAL****Authoritative Standards and Codes of Practice**

The following authoritative standards are referred to hereinafter:

	<u>B.S.</u>	<u>Date</u>	<u>Title</u>
A.	12	1989	Portland Cement (Ordinary and rapid hardening).
B.	812	1967	Methods for sampling and testing of mineral aggregates, sand and fillers.
C.	882	1983	Aggregates from natural sources for concrete (including granolithic).
D.	1881	1970/71	Methods of testing concrete.
E.	5328	1981	Methods for specifying concrete
F.	2499	1973	Hot applied joint sealants for concrete pavements.
G.	3148	1980	Tests for water making concrete.
H.	3921	1985	Clay bricks
I.	4251	1974 (1980)	Truck type concrete mixers.
J.	4449	1988	Carbon steel bars for the reinforcement of concrete.
K.	4466	1981	Bending dimensions and scheduling of bars for the reinforcement of concrete (old edition).
L.	4483	1985	Steel fabric for the reinforcement of concrete.
M.	5075		Concrete Admixtures.
N.	6073:Pt.1	1981	Precast concrete blocks.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Authoritative Standards and Codes of Practice (ctd.)**

	<u>B.S.</u>	<u>Date</u>	<u>Title</u>
A.	8110:Pt.1 & 2	1985	The structural use of concrete.
B.	5950		The use of structural steel in buildings.
C.	5400:Pt.5	1979	Steel, concrete and composite Bridge.
D.	8007	1987	The structural use of concrete for retaining aqueous liquids.

American Society for Testing and Materials Standards as published by the American Society for Testing and Materials, 1916 Race St., Philadelphia pa. 19103 U.S.A. (Abbreviated in Test to ASTM).

	<u>ASTM</u>	<u>Date</u>	<u>Title</u>
E.	C88	73	Soundness of aggregates by use of Sodium sulphate
F.	C234	71	Comparing concrete on the Basis of the Bond developed with Reinforcing steel.
G.	C289	71	Potential Reactivity of Aggregates (Chemical Method).

The following codes of practice are referred to hereinafter:

British Standard Codes of Practice published by the Council for Codes of practice British Institution, 2 Park Street, London W1A 2BS, England (abbreviated in text to C.P).

	<u>C.P.</u>	<u>Date</u>	<u>Title</u>
H.	CP.117:pt.1:	1965	Composite construction in structural steel and concrete
I.	BS.3110	1972	Safe use of cranes (mobile cranes, tower cranes and derrick cranes)

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Authoritative Standards and Codes of Practice**

- A. Should the contractor wish to substitute any of the authoritative standards or code of practice for any listed above he should submit details of any such together with two complete copies of the same to the Engineer for approval with his tender. Approval will only be given to the use of such standard where the Engineer considers the proposed standard or code of practice will give a quality of finished work equal to or better than specified standard.
- B. All in situ concrete shall be in accordance with BS 8110 except where superceded by this specification.
- C. All precast concrete shall be in accordance with BS 8110 except where superceded by this specification.

NOTE: The Contractor's attention is drawn to section 'F' of the standard method of measurement of building works.

Samples and Materials Generally

- D. The Contractor shall, when required, provide for approval samples of all materials to be incorporated in the works. Such samples when approved shall be retained by the Engineer and shall form the standard for all such materials incorporated. No deliveries to the site should commence before such approval is obtained.
- E. No materials of any description will be used without prior sanction by the engineer and any condemned as unfit for use in the works must be removed immediately from site by and without recompense to the Contractor.

Test Certificate

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

Suppliers

- G. As soon as possible after the contract has been awarded and before finalising any order for materials to be incorporated in the works, the contractor shall submit the names of any proposed suppliers to the Engineers for approval.
- H. Each supplier must be willing to admit the Engineer, or his representative, to his premises during working hours for the purposes of obtaining samples of the materials in question.
- I. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without proper approval.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)

Drawings

- A. The Contractor should check all drawings carefully before any part of the work is carried out. Any discrepancy should be reported to the Engineer immediately for his clarification. The contractor shall be responsible for any costs arising out of his failure to report such discrepancies to the Engineer, in good time.
- B. The Contractor shall ensure that he has all relevant drawings and bar bending schedules for any part of the works, well in advance of the execution of that part of the works. Any costs arising out of the contractor's failure to ask for related drawings, or bending schedules in writing, in good time, shall be the responsibility of the contractor. The same shall hold true even if the contractor has submitted a programme of works at commencement.

C. **Bending Schedules**

The Engineer will issue bar bending schedules in accordance with B.S. 4466 (1981). The contractor should check these against the drawings before any cutting; bending or construction involving the schedules is started. Any discrepancy should be reported to the Engineer immediately for his clarification. The contractor shall be responsible for any delays or additional work caused solely by his failure to check the schedules.

Approval

- D. Well before construction commences the contractor shall supply to the Engineer for his approval details of his proposed layouts of concreting plant and on site workshop, details of formwork system and the construction devises e.g., cranes, chutes, scaffolding, which he proposes using for the structural work. The information is to be sufficiently detailed to enable the Engineer to approve or otherwise.
- E. The Contractor should note that further approvals are required by the specification before construction starts. The contractor is wholly responsible for obtaining these approvals and no claim for delays will be entertained due to the contractor's failure to obtain such approvals in adequate time.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**MATERIALS**

Cement

- A. Cement, unless otherwise specified, shall be ordinary Portland cement complying with B.S. 12.
- B. The Contractor shall obtain a manufacturer's certificate of test in accordance with the appropriate standard for each consignment of cement delivered to the site and shall immediately forward copies of the same to the Engineer for his retention.
- C. Notwithstanding the manufacturer's certificate the Engineer may require that any cement delivered to the site be sampled and tested. Any batch of cement so tested which fails to comply with this specification will be rejected.
- D. All cement unless delivered in bulk, shall be stored in a weatherproof shed, the floor of which shall be raised at least 150mm above the ground to allow free air circulation. Cement delivered in bulk shall be stored in a weatherproof silo. All cement shall at all times be protected from deterioration.
- E. All cement shall be delivered to the site in the original sealed bags of the manufacturer or in approved bulk containers.
- F. Each consignment of cement shall be kept separate. Identified and used in order of delivery. No two types of cement shall be used in combination.
- G. Any cement which upon inspection is considered by the Engineer to have deteriorated in any way will be rejected.

Aggregate for Concrete

- H. Any aggregate for concrete shall, unless otherwise specified, be aggregate from natural sources complying with B.S.882. Additionally, the flakiness index when determined by the sieve method described in B.S.812 shall not exceed 35 for any size of concrete aggregate. Fine aggregate within or finer than zone 4 of B.S. 882 shall not be used.
- I. When tested for soundness in accordance with ASTM Test C88-73 the loss of weight after 5 cycles shall not exceed 5% (percent) for any aggregate.
- J. Aggregate which is potentially reactive when tested in accordance with ASTM Test C.289-71 for the alkali aggregate reaction shall not be used? The Standard for acceptance being that test results shall plot to the left of the solid line which is shown in Figure 2 of the test standard.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**MATERIALS (CTD)****Aggregate for Concrete (ctd.)**

- A. Well before any concreting work, the contractor shall forward to the Engineer for approval details of his proposed source of supply of aggregates giving the aggregate group classification and typical physical properties as required by B.S.882.
- B. The Contractor shall provide the Engineer with a certificate for his retention showing that all aggregates regularly comply with the requirements of this specification.
- C. The Engineer may require that any aggregate be tested for soundness in accordance with ASTM Test C88-73 before giving approval to any proposed source of supply.
- D. The Engineer may require that any aggregate be tested for potential reactivity in accordance with ASTM Test C.289-71
- E. Notwithstanding any certificate of compliance, the Engineer may at any time require that any aggregate delivered to the site be sampled and tested. Any aggregate so tested which fails to comply with this specification will be rejected.
- F. Coarse aggregate shall be delivered ready screened or screened on site into separate nominal single sizes within limits given in B.S.882
- G. Aggregate of different sizes or typical shall be stored in different hoppers or different stockpiles on approved well drained paved areas which shall be separated from each other. Stockpiles shall be protected against contamination from any source.
- H. Any aggregate which has become contaminated or which does not conform to the above requirements may be rejected by the Engineer.

Water for use with cement.

- I. Water for use in mixing with cement or for curing concrete shall be from an approved source, clean, fresh and free from organic and other deleterious matter.
- J. The Engineer may require that any water sampled and tested by the method given in B.S.3148. Water failing the criteria given in the Appendix to B.S. 3148 will be rejected.
- K. Water for use in mixing with cement shall neither be hotter than 25deg. C (77deg.F) - or colder than 5deg. (41deg. F) at the time of mixing.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**MATERIALS (CTD.)****Steel Rod Reinforcement****A. Steel Rod Reinforcement shall consist of:**

- a) Mild steel bars complying with B.S 4449
- b) Hot rolled high yield bars complying with B.S.4449
- c) Cold worked high yield bars complying with B.S.4449 as described in the drawings.

Where cold worked high yield bars are to be used these shall be square twisted bars formed by a torsion-controlled process.

- B. The contractor shall obtain a manufacturer's certificate of test in accordance with the appropriate standard for each steel batch relating to reinforcement delivered to site and shall immediately forward copies of the same to the Engineer for his retention.
- C. Where hot rolled high yield deformed bars are to be used, the results of bond tests to ASTM 234-71 using concrete of the same quality as that to be used in the works, shall be forwarded to the Engineer.
- D. Notwithstanding the manufacturer's certificate, the Engineer may require that any reinforcement delivered to the site be sampled and tested. Any reinforcement so sampled and tested which fails to comply with this specification will be rejected.
- E. All reinforcement shall be delivered to the site either as straight bars or ready cut and bent to shape.
- F. All reinforcement shall be stored in clean conditions in an orderly manner to the satisfaction of the Engineer such that the batch to which each piece belongs can be readily identified.

Steel Fabric Reinforcement

- G. Steel fabric reinforcement shall be electrically cross welded steel mesh reinforcement complying with B.S.4483.

Tying Wires**H. Tying wires for fixing reinforcement shall be either:**

- a) No. 16 gauge soft annealed iron wire.
- or
- b) No. 18 gauge stainless steel wire.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**MATERIALS (CTD.)****Spacers**

- A. Spacer blocks required for ensuring that the reinforcement is correctly positioned shall be as small as possible consistent with their purpose, of a shape acceptable to the Engineer, and designed so that they will not overturn when the concrete is placed, unless otherwise approved they shall be made of concrete with 10mm maximum aggregate size and mix proportions to produce the same strength as the adjacent concrete S.W.G. 18 wire shall be cast in the block for the purpose of tying it to the reinforcement.
- B. Space blocks of concrete shall not be used until at least 7 days old.
- C. No admixtures or cement containing additives shall be used in concrete unless specified or approved by the Engineer. Such approval will not be given unless in the Engineer's opinion specific benefit to the density or quality of the concrete will result.

D. **Wall Ties**

Wall ties between concrete and adjoining block or brick walling shall be "Abbey" slots and anchors as supplied Abbey Building Suppliers Limited. or similar approved. Wall ties must be provided at concrete and block or brick wall butting surface.

Joint Fillers

- E. Joint fillers unless otherwise stated shall be "Flexcell" as manufactured by Expandite Ltd. or similar approved and placed in accordance with the manufacturer's instructions.

Joint Sealants

- F. Shall be as described in the drawings and approved by the Engineer. Sealants shall be used strictly in accordance with the manufacturer's instructions.
- G. Poured joint sealing compound shall be a hot poured rubber bitumen compound complying with the requirement of B.S.2499.

Water stops

- H. Water stops unless otherwise stated shall be "Sika water bar" as manufactured by Sika International or similar approved and placed and jointed in accordance with the manufacturer's instructions. In addition, the method of holding water bar in position, while concreting, must be to the approval of the Engineer.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT****Workmanship**

- A. Reinforcement shall be bent accurately in accordance with B.S. 4466 to the shapes and dimensions shown in the schedules. All reinforcement shall be at temperatures in range of 5deg.C and 100deg. C.
- B. Cold worked or any high yield bars shall not be straightened or bent again once having been bent. When it is necessary to bend mild steel reinforcement already cast in the concrete the internal radius of such bends shall be not less than twice the diameter of the bar.
- C. No welding of reinforcement shall be carried out without the approval of the Engineer.
- D. All reinforcement shall at the time of concreting be free from mud, oil mortar droppings, loose rust, paint, grease, mill scale or other deleterious matter. Reinforcement still 'blue' from the mill shall not be used.
- E. All reinforcement shall be fixed in the position shown on the drawings by adequate use of spacers, tying wires, chairs, stools, etc. and shall be so maintained during the concreting operations.
- F. Lap in all reinforcement shall be where indicated on the drawings or approved by the Engineer. Unless otherwise indicated the minimum lap length for rod reinforcement shall be 40 diameters for mild steel and 50 diameter for high tensile twisted bars.
- G. A steel-fixer shall be in attendance at all times when concreting is in progress to correct any errors, omissions or movement in the reinforcement.
- H. In severe heat conditions reinforcement shall be shaded from direct sunlight and hosed down with clean water prior to concreting to keep the reinforcement below 25deg.C (77deg.F).
- I. Notwithstanding any inspections, approvals regarding reinforcement, it shall be the contractor's sole responsibility to ensure that the reinforcement complies exactly with the details on the Drawings or Schedule or other written instructions by the Engineer.

Composite floor slabs

- J. Concrete hollow pots for use in the composition floor slabs are to be of the sizes required as shown on the drawings and with 25mm wall thickness and are to be true to shape, free from cracks or distortion of adequate strength to support the concrete during placing and consolidation by vibration. Stocks are to be manufactured in accordance with the procedure specified in B.S.2028 and to be of mix not weaker than 1:4:8 cement; sand; stone using maximum 10mm size aggregate. Samples must be approved before incorporation into the works.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Composite floor slabs (ctd)**

- A. Concrete hollow pots are to be cured for at least 28 days before use on site. During the first seven days of curing, pots are to be kept permanently damp and protected from exposure to sun and wind.
- B. Hollow clay pots where indicated for use in the composite floor slabs are to be the sizes shown on the drawings and to be of adequate strength to support the concrete during placing and consolidation by vibration. They shall be obtained from an approved manufacturer. Before any orders are placed, at least 6 sample clay blocks shall be provided for the approval of the Engineer. Any clay blocks subsequently delivered to site which in the opinion of the Engineer are not of equal standard to the approved samples shall be rejected.
- C. Rejected pots shall immediately be removed from site and shall not be used in the works. Clay blocks are to be fully cured before delivery or use on site.
- D. Defective or damaged pots are to be removed immediately from site.
- E. The hollow pot floor construction is generally to be as shown on the Engineer's drawings.
- F. Care shall be taken in planning pots to ensure that they are set out in accordance with the details shown on the Drawings and that they run truly in line without encroaching on the width of the insitu ribs.
- G. The open ends of hollow pots, if adjacent to concrete to be placed insitu, are to be plugged or stopped to prevent the concrete from flowing into the void and the contractor is to include for this in his prices.
- H. The contractor should note that slip tiles are not to be used to the soffit of ribs and he is to take this into consideration in pricing the items of formwork to the soffit of hollow pot floor construction.
- I. Before concreting is carried out the pots are to be thoroughly wetted.
- J. Care should be taken during concreting that the width of ribs between the rows of pots and the solid insitu concrete shown on the Drawings adjacent to stopping beams is not encroached upon by the pots.
- K. Where holes for service occur, the necessary holes or pockets shall be accommodated by replacing of a hollow pot by insitu concrete or the widening of a rib.
- L. Prices for such holes through hollow pots slab construction are to include for the re-arrangement or substitution of the hollow pot with solid concrete or the widening of a rib.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Composite floor slabs (ctd)**

- A. The concrete topping shall be poured at the same time as the ribs between hollow pots.
- B. Reinforcement shall be positioned accurately with the specified cover in accordance with the Drawings and using the particular spacer blocks as previously described.
- C. Spacer blocks shall be provided at no more than 1.2m centres.
- D. Care must be taken during concreting that the reinforcement is not displaced.

Composite Construction of Beams and Columns

- E. The contractor shall provide a method statement for construction of concrete encased steel columns and beams. Notwithstanding the Engineer's approval of this method statement, the responsibility of producing workmanship of the specified quality shall rest entirely with the contractor. In addition the contractor shall construct a sample of a concrete encased column and beam, on site, in accordance with the method statement for approval. If approved, all composite construction for the works shall be of a similar quality. The contractor should allow for hoisting of steel beams and columns in his rates.
- F. The contractor shall maintain on site for the duration of the contract, all equipment required for modifications to 'in-position' steel beams and columns.
- G. The contractor is to note that steel grade 43 shall be used in composite beams steel grade 50 will be used in composite columns.
- H. All connections of steel beams to columns and column splice connection details shall be as specified on the structural drawings.

FORM WORK**Definition**

- I. "Forms falsework or shuttering" shall include all temporary moulds forming the concrete to the required shape together with any special lining that may be required to produce the concrete finish specified.
- J. "Falsework or Centering" shall consist of furnishing, placing and removal of all temporary construction such as framing, props and struts required for the support of forms.
- K. All timber for formwork, falsework and centering shall be sound wood, well seasoned and free from loose knots, shakes, large cracks, warping and other defects. Before use on the work, it shall be properly stacked and protected from injury from any source. Any timber which becomes badly warped or cracked, prior to the placing of concrete, shall be rejected.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Form Work (ctd)**

- A. If the contractor proposes to use steel shuttering, he shall submit to the Architect/ Engineer dimensioned drawings of all the component parts, and give details of the manner in which he proposes to assemble or use them. Steel shuttering will only be permitted if it is sturdy in construction and if the manner of its use is approved by the Architect/Engineer.
- B. Struts and props shall, where required by the Architect, be fitted with double hardwood wedges or other approved devices so that the moulds may be adjusted as required and eased gradually when required. Wedges shall be spiked into position and any adjusting devices locked before the concrete is cast.
- C. All forms shall be wood or metal and shall be built grout-tight and of sufficient rigidity to prevent distortion due to the pressure of the concrete and other loads incident to the construction operations. Form shall be constructed and maintained so as to prevent warping and the opening of joints due to shrinkage of the timber.
- D. All formwork shall be approved by the Architect/Engineer before concrete is placed within it. The contractor shall if required by the Architect provide the latter with copies of his calculations of strength and stability of the formwork or falsework but notwithstanding the Engineer's approval of these calculations, nothing shall relieve the contractor of his responsibilities for the safety or adequacy of the formwork.

Falsework and centering

- E. Detailed plans for falsework or centering shall be supplied by the contractor to the Architect at least 14 days in advance of the time the contractor begins construction of the falsework. Notwithstanding the approval of the Architect of any designs for falsework submitted by the Contractor, the Contractor shall solely be responsible for the safety and adequacy of the falsework or centering.
- F. All falsework shall be constructed to provide the necessary rigidity and to support the loads from the weight of green concrete and shutting and incidental construction loads.
- G. Falsework or centering shall be founded upon a solid footing safe against undermining and protected from softening. Falsework which cannot be founded on satisfactory footings shall be supported on piling which shall be spaced driven and removed in a manner approved by the Architect. The Architect may require the contractor to employ screw jacks, or hard wood wedges to take up any settlement in the formwork either before or during the placing of concrete.
- H. Falsework shall be set to give the finished structure the required grade and camber shown on the Drawings.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Form of Construction Joints (ctd)**

- A. Where permanent or temporary joints are to be made in horizontal or inclined members, stout stopping off boards shall be securely fixed across the mould to form a grouting joint. The form of the permanent construction joints shall be as shown on the Drawings.
- B. Where reinforcement or water stops pass through the face of construction joint the stopping off boards shall be drilled so that the bars or water stop can pass through or the board shall be made in sections with a half round indentation in the joint faces for each bar so that when placed, the board is a neat and accurate fit and not grout leaks from the concrete through the bar holes, joints, or around the water stops.
- C. The forms shall be restrained and unyielding and shall be so designed that the finished concrete will conform to the proper dimensions and contours. The design of the forms shall take into account the effect of vibration of concrete as it is placed.
- D. All sharp edges inside the forms shall be provided with 25mm by 25mm triangular fillets, unless otherwise shown on the drawings or directed by the Architect.
- E. Openings for the inspection and cleaning of the inside of shuttering for walls, piers and columns shall be formed in such a way that they can be closed conveniently before commencing to concrete.
- F. When concrete is to be deposited to a steeper slope than 15deg. to the horizontal, top forms shall be used to enable the concrete to be properly compacted.
- G. Form clamps tie bolts and anchors shall be used to fasten forms. The use of wire ties to hold forms in position during placing of concrete will not be permitted. Tie bolts and clamps shall be positive in action and of sufficient strength and number to prevent spreading or springing of the forms. They shall be of such type that no metal part shall be left within the specified concrete.
- H. The cavities shall be filled with grout or mortar and the surface left sound, smooth, even and uniform in colour. All forms for outside surfaces shall be constructed with stiff wales at right angles to the studs and all form clamps shall extend through and fasten such wales.
- I. The shapes, strength, rigidity, water tightness and surface smoothness of re-used forms shall be maintained at all times. Any warped or bulged timber must be replaced. Forms which are unsatisfactory in any respect shall not be re-used.
- J. All forms shall be treated with approved mould or similar oil or be soaked with water immediately before placing concrete to prevent adherence of concrete. Any materials which adhere to or discolour concrete shall not be used.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Form of Construction Joints C'td**

- A. All forms shall be set and maintained true to the line designed until the concrete is sufficiently hardened. Forms shall remain in place for periods which shall be as specified hereinafter. When forms appears to be unsatisfactory in any way, either before or during the placing of concrete, the Architect shall order the work stopped until the defect have been corrected.

Release Agents

- B. Only approved chemical release agents, mould creams (emulsions of water in oil) or oils containing a proportion of surfactant not exceeding 2% will be permitted. Water soluble emulsion and oils without surfactant shall not be used. Oil based release agents shall be applied at a ratio of 7m2/litre 24 hours in advance of concreting, preferably by spray or roller. Chemical release agents shall be applied in accordance with the manufacturers' recommendations.
- C. The greatest care must be taken that all sawdust shavings, chips and other debris is removed from the formwork before concrete is placed in position and the necessary arrangements must be made by leaving out a board in the bottom of the formwork or otherwise as required.
- D. The erection, easing, striking and removal of all formwork must be done under the personal supervision of a competent foreman, and any damage occurring through faulty formwork or its incorrect removal shall be made good by the contractor at his own expense.
- E. All projecting fins on the concrete surfaces after removal of formwork shall be chipped off, and any voids or honeycombing to any surface made good to the requirements of the Architect.
- F. No patching of the concrete is to be done before inspection of the concrete surfaces as stripped.
- G. Traffic or loading must not be allowed on the concrete until the concrete is sufficiently matured and in no case shall traffic or loading be of such magnitude as to cause deflection or other movement in the formwork or damage to the concrete members. Where directed by the Architect/Engineer props may be required to be left in position under slabs and other members for greater period than those specified hereinafter.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Striking Times**

- A. It shall be the Contractor's responsibility that no distortion, damage overloading or undue deflection is caused to the structure by the striking of formwork, but the Engineer reserves the right to delay the time of striking in the interest of the work. Formwork shall not be struck until the concrete has sufficiently hardened. Approval of the Engineer shall not relieve the Contractor of his liability to make good any concrete damage by premature removal or collapse of forms. In no circumstances shall forms be struck until the concrete reaches a cube strength of at least twice the stress to which the concrete may be subjected at the time of striking. The following times given in day (24 hours) are the absolute minimum that will be permitted:-

FORMS	ORDINARY PORTLAND CEMENT	RAPID HARDENING CEMENT
Walls, columns (unloaded), beams sides	2	2
Slabs - props left under	7	2
Beams soffites - props left under	14	5
Slabs - props	14	5
Beams - props	18	8

The time for removal of forms as set out shall not apply to slabs and beams spanning more than 10 metres. For such spans appropriate times shall be recommended or advised by the Engineer.

The periods given above based on the removal of all props and formwork using ordinary Portland cement under average weather conditions. Adverse weather conditions or different cement may cause the above periods to be increased. Should the contractor wish to make use of reduced striking times then he must satisfy the Engineer that the strength of the concrete at such time and the structural system is adequate to withstand the dead and imposed loads applied to it. Before making use of reduced striking times the Engineer's agreement must be obtained in writing.

- B. Where the structure is of multi storey construction props with head trees and braces shall be provided to distribute the imposed load below the floor being cast. This will normally be 3 storey heights below the floor being cast unless otherwise stated.

GENERAL SPECIFICATIONS

REINFORCEMENT (CTD)**Finish to Concrete Shuttered Surface**

- A. Sawn finish. The shuttering shall consist of sawn boards, sheet metal or other suitable material to give a support to the concrete. Appearance is not of primary importance for this class of formwork. It shall be used for surface against which backfill or further concrete is to be placed. The treatment of the shuttering or concrete to provide a bond for the further surface treatment of the concrete shall be directed or approved by the Architect. Masonry or similar material used for facing concrete shall only be used as shuttering where directed by the Architect.

The Architect's approval shall be obtained to the use of blocks or slabs when used as permanent forms in foundation and other similar location.

- B. Wrought finish. The shuttering shall be wrought with boards arranged in a uniform pattern. Alternatively, plywood, metal panels or other approved materials may be used, subject to the Architect's approval. Joints between boards or panel shall be horizontal or vertical unless otherwise directed. This shuttering shall give a good finish to the concrete and will normally be used for all faces where a high class finish is not necessary.
- C. Fair-faced finishing. Standard steel panels, hardboard and boarding will not be permitted for the face of this shuttering. The shuttering shall be faced with resin-bonded plywood, faced with matt finished plastic or equivalent material in large sheets which shall be arranged in an approved uniform pattern. Wherever possible, joints between sheets shall be arranged to coincide with features such as sills, heads, jambs or changes in direction or the surface areas of formwork between features in walls, between beams in horizontal surface or other similar arrangement, shall where possible, be divided into panels of uniform dimensions, without the use of make-up pieces. All joints between panels on vertical or inclined surfaces shall be vertical or horizontal unless otherwise directed by the Architect; those on horizontal surfaces shall be at right angles and wherever possible they shall be parallel to walls and beams. The shuttering shall give a high class finish to the concrete with no lips, fins, or irregularities, and shall give a completely true and even surface which will be prominently exposed to view where good alignment is of special importance. It is for use in both in-situ and precast concrete.
- D. Texture finish. This is an all-over finish of high quality as may be directed by the Architect. Sample panels may be constructed on site prior to commencement of the works, to compare different textures. The shuttering shall be such that the concrete finish has not lips, fins, or irregularities and shall give a surface which will be prominently exposed to view where good appearance and alignment are of special importance.
- E. Chisel dressed finish. This finish consists of cutting a maximum of 10mm of concrete surfaces to expose the aggregate. This work is to be carried out after the concrete is at least 30 days old and is to be executed by hand. Mechanical means will not be permitted.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Finish to Concrete Shuttered Surface (ctd)**

- A. Where other finishes, apart from the above are specified, the contractor shall provide a sample panel at least 2.4m x 1.2m in vertical surface area including a typical horizontal and vertical joint in the shuttering. The sample panel shall be constructed using the systems of shuttering and the construction techniques that the contractor proposes for the actual works. This sample when approved will form the standard for the entire works. All unsuccessful samples shall be removed from the site.

Tamped Floor Finish

- B. Where "tamped finish" is specified it will be obtained by an edge board to the Architect's approval. Board works are to be made to a true pattern and will generally be at right angles to the traffic flow. Haphazard or diagonal tamping will not be accepted.

Concrete Mixes (General)**Works Cubes**

- C. For all structural concrete the following representative samples shall be taken and in accordance with B.S. 1881.

One each day on which less than 50cu.m. of concrete is being poured.

- a) Six 150mm cubes - three for test 7 days and three for test 28 days.
- and
- b) Two slump test or
- c) Two compacting factor tests.

On any day when greater quantities of concrete are being poured then six additional cube tests and two additional slump or compacting factor test shall be carried out for each 50M3 or part thereof.

- D. All cubes shall be marked with the date of casting and a reference number. For each cube a record shall be kept of the position in which the batch of concrete from which it was sampled was placed. All cubes shall be tested by an approved testing authority.
- E. The concrete cubes tested at 7 days are intended to be indicative only and the target works strengths at 7 days given in Table 1 or II are not mandatory. It should be noted however that it is unlikely that cubes failing the 7 days target will subsequently pass the 28 days cube strength.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Work cubes (ctd.)**

- A. The concrete cubes tested at 28 days shall be taken to represent the concrete placed in the works. The standard of acceptance for cube strength tests shall be as follows:
- B. The cube strength shall be calculated from the maximum load sustained by the cube failure. One test result shall be the average of two test specimens taken from the same sample. The appropriate strength requirement, as given in Table 1 or 11 shall be considered to be satisfactory if:
 - a) None of the strengths of the three cubes is below the specified cube strength, or if
 - b) The average strength of three cubes is not less than the specified cube strength and the difference between the greatest and the least strengths are not more than 20% of that average.
- C. The standard of acceptance for the slumps test during the production of concrete shall be the design slump ± 25 mm.
- D. The standard of acceptance for the compacting factor test during the production of concrete shall be design compacting factor ± 0.03 .
- E. Any concrete which fails to meet the above standard of acceptance shall be either further tested or condemned at the Engineer's sole discretion. Any such tests or the removal of condemned concrete, replacement and associated costs shall be at the Contractor's expense.
- F. If the strength required are not attained or maintained throughout the contract, the contractor will also be required to redesign the mix and submit trial mixes in accordance with the specification so as to give a concrete which does comply with the requirements of this specification.

Concrete Mixes (Nominal Mixes)

- G. Mixes for each class of concrete specified or shown on the drawings shall be used by the contractor. They shall be mixed to achieve high density combined with adequate workability for the purpose.
- H. Details of any proposed mix shall be forwarded to the Engineer not less than 7 days before that class of concrete is required to be used on the works for his approval in principle.
- I. Classes of concrete will be referred to by their nominal mix proportions. Classes of concrete shall meet the criteria shown in Table I.
- J. The workability of the concrete shall be the minimum consistent with producing a dense, well compacted mass. Due regard shall be paid to the size and shape of the section together with any congestion of reinforcement.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Concrete Mixes (Design Mixes)**

- A. Mixes for each class of concrete specified or shown on the drawings shall be designed by the contractor to achieve the specified minimum cube strength combined with high density and adequate workability for the purpose. In order to allow for unavoidable variation the mean design strength should exceed the specified works cube strength by twice the expected standard deviation. In the absence of previous information a standard deviation of 7N/MM² should be assumed.
- B. Details of any proposed mix design shall be forwarded to the Engineer not less than 7 days before that class of concrete is required to be used on the works for his approval in principle. The details shall include at least the following information.
- a) Source, nature and grading of coarse and fine aggregates
 - b) Source of cement.
 - c) Nominal maximum size of aggregate.
 - d) Cement content.
 - e) Aggregate/cement ratio.
 - f) Water/cement ratio.
 - g) Design density
 - h) Design slump or compacting factor,
 - i) Design strength.
- C. Classes of concrete will be referred to by the minimum 28 days work cube strength and the maximum size of aggregate. Classes of concrete shall meet the criteria shown in Table II. The maximum water/cement ratio is herein defined as the ratio of the weight of the "free" water to the available weight of the cement. The "free water" is that quantity of water available to combine with the cement. Any required to be absorbed by aggregate is excluded.
- D. The workability of the concrete shall be the minimum consistent with producing a dense well compacted mass. Due regard shall be paid to the size and shape of the section together with any congestion of reinforcement.
- E. After the Engineer has approved a design mix in principle the contractor shall prepare a trial mix on site using plant and materials intended for the works. Three batches of concrete shall be sampled and the following prepared, from each batch in accordance with B.S.1881:

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**REINFORCEMENT (CTD)****Concrete Mixes (Design Mixes) (ctd)**

- a) nine 150mm cube-three for test at 7 days, three for test at 14 days and three for test at 28 days, and
- b) three slump tests or where the design slump is less than 25mm then
- c) three compacting factor tests.

Concrete Mixes (General)

- A. The standard of acceptance of preliminary tests will be similar to the standard for normal cubes, slump or compacting factor, except that the minimum cube strengths required shall be those given under "minimum preliminary cube strength at 28 days" in Table I or II.
- B. No structural concrete shall be placed in the works until the Engineer has approved the preliminary tests. Thereafter the approved mix proportions shall be adhered to throughout the work and may only be varied with the prior approval of the Engineer.

CONCRETE WORK SPECIFICATIONS (CTD)

TABLE 1: PRESCRIBED WORKMANSHIP CONCRETE MIXES

Class of concrete	Minimum work cube strength of 28 days N/MM2	Cement Kg	Fine Aggregate Cubic Metres	Coarse Aggregate Cubic Metres	Minimum Preliminary Cube Strength at 28 days N/MM2	Minimum Target Works Cube Strength at 7 days N/MM2
1:1:2	30	50	0.035	0.07	40	22
1:1:5:3	25	50	0.05	0.10	33	19
1:2:4	20	50	0.07	0.14	28	14

CONCRETE WORK SPECIFICATIONS (CTD)**TABLE II:DESIGN MIXES CONCRETE WORKMANSHIP CONCRETE MIXES**

Class of Concrete	Minimum Work Cube Strength of 28 days N/MM2	Maximum Size of Aggregate MM	Minimum Cement Content KG/M3	Maximum Water Cement Ratio	Maximum Cement Content KG/M3	Minimum Preliminary Cube Strength at 28 days	Minimum Target Works Cube Strength at 7 days N/MM2
40	40	20	350	0.44	540	40	30
30/40	30	40	300	0.46	540	40	22
30/20	30	20	310	0.46	540	40	22
30/10	30	20	340	0.46	540	40	22
25/40	25	40	280	0.53	540	33	19
25/20	25	20	295	0.53	540	33	19
25/10	25	10	325	0.53	540	33	19
20/40	20	40	260	0.60	540	28	14
20/20	20	20	280	0.60	540	28	14

CONCRETE WORK SPECIFICATIONS (CTD)**Tolerance**

A. All in-situ concrete shall be dimensionally accurate to within the following non-accumulative tolerances:

- a) between the centre lines of principal members' columns or beams +/- 5mm up to 15metres c/c +/-10mm over 15metres c/c

Note the +/- 10mm tolerance shall not be cumulative

GENERAL SPECIFICATIONS

- b) in storey height ± 5 mm floor to floor
- c) in plumbness of columns and walls ± 10 mm on any storey or overall the structure
- d) in level of floors $+ 5$ mm/ $- 3$ mm of the true prescribed horizontal surface level
- e) in cross sectional dimensions of column beams and walls $+ 5$ mm/ $- 3$ mm in any dimension up to 2 metres overall $+ 10$ mm/ $- 3$ mm in any dimension over 2 metres
- f) cover to reinforcement $+ 5$ mm / $- 0$ of the stated covers.

Miscellaneous Items

- B. Holes chases indentations and the like shall be provided where indicated on the drawings. All such shall be formed in the concrete and not cut after the concrete has hardened.
- C. Should the contractor or any sub-contractor require additional holes or the like these requirements shall be submitted to the Engineer at least two days prior to concreting, for his approval.
- D. Pipes, conduits, fixing bolts and other such cast-in items shall be provided where indicated on the drawings.
- E. Should the contractor or any sub-contractor require additional cast-in items these requirements shall be submitted to the Engineer at least two days prior to concreting, for his approval.

Ready Mixed Concrete

- F. Ready Mixed Concrete shall be used only with the approval of the Engineer. When such approval is given it shall be supplied in accordance with B.S. 5328 except where this conflicts with this specification when this specification shall prevail.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)

Ready Mixed Concrete (ctd.)

- A. Truck mixer units and their mixing and discharge performance shall comply with the requirement of B.S.4251.
- B. The use of ready mixed concrete shall not relieve the Contractor of any of his obligations and the appropriate clauses of this specification shall apply equally to the ready mixed concrete.
- C. Concrete test cubes and slump tests shall be taken on site at the point and time of discharge in accordance with this specification irrespective of any cubes that the supplier may take at his own risk.

Mixing and Transporting Concrete

- D. All materials for concrete shall be measured by weight in approved weight batching equipment. Such equipment shall be checked at weekly intervals at the Contractor's expense and shall be accurate to within 2%. Certificate of accuracy shall be submitted immediately to the Engineer.
- E. All concrete shall be mixed in approved power driven mixers of a type and capacity suitable for the work. The mixer shall be equipped with an accurate water measuring device which shall be checked at weekly intervals at the contractor's expense. Certificates of accuracy shall be submitted immediately to the Engineer.
- F. All materials shall be thoroughly mixed dry before water is added and the mixing of each batch shall continue for a period not less than two minutes after the water is added or such longer period are recommended by the manufacturer of the mixer. The mixture shall be of uniform colour and distribution on discharge and the entire contents of the mixer shall be discharged before recharging. The volume of mixed materials shall not exceed the rated capacity of the mixer.
- G. Mixers shall be all times be kept in a clean condition. prior to the first mix each day being agitated in the mixer a rich cement sand mix shall be used to coat the inside of the drum, the surplus material being emptied away and not used in the works.
- H. The moisture contents of the coarse and fine aggregate shall be checked by the contractor at frequent intervals and the amount of water added to the mix adjusted to maintain the design workability.
- I. Concrete shall be discharged from the mixer onto a clean, level watertight platform or into a clean watertight container. It shall be transported in a manner which ensures that it is of the correct quality and consistency at the point of deposition. All platforms and containers shall be cleaned of the old concrete before the fresh concrete is discharged onto them.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)

Mixing and Transporting Concrete (ctd)

- A. Concrete shall not be dropped from a height, thrown or otherwise treated so that segregation, undesirable finish, or defective structural quality results. In any case concrete shall not be dropped from a height greater than 3.0m
- B. No extra water shall be added to the concrete mix after it has left the mixer.
- C. The Contractor shall take adequate precautions to protect concrete in transit from the effects of the weather.
- D. Pumping of concrete, which will require a special design mix, will only be permitted with the approval of the Engineer.
- E. Should the concreting be stopped due to mechanical malfunction, accident or other similar cause then the contractor shall inform the Engineer immediately so that necessary measures and precautions can be taken. The cost of any additional work caused by these stoppages shall be the responsibility of the Contractor.
- F. No concreting shall be commenced until the formwork and reinforcement have been inspected by the Engineer. The Contractor shall give the Engineer two clear days notice of his intention to concrete.

Placing and Compacting Concrete

- G. All concrete shall be vibrated unless otherwise specified. The vibration shall be carried out by experienced operators and with immersion type vibrations to the Engineer's satisfaction.
- H. Placing of concrete shall be carried out in layers not exceeding 500mm deep and in sequence from one end of the form to the other.
- I. Concrete in foundations and other underground work shall be protected from contamination with falling earth or rock during and after placing.
- J. Any concrete which shows signs of initial setting before or during placing shall not be used and it shall be removed at the contractor's expense.
- K. Sufficient vibrators shall be provided to correspond with the rate of deposition of concrete. The vibration shall be continuous throughout the placing of the concrete. Standby vibrators shall be on site during all concrete placing.
- L. Vibration must not be allowed to disturb any recently placed concrete that has begun to set. Any water accumulating on the surface of newly placed concrete shall be removed by approved means and no further concrete shall be placed thereon until such water is removed.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Placing and Compacting Concrete (ctd).**

- A. Suitable means shall be provided to ensure that the temperature of the concrete on placing does not exceed 30 deg.C (86 deg.F). All surface shall be thoroughly dampened immediately prior to placing fresh concrete to prevent excessive absorption of water.

Unformed finishes for Concrete

- B. Where a concrete surface is specified as suitable for receiving a further applied finish or in all cases where no other finish is specified the concrete shall be uniformly levelled and screeded to produce a ridge surface. No further work shall be applied to the surface.
- C. Where a concrete surface is specified as exposed with no further applied finish the concrete shall be uniformly levelled and screeded to produce a plain surface. After the concrete has hardened sufficiently the surface shall be hand or machine floated sufficiently only to produce a uniform surface free from screed marks.

Construction, Contraction and Expansion Joints

- D. Construction joints will be permitted only at the positions shown on the drawings and as instructed on the site by the Engineer. These joints will in general be spaced to allow a maximum plan area for any bay of 100 sq.m. maximum length of 12m in any one dimension.
- E. Vertical construction joints shall be properly made to form a vertical grout tight joint. Where reinforcement passes through the face of the joint the stopping off board shall be drilled so that the bars pass through or the board shall be made in sections with half round indentation in the joint.
- F. Under no circumstances shall concrete when being deposited be allowed to 'tail off'. Construction joints formed with expanded metal or similar or will not be permitted for reinforced concrete work.
- G. At all construction joints, both horizontal and vertical the surface of the already placed concrete shall be suitably roughened to remove laitance and by exposing the coarse aggregate to form a key for adjacent concrete. This work shall be carried out to the satisfaction of the Engineer by the following or other approved methods:
- a) After the initial set has taken place but before final set the coarse aggregate shall be exposed by the use of a water jet brushing.
 - b) After final set has taken place the laitance shall be removed and coarse aggregate shall be exposed by bush hammering or chiselling.

In both cases the surface is to be thoroughly cleaned after roughening.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)

Construction, Contraction and Expansion Joints

- A. At least 72 hours shall be left between completion of concreting one bay and the start of concreting any adjacent bay if the Engineer deems fit.
- B. Construction joints shall be formed as detailed where shown on the drawings.
- C. Expansion joints shall be formed as detailed at the position on the drawings.

Curing and protecting Concrete

- D. Immediately after compacting and for 7 days thereafter concrete shall be protected against harmful effects of weather including rain rapid temperature changes and from drying out. The methods of protection used shall be subject to the approval of the Engineer. The method of curing used shall prevent loss of moisture from the concrete.
- E. During the curing period horizontal surface shall be protected by the following or other approved means:
 - a) Covering with damp hessian canvas sacks or similar absorbent materials kept constantly damp and wholly covering the exposed concrete surface or
 - b) Covering with an impermeable material raised approximately 50mm over the surface so as to prevent loss of moisture.
 - c) An approved membrane curing compound.
- F. During the curing period other surfaces shall be protected by the following or other approved means:
 - a) Formwork in close application of water preferably in the form of a mist so as not to damage the surface.
 - b) Direct and continuous application of water preferably in the form of a mist so as not to damage the surface.
 - c) Covering as described for horizontal surfaces.
- G. All concrete faces or edges, particularly those which are exposed without rendering in the final structure, shall be adequately protected from damage and discolouration at all times.
- H. Concrete structure shall be loaded until the concrete is at least 21 days old or 28 days in the case of cantilevers. With the prior approval of the Engineer the structure may be loaded before this time but in no case will loading greater than the final design loading be permitted.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Test of Defective Concrete**

- A. Additional tests may be necessary when there are physical defects in the finished concrete. These defects may be in the form of cracking while the member is still under props, excessive deflection or segregation and insufficient strength of concrete test cubes. If in the opinion of the Engineer these defects are as a result of the Contractor's bad workmanship, then the contractor will be required to carry out additional tests which the Engineer may deem necessary to establish the load carrying capacity of the member. All costs for the test or incurred thereof as a consequence of the test shall be chargeable to the contractor. Costs for tests shall be borne by the contractor immaterial of the outcome of such tests.

Concrete for Water Retaining Structures

- B. Concrete and its constituents for water retaining structures, in addition to the general and particular provisions in this specification, shall comply with the following requirements in this section.
- C. In addition to the requirements of clauses pages concrete in water retaining structures shall have a low drying shrinkage and absorption, as measured in accordance with B.S.812 or not greater than 3%.
- D. The Engineer may before approval is given to an aggregate or at any time thereafter require that the aggregate be tested for absorption in accordance with B.S.812. Any aggregate failing to comply with this specification will be rejected.
- E. In addition to the requirements of clauses page, concrete for the water retaining structures shall have a maximum cement content of 400kg/M3
- F. Blinding concrete under water retaining structures shall be a minimum of 75mm thick and shall be in class 15/40 concrete.
- G. Class 15/40 concrete shall comply with the following requirements:
- Minimum works cube strength at 28 days 15N/MM²
- Maximum size of aggregate 40mm
- Mix proportions 1 cement:2.5 fine aggregate: 5 coarse aggregate.
- This is a nominal mix and no cubes will be required to be taken.
- H. For water retaining structures the provisions of clause page are modified. The construction joints will in general be spaced to allow a maximum plan area for any bay of 40sq.m. or maximum lengths of 7.5m in any one dimension.
- I. A waterproofing additives - plastocrete DM by Sika or other similar approved shall be used for all reinforced concrete in water tank structures.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Concrete for Water Retaining Structures (ctd.)**

- A. All additives shall be incorporated into the mix according to the manufacturer's instructions.
- B. For water retaining structures the provisions of the clause are modified. At least 96 hours shall be left between completion of concreting any adjacent bay if the Engineer deems fit.
- C. A kicker of minimum height 150mm shall be cast integrally with the base slab for all water retaining structures.
- D. The surface of all concrete for water retaining structures shall not be permitted to dry out even after the 7 day curing period specified in clause.
- E. All pipes passing through concrete walls or slabs for water retaining structures shall be cast in at the time of concreting and not subsequently fitted. All such pipes shall be provided with a puddle flange fitted to form a seal against the pipe and of an outside diameter 2.00mm greater than the outside diameter of the pipes.
- F. Joint sealants shall be applied not less than 7 days after completion of the structure.
- G. On completion of water retaining structure at a time decided by the Engineer it shall be tested for water tightness in the following manner. Structures which are elevated shall be filled at a uniform rate not exceeding 1 meter rise in head per 24 hours and allowed to absorb water for 3 days. After this period the water level shall be brought up to the top water level and left for 7 days. During this period the exposed faces shall show no signs of leakage and shall remain apparently dry. Structures founded on or in the ground shall be tested prior to backfilling unless otherwise stated. The structure shall be filled as specified above. After filling to top water level no further water shall be introduced for the next 7 days. The structure will be deemed to be watertight if at the expiration of this time the total drop in surface level does not exceed 100mm after making due allowance for evaporation and absorption and no sign of leakage are observed.
- H. Water for testing shall be provided at the contractor's expense.
- I. If the structure fails the test above any defects shall be made good or such action taken to eliminate leakage as the Engineer shall direct. All such work shall be at the Contractors expense.
- J. After completion of any repairs the structure shall be tested using the procedure specified above.
- K. Swimming pool should be tested prior to applying internal finishes.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Precast Concrete**

- A. The material for precast work shall be similar to the materials for insitu work. The workmanship for precast work shall comply with C.P.116 except where this conflicts with this specification when the specification shall prevail.
- B. The contractor shall prepare for any type of Precast units, a drawing indicating his proposed formwork construction, casting methods de-moulding and handling procedure for the Engineer's approval.
- C. Moulds and formwork shall be so constructed that the dimensions of the finished concrete members are within the specified permissible tolerances given in Clause 407 of BS 8110.
- D. Where precast concrete is described as "Fair Faced" the moulds shall be metal, or are to have metal or hardboard linings, or are to be other approved moulds which will produce a smooth, dense fair face to the finished concrete and free from all shutter marks, holes, pitting, etc.
- E. Precast concrete shall be made of the mixes described on the Engineer's drawings in suitable mould, true in form of the shapes required, thoroughly tamped into the moulds and around reinforcement and vibrated.
- F. All precast work shall be carried out under cover and the period before removal from forms and the period of storing shall be determined and agreed by the Engineer and Contractor with due regard to the type of unit, i.e. load bearing or non-load bearing, difficulties of casting, projections, holes and other points which require particular attention.
- G. The method of lifting, positions of lifting points and Curing time before lifting shall be agreed with the Engineer before casting of any units.
- H. Extreme care shall be taken when handling precast units and any units damaged during transportation and/or positioning shall be replaced at the Contractor's expense.

MEASUREMENTS PREAMBLES**General**

- A. Concrete work shall be measured generally in accordance with the method of measurements stated in the contract. The rates shall be deemed to include for complying with the specification in all respects. All testing and samples required by the Specification, whether covered by a particular item below or not, shall be deemed to be included within the rates or sums in the Bill of Quantities. Where the Engineer may instruct the contractor to test (such test not being mandatory) the materials or workmanship in accordance with the provisions of the Specifications the test of such costs will be borne by the employer, if the test result proves satisfactory and by the Contractor if the test result proves unsatisfactory. In either case no consequential costs or delay will be allowed, it being considered that testing covered by this Specification is of a usual or expected nature.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)**Concrete**

- B. The rate for concrete shall include for all costs associated with the following:
- C. Supply concrete of the required strength, manufactured with materials complying with the Specification.
- D. Mixing, transporting placing, compacting, curing and protecting the concrete all as specified.
- E. Forming construction joints and complying with the specified requirements for maximum bay size and interval between casting adjacent bays.
- E. Providing test certificates for cement and aggregates.
- F. Designing the concrete mix (where applicable) and carrying out trial mixes and preliminary tests.
- G. Carrying out routine sampling and testing of concrete and its constituents.
- H. Keeping on site sufficient cube moulds, slump cones and associated test equipment to comply with the Specification.

Mass Concrete

- I. The rate for mass concrete in blinding shall, in addition to *B* to *H* above, include, for concreting the sub base.
- J. The rate for mass concrete shall, in addition to *B* to *H* above, included for any formwork necessary unless otherwise stated in the item description.

Rod Reinforcement

- K. The rate for rod reinforcement shall include all costs associated with the following:
- L. Supply rod reinforcement complying with the Specifications.
- M. Providing test certificates
- N. Cutting, bending and fixing reinforcement including any welding where this is approved.
- O. Providing and fixing all spacers, tying wire, chairs and stools.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)

MEASUREMENTS PREAMBLES (CTD)

Fabric Reinforcement

- A. The rate for fabric reinforcement shall include for all costs associated with the following:
- a) Supplying fabric reinforcement complying with the specifications.
 - b) Providing test certificates.
 - c) Cutting and fixing fabric reinforcement.
 - d) Providing and fixing all spacers, tying wire, chairs and stools.
 - e) Providing the specified laps, fabric will be measured as the net plan area.

Sawn Formwork

- B. The rate for sawn formwork shall include for all costs associated with the following:
- a) Supplying, fixing, easing and striking all temporary forms as specified together with all temporary construction required for their support.
 - b) Supplying details or calculations for formwork.
 - c) Coating with material to prevent adhesion of the concrete.
 - d) Complying with specified minimum period before removal of forms.
 - e) Back propping for multi-storey construction.

Wrought Formwork

- C. The rate for wrought formwork shall include for all costs associated with the following:
- a) Supplying, fixing, easing and striking all temporary forms as specified together with all temporary construction required for their support.
 - b) Supplying details or calculations for formwork.
 - c) Coating with material to prevent adhesion of the concrete.
 - d) Complying with specified minimum period before removal of forms.
 - e) Back propping for multi storey construction.
 - f) Providing sample panels of concrete as specified and removing on completion of the works.

GENERAL SPECIFICATIONS

CONCRETE WORK SPECIFICATIONS (CTD)

MEASUREMENTS PREAMBLES (CTD)

Precast Concrete

- A. The rate of supply of precast concrete shall include for all costs associated with the following:
- a) Supplying concrete including item on clause page.
 - b) Supplying rod reinforcement including on page above.
 - c) Supplying fabric reinforcement (if applicable) items on page above.
 - d) Supplying, fixing, easing and striking moulds and formwork as specified including replacement after multiple use.
 - e) Producing drawings and details as specified.
 - f) Coating moulds with material to prevent adhesion of the concrete.
 - g) Complying with specified minimum period before removal of forms or handling.
 - h) Providing and fixing any additional reinforcement required for lifting or handling.
 - i) All handling, lifting and fixing of precast units.

Composite floor Construction

- B. The rate for composite floor construction is to include for all moulds, materials and all unspecified items necessary for the manufacturer of hollow concrete block by the contractor.
- C. Another rate will be applicable in the vent of the contractor purchasing the block as specified from independent suppliers or manufacturers.

Waffle Floor Construction

The rate for waffle floor construction is to include for all moulds, materials and all items necessary for complying with the specification. The rate shall also be deemed to include for solid concrete margins, and bearing.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL

QUALITY OF MATERIALS AND WORKMANSHIP

- A. The quality of all materials and workmanship used in the execution of this Contract shall comply with the requirements of the most recent issues of the following British Standards and Codes of Practice, including all amendments to date of calling for Tenders.

BS.4 (Part 1)	-	Hot Rolled Sections
BS.4 (Part 2)	-	Hot Rolled Hollow Sections
BS.449	-	The use of Structural Steel in building
BS.638	-	Arc Welding plant, equipment and accessories
BS.639	-	Covered Electrodes for the Manual Metal Arc Welding of Mild Steel and Medium tensile steel
BS.916	-	Black Bolts, screws and nuts
BS.1449	-	Steel plate, sheet and strip
BS.1775	-	Steel Tubes for mechanical, Structural and General Engineering Purposes
BS.2994	-	Cold Rolled Steel Sections
BS.4190	-	ISO metric black hexagon bolts, screws and nuts
BS.4320	-	Metal Washers for general engineering purposes
BS.4360	-	Weldable structural Steel
BS.4848	-	Hot rolled structural steel sections
BS.4872	-	Approval testing of welders when welding procedure approval is not required
BS.5135	-	General requirements for the Metal Arc Welding of structural steel
BS.5493	-	Protection of iron and steel structures from corrosion

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

QUALITY OF MATERIALS AND WORKMANSHIP (CTD)

- A. The Engineer may at any time require any materials to be tested in accordance with the requirements of the Standards listed above. The cost of all successful tests shall be borne by the Client, but the Sub-Contractor shall if required promptly supply at his own expense test pieces as required by the Engineer. The costs of tests on materials failing to comply with this Standard shall be borne by the Sub-Contractor. If in the opinion of the Engineer, faulty materials and /or workmanship have been used in the Works, the Sub-Contractor may be directed to dismantle and cut out the parts concerned and remove them for examination and testing. The cost of dismantling, cutting out and making good to the approval of the Engineer shall be borne by the Sub-Contractor.

FABRICATION

B. **Cutting and Bending**

All members, plates, brackets, etc, shall be neatly and accurately sheared sawn or profiled to the required shape as shown on the drawings. Where steel is oxy-cut to shape, care shall be taken to preserve the full finished sizes required. If the members or plates are bent or set, the bends or sets shall be correctly made to the radii or angles specified without leaving hammer marks. The material may be heated to permit this. Material that has been heated shall be annealed to approval.

C. **Punching and Drilling**

Holes for black bolts shall be drilled or punched 2mm larger in diameter than the bolt used. Holes for high tensile friction grip bolts shall be drilled or sub-punched and reamed to 2mm larger in diameter than the specified bolts sizes. All drilled holes shall be parallel sided and shall be drilled with the axis of the holes perpendicular to the surface. Badly drilled holes shall either be reamed out to approval and larger bolts fitted or otherwise as directed. All rough arises shall be ground off. Holes for bolts in material thicker than 15mm must be drilled. When holes are drilled in one operation through two or more thicknesses of material, the parts shall be separated after drilling and all burrs removed before assembly. Holes for bolts shall not be formed by a gas cutting process.

D. **Tolerances**

All members shall be fabricated with a tolerance in length of + 0mm and -3mm, all shall not deviate from straightness by more than 1 in 400.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

QUALITY OF MATERIALS AND WORKMANSHIP (CTD)

A Tolerances (ctd)

The allowance for angular twist shall be $(3+0.6L)$ mm where L is the length of the member under consideration in metres. Twist shall be measured by placing the member as fabricated against a flat surface measuring the difference between the two corners of the opposite end.

The above tolerances shall be adhered to unless otherwise specified on the Engineer's drawing.

FASTENING

B. Bolting

All bolts used shall be of such length that at least one full thread is exposed beyond the nut after the nut has been tightened. Where a nut or bolt head would bear on an inclined surface, a bevelled washer of the correct shape shall be interposed between the two surfaces. Bevelled washers shall not be allowed to get out of position during fabrication and erection and for this purpose may be spot welded to the steel surface. Bevelled washers for use with high tensile bolts may not be welded.

C. Black Bolts, Nuts and Washers

All black Bolts, Nuts and Washers shall comply with the requirements of BS.916 or alternatively BS.4190 ISO metric black hexagonal bolts screws and nuts.

D. High Tensile Bolts, Nuts and Washers, Friction Grip Bolts

All High Tensile steel bolts, nuts and washers used in joints shall comply with the requirements of BS.3139 and shall be used in accordance with BS.3294.

ELECTRIC WELDING

E. All welding shall be carried out in strict accordance with the requirements of BS.1856 and 938 and electrodes shall comply with BS.639.

F. Fusion faces shall be free from irregularities such as tears, fins, etc., which would interfere with the deposition of weld metal.

G. Fusion faces shall be smooth and uniform and shall be free from loose scale, slag, rust, grease, paint, and/or other deleterious material.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

ELECTRIC WELDING (CTD)

- A. All welds shall be of acceptable types, shall be of the finished sizes specified, and shall be carried out in such sequence that minimum distortion of the parts welded results.
- B. Preparation of edges for welding shall be carried out by planning or machine flame cutting. Manual flame cutting may be permitted in certain circumstances.
- C. Parts to be welded shall be maintained in their correct relative positions during welding, preferably by jigs.
- D. Multiple run welds shall be carried out with each run closely following the previous run but allowing sufficient time for the proper removal of slag.
- E. The Sub-Contractor shall ensure that each run is inspected and any unsatisfactory weld cut out and remade to approval.
- F. Welds in material 25mm or greater in thickness shall be made by the Argon arc or similar approved process, and special precautions shall be taken to prevent weld cracking.
- G. Unless otherwise shown, the minimum size of fillet shall be 6mm.
- H. On completion, welds shall present a smooth and regular finish. Weld metal should be solid throughout with complete fusion between weld metal and parent metal and between successive runs throughout the joint.
- I. Defects shall be cut out and made good to approval in sound weld metal.
- J. The external faces of butt welds are to be ground smooth on completion and to be to the approval of the Engineer.

SHOP AND FIELD CONNECTIONS

ROLLED SECTIONS

- K. All shop connections shall be electric welded or bolted with high tensile friction grip bolts.
- L. No bolts used shall be less than 12mm diameter and no weld less than 40mm in length. At least two bolts shall be used in connections transmitting loads unless otherwise indicated by the Engineer.
- M. No weld of length less than four times the nominal fillet size shall be deemed capable of carrying a load.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

ROLLED SECTIONS (CTD)

- A. Beam to column connections not detailed shall be on "Standard" top and bottom cleat connections with the load carried on the bottom cleat. "Standard" web connections shall be used for connecting beams to beams.
- B. Field connections shall be as detailed, i.e. bolted with high tensile or black bolts in drilled holes. Black bolts in punched holes will only be permitted for connections carrying a designed load or for connections to timber members.
- C. Structural Hollow Sections - Circular and Rectangular
- D. Hollow sections shall be connected by electric welding unless shown otherwise.
- E. The design of welds shall be in accordance with Clause 53 and 54 and Appendix C of BS.449.
- F. Butt welds shall be made with the fusion surfaces of the ends of each member properly prepared and the members properly aligned.

ASSEMBLY

Trusses and Portal Frames

- G. Trusses shall be carefully set out to the dimensions shown on the drawings.
- H. Where it is required that trusses be cambered, such camber shall be provided by bending the bottom chord to the arc of a circle.
- I. Notwithstanding any dimensioned spacing of purlin cleats, the Sub-Contractor shall ensure that purlin cleat spacing is satisfactory for the available stock lengths of roof sheeting. However, the Engineer's approval must first be obtained before any alteration is made in purlin spacing or sheeting sizes.
- J. Splices in portal and other frames shall be made where shown on the details or where indicated.

Boxed Members

- K. Abutting edges of boxed members shall be connected and sealed with a continuous weld to exclude the entrance of moisture. Where specified such welds shall be ground flush to approval.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

Shop Assembly

- A. Such assembly of units in the shop as is specified or necessary before transporting to the site will be inspected by the Engineer before painting. The work will be laid out in the shop or yard so that all parts are accessible for inspection and testing of the work.
- B. The Sub-Contractor shall furnish all facilities for inspection and testing of the work and he must notify the Engineer on each occasion when the material is ready for inspection.

Marking

- C. All members of the structure to be site assembled shall be match marked in accordance with the shop details and marking plans submitted for approval.

ERECTION

Site Dimensions

- D. No erection shall commence before accurate Site Dimensions have been taken by the Sub-Contractor, and no claim will be considered should final dimension differ from those on the drawings. Any modifications to the structural steel required in order to comply with Site Dimensions shall be made on the ground to the Engineer's approval before erection is commenced.

- E. **General Setting Out-Tolerances**

The temporary Bench Mark (TBM) which shall be located at the Structural Ground Floor Level (S.G.F.L.) having been agreed on site between the Architect, Engineer and Main Contractor, shall be considered as the site datum.

The datum points for the setting out of the datum lines passing through the T.B.M. at all floor and roof levels; plus or minus 0m.

The permissible Deviation (P.D.) from the T.B.M. and D.L. shall be as follows:

- a) Setting out on Plan at S.G.F.L.

All setting out dimensions with respect to each datum line (i.e. P.D. from "x" and "y" plan axes) plus or minus 10mm per 30 metres.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

ERECTION (CTD.)

- b) Transfer of T.B.M. to Structural First Floor, intermediate Floors and Roof Levels.

With respect to the T.B.M. at S.G.F.L. the T.B.M. at:

First Floor Level	-	Plus or minus 5mm
Intermediate Floor Levels	-	Plus or minus 10mm
Roof Level	-	Plus or minus 15mm

- c) Setting out on Plan of Upper Floors With Respect to the Transferred T.B.M.

All setting out of dimensions with respect of each datum line plus or minus 10mm per 30 metres.

- d) The clear distance between adjacent elements at any level where accuracy is required for doors, windows, services, secondary steelwork etc.: - plus or minus 5mm.
- e) The P.D. with respect to the relevant T.B.M. of the upper or lower surface of any truss or element, taking into account specified cambers. plus or minus 10mm.
- f) The Plumb vertical members plus 10mm per storey.

A. Equipment

All erection shall be carried out by competent and experienced men and the Sub-Contractor shall take every care to safeguard the public, workmen, and adjoining property.

All gear used shall be of adequate strength and shall comply with all Regulations current at the time.

The Sub-Contractor shall be held responsible for all damage caused to the structure, workmen, or buildings during erection.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

ERECTION (CTD.)

A. Storing and Handling

Steel shall be stored and handled and erected in such a manner that no member is subjected to excessive stresses which could have an adverse effect on the properties of the steel. If in the opinion of the Engineer, the steel work has been subjected touch treatment, the contractor shall remove this steel from the site and replace it at his own expense.

B. Erection Details

No member or part of a member which has been bent or distorted shall be erected in that condition. All straightening shall be done in the ground.

Columns shall be wedged to line and level on steel or cast iron wedges and checked by the Engineer. After acceptance, column bases shall be grouted to approval before wedges are removed. Unless shown on the drawing, all columns shall be left truly vertical and correct to line and level. Beams, girts, etc., shall be erected level unless otherwise shown, and correctly positioned.

Trusses and open web joists shall be carefully handled at all times and when being erected shall be lifted at such points and in such a manner as will preclude any possibility of damage from erection stresses.

Immediately after erection, each truss shall be made secure by purlins, bracing, or guys to approval.

Bracing shall be placed in position as soon as dependent work will permit.

C. Field Connections

In making connections, drifting of unfair holes will not be permitted and holes not matching properly shall either be reamed or drilled out and a larger bolt inserted or otherwise as directed.

Holes formed or enlarged by oxy-cutting will be condemned and must be filled to approval by electric welding and red drilled.

Tightening and testing High Tensile Friction Grip Bolts.

Before assembly, the contact surface, including those adjacent to the washers, shall be descaled or carry normal tight mill scale. They shall be free from dirt, oil, loose scale, burrs, paint (except priming paint) pits and other defects that would prevent solid seating of the parts.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

ERECTION (CTD.)

A. Field Connections C'td

Bolts shall be assembled with approved hardened flat or tapered washers as required between the bolt head and nut and the softer mild steel.

When bearing faces of the bolted parts have a slope of more than 1 in 20 with respect to a plane normal to the bolt axis, square smooth bevelled washers shall be used to compensate for the lack of parallelism.

All bolts shall be tightened by the "Turn of Nut" method. This method shall generally be as approved by the Engineer to achieve in all bolts a minimum tension equal to the proof load.

B. Grouting

Unless otherwise detailed on the drawings, a space of not less than twenty (20) mm and not more than forty (40)mm shall be provided between undersides of column base plates and footings, and between all beam and roof truss bearings and concrete pads, etc.

After each column, beam, or roof truss has been wedged up to a line and level and fixed in position to approval, the space between footing or pad and the underside of the base plates or steel member shall be grouted with a mixture of Portland cement and approved washed sand.

The Portland Cement and sand shall be thoroughly mixed to approval in equal proportions by volume with only sufficient water to produce a mixture of "damp earth" consistency and shall be used within twenty minutes of mixing. The caulking mixture shall be packed to approval into the space between base plate and foundation and protected from damage until set.

PAINTING

C. Painting Material

All paints are to be supplied by a Supplier approved in writing by the Architect.

Paints are to be delivered to the site or the Structural Contractor's works in the original containers as supplied by the Manufacturer with seals unbroken and are to be used in strict accordance with the manufacturer's instructions.

GENERAL SPECIFICATIONS

STRUCTURAL STEEL (CTD)

PAINTING (CTD.)

A. Painting Material C'td

Manufacturer's representatives are to be free to visit the site and inspect materials and workmanship, and if necessary take samples of materials for laboratory analysis.

Paints are not to be thinned unless instructed by the Engineer.

No external painting is to be carried out during rain or when rain is likely to occur before the paint has had time to dry. All surfaces are to be dry and free from moisture at the time of painting.

B. Preparation for painting

All structural steel shall be thoroughly scraped and wire brushed to remove mill scale and rust. Dirt and grease or oil shall be washed off with white spirit and the steel allowed to dry.

C. Painting process

A first coat of Red Oxide Zinc Chromate primer shall be applied in the works immediately the steel preparation has been completed. A minimum of 24 hours shall elapse before the steel is moved from its position whilst painting has been carried out. After delivery to site, the steel shall be carefully examined and all areas where the priming coat has been damaged and/or where rust has developed shall be washed with white spirit and wire brushed as necessary and a further priming coat as for the first applied to completely cover the damaged areas.

During erection, surface of steel which are to be in contact shall be painted with one further coat of primer as previously described and the surfaces brought together whilst the paint is still wet.

Bolts, Nuts, Washers, etc., shall, after erection is completed to approval, be carefully degreased with white spirit and painted as for steelwork.

Steel purlins and sheeting rails shall generally be painted as for steelwork except for purlins and rails supporting aluminium sheeting when the following specification shall be used.

1st coat - Red Oxide Zinc Chromate Primer

2nd Coat - An approved Aluminium paint

The interiors of mild steel gutters shall be prepared as previously described for structural steelwork.

GENERAL SPECIFICATIONS

WALLING

- A. Requirements of the following British Standards and Codes of practice and equivalent Kenya Bureau of Standards shall be observed:-

British Standard

- | | | |
|----|-------------------------|--|
| B. | B.S. 3921 part 2 | Bricks and blocks of fired brickwork clay or |
| C. | B.S. 1180 | Concrete bricks and fixing bricks |
| D. | B.S. 4729 | Shapes and dimensions of special bricks |
| E. | B.S. 2028, 1364 type B | Precast concrete blocks (for general use and load bearing walls above damp proof course) |
| F. | B.S. 2028 1364 type C | Precast concrete blocks (for internal non-load bearing walls) |
| G. | B.S. 1200 table 1 and 2 | Sand for mortar for plain and reinforced brickwork, block walling and masonry |
| H. | B.S. 890 part 2 | Building limes (Hydrated lime) |
| I. | B.S. 4721 | Ready Mixed lime: sand for mortar |
| J. | B.S. 4887 | Mortar plasticizers |
| K. | B.S. 4551 | Methods of testing mortars and Specification for mortar testing sand |
| L. | B.S. 743 | Materials for damp proof courses |
| M. | B.S. 1178 | Milled sheet lead and strip for building purposes |
| N. | B.S. 1243 Fig. 1 | Metal ties for cavity wall construction (vertical twist type) |

Codes of Practice

- | | | |
|----|-----------------|---|
| O. | C.P. 111 | Structural recommendations for load bearing walls |
| P. | C.P. 121 part 1 | Walling |

GENERAL SPECIFICATIONS

WALLING (CTD.)

Codes of Practice (ctd.)

- A. C.P. 121, 202 part 1 Masonry - rubble walls
- B. Walls and partitions of blocks and slabs C.P. 122
- C. **NOTE:** The contractor's attention is drawn to Section "G" of the Standard method of Measurements
- D. **WATER** Shall be as specified in "concrete work"
- E. **CEMENT** Shall be as specified in "concrete work"
- F. **SAND** Shall be as specified in "concrete work"
- G. **Lime** Shall be non-hydraulic quick lime or hydrated limes for cement/lime mortars and comply with B.S. 890, semi-hydraulic class "B" calcium limes .
- H. **Concrete blocks** shall be solid or hollow blocks to comply with the relevant standard as previously mentioned and shall be solid hard, true to size and shape and sharp arises in accordance with Ministry of Works Standard Specification for Metric sized concrete blocks for building dated September, 1972.

They shall be obtained from an approved manufacturer or manufactured on site in approved block making machines. The mix used shall be less than (1:9) by volume and maximum size of aggregate shall be 12mm size. The blocks on removal from the machine shall be laid on edge or racks under sheds erected by the Contractor and left for 3 days during which period they shall be kept constantly wet.

After this initial period they shall be placed on edge in the open racks and protected by sacking or other approved covering and kept wet for further 5 days.

Thereafter the blocks shall be left in the same position without wetting for a further 20 days. No blocks shall be used in the Works until 28 days old and until samples have been tested and approved by the Engineer.

The Contractor shall ensure that the blocks are stocked separately in their respective categories in the structure in the position shown on the drawings.

GENERAL SPECIFICATIONS

WALLING (CTD.)

- A. Stone for walling shall be good hard local stone equal in standard and quality to "Nairobi Blue Stone". Stone shall be squared, dressed and joints chisel dressed on the face. Stone to receive render, shall be so dressed to reduce dubbing-out to a minimum.

The coursed stone shall not be less than 150mm deep and 305mm long. All stones shall be laid on their natural or quarry bed lines.

MORTARS

- B. Gauged mortar shall be used for walling and shall be composed of one part Portland cement to two parts non-hydrated lime and nine parts sand. (1:2:9) measured in gauge boxes and thoroughly mixed dry preferably with an approved mechanical mixer or on a clean and approved mixing platform with water added afterwards until all parts are completely incorporated and brought to a proper consistency and used within the hour of mixing.

No partially or wholly set mortar will be allowed to be reused or re-mixed.

- C. Cement Mortar Cement mortar (1:3) shall be composed of 42.5 Kgs. of Portland Cement to 0.085 cubic metres of sand. The cement mortar (1:6) shall be composed of 42.5 Kgs of Portland cement to 0.17 cubic metres of sand measured in specially prepared gauge boxes and thoroughly mixed in an approved mechanical mixer or mixed dry until all parts are completely incorporated and brought to a proper consistency. The use of retempering of wholly or partly set mortar will not be allowed.
- D. All Stone shall be wetted before laying and the top of walling where left off, shall be wetted before re-commencing buildings, walls to be kept wet minimum 3 days after building.
- E. All blocks and walling to be kept true, plump and level with all perpends vertical and in line and work shall not rise more than three courses above the adjoining Work and all such rising are to be properly racked back.
- F. The Contractor must provide proper setting out or storey rods so that all work is coursed to cills, lintels and underside of beams thus reducing horizontal cutting to a minimum.
- G. All walling must be carefully bonded together so that no vertical joint in any one course is nearer than 10mm from the joint in the course above or below.

GENERAL SPECIFICATIONS**WALLING (CTD.)****MORTARS (CTD)**

- A. All walling must be bedded in solid mortar with cross-joints well flushes up at each course as the work proceeds.
- B. To walls less than 190mm thick the reinforcement shall consist of gauge 24 "Expamet" wall reinforcement horizontally in bed joints every alternate course and lapped over "Expamet" from column where abutting same.
- C. Rates for walling are to include for reinforcement strips.
- D. Labours on stone walling stated in the Standard Method of Measurement as to be included shall be deemed to include for redressing the beds of stones on site to the minimum extent necessary to obtain uniformly of coursing and for any redressing of faces necessary to bring the thickness within the tolerance specified.
- E. Rates for walling of any description are to include for all expenses in connection with the provision and conveyance of samples of walling materials to the Ministry of Works, Materials Testing Laboratory, Kenya.

GENERAL SPECIFICATIONS

ASPHALT WORK

- A. The requirements of the following British Standards shall be observed:-

British Standards

- | | | |
|----|---------------------------------|---|
| B. | B.S.1162, 1410
and 1418 | Mastic asphalt for tanking and damp-
proof courses (Natural rock asphalt
aggregate) |
| C. | B.S.988, 1097,
1076 and 1451 | Mastic asphalt for tanking and damp
course (limestone aggregate) |

Code of Practice

- | | | |
|----|--------------|---|
| D. | C.P.102 | Protection of building against water from ground |
| E. | <u>Note:</u> | The Contractor's attention is drawn to Section "J" of the Standard
Method of
Measurement. |

All asphalt shall comply with the requirements of subsections B.S. 1418 and 1097 and C.P. 102 specifically dealing with tanking operations.

F. **Mastic asphalt for tanking**

- | | |
|-------|--|
| (i) | The Contractor shall arrange for the work to be executed by an approved Sub-Contractor. No other Sub-Contractor will then be permitted to be employed without the written authority of the Architect. |
| (ii) | Tropicalised Mastic Asphalt is to comply with B.S. 1097/1966 and B.S. 1418 applied in three coats, in the case of horizontal work on and including sheathing felt; in the case of vertical work without. The third and final coat is to have a polished finish. All tanking operations to comply with C.P.102. |
| (iii) | The Contractor is to take all necessary precautions to protect finished work, and it is his responsibility to ensure that no damage occurs to surfaces during subsequent building operations or any reasons whatsoever. |
- G. For tanking to basement lay over the whole area of the basement concrete floor horizontal damp proof course in three thickness laid with 150mm laps to a course of foundations on outer face of wall to cement with vertical damp proof course with a double angle fillet.

GENERAL SPECIFICATIONS**ASPHALT WORKS (CTD.)**

- A. Vertical face of basement walls shall then be covered with damp proof course applied in three thicknesses with 75mm laps to a total thickness of not less than 20mm.
- B. Vertical damp-proof course shall be carried up to a minimum height of 150mm above ground level and connected at bottom to horizontal damp-proof course in walls with double fillet formed on top of foundations to form a complete tank to basement.
- C. All junctions between horizontal and vertical asphalt shall be warmed, cleaned and properly made good with two-coat angle fillets at all internal angles.
- D. Properly made good joints between lining pits and horizontal damp-proof course to floor shall be effected and double angle fillets to all internal angles maintained.
- E. It is essential that continuity of tanking be maintained. Care must be exercised to see that such continuity is not destroyed by stanchions, pits, sumps etc.
- F. Protect asphalt by the application of loading coats immediately each section of work is complete. Pumping of any water gaining access shall be continued until not only the asphalt work is complete, but also until loading coats are thoroughly set.
- G. If the water level is near, such water level shall be maintained at not less than 0.3m below the level of the base concrete during the progress of tanking work to avoid the application of asphalt on wet surfaces and this pumping operation shall be maintained until the temporary sump has been filled and sealed.

GENERAL SPECIFICATIONS

ROOFING

BITUMEN BUILT-UP FELT ROOFING

A. **Bitumen Felt**

Bitumen felt where specified shall be to B.S. 747 part 2 and in addition shall be suitable for use on tropical conditions and from approved manufacturers. Types of bitumen felt shall be as specified on the working drawing.

B. **Fibre Base Bitumen Felt**

Shall comply to B.S. 747 part 2, Class 1, when fibre based bitumen felt is specified the roofing shall consist of two self finished bitumen felt under layers to B.S. 747, Class IC each weighing 13 Kg per 10 M2 and one mineral surfaces bitumen felt to same B.S. Class 1E weighing 36 Kg per 10 M2. All layers shall be completely bonded to one another and to the base with approved bitumen bonding compound or hot bitumen.

C. **Asbestos Base Bitumen Felts**

Asbestos base bitumen felts where specified shall comply to B.S. 747 Part 2, Class 2. Asbestos base bitumen felt when specified shall consist of two self finished bitumen asbestos under layers to B.S. 747, Part 2, Class 2C each weighing 13 Kg per 10 M2 and one mineral surfaced bitumen asbestos to same B.S. Class 2 E weighing 36 Kg per 10 M2. All layers shall be completely bitumen bonding compound or hot bitumen.

D. **Edge Trim**

Edge trims shall be of either aluminium to B.S. 1470 or 24 gauge galvanised mild steel sheet to B.S. 3033 of the sizes and patterns specified or shown on the drawings, and shall be approved gauges and manufacturer.

E. **Concrete Paving Tiles**

Concrete paving tiles shall comply to B.S. 1197, Part 2, nominal size 225 x 225 x 20mm, thick or other approved sizes. Tiles shall be bonded to built-up roofing with hot bitumen bonding compound but joints shall normally be 13mm wide, filled with hot bitumen.

F. **Cement**

As specified in the concrete section.

G. **Sand**

As specified in concrete section.

GENERAL SPECIFICATIONS

ROOFING (CTD.)

BITUMEN BUILT-UP FELT ROOFING (CTD.)

H. Coarse Aggregate

Shall be as specified in concrete section. However, when mineral aggregate chippings are specified, they shall be of approved colour, hard, angular and of a size to pass a 10mm sieve and be retained on a 6mm sieve.

Chipping shall be bonded over top layer of flat roofs with hot bitumen dressing compound. Chippings shall be bedded on the roof at the rate of 16Kg/M².

A. Bitumen Primer

Bitumen primer for priming base shall be of either cut-back bitumen, maximum volatile solvent 60% by weight or bitumen emulsion of a type recommended by the manufacturer for priming purposes.

B. Bitumen Bonding Compound

Bitumen bonding compound for bitumen felt shall be to B.S. 3940m Type B and shall be of approved manufacturer.

C. Bitumen Dressing compound

Bitumen dressing compound for bedding chippings shall be cutback bitumen to B.S.D. 3690 Grade 25.

D. Approved Sub-Contractor

Bitumen felt roofing work, unless otherwise directed, shall be carried out by an approved Sub-contractor. Laying shall be carried out generally in accordance with C/P.144.101. Bitumen built up felt roofing shall be guaranteed for one year from the end of the defects Liability period and such guarantee shall be given to the Architect in an approved form.

E. Falls

Before laying bitumen felt, the Contractor shall check and certify that the roof is laid to the correct falls. Minimum falls are:-

- | | | |
|----|---------------------------------|------|
| 1. | For mineral surfaced felt roofs | 1:30 |
| 2. | For protected felt roofs | 1:60 |

F. Preparation of Base

Before laying bituminous roofing felt, the Contractor shall ensure that the base is dry and clean to the approval of the Architect. All pipes and outlets passing through the roof, formation of grooved, chases fillets and gutters must be completed and approved before any roof covering commences being laid. When reinforced wood wool slabs form roof base, all joints shall be filled flush with approved strips.

GENERAL SPECIFICATIONS

Minor movement joints shall be formed with 150mm strip of damp proof course laid over joints and bonded at edges only. Movements joints shall be formed with rubber or plastic piping inserted into joints or with twin kerbs all in general accordance with Code of Practice. 144 part 3.

ROOFING (CTD.)

A. Laying Bitumen Felt Sheet

Hot bonding compound shall not be heated to more than 220 degrees centigrade and shall be laid at 200 degrees centigrade.

B. Partial Bonding

Partial bonding shall not be allowed without prior written approval of the Architect.

C. Full Bonding

The first and subsequent layers of bituminous roofing felt shall be laid with a minimum of 50mm, side laps and 75mm end laps. The first layer shall be fully bonded with bituminous bonding compound in similar manner to the first layer and to one another. Bitumen bonding compound shall be rolled to remove any trapped air and surplus or squeezed out bonding compound shall be wiped clean.

D. Upstand and Flashings

Upstands shall be at least 150mm high and must be fully bonded to the structure. Top edges of flat flashings shall be tucked into chase, wedged at 600mm centres and fully bonded to upstand. Ends of upstands and flashings shall be lapped at least 100mm and shall be sealed and bonded with hot bonding compound. The chase shall thereafter be pointed in cement mortar (1:3)

E. Felt Eaves and Verges

When felt eaves and verges are specified on the drawings, the Contractor shall nail one edge of 225mm wide felt strip at 150mm centres to the roof base. The felt strip shall then be folded to form welt 50mm deep and sealed with bonding compound. The remainder of the felt shall be fully bonded to the base and covered with full thickness of built up roofing.

Pipes, Vent pipes, Etc., piercing the roof shall be primed with bitumen priming solution and a collar of hot bitumen shall then be formed up round them 45.deg. Roofing felt shall then be dressed over the hot bitumen collar to the pipes etc., and secured tight with stout copper wire. Such collars shall not be less than 150mm high and shall be made completely water tight.

F. Rainwater Outlets

Built up roofing felt shall be carefully dressed into all rain water outlets and sealed in hot bitumen bonding compound. The Contractor shall seal completely and make tight, all such outlets to the approval of the Architect.

G. Protection

GENERAL SPECIFICATIONS

After built up felt roofing has been complete, the Contractor, shall protect it from any damage whatsoever and no storage materials on the roof will be allowed. Mixing of concrete mortar or heating materials on the roof will not be permitted whatsoever.

GENERAL SPECIFICATIONS

ROOFING C'TD

ASPHALT ROOFING

A. **Butyl Sheet Damp Roofing**

Butyl sheet shall be laid in accordance with the manufacturers printed instructions M/S Dunlop Kenya Limited. and shall be bonded in hot bitumen

B. **Generally**

The covering shall be executed complete by an approved roofing Sub-Contractor.

C. **Asphalt Roofing**

The mastic asphalt to be used shall comply with B.S. 988/1966 Table 3 column III Tropical Mastic Asphalt laid in two coats to a total thickness of 20mm on and including black sheathing felt.

D. **Felt Underlay**

The underlay shall be impregnated flax sheathing felt complying with B.S. 747 (Type 4A) (I) and shall be supplied by the Sub-Contractor and with 75mm laps at joints.

E. **Preparation of Surfaces**

All surface to receive asphalt are to be dry and roughened, grooved or otherwise prepared and finished to the entire satisfaction of the Architect.

F. **Melting Asphalt**

Asphalt blocks shall be broken into pieces of convenient size and carefully melted in cauldron on mechanically agitated melters on the site at a temperature not exceeding 215 deg. C. Molten material may be delivered to the site in mechanically agitated mixers.

G. **Dusting of Buckets**

Buckets used for carrying molten asphalt shall be dusted with a fine inert dust. On no account shall ashes or oil be used for this purpose.

GENERAL SPECIFICATIONS

ROOFING (CTD.)

A. Laying Asphalt

Asphalt shall be laid in bays generally not exceeding 2m wide and succeeding coats shall be laid breaking joint, junctions between bays and fillets shall be properly married, the laid asphalt being heated by the application of the hot material, the whole being worked so that the joints are neatly made. Air pockets, stains on the asphalt work shall not ring hollow over any parts of its surface.

Joints in all asphalt work shall be carefully made and complete fusion obtained to make them watertight joints shall be made around pipes passing through roofs etc.

"Resincot" Pre-painted mild steel sheeting

G.C.I. Sheeting

B. Generally

Pre-painted corrugated mild steel sheeting shall be No.24 Gauge of best quality in accordance with B.S. 3083, and shall conform to Kenya Bureau of Standards KS06-02: Part II 1976.

C. laps

Sheets shall be laid with 150mm end laps and side laps of 30mm corrugations on the side away from the prevailing wind.

D. Fixing to steel and timber

The sheets shall be fixed to mild steel angle purlins with 6mm diameter pre-painted mild steel hook bolts 50mm longer in the shank than the depth of the steel purlins to which they are fixed each with one diamond shaped bitumen washer one pre-painted steel washer, and one pre-painted steel nut. The sheets shall be fixed to timber purlins by using 14 gauge drive screws with bituminous felt washer backed by a cranked diamond shaped aluminium washer.

GENERAL SPECIFICATIONS

ROOFING (CTD.)

A. Holes

Holes for bolts or screws shall be punched from the inside of the sheet and through the ridges of corrugations not in the hollows. A clearance of 0.80mm on the bolt or screw must be allowed.

B. Ridges, Valleys, Flashings

The ridges, valleys and flashing etc., shall be formed of No.24 gauge pre-painted mild steel sheeting of a quality equal to the sheeting on each side at 450mm centres maximum with 6mm diameter seam bolts 20mm long each with one diamond shaped bitumen washer one pre-painted steel washer and one pre-painted steel nut.

Ridges and valleys shall be not less than 375mm girth.

C. Bolts and Screw

All fixing bolts and screws shall comply with B.S. 1494.

D. Square Abutments

At square abutments the last two corrugations of the corrugated iron sheets next to walls shall be flattened and turned up against wall and covered with 24 gauge pre-painted sheet iron apron flashing.

E. Bat proofing

Bat proofing shall consist of "Perspex" or other equal and approved translucent plastic corrugated sheeting.

TILED ROOFING

F. Concrete single-pin tiles and fittings

Shall comply to B.S. 473 and 550: Part 2 group B. Tiles are to be 381 x 229mm nominal unless otherwise specified.

Surface coating when specified must be firmly bonded. A full range of fittings are available from the manufacturer and must match the tiles with which they are laid.

GENERAL SPECIFICATIONS

ROOFING (CTD.)

TILED ROOFING

Concrete single-pin tiles and fittings C'td

- A. Mangalore Tiles where specified they shall be interlocking clay tiles as manufactured by M/S Clay works Ltd. or other equal and approved. They shall be uniform in size, shape and colour, hard, well burnt and free from defects.

They shall be laid in accordance with the manufacturer's printed instructions.

Polythene shall conform to B.S. 3012: 500 gauge and of approved manufacture.

- B. Nails for underlay: to B.S. 1202: Part 1
- C. Tying wire - to B.S. 443, 1.6mm diameter (16 S.W.G.) iron wire.

D. HERTALAN EPDM SHEETING SYSTEM

Hertalan EPDM rubber sheeting roofing work, unless otherwise directed shall be laid by M/S Rooftech Kenya Limited P.O. BOX 75282, Nairobi, Telephone No.725697, Nairobi. Laying shall be carried out in strict adherence of manufacturer's instructions.

E. Preparation of Substrate

Before laying Hertalan EPDM sheeting, the Contractor shall ensure that the surface is cleaned of all loose particles such as stones, gravels, nails, and free of sharp-edged foreign materials etc. and that the substrate is dry and clean oil/free to the approval of the Architect. All pipes and outlets and gutters must be completed and approved before any Hertalan EPDM sheeting is laid.

When reinforced wood wool slabs form roof base, all joints shall be filled flush with approved strips.

GENERAL SPECIFICATIONS

ROOFING (CTD.)

A. Hertalan EPDM

The Hertalan EPDM sheeting shall be free from pinholes and blisters. The edges of the sheeting shall be straight with a sharply defined cut.

When rolled out on a flat horizontal surface, the sheeting shall exhibit no wrinkling. The sheeting shall show no porosity between plies. Neither shall porosity develop when sheeting is heat-aged at 121 deg. C for a period of 7 days.

The sheeting shall be such that when bonding adhesive, type KS 143 or other approved adhesive is applied to the four edges of a one square metre piece of sheeting, these edges shall not ripple or deform in any way so that a similar one square metre of sheeting, prepared in same way, can be totally bonded along all four edges without the formation of "fish mouths". A period of 20 minutes (maximum) is allowed for the adhesives to dry.

B. Upstands and Flashings

Upstands shall be at least 300mm high and must be fully bonded to the structure. Top edges of EPDM flushing shall be tucked into chase, wedged at 600mm centres and fully bonded to upstand. Ends of upstands and flashings shall be lapped at least 100mm and shall be sealed and bonded. The chase shall thereafter be pointed in cement mortar (1:3).

C. Pipes, Vent Pipes, Flues etc. Piercing the Roof

Pipes, vent pipes, flues etc. piercing the roof shall be rapped with hertalan EPDM rubber using Conta adhesive and finally sealed with KS 87.

D. Rainwater Outlets

Hertalan sheeting shall be dressed around a PE-outlet-pipe with clamping tube. For details check working manual sheet No. 2.61.2.9g.

E. Protection and Painting

After the Hertalan EPDM single ply system has been installed, two coats of rubberized paint should be applied to give a grey finish. The Contractor should then protect it from any damage whatsoever and no storage of materials on the roof will be allowed. Mixing of concrete mortar or heating materials on the roof will not be permitted under any circumstances.

GENERAL SPECIFICATIONS

ROOFING (CTD.)

A. Guarantee

The Nominated Sub-Contractor shall be required to give a ten-year guarantee on Hertalan EPDM sheeting roofing.

VANDEX WATER-PROOFING

Specification for Waterproofing Concrete Structures

B. Preparatory work

All areas shall be examined for structural defects.

Shrinkage cracks exceeding 0.33mm (0.01”) in width shall be cut or chiseled out at least 10mm wide and 15mm deep and washed out. Then a slurry coat of VANDEX Super shall be applied. Following this the groove is filled with a mixture of 3 to 1 sand and cement in stiff mortar consistency.

Over-poured forms, around columns and/or inverted beams, form grooves shall be cleaned out, rinsed with water and slurry coated with Vandex super. These grooves shall then be filled flush with a mixture of 3 to 1 sand and cement.

Any honeycombed concrete found in walls and/or inverted beams/columns shall be raked out to solid concrete, washed out with water, coated with a slurry coat of Vandex Super and filled out flush with a 3 to 1 mixture of sand and cement.

C. Cleaning

Concrete surfaces must be free from all form scale, laitance, algae growth, mould, oil, curing agents and any other foreign materials. The finish of the surfaces shall be a brush finish.

All laitance (cement scum) shall be removed as soon after pouring as possible.

D. Pre watering

Concrete shall be thoroughly wetted down in order to achieve the penetration of the activated chemicals, and thereby starting the crystalline growth throughout the capillary tracts.

All free lying water must be removed from surface, leaving the concrete in a damp condition just prior to Vandex application

GENERAL SPECIFICATIONS

VANDEX WATER-PROOFING C'TD

A. Mixing

Vandex super is mixed to slurry consistency. Add approximately 0.8 parts water to 2.0 parts powder or 9 litres to 25 Kg when mixing full bags, and mix thoroughly until the mixture is free from lumps.

B. Application

The application should be as even as possible trying to avoid thick and thin spots. Areas applied too thick will not cure right and when drying cracks and subsequently peeling may form.

The second coat may be applied when the first coat has set and is not drawn off by the second coat.

C. Curing and protection

Vandex applications must be protected against sun and rain. After the application is dry to the touch, cover with polyethylene sheet (Hessian cloth) or wet sand for five days. If this is not possible, sprinkle with water several times a day for five days. Do not apply Vandex materials at temperature below 5 degrees C or on super cooled structures.

D. Additional information

When concrete is poured in sections, it is recommended that each section is keyed. After keyed form is removed and just prior to pouring the next section the construction joint shall receive a slurry coat of Vandex Super (1.5Kg/sq.m).

This does not apply to control or expansion joints.

E. Master Hyseal 501

Master Hyseal 501 chemical crystalline waterproofing to be applied strictly as directed by the Engineer.

F. Index Fidia Spun bond

Index Fidia Spun bond polyester mineral surfaces waterproofing ditto.

GENERAL SPECIFICATIONS

CARPENTRY

- A. The requirements of the following British Standards and Codes of Practice shall be observed:

British Standards

- | | | |
|----|------------------|--|
| B. | B.S. 565 | Glossary of terms relating to timber and woodwork |
| C. | B.S. 1860 part 1 | Structural timber. Measurements of characteristics affecting strength (softwood) |
| D. | B.S. 4471 | Dimensions for softwood |
| E. | B.S. 373 | Methods of testing small clear specimens of timber |
| F. | B.S. 1202 part 1 | Nails |
| G. | B.S. 1579 | Connectors for timber |

British Standards (ctd.)

- | | | |
|----|-----------|------------------------------------|
| H. | B.S. 4169 | Glued laminated structural members |
| I. | B.S. 916 | Black bolts |

Codes of practice

- | | | |
|----|---|---|
| J. | C.P. 112 | The structural use of timber |
| K. | C.P. 98 | Preservative treatment for construction timber |
| L. | <u>NOTE:</u> | The Contractor's attention is drawn to Section "L" of the Standard Method of Measurement. |
| M. | <u>All timber</u> used for carpentry shall be sound, well conditioned, properly seasoned to suit the particular use and free from defects or combination of defects rendering it unsuitable for the purpose intended. | |

GENERAL SPECIFICATIONS

CARPENTRY (CTD.)

- A. Timber used for carpentry shall be in accordance with the latest approved Grading Rules issued by the Government of Kenya. Timber used structurally shall comply with the requirements of the Export Grading Rules and also with B.S. 1860.

- B. The following timber shall be used:

Podocarpus (podocarpus spp)
Cedar (Juniperus Procera)
Elgon Olive

TIMBER

- C. All timber as it arrives on site shall be inspected by the Contractor, and any timber found not to comply with the specification or not approved must be removed forthwith from the site and only timber which has been approved shall be used.

- D. Tolerances shall conform with the following extracts from the Government of Kenya Grading Rules:-

Softwood Grading: - Strength Grades, first and second grades.

Undersize: All timber to be sawn by 1.6mm per 25mm of thickness and width.

Not more than 3mm in thickness and not more than 6mm in width.

- E. All timber shall be free of live borer beetle or other insect attack when brought upon on site. The Contractor shall be responsible to the end of maintenance period for executing at his own cost all the work necessary to eradicate insect attack of timber attacked or suspected to be attacked, notwithstanding that the timber concerned may have already been inspected and passed as fit for use.

- F. Timber shall be seasoned to a moisture content of not more than 22%.

GENERAL SPECIFICATIONS

CARPENTRY (CTD.)

TIMBER (CTD.)

- A. All carpentry timbers shall be treated with pressure impregnated "Celcure" or Tenalith" solution with a minimum wet retention of 5.46 KG. of dry salt per m³. If so required "charge sheets" issued after treatment with "Celcure" or "Tenalith" shall be submitted by the Contractor to the Architect for his retention. All out ends and other cut faces or timbers sawn after treatment shall be treated before fixing with "Celcure B" or "Wolmanol" solution brushed on.
- B. The Contractor's rates for such timber hereinafter must allow for the above treatment.
- C. All grounds shall be podocarpus or other light and approved hardwood.
- D. Nails shall comply with the relevant standard as above.
- E. Black bolts shall comply with B.S. 916. Rag bolts, coach screws and others shall comply with B.S 1494. Where used externally nails and screws shall be sherardized.
- F. Timber shall be delivered early to the site, stored under cover clear of the ground and protected from the sun and dampness.
- G. The Architect shall be given facilities and reserves the right for inspection of all works in progress whether in workshop or on site. The Contractor is to allow for testing of prototypes of special construction units and the Architect shall be at liberty to select any samples he may require for the purpose of testing i.e. for moisture content or identification, species strength etc., such tests will be carried out by the Forestry Department.
- H. The Contractor is to clear out and destroy or remove all cut ends, shavings and other wood waste from all parts of the building and the site generally, as the work proceeds and at conclusions of the work.

This is to prevent accidental borer infestation and to discourage termites and decay.
- I. All carpentry's work shall be accurately set out in strict accordance with the Drawings and shall be framed together and securely fixed in the best possible manner with properly made joints, all brads, nails, and screws etc., shall be provided as necessary directed and approved and the rates shall be deemed to allow for these.
- J. All carpenter's work shall be left with sawn faces except where specified to be wrot.

GENERAL SPECIFICATIONS

CARPENTRY (CTD.)

- A. All timber shall be as long as possible in order to minimise joints. Where joints are unavoidable surfaces shall be in contact over the whole area of the joint before fastenings are applied.

No nails, screws and bolts are to be fixed in any split end. If splitting is likely, or is encountered in the course of the work, holes for nails are to be prepared at diameter not exceeding $\frac{4}{5}$ th of the diameter of the nails. Clenched nails must be bent at right angles to the grain.

- B. Lead Holes are to be bored for all screws. When the use of bolts is specified the holes are to be bored from both sides of the timber and are to be of the diameter $D/16$ where D is the diameter of the bolt. Nuts must be brought up tight but care must be taken to avoid crushing of the timber under washers.

GENERAL SPECIFICATIONS

JOINERY

A. The requirements of the following British standards and Codes of practice shall be observed:-

British Standards

- B. B.S. 565 Glossary of terms relating to timber and woodwork
- C. B.S. 4471 Dimensions for softwood
- D. B.S. 1186 parts 1+2 Quality of timber and workmanship in joinery
- E. B.S. 373 Methods of testing small clear specimen of timber
- F. B.S. 4512 Methods of test for clear plywood
- G. B.S. 1142 part 3 Fibre building board (Insulation board softwood)
- H. B.S. 3444 Block board and laminated board
- I. B.S. 459 part 1 Pannelled and Glazed wood door
- J. B.S. 1455 Plywood manufactured from tropical hardwoods
- K. B.S. 3794 Decorative laminated plastics sheet
- L. B.S. 459 part 2 Flush doors
- M. B.S. 459 part 3 Fire check flush doors and wood and metal frame (1.5. hour and 1 hour types)
- N. B.S. 1567 Wood door frame and linings
- O. B.S. 584 Wood trims (softwood architraves, skirting, quadrants etc)

British Standards

- P. B.S.1204 parts 1+2 Synthetic resin adhesive (phenolic and amino-plastic) for wood
Type MR-Moisture
Resistant Type INT
-Interior

GENERAL SPECIFICATIONS

JOINERY (CTD.)

British Standards

- A. B.S. 1210 Wood Screws
- B. B.S. 1494 part2 Fixing accessories for building purposes (bolts, screws, staples etc.)
- C. B.S. 4174 Felt tapping screws and metallic drive screws

Codes of Practice

- D. C.P. 201 Timber flooring
- E. C.P. 201 parts 1+2 Flooring of wood and wood products
- F. C.P. 151 Doors and windows including frames and linings
- G. NOTE: The Contractor's attention is drawn to Section "M" of the Standard Method of Measurements
- H. The timber for joinery shall be as specified in the Export Timber Ordinance of 1951 and obtained from an approved sawmill. All such timber shall be Prime Grade and reasonably straight grained and shall be purchased immediately the Contract is signed and is to be open stacked for such further seasoning as may be required.

Timber which in the opinion of the Architect does not satisfy the specification in character or condition is not suitable for the requirements of the work because of the blemishes it contains shall not be used.

I. The following timber shall be used:-

Podocarpus
Mvuli
Cedar
Elgon Olive
Camphor
Mahogany

GENERAL SPECIFICATIONS

JOINERY (CTD.)

- A. All timber shall be wrot by machine dressing non exposed faces and machine marks shall be removed with hand plane and sanded out, unless otherwise specified.

The dimensions and thickness stated in the Bills of Quantities are the finished size (unless otherwise stated) and the Contractor will allow for all necessary waste.

- B. The joinery shall be worked strictly in accordance with detail Drawings, and is to be framed up and put together as soon as possible and stored in the drying room, for as long as possible before being wedged up. All joints and angles are to be glued and where necessary cross tongued with hardwood tongues and surfaces finished clean and smooth, with machine marks sand papered out before fixing.

Should any of the joinery work shrink, warp, wind or deflect unduly before the end of the maintenance period of the Contract, the work is to be taken down and rectified at the Contractor's sole expense.

- C. Tolerance in thickness shall conform with the following extracts from the Government of Kenya Grading Rules:

Hardwood Grading: (First and Second Grades)

The following tolerances in thickness will be admitted:-

- (i) 1.6mm over size on pieces up to 25mm in thickness
- (ii) 3mm over size on pieces over 25mm and up to 51mm in thickness.
- (iii) 6mm over size on pieces over 51mm in thickness undersize will not be permitted.

Softwood Grading: Appearance Grades (first and Second Grades)

Undersize not allowed.

Oversize: All timber to be sawn oversize by 1.6mm per 25mm of thickness and width. Not more than 3mm in thickness and not more than 6mm in width.

GENERAL SPECIFICATIONS

JOINERY (CTD.)

- A. Seasoning of timber shall be to moisture content of not more than 15%.
- B. Pressure impregnation treatment shall be as for "Carpentry".
- C. Where joinery is described as screwed this is deemed to include sinking the head of the screw and pelling with similar timber, and to grain in with the finished joinery.
- D. All hardwood joinery shall be finished for oil paint, unless otherwise stated.
- E. The rates shall be deemed to allow for all nails and screws and fixing all labour cuttings, notching, halving, morticing, tenoning and wedges except where otherwise provided.
- F. All work described as plugged shall be fixed with screws to plugs formed by drilling concrete walls, etc., with the proper tool of suitable size at 750mm spacing and filling the holes completely with "Phil plug" rawl plastic or rawl plugs in accordance with the manufacturer's instructions. Alternatively and where so agreed by the Architect, hardwood dovetailed fixing slips in preservative and cut and primed or bedded in cement mortar (1:3) may be used.
- G. The rates are to allow for all surfaces of joinery where in contact with walling or plaster, or where otherwise unexpected, being treated before fixing with two coats of approved wood preservative.
- H. Laminated plastic sheeting shall be "Formica" manufactured by Thomas de la Rue and Co. or other equal and approved, 1.6mm thick and accurately fixed with approved typed waterproof impact adhesive and in the colours selected by the Architect.
- I. Blackboard shall comply with the Standard as mentioned above.
- J. Plywood shall comply with the standard as mentioned above. Bond M.R. Birch faced both sides unless otherwise stated.
- K. Fibre board shall be 12.7 "Celotex" or other equal approved soft board.

GENERAL SPECIFICATIONS

JOINERY (CTD.)

- A. All joiner's work shall be accurately set out and framed together as soon after commencement of the building as is practicable but not to be wedged up or glued until the building is ready for fixing same. Any portions that warp, wind or develop shapes or other defects within the maintenance period shall be removed and new fixed in their place together with other work which may be affected thereby, all at Contractor's expense.

All work shall be properly mortised, tenoned, housed, shouldered, dovetailed, notched primed, bradded, etc, as directed and to the satisfaction of the Architect and all glued up with the best quality glue.

- B. Joints in joinery shall be as specified or detailed, and so designed and secured as to resist or compensate for any stresses to which they may be subjected. All nails strings, etc are to be punched and puttied. Loose joints are to be where provisions for shrinkage is necessary; glued joints where shrinkage need not be considered and where conditions may be damp must be of the resin type. For non-load-bearing joints or where dry conditions may be guaranteed resin or organic glues may be used. All exposed surfaces for joinery shall wrot and all arises "cased off" by planing and sand papering to an approved finish suitable to the specified treatment.
- C. 3mm reduction of specified sizes will be allowed to each wrot face except in members 25mm thick or less or where, described as finished sizes in which case joinery shall hold up the full dimensions.
- D. In fixing all beads, fillets and small members shall be fixed with round or oval brads or nails well punched in and stopped. All large members shall be fixed with screws. Brass screws shall be used for fixing of all hardwoods, to the heads in and pellated over with wood pellets to match the grain.
- E. Rates shall include for bedding frames, sills etc., in mortar or dressing surfaces of walls etc. in lieu.
- F. Round wood plugs shall not be used, and screws or plugs shall be spaced at 750mm centres.
- G. All fixed joinery which in the opinion of the Architect is liable to become bruised or damaged in any shall be completely cased and protected by the Contractor at his own expense until completion of works.
- H. Bottom edges of doors shall be painted or polished with two coats of approved primer before fixing.

GENERAL SPECIFICATIONS

ALUMINIUM WORKS

A. STANDARDS AND DIRECTIVES

All aluminium works are to be executed according to the valid standards, directives, government codes and building regulations, fire regulations and any other such applicable regulations as:-

DIN 107	-	Methods of testing windows; mechanical tests
DIN 1055	-	Design loads for buildings
DIN 1249	-	Flat glass for building construction
DIN 1745	-	Wrought aluminium and aluminium alloy plates, sheet and strip greater than 0.35mm thickness; properties, technical delivery conditions
DIN 1748	-	Wrought aluminium and aluminium-extruded sections; design, permissible deviations
DIN 1783	-	Strips, plates and sheets of aluminium and wrought aluminium alloys with thickness over 0.35mm, cold rolled; dimensions
DIN 4102	-	Fire behaviour of building materials and building components
DIN 4108	-	Heat insulation in buildings
DIN 4109	-	Noise control in buildings
DIN 4113	-	Aluminium constructions under predominantly static loading, static analysis and structural design
DIN 7863	-	Non-cellular elastomer glazing and panel gaskets
DIN 16935	-	Sheets of polyisobutylene used for damp-proofing
DIN 17611	-	Anodized wrought products of aluminium and aluminium alloys with layer thickness
DIN 17615	-	AlMgSi 0.5 precision profiles
DIN 18000	-	Modular co-ordination in building
DIN 18055	-	Windows; air permeability joints, water tightness and mechanical strain
DIN 18056	-	Window walls; design construction
DIN 18103	-	(Burglar resistant) Doors
DIN 18201	-	Tolerances in building; terminology, principles, application, verification
DIN 18202	-	Dimension tolerance; in building construction
DIN 18203	-	Dimension tolerance; precast /reinforced/ prestressed concrete
DIN 18335	-	Contract procedure for building works; general technical specification for steel construction works
DIN 18357	-	Contract procedure for mounting aluminium fittings
DIN 18358	-	Contract procedure for rolling shutter works
DIN 18360	-	Contract procedure for locksmith works
DIN 18361	-	Contract procedure for glazing works

GENERAL SPECIFICATIONS

ALUMINIUM WORKS (CTD.)

A. STANDARDS AND DIRECTIVES (CTD.)

joint	DIN 18364	-	Contract procedure for works for protection against corrosion of steel and aluminium structures
	DIN 18540	-	Sealing of exterior wall joints in building construction using sealants
	DIN 18801	-	Steel construction in buildings; dimensioning, design, construction
	DIN 18808	-	Steel structures consisting of hollow sections predominantly static loaded
	DIN 55928	-	Protection of steel structures from corrosion by organic metallic coatings
	VDI 2719	-	Sound insulation of windows or comparable British codes and standards e.g.
	CP3	-	Code of basic data for the design of building
	CP 118	-	The structural use of aluminium
	CP 158	-	Windows and roof lighting
	DD 22	-	Tolerance and fits for building
	BS 1470	-	Wrought aluminium and aluminium alloys for general engineering purposes, plate, sheet and strip
	BS 1474	-	Wrought aluminium and aluminium alloys for general engineering purposes, bars, extruded round tubes and sections
	BS 3987	-	Specification for anodic oxide coatings on wrought aluminium for external architectural applications
	BS 4873	-	Aluminium alloy windows, specification
	BS 5950	-	Structural use of steelwork in building
	BS 6262	-	Code of practice for glazing for buildings
	BS 6375	-	Performance of windows
	BS 6496	-	Specification for external architectural purposes etc.

The directives and guidelines of insulating glass suppliers. The guidelines of accident insurers for local authorities. The guidelines of window/facade system manufacturers.

GENERAL SPECIFICATIONS

ALUMINIUM WORKS (CTD.)

A. ALUMINIUM

Extruded aluminium profiles of alloy AlMgSi 0.5F22 in anodizing quality according to DIN 1748 and DIN 17615 are to be used, for anodized sheets ALMg1, for colour-coated ALMg1 or A199.5.

- 01 Special anodizing processes to be taken into account, if determined by the bill of quantities.
- 02 The aluminium system shall be capable of achieving different colours and finishes on the external/internal facade and within the same element.

B. STEEL

Steel parts for anchoring or bracing must either be non-corrosive or galvanized. During mounting all necessary welding points have to be painted with cold zinc galvanizing.

C. SELECTION OF PROFILES

All required sections are to be chosen according to foreseen application and data given by the system manufacturer. Thermally insulated outer and inner profiles must be continuously connected and shear-resistant by insulating bars.

The profiles must safely support all loads as described in DIN 1055. The effective moments of inertia given by the system manufacturer are to be considered when selecting the optimal profile. The principal of thermal break is to be respected in all points of construction. All thermally insulated profiles are determined by the groups of DIN 4108.

Ventilation and drainage of rebate base and front chamber must be foreseen in the aluminium construction system in order to drain off moisture to the outside. The insulating connection of outer and inner section must be water-proof and water-resistant without additional sealing if the connection uses the rebate or front chamber. When using insulating glass the ventilation of the rebate base is to be guaranteed as the insulating glass supplier specifies.

- 01 All minimum and maximum vent sizes and weights as listed in all B.S. profile system are binding.
- 02 The glazing guidelines of the insulating glass supplier and DIN 18056 determining the allowed deflection of mullions and transomes are to be observed.

GENERAL SPECIFICATIONS

ALUMINIUM WORKS (CTD.)

A. PROFILE CONNECTIONS

Corner cleats must have a cross section which corresponds to the interior profile contours. At the mitres a perfect sealing and gluing is required. In T-joints the seeping of water into the construction must be prevented by corresponding packing and elastic sealing.

B. VENT GASKETS

All gaskets are to be inserted in order to fulfil the specific window requirements (type, building height etc.) permanently. The gaskets are to be exchangeable.

01 Side hung, turn-tilt, bottom hung and double vent windows must have a middle gasket.

C. WIND LOADING

The system shall be so designed to suffer no permanent distortion or other damage. Deflections of longer pane edge are not to exceed 1/250 for double glazed units and 1/200 for single glazing. When subjected to positive and negative pressures as determined by and in accordance with BSCP 3 Chapter 5 part 2.

D. THERMAL MOVEMENT

The aluminium framework and glazing assemblies shall be constructed and installed in the prepared locations with sufficient tolerance and, where necessary, expansion joints incorporated within the couplings, to provide for expansion and contraction as will be caused by the climatic conditions and temperature changes, winter, summer, day to night, without buckling, distortion of joints, damage to the sealants or other detrimental effects over the temperature range - 15 deg. C. to 35 deg. C. The design shall accommodate, noiselessly, the thermal movement within the combination units and the curtain walling without distortion. Details shall be prepared based upon the dimensions at 20 deg. C. and take account of the ambient temperatures at the time of assembly and installation.

GENERAL SPECIFICATIONS

ALUMINIUM WORKS (CTD.)

A. DRAINAGE AND VENTILATION OF CONSTRUCTION

All profile rebates where water or condensate could seep in are to be drained off and ventilated by wind-protected slots or through cavities to the outside.

The system shall incorporate an integral and internal condensate collection drainage channel to remove the condensate from within the assembly to the external drainage system.

Provision for the continuity of drainage from the transome to the mullion is to be provided.

No perforation of the internal structural members within areas of drainage will be permitted.

All internal section junctions are to be adequately sealed.

Transome members within sloped glazed areas shall permit water to drain from one area to another without inhibiting the flow and creating pooling.

B. FITTINGS

Construction systems of B.S. are to be assembled or completed by compatible system fittings as specified. Other fittings may be selected but only if fulfilling DIN standards.

01 If not specified in the bill of quantities all fittings except handle and hinges are to be concealed.

02 The fittings are to be attached in its rebates tension and pressure-proof. If required because of profile wall thickness screw connections need nuts and washers.

C. GLAZING AND PANELS

Glass supply and glazing is described separately for each position of the bill of quantities.

01 The glazing is to be executed by permanently elastic, EPDM-gasket.

02 Guidelines and directives of insulating glass suppliers are to be strictly followed.

03 Supply and installation for fixed panels is always described in the position concerned.

04 All glass assemblies shall be tape sealed between the units and within the structural unit zone and prior to the installation of the external gasket and pressure plate.

GENERAL SPECIFICATIONS

ALUMINIUM WORKS (CTD.)

A. BUILDING DIMENSIONS

The exact measurement must be produced by the tenderer himself on site.

- 01 If the client requests the construction to be ready for mounting before the measurement on site can be carried out the tenderer shall determine the assembly dimension together with the client taking into account the tolerance of the building according to DIN.

B. WORKING DRAWINGS

After award of contract the contractor must submit working drawings for specific positions and details as requested by the architect or resident engineer.

C. INSTALLATION OF ELEMENTS

The anchoring of all aluminium elements must neutralize all movements of structure and the elements attached without loading or stress the aluminium construction.

- 01 All mounting of aluminium elements is to be executed exactly in horizontal and vertical alignment according to the measurement points provided by the client.
- 02 All attachment accessories necessary for mounting are to be calculated by the tenderer.

If described in the bill of quantities some anchor rails for attachments will be provided or will be fixed to the structure. In this case the contractor is requested to provide a location plan of required anchoring in time.

- 03 All connecting means, e.g. screws or bolts, must be non-corrosive zinc plated steel.
- 04 All attachments to neighbouring building parts are to be considered when calculating the positions in the bill of quantities.

GENERAL SPECIFICATIONS

ALUMINIUM WORKS (CTD.)

A. GASKETRY AND SEALING

Appropriate EPDM - gaskets or seals are to be inserted according to design, dimensions and its range of application. The gaskets or seals and their elasticity must fulfil all temperature requirements. The contractor shall ensure total alignment of the gasketry in all visible locations.

- 01 Permanent elastic sealing compounds on silicone or thiocol basis are to be applied for sealings. Joints within any area of the system are to be adequately bonded together to produce a watertight joint. The sealing must stick to the construction parts taking into account the shape of elements and the range of existing temperature without loosening when elements move caused by tension to be considered before. All guidelines or sealing compound suppliers are to be respected.

B. ANODIC OXIDATION

The aluminium profiles and sheets are to be anodized according to DIN 17611. Surface treatment, coating and protection is determined by the specifications as described in the bill of quantities.

- 01 After all of contract, the tone of colour is to be defined according to colour samples.
- 02 All visible fittings must suit the profile colour if available.

GENERAL SPECIFICATIONS

IRONMONGERY

- A. The requirements of the following British Standards shall be observed:-

British Standards

- B. B.S. 1227 part 1A Hinges
- C. B.S. 2088 Performance test for locks
- D. B.S. 2911 Letter plates
- E. B.S.4112 Performance requirements for hardware for domestic furniture
- F. NOTE: The Contractor's attention is drawn to Section "M" of the Standard Method of Measurement.
- G. All locks and ironmongery shall be fixed with screws etc. to match, before woodwork is painted, handles shall be removed, carefully stored and refixed after completion of painting and locks oiled and left in perfect working order.
- All keys shall be labelled with the door reference on labels before handing to the Architect on completion. All ironmongery shall be carefully protected until completion of the work and any damage is to be made good at the Contractor's expense.
- H. Rates shall allow for easing and adjusting all doors etc. and for lubricating all locks, hinges etc. and leave in perfect working order.
- I. Where descriptions fixing ironmongery include catalogue numbers, such items shall be obtained from the specified manufacturers if at all possible.
- J. Rates shall include for labelling all keys with door reference as directed by the Architect.

GENERAL SPECIFICATIONS

METALWORK

- A. The requirements of the following British Standards and Codes of practice shall be observed:-

British Standards

- | | | |
|----|----------------------|--|
| B. | B.S. 4 part 1 | Structural steel, Hot rolled screws |
| C. | B.S. 4 part 2 | Structural steel, Hot rolled hollow sections |
| D. | B.S. 325 | Black cup and countersunk bolts and nuts |
| E. | B.S. 916 | Black Bolts, screws and nuts |
| F. | B.S. 4174 | Self tapping screws and metallic drive screws |
| G. | B.S. 405 | Metal washers for general engineering purposes |
| H. | 1161 and engineering | Aluminium and aluminium alloy Sections Addendum for general purposes |
| I. | B.S. 938 | Metal ore welding of structural steel tubes |
| J. | B.S 1856 | Metal or welding of mild steel |
| K. | B.S. 729 part 1 | Hot dip galvanised coating iron and steel articles |
| L. | B.S. 1474 | Wrot aluminium and aluminium alloy |
| M. | B.S. 990 parts 1+2 | Steel windows (Domestic and similar buildings) |

GENERAL SPECIFICATIONS**Codes of Practice**

N.	C.P.499	Metal railings and balustrades
O.	C.P.117	Composite construction in structural steel and concrete
P.	C.P. 2008	Protection of iron and steel structures from corrosion
Q.	C.P. 3012	Cleaning and preparation of metal surfaces.

NOTE:

The Contractor's attention is drawn to Section "P" of the Standard Method of Measurements.

GENERAL SPECIFICATIONS

METALWORK (CTD.)

- A. Iron and steel where galvanised shall comply with the requirements of B.S 729, part 1 entirely coated with fine fabrication by complete immersion in a zinc bath in one operation and all excess carefully removed.

The finished surfaces shall be clean and uniform.

- B. All work in aluminium shall comply with the requirements of the standard mentioned above.
- C. All smithing and bending shall be soundly and neatly executed care being taken not to overheat.
- D. All strap, bolts and similar work shall be forged neat and clean from the anvil.
- E. All welded connections shall be ground to a smooth finish and rates shall be deemed to allow for this.
- F. Steel windows shall comply with the requirements of the Standard mentioned above and shall be fixed in accordance with manufacturer's instructions.
- G. All mild steel except galvanised shall be cleaned of rust and scale, painted one coat red lead priming paint before deliver to site and the rates shall include for this.

GENERAL SPECIFICATIONS

PLUMBING AND ENGINEERING INSTALLATIONS

- A. The requirements of the following British Standards and Codes of practice shall be observed:-

British Standards

- | | | |
|----|--------------------|--|
| B. | B.S 416 | Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fittings. |
| C. | B.S. 2871 part | Copper and copper alloy tubes (for water, gas and sanitation) |
| D. | B.S. 864 part | Capillary and compression fittings of copper and copper alloy |
| E. | B.S 1184 | Copper and copper alloy traps |
| F. | B.S. 4576 | Unplasticised P.V.C. rainwater goods |
| G. | B.S 3974 | Pipe supports |
| H. | B.S 1494 | Fixing accessories for building purposes (gutter bolts, pipe brackets) |
| I. | B.S. 1010 | Draw-off taps and stop valves for water services (screw down pattern) |
| J. | B.S 1212 | part 1 & 2 Ball valves (excluding floats) |
| K. | B.S 2456 | Floats for ball valves (plastic) for cold water |
| L. | B.S 1125 | W.C flushing cisterns |
| M. | B.S 417 Part 1 & 2 | Galvanised mild steel cisterns, covers tanks and cylinders |
| N. | B.S 2760 | Pitch-impregnated fibre pipes and fittings |
| O. | B.S 1387 | Steel cubes and tubulars |
| P. | B.S 4514 | Unplasticized P.V.C. soil and ventilating pipe, fittings and accessories |
| Q. | B.S 3505 | Unplasticized P.V.C. pipes for cold water services |

GENERAL SPECIFICATIONS

PLUMBING AND ENGINEERING INSTALLATIONS (CTD)

British Standards (ctd.)

- A. B.S 143 and 1256 Malleable cast iron and cast copper alloy, screwed pipe fittings
- B. B.S. 78 part 2 and Cast iron spigot and socket pipes
- C. B.S. 1130 (vertically cast) and spigot and socket fittings
- D. B.S 1010 parts 1+2 Draw-off taps and stop valves for water services

Codes of practice

- E. C.P. 304 Sanitary pipework above ground
- F. C.P. 310 Water supply
- G. C.P. 305 Sanitary appliances

NOTE 01. The Contractor's attention is drawn to Section "Q" of the Standard Method of Measurements.

02. The whole of the work shall be executed by an approved licensed Sub-Contractor.

- H. Galvanised mild steel pipes and fittings shall comply with the requirements of B.S 1387 Class "B". The pipes shall be screwed and socketed and put together in hemp and red lead.
- I. Pitched-fibre pipes shall generally comply with requirements of B.S 2760 and shall be obtained from approved manufacturers. The pipes are to be jointed with couplings and fixed to walls with clips, strictly in accordance with the manufacturer's instructions.
- J. P.V.C Pipes for soil and waste shall comply with the Standard mentioned above solvent welded together with seal ring joints where necessary to accommodate movement. Pipes shall be fixed to wall with galvanised mild steel holderbats all to the manufacturer's instructions.
- K. 'Fulbora' Rainwater outlets shall be 100mm, and 150mm diameter as manufactured by Fulbora Limited. (UK) or other equal and approved.
- L. The words "pipe" or "tube" shall be synonymous wherever used herein or in any of the Contract Documents. Pipe sizes stated herein are nominal bore.

GENERAL SPECIFICATIONS

PLUMBING AND ENGINEERING INSTALLATIONS (CTD.)

- A. Rates shall allow for holder-bats at centres not exceeding 1000mm, cutting and priming to concrete block or in situ concrete walls and making good.
- B. Rates for all tubing shall include for all joints in the running length.
- C. Rates for galvanised mild steel tubing not exceeding 20mm diameter shall include for all sockets, connectors, back nuts, plugs, caps, elbows, bonds and made bends, made springs and made effects.
- D. Rates for fittings on pipes shall include for all cutting and fitting of pipes to same.
- E. The sizes stated of reducing fittings are those of tubes which will be attached to fittings and rates shall include for any additional socket reducers necessary to obtain the stated reduction should it be impossible, to accomplish this with only one fitting.
- F. Pipes shall be fixed at least 25mm clear between socket and wall face. Cast iron holderbats shall be fixed at centres not more than 2 metres. Eared pipes must not be used.
- G. All the plumbing and engineering installation shall be tested as instructed and any work not found satisfactory shall be made good at the Contractor's expense.
- H. Where tubing is laid in trenches care shall be taken to ensure that fittings are not strained.
- I. All tubing described as chased into walls shall have the wall face neatly out and chased, the tubing wedged and fixed and plastered over.
- J. All formed bends shall be made so as to retain the full diameter of the pipe.
- K. Cast iron pipes shall be jointed with asbestos yarn and calked with another lead or jointed with special jointing compounds all to be approved.
- L. All brasswork and fittings shall conform with the requirements of the Standard mentioned above. Such fittings shall be either high or low pressure, in accordance with the recommendations of the local Authority. At commencement of the Contract the Contractor shall ask the Architect for guidance on this point.
- M. All sanitary fittings shall be properly cleaned, polished and left to the satisfaction of the Architect on completion.

GENERAL SPECIFICATIONS

ELECTRICAL INSTALLATION

NOTE: The Contractor's attention is drawn to Section "R" of the Standard Method of Measurement.

- A. All electrical work shall be carried out under close supervision of a licensed operative of an approved firm of registered Electrical Contractors.
- B. All electrical work shall be executed in strict accordance with the latest editions of the British Standards and other Government Regulations.
- C. The main Contractor shall at all time co-ordinate his own work and that of all Sub-Contractors with the work of the Electrical Sub-Contractor.
- D. Special care shall be executed to ensure that all necessary cable trenches are completed before other subsequent floors, paths etc. including the provision of cable ducts, chases, sinking and the like.
- E. No patching up of floors, pavings, plasterwork etc. will be permitted and where, work has to be rebuilt or re-executed due to lack of planning of Sub-Contractor's work, the Contractor will be held responsible for all costs and expenses arising there from.

GENERAL SPECIFICATIONS

FLOOR, WALL AND CEILING FINISHES

- A. The Contractor's attention is drawn to Section "S" of the Standard Method of Measurement and the requirements of the following British Standards and Codes of Practice shall be observed:-

British Standards

- | | | |
|----|-----------------------------|--|
| B. | B.S. 1191 Part 1
Class B | Gypsum building plaster (excluding
premixed light weight plasters) |
| C. | B.S. 1193 | Sands for internal plastering with gypsum plasters |
| D. | B.S. 1199 Table 1 | Sands for external renderings, internal plastering with lime
and Portland Cement, and floor screeds |
| E. | B.S. 1201 | Aggregate for granolithic concrete floor finishes |
| F. | B.S. 1281 | Glazed ceramic tiles and tile fittings for internal walls |
| G. | B.S. 1369 | Metal lathing (steel for plastering) |
| H. | B.S. 890 Class A | Building limes |
| I. | B.S. 1187 | Wood Block for floors |

Codes of Practice

- | | | |
|----|---------------------|---|
| J. | C.P. 211 | Internal plastering |
| K. | C.P. 221 | External rendered finishes |
| L. | C.P. 204 | In-situ floor finishes |
| M. | C.P. 202 | Tile flooring and slab flooring |
| N. | C.P. 203 | Sheet and tile flooring (cock, linoleum, plastics and rubber) |
| O. | C.P. 212 part 1 + 2 | Wall tiling |
| P. | C.P. 209 | Care and maintenance of floor surface |

GENERAL SPECIFICATIONS

FLOOR, WALL AND CEILING FINISHES (CTD.)

Materials and workmanship

- A. Cement shall be as described in "Concrete"
- B. Sand shall comply with the requirements of the Standards mentioned earlier.
- C. Lime shall be non-hydraulic lime to satisfy the Standards mentioned above. It shall be obtained from an approved source. It must be freshly burnt and shall be slaked at least one month before being used by drenching with water, well broken up and mixed and the wet mixture shall be passed through a sieve of 10 meshes to the square centimetre. Lime putty shall consist of freshly slaked lime as described above saturated with water until semi-fluid and passed through a fine sieve, it shall then be allowed to stand until superfluous water has evaporated and it has become of consistency of thick paste, in no case for a shorter period of one month before being used during which it must be kept damp and clean and no portion of it allowed to become dry.

Alternatively, hydrated lime with 70% average calcium oxide content may be used and it must be protected from damp until required for use. It shall be soaked to a putty at least 24 hours before use.

- D. All concrete beds or slabs shall be thoroughly brushed clean, hatched if necessary and well wetted and flushed over with a cement and sand (1:1) grout immediately before screeds or paving are laid.

Screeds and cement paving shall be laid in accordance with the relevant British Standards and/or Code of Practice and in alternate bays generally not exceeding 3.0m during any period of dry hours with neat butt joints and shall be damp cured with sand or sawdust and kept damp for at least 7 days after laying.

As bays are formed batten strips must be used retain the exposed edge of the screed.

Thicknesses and mixes of screeds are adjusted to suit the various top dressing and the Contractor must first ascertain what finish is intended to each specific area before the work of the laying screeds is put in hand.

Screeds shall be finished with a wood float for wood blocks and steel trowel for thermoplastic and similar tiles.

- E. All surface to be plastered must be brushed clean and well wetted before plaster is applied. Joints of walling shall be raked and concrete hacked to form a key. Care shall be taken to see that paving and plastering do not dry out prematurely. Adequate time intervals must be left between successive coats in two coat work in order that the drying shrinkage of the undercoat may be substantially complete.

GENERAL SPECIFICATIONS

FLOOR, WALL AND CEILING FINISHES (CTD.)

A. Internal Lime Plaster

- i. To be applied in minimum two coats to finish not less than 12mm total thickness.
The rendering
coat shall be in the proportion of cement and sand (1:4) and the finishing coat not less than
1.50mm thick shall consist of fine sieved lime putty with 10% of cement thoroughly incorporated
immediately before use, trowel led hard and smooth with a steel trowel and sprinkled with water
during the process.
- ii. The first coat must be well scored to form a key and at least fourteen days must elapse between
the completion of any portion of the rendering coat and application of the finishing coat.

B. External cement and sand rendering shall consist of cement and sand (1:4) applied in two coats and finished with a wood float.

C. If required the Contractor shall prepare samples of the screeds, pavings and plastering as directed until the quality, texture and finish required is obtained and approved by the Architect, after which all work executed shall conform with the respective approved samples.

D. All screeds and pavings shall be finished smooth, even and truly level, unless otherwise specified and paving shall be steel trowel led.

E. Rendering and plastering shall be finished plumb, square, smooth, hard and even and junctions between surfaces shall be perfectly true straight and square.

All work not found to be of satisfactory standard shall be hacked away and made good at the Contractor's expense.

F. Partially or wholly set materials will not be allowed to be used or re-mixed. The plaster etc., mixes must be used within two hours of being combined with water.

G. Granolithic topping is to be in two layers to the total thickness shown on the Drawings and the topping shall consist of one part coloured cement to two parts aggregate shall be 70% black trap and remainder approved local coloured stones.

Colours shall be as selected by the Architect.

Paving shall be rolled and trowel led to a dense even surface and rubbed down at completion, to a grit finished surface free from holes and blemishes. The paving shall be laid in squares divided by plastic strips anchored securely in the screed and having their top edge truly level with the finished floor surface. The granolithic work shall be laid and polished complete to the approval of the Architect.

GENERAL SPECIFICATIONS

FLOOR, WALL AND CEILING FINISHES (CTD.)

- A. Wood block flooring shall comply with the requirements of B.S.1187 mentioned above and shall be dipped in a cold latex bitumen emulsion adhesive before laying. Any one package or bundle shall contain wood blocks of a single species, thickness, width length and type of manufacture only. The pattern shall be approved by the Architect.
- B. Wood parquet flooring shall comply with relevant standards and shall be laid using an approved adhesive in accordance with manufacturer's instructions.
- C. P.V.C. coverings shall satisfy the Standard mentioned above and shall be obtained from an approved manufacturer's agent. Floor tiles shall be Dunlop or other equal and approved. Rates shall include for two of an approved emulsion floor polish or other protective coating.
- D. Glazed wall tiles shall be cushion edged and satisfy the relevant Standard as mentioned earlier. Tiles shall be well soaked in water laid with straight horizontal and vertical joints painted in white cement and cleared down at completion.

Tiles joints of 2mm width shall be formed and filled with the redding mix but using very fine, well screened sand, care shall be taken that tiles are not over soaked and water sheen shall be avoided during fixing.

The fixed tiles shall be kept damp for 4 days. Tiles as splash backs to lavatory basins, sinks, and baths shall be fixed with necessary rounded-edge and corner tiles.

Rates for linear items shall allow for all special fittings and cutting at angles and intersections.

- E. Rates for insitu work shall allow for raking out joints walling or hacking of treating with an approved bonding fluid, hacking concrete to form key, dubbing out irregular surfaces of base to provide a finished surface in the same plane as the surrounding surface, cutting out cracks, making good and leaving the whole of the work sound and prefect on completion.
- F. Rates shall also allow for fair edges, whether square, splayed or rounded, arrises, chamfered external angles not exceeding 25mm wide, rounded external angles not exceeding 25mm radius coved internal angles not exceeding 25mm radius, intersections to groins and the like, and for making good around pipe, brackets, floor spring boxes and all other items of a like nature.
- G. Rates for all linear items shall allow for all short lengths, angles, end and arrises, metres and intersections and the like.

GENERAL SPECIFICATIONS

FLOOR, WALL AND CEILING FINISHES (CTD.)

- A. Rates for all paving shall allow for adequate covering protection during the progress of the works to ensure that the floors are handed over in perfect condition on completion.
- B. Rates for external rendering shall allow for work at any height and for any scaffolding, ladders, cradles etc. required.
- C. Terrazzo pavings: Aggregate for terrazzo shall be good quality marble or other natural stone of similar characteristics, hard angular in shape, free from clay, iron oxide and other foreign matter, graded from 10mm to 6mm unless otherwise specified and without excessive content of fines or dust. The source of supply and the colour are to be approved by the Architect before bulk ordering.
Terrazzo flooring must be laid and finished by an approved specialist Sub-Contractor.

All base surfaces must be thoroughly cleaned to remove dust, dirt, rust, oil and loose material.

Terrazzo shall be laid in two courses as follows:

- (a) Base course: cement- sand screed 1:3, not less than 20mm thick, followed immediately by
- (b) Topping terrazzo mix as specified, not less than 20mm finished thickness.
- (c) Skirtings are to be 6mm thick on a screed not less than 10mm thick.

Terrazzo bays shall not be more than 1M2 and joints shall be formed with plastic or aluminium strips set out to an approved pattern. Strips must be carried through the backings screed and finish flush with the floor surface.

Tamp lightly immediately after laying and compaction trowel lightly, taking care to avoid excessive laitance on the surface. Not less than 3 days after laying, rough polish by an approved mechanical means using water. Grout with a fine mix reserved from the initial mix. Not less than 8 days after grouting, fine polish by an approved mechanical means using water to a texture approved by the Architect.

GENERAL SPECIFICATIONS

FLOOR, WALL AND CEILING FINISHES (CTD.)

- A. Terrazzo floor tiles shall be to B.S. 4131 of approved manufacturer. The faces of tiles must be free from projections, depressions, flakes and crazes. The overall colour must be practically uniform in any one delivery. The facing level must not be less than 6mm thick after grinding.

Unless otherwise specified or approved by the Architect, tiles are to be 197mm x 197mm x 22mm.

- B. Mosaic finishes: Mosaic finishes shall comply with the requirements of B.S Code of practice CP 212 part 2.

- C. Quarry tile finishes: Quarry tile finishes shall comply with the requirements of B.S 1286

- D. Granite cladding and flooring: Granite cladding and flooring shall be strictly in accordance with the requirements of CP 202 and CP 298.

Flooring granite shall have an abrasion factor not higher than 11%.

The exposed surfaces shall be finished in accordance with an approved sample at each situation.

GENERAL SPECIFICATIONS

GLAZING

- A. The Contractor's attention is drawn to Section "T" of the Standard Method of Measurements and the requirements of the following British Standards and Code of Practice shall be observed:-

British Standard

- B. B.S 952 Glass for glazing
- C. B.S. 544 Linseed oil putty for use in wooden frames

Codes of Practice

- D. C.P. 152 Glazing and fixing of glass for buildings
- E. The whole of the glass shall be of the best quality and be free from bubbles, specks, waves, flaws or any other defects and shall comply with the requirements of the standard mentioned above.
- F. All glass is to be accurately cut to fit easily into rebates. Glass shall be well puttied and sprigged with copper springs.
- G. Glazing to wood frames shall be secured with glazing beads fixed with brass caps and screws and wash leather or approved "Neoprene" beading strips. Putty for glazing in wood frames shall be composed of pure linseed oil and powdered whiting, free from grittiness all in accordance with the standard mentioned above.
- H. Glazing to metal frames shall be with clips, glass shall be properly back puttied and the front putty finished neatly and cleanly.

Putty for glazing in metal frames shall be quick hard setting tropical putty specially manufactured for use with steel windows.

Rebates of metal frames receiving glass shall be prepared and treated with primer for putty prior to glazing and putty shall be primed 10 days after glazing.

- I. Rates for glazing Georgian wired glass shall include for aligning lines in adjoining panes both ways.
- J. Glass panes shall be cut to sizes to fit the openings with not more than 1.6mm play all round. Clear sheet shall be ordinary glazing (O Q) quality and polished plate shall be (GG) quality.

GENERAL SPECIFICATIONS

GLAZING (CTD.)

A. Mirrors

To be selected glazing (S.G) quality plate glass mirrors of approved manufacturer with bevelled edge and fixed at all corners to walls with rawl plugs and brass screws with removable chromium plated dome heads.

- B. Cut out all cracked or broken glass re-glazed to match and leave perfect on completion. On no account shall windows be cleaned by scraping with glass.

PAINTING AND DECORATING

- A. The Contractor's attention is drawn to Section "U" of the Standard Method of Measurement and the requirements of the following British Standards and Codes of Practice shall be observed:-

British Standards

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|----|-----------------|---|
| B. | B.S 2521 + 2523 | Lead based joint |
| C. | B.S. 3698 | Calcium plumbate priming paints |
| D. | B.S. 4756 | Ready mixed aluminium priming paints for woodwork |
| E. | B.S. 1336 | Knotting |
| F. | B.S. 3842 | Treatment of plywood with preservatives |
| G. | B.S 4800 | Paint colours for building purposes |
| H. | B.S. 2660 | Colours for building and decorative paints |
| I. | B.S. 2524 | Red-Oxide-Flaxseed oil priming paint |
| J. | B.S. 2525-7 | Undercoating and finishing paints |
| K. | B.S. 1215 | Oil stains |

Codes of Practice

- | | | |
|----|---|---|
| L. | C.P. 231 | Painting for buildings |
| M. | C.P. 3012 | Cleaning and preparations of metal surfaces |
| N. | <u>All work</u> under this trade must be executed by an approved specialist unless otherwise permitted. | |
| O. | <u>The Contractor's Programme</u> in this area shall be so arranged that all other trades are completed and away from the area to be painted prior to the commencement of painting. Before painting the Contractor must remove all concrete and mortar droppings and the like | |

GENERAL SPECIFICATIONS

from all work to be decorated and remove all strains from and obtain uniform colour to work to be oiled and polished.

PAINTING AND DECORATING (CTD.)

- A. All plaster, metal, wood or other surfaces which are to receive finishes of paint, stain, polish, distemper or paint work of any description are to be carefully inspected by the Contractor before he allows any of his painters to commence work. The Contractor will be held solely responsible for all defective work as a result of his painters' failure to insist on receiving from the other trades surfaces in the proper condition to allow first class finishes to the various kinds specified being applied to them.
- B. All painting and decorating schemes shall be carried out in colours selected by the Architects.
- C. Paints shall be ready mixed, oil based priming paint shall comply with the requirements of the relevant standards mentioned earlier.
- D. The oil shall comply with the requirements of B.S 1215.
- E. All materials shall be of the best quality and shall be of an approved proprietary brand selected from the latest Schedule of Approved Paints issued by the Ministry of Works.
- F. Materials to be applied externally shall be of exterior quality and/or recommended by the manufacturers for external use.
- G. Materials shall be delivered to site intact in the original sealed drums or tins and shall be mixed and applied strictly in accordance with the manufacturer's instructions and to the approval of the Architect.

Unless specifically instructed or approved by the Architect, no paints, distemper etc. are to be thinned or otherwise adulterated, but are to be used as supplied by the manufacturers and direct from the tins.

- H. If required by the Architect the Contractor shall provide at his own expense samples of paints etc. with containers and cases to be forwarded, carriage paid, by the Contractor for analysis to a laboratory.
- I. The priming, undercoat, and finishing coats shall each be of differing tints, and the priming and undercoat shall be the correct brands and tins to suit the respective finishing coats, in accordance with the manufacturer's instructions. All finishing coats shall be of colours and tints selected by the Architect. Each coat must be approved by the Architect before the next coat is applied.
- J. Each coat shall be properly dry and in the case of oil or enamel paints shall be well rubbed down with fine glass paper before the next is applied. The paintwork shall be finished smooth and free from brush marks.

GENERAL SPECIFICATIONS

PAINTING AND DECORATING (CTD.)

- A. Colour cards of all paints etc. shall be submitted t, and samples prepared for approval of the Architect before laying on, and such samples, when approved, shall become the standard for the works.
- B. All paints, emulsion paints, and distempers shall be applied by means of a brush or spray gun or rollers of an approved type, where so agreed by the Architect.
- C. No painting is to be done in wet weather or on surfaces which are not thoroughly dry.
- D. Woodwork to be painted shall be rubbed down and all knots and resin pockets shall be scorched back and coated with knotting. After priming all nail holes and other imperfections shall be stopped and the whole surface be rubbed down and all dust brushed off. The surface of woodwork shall be lightly sand prepared between the coats.
- E. All woodwork in contact with walling or plaster shall be treated after cutting and preparations but before assembly or fixing with one coat of "Timside" wood preservative manufactured by Timsales, P.O. BOX 18080, Nairobi. the solution is to be brushed on all faces of all timbers, unless exposed to view and painted. The Contractor shall note that this solution is poisonous and shall take all necessary precautions and instruct his workmen accordingly.
- F. Wax polish shall be furniture polish of an approved brand, and wood surfaces shall be clean smooth free from oil or grease or any other blemishes. A minimum of two coats shall be applied to approval.
- G. Plaster surfaces shall be perfectly smooth free from defects and ready for decorations. All such surfaces shall be allowed to dry a minimum period of six weeks, stopped with approved plaster compound stopping and rubbed down flush as necessary, and then thoroughly, immediately prior to decorating.
- H. Plaster Surfaces which are to be finished with emulsion, oil or enamel paint, shall be primed with an alkali resisting primer complying with the particular paint manufacturer's specifications and applied in accordance with their instructions.
- I. Fibre board or similar surfaces shall be lightly brushed down to remove all dirt, dust and loose particles and have all nail holes or other defects stopped with an approved plaster compound stopping rubbed down flush and left with a texture to match surrounding materials and shall receive one coat petrifying liquid at last or two coats polyurethane or clear lacquer.

GENERAL SPECIFICATIONS

PAINTING AND DECORATING (CTD.)

- A. All metal surfaces shall be thoroughly brushed down with wire brushes and scraped where necessary to remove all scale, rust etc. immediately prior to decorating. Where severe rust exists and if approved by the Architect a proprietary de-rusting solution may be used in accordance with the manufacturer's instructions.
- B. Shop primed and unprimed surfaces shall be given one coat of metal chromate primer.
- C. Galvanised surfaces shall be treated before painting with an approved proprietary or de-greasing solution before priming.
- D. Coated surfaces already treated with bituminous solution shall be scrapped to remove soft parts and then receive two isolating coats of aluminium primer or other approved anti-tar primer.
- E. Existing painted and decorated surfaces shall be prepared as described above. Painted plaster, metal or wood surfaces shall then be rubbed down to expose the material beneath and old paint burnt off with blow torches if necessary in the Architect's opinion.
- F. Emulsion paint on ceilings and all undercoats of emulsions paint and complete oil painting on walls shall be completed before PVC floorings are laid. Final coats of emulsion paints on walls shall be applied after such flooring has been laid complete.
- G. Three coats of emulsion paints shall be applied to receiving surfaces using a thinning medium or water only if and as recommended by the manufacturer. An approved plaster primer tinted to match may be substituted for the first coat.
- H. Enamel paint shall be applied in two undercoats and one finishing coat after preparation and priming as specified above.
- I. All ironmongery shall be removed from joinery steel windows and louvre before painting is commenced and shall be cleaned and renovated if necessary and refixed after completion of painting.
- J. Rates for painting shall be deemed to include for preparing and priming surfaces above described.
- K. Rates for paints, distemper etc. shall allow for covering up all floors, fittings, etc with dust sheets when executing the work and for removing, covering when no longer required and for cleaning off, touching up and leaving perfect at completion.

GENERAL SPECIFICATIONS

DRAINAGE

- A. The contractor's attention is drawn to Section "V" of the Standard Method of Measurement and the requirements of the following British Standards and Codes of Practice shall be observed:-

British Standards

- | | | |
|----|-------------------|--|
| B. | B.S 556 Parts 1+2 | Concrete cylindrical pipes and fittings (including manholes, inspection chambers and street gullies) |
| C. | B.S. 4101 | Concrete unreinforced tubes and fittings (with ogee joints for surface water drainage) |
| D. | B.S. 437 part 1 | Cast iron spigot and socket drain pipes and fittings |
| E. | B.S. 1247 | Manhole step irons (in malleable cast iron) |
| F. | B.S. 2760 | Pitch-impregnated fibre drainage pipes and fittings |
| G. | B.S 1211 | Centrifugally cast (spun) iron pressure pipes for water, gas and sewage |
| H. | B.S. 1130 | Cast iron drain fittings |

Codes of practice

- | | | |
|----|-----------|-------------------|
| I. | C.P.301 | Building drainage |
| J. | C.P. 2005 | Sewerage |
| K. | C.P. 2010 | Pipelines |
- L. The preambles and other clauses as directed to "Excavating" "concreting" "Walling" and paving are to apply where relevant to the items of this Bill.
- M. Cast iron drain pipes shall be coated cast spigot and socket pipes conforming with B.S 437 in all respects and with fittings of B.S 1130 referred to above. Pipes shall be jointed with asbestos yarn and caulked with molten lead or jointed with special jointing compound all to approval.
- N. Concrete drain pipes shall be spigot and socket pipes of approved local manufacturer and complying with the requirements of the relevant Standard mentioned above. Pipes shall be jointed with tarred spun yarn and cement and sand (1:2) neatly haunched.

GENERAL SPECIFICATIONS

DRAINAGE (CTD.)

- A. Pitch-impregnated fibre pipes shall comply with the requirements of B.S 2760 and of approved manufacturer. Joints shall be made with straight couplings in accordance with the Standard and the laying, cutting and jointing shall be carried out, strictly in accordance with manufacturer's printed instructions.

The pipes are obtainable from Key Terrain Limited. (UK) or Crown Paints Limited., Nairobi.

- B. Drainpipes have been measured over all bends, junctions and other fittings and the Contractor shall include in his prices for all joints, short lengths, cutting and waste. Rates for bends, junctions etc. shall include for the extra joints, cutting and waste and any labour required.
- C. Lines of drains shall be accurately set out and trenches excavated and bottom trimmed to accurate gradients to approval before pipe laying commences.
- D. Generally the drainage is to be executed in suitable sections to cause the minimum interference to the continual use of any existing drains. The location and depths of any existing drains shall be ascertained before other work is commenced and the rates are to include for all costs of complying with this requirement.
- E. Excavations for drain trenches shall be not less than 300mm wider than the external diameter of the pipes and rates shall include for grading ground under beds, carefully filling in earth to avoid damaging pipes, ramming and carting away surplus excavated material, keeping excavations free from water, if necessary executing such works and installing such pumps as may be required to keep the excavations dry at all times, and any necessary planking and strutting.
- F. No subsoil water shall be discharged into the sewers without the written permission of the architect.
- G. Excavations shall be made to such depths and dimensions as may be required by the Architect to obtain proper falls and firm foundations. No permanent construction shall be commenced on any bottom until the excavation has been examined and approved by the architect. Should Contractor in error or without the instructions of the Architect, make any excavation below the required level of the drain or bed, as the case be, he will be required to refill such excavation to the correct levels with concrete (1:4:8 - 38mm gauge).

Rates shall include for excavating in all materials met with and for trimming bottoms to the necessary falls and working space.

GENERAL SPECIFICATIONS

DRAINAGE (CTD.)

- A. The first back filling of pipe trenches is to be soft material free from stone and shall be watered and carefully tamped over and around the pipes in 300mm layers until they are covered to a depth of 600mm. Subsequent filling is to be in 150mm layers watered and rammed, only materials approved by the Architect are to be used as backfilling.
- B. Where hardcore is used for backfilling it is not to exceed 150mm gauge and all interstices shall be properly filled with small pieces and fine binder. Surplus excavated materials are to be removed from site.

If in the opinion of the Architect care has not been exercised in refilling trenches, he may order a fresh test to be made on the drain. In the event of the drain failing to pass the test the contractor will be required to remedy the fault at his expense.

- C. Concrete beds and surrounds shall be of concrete 1:3:6 - 20mm gauge to the thickness falls, and widths specified. Hollows shall be left to receive the collar of the pipe, so that the pipes sufficiently wide to form hard-holds to permit the joining of pipes, and after resting drains shall be haunched to both sides to half the diameter of the pipe in similar concrete.

Where pipes are specified to be surrounded, the concrete shall be carried up from the bed in a square section with a minimum of 150mm in thickness over the barrel of the pipe.

- D. Rates for beds and surrounds shall include for forming recesses and filling with concrete, for mortar layer etc. and for any necessary formwork.
- E. Each pipe shall be carefully examined on arrival, any defective pipes shall be removed immediately from the site and not used in the works. Minor damage to the protective coating of cast iron pipes shall be made good by painting with hot tar; if major defects in the coating exists such pipes shall be rejected and removed from the site.
- F. Drains are to be laid in a straight line from point to point and each pipe is to be properly bowed in so that the invert is a true and even gradient in order to achieve a fall giving a self cleansing velocity. The Contractor shall provide suitable equipment and set up and maintain all sight rails, bowing rods, and bench marks etc. necessary for the purpose.
- G. All drains shall be kept free from earth Debris, superfluous cement and other obstructions or water during laying and until completion of the Contract when they shall be handed over in a clean condition.

GENERAL SPECIFICATIONS

DRAINAGE (CTD.)

- A. Pipes shall be laid with sockets leading uphill and shall rest on solid and even foundations for the full lengths of the barrel, socket recesses shall be formed in the foundations, as short as practicable but sufficiently deep to allow the pipe jointer room to work right round the pipe. Such recesses shall be filled with cement mortar (1:4) on completion of laying.
- B. All joints are to be accurately made by butting the pipes together, caulking with tarred rope neat cement finished externally with a bold fillet neatly pointed. As each pipe is laid it is to be drawn with a badger and left free of all obstructions.
- C. Rates of bends junctions and other fittings in drains shall include all cutting and waste and extra joints.
- D. The testing of drains shall be done at completion and before the trenches are filled in. They shall be tested in the presence of the Architect and a representative of the Local Authority by filling with water having a head not less than 1.5m at the highest point of the section under test. A second and similar test may be applied, after the drain trenches are filled in and the work complete.
- E. Manholes shall be constructed in the positions indicated on the Drawings or as required by the Architects. Such chambers shall be to the depths required to obtain even gradients in the drain and of sufficient size to contain the requisite main channel and any branches thereto and all the entire satisfaction of the Architect and Local Authority.
- F. Rendering to manholes shall be trowelled smooth coved at all internal angles and rounded at arrises.
- G. Manholes are to be tested for water- tightness in the same way as to drains by filling with water but not exceeding 1.5m head. The contractor shall supply all testing apparatus and materials necessary for these tests and provide all labour and assistance required. Any failure whatsoever in the drainage system to withstand the specified tests and any defects appearing are to be made good and the drains re-tested to the satisfaction of the Architect and Local Authority.
- H. For connections to public drainage the Contractor shall make all arrangements with the Local Authority and pay all fees that may be required for connections to main sewers.

GENERAL SPECIFICATIONS**EXTERNAL WORKS**

- A. Contractor's attention is drawn to the requirements of the following British Standards and shall be observed:-

British Standards

- B. B.S 1621 Bitumen Macadam (with crushed rock or slag aggregate)
- C. B.S. 340 Precast concrete kerbs, channels, edgings and quadrants.
- D. B.S. 368 Precast Concrete flags
- E. B.S. 4428 General Landscape operations (excluding hard surfaces)
- F. B.S. 3882 Recommendations and classification for top soil
- G. B.S 3936 Nursery stock
- H. B.S 3998 Recommendations for tree work
- I. Preamble to preceding trades where applicable shall apply equally to the work contained herein.

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

SPECIAL NOTES

1. This is a FIXED PRICE CONTRACT and NO PRICE FLUCTUATIONS will be allowed.
2. The Tenderer is advised to visit the site before pricing these bills.
3. The Tender Sum must be inclusive of all taxes as required by the Government of Kenya including VAT at current rate. VAT and Capacity Building Levy shall be added at the main summary page.
4. Should the Contractor be in doubt about the precise meaning of any item or figure for any reason whatsoever, he must inform the Architect/ the Quantity Surveyor in order that the correct meaning may be decided before the date of submission of tenders.
5. No liability will be accepted nor any claim allowed in respect of errors in the Contractor's tender due to mistakes in these Bills of Quantities which should have been rectified in the manner described above.
6. The Bills of Quantities shall be read in conjunction with the Technical Specifications, and Drawings.
7. The quantities given in the Bills of Quantities are estimated and partly provisional and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Architect and the Quantity Surveyor and valued at the rates and prices tender in the priced Bills of Quantities, where applicable, and otherwise at such rates and prices as the Architect may fix within the terms of the Contract.
8. The rates and prices in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract (Conditions of Contract for Building Works, issued by the public procurement oversight authority excepting in so far as may be deleted/varied herein or thereafter) include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
9. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

10. Provisional Sums and contingency sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Architect.
11. Should a tenderer/contractor not price any item in any section of the Bills of Quantities including Preliminary items, it will be assumed that he/she has spread its cost in other areas that he/she will have priced. Therefore, the item or items will be executed without any additional costs or without being treated like variations.

PREAMBLES

1. The method of measurement of completed work for payment shall be in accordance with the standard method of measurement of building and associated civil works for Eastern Africa (June 2008 edition)
2. The Site is situated in the University of Embu. It is approximately 130 kilometers from Nairobi. Access to the site shall be through the University's Gate C and the road to the Learning Center. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor shall visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.
3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.
4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the University Architect during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Architect.
5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.
6. The Contractor shall carry out the various sections of the Works in such an order as the Architect may direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical

PROPOSED FARM RELOCATION (PHASE 1) FOR THE UNIVERSITY OF EMBU

and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.

7. The Main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub-Contractor involve.
8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession or any other period that shall be agreed with the Architect. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. No claim for extension of time due to the normal inclement weather for this area shall be entertained.
9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates thereof. This Chart shall be agreed with the Architect and no deviation from the order set out in it will be permitted without the written consent of the Architect. The Contractor will be responsible for arranging the above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.
10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progress on all important items of each section or portion of the Works.
11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Architect. The photographs shall provide a record of the site and adjacent are as prior to the commencement of the Works and shall cover such portion of the works in progress and completion as the Architect shall direct. All prints shall be

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full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect within two weeks of exposure.

12. Figured dimensions are to be followed in preference to dimensions scaled from the drawings, but whenever possible dimensions are to be taken on the site or from the buildings. Before any work is commenced by Sub- Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.
13. Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, water pipes or other services in the are and he shall make whatever provisions may be required by the Authorities concerned for the support and protection of such services. Any damage or disturbance caused to any services shall be reported immediately to the Architect and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging if necessary, to locate precisely the position and details of the services which are likely to affect his operations.
14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.
15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundary of the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Architect.
16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.

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17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub-contractors). If need be, he shall make arrangements with the Local Water Authority for the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.
18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection there with.
19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractor directions and instruction from the Architect, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of the Architect.
20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard-rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.
21. The are as available to the Contractor for work yards, offices and other facilities shall be directed by the Architect and any existing features to remain shall be protected from damage throughout the Contract Period and handed back in good condition when they are vacated at the end of the Contract. If additional areas are required, the contractor shall source them at own cost.

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22. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.
23. The Contractor must take steps necessary to safe guard and shall beheld fully responsible for any damage caused to existing and adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.
24. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Architect.
25. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998. Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-up of his rates.
26. The Contractor shall provide temporary sheds, offices, mesh rooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.
27. Contractor shall provide/build labor camps at areas to be agreed with the Architect. Labor camps shall be complete with sanitary accommodation and fencing gates.
28. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and

PROPOSED FARM RELOCATION (PHASE 1) FOR THE UNIVERSITY OF EMBU

sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.

29. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.
30. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.
31. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.
32. The Contractor shall take all necessary precautions such as temporary fencing, hoarding fans, planked footways, guard-rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.
33. Cover up all and protect from damage, including damage from inclement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion of the Contract.
34. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Architect, sheds, camps, etc. Particular care shall be taken to leave clean all floors and windows and to remove all paint and cement all rubbish and dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.

PROPOSED FARM RELOCATION (PHASE 1) FOR THE UNIVERSITY OF EMBU

35. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.
36. The Contractors shall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Architect. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure for submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Architect. The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.
37. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all interim payments for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting there from in the build-up of rates.
38. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.
39. The Contractor attention is drawn to Finance Bill where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT as instructed elsewhere. Further the attention to the Contractor is drawn to Public Procurement Capacity Building Levy Order of 2023, which introduced a levy in the amount of 0.03% of the value of the contract sum exclusive of applicable taxes. The Tenderer must allow for this levy as shown elsewhere in the Bills of Quantities.

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40. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
(PHASE 1)

ITEM	PARTICULARS	KES	CTS
A	<p><u>DEFINITION OF TERMS</u></p> <p>The following terms, whenever used hereinafter and in all Contract Documents shall be interpreted as hereunder:-</p> <p>a) “Employer/Client/Procuring Entity” shall be held to mean The Vice Chancellor, University of Embu of P. O. Box 6-60100, Embu</p> <p>b) “The Architect” shall be held to mean The Architect, University of Embu of P. O. Box 6-60100, Embu</p> <p>c) “The Quantity Surveyor” shall be held to mean The Quantity Surveyor, University of Embu of P. O. Box 6-60100, Embu</p> <p>c) “The Structural Engineer” shall be held to mean Mirsa & Associates Ltd of P. O. Box 54904-00200 Nairobi.</p> <p>c) “The Services Engineer” shall be held to mean Associated Services Ltd P. O. Box 55284-00200 Nairobi.</p> <p>d) “Contractor” shall be held to mean the person or persons partnership, firm or company whose tender for the Works has been accepted and who has or have signed a written Contract with the Employer and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.</p> <p>e) “Employer/Client's Representative” – shall be held to mean persons duly authorised to represent the Employer or the successors in office of such persons and also such persons as may be deputed by such representatives to act on their behalf for the purpose of this Contract.</p> <p>f) “Works” shall be held to mean all or any portion of work, materials and articles wherever the same are being manufactured or prepared which are to be used in the execution of this Contract, and whether the same be on the site of the building or not.</p> <p>It shall also be deemed to include the work of all sub-contractors and all variations.</p> <p>g) “Contract” shall be held to mean the Quotation, Articles of Agreement and Conditions of Contract, form of bond, Drawings and priced and signed Bills of Quantities.</p>		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
(PHASE 1)

ITEM	PARTICULARS	KES	CTS
	<p><u>DEFINITION OF TERMS CTD</u></p> <p>h) “Site” shall be held to mean the Lands and other places on, under, in or through which the works are to be executed or carried out and other lands or places provided by the Employer for the purpose of the Contract.</p> <p>i) “Approved, Directed and Selected” shall be held to mean the approval, direction and selection of or by the Employer or Employers Representative.</p> <p>j) “Singular and plural” – words importing the singular only shall also include the plural and vice versa where the context requires.</p> <p>k) “remove” shall mean taking down, dismantling, hacking up, breaking down etc. and clearing from site or as directed.</p>		
A	<p><u>LOCATION OF SITE</u></p> <p>The site is situated within the Municipality of Embu within Embu County, approximately 139 km from Nairobi by road. The site for the works is located within the University of Embu.</p> <p>The Contractor shall be deemed to have visited the site (at his own cost) and satisfied himself as to:</p> <p>(a) The nature of the site.</p> <p>(b) The amount of bush, rubbish or debris to be cleared away before commencement.</p> <p>(c) The nature, current usage, proximity and size of adjoining property and buildings.</p> <p>(d) The topography of the site</p> <p>(e) The nature of existing communication by road or otherwise.</p> <p>The availability of land for the erection and positioning of all temporary structures and materials necessary for the execution of the works</p> <p>The Contractor's attention is drawn to the fact that they shall confine themselves to the area necessary for executing the works as instructed by the Architect.</p>		
B	<p><u>WORKING CONDITIONS</u></p> <p>The contractor’s attention is drawn to the fact that the site is located in a learning insitution and should endeavour to reduce activities that may disrupt normal learning process</p>		
	CARRIED TO COLLECTION		

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(PHASE 1)

ITEM	PARTICULARS	KES	CTS
A	<u>SCOPE AND DESCRIPTION OF THE WORKS</u> The Works under this contract comprise Construction to completion of: - Construction to completion of an Engineering Laboratories Block with and including all services installations and external works as per the drawings and bills of quantities The standards of workmanship and materials used must be of the highest levels achievable in accordance with the specifications provided for the works. The Employer shall have the right to hire others to carry out work falling under this contract if the Contractor fails to meet the required standards of materials and workmanship. The Employer has the authority to issue variations through the Architect to either increase or decrease the scope of works. In event of such happenings, the Contractors rates will be used as allowed in the Conditions of Contract. However such variations will not entitle the Contractor to claims for loss of profit and other related expenses in case of omissions being made to the scope of works. The Employer therefore reserves the right to omit any section(s) of the Works before or after the award.		
	<u>B ABBREVIATIONS</u> Throughout these Bills of Quantities, units of measurements and terms are abbreviated and shall be interpreted as follows; mm shall mean millimeters cm shall mean centimeters m shall mean metres M1/LM shall mean linear metres M2/SM shall mean square metres M3/CM shall mean cubic metres Kgs. shall mean kilograms NO. shall mean number Prs. shall mean pairs n.e shall mean Not Exceeding B.S.: shall mean current British Standard Institution, 2 Park Street, London, WI England		
	CARRIED TO COLLECTION		

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(PHASE 1)

ITEM	PARTICULARS	KES	CTS
	<p><u>ABBREVIATIONS C'TD</u></p> <p>KEBS: shall mean the current Kenya Bureau of Standards</p> <p>DITTO: Shall mean the whole of preceding description except as qualified in the description in which it occurs. Where it occurs in description of succeeding items it shall mean the same as in the first description of the series in which it occurs expect as qualified in the description concerned. Where it occurs in brackets it shall mean whole of the preceding description which is contained with the appropriate brackets.</p> <p>Approved: shall mean approved by or to the approval of the Client or Client's Representative.</p> <p>As directed: shall mean as directed by the Client or Client's Representative</p> <p>(m.s.) shall mean measured separately</p> <p>(b.m.s.) shall mean both sides measured</p> <p>(p.c.) shall mean prime cost</p> <p>100 to 200 shall mean exceeding 100mm but not exceeding 200mm girth and all items described in this manner shall be similarly construed</p> <p>Works the term 'the works' wherever used hereinafter and in all contract documents shall mean all or any portion of the works materials and articles wherever the same are to be used in the execution of this contract and whether the same be on site or not</p> <p>B <u>CONTRACT RATES TO APPLY</u></p> <p>Rates inserted in the tender Bills of Quantities shall apply throughout the period of contract. Any changes will be strictly in accordance with the contract. The rates are to supply and fix the items specified in the bills of quantities.</p>		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
(PHASE 1)

ITEM	PARTICULARS	KES	CTS
A	<p><u>PRICING BILL OF QUANTITIES</u></p> <p>The Contractor shall price out individually and in detail all items in this Bill of Quantities and under no circumstances will lump sums be allowed. All rates and figures entered in the Bill of Quantities must be done in indelible ink. Any item not priced for in this Bills of Quantities shall be deemed to be provided for for free or its rate is included elsewhere in these Bills of Quantities</p> <p>The Contractor is advised to check Bill of Quantities and should he find any pages missing or in duplicate or the figures in writing indistinct or any ambiguity in description, he must inform the Employer/Client at once and have the same rectified.</p> <p>Without authority the Contractor shall not alter or otherwise qualify the text of the Bill of Quantities, otherwise such alterations shall be ignored.</p> <p>All expense incurred by the Contractor in preparation of this tender shall not be allowed.</p>		
B	<p><u>PROGRESS CHART</u></p> <p>The contractor shall ,upon receiving instructions to proceed with the work,submit programme of works in accordance with clause 18.0 of the conditions of contract.The programme shall be computerized critical path programme schedule which the contractor shall develop and maintain during the course of the project. The schedule shall include construction and procurement activities as well as other time related factors.The contractor shall prepare the time schedule showing the time and order in which they propose to carry out the woks within the total construction time.The schedule shall also show in detail the construction time and order in which each section of the work is to be caried and be sub-divided into elements,trades and tasks. The schedule shall shall show when information is required from consultants especially in relation to the ordering of imported materials.</p> <p>The time schedule is to be agreed with the Architect and the Project Manager.</p> <p>At the end of each month,the contractor shall incorporate actual start and finish dates into the time schedule and produce an update on the programme.The update is to show actual start and finish dates,identify out sequence of activities,critical acivities and any constraints which may have or may affect the progress of the works.</p>		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
	<p>During construction ,the contractor will incorporate any changes to the time schedule only if aproved in writing by the rchitect and produce a revised schedue.</p> <p>The contractor shall provide to the Project Manager and the Architect,a soft copy of the time schedule including monthly updates and analysis together with four printed copies of the relevant data.</p>		
A	<p><u>HOARDING</u></p> <p>The site shall be enclosed by hoarding of appropriate length as required and of minimum 2.50m high constructed with 30 gauge galvanized iron sheets fixed to approved timber framing complete with access gate all to the approval of the Architect.</p>		
B	<p><u>SANITATION FOR THE WORKS</u></p> <p>The Contractor shall provide and maintain proper sanitation of the Works to the satisfaction of the County Authorities, Labour Department and the Project Management Team.</p>		
C	<p><u>SITE OFFICE</u></p> <p>The Contractor shall provide a site office to accommodate the Client's Representative, Clerk of Works and visiting staff as follows: 1 No. meeting room for site meetings fully furnished etc. Provide for all power and lighting points.</p> <p>The Contractor shall also provide on-site at all times a modern and accurate level together with a levelling staff, ranging rods and one 5 metre; one 30 metre and one 50 metre tapes, digital camera and stationery for use only by the Clerk of Works or Employer's Representatives.</p>		
D	<p><u>SIGN BOARD</u></p> <p>The Contractor shall provide and erect a sign board on the site showing the title of the project, the name and address of the Employer, the Consultants, Nominated Sub-contractors, Nominated Suppliers and such other information as may be required by the project management team. The board shall be maintained in good condition and removed after the Expiry of the Defects Liability Period or any other earlier time if directed by the Architect A drawing of the sign board may be inspected in the office of the Architect. The project management team shall direct on the actual location of the board</p>		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
A	<p><u>VISITORS BOOK , SITE INSTRUCTION BOOOKS AND SITE DIARY</u></p> <p>The Contractor shall keep on the site a visitors book for recording the names of all persons who visit the site for the purpose of the project. He shall also maintain on site a triplicate site instruction book that shall be used by the Architect to give written site instructions. He shall also maintain on site a diary in which he shall record site activities on a daily basis and particularly any occurrence which bears on the progress of the works in any way. Based on the information recorded, the contractor shall prepare and submit to the Project Manager weekly project progress report for information and records. The visitors' book and the diary shall be surrendered to the project management team at the completion of the project or at any other time that he may direct</p>		
B	<p><u>CONDITIONS OF CONTRACT</u></p> <p>The parties shall enter into a contract which shall be the current Conditions of Contract for Building Works, published by the Director of Public Procurement Regulatory Authority excepting in so far as may be deleted or varied therein or is varied hereinafter. The said conditions are included elsewhere in the tender document. Tenderers are expected to be familiar with the said conditions of contract. That notwithstanding, they can seek clarification from the Quantity Surveyor in respect of any clause, or any addition or amendment to any clause as contained herein.</p> <p>The Contractor is referred to the main document for full information as number and titles of the clauses only are hereafter given with such additional information as is required. <u>All clauses carrying a monetary value to be priced out opposite to the numbers and titles of each clause.</u></p>		
B	<u>CLAUSES</u>		
1	General Provisions		
1.1	Definitions		
1.2	Interpretation		
1.3	Communications		
1.4	Law and Language		
1.5	Priority Documents		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
1.6	Contract Agreement		
1.7	Assignment		
1.8	Care and Supply of Documents		
1.9	Timely provision of Drawings or Instructions		
1.10	Procuring Entity's Use of Contractor's Documents		
1.11	Contractor's Use of Procuring Entity's Documents		
1.12	Confidential Details		
1.13	Compliance with Laws		
1.14	Joint and Several Liability		
1.15	Inspections and Audit by the Procuring Entity		
2	The Procuring Entity		
2.1	Right of Access to the Site		
2.2	Permits, Licenses or Approvals		
2.3	Procuring Entity's Personnel		
2.4	Procuring Entity's Financial Arrangements		
3	The Engineer		
3.1	Architect Duties and Authority		
3.2	Delegation by the Engineer		
3.3	Instructions of the Engineer		
3.4	Replacement of the Engineer		
3.5	Determinations		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
4	The Contractor		
4.1	Contractor's General Obligations		
4.2	Performance Security		
4.3	Contractor's Representative		
4.4	Sub-contractors		
4.5	Assignment of Benefit of Subcontract		
4.6	Co-operation		
4.7	Setting Out of the Works		
4.8	Safety Procedures		
4.9	Quality Assurance		
4.10	Site Data		
4.11	Unforeseeable Physical Conditions		
4.12	Rights of Way and Facilities		
4.13	Avoidance of Interference		
4.14	Access Route		
4.15	Transport of Goods		
4.16	Contractor's Equipment		
4.17	Protection of the Environment		
4.18	Electricity, Water and Gas		
4.19	Procuring Entity's Equipment and Free-Issue Materials		
4.20	Progress Reports		
4.21	Security of the Site		
4.22	Contractor's Operations on Site		
4.23	Fossils		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
5	Nominated Subcontractors		
5.1	Definition of “nominated Subcontractor”		
5.2	Objection to Nomination		
5.3	Payments to nominated Subcontractors		
5.4	Evidence of Payments		
6	Staff and Labor		
6.1	Engagement of Staff and Labor		
6.2	Rates of Wages and Conditions of Labor		
6.3	Persons in the Service of Procuring Entity		
6.4	Lab or Laws		
6.5	Working Hours		
6.6	Facilities for Staff and Labor		
6.7	Health and Safety		
6.8	Contractor's Superintendence		
6.9	Contractor's Personnel		
6.10	Records of Contractor's Personnel and Equipment		
6.11	Disorderly Conduct		
6.12	Foreign Personnel		
6.13	Supply of Water		
6.14	Measures against Insect and Pest Nuisance		
6.15	Alcoholic Liquor or Drugs		
6.16	Prohibition of Forced or Compulsory Labour		
6.17	Prohibition of Harmful Child Labor		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
6.18	Employment Records of Workers		
6.19	Workers' Organizations		
6.20	Non-Discrimination and Equal Opportunity		
7	Plant, Materials and Workmanship		
7.1	Manner of Execution		
7.2	Samples		
7.3	Inspection		
7.4	Testing		
7.5	Rejection		
7.6	Remedial Work		
7.7	Ownership of Plant and Materials		
7.8	Royalties		
8	Commencement, Delays and Suspension		
8.1	Commencement of Works		
8.2	Time for Completion		
8.3	Programme		
8.4	Extension of Time for Completion		
8.5	Delays Caused by Authorities		
8.6	Rate of Progress		
8.7	Delay Damages		
8.8	Suspension of Work		
8.9	Consequences of Suspension		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
8.10	Payment for Plant and Materials in Event of Suspension		
8.11	ProlongedSuspension		
8.12	Resumption of Work		
9	Tests on Completion		
9.1	Contractor's Obligations		
9.2	Delayed Tests		
9.3	Retesting of related works		
9.4	Failure to Pass Tests on Completion		
10	Procuring Entity's Taking Over		
10.1	Taking Over of the Works and Sections		
10.2	Taking Over of Parts of the Works		
10.3	Interference with Tests on Completion		
10.4	Surfaces Requiring Reinstatement		
11	Defects Liability		
11.1	Completion of Outstanding Work and Remedying Defects		
11.2	Cost of Remedying Defects		
11.3	Extension of Defects Notification Period		
11.4	Failure to Remedy Defects		
11.5	Removal of Defective Work		
11.6	Further Tests		
11.7	Right of Access		
11.8	Contractor to Search		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
11.9	Completion Certificate		
11.10	Unfulfilled Obligations		
11.11	Clearance of Site		
12	Measurement and Evaluation		
12.1	Works to be Measured		
12.2	Method of Measurement		
12.3	Evaluation		
12.4	Omissions		
13	Variations and Adjustments		
13.1	Right to Vary		
13.2	Variation Order Procedure		
13.3	Disagreement on Adjustment of the Contract Price		
13.4	Contractor to Proceed		
13.5	Value Engineering		
13.6	Variation Procedure for Value Engineering proposal		
13.7	Payment in Applicable Currencies		
13.8	Provisional Sums		
13.9	Dayworks		
13.10	Adjustments for Changes in Legislation		
13.11	Adjustments for Changes in Cost		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
14	Contract Price and Payment		
14.1	The Contract Price		
14.2	Advance Payment		
14.3	Application for Interim Payment Certificates		
14.4	Schedule of Payments		
14.5	Plant and Materials intended for the Works		
14.6	Issue of Interim Payment Certificates		
14.7	Payment		
14.8	Delayed Payment		
14.9	Payment of Retention Money		
14.10	Statement at Completion		
14.11	Application for Final Payment Certificate		
14.12	Discharge		
14.13	Issue of Final Payment Certificate		
14.14	Cessation of Procuring Entity's Liability		
14.15	Currencies of Payment		
15	Termination by Procuring Entity		
15.1	Notice to correct any defects or failures		
15.2	Termination by Procuring Entity		
15.3	Valuation at Date of Termination		
15.4	Payment after Termination		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
15.5	Procuring Entity's Entitlement to Termination for Convenience		
15.6	Fraud and Corruption		
15.7	Corrupt gifts and payments of commission		
16	Suspension and Termination by the Contractor		
16.1	Contractor's Entitlement to Suspend Work		
16.2	Termination by Contractor		
16.3	Cessation of Work and Removal of Contractor's Equipment		
16.4	Payment on Termination		
17	Risk and Responsibility		
17.1	Indemnities		
17.2	Contractor's Care of the Works		
17.3	Procuring Entity's Risks		
17.4	Consequences of Procuring Entity's Risks		
17.5	Intellectual and Industrial Property Rights		
17.6	Limitation of Liability		
17.7	Use of Procuring Entity's Accommodation/Facilities		
18	Insurance		
18.1	General Requirements for Insurances		
18.2	Insurance for Works and Contractor's Equipment		
18.3	Insurance against Injury to Persons and Damage to Property		
18.4	Insurance for Contractor's Personnel		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
19	Force Majeure		
19.1	Definition of Force Majeure		
19.2	Notice of Force Majeure		
19.3	Duty to Minimize Delay		
19.4	Consequences of Force Majeure		
19.5	Force Majeure Affecting Subcontractor		
19.6	Optional Termination, Payment and Release		
19.7	Release from Performance		
20	Settlement of Claims and Disputes		
20.1	Contractor's Claims		
20.2	Procuring Entity's Claims		
20.3	Amicable Settlement		
20.4	Matters that may be referred to arbitration		
20.5	Arbitration		
20.6	Arbitration with National Contractors		
20.7	Arbitration with Foreign Contractors		
20.8	Alternative Arbitration Proceedings		
20.9	Failure to Comply with Arbitrator's Decision		
20.10	Contract operations to continue		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
A	<u>SPECIAL CONDITIONS OF CONTRACT</u>		
a	The Procuring Entity's name and address is: The Vice Chancellor University of Embu (UoEm) P. O. Box 6 - 60100 Embu		
b	Name and Reference No. of the Contract shall be as stated in the invitation to tender		
c	Engineers Name and address The Architect/Quantity Surveyor University of Embu (UoEm) P. O. Box 6 - 60100 Embu		
d	The start date shall be AGREED WITH THE EMPLOYER		
e	Contractor's Representative's name shall be agreed with the Procuring Entity prior to contract signature		
f	Key Personnel names shall be agreed with the Procuring Entity prior to contract signature		
g	Time for Completion shall be agreed with the Procuring Entity prior to contract signature		
h	Defects Notification Period shall be agreed by the Procuring Entity prior to contract signature		
i	Time for the Parties entering into a Contract Agreement: within 30 days		
j	Commencement Date shall be agreed with the Procuring Entity prior to contract signature		
k	Time for access to the Site shall be agreed with the Procuring Entity prior to contract signature		
l	Architect Duties and Authority: Variations resulting in an increase of the Accepted Contract Amount shall require approval of the Procuring Entity.		
	CARRIED TO COLLECTION		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
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ITEM	PARTICULARS	KES	CTS
a	Performance Security: The performance security will be in the form of a "performance bond" from a reputable bank in the amount(s) of TEN percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.		
b	Normal working hours shall be agreed with the Procuring Entity prior to contract signature		
c	Delay damages for the Works: 2 % of the Contract Price per day.		
d	Maximum amount of delay damages: 10% of the final Contract Price.		
e	Provisional Sums shall be as in the bills of quantities		
f	Adjustments for Changes in Cost - this shall be a fixed price contract		
g	Total advance payment shall not apply		
h	Percentage of Retention - 10% of the value of work done		
i	Limit of Retention Money - 5% of the Accepted Contract Amount		
j	Minimum Amount of Interim Payment Certificates -shall be agreed with the Procuring Entity prior to contract signature		
k	Publishing source of commercial interest rates for financial charges in case of delayed payment -shall be agreed with the Procuring Entity prior to contract signature		
l	Maximum total liability of the Contractor to the Procuring Entity -shall be agreed with the Procuring Entity prior to contract signature		
m	Periods for submission of insurance: a. evidence of insurance. b. relevant policies -shall be agreed with the Procuring Entity prior to contract signature		
n	Maximum amount of deductibles for insurance of the Procuring Entity's risks -shall be agreed with the Procuring Entity prior to contract signature		
o	Minimum amount of third-party insurance -shall be agreed with the Procuring Entity prior to contract signature		
p	The place of arbitration -shall be agreed with the Procuring Entity prior to contract signature		
CARRIED TO COLLECTION			

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU
(PHASE 1)

ITEM	PARTICULARS	KES	CTS
A	<u>COPYRIGHT</u>		
	The copyright of these Bills of Quantities is vested in the Quantity Surveyor of the University of Embu and no part thereof may be reproduced without their express permission given in writing.		
	<u>COLLECTION</u>		
	Brought forward from page PP/1		
	Brought forward from page PP/2		
	Brought forward from page PP/3		
	Brought forward from page PP/4		
	Brought forward from page PP/5		
	Brought forward from page PP/6		
	Brought forward from page PP/7		
	Brought forward from page PP/8		
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	Brought forward from page PP/10		
	Brought forward from page PP/11		
	Brought forward from page PP/12		
	Brought forward from page PP/13		
	Brought forward from page PP/14		
	Brought forward from page PP/15		
	Brought forward from page PP/16		
	Brought forward from page PP/17		
	Brought forward from page PP/18		
	TOTAL FOR PRELIMINARY ITEMS CARRIED TO MAIN SUMMARY		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 2 MAIN BLOCK - Substructure upto ground floor slab <u>ELEMENT NO. 1</u> <u>SUBSTRUCTURES (ALL PROVISIONAL)</u>				
1.	<u>Excavations have been taken net of bases and Contractors are advised to allow in their rates any working space necessary for carrying out of the works in accordance with the Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa, Second Edition, Second Edition (June 2008), Published by The Architectural Association of Kenya, Quantity Surveyors Chapter, which is available for inspection at the offices of the Quantity Surveyors by appointment.</u>				
2.	<u>Contractors are advised to acquaint themselves on the new classification of concrete strength in conformity to the revised BS issued of 15th August, 2005 that supercedes any other BS Standard on concrete strength. (e.g. Class 25/20 in the earlier classification meant concrete of compressive strength of 25N/mm² at 28days, while on the revised classification, concrete of compressive strength of 25N/mm² at 28days of 150mm cubes is classified as Class C20/25).</u>				
3	<u>This element includes all structural works up to and including ground floor slab</u>				
4	<u>Reinforcement to BS 4449:1997 , Grade 460B high strength type 2 ribbed bars with proof stress of 460 N/mm²</u>				
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 2				
	MAIN BLOCK - Substructure upto ground floor slab				
	<u>SUBSTRUCTURES (ALL PROVISIONAL)</u>				
	Site Clearance				
A	Clear site of small bushes, trees girth not exceeding 600mm, grass etc and grub roots and cart away from site as shall be directed	915	M2		
	Felling Down Trees				
B	Cut down trees girth exceeding 600mm but not exceeding 1200mm grub roots and cart away the roots from site as shall be directed	3	No		
C	Cut the fallen trees into small firewood sizes and store aside as shall be directed	3	No		
	Excavations including trimming sides and bottoms of excavations; maintaining and supporting sides; and keeping free from water, mud and fallen material; with and including destruction of termites nests within site of works,take out and destroy queens, impregnate holes and tunnels with insecticide and fill voids with approved material				
D	Excavate to remove vegetable top soil; average depth 200mm and spread or heap on site as directed for later use	915	M2		
E	Excavate to reduce levels and remove spoil; average depth not exceeding 1500mm from stripped level and cart away excavated materials to fill within the site as	637	M3		
F	Excavate pits for column bases depth not exceeding 1.5m from reduced level and cart away excavated materials to deposit within the premises as shall be directed	564	M3		
G	Excavate trench for strip foundation depth not exceeding 1.5m from reduced level and cart away excavated materials to deposit within the premises as shall be directed	383	M3		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 2				
	MAIN BLOCK - Substructure upto ground floor slab				
	Compaction & Levelling				
A	Compact bottom of excavated surfaces including levelling to receive hardcore base layer as per Structural Engineers details and approval	675	M2		
	Backfilling & Disposal of excavated materials				
B	Return fill and compact selected excavated materials or imported fill around foundations and fill areas generally; compaction in layers not exceeding 150mm thick to the satisfaction of the Structural Engineer	1,296	M3		
C	Load cart away surplus excavated material to deposit within the premises as shall be directed	963	M3		
	Hardcore Fillings				
D	300mm thick hardcore bed; hand packed, compacted in layers not exceeding 150mm thick : to the satisfaction of the Structural Engineer and including 50mm thick murrum or "equal and approved" blinding to surfaces of hardcore well levelled to receive DPM	664	M2		
	Anti - termite treatment				
E	Treat surface of hardcore with approved chemical ant-termite solution applied strictly in accordance with the manufacturer's instructions	664	M2		
	Damp Proof Membrane				
F	Single layer of 1000 gauge polythene sheeting laid on blinded hardcore (ms) with 300 mm side laps to receive concrete (measured nett-allow for laps)	699	M2		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 2 MAIN BLOCK - Substructure upto ground floor slab Concrete works <u>Plain concrete class C12/15 achieving characteristic compressive strength of 15N/mm² at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-</u>				
A	50mm thick blinding to column bases	379	M2		
B	50mm thick blinding to strip footing	133	M2		
	<u>Vibrated Reinforced concrete class C20/25 achieving characteristic compressive strength of 25N/mm² at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-</u>				
C	Column bases	248	M3		
D	Foundation columns	12	M3		
E	Strip footing	35	M3		
F	150mm thick surface bed hardended using ironite floor hardener	699	M2		
	Steel fabric mesh reinforcement to B.S. 4483				
G	BRC mesh fabric reinforcement ref A142 (weighing 2.2kg/m ²) laid in slab : including setting in concrete with 300mm laps (measured net-no allowance made for laps)	699	M2		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 2 MAIN BLOCK - Substructure upto ground floor slab Supply and fix steel bar reinforcement, Grade 460B high strength type 2 Ribbed bars with proof stress of 460 N/mm²; Including all necessary cutting, hooking, tying wire, cutting spacers, stools and supporting all in position and provision of spacer blocks to S.E's detail				
A	8mm diameter bars	4,286	KG		
B	10mm diameter bars	489	KG		
C	12mm diameter bars	119	KG		
D	16mm diameter bars	8,116	KG		
E	20mm diameter bars	19,588	KG		
F	25mm diameter bars	1,788	KG		
G	32mm diameter bars	4,320	KG		
	Sawn Timber formwork including all necessary supports and jointing and striking off as described to: -				
H	Vertical sides to column and shaft bases	246	M2		
I	Ditto to columns	90	M2		
J	Ditto to strip footing	256	M2		
K	Vertical edges of slab 75-150mm high	120	M1		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 2 MAIN BLOCK - Substructure upto ground floor slab <u>Foundation Walling</u> Approved natural quarry stone walling : load bearing (7.0 N/mm²) : bedded, jointed and pointed in cement and sand (1:3) mortar : reinforcement with and including 20 gauge 25mm wide x 450mm long hoop iron at every alternate course; including curved walls; as described in:				
A	200mm thick walling Cement/sand (1:3)	322	M2		
B	12mm Thick external rendering to plinth surfaces finished smooth with a wood float	36	M2		
C	Prepare and apply two coats of black silicone exterior paint to rendered surfaces externally	36	M2		
	Expansion joints (provisional)				
D	25 mm "Flexcell" or other equal and approved joint filler : set vertically and/or horizontally between	43	M2		
E	25 mm x 25mm "Expendite" or equal and approved joint sealer	26	M1		
	Carried to Collection				
	<u>SUBSTRUCTURES COLLECTION PAGE</u>				
	From page SB/1				
	From page SB/2				
	From page SB/3				
	From page SB/4				
	From page SB/5				
	From Above				
	Total for Substructures to Main Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 1</u> <u>R.C. SUPERSTRUCTURE</u> <u>(ALL PROVISIONAL)</u> Vibrated Reinforced concrete class C20/25 achieving characteristic compressive strength of 25N/mm² at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-				
A	Beams generally	38	M3		
B	Columns	32	M3		
C	Suspended first floor slab; 175mm thick	638	M2		
	Supply and fix steel bar reinforcement, Grade 460B high strength type 2 Ribbed bars with proof stress of 460 N/mm²; Including all necessary cutting, hooking, tying wire, cutting spacers, stools and supporting all in position and provision of spacer blocks to S.E's detail				
D	8mm diameter bars	1,724	KG		
E	10mm diameter bars	3,676	KG		
F	12mm diameter bars	23,232	KG		
G	16mm diameter bars	1,689	KG		
H	20mm diameter bars	5,672	KG		
I	25mm diameter bars	1,490	KG		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab Fairfaced formwork; allow for setting to curve where required, special propping, strutting and fillets as described to: -				
A	Vertical sides and soffits of beams	436	M2		
B	Vertical sides of columns	270	M2		
C	Soffits of suspended first floor slab; height not exceeding 3.5 meters	638	M2		
D	Ditto; height 3.5 - 5 meters	638	M2		
E	Edges of slabs 150-225mm high	112	M1		
	<u>Flat Roof Finishes</u>				
	<u>Cement and sand screed (1:4) as described</u>				
F	10mm (average) thick screed; sloping to receive water proofing material	638	M2		
G	10mm (average) thick water proofed protective screed to APP surfaces	638	M2		
	<u>Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor</u>				
	<u>Attatatic poly-propylene (APP) roofing membrane with protective chippings as manufactured by Messrs Italbuild Imports Ltd. or other equal and approved laid in accordance with manufacturers printed instructions by an approved sub-contractor</u>				
H	4mm Thick Membrane	638	M2		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>RC SUPERSTRUCTURE COLLECTION PAGE</u> From page GF/1 From page GF/2				
	Total for R.C Superstructure to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 2</u> <u>WALLING</u> Approved natural, fairfaced on both sides machine cut stone walling achieving a stone strength of 7N/mm² bedded and jointed in cement and sand (1:4) mortar including reinforcing with 25mm wide hoop iron every alternate course				
A	200mm thick walling; externally	362	M2		
B	200mm thick walling; walkway	21	M2		
C	200mm thick walling; internally	319	M2		
D	150mm thick walling; internally	25	M2		
	Approved hessian based damp proof course				
E	200 mm Wide Hessian based bituminous felt damp proofing course laid and bedded on cement sand (1:4) mortar	213	M1		
	Labour & Sundries				
F	Extra over for finishing both sides with struck and keyed joints horizontally joints as per architects detail drawing	383	M2		
	Precast concrete class 20(12mm aggregate) including forwork , finishing fair face on all xposed surfaces,and bedding and jointing in cement sand (1:3) mortar				
G	200 x 450mm deep lintol, reinforced with and including four 12mm diameter mild steel rods and 6mm stirrups at 200mm centers	45	M1		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3				
	MAIN BLOCK - Ground Floor to First Floor				
	Suspended Slab				
	Expansion joints (provisional)				
A	25 mm "Flexcell" or other equal and approved joint filler : set vertically and/or horizontally between concrete.	91	M2		
B	25 mm x 25mm "Expendite" or equal and approved joint sealer	30	M1		
	Aluminium Curtain Walling				
C	Supply, assemble and fix aluminium framed curtain walling fabricated from approved composite extruded powder coated (approved colour) heavy duty hollow or angle aluminium sections comprising of 100 x 50mm frames in grids as per Architect's drawings and details, glazed with 6mm thick tinted laminated glass secured to framing with approved glazing strips and beading, including waterproofing all joints using approved silicon sealing compounds and aluminium brackets; fixing with screws, building jambs, plugging and screwing head and cill, sealing with mastic; all to Architect's details and approval.	24	M2		
	PCC coping				
D	300 x 50mm thick precast concrete coping fixed on top of concrete gutter with approved means	110	M1		
	Carried to Collection				
	WALLING COLLECTION PAGE				
	From page GF/4				
	From Above				
	Total for Walling to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 3</u> <u>WINDOWS</u> Pre-cast Concrete Works:- A Window cill size 200 x 50 mm once sunk, weathered and throated, painted to approval Supply and fix the following Windows to Architects approval Steel Casement Windows Supply, assemble and fix the following medium duty Z- section steel casement framed windows comprising small panes in various sizes in openable and fixed lights, with and including mild steel framed burglar proofing comprising 16mm diameter round bars with 25 x 4mm thick flat bars framing and vertical members, all primed before fixing, complete with 4mm thick tinted glass and all necessary approved ironmongery and fittings fixed to opening including fixing framing to concrete or masonry, making good disturbed surfaces and including two layers of 1 and 5mm mosquito gauze and painting to both sides in one undercoat and three finishing coats of gloss oil paint all to architect's drawings and approval.	37	M1		
B	Window overall size 4650 x 1500mm high	1	No		
C	Window overall size 4200 x 2100mm high	2	No		
D	Window overall size 2100 x 2100mm high	9	No		
E	Window overall size 2100 x 1500mm high	1	No		
	Total for Windows to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab ELEMENT NO. 4 DOORS Supply and fix the following Doors to Architects approval and details as shown in the attached openings schedule Steel Doors				
A	Medium duty metal casement double door overall size 2500 x 3000mm high, in 2 No.equal openable leaves; comprising of 100 x 50mm thick framing; infilled with 1.8mm thick mild steel sheet on both sides to approval with and including necessary iron mongery as bushes, hinges, 4 No. steel tower bolts, 3 lever dead lock and padlock clasps, 2 pairs of custom made steel door handle and all other necessary iron mongery and fittings as shall be directed; painted on both sides in one undercoat and three finishing coats of gloss oil paint; all to architect's approval and details; <i>main lab doors</i>	2	NO		
B	Ditto, 1200 x 2400mm high; <i>external store doors</i>	1	NO		
	Timber Doors				
C	Supply and fix 45mm thick (finished) semi - solid door with mahogany veneer on both sides and 2mm thick hardwood lipping all round; double door overall size 1200 x 2400mm high comprising two equal openable leafs each measuring 600 x 2100mm high and fanlight overall size 1200 x 300mm high infilled with 5mm thick clear glass with hardwood beading to detail; with and including all necessary support framing; <i>WC main door and disabled toilet</i>	2	No.		
D	Ditto but single leaf measuring 900 x 2400mm high overall comprising openable leaf measuring 900 x 2100mm high and fanlight overall size 900 x 300mm high ditto; <i>WC entrance doors, store & office</i>	4	No.		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab				
A	Supply and fix 45mm thick (finished) semi - solid core flush door with mahogany veneer on both sides and 2mm thick hardwood lipping all round; overall size 900 x 2100mm high; <i>washrooms</i>	5	No.		
	Louvred Door				
B	Hardwood louvred door size 600x2100mm high; <i>(service duct areas)</i>	7	No		
	Ironmongery				
	Supply and fix the following ironmongery as per Union catalogue or other equal and approved; complete with matching screws to Architect's details and approval				
C	3 - Lever mortice lock complete with all furniture	13	No		
D	Stainless Steel (SS) Indicator bolt ditto	5	No		
E	4" x 3" x 3mm thick Antique Brass butt hinges	24	Prs.		
F	Ditto but double action	6	Prs.		
G	Approved dome shaped rubber door stop rawl bolted to floor	19	No.		
H	Disabled Indicator and Release + Bathroom Lock SS	2	No.		
I	Male Symbol 76mm Dia SS	1	No.		
J	Female Symbol 76mm Dia SS	1	No.		
K	Disabled Symbol 150 x 75mm SS	1	No.		
L	150 x 75mm SS push plate	5	No.		
M	150mm D pull handle	12	No.		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3				
	MAIN BLOCK - Ground Floor to First Floor				
	Suspended Slab				
	Frames & Finishes				
	Wrot Mahogany				
A	150 x 50mm frame with three labours, plugged	48	M1		
B	Ditto transome	9	M1		
C	50 x 20mm rounded architrave with two labours	48	M1		
D	20mm diameter quadrant beading ditto	48	M1		
	Prepare and apply one coat aluminium primer on back of wood before fixing				
E	Surfaces not exceeding 100 mm girth	95	M1		
F	Surfaces 200 - 300mm girth	48	M1		
	Knot, prime, stop and apply three coats polyurethane clear lacquer to woodwork as described				
	Internally on:-				
G	General surfaces over 100 and not exceeding 200 mm	95	M1		
H	Surfaces 200 - 300mm girth	56	M1		
I	General surfaces of doors	39	M2		
	Carried to Collection				
	<u>DOORS COLLECTION PAGE</u>				
	From page GF/7				
	From page GF/8				
	From Above				
	Total for Doors to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 5</u> <u>EXTERNAL WALL FINISHES</u> 15 mm thick cement and sand render (1:4) as described to:-				
A	To concrete surfaces	141	M2		
B	To window and door reveals not exceeding 100 mm	144	M1		
	Prepare and apply prime grade high quality textured Acrylic emulsion(as 'Ruff n Tuff' by Crown Berger or equal and approved) paint internally: to be applied by qualified and manufacturer approved painters:				
C	1mm thick steel trowelled textured finish on render girth not exceeding 100mm	141	M2		
D	1mm thick steel trowelled textured finish on render girth not exceeding 100mm	144	M1		
	Bagwashing				
E	Prepare masonry surfaces appropriately and bagwash externally with cement sand (1:1) slurry to approval	524	M2		
	Total for External Wall Finishes to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 6</u> <u>INTERNAL WALL FINISHES</u> 12mm thick (minimum) gauged lime plaster; 9mm thick first coat of cement and sand (1:6), 3mm thick cement lime putty (1:10) steel trowelled smooth; complete with wire gauze anticrack mechanism at the intersection of masonry walling and concrete beams as necessary as described to:-				
A	Sides of walls and concrete surfaces	1,443	M2		
B	Door and window reveals not exceeding 100mm girth	203	M1		
	PAINTING AND DECORATING Skim, touch up, prepare and apply one undercoat and three finishing coats first quality silk vinyl matt paint to :-				
C	Plastered walls	1,443	M2		
D	Door and window reveals not exceeding 100 mm girth	203	M1		
	15mm thick cement sand (1:4) in:				
E	Backing to receive ceramic wall tiles (measured seperately)	96	M2		
	300 x 200 x 8 mm approved ceramic wall tiles on cement sand backing (m.s) with appropriate tile adhesive; straight joints and pointing in matching waterproof grout; including pvc spacers and expansion joints as necessary as described in				
F	To walls; generally	96	M2		
	Total for Internal Wall Finishes to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 7</u> <u>FLOOR FINISHES</u> Cement and sand (1:4) screed as described in:-				
A	32 mm Thick backing to receive Non Slip ceramic Floor Tiles Supply and fix approved non-slip ceramic floor tiles on screed backing (m.s) with proprietary waterproof adhesive; jointed and pointed in matching coloured proprietary waterproof grouting; including pvc spacers and expansion joint as necessary: all to Architect's approval as described in:-	28	M2		
B	400 x 400 x 8mm Thick Tiling to floors <u>Terrazzo Pavings</u>	28	M2		
C	20mm Thick polished terrazzo paving to floors including 32 x 3mm thick plastic dividing strips and 25mm wide non slip caborandum as per Architects details; on and including 20mm thick cement sand	594	M2		
D	100mm high skirting with rounded top coved at junction with paving <u>Metal Grating</u>	204	M1		
E	Supply and fix metal grating comprising 50 x 50 x 5mm angle frame anchored to concrete and 16mm diameter bars welded to frame at 100mm cc all metal surfaces painted in one undercoat and three coats of gloss oil paint	20	M1		
	Total for Floor finishes to Bill Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 8</u> <u>CEILING FINISHES</u> 15mm thick two coat gauged lime plaster to:-				
A	Horizontal soffits of suspended slab Skim, touch up, prepare and apply one undercoat and three finishing coats of interior quality paint as Crown Solo Pure Satin emulsion or other equal and approved to:	638	M2		
B	Soffits of horizontal suspended slab	638	M2		
Total for Ceiling Finishes to Bill Summary					

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab <u>ELEMENT NO. 9</u> <u>JOINERY FITTINGS & FIXTURES</u> <u>(All to be done in accordance with the Architect's drawings and details and approval)</u>				
1	<u>SUSPENDED CONCRETE WORKTOPS</u> Plain concrete class C12/15 achieving characteristic compressive strength of 15N/mm² at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-				
A	100mm thick plinth Fairface formwork as described to: allow for setting to curve where required, special propping, strutting, fillets to	105	M2		
B	Vertical edges of plinth 75-150 mm high Terrazzo Pavings	260	M1		
C	20mm Thick polished terrazzo paving to floors including 32 x 3mm thick plastic dividing strips and 25mm wide non slip caborandum as per Architects details; on and including 20mm thick cement sand	105	M2		
D	100mm high skirting with rounded top coved at junction with paving Vibrated Reinforced concrete class C20/20 achieving characteristic compressive strength of 20N/mm² at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-	260	M1		
E	150mm thick worktop;including 10mm diameter reinforcement bars at 200mm center to centres and hacking in walls	105	M2		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab Fairface formwork as described to: allow for setting to curve where required, special propping, strutting, fillets to:-				
A	Horizontal Soffits of Worktop	105	M2		
B	Vertical edges of worktop 75-150 mm high	260	M1		
C	Extra over formwork to form or leave an opening size 500mm long x 350mm wide to fit in sink (m.s) in 125mm thick concrete suspended slab	20	No.		
	Approved natural, fairfaced on both sides machine cut stone walling achieving a minimum stone strength of 5.6N/mm2 bedded and jointed in cement and sand (1:4) mortar including reinforcing with 25mm wide gauge 20 hoop iron every alternate course				
D	150mm Thick Walling	51	M2		
	Approved hessian based damp proof course				
E	150 mm Wide Hessian based bituminous felt damp proofing course laid and bedded on cement sand (1:4) mortar	56	M1		
	Terrazzo Pavings				
F	20mm Thick polished terrazzo paving to worktops and sides of walls including 32 x 3mm thick plastic dividing strips and 25mm wide non slip caborandum as per Architects details; on and including 20mm thick cement sand screed backing	207	M2		
G	125mm high fascia	260	M1		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab Supply and fix 20mm thick blockboard; single side veneered; hardwood lipped on all exposed edges to matching colour on and including 50x25mm sawn cypress bearers/frames plugged and screwed to wall and concrete; to Architects details.				
A	Divisions and shelves	44	M2		
B	Door size 600 x 650 mm high with router chamfer edges The following in "Union" or other equal and approved ironmongery	32	No.		
C	Malpha Hinges	48	Prs		
E	Approved cabinet door locks	32	No.		
F	Approved aluminium door pull handles Knot, prime stop and apply one coat of sanding sealer and two finishing coats of clear wood vanish to woodwork as described	32	No.		
G	Shelves and divisions	88	M2		
H	Doors	25	M2		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab				
2	<u>CABINETS FOR STORAGE</u> Supply and fix 3mm thick plywood screwed to wall and concrete; to Architects details.				
A	Back of cabinets Supply and fix 20mm thick blockboard; double veneered; hardwood lipped on all exposed edges to matching colour on and including 50x25mm sawn cypress bearers/frames plugged and screwed to wall and concrete; to Architects details.	72	M2		
B	Sides and divisions	155	M2		
C	Door size 600 x 600 mm high with router chamfer edges Knot, prime stop and apply one coat of sanding sealer and two finishing coats of clear wood vanish to woodwork as described	16	No.		
D	Shelves and divisions	310	M2		
E	Doors The following in "Union" or other equal and approved ironmongery	12	M2		
F	Malpha Hinges	24	Prs		
G	Approved cabinet door locks	16	No.		
H	Approved aluminium door pull handles	16	No.		
	Carried to Collection				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab				
	<u>JOINERY FITTINGS COLLECTION PAGE</u>				
	From page GF/14				
	From page GF/15				
	From page GF/16				
	From page GF/17				
	TOTAL FOR JOINERY FITTINGS TO BILL SUMMARY				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 3 MAIN BLOCK - Ground Floor to First Floor Suspended Slab				
	<u>BILL NO. 3 SUMMARY</u>		<u>From page</u>		
1	R.C. SUPERSTRUCTURE		GF/3		
3	WALLING		GF/5		
4	WINDOWS		GF/6		
5	DOORS		GF/9		
6	EXTERNAL WALL FINISHES		GF/10		
7	INTERNAL WALL FINISHES		GF/11		
8	FLOOR FINISHES		GF/12		
9	CEILING FINISHES		GF/13		
10	JOINERY FITTINGS		GF/18		
	Total for Bill No. 3 Ground floor to First floor Suspended Slab to Carried Main Summary				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
2.0	SCHEDULE 2.0				
2.1	POWER SUPPLY				
A	150mm diameter pvc hg duct encased in concrete for incoming Electricity supply line(provisional).	40	M		
B	KPLC manhole	3	No		
SUB - TOTAL FOR POWER SUPPLY C/F TO SUMMARY OF PRICES					

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)					
ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
3.0	SCHEDULE 3-DISTRIBUTION (ALL PROVISIONAL). Supply,install, test and commission the following.				
3.1	GROUND FLOOR				
A	35mm ² 4C Armoured cable from Main LV Switchboard to Distribution Board 'B' in WET LAB - GROUND FLOOR.	50	M		
B	16mm ² 4C Armoured cable from DB 'U1' in DRY LAB to DB 'U3' in WET LAB.	12	M		
C	4 x 100mm diameter pvc hg ducts for sleeves between floors OR walls.	40	M		
D	16mm ² 2C Armoured cable from Main LV Switchboard to Consumer unit 'L1' in WET LAB - GROUND FLOOR.(LIGHTING ONLY)	40	M		
E	20A TPN Switch disconnecter for Compressor pump.	1	No		
F	4mm ² 4C Armoured cable from Main LV Switchboard to Switch Disconnecter for Compressor pump.	20	M		
	TOTAL FOR DISTRIBUTION C/F TO SUMMARY PAGE				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)					
ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
4.0	SCHEDULE 5 -GROUND FLOOR.				
	Supply,install, test and commission the following.				
4.1	LIGHTING				
A	Lighting point wired using 3 x 1.5mm ² single cables in 20mm diameter PVC HG conduit for one way switching.	88	No		
B	As above but for two way switching	10	No		
C	One way one gang switch	4	No		
D	Two way one gang switch	3	No		
E	Two way two gang switch	3	No		
F	Two way three gang switch	1	No		
G	Two way Eight gang switch	1	No		
H	Two way Six gang grid switch	0	No		
J	Photocell completely wired with bypass switch.	1	No		
K	40A SP Contactor.	1	No		
4.2	TYPES OF LUMINAIRES				
A	Type D.	6	No		
B	Type F1.	5	No		
C	Type ED.	5	No		
D	Type FL.	6	No		
E	Type AS.	74	No		
F	EXIT sign.	2	No		
4.3	POWER				
A	Power point wired using 3 x 2.5mm ² single cables in 20mm diameter PVC HG conduit.	56	No		
B	Power point wired using 3 x 2.5mm ² single cables in Trunking.	27	No		
SUB - TOTAL C/F TO COLLECTION PAGE					

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
C	13A single switched socket outlet	0	No		
D	13A twin switched socket outlet	43	No		
E	13A twin switched socket outlet with neon indicator.	38	No		
F	20A DP switch with neon indicator.	2	No		
G	Power point wired using 5 x 6.0mm ² single cables in 32mm diameter PVC HG conduit for Three Phase Socket outlets..	8	No		
H	3 Phase socket outlet.	8	No		
J	Twin Face plates.	50	No		
K	32A TPN Switch disconnecter.	8	No		
L	Face plates.	0	No		
M	CCTV camera point linked in 25mm diameter PVC HG conduit and linked to NVR in Office.(LOCATION TO BE DETERMINED)	4	No		
N	Emergency stop button point wired using 3 x 2.5mm ² single cables in 25mm diameter PVC HG conduit for Distribution Board 'B'.	10	No		
P	Emergency stop button.	10	No		
Q	Wifi points linked in 20mm diameter PVC HG conduit.	2	No		
R	Wifi points linked in 20mm diameter PVC HG conduit.	2	No		
	SUB - TOTAL C/F TO COLLETION PAGE				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)					
ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
S	Single face plates	10	No		
T	Twin face plates	44	No		
U	160 x 50mm 2 compartment powder coated, oven cured metallic trunking complete with cover, fixing screws, bends and all other necessary accessories as manufactured by M/s Schneider Electric OR other equal and approved manufacturer.	120	M		
V	2x50mm diameter pvc hg conduit run underfloor	30	M		
W	1x38mm diameter pvc hg conduit run underfloor and in wall .	50	M		
X	250 x 50mm 2 compartment powder coated overhead metallic trunking complete with cover, fixing screws, support brackets,bends and all other necessary accessories as manufactured by M/s Schneider Electric OR other equal and approved manufacturer.	100	M		
Y	2x38mm diameter pvc hg conduit run underfloor and in wall .	60	M		
Z	2x32mm diameter pvc hg conduit run underfloor and in wall .	45	M		
A1	2 compartment 200x 75x50mm adaptable box.	12	No		
B1	2 compartment 200x 75x50mm draw box.	12	No		
C1	Metallic pedestal power box, table mounted to accommodate 1No. Twin socket outlet on raw power and 1No.Twin socket on clean power and 1No. Twin data outlet.	24	No		
SUB - TOTAL C/F TO COLLETION PAGE					

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
C	200A 12 way TPN MCB DB 'B' IN WET LAB excluding protective devices.	1	No		
D	10A SP MCB	0	No		
E	20A SP MCB	0	No		
F	30A SP MCB	11	No		
G	32A TP MCB	8	No		
H	Blanking plates	2	No		
W	100A 9 way SPN MCB Consumer unit 'L1' IN WET LAB ,excluding protective devices.	1	No		
X	10A SP MCB	6	No		
Y	20A SP MCB	0	No		
Z	30A SP MCB	0	No		
A1	Blanking plates	3	No		
L1	100A 6 way TPN MCB Distribution Board 'U3' IN WET LAB ,excluding protective devices.	1	No		
M1	30A SP MCB	7	No		
N1	63A TP MCB	0	No		
P1	Blanking plates	11	No		
Q1	Metallic pedestal power box, table mounted to accommodate 1No. Twin socket outlet on raw power and 1No.Twin socket on clean power and 1No. Twin data outlet.	24	No		
SUB - TOTAL C/F TO COLLECTION PAGE					

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	COST (KSHS)
5.0	FIRE ALARM SYSTEM				
	Supply, install, test and commission the following items;				
A	Fire alarm power point wired in 4mm ² 2C FP200 Fire resistant cable plus earth aluminium tape	10	M		
B	20A DP unswitched switch with neon indicator.	1	No		
C	Single loop automatic addressable fire alarm detection panel,complete with 72Hr standby batteries as per specification.	0	No		
D	Final fire alarm circuits from fire alarm detection panel to fire alarm detectors wired using 1.5mm ² 2C FP200 fire resistant cable plus earth aluminium tape screen LOSH sheath 300/500v in 20mm diameter PVC HG conduit.	19	No		
E	Addressable manual call point complete with all necessary accessories.	2	No		
F	Addressable optical smoke detector complete with all necessary accessories.	15	No		
G	Addressable multi - mode heat detector complete with all necessary accessories.	0	No		
H	Addressable 24 V DC 150mm base fire alarm wall sounder complete with all necessary accessories.	2	No		
J	Addressable manual call point complete with all necessary accessories.(IN SWITCH ROOM)	0	No		
K	Addressable 24 V DC 150mm base fire alarm wall sounder complete with all necessary accessories.(IN SWITCH ROOM)	0	No		
L	Addressable multi - mode heat detector complete with all necessary accessories.(IN SWITCH ROOM)	0	No		
M	Allow for testing and commissioning of the entire fire alarm system by The Fire Alarm Specialist supplier.	1	ITEM		
	SUB - TOTAL C/F TO COLLETION PAGE				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	COST (KSHS)
	COLLECTION	
1	Sub total b/f page.....F6	
2	Sub total b/f page.....F7	
3	Sub total b/f page.....F8	
4	Sub total b/f page.....F9	
5	Sub total b/f page.....F10	
	GROUND FLOOR SUB-TOTAL C/F TO SUMMARY OF PRICES	

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
6.0	SCHEDULE 6.0 LIGHTNING PROTECTION (ALL PROVISIONAL - ACTUAL QUANTITIES TO BE MEASURED ON SITE) Supply, install, test and commission the following items;				
A	Provide 38mm diameter PVC HG conduit for lightning protection down conductors.	200	M		
	LIGHTNING SUB-TOTAL C/F TO SUMMARY OF PRICES				

ITEM	DESCRIPTION	KSHS
	SUMMARY PAGE	
1	PRELIMINARIES SUB - TOTAL B/F FROM PAGE F3	
2	POWER SUPPLY SUB - TOTAL B/F FROM PAGE F4	
3	DISTRIBUTION SUB - TOTAL B/F FROM PAGE F5	
4	GROUND FLOOR SUB - TOTAL B/F FROM PAGE F11	
5	LIGHTNING PROTECTION SUB-TOTAL B/F FROM PAGE F12	
6	ALLOW A CONTINGENCY SUM OF KSHS 300 ,000.00 TO BE USED FOR AUTHORISED ADDITIONS	
	TOTAL C/F TO MAIN SUMMARY OF PRICES	

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
1.0	GROUND FLOOR				
	SANITARY FITTINGS Supply, deliver and install the following sanitary fittings as specified:				
A	WATER CLOSET (W.C.) SUITE Close coupled wc suite as "Duravit" Flush water quantity: 6/3 l, Washdown model, Flushing rim: Open, Outlet drain: horizontal, Position outlet: Back, Flush principle: washdown model, For independent water supply, Incl. mounting material, Unified Water Label (UWL) Class: 2 model no Model-No. 210809, with chrome plated levers, with stainless steel bottom fixed hinges and 100mm diameter WC connector or equal and approved.	1	No		
B	EASTERN TYPE (SQUATTING) WATER CLOSET (W.C.) SUITE Water closet suite in white vitreous china comprising: - No. CX7610WH high level 6 litre cistern and fittings with side inlet and overflow, No. VC 4521WH WC pan with S-trap, No. SR1300XX cistern brackets, No. FC9154WH fireclay plate with integral foot treads, No. CF6415WH plastic flush pipe and clip . Model as Twyford's "ORIENTAL" or equal and approved	1	No		
C	DISABLED UNIT Disable toilet suite comprising: WC with horizontal outlet, wash hand basin with no overflow and no chain waste fitting, 5 No. Doc M support rails, Doc M hinged support rail, toilet roll holder, pair wall hanger, grid waste, Doc. M cistern and fittings, Doc. M seat ring, stainless steel seat hinges, No. 1240WH P trap connector or equal and approved.	1	No		
D	WALL MOUNTED WASH HAND BASIN Table top wash hand basin as "Duravit" model no. 030050 with one tap hole and chain stay hole , size 500 x 360 mm in white vitreous china. 15mm diameter AZTEC chrome plated pillar tap, No. AZ5800CP AZTEC chrome plated tap handles, No. WF4330CP 32mm chrome plated chain waste, No. WF8463CP 32mm stainless steel bottle P trap with 75mm seal. Or equal and approved.	3	No		
E	BOWL URINAL (SET OF 2 NO.) Ceramic urinal bowl complete with 40mm heavy duty plastic bottle trap and 40mm diameter chrome plated outlet with grating firmly fixed on the wall with chrome plated screws. The fittings shall be as Duravit or equal and approved.	1	Set		
F	URINAL DIVISION Ceramic urinal bowl divisions separating the above described urinal bowls fixed firmly on the wall. The fittings shall be as Duravit or equal and approved.	1	No		
G	KITCHEN SINK Single bowl, single drainer single stainless steel kitchen sink of size 1000 x 500mm as manufactured by ASL 140 or equal and approved. The bowl size to be 420 x 355 x 150mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, 1No. 15mm diameter Chrome plated Swivel mixer tap as Cobra, chrome plated bottle trap with 75mm deep seal and chain waste fitting.	1	No		
H	WATER CLOSET FLUSH VALVE Water closet concealed flush valve with integral vacuum breaker, non - hold open feature 1 1/2" butterfly control inlet, chrome plated wall flange with piston assembly, plunger assembly, flush pipe coupling nut, washer kit and handle seal. This model to be as Docol or equal and approved.	3	No		
	Total carried to collection page 1/7				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
A	MIRRORS Mirrors of size: 610mm x 457mm shall be installed above all W.H.B's to be similar or equal to Twyford "Bevelled mirror" No.PB 0383 XX plate glass mirror.	3	No		
B	COAT HOOK Twyfords No. PB 0204 SI coat hook in Satin aluminium finish screwed to wall OR equal and approved.	2	No		
C	MULTI STATION DRINKING WATER FOUNTAIN Water fountains with 3 stations in white composite or stainless steel finish and smooth rounded edges. To have countered basins to help minimize splash and Flexi-guard safety bubbler to help against mouth injuries. Should be easy to operate and have fully functional, vandal resistant chrome plated push buttons and a valve and in-line flow regulator to provide adjustable stream from 20 to 105 psi.	0	No		
D	SOAP DISPENSER MEDICLINICS DJ0030 liquid soap dispenser in 0.8mm steel with white epoxy finish, size 116mm x 117mm x 206mm with the following features: Anti-dripping and anti-corrosion valve, 3mm thick thermoplastic container, capacity 1-1.2ml quantity dispenser per pulsation, suitable for all soaps except surgical. Or equal and approved.	2	No		
E	TOILET PAPER DISPENSER Jumbo Toilet Paper Dispenser Size 28"x26.5"x12cm made of good plastic material, transparent and staple structure.	1	No		
F	CLEANER'S SINK Stainless steel, Round Cleaners sink size 800mm diameter complete with- 1 No. 15mm diameter chrome plated pillar tap with indicators for cold water in the head work. -40mm diameter heavy -duty sink waste 86mm diameter flange,93mm long shark, slotted with plug and back nut. 40mm diameter plastic bottle trap with 75mm deep seal, chain waste and plug . To be complete with frames and under self.	1	No		
G	SLOP HOPPER WITH GRATING Slop hopper with grating manufactured from 304 grade stainless steel incorporating integral cantilever brackets, hinged bucket grating and a plastic P or S trap, and a top entry flush connection. It shall be wall mounted complete with pip tap and flushing outlet.	1	No		
H	PIP TAPS Referenced as "Peglar" or other equal and approved	2	No		
I	ANGLE REGULATING VALVES 15 mm diameter angle regulating valve complete with a 300 mm long non kinking flexible tubing as pegler or approved equivalent.	16	No		
J	UNDERSINK WATER HEATER Supply and install 10 litres under sink water heater. Electrical rating 3kW. Price to include all electrical requirements from the local isolator. To be installed as per the manufacturers instructions. It should be as Heatrae Sadia or equal and approved.	2	No		
	Total carried to collection page I/7				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	AMOUNT Kshs.
	<p>COLLECTION PAGE</p> <p>A Total B/F from page I/5</p> <p>B Total B/F from page I/6</p>	
	Total carried to summary page I/17	

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
	COLD WATER SUPPLY INSTALLATION Supply, install, test and commission the following complete: General Note:- Price of pipework to include the cost of couplings, connectors, fixing brackets, holderbats, plugs and jointing to fittings etc., together with marking of pipe routes on walls and Floors for wall chasing and holes cutting by others all as required in the pipework installation. All pipe work shall be medium gauge galvanised mild steel pipes to B.S. 1387 and fittings to B.S. 1740 (class "B")				
A	PIPEWORK i) 50 mm diameter pipe ii) 40 mm diameter pipe iii) 32mm diameter pipe iv) 25mm diameter pipe v) 20mm diameter pipe	14 13 78 60 0	Lm Lm Lm Lm Lm		
B	BENDS i) 50mm diameter bend ii) 40mm diameter bend iii) 32mm diameter bend iv) 25mm diameter bend v) 20mm diameter bend	0 3 5 15 0	No No No No No		
C	TEES i) 50 x 50 x 40mm diameter ii) 40 x 40 x 32 mm diameter iv) 32 x 32 x 25mm diameter iv) 25 x 25 x 25mm diameter	3 4 13 5	No No No No		
D	SOCKETS i) 40mm diameter ii) 32mm diameter iii) 25mm diameter	5 7 5	No No No		
E	REDUCERS i) 50 x 40mm diameter ii) 40 x 32mm diameter iii) 32 x 25mm diameter iv) 25 x 20mm diameter	2 4 3 0	No No No No		
	Total carried to collection page I/10				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
A	GATE VALVES High pressure screw-down full way non-rising stem solid wedge disc gate valve to BS 5154 PN 16 for Series B Rating with wheel head and including jointing to steel tubing. As CRANE Model 156 or equal and approved				
	i) 50mm diameter	0	No.		
	ii) 40mm diameter	3	No.		
	iii) 32 mm diameter	1	No		
	iv) 25 mm diameter	0	No		
B	ROOF WATER TANK Supply and install a plastic tank of capacity 10,000 litres on roof. Size 2360mm Dia x2660mm height. The tank to be assembled complete with medium-pressure ball valve inlet, outlet connections including ball valve and float. Tank shall be mounted on a platform and other necessary item for its proper functioning.	2	No		
	Total carried to collection page I/10				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	AMOUNT Kshs.
	<p>COLLECTION PAGE</p> <p>A Total B/F from page I/8</p> <p>B Total B/F from page I/9</p>	
	Total carried to summary page I/17	

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
	FOUL AND WASTE WATER DRAINAGE Supply, install, test and commission the following complete: General Note. Prices for pipework shall include the cost for couplings, connectors and jointing to fittings appliances etc., and fixing brackets all as required in the pipework installation, together with marking pipe routes on walls and floors for wall chasing and holes cutting by others. Note for U.P.V.C. pipework: All UPVC couplings, branches, tees etc., are to be formed strictly in accordance with the manufacture's interactions. Jointing pipework by "heat formed sockets" etc., shall not be accepted. U.P.V.C. Soil, Waste and Ventilation Pipes and fittings to B.S. No. 5255				
A	PIPEWORK i) 40mm waste pipe fixed to wall or wall chase including approved pipe clips or brackets. ii) 50mm – ditto- iii) 100mm grey brown drain pipe fixed to wall surface or boxed to architect's detail	16 20 74	Lm Lm Lm		
B	No. 101 "TERRAIN" SWEEP BEND i) 40mm ii) 50mm iii) 100mm	8 3 8	No No No		
C	No. 104 "TERRAIN SWEEP TEE i) 40mm ii) 50mm	5 3	No No		
D	No. 136 "TERRAIN" ACCESS CAP i) 40mm ii) 50mm iii) 100mm	5 5 9	No No No		
E	No. 112 "TERRAIN" BOSS CONNECTIONS i) 40mm ii) 50mm iii) 100mm	2 3 5	No No No		
F	UNDERGROUND UPVC PIPEWORK TO BS 4660:1963 GOLDEN BROWN SERIES i) 100mm soil and waste pipe laid in or under concrete Floor slab or underground ii) 100mm long radius bends iii) 100mm short radius bends	125 10 10	No No No		
G	FLOOR TRAP Floor trap as "Key Terrain" 281.3 trapped Floor gully, 282.6 Floor gully inlet and grating.	4	No		
H	GULLY TRAP Gully trap chamber size 250 x 250mm, approximately 100mm deep with steel grating and connected to soil stack pipe through 100mm diameter upvc pipe and trap.	8	No		
I	INSPECTION CHAMBER Internal chambers not to exceed 1070 x 910mm and depth not to exceed 2000mm below finished floor or ground level. Wall thickness should be 150mm blockwork and it should have concrete base and rendered concrete benchinching 1:3:6 mix. The cover to be cast iron Grade "B" medium duty to BS 497 with double seal.	5	No		
	Total carried to summary page I/17				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
	VULCATHENE PIPING SYSTEM- LAB DRAINAGE Supply, deliver and install the following sanitary fittings as specified:				
A	40mm diameter pipe	10	Lm		
B	50mm diameter ditto	18	Lm		
C	100mm diameter ditto	0	Lm		
	<u>Extra over vulcathene pipes for:-</u>				
A	50mm diameter bend	7	Lm		
B	40mm diameter ditto	3	No.		
C	50mm diameter equal tee	0	No.		
D	40mm diameter equal tee	0	No.		
E	50mm diameter double wyes	0	No.		
F	40mm x 50mm diameter enlarging coupler	8	No		
	Total carried to collection page I/14				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
	<u>LABORATORY FITTINGS</u>				
	Supply and install the following fittings inclusive of all the accessories:-				
A	Vulcathene laboratory sink 602 size 450 x 305 x 200mm deep with radiused angles, self draining base and corner outlet, complete with 38mm BSP waste outlet	12	No		
B	Vulcathene 910G – Dilution recovery trap liquid capacity 4.5 litres with a trap seal of 76mm and three top inlet connections the Visual Version with base of heat resistant borosilicate glass for identification of solid units to be complete with horizontal inlet adaptor, vertical inlet, glass dip tube and blanking off plug together with a suitable support stand.	6	No		
C	Two-way mounting fitting tap, 57mm fixing flanges with inlet concealed supply. The top shall be complete with multiple outlet fitting with two swivel necks and two fixed nozzles. It shall be as ARMITAGE SHANKS Marklab Laboratory Fittings Ref. No.85504AC or equal and approved. Side valves to have fixed spouts.	8	No		
D	One-way mounting fitting tap, 57mm fixing flanges with inlet concealed supply. The top shall be complete with single outlet fitting with one swivel and one fixed nozzles. It shall be as ARMITAGE SHANKS Marklab Laboratory Fittings Ref. No.85004AC or equal and approved. Side valves to have fixed spouts.	4	No		
E	Single flow water mixers with mounting fitting tap, 57mm fixing flanges with inlet concealed supply. The top shall be complete with multiple outlet fitting with one swivel and one fixed nozzles. It shall be as ARMITAGE SHANKS Marklab Laboratory Fittings Ref. No.85394KM or equal and approved. Side valves to have fixed spouts.	4	No		
G	Emergency Eye Washers				
	Emergency eye wash comprising of : 280mm diameter bowl from chemical resistant ABS eye wash assembly with twin soft flow eye wash heads and instant flip open protective dust cover. Built in automatic pressure compensating valve for safety steady water flow. Spray heads to have filters and 15mm diameter stainless steel fast action ball valve. To be as METHOD or equal and approved.	2	No		
H	Emergency Washers				
	Combination unit of drench and eyewash comprising of :280mm diameter bowl from chemical resistant ABS eye wash assembly from stainless steel with ABS spray heads assembly with twin soft flow eye wash heads and instant flip open protective dust cover. Built in automatic pressure compensating valve for safety steady water flow. Spray heads to have filters and 15mm diameter stainless steel fast action ball valve. 32 mm fast action stainless steel ball valve for the shower with stainless steel pull rod. 250mm aluminium pedestal with bright epoxy powder coated. 32mm diameter gms powder coated water supply and waste pipe. Signage for emergency shower and eyewash. To be as method or equal and approved.	2	No		
	Total carried to collection page I/14				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	AMOUNT Kshs.
	<p>COLLECTION PAGE</p> <p>A Total B/F from page I/12</p> <p>B Total B/F from page I/13</p>	
	Total carried to summary page I/17	

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Ksh.	AMOUNT Ksh.
A	FIRE FIGHTING PORTABLE FIRE EXTINGUISHER i) 9 litre water Co ₂ , fire extinguisher complete with refill cartridges and wall fixing brackets complying with B.S 5423. brackets and complying with B.S 5423	4 4	No No		
B	FIRE FIGHTING HOSE REELS Supply and install i) Make: Similar or equal and approved to 'TG' Series Hose Reels type with the following characteristics: Manual operation, swinging type, Delivery valves 25mm BSP inlet to, B.S 1010, Mild steel feed to B.S 1387 ii) Supply and install Aluminium fire blanket. iii) Supply sand bucket. 1 to be painted red and labelled "FIRE"	2 2 2	No No No		
C	FIRE FIGHTING PIPEWORK All pipework shall be galvanized mild steel to B.S 1387. Class 'B' i) 25 mm diameter pipe iii) 50 mm diameter pipe	3 10	LM LM		
D	BENDS i) 25 mm diameter pipe iii) 50 mm diameter pipe	3 3	No No		
E	TEES - EQUAL/UNEQUAL i) 50 x 50 x 40 mm diameter ii) 40 x 40 x 25 mm diameter	2 2	No No		
F	GATE VALVES TO BS 5151:1974 i) 40mm diameter	2	No		
G	UNION i) 50mm union joint ii) 40mm union joint	2 2	No No		
Total carried to summary page I/17					

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs.	AMOUNT Kshs.
	EXTERNAL WATER RETICULATION The following in PN 20PPRC conforming to the current European standards for PPR installations and to the Engineers approval, pipe jointing shall be by polyfusion or use of electric coupling. Rates must allow for all Metal/Plastic threaded adaptors where required for the connection of sanitary fixtures, support raceways , isolating sheaths, elastic materials, expansion arms and bends, crossovers etc.				
A	PIPEWORK i) 32mm diameter pipe	250	Lm		
	ii) 50mm diameter pipe	30	Lm		
B	BENDS i) 40mm diameter bend	8	No		
C	TEES i)50 mm diameter	4	No.		
D	GATE VALVES TO BS 5151:1974 i) 32mm diameter	2	No.		
	ii) 50mm diameter	2	Lm		
E	UNION i) 50mm union joint	5	NO		
F	EXCAVATION (PROVISIONAL) Excavate trench not exceeding 1200mm deep, average depth 750mm deep, part return in fill and ram. Surplus soil to be carted away.	250	Lm		
G	WATER METER 40 mm diameter water meter as 'Kent' or equal and approved equivalent	1	No.		
H	BOOSTER PUMP Shall be as "GRUNDFOS " CM Range model: CM15-2A Capacity: 15M3/hr. Head: 30m Power Supply: 2.2kw, 3 Phase 415V, 50Hz. Complete with pressure switch, pressure cell, valves, and any other accessories necessary for efficient operation or equal and approved. Duty and Standby.	0	Set		
I	PUMP CONTROL PANEL Supply, deliver and install a control panel with removable front access cover,	0	No.		
J	BALL VALVES 50mm high pressure Ball Valve as PEGLAR or equal and approved	0	No		
K	ELECTRICAL POWER SUPPLY Allow for pump wiring from the local isolator.	0	Sum		
L	STERILIZATION Allow for sterilization including flushing out water and chlorine to the satisfaction of the Engineer.	Item	Sum		
M	TESTING AND COMMISSIONING Allow for testing the whole external plumbing work during progress or works and again on completion to the satisfaction of the Engineer.	Item	Sum		
N	AVS APPLIANCE GUARD Automatic voltage switcher for pump protection as AVS30 appliance guard rating 30Amps, 240v 60hz or equal and approved	0	No		
	Total carried to summary page I/17				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	AMOUNT Kshs.
	SUMMARY PAGE GROUND FLOOR	
A	Total Sanitary Fittings from page I/7	
B	Total Cold Water Supply from page I/10	
C	Total Foul and Waste Water Drainage from page I/11	
D	Total Vulcathe Drainage and Laboratory Fittings from page I/14	
E	Total Fire Fighting from page I/15	
F	Total for External Water Reticulation from page I/16	
Total carried Grand to Summary page		

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs	AMOUNT Kshs
7.0	COMPRESSED AIR SYSTEM				
	Supply install test and commission the following workshop compressed air system.				
A	COMPRESSOR EQUIPMENT Horizontal type receiver mounted air cooled compressor, 2 stage lubricated with air displacement of 1420 litres/minute, 1100rpm, working pressure 14bar, 500litres receiver capacity. Electrical load:- 15kW, 415V, 3phase 50HZ. Size 1870mm length, 710mm width, 1410mm height. As manufactured by INGERSOLL-RAND or equal and approved.	0	No.		
B	VACUUM EQUIPMENT Air cooled vacuum pump with air displacement of 900 litres/minute, 790rpm, working pressure 753mm Hg. Electrical load 2.2Kw, 415v 3 phase 50HZ. Size	0	No.		
C	ELECTRICAL POWER Allow for electrical power supply to the compressor from the local isolator, complete with all the necessary accessories and controls.	0	sum		
	PIPEWORK AND FITTINGS All pipework for the compressed air system shall be carried out in heavy grade steel conforming to B.S. 1387 and high quality capillary fitting to B.S.1740.				
D	PIPEWORK 40mm diameter	66	Lm.		
E	15mm diameter Extra Over Tubing:-	5	Lm.		
F	ELBOWS 40mm diameter bends	4	No.		
G	15mm diameter bends	5	No.		
H	TEES 40 x 40 x 15mm diameter tee	6	No.		
	Total carried to collection page I/74				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	QTY	UNIT	RATE Kshs	AMOUNT Kshs
	VALVES				
A	40mm diameter globe valve	0	No.		
B	15mm diameter globe valve	5	No.		
	AIR TRAPS				
C	40mm diameter Spirax CA 550 Air trap	0	No.		
D	15mm diameter Spirax CA 550 Air trap	5	No.		
	SEPARATORS				
E	40mm diameter Spirax air Separator	0	No.		
	STRAINER				
F	40mm diameter Spirax strainer	31	No.		
G	15mm diameter Spirax strainer	5	No.		
	FILTER				
H	15mm diameter Spirax Monier Filter	5	No.		
	REGULATOR				
I	15mm diameter Spirax Monier Regulator	5	No.		
	OUTLET CONNECTIONS				
J	8mm diameter compressed air outlets	5	No.		
K	8mm diameter vacuum outlets	5	No.		
L	Allow for any other item necessary for the installation	Item	Sum		
	TESTING AND COMMISSIONING				
M	Allow for testing and commissioning of the whole system to the satisfaction of the Engineer.	Item	Sum		
	Total carried to collection page I/74				

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU (PHASE 1)

ITEM	DESCRIPTION	AMOUNT Kshs
A B	COLLECTION PAGE	
	Total B/F from page 1/72	
	Total B/F from page 1/73	
	Total carried to Grand Summary page	

PROPOSED ENGINEERING LABORATORIES BLOCK FOR THE UNIVERSITY OF EMBU

BILL NO	DESCRIPTION	PAGE NO.	AMOUNT(KES.)
	<u>PROPOSED ENGINEERING LABORATORIES BLOCK</u> <u>MAIN SUMMARY</u>		
1	PRELIMINARIES	PP/19	
2	SUBSTRUCTURES	SB/6	
3	GROUND FLOOR - FIRST FLOOR	GF/19	
4	ELECTRICAL INSTALATIONS	F13	
5	PLUMBING AND DRAINAGE INSTALLATIONS	1/17	
6	CONTINGENCY SUM	SUM	1,000,000.00
	Sub total		
	Add 0.03% Capacity Building Levy to subtotal above		
	TOTAL COST FOR THE PROPOSED PROJECT CARRIED TO FORM OF TENDER		

CONTRACTOR'S NAME:.....

ADDRESS:.....

SIGNATURE:.....DATE:.....

WITNESS'S NAME:.....

ADDRESS:.....

SIGNATURE:.....DATE:.....